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DOD/VA COLLABORATION AND COOPERATION TO MEET THE HEALTH CARE NEEDS OF RETURNING SERVICEMEMBERS

HEARING

BEFORE THE

COMMITTEE ON VETERANS' AFFAIRS
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

MARCH 27, 2007

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DOD/VA COLLABORATION AND COOPERATION TO MEET THE HEALTH CARE NEEDS OF RETURNING SERVICEMEMBERS

TUESDAY, MARCH 27, 2007

U.S. SENATE,
COMMITTEE ON VETERANS' AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 9:32 a.m., in Room SR–418, Russell Senate Office Building, Hon. Daniel K. Akaka, Chairman of the Committee, presiding.

Present: Senators Akaka, Rockefeller, Murray, Obama, Brown, Tester, Craig, Burr, and Isakson.

OPENING STATEMENT OF HON. DANIEL K. AKAKA, CHAIRMAN, U.S. SENATOR FROM HAWAII

Chairman AKAKA. The Committee on Veterans' Affairs will come to order in this hearing on DOD/VA Collaboration and Cooperation to Meet the Health Care Needs of Returning Servicemembers. Good morning and aloha.

This is the Committee's second hearing in our series on seamless transition. The focus today is on how DOD and VA are working to meet the health care needs of those transitioning from service, especially those who have sustained serious trauma. There have been many hearings about Walter Reed since the story first broke about conditions there. This is not such a hearing. And yet, at one level, it is.

The servicemembers who were staying in Building 18 at Walter Reed were in medical hold, awaiting a decision on their future. Many would soon be separated from the military and become veterans, and that is exactly what we are talking about today: how those leaving the service after being injured make the transition to VA.

With regard to the medical hold process, I realize that DOD must have time to make an informed decision on an injured servicemember's future. However, as soon as it seems likely that an individual will be unable to return to service, DOD must work with VA to ensure that the servicemember gets the care he or she needs and that the actual transfer is carried out effectively.

There is much talk about seamless transition, but it is far from clear that the talk is matched by effective action. This is not a new issue, but it seems that now more than ever, when the demand is so great, we find that there is more talk than action.

We have entered the fifth year of this war. I cannot help but wonder why so many things are still being planned, still being discussed. Why is it that DOD and VA still cannot make the handoff of wounded servicemembers more effectively? Why do budgets still not reflect that caring for veterans is part of the cost of war?

Another key element in easing the transition is making sure that servicemembers and their families have someone at both DOD and VA to whom they can turn and who has responsibility for making sure that they are getting the care and services they need. The Committee needs to know where DOD and VA stand on this.

I remain resolute. For those seriously injured to transfer from DOD to VA without undue disruption to the wounded servicemember simply must happen.

We have two panels of witnesses today. The first includes a number of witnesses who, unfortunately are living every day with the impact of serious traumas. I have asked Dr. Kussman and Ms. Embrey to hear the testimony of the first panel so that when they come forward, they will be able to address issues raised by the first panel.

In closing, I note that each Senator will be provided summaries from the IG and GAO on their respective work on seamless transition, and a copy of these summaries will be in the record of today's hearing. As you will see, many suggestions have been made already to VA and DOD on this issue.

Now, I would like to yield to another leader of this Committee and of our side of the Senate, Senator Murray, for her opening statement.

STATEMENT OF HON. PATTY MURRAY,
U.S. SENATOR FROM WASHINGTON

Senator MURRAY. Well, thank you very much, Mr. Chairman, for holding this really important hearing, and I really want to thank all of our witnesses who have come here today to join us, especially for your sacrifices and for coming here today to speak out. You are helping us get to the truth about what veterans are really facing and helping us change the system for the better for everyone else.

I also want to extend a special welcome to Denise Mettie. She is from Selah, Washington, and her son, Evan, who is receiving treatment for traumatic brain injury. I visited Denise and Evan at Bethesda Naval Station last February, a little more than a year ago, and since then he has faced not just medical problems but a bureaucratic system that has thrown up obstacles in his path toward recovery. Denise has been a tremendous advocate for her son. She had to quit her job so she could fight for Evan in a system that is failing for too many of our wounded veterans today.

Denise, our country owes you and your son an apology. Your son fought a war for our country. You should not have had to fight every day to give him the care that he deserves. You and Evan deserve a lot better, and so do a lot of our men and women who have served us, and that is why your testimony, all of yours, is so important today, to help us hold the VA and the Pentagon accountable so that servicemembers never fall through the cracks and are never denied vital information and are never left in limbo when they

need our help. And we have got a long way to go because what happened to Evan is really not an isolated case at all.

Mr. Chairman, one of my biggest frustrations is that we have been unable, so far, to get all the facts we need to solve the problems. We hear stories of serious problems from veterans and their families, but then when we have tried to get answers from the Administration, we have run into a brick wall. We cannot get full answers on the number of servicemembers who are treated for TBI. We cannot get accurate projections on how many veterans will need inpatient mental health care. We cannot even get accurate information on the number of amputations. In fact, I am now hearing that the Administration is not counting as amputees veterans who lose a finger or a toe. That minimizes the scope of the problem, and it hides the true cost of this war.

War is expensive, and if we do not face the full cost of the war, including caring for our veterans, we will never be able to have the resources and the right policies to be able to help families like Evan's and the other ones that we'll hear about today. We need the truth so we can have the right budget and the right policies. But if the Administration keeps hiding the ball, we will never be able to get this right for those who sacrifice for us. I really thank the witnesses for helping us today to get to the facts so we can solve this problem.

Now, Mr. Chairman, I have to say that I have about had it with the Administration officials who keep assuring us that everything is taken care of. Two years ago, the VA told us everything was fine when it was, in fact, facing a $3 billion deficit. We are going to hear from two officials from the VA and the Pentagon on the next panel, and I want them to know—I know you have tough jobs, and I know you work very hard, but we are going to judge you by the results you get for our veterans, and we are going to hold you accountable for those results.

Two months ago, as the Chairman said, we had a similar hearing on this Committee. Officials from the VA and the Pentagon told us about all the progress they were making. They were improving communication; they were setting up seamless transition programs. Everything was on track. Well, a month later we discovered that things were not fine when the Walter Reed story broke.

It is easy to whitewash a moldy wall. It is a lot harder to make sure that our veterans are taken care of every step of the way. That is the challenge that we now face as a country, and that is why we are going to hold people accountable for the results, not just creating a new box in an organizational chart, but what the results are that we are getting for our servicemembers and our families. Are they getting benefits in a timely way? Are they getting fair disability ratings? Are they being screened and treated for both PTSD and TBI? Are they getting the best care? Are their medical records where they need to be? And are their families being informed? Because let me tell you, you can make adjustments to a bureaucracy decade after decade, but the real results are whether the men and women who have served us so well are telling us that things are changed for the better, and that is what we are going to be looking for.

You know, I have to say that a lot of this misery could have been avoided. Many of us saw the warning signs years ago. We saw the VA was not planning for the full cost of this war, we saw that it was not using realistic projections, and we saw an overwhelmed and underfunded VA not getting itself on wartime footing.

Well, we are not going to wait now for the President to fix the problem. We are facing the costs of this war, and we are putting the money where it is needed.

Mr. Chairman, as you know, right now on the floor of the Senate is our supplemental bill. It includes $50 million to build new polytrauma centers, $100 million for mental health care, $201 million to treat recent veterans so they do not have to wait in waiting lines that delays their care, $30 million for research on the best prosthetics for our amputees, $870 million to fix problems that we have uncovered at VA facilities across this country now, and $46 million to finally hire new claims processors so our veterans do not have to wait for years for their benefits.

Those are the costs of war, and these families know it all too well. As a Nation, we have to pay for them, so we need to be honest about what it is going to take so that we can get it right and give our veterans, servicemembers, and their families the care and support they deserve.

Mr. Chairman, as you know, I am managing the supplemental on the floor. I hope to stay for quite a bit of this hearing, but I want you to know when I leave, my staff will be here to get your testimony. I will have some more questions that I will probably submit for the second panel as well. But we want you to know we want to get this right. Your help in being here is our path to get there, and we all very much appreciate your testimony today.

Thank you.

Chairman AKAKA. Thank you, Senator Murray.

I need to step away briefly, and I want to hand the gavel over to Senator Murray, and I shall return.

Madam Chairman, the hearing is yours.

Senator MURRAY [presiding]. Senator Craig, for your opening statement.

STATEMENT OF LARRY E. CRAIG, RANKING MEMBER, U.S. SENATOR FROM IDAHO

Senator CRAIG. Thank you very much, Chairmen, Chairman and Madam Chairman. I want to thank you all for our distinguished panelists who are here today testifying on a critical and important issue.

Those of you on the first panel in particular have traveled great distances, and I look forward to this hearing and your firsthand experiences in leaving the battlefield and transitioning back into civilian life. Ms. Duckworth, again, welcome to this Committee. This is not your first appearance here, and let me congratulate you on your new position. The veterans in Illinois will be served well with you at the helm, and so we look forward to your leadership in that capacity.

I also look forward to hearing from our second panel because of their managerial experiences operating the transition process. We have all been concerned by recent news accounts suggesting that

our returning servicemen and women are not experiencing optimum care at our Nation's military and veterans' hospitals. Like many Members of this Committee, I too have received complaints from some constituents who suggest that wait times are too long or quality of care is too poor. I have also received numerous reactions that it is the very best that could possibly be received.

However, this Committee also knows of the recognition VA has received for quality and consumer services over the past few years. We know the VA has led the University of Michigan's consumer satisfaction survey for the seventh year in a row. We also know that *Time* magazine's cover story of how VA became the best health care in America also boasts of the quality of VA care. In fact, all of you here today have included in your written testimony very positive accounts of your experience at both military treatment facilities and VA hospitals.

So some of us on this Committee are left to wonder why it often sounds like two different VAs are being discussed in the news, or you just heard the opening testimony, as the Ranking Democratic Member of the Committee, two stories being told here through two very different sets of glasses.

I for one believe the answer lies in a simple reality. Medical care is very personal to all of us, including our veterans, and one person's positive experience may be another person's negative experience. I know the VA is the system of choice for millions of our veterans. I say "system of choice" because I know that over 3 million veterans have other options for health care, such as Medicare and TRICARE and private insurance, but they still choose VA.

Unfortunately, a lot of our most deserving veterans, those with service-connected disabilities, do not have the power to choose to go somewhere else. VA is their only avenue to full health care.

There are the veterans who choose to be able to say loud and clear, "I earned the right to be cared for by this Nation." At the same time, I think they should also have the power to say, "If you do not treat me right or if someone else can provide me with a better medical service, I will go elsewhere." And I have introduced legislation that would provide our service-connected disabled veterans with that power.

I am not sure nor am I confident that the solution that you have just heard from Senator Murray of pouring billions and billions more dollars at the current system is the best solution. When I introduced the legislation I am talking about, I said that in many ways the bill was about my confidence in the VA health care system. If veterans have the ability to choose and they choose to stay right where they are in the VA system, well, then, we have learned something about this system, because right now there is no internal polling or "voting with one's feet" because the option simply does not exist. But I also said that if the veterans leave in droves, then we have learned something else that is awfully important.

Mr. Chairman, our hearing today is a follow-up on January's hearing of seamless transition and a series of hearings that I held with your cooperation two years ago as Chairman on these very important issues. In fact, this is hearing number four or five on the issue of seamless transition. We have identified specific treatment challenges and the need for early intervention for mental health

care and outreach to those still in need of family therapy services. As I said in January, I do have concern that DOD's efforts to take care of its own disabled personnel are complicating efforts by DOD and VA to coordinate care and benefits. I am hopeful that the President's new Interagency Task Force on Returning Global War on Terror Heroes will help us determine what changes, legislation or otherwise, are needed to make us meet these challenges as they relate to our young veterans of today.

I also hope this hearing will shed some light on true personal struggles that some of our military families are facing today. Nothing is more important to this Committee than ensuring that our servicemembers return to civilian life, that they receive the very best possible care and services, and I acknowledge all of you here today and look forward to your testimony.

Thank you, Madam Chairman.

Senator MURRAY. Thank you, Senator Craig.

We will recognize each one of our Senators for an opening statement before we go to our panelists in seniority order. Senator Rockefeller, you are next.

STATEMENT OF HON. JOHN D. ROCKEFELLER IV, U.S. SENATOR FROM WEST VIRGINIA

Senator ROCKEFELLER. Thank you, Madam Chairman. I will be very brief.

Actually, I think this is the first day in quite a few months that all four of the Committees I am on meet, many of them at the same time, so I have to go off, too, but I will be here for a while.

I think it is long past the time when we think of the warfighter and then we think of veterans who are physically wounded, mentally wounded. I think all is part of the cost of war. Veterans are as much a part of the cost of war as are Humvees, as are warfighters out there in the desert in 120 degrees. There is no difference. I say directly to the Ranking Member that I do not think Senator Patty Murray, Chairman Murray was talking on two tracks. I think she was talking on one track. I think what she was saying is that veterans for the most part will say that the treatment they get from their doctors in VA hospitals, from their rehab people, from their counselors, from the professionals who work with them on a medical basis, day in and day out, is very good. I think the complaint comes about the Administration, and not in all VA hospitals, but I know in my own State, the case is so clear and it is so easy to pick out the difference between the two. Part of the reason is they are all in different VISNs, so, you know, they are going in all directions, and I regret that. But this is the cost of war. It is not some kind of special effort.

Just going over the testimony, I really like the idea, Mr. Pruden, to offer rehabilitation in substance abuse to veterans who request it. I also think that Dr. Gans' testimony about using private rehabilitation centers may make good sense. I have discussed with the Ranking Member the idea that I know personally of hundreds of physicians, some of whom practice alternative medicine, which is a—when you walk into a Vet Center and there are five people standing there in gray suits, they look like they have come to audit the Vet Center. You ask them what they are doing there. They are

there for PTSD treatment. And so there are so many. All of these people come back wounded particularly from this war, more so than any other war in terms of the psychology, the uranium additions to the IEDs, and all the rest of it, which are unremovable, agony for the rest of your life.

So my thought, and I have discussed this with the Ranking Member, is that there are hundreds of specialists who have—maybe they are orthopedic surgeons, there are all kinds of people—discovered that there are other ways of helping. It is alternative medicine in a friendly sense, not alternative medicine in a strange sense. It is not invasive. It works. I have seen it work on PTSD with Gulf War I veterans. I have seen it work in a very short period of time. I think that the time has come for us to think about enlarging that capacity within the VA. Go to the private sector for some things, go to the private sector for some pro bono—everybody that I have talked to, it is all pro bono. We will go anywhere in the country. We will go to San Diego. We will go to Florida. We will go to West Virginia, anywhere you want. But we want to show that we can be helpful and, believe me, they can be. I just want to introduce that thought into this hearing because we are not throwing money at a problem. Chairman Murray bailed us out 2 years ago, and we are doing a little bit better this year. But this is not a fight between Republicans and Democrats. This is the treatment of veterans on the same par as we treat our warfighters, and maybe better.

Thank you.

Senator MURRAY. Thank you, Senator Rockefeller.

Senator Isakson?

STATEMENT OF HON. JOHNNY ISAKSON, U.S. SENATOR FROM GEORGIA

Senator ISAKSON. Thank you very much, Senator Murray. I appreciate very much your calling this hearing, and I particularly want to welcome Jonathan Pruden, who we claim to be a Georgian. I know he is a North Carolinian, but he spent 2 years at Fort Stewart, and that allows you permanent citizenship, as far as we are concerned. Captain, we appreciate your service to the country and your being here today.

I also have to tell you that I sat on a mat at Walter Reed with Tammy Duckworth. She probably does not remember me, but I go out to Walter Reed whenever there is a wounded Georgia soldier there in rehabilitation. And there were a couple there that day, and I saw Tammy with that magnetic smile of hers, and her courageous recovery was taking place. So I sat on the mat with her for a while and talked to her about her experience, and I appreciate her service now to the VA—I guess in Illinois. Is that correct? Congratulations, Director. We are proud of you. And I want to apologize as I slip out for a minute. I am chairing with Senator Kennedy the card check hearing today, so we have got two extremely important hearings. I am going to have to bounce back and forth.

For just a second, when we talk about the transition from DOD to Veterans and Veterans to DOD, I think it is really important for us to be focusing. And I do not disagree with any of the comments that I heard said by Senator Rockefeller. We want to see to it that

the treatment of a veteran, active duty or a retired veteran, is the best that I can be. And to that end, although there has been a lot of negatives lately generated with the beginning of Building 18, we cannot forget the miracles that are done every day at Walter Reed and the hospitals around the country. I have a young man at Walter Reed now, Steven Pearson, whose father I called after I visited Steven to just tell him, "Here is my number, if there is anything I can do while you are in Georgia and he is there recovering, let me know." And he said, "Well, I will." And he said, "One thing you can do is tell everybody. I stayed the first 10 days with my son at Walter Reed, and I have never seen a quality of care equal to that anywhere." So that is a good testimony from someone that is there receiving it today.

Second, I want to mention and commend General Schoomaker, who is now at Walter Reed and was called upon to take that duty over. Before he came to Walter Reed, he was at the Eisenhower Medical Center in Georgia, in Augusta. And it has been a best-kept secret about what he had done there. And I see you are nodding your head, Jonathan, so you may know what he has done there. But what he has done there is he decided that veterans' facility ought to be a facility that could seamlessly transfer active DOD soldiers into that facility, rehab them and turn them around so you would have utilization by both active DOD troops and the Veterans' Administration service provided.

Dr. Hollings at that Augusta VA Medical Center is the head of that Center, and he and his employees have done a phenomenal job. They have a capacity of 30 at any one time. Walter Reed amputees are now being transferred directly to the VA medical center at Augusta for their immediate treatment. Since January of 2007, 431 soldiers, sailors, airmen, and Marines have received rehab services at the Augusta unit of the veterans medical center; 26 percent of them have been treated and have returned to active duty.

So it is a great story about how collaboration and coordination and this idea of a seamless transition from Veterans to DOD and back again, if you will, can work.

I appreciate very much Dr. Hollings at Augusta for the leadership that he is showing and all those employees. I am a big fan of General Schoomaker, and I think he is going to make a big difference in the lives of veterans everywhere because of the attention he will give. And I particularly, again, appreciate the service and commitment of Tammy Duckworth and Jonathan Pruden. Thank you both for being here today.

Senator MURRAY. Thank you, Senator Isakson.

Senator Obama?

STATEMENT OF HON. BARACK OBAMA,
U.S. SENATOR FROM ILLINOIS

Senator OBAMA. Thank you, Madam Chairman, Ranking Member Craig.

Let me start by saying I am so pleased to see Director Tammy Duckworth, who is a dear friend as well as a hero, and who is doing great work back in Illinois. It is nice to see you again. I thank all of the other panelists for their outstanding work on behalf of our veterans.

I know this is the second hearing on seamless transition issues facing the Department of Veterans Affairs and Department of Defense during this session. I want to join my colleagues in recognizing that although Building 18 raised awareness in the general public, folks on this Committee I think have been concerned with how we are approaching these problems for quite some time. The question of how we care for our returning servicemembers and their families has gained greater significance given recent revelations. But what we know is that given the increasingly complex injuries resulting from fighting in Afghanistan and Iraq, it is clear that our current DOD and VA health and rehabilitation resource investments are inadequate.

When it comes to providing the needed health care and support services to heal our wounded warriors, we owe them and their families the very best. Later today, I will be offering an amendment to the Iraq War supplemental to address many of these systematic problems uncovered at Walter Reed. The problems may affect DOD's military health care system, but also exacerbate many of the ongoing challenges to the VA's health system. And my amendment would boost the number of caseworkers and mental health counselors and make it far easier for our troops and family members to navigate the complex disability review process within DOD.

I think all of us are in agreement that we need to make the DOD process less complex and better coordinated with the VA process. As Tammy has pointed out in her testimony, we need a more robust national engagement with our State VA programs as well.

I look forward to working with the Chairman and this Committee as well as DOD, VA, and our private rehabilitation centers to ensure we are providing the health care and rehabilitation worthy of the sacrifices so many servicemembers and family members have made. And I just want to make one last point. I know that there was some back and forth with respect to the amount of money that is needed. Senator Craig, I do not think anybody disagrees with the notion that we should not be wasting money, and if we can find ways to do things that are more efficient and more cost-effective, they should be by all means pursued.

But I do think it is important to note that for quite some time, at least since I have been on this Committee, the VA has underestimated both the amount of money and the amount of time required to get this right. I think DOD, when we start talking about creating what we would think would be relatively simple issues, such as setting up medical technology systems that allow military records to go from DOD to the VA, it seems like it keeps on stalling. And so on the one hand, I do not want to waste money. On the other hand, I do not want us to shortchange people who have made the extraordinary sacrifices on our behalf. I know you do not either. And I think it is important for us to recognize that, as Senator Rockefeller stated, this is part and parcel of the costs of going to war. And I am fearful that we have continually shortchanged the back-end costs that are involved.

Thank you, Madam Chairman.

Senator MURRAY. Thank you, Senator Obama.

Senator Tester?

STATEMENT OF HON. JON TESTER, U.S. SENATOR FROM MONTANA

Senator TESTER. Thank you, Madam Chairman. I appreciate the opportunity. Thank you, guests, for your testimony. I am going to make this quick. I do have some comments I want to make after the first panel. When I was elected to this position—and maybe it is because of this Committee—I thought the last thing that I would be doing is talking with veterans about problems within the medical care system for our veterans when they come home from the field of battle.

That has not been the case. I have been going home every weekend, and about half of those weekends, I have been having hearings with veterans throughout the State of Montana. And I can tell you what I have been hearing is this: Once you get in the system, the care is excellent in the VA. But to quote one veteran, and I hear this over and over and over again—"Sometimes it appears as if the VA is trying to outlive me"—and not letting that person through the door. That is a huge problem. Veterans should not have to fight for their benefits. They should be granted those benefits for the service that they gave to this country.

From a DOD perspective, I will just tell you that I have also heard that the care is very, very good, but the administrative runaround and red tape is almost unbearable. And for a lot of these folks that have been injured on the field, they do not have the ability to be their own advocates. Unless they have a wife or a father or a mother or a daughter or a son that is there to help them through this process, it becomes unbearable.

Let me give you just one example. A fellow from Shelby, Montana, who is over at Walter Reed, they put him back together and did a heck of a job, and he would attest to that fact, too. Went in to get his medical records at Walter Reed. Couldn't get them. They pushed him to another person. That person pushed him to another person. That person pushed him to another person. That person pushed him to another person, who pushed him right back to the first person that he talked to, 4 hours later, 4½ hours later. That is ridiculous, and it is not something that our military people should have to put up with. And that is the essence of what I like about this hearing, seamless transition between active military and the VA, and to put on something that Senator Obama talked about. The fact that the Department of Defense still has paper records, still has paper medical records, and you can use all the excuses of the courts or whatever, and the second panel may want to respond to this, it is ridiculous. This is 2007. It is not 1960 anymore. And the VA has made that transition—I applaud them for that—to electronic medical records. The DOD needs to do the same thing.

Thank you, Madam Chairman.

Senator MURRAY. Thank you, Senator Tester.

Senator Burr, opening comments?

STATEMENT OF HON. RICHARD M. BURR, U.S. SENATOR FROM NORTH CAROLINA

Senator BURR. Thank you, Madam Chairman, and to our witnesses, let me thank you for your willingness to come in and share your insight, your experience, and your stories.

I think we all share the same feelings that we want to have a system that is perfect, and that should be our goal. And the reality is I hear about stories that Senator Tester said about an individual, and I hear Senator Obama talk about the transfer of medical data and health IT. I look outside the DOD world and the veterans' world and realize that the private system that we have got is deficient on everything that we are deficient in in these systems.

So my concern is that our focus stay on how do we make the system better. How do we make sure that we are able to provide the level of care that our veterans deserve and that we set out in legislation to achieve? But also realize that things in health care happen in real time and that what we designed 2 years ago has significant challenges today because of the change in the make-up of who walks in the door, the types of problems that they have, the demographic shift that happens in America as it relates to the VA.

I happen to represent a State that is the number one choice of military retirees. I know in real time exactly what that does to a health care system, and the challenge to get ahead of the curve and to be able to offer and provide the level of health care that they deserve and that this Committee, in a bipartisan way, expects is challenging.

I hope that all of you understand that we are attempting to get to the bottom of where our problems are and in a bipartisan way fix those problems. Our goal is to be perfect, but we will never reach it. But it is also to make sure that the stories of the runarounds, the stories of the lines, the stories of the inability to transfer medical data, that we fix these things. It is unacceptable. But it is also to realize that this is not just the VA health care system and the DOD health care system. We have got this bigger animal in America. It is Medicare and Medicaid and private pay, and they do not do these things very well either. And they have a tremendous influence on, in fact, these two systems that we are looking at today.

My hope is that as Members attempt to wade through this to learn and to fix, we will also realize that we have got challenges on the private sector side that if, in fact, we do not fix those, we will find it impossible for the VA and for the DOD pieces to work as we expect them to work without those changes.

So, once again, I thank our witnesses for being here. I thank the Chair for scheduling this. I look forward to hearing from the witnesses.

Chairman AKAKA [presiding]. I want to thank our Members for their opening statements, and I also want to thank Senator Murray for being the Chair.

I welcome our first panel of witnesses. We have brought each of you here for your unique perspectives on VA and DOD and this kind of care, especially for serious traumas.

First, I welcome back Tammy Duckworth. Since she testified in 2005, she has been named the Director of Veterans' Affairs for the

State of Illinois. Director Duckworth has a firsthand perspective on Walter Reed, and she can also share what her office is doing to help veterans.

Jonathan Pruden sustained serious injuries in Iraq. He, too, has firsthand knowledge about the various health care systems for returning servicemembers and veterans.

I welcome as well Ms. Denise Mettie, whose son, Evan, sustained a very serious brain injury in Iraq last year. I understand that you are a wonderful advocate for your son.

Finally, I have asked Dr. Bruce Gans from the renowned Kessler Institute for Rehabilitation to give us the perspective of a private provider dealing with the same sorts of injuries so many of our servicemembers are experiencing. Dr. Gans, as you summarize your testimony, it would be most helpful if you could build upon what the witnesses before you have said.

I want to thank each of you for being here. Your full statements will appear in the record of the Committee, and I would like to first call on Director Duckworth for your statement.

STATEMENT OF MAJOR LADDA TAMMY DUCKWORTH (RET.), DIRECTOR, ILLINOIS DEPARTMENT OF VETERANS AFFAIRS

Ms. DUCKWORTH. Thank you, Mr. Chairman, Ranking Member Craig, Members. It is such a pleasure to be here today. Two years ago when I testified, I was still an inpatient at Walter Reed. I came here in my wheelchair, did not have my legs yet, and I want to tell you that I owe the medical personnel at Walter Reed my life. I owe them a debt of gratitude I can never, ever repay. And as we think about what is happening at Walter Reed, I hope people do remember that, that the personnel there are amazing.

I would like to talk to you about three main things. First, I would like to talk about the state of readiness of the VA system and specific programs within the VA, such as the prosthetics program. I would also like to speak about information sharing between the DOD, the USDVA, and the need also to coordinate with the State VA agencies. And then I would like to make some recommendations on some testing that should be done universally across the Nation for all of our veterans coming home.

Since I have entered the VA system, I must say that the transition from Walter Reed to Hines VA that I experienced was very, very easy for me. We have a wonderful lady at Walter Reed—her name is Brenda Foss—who is the VA coordinator there, and she had reached out to the local VA hospital from Walter Reed and had everything coordinated for me even before I left. I even got a tour of Hines VA Center from the OIF/OEF coordinator at Hines even before I checked into Hines itself. So that transition was quite smooth. They are certainly working with one another, and that went very well.

Where I am experiencing problems is not the major clinics within Hines. It is with the prosthetics program. I do not know how it is across the Nation, but if I am talking to my comrades, my fellow wounded warriors, the prosthetics program within the VA is simply not ready to handle the high functioning level of the current war wounded that are coming home today. They are doing a wonderful job of taking care of our older veterans who are losing limbs to dia-

betes, who are ill, whose goal is to get a prosthetic device and be able to walk around their home and maybe make it out to the car. They are not ready for veterans who want to go rock climbing and running marathons. Many of the veterans coming out of Walter Reed want to join the Paralympics program. We are going to rock the Paralympics program at the next Olympics because we have so many of our young veterans entering that. We are going to really, I think, win a majority of those Gold Medals for the United States. But the VA system is simply not ready, and they do not have time to catch up. They simply do not have time to take some of those wonderful men and women who work in the prosthetics program and send them back for the year-long training that they need to work on the high-tech levels of prosthetics that we wear. If you do that, those prosthetists then are not available to take care of the veterans who are already in the system, and then you will be hurting and harming the veterans of previous wars who need access to the lower levels of prosthetic devices. Those of us who need carbon fiber running legs—and I am getting my scuba legs this week from Walter Reed. I have a prosthetist down in Florida who is making me a flying leg so I can get back in a cockpit again. We need to be able to access that level of care.

So I was so pleased, Senator Craig, to hear you say that it would be wonderful for us to be able to go to outside sources. That is important. That is important because the VA simply does not have time to catch up when it comes to the prosthetics program.

Once the war is over and the critical first 2 years of an amputee's life are behind us, then we have time to wait for a prosthetist to learn to fit us. But in the first 2 years, we simply do not have time, and that is why it is critical for those patients to be able to access the prosthetist that we need to access to get the care that we need.

However, I do think that additional funds are needed for the VA system. It simply is underfunded, and the problems that we have with the VA right now come from the fact that while the personnel are excellent, they want to work hard, they want to do the best job for us, they cannot because they do not have the funding for it. And so that is why the supplemental, the additional spending, will really be a boon to the VA so that they can indeed do the job that they need to do.

I would like to give you an example. My physical therapist at Hines wanted to come with me here this week to Walter Reed to coordinate and to learn to care for me better with my latest artificial limbs and simply was not able to because there is no funding for the plane ticket for him to come from Chicago here to Walter Reed to do that. That is not acceptable.

I also would like to talk about information sharing. We need to make sure that there is adequate information being shared between DOD and USDVA. That is starting to happen. Secretary Nicholson introduced a new program in Florida where seven people participated, where soldiers voluntarily allowed the DOD to transfer their personal contact information to the local USDVA.

There are a lot of State programs available that we cannot tell the wounded servicemembers that these programs exist unless we know that they are coming home to us. If they are part of the Na-

tional Guard, we can reach out and touch them. But if they are coming home as a soldier, for example, serving with the 10th Mountain Division in New York, coming home to Illinois, I have no way of knowing that that individual soldier is coming home. And I have no way of telling him that here in Illinois, Governor Blagojevich has instituted a supplemental health care program, health insurance for veterans, or that he just recently signed a bill into law that gives all employers a $600 tax rebate next year on every OIF, OEF, and Persian Gulf War veteran that they hired in 2007. What a great thing to be able to write on your resume, that if you hire me, you get $600 back on your taxes next year. But I cannot even tell those vets that because I do not even know that they have come home.

So this seamless transition needs to happen down to the State agency level as well, and there is actually an organization of State Directors of Veterans Affairs, whom you addressed, Senator Akaka, just recently, who can help facilitate that so that we truly do work together, red States, blue States, Federal, local levels, to really do what we need to do for our veterans.

I would also like to talk about some universal testing needs. We need to test universally all wounded veterans for PTSD, for traumatic brain injury, for hearing loss, and for vision loss. That is not being done uniformly across the VA system. Hines VA right now is testing for vision loss all of the patients that come through its traumatic brain injury unit, and it is finding that 60 percent of those patients in their polytrauma center at Hines have some form of functional vision loss. Vision loss will affect your scores on a traumatic brain injury test. Hines VA is the only VA hospital in the entire Nation that is testing for vision loss as a universal thing that is done for all polytrauma patients. That is very important because the veteran may be thinking that he is not understanding what is going on, maybe he has worse TBI than he really has, because he cannot read the test, he cannot pass some of the vision aspects of it. So that is important.

I would like to finish by talking about the need for additional funding and coming back to that. One of the things that I have not heard people talk about are the Vietnam era veterans. We have been talking about this large influx of wounded warriors coming out of this war who are coming home, who are entering the VA system, and the fact that we need to take care of them. And this is where the additional spending is so critical.

What people do not realize is that the Vietnam veterans have now reached an age, in their mid-60's, that they need additional medical care. They are reaching a point in their lives where they are accessing greater levels of medical care. In fact, in Illinois, the first Vietnam veterans have entered our nursing homes.

Our VAs are now entering a stage where we talk about the sandwich generation of people who are taking care of their children and their parents at the same time. The VA is entering that stage within the next 5 to 10 years. We will have a large influx of Vietnam veterans in the next 5 to 10 years demanding greater access to VA health care at precisely the same time that you have all of the Iraq and Afghan vets coming in also accessing it. The VA simply is not ready.

So I thank you for continuing to do this. It is such a pleasure to see you, Senator Akaka, as the Chairman of this Committee. You are one of us. You served, and we are so proud to be here. And, again, thank you so very much for having me here, and I know that Captain Pruden will have wonderful things to say as well.

[The prepared statement of Major Duckworth follows:]

PREPARED STATEMENT OF MAJOR LADDA TAMMY DUCKWORTH (RET.), DIRECTOR, ILLINOIS DEPARTMENT OF VETERANS AFFAIRS

Mr. Chairman, Members of the Committee. It is indeed a pleasure to be here to testify. I am honored to have the opportunity to follow up on my March 2005 testimony on the Seamless Transition from DOD to VA healthcare.

When I last appeared before this Committee, I was newly injured and still an inpatient at Walter Reed Army Medical Center. The care that I received and continue to receive at Walter Reed is above the best. The personnel there are incredibly talented and dedicated. It is unfortunate that they are not given adequate resources to support our Wounded Warriors.

Since my last appearance, I have undergone the transition from DOD to VA healthcare and have had an overall positive experience. However, compared to the experiences of other servicemembers, I know that mine is not uniform across the Nation. Even before I left Walter Reed, the USDVA representative had reached out to me and coordinated with the OIF/OEF coordinator at Hines VA Hospital. I had an early tour of the facility and met my future physicians. The one negative experience was the prosthetics department, which, while eager to meet my needs, was many decades behind in prosthetics technology. I now receive care at Hines but also continue to return to Walter Reed. The staff at Hines have been very helpful, and shown great initiative. For example, even though my physical therapist at Hines had not treated a high-functioning amputee like myself before, he prepared for my treatment by reaching out and coordinating with my Physical Therapist at Walter Reed. Both therapists did this of their own initiative.

I continue to return to Walter Reed for its prosthetics program. I also travel to a specialist in Florida for state-of-the-art care. Recently, Hines sent a prosthetist with me to Florida to learn about the high-tech artificial legs that I obtain from the private practitioner there. He was overwhelmed by the technology. The USDVA is absolutely not ready to treat amputee patients at the high tech levels set at Walter Reed. Much of the technology is expensive and most of the VA personnel are not trained on equipment that has been on the market for several years, let alone the state-of-the-art innovations that occur almost monthly in this field. I recommend that the VA expand its existing SHARE program that allows patients to access private prosthetic practitioners. There is simply not enough time for USDVA to catch up in the field in time to adequately serve the new amputees from OIF/OEF during these critical first 2 years following amputation. Perhaps after the end of the current wars in Iraq and Afghanistan, the VA will have time to advance its prosthetics program.

In addition to medical treatment, Seamless Transition is also the passing from one administrative program to another. The Seamless Transition initiative needs to be expanded to each state's VA, and more importantly, local counties and municipalities. The current model for Seamless Transition focuses on transition from the DOD to the USDVA entities within the state. It is also important to involve each state's VA agency as there are many state programs that are unique to the state. For example, in Illinois we provide Veterans' Care, a health insurance plan for veterans. We also provide additional funds for accessibility modifications to disabled veterans' homes. New benefits are added at the state level more quickly than can be tracked by the USDVA. For example, as of January this year, Illinois gives up to a $600 rebate on employer's state taxes for each Persian Gulf War, OIF or OEF veteran, that they hire.

One of the greatest difficulties for state VA agencies is the tracking of returning servicemembers who come home from active duty status. We at the states only find out about these individuals if they self-report to our agency. It appears that a significant difficulty with the Seamless Transition between DOD and USDVA is the sharing of servicemember's information. The DOD and USDVA are still negotiating a Memorandum of Agreement (MOA) for this process. Recently, the USDVA announced a new program that was pilot-tested in Florida called the Florida Seamless Transition Program. This program for sharing information between USDVA and

state VA agencies is just now being expanded to other states. It basically allows wounded servicemembers at DOD medical facilities to voluntarily give permission to have their contact information forwarded to their home state's VA agency. Only seven servicemembers chose to participate, but this is an excellent start.

A related aspect of information sharing between DOD, USDVA and state VA agencies is the technical aspect of data sharing. The USDVA and DOD each have their own excellent medical records keeping system. Unfortunately, most state agencies that operate health facilities such as long-term care facilities do not have electronic records keeping due to the prohibitive costs. At the very least, the USDVA and the DOD should be able to electronically share data so that the wounded servicemembers' medical records can simply be transmitted electronically once they enter the USDVA healthcare system. If there are issues of patient privacy, the records could be given to the servicemember on a CD–ROM, to be turned over at the patient's discretion once they begin seeing their USDVA healthcare provider.

Any Seamless transition program must also include comprehensive screening for Traumatic Brain Injury (TBI), Post Traumatic Stress Disorder (PTSD) and vision loss by both the DOD and the USDVA Health Care systems. I know that efforts are underway to strengthen these assessments by both the DOD and the USDVA. However, there is no standard procedure in place to ensure that all war wounded are screened nationwide.

Currently, there is an issue with TBI screenings. Some servicemembers who are not screened for TBI, are being identified as suffering only from PTSD. However, it is possible to have both PTSD and TBI or either condition alone. My concern is that servicemembers with TBI are not diagnosed and then return to civilian life without this medical condition noted on their records. The symptoms of TBI can result in inability to work or even aggression that results in homelessness and entry into the criminal justice system. At that time, these veterans are then often diagnosed as having PTSD and treated for PTSD even though the main injury is TBI. What is significant about this situation is that TBI and PTSD have many treatment methods that are the exact opposites.

One additional screening criteria that is critical is testing for vision loss. At the Hines USDVA Hospital, all polytrauma patients are routinely screened for vision loss as soon as they enter the facility. The result of these screenings is that 60 percent of the polytrauma patients at Hines have been found to have some form of functional vision loss. Vision loss, an acute injury on its own terms, can also negatively affect how patients perform on tests for TBI, which are heavily reliant on vision. Hines is the only USDVA facility in the Nation that conducts routine screening of patients in its polytrauma centers. This is because it is the initiative of the excellent Blind Rehabilitation program at Hines.

I would like to close by saying that I have had a surprisingly positive transition to the VA system. I also understand that this may not be the same across the board for all returning servicemembers. There are problems that can be resolved such as the establishment of standard screening criteria for major injuries such as TBI, PTSD and vision loss. I would also strongly urge this Committee to consider eliminating the 2-year window for free VA care for OIF/OEF veterans. This is a new time limit that will limit veterans' ability to access care for injuries such as PTSD, which may not become evident until over 2 years after their service. We have more work ahead of us, but much of it can be resolved through information sharing, use of patient advocates, and a willingness to access private healthcare specialists.

Chairman AKAKA. Thank you so much for your testimony.

And now Jonathan Pruden.

STATEMENT OF JONATHAN D. PRUDEN, OPERATION IRAQI FREEDOM VETERAN

Mr. PRUDEN. Mr. Chairman, Members of the Committee, good morning. It is an honor to be here. I strongly agree with Major Duckworth's assessment of VA prosthetics and have experienced similar challenges in receiving adequate prosthetic care. I had my legs made at a private clinic down in Gainesville, Florida.

Part of the problem here may be that VA care has predominantly become geriatric care, and this is only right given that most of the veterans are over the age of 50 right now. VA physicians and clinicians have become very good at diagnosing and treating chronic diseases associated with this aging population. However, they have

little experience with blast injuries and young patients. At facilities I have been asked at least a dozen times if I lost my leg to diabetes or vascular disease. While re-establishing ADLs for an 80-year-old veteran is certainly an admirable goal, these young OIF/OEF veterans, as Major Duckworth said, want to go on and live fuller lives. They want to go run marathons and climb rocks, and they need a higher level of care.

On July 1, 2003, I was wounded in Baghdad. Over the next 3 years, I had 20 operations, including the amputation of my right leg. At Army, Navy, and VA hospitals, I encountered caring and competent individuals willing to go the extra mile to care for servicemembers and veterans.

I understand that steps are being taken already to remedy a lot of the issues that we are discussing here today, but I also understand that a lot of times there is a substantive gap between policy change here and the effects on the ground for the guys implementing it.

Our severely wounded men and women should receive the best medical care, regardless of the cost. One of my favorite soldiers, Corporal Robert Bartlet was critically wounded in Iraq on May 3, 2005. He lost his left eye; the bones and soft tissue on the left side of his face and his jaw were all blown away or pulverized; both his hands have nerve damage; he suffers from PTSD and has a mild TBI. He is about to go in for his 30th surgery on April 13th.

Currently, Corporal Bartlet must go back and forth between Walter Reed and Johns Hopkins for separate dental and plastic surgery care because TRICARE will not authorize dental care at Johns Hopkins. This is inexcusable. He will have to endure an extra 8 months of surgeries because TRICARE will not allow his plastic surgeon and a dental surgeon to tag team and do two surgeries at once. The practice of tag teaming is very common. They did that on me a lot at Walter Reed. I would have vascular, ortho, and neuro all working on me at once, so instead of having three surgeries at separate times and having long recoveries, they piled it all into one. This reduces recovery times and risks associated with anesthesia and so forth. Military physicians caring for our severely wounded must be able to base their treatment decisions solely on what is best for the patient, not TRICARE authorizations.

Rob is a very positive, inspiring individual who wants to get on with his life and his education. He should not be facing numerous extra surgeries and putting his life on hold for lack of a TRICARE authorization. He and other servicemembers like him have already sacrificed enough.

We also must ensure that servicemembers have advocates who know the system and can help them and their families navigate the incredibly complex MEB/PEB process and the VA's benefits process. When I went to my local VA to apply for benefits when I was medically retired in December of 2005, I discovered that, despite what I had been told, an earlier application for a vehicle adaptive grant had been filed as my disability claim. My disability claim did not even include the amputation of my right leg. So I tried to stop the disability claim and find out what was going on. No one at the Gainesville VA or anyone I could talk to could get through to the

regional office to stop the claim or, you know, add my amputated leg to my disability claim.

Finally, I contacted someone up here in VA Central Office who contacted someone in benefits who contacted St. Pete, and then they called me. And it worked out in the end, but you should not have to work the system like that to make this happen. And a lot of these individuals do not have the wherewithal because of injuries and medications and so forth to do that, to work the system, or they do not have the contacts. You should not have to do that to get your benefits straight. This is something we really need to work on.

For over 5 years, VA and DOD have been promising IT miracles that will connect military treatment facilities one to another, inside DOD, and DOD to the VA. I am wondering when it is all going to get fixed.

Last summer, GAO reported that two VA polytrauma centers they visited could not access DOD electronic records. I have encountered this time and again. When I filled out a post-deployment health assessment at Walter Reed, I thought that would be the one time I had to fill it out. I wound up filling that out five different times at five different medical facilities because never did another facility have a record of me filling out this post-deployment health assessment at any other facility. And to date, the VA still does not have a record of me having filled out this assessment, which is supposed to help screen for various health conditions.

We can do better than this. I know a lot is being done. I appreciate what this Committee is trying to do, and I appreciate the very caring and competent people in the VA and DOD and the work that they are doing.

Thank you all very much for having me here today.

[The prepared statement of Mr. Pruden follows:]

PREPARED STATEMENT OF JONATHAN D. PRUDEN,
OPERATION IRAQI FREEDOM VETERAN

Mr. Chairman and Members of the Committee, good morning. It is an honor to be here today.

On July 1, 2003, I was wounded in Baghdad. Over the next 3 years I had 20 operations, including the amputation of my right leg. At Army, Navy, and VA hospitals I encountered caring and competent individuals working diligently to help wounded servicemembers and veterans heal. There have been some obstacles along the way, but most of my care and the care of my wounded soldiers has been first rate. This is as it should be.

Our men and women in uniform deserve nothing but the best care we can provide when they are wounded in the service of our Nation. Anything less is not acceptable. Although I will express a number of concerns about our current system of care, I think we all need to be very careful when pointing fingers. The vast majority of VA and DOD employees are extraordinary men and women, willing to go the extra mile to care for servicemembers and veterans. Individuals like Lieutenant Colonel Gajewski at Walter Reed, Jim Mayer in VA Outreach, and Karen Myers at the Gainesville VA have influenced my life and the lives of countless others in profoundly positive ways.

As this Committee well knows, VA and DOD provide outstanding medical care and benefits to millions of servicemembers and veterans each year. The dedicated public servants who provide this care deserve our utmost respect. That being said, there are still areas that need improvement to ensure truly seamless care for our wounded warriors. I understand that steps are already being taken to remedy some of these issues but I also know that there can be quite a chasm between policy change and substantive changes "on the ground."

IN NEED OF AN ADVOCATE

I've found that soldiers will often "suck it up" and not complain about challenges they face or seek the help they need. At times they are stymied by an overly complex system that can be challenging to negotiate even without mental and physical obstacles created by their wounds or medications. The following cases are a few examples of issues faced by men I've worked with.

• I caught one of my men dragging his nerve damaged foot and asked him why he wasn't wearing a much needed Ankle-foot orthosis (AFO). He told me that the Sergeant at the orthopedics clinic didn't have one in his size.

• One if my old Scout's was seriously wounded and his entire squad was Killed in Action (KIA) or Wounded In Action (WIA). He denied having any PTSD and believed those who claimed to have it were faking. Meanwhile he was consuming ever greater quantities of alcohol and was having trouble controlling his anger.

• Another soldier; a bilateral amputee, was rendered unconscious for an undetermined amount of time by a blast that killed the driver of his vehicle and grievously wounded the other occupant. His mother reported he has great difficulty remembering things but he was not screened for a TBI in nearly 2 years by DOD. This is likely because his TBI symptoms were masked by symptoms of significant PTSD and substance abuse.

There was no reason for these men to suffer. In each of cases resources were available and could have been used to help these men. Often problems arise, not because of a lack of resources, but a lack of information. These soldiers all needed more information and an advocate to ensure they received the services they needed.

NOT AUTHORIZED BY TRICARE

Our severely wounded men and women should receive the best medical care regardless of the cost. One of my favorite soldiers, Corporal Robert Bartlet, was critically wounded in Iraq on May 3, 2005. He lost his left eye, the bones and soft tissue of the left side of his face were pulverized or blown away, both his hands have nerve and tissue damage, he suffers from PTSD, and a mild TBI. He is about to go in for his 30th surgery on April 13, 2007.

Currently, Corporal Bartlet must go back and forth between Walter Reed and Johns Hopkins for separate dental and plastic surgery care. This is inexcusable.

He will have to endure an extra year of surgeries and time away from his wife because TRICARE will not pay for dental care at Johns Hopkins that would allow his plastic surgeon and dental surgeons to "tag-team" and do two surgeries at once. The practice of "tag-teaming" is very common and prevents patients from having to endure extra surgeries, longer recoveries, and increased health risks associated with multiple surgeries.

Walter Reed has the dental surgeon but not the plastic surgeons to work on Rob. So he will continue to endure, needless, extra surgeries as he bounces between Walter Reed and Johns Hopkins. Despite repeated requests, TRICARE will not allow him to receive dental care at Johns Hopkins.

This is completely unacceptable. Military physicians caring for our severely wounded must be able to base their treatment decisions on what is best for the patient not on TRICARE authorizations. Rob is a very positive, inspiring individual who wants to get on with his life and his education. He should not be facing numerous extra surgeries, pain, and recoveries while his life is put on hold in order to save the government a few dollars.

He and other soldiers in similar situations have already sacrificed enough.

THE JEC

In recent Congressional committee hearings representatives repeatedly expressed great concern about the complex and confusing quagmire that the wounded must attempt to navigate as they transition from DOD to VA care. In light of these concerns it seems important that Congress consider the actions of the Joint Executive Council (JEC), the only significant entity that straddles the divide between DOD and the VA.

Unfortunately this year, Congress will not be receiving its annual report on the JEC from the Government Accountability Office (GAO) as it has each March for the past 3 years. The 2003 NDAA required GAO to present an annual report on the JEC to Congress. According to Laurie Ekstrand, of GAO's healthcare team, "GAO asked to have the annual reporting changed. Given the array of issues we have to cover it seems more reasonable to report on an as-needed basis and to have reporting about the JEC considered in relation to the relative importance of the rest of our requested workload."

The JEC provides its own annual report to Congress but they have a vested interest in highlighting the "good news stories" and minimizing the focus on areas in need of improvement. Allowing agencies to self report without the objective oversight provided by GAO reports may have contributed to the problems at Walter Reed. Army Leadership was so focused on all the good that was being done that they failed to look for, or acknowledge, the bad. In recent Congressional hearings General Schoomaker, the Army Chief of Staff, addressed the Army's propensity to believe its own good press about Walter Reed and acknowledged, "we have been drinking our own bathwater."

A COMPLEX PROCESS

We must ensure that wounded servicemembers have advocates who know the system and can help them and their families navigate the incredibly complex MEB/PEB process and the VA benefits process. Secretary Nicholson's hiring of 100 patient advocates and 400 benefits personnel is a step in the right direction but much more needs to be done.

The problems with the current system have been highlighted by the MED HOLD situation at Walter Reed. One of my old troops lived in Building 18 last year. Neither he nor the others I've been working with complained about their accommodations. Rather, they were frustrated by the way they were treated by NCOs, social workers, and administrators as they worked to recover and either get back to the line or get on with their lives. One soldier expressed this common sentiment bluntly; "They treat us like . . . 5 year olds!" These frustrations are exacerbated by feelings of powerlessness and an overly complex MEB/PEB process especially among those suffering from TBI and/or PTSD. One soldier who was at WRAMC when I was injured in July of 2003 is still in MED HOLD 3 years and 8 months later.

VA BENEFITS

When I went to my local VA to apply for benefits after I was medically retired in December of 2005 I discovered that, despite what I had been told, an earlier application for a vehicle adaptive grant had been submitted as my disability claim. The claim failed to include the amputation of my right leg! Try as I might, I, nor anyone at the VAMC could actually contact anyone in the regional claims office who could address my concerns. Fortunately, I knew a senior VA administrator in Washington, DC. He had one of the key leaders over VA benefits in VA Central Office call me. Through them I finally made contact with a manager in the regional claims office who was able to help correct the situation. Wounded servicemembers should not have to have to "work the system" to ensure their claims are properly handled.

VA CARE

At VA facilities I have been asked at least a dozen times if I lost my leg to diabetes/vascular disease. VA practitioners have become specialists in geriatrics and have very little experience with blast injuries and young patients. Currently, the majority of their patients are over 50, however these doctors are facing a new wave of veterans with different needs. While reestablishing Activities of Daily Living (ADLs) may be an acceptable goal for an 80-year-old veteran, OEF/OIF veterans typically want to return to the active lives they led before being wounded.

• Seriously wounded veterans should be assigned to the best/ most experienced Primary Care Managers (PCMs) available. Too often it seems the veterans who have been in the system a long time know who the best physicians are. This means that the "best" PCMs are perpetually "booked up" by older veterans. Unfortunately, this leaves the newest veterans, who may have the most complex and challenging medical issues, under the care of the least experienced or desirable Nurse Practitioner.

• The VA should offer drug rehabilitation to combat veterans who received an Other Than Honorable discharge from the service for substance abuse.

CLEAR, ACCURATE, AND TIMELY EXCHANGE OF INFORMATION

The most significant challenges to a truly seamless transition for our wounded often result from poor communication. In September of 2002, a VA news release touted the development of "a single, reliable, data source and a single point of integration between VA and DOD." Four and a half years later no such system exists for practitioners "on the ground." Last summer GAO reported that the two VA Polytrauma centers they visited could still not access DOD electronic medical records. (GAO–06–794R Transition of Care for OEF and OIF Servicemembers GAO.)

I have filled out the Post Deployment Health Assessment (PDHA) five separate times at Walter Reed Army Medical Center, Brooke Army Medical Center, Eisen-

hower Army Medical Center, Winn Army Community Hospital, and Portsmouth Naval Hospital. Never has a facility had a record of me filling out this form. The VA also has no record of me filling out a PDHA.

I have requested, in writing, a record of my amputation at Portsmouth Naval Hospital from PNH, WRAMC, DOD, and the VA. The only evidence that I had an amputation is my lack of a leg a copy of my discharge paperwork from PNH.

We can do better than this.

CONCLUSION

Recently, my cousin was severely injured in a helicopter crash in Afghanistan. I have been impressed by the level of care and support he and his family have received both medically and administratively. A great deal has changed since 2003. Over the past 3.5 years I've witnessesed an evolution in the depth and nature of the health and social services provided by DOD and the VA for the wounded returning from combat. These changes will ensure that my cousin and others wounded today will not face many of the issues faced by those wounded in 2003.

Fourteen servicemembers on my cousin's helicopter came back to the United States on stretchers. Eight returned in flag draped caskets. These wounded, and the families of those who were killed, deserve the best this Nation has to offer. The work that you all are doing is, and will continue to be, critical to ensuring wounded servicemembers and Veterans of every generation receive the best care this Nation can offer.

Thank you all for all that you are doing and thanks for having me here today.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO JONATHAN D. PRUDEN, VETERAN, OPERATION IRAQI FREEDOM

Question 1. I am interested in your suggestion about providing rehabilitation services to veterans on request for substance abuse. Can you explain more about why you think it is such a priority, and how you think your colleagues would react to such an offer? Do you think that some type of substance abuse screening would be important for veterans with PTSD or TBI diagnoses?

Response. The extensive substance abuse that devastated so many lives in the wake of Vietnam should make us consider how we will care for those with similar issues after combat in Iraq and Afghanistan. Time and again I have witnessed soldiers slide into substance abuse after combat. Some ask for help, go through rehabilitation, and return to duty. Too many however, wind up being discharged when they "come up hot" during drug screens or for behavioral issues secondary to substance abuse. A large number of those discharged for substance abuse likely turned to drugs or alcohol to medicate psychological problems stemming from combat.

After recent policy changes, the VA is now screening all OIF/OEF veterans for TBIs, PTSD, alcohol abuse, depression, and infectious diseases. However, there is not a separate screen for drug/substance abuse. The VA has world class substance abuse rehabilitation programs but the door to these programs is closed if a veteran left the service with an "Other than Honorable" or "Dishonorable" discharge.

Those who believe that veterans who are not honorably discharged do not deserve any VA care should consider how rehabilitation may reduce the long term costs of substance abuse for family, community, society, and the government. I've spoken to several soldiers, VA employees, and friends about this matter and every person has supported this idea. Several expressed shock that the VA did not currently offer rehabilitation to those discharged for substance abuse.

I am not proposing free healthcare for these veterans. However, it seems that we have an obligation to help these men and women when they show up at the VA wanting to "get clean." Although DOD and the VA are taking proactive steps to address post-combat PTSD, TBI, and substance abuse they cannot change human nature nor the horrors of war. The entanglement of TBI, PTSD, depression, and substance abuse can make it difficult to determine what the roots of substance abuse may be. Veterans who were other than honorably discharged due to substance abuse may have turned to drugs and alcohol to cope with devastating combat experiences. They deserve our compassion, not disdain.

Chairman AKAKA. Thank you very much, Mr. Pruden.

Denise Mettie?

STATEMENT OF DENISE METTIE, REPRESENTING THE WOUNDED WARRIOR PROJECT, AND MOTHER OF ARMY SPC. EVAN METTIE

Ms. METTIE. Mr. Chairman and Members of the Committee, my name is Denise Mettie, and I am representing my son, Retired Army Specialist Evan Mettie, who was injured in Iraq on January 1, 2006, and the Wounded Warrior Project, a group that assists wounded servicemen from Iraq and Afghanistan.

Let me start by giving you some details of Evan's initial injury and his subsequent treatment.

Chairman AKAKA. Would you please turn the microphone on?

Ms. METTIE. But I want to whisper.

[Laughter.]

Ms. METTIE. Evan was injured while on a highway outside of Baji when his patrol stopped to investigate a car. When they challenged the driver, he blew himself up. We were told that Evan was initially reported as killed in action, but when a medic arrived 15 to 20 minutes later, she discovered he was still breathing. He was quickly evacuated to the nearest medical facility. In Balad, doctors performed a left-side craniectomy and removed shrapnel from his brain. Evan stabilized very well and was transferred to Landstuhl, Germany, the next day.

Since I could not be there with him, I had the staff put the phone to his ear, told him we loved him, hang in there, we would be with him very soon. The nurse said that as soon as I started talking to him, she saw his heart rate go up. From that moment on, I knew he was there and God was with our son and was bringing him back to us.

Evan arrived at Bethesda on January 3, 2006, just 3 days after the blast, and we arrived a day later—my husband and two teenage daughters. Evan spent the next 86 days in ICU at Bethesda. He endured fevers as high as 106, and his weight dropped from 190 to 99 pounds. We were told he would most likely remain in a vegetative state, not breathe or eat on his own, and be paralyzed on his right side.

Before Evan came out of his coma, approximately 17 days after his injury, we were approached about his Medical Boards and the process that would initiate his retirement from the military. Not knowing or having the time at that time to figure out what was going on, I just said, "Do what you have to do."

During the months of January and February, Evan moved his head from side to side, opened his right eye, and squeezed my fingers. When Evan's sister came back for a visit, his response was amazing. As soon as he heard her voice, he lifted his head and shoulders and raised his arms out like he was trying to sit up.

On March 10th, it was like an awakening. Evan was really alert. He even watched a movie for 2 hours for the first time.

By this time the doctors at Bethesda recommended that we return home so I could be closer to the family and return to a more normal life and Evan could go to the Seattle VA. We asked about rehab and were told he was not ready. At no point did anyone mention the possibility of going to one of the VA's polytrauma centers let alone private rehab.

On March 26th, he was medevaced to the Seattle VA. That night when I kissed him goodnight and turned to leave, he raised his right hand and hit my arm for the first time. I just cried for joy. Frustratingly, Evan's records were sent with us in large packets, but somehow some had been misplaced. So for the next several days, I was filling the doctors in on his care that he had received for the previous 3 months.

Four days after being there, the doctors told me that Evan was too healthy to be in ICU and that we needed to move him out as soon as possible. Since Evan was still on a ventilator, that meant he has one of four civilian skilled nursing facilities to choose from in the State of Washington.

One of the VA doctors told me that Evan's brain injury was the most devastating that she had seen and hope for recovery was unlikely. Like all of the other times, I told her, "We have seen Evan do amazing things. You have your prognosis and I have mine, and I am following mine."

Before being sent to the nursing facility, Evan was making significant progress. He ultimately went 24 hours breathing on his own. He was squeezing hands on command, smiling, tried to lift his left hand several times. He would give little modified "thumbs up" when we asked him questions or asked him to do it, raised his head and would try to lift both hands at the same time.

Because there was no interim place in the hospital to place him for a week or even two, to continue his vent weaning, he was transferred directly to a civilian skilled nursing facility, a SNF. This was undoubtedly the most horrendous experience we have ever endured. The medevac nurses were initially afraid to leave him because they feared for his safety. After 3 weeks of enduring continuous disregard to his care, his pain, and the fact that he could not speak for himself, the VA investigated and moved him back to the Seattle VA.

I could not even begin to tell you how relieved I was. At that point I could just take a breath again.

In May, however, because Evan's MEB had been stalled until we gained guardianship, he was still on active duty. His medical holding was changed to Fort Lewis. Due to this change, I was no longer able to get a per diem. I had quit my job with US Bank to be with him, and now all motel, food, and gas costs were at our expense.

The people in Seattle treated Evan wonderfully, but he was the first OIF TBI to come through there, and there was no overall treatment plan. To this day, I am still unsure how Evan originally bypassed the entire polytrauma system that could have potentially provided such a plan. I even asked for referrals, but was told Palo Alto could not take him because he was not ready.

At that point Evan's rehab program consisted of a 30-minute range of motion each morning, Monday through Friday. One to three times a week a physical therapist would come in and sit him upright on the side of his bed for approximately 30 minutes. That was it.

During this time I did my own research. I devised my own coma stimulation program, and I did his extra range-of-motion activities.

Part of the problem lay with a test, an SSEP test that they took that measures the impulse activity throughout the nervous system.

And when they did it, the testing resulted normal, up, through, behind his ears, the electrodes they had placed on top of his head did not pick up any electrical impulse activity in the cortex of his brain. In studying these tests, they can be inaccurate for a variety of reasons. When the rehab doctor met with me to tell me about this, I told her that it was wrong. I had seen him do too many things that he would not have been able to do if he did not have this impulse activity.

On November 30th, almost a year after his initial injury, Evan finally made it to rehab at Palo Alto and soon started command responses again. Evan came in for a 30-day evaluation and was extended 2 more weeks. He occasionally could answer questions with raising his right hand, and he would move his head to the left and right, and they extended him for another 2 weeks.

In January, I was advised to take Evan home and put him in a skilled nursing facility until he reached the next level and that he could come back for more therapy. My question was: How can he reach the next level if he is not receiving rehabilitation therapy? They said they would send videos and written instructions for the staff at the nursing home to follow and I would be there to train them. After our experience with the previous facility, this scared the living daylights out of me. Evan was to heal himself before he could get further rehab.

Unfortunately, by mid-February Evan's lack of responses was noticeable, and I could not figure out what was happening. On the 16th, I was told the team doctors thought it would be a good idea to transfer Evan to a VA long-term facility until he could be transferred elsewhere. I was livid. First, any moves are extremely hard on Evan, especially if it is just for a week or two. Second, since mid-January I had not seen a particular neuropsychologist with Evan. He was an integral part of his program. He had been seeing him for 3 to 4 weeks prior to this, and he was making continual progress. I requested a meeting to address my concerns, and the doctors agreed to check the records.

On March 14th, I received an apology from the hospital director as it appeared that Evan's records were not accurate. They offered another evaluation and therapist for Evan, and in the meantime, I had requested second opinions from both Tampa VA and a private rehab facility called Casa Colina. Representatives from Tampa VA met with me and, without seeing Evan, told me since he is a year out in his injury they could not help us. I asked if further therapy would be beneficial and was told no.

The ironic thing was earlier that day, I asked Evan if he was going to work with PT today. He raised his right hand for yes. Therapists came in and asked him questions about what hair color he liked on girls. Blondes? Right hand raised for yes. Brunettes? No response. Redheads? Right hand raised for yes. And this is from the kid who is not worth more therapy.

A recent CT scan showed a buildup of fluid in Evan's brain. If it is causing the pressure, this could explain his regression. To date, Casa Colina has not responded to my inquiries, but the Rehabilitation Institute of Chicago is sending an evaluator. Although I do not know who will pay for this care should they accept him, RIC's answer will determine Evan's future. He will either progress

with more rehab or go home to a local skilled nursing facility until our house is adapted. Then he will come home where, with my own prognosis, we will continue his rehab.

This is our story, and I wish it were unique. But, unfortunately, many of the challenges we face are faced by other families also. If you take but a few things from this story, please let it be this: Traumatic brain-injured patients and families need time to adjust to the reality of their situations, and it is unfair to quickly begin the retirement process for individuals with such an unknown and unpredictable injury, especially when retirement limits care options. Give us time to get our feet under us and understand what we are dealing with.

Traumatic brain-injured patients and families need options. I know that the VA is building their program, and I understand it continues to make progress. Still, there are many private hospitals which have many years of experience treating and rehabilitating patients like my son. It is unfair to deny us access to the same level of care that you would choose for your own children. At the same time, the VA must use these private facilities as the resources they are so that one day, hopefully soon, the VA will be the facility of choice.

Thank you, and I look forward to your questions.

[The prepared statement of Ms. Mettie follows:]

PREPARED STATEMENT OF DENISE METTIE, REPRESENTING THE WOUNDED WARRIOR PROJECT, AND MOTHER OF ARMY SPC. EVAN METTIE

Mr. Chairman, and Members of the Committee, my name is Denise Mettie, and I am representing my son, retired Army Spc. Evan Mettie who was injured in Iraq on January 1st, 2006 and the Wounded Warrior Project, a group that assists wounded servicemembers from Iraq and Afghanistan.

Let me start by giving you some of the details of Evan's initial injury and subsequent treatment. Evan was injured while on a highway outside of Baji when his patrol stopped to investigate a car. When they challenged the driver, he blew himself up. We were told that Evan was initially reported as "Killed in Action," but when a Medic arrived 15–20 minutes later, she discovered he was still breathing. He was quickly evacuated to the nearest medical facility.

In Balad, doctors performed a left side cranectomy and removed shrapnel from his brain. Evan stabilized very well and he was transferred to Landstuhl, Germany the next day. Since I could not be there with him, I had the staff put the phone up to his ear, I told him to hang on, we loved him and we would be with him soon. The nurse told me his heart rate went up as soon as I started speaking—I knew then the good Lord was watching my guy.

Evan arrived at Bethesda on January 3, 2006, just 3 days after the blast that injured him, and we arrived a day later. Evan spent the next 86 days in ICU at Bethesda. He endured fevers as high as 106, and his weight dropped from 190 to 99lbs. We were told he would most likely remain in a vegetative state, not breathe or eat on his own, and be paralyzed on his right side.

Before Evan came out of his coma, and just 17 days after his injury, we were approached about his Medical Boards, the process that would initiate his retirement from the military. Not knowing or having the time to figure out what that meant, I said "do what you have to do."

During the months of January and February, Evan moved his head from side to side, opened his right eye, and squeezed my fingers. When Evan's sister Kira arrived, and as soon as she started talking to him there was a huge response. He opened both eye's wide, lifted his head and shoulders up and outstretched his arms as if he were trying to sit up. On March 10th , it was like an "awakening"—Evan was really alert, he even watched a 2-hour movie and smiled.

By this time the doctor at Bethesda recommended that we return home so I could be closer to family, return to a more normal life and Evan could go to the Seattle VA. We asked about rehab and were told he wasn't ready. At no point did anyone

mention the possibility of going to one of the VA's Polytrauma Centers let alone a private rehab facility.

On March 26th, he was medivaced to the Seattle VA. That night when I kissed him goodnight and turned to leave, his right hand reached up and hit my arm. I cried for joy. Frustratingly, Evan's records had not arrived at Seattle with him, so for the next few days I was filling them in on his condition. They then told me Evan was too healthy to be in the ICU and we needed to get him out ASAP. That meant Evan had to go to a civilian Skilled Nursing Facility.

One of the VA Doctors told me Evan's brain injury was one of the most devastating she had seen and hope for recovery was unlikely. Like all of the other times, I told her "we've seen Evan do things no one else has and we have a strong Faith, so you can have your prognosis and I will have mine."

Before being sent to the Nursing Facility, Evan seemed to be making significant progress. He ultimately went 24 hours breathing on his own, squeezed his hand on command, smiled, lifted his left hand several times, gave a thumbs up sign, raised his head, and tried to lift both arms.

Because there was no interim place in the hospital to place him for a week or two to continue his vent weaning, he was transferred directly to a civilian Skilled Nursing Facility (SNF). This was a horrendous experience due mostly to their inattention to Evan's needs, their disregard for his constant pain, and their blatant disrespect of a patient unable to speak for himself.

After a month of this substandard care, the VA investigated, and Evan was transferred back to Seattle. Everyone there was wonderful, and he was treated with kindness and respect. I could finally breathe again.

In May, however, because Evan's MEB had been stalled until we gained guardianship and he was still on active duty, his Medical holding was changed to Ft. Lewis. Due to this change I was no longer able to get a per diem. I had quit my job with US Bank to be with him, and now all motel, food and gas costs were at our own expense.

The people in Seattle treated Evan wonderfully, but he was the first OIF TBI to come through there, and there was no overall treatment plan. To this day, I am still unsure how Evan originally bypassed the entire polytrauma system that could have potentially provided such a plan. I even asked for referrals but was told Palo Alto wouldn't take Evan because he was not ready.

At that point, Evan's rehab program consisted of 30 minutes of Range of Motion each morning Monday thru Friday, and 1–3 times a week a physical therapist sits him upright on his bed. That was it. I dedicated my time to research, devising my own Coma Stimulation program and doing extra ROM activities.

On November 30th, almost a year after his initial injury, Evan finally made it to rehab at Palo Alto and soon started command responses again. Evan came in for a 30-day evaluation and was extended 2 more weeks. He occasionally could answer a few questions by raising his right hand for yes and was extended another 2 weeks.

In January, I was advised to take Evan home and put him into a SNF until he reached "the next level" and then he could come back for more therapy. How could he reach the next level if he was receiving no rehabilitation therapy? They said they would send videos and written instructions for the staff at the nursing home to follow, and I would be there to train them. After our experience with the previous facility, this scared the living daylights out of me. Evan was to heal himself before he could get further rehab.

Unfortunately, by mid-February Evan's lack of responses was noticeable, and I couldn't figure out what was happening. On the 16th, I was told the "team" doctors thought it would be a good idea to transfer Evan to a VA long term care facility until he could be transferred elsewhere. I was livid, first, because moves are very hard on Evan, especially for a week or two. Second, since mid January I had not seen a particular Neuro Psychologist with Evan, which was an integral part of his therapy. He had been seeing her 3–4 times a week prior to that and was making continual progress. I requested a meeting to address my concern and the doctors agreed to check the therapist's records.

On March 14th, I received an apology from the Hospital Director, as it appeared that Evan's records were not accurate. They offered another evaluation and therapist for Evan, and in the meantime I had requested a second opinion from both the Tampa VA and a private rehab facility called Casa Colina. Representatives from the Tampa VA met with me, and without seeing Evan, told me since he's a year out in his injury they could not help us. I asked if further therapy would be beneficial and was told no. The ironic thing was that earlier that day, I asked Evan if he was going to work with PT today, he raised his right hand for yes. Therapists asked him questions about what hair color he liked on girls, blonde? Right hand raise, yes.

Brunettes, no response. Redheads? Right hand raise, yes. This, from the kid who isn't worth more therapy.

A recent CT scan shows a buildup of fluid in Evan's brain. If it is causing pressure, this could explain his regression. To date, Casa Colina has not responded to my inquiries, but the Rehabilitation Institute of Chicago (RIC) is sending an evaluator. Although I don't know who will pay for this care should they accept him, RIC's answer will determine Evan's future—he will either progress with more rehab or go home to a local Skilled Nursing Facility until our house is adapted. Then he will come home where with my own prognosis, we will continue his rehab.

That is our story, and I wish it were unique. Unfortunately, many of the challenges we faced are being encountered by others in similar situations. If you take but a few things from this story, please let it be this:

- Traumatic Brain Injured patients and families need time to adjust to the reality of their situations, and it is unfair to quickly begin the retirement process for individuals with such an unknown and unpredictable injury, especially when retirement limits care options. Give us time to get our feet under us and understand what we are dealing with.
- Traumatic Brain Injured patients and families need options. I know that the VA is building their program, and I understand that it continues to make progress. Still there are many private hospitals which have many years of experience in treating and rehabilitating patients like my son. It is unfair to deny us access to the same level of care that you would choose for your children. At the same time the VA must use these private facilities as the resources they are, so that one day, hopefully soon, the VA will be the facility of choice.

Thank you, and I look forward to your questions.

Chairman AKAKA. Thank you very much for your testimony.

Dr. Gans?

STATEMENT OF BRUCE M. GANS, M.D., EXECUTIVE VICE PRESIDENT AND CHIEF MEDICAL OFFICER, KESSLER INSTITUTE FOR REHABILITATION, NEW JERSEY

Dr. GANS. Thank you, Mr. Chairman, Members of the Committee. I am really moved by the testimony of the three panelists who have preceded me. It makes me remember that we are here about people and their families and the injuries and the concerns and the hope and the optimism and opportunity that they face. And I would like to share you the view from the private rehabilitation community, the things that we try to do, the things we would like to be able to do, and the capacity that we do represent that may be at least in part a way of helping with the current problem.

We tried over 4 years ago as an institution to reach out to the DOD when we saw injured soldiers coming back without access to services. It was visible in the press at that time. We reached out to the VA. Many of our other organizations in the private rehabilitation community did so. Unfortunately, we could not find a way in. We could not find a way to offer our services. It was not about business. It was about care for people and the needs. We had the capacity. We wanted to provide the service. We continue to be frustrated in those regards as a field for a number of years.

Let me tell you about the private rehabilitation community capacity in this country. Actually, World War II created much of what exists, and the VA itself was a leader in creating the rehabilitation capacity that became a very large part of what is available in the civilian community. Today there are more than 217 freestanding rehabilitation hospitals in this country, more than 1,000 rehabilitation units in acute-care hospitals, and many thousands of outpatient rehabilitation therapy centers. Many of those have very specialized programs for exactly the kinds of injuries and disabling

conditions that our injured warriors are coming back with—amputations, traumatic brain injuries, spinal cord injuries, and many other disabling conditions. And we even have organized networks of research and clinical service that are capable of dealing with them that are even funded by the Federal Government. The National Institute on Disability and Rehabilitation Research funds currently 16 model systems in spinal cord injury and is re-funding right now 14 systems in traumatic brain injury. These are model systems that provide research, that collaborate, provide education services, and advance the state of the knowledge and the art of rehabilitation. And there is a smaller network of burn injury rehabilitation programs as well.

I merely mention these to say that the civilian community has capacity for exactly the kinds of injuries that are being seen and has ways of identifying those programs that have true expertise and are uniquely qualified, and that I think is part of the key to how the civilian sector could be helpful to augment what the DOD and the VA systems currently have available to them.

At the same time, it is ironic to think that the VA rehab capacity has sadly shrunk over the years in response to the changing needs of its members and service providers while the civilian community has grown and its capacity has been enriched. We now serve injured individuals in urban violence, people in motor vehicle accidents, older people with the same kinds of problems that the VA is experiencing, but we do have experience with trauma and all the range of services that are needed.

What is needed is accessible, excellent quality care that is organized and where people need to have it accessible to them, not just the quality but also the location. The civilian sector is capable of augmenting and complementing the military and the VA systems if you will find a way to let us help so that we can do that.

Last week, I had the privilege of meeting with Secretary Nicholson at his offices with several of his key staff members to talk about just this issue. We made, on behalf of the rehabilitation hospital facilities, a proposal that we could establish a coordinating council that would let the private sector coordinate and cooperate and plan together with both the military and the VA systems to identify mechanisms of identifying service centers of excellence that could be qualified for participation in serving our servicemembers, that could be located geographically where they are needed to complement the existing excellence of the VA facilities and the military systems, and could arrange for information exchange and even could organize a research effort so that the information that is learned about how the private sector and the publicly sponsored programs can work together can be enhanced so that the quality of care that we all want to provide can be made more effective, more efficient, cost even less, but do even a better job.

I would like to mention one other problem that may seem irrelevant but is very germane. The rehabilitation capacity in the civilian sector is starting to fall apart in this country because of pressure from CMS, the Medicare program, that is forcing beds to close because of changing views as to where rehabilitation is appropriate. Over the last year alone, more than 8 percent of the Na-

tion's rehabilitation beds have closed because of pressure from the 75 percent rule, which is a Medicare regulation, and we have only seen the tip of the iceberg. This is going to be a huge problem that may close as many as a third to half of the rehab beds and facilities in this country if it is not addressed.

We are very grateful that Senators Nelson, Bunning, Stabenow, and Snowe have introduced S. 543, the Preserving Patient Access to Inpatient Rehabilitation Act of 2007, which will help stop this problem from continuing. We do not need the civilian sector to be disassembled the way the VA system was just at the time that we need it most. The civilian community wants to help, can make itself available, has services and resources to complement the VA, and we want to make that possible so that the kinds of stories that I just heard do not have to be replicated.

Thank you for your attention.

[The prepared statement of Dr. Gans follows:]

PREPARED STATEMENT OF BRUCE M. GANS, M.D., EXECUTIVE VICE PRESIDENT AND CHIEF MEDICAL OFFICER, KESSLER INSTITUTE FOR REHABILITATION, NEW JERSEY

Good morning, Senator Akaka and Members of the Committee. Thank you for inviting me today to share my experience and recommendations regarding cooperation among the DOD, the VA, and the civilian rehabilitation hospitals to provide for the medical rehabilitation needs of returning servicemembers.

I am Dr. Bruce Gans, a physician who specializes in Physical Medicine and Rehabilitation (PM&R). I currently am the Executive Vice President and Chief Medical Officer of the Kessler Institute for Rehabilitation in New Jersey. I have been president of the Association for Academic Physiatrists (the society that serves medical school faculty members and departments), and the American Academy of PM&R, which represents approximately 8,000 physicians who specialize in PM&R. I currently serve as a Board member and officer of the American Medical Rehabilitation Providers Association (AMRPA), the national association that represents our Nation's rehabilitation hospitals and units. In the past, I have chaired medical school departments at Tufts University School of Medicine in Boston, and Wayne State University School of Medicine, in Detroit. I also served as President and CEO of the Rehabilitation Institute of Michigan in Detroit for 10 years.

Kessler Institute for Rehabilitation is the largest medical rehabilitation hospital in the Nation. We operate specialized Centers of Excellence to treat patients with amputations, traumatic brain injuries, spinal cord injuries, strokes, and many other neurological and musculoskeletal diseases and injuries. We also offer more than fifty sites for outpatient rehabilitation services in New Jersey that provide services such as medical care, physical therapy, prosthetic fabrication and fitting, cognitive rehabilitation treatment, high technology wheelchairs and electronic assistive device fittings, and many other services.

We are also a major medical rehabilitation education and research facility. We train physicians, therapists, psychologists, and others as to how to provide rehabilitation programs and services. We also host many research programs and projects to advance the knowledge and science of medical rehabilitation. Much of this research is funded by Federal grants from the National Institutes of Health (NIH), the National Institute for Disability and Rehabilitation Research (NIDRR), other Federal and state organizations, and private foundations.

The reason I am speaking with you today is to share my experience regarding how in the past we tried, without success, to offer our medical rehabilitation services to returning military personnel, both active military and veterans. I will also share my views as to how the civilian medical rehabilitation provider community can help the DOD and VA health systems to provide the highest quality immediate and long-term rehabilitation care to our wounded warriors at facilities that are close to their homes, while still being cost effective for our Nation.

REHABILITATION CAPACITY IN THE CIVILIAN HEALTH CARE SYSTEM

Over the past 60 to 70 years, our Nation's civilian health care system has developed a rich capacity to provide sophisticated medical rehabilitation care through an array of several hundred free-standing rehabilitation hospitals, more than a thousand rehabilitation units of acute care hospitals, and thousands of outpatient ther-

apy centers. Many of these facilities are capable of providing technically advanced care for patients with traumatic brain injuries, amputations, and all the other injuries being experienced by our servicemembers. This rehabilitation care is provided by multidisciplinary teams of physicians, nurses, therapists, neuropsychologists, and many other professionals in well organized and goal directed programs.

Highly specialized expertise exists in some of these facilities to deal with the exact problems our servicemembers have. For example, there currently is a network of 14 Spinal Cord Injury Model Systems in a grant supported program funded by NIDRR that provides state-of-the-art clinical care, as well as conducts cutting edge research to advance the effectiveness of medical rehabilitation. Similarly, there is a network of 16 Traumatic Brain Injury Model Systems, and a smaller network of Burn Rehabilitation Model Systems also funded by NIDRR. Each of these centers has been able to demonstrate objectively how they provide exceptional clinical care, as well as community outreach, education, and research.

In addition to the centers that have received these grant designations, there are many other equally well-qualified rehabilitation programs in operation today that are serving patients with the same injuries. Consider that when the SCI Model System grant program was recently competed, more than 30 qualified organizations applied for the 14 awards that were eventually made.

My point is that there is a rich care-giving capacity that already exists in our country that could be tapped to assist our servicemembers and their families. There is also an established basis for judging program quality, to determine which ones can meet rigorous standards of excellence.

THE PRIVATE, DOD AND VA SECTORS HAVE NOT WORKED OR PLANNED TOGETHER WELL

About 4 years ago, when it became apparent that serious injuries were being incurred by growing numbers of our troops, we at Kessler tried to reach out to offer our services to the DOD and VA. We called, wrote, e-mailed, and in other ways tried to engage medical and administrative leaders in the Departments and individual facilities to offer our assistance. Unfortunately, at that time we were unable to find a receptive ear.

One of the reasons we reached out to the VA in particular, is because we knew that over the last few years, much of the VA's clinical ability to deliver rehabilitation care in organized units had been taken out of service, presumably as a response to budget pressures and a belief that the demand for services was in decline as our veterans were aging and expiring.

Sadly, in retrospect we can see that dismantling the VA rehabilitation capacity was an unfortunate choice. The need for physical medicine and rehabilitation has now grown dramatically. While I applaud the efforts of the DOD and the VA to create high quality treatment facilities such as the VA Polytrauma Centers, the current efforts fall far short of the immediate need for technically excellent, compassionate rehabilitation care that can be provided to all in need, in a timely manner, and close to home in the patient's local community.

Having a limited number of centers that can only be accessed by people if they uproot themselves and their families to live in temporary housing of variable conditions, only adds insult to injury. Further, it still leaves patients and families at risk to eventually return to a home community with no accessible lifelong care capacity that they can utilize. It seems to me that this is unwise, unnecessary, and a breach of our moral responsibility to our servicemembers as a grateful Nation.

In the era following World War II, when there were very few local rehabilitation care delivery options, it made sense to create a national network of veteran specific settings to provide care not otherwise available for our returning GIs. In fact, that early work of the VA is largely responsible for having trained physicians, supported important research, and allowed the civilian sector to build upon their experience to create our rehabilitation capacity today.

Now, however, the situation is reversed. A large and qualified network of services does exist in the civilian sector, and a limited distribution of VA and DOD facilities exists. There is no need to recreate a "separate but equal" VA-housed network that will have to be available for the next 80 years to provide solely for the lifelong specialized needs of our injured servicemembers.

A RECOMMENDED COURSE OF ACTION

The solution is obvious: establish a mechanism for qualified civilian rehabilitation hospitals to contract with the VA and DOD to provide high quality services to our injured, both now and for the long term. Services should include medical, pharmaceutical, therapy, psychological, social, Durable Medical Equipment, and especially

case management support. Certainly, we should continue to utilize the capacity of the VA and DOD where it now exists. But we should not force people to leave their homes and support systems for many months. And we should not just drop them back into distant home communities without access to appropriate ongoing services that they will need indefinitely (for repairs and replacements for prostheses, ongoing cognitive rehabilitation therapies, continuing counseling for Post Traumatic Stress Disorder, or the treatment of other related conditions).

Last week, I had the privilege to meet with Secretary Nicholson and several members of his senior staff, to discuss these matters. At that meeting, I recommended to them that a standing Coordinating Council between the DOD, the VA, and the private medical rehabilitation hospital community be established. This Council could work together to Develop standards to qualify appropriate provider organizations to serve servicemembers:

(1) Target case management resources to oversee these servicemembers' unique needs;

(2) Establish appropriate contracting and payment mechanisms; and

(3) Provide ongoing monitoring of the programs it would create.

In addition, there should be funds targeted to create a focused research program to understand how effective this collaboration will be, and how to improve upon it, based on outcomes of care and satisfaction of patients and their families.

ANOTHER PROBLEM EXISTS

There is another current problem of enormous importance in the civilian rehabilitation community that is threatening the ongoing existence of the care delivery capacity I have just described. It centers on drastic cutbacks being imposed on the field by the Centers for Medicare and Medicaid Services (CMS) that are trying to balance budgets and constrain expenditures by denying access to needed rehabilitation services. Due to the regulation we know as the "75 percent Rule," more than 8 percent of the Nation's rehabilitation beds have been closed in just the last year. Those beds closed because of these pressures, and thousands more are expected to be forced to close as the regulatory pressures continue.

We desperately need a rational plan for maintaining and nurturing an appropriate care giving capacity for medical rehabilitation. By stopping the further escalation of the pressures forcing bed and facility closures now, we will preserve the availability of services that can be of enormous help to our soldiers today, and sustain the availability of those services for their lifetimes. Senators Ben Nelson, Jim Bunning, Debbie Stabenow, Olympia Snowe, and colleagues have recently introduced S. 543, the "Preserving Patient Access to Inpatient Rehabilitation Hospitals Act of 2007" to address this critical problem.

I urge that in addition to creating effective mechanisms to allow the cooperation of the DOD, the VA, and the private rehabilitation hospital community, you also support S. 543 to preserve the private-public rehabilitation hospital resource so that our servicemembers may readily access it now and in the future.

Thank you very much for giving me the opportunity to address the Committee. I would be happy to respond to any questions you might have.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO BRUCE M. GANS, M.D., EXECUTIVE VICE PRESIDENT AND CHIEF MEDICAL OFFICER, KESSLER INSTITUTE FOR REHABILITATION, NEW JERSEY

Question 1. Can you provide a list and locations of the rehabilitation centers funded by NIH, and the National Institute for Disability and Rehabilitation Research (NIDRR), and if possible provide information on how such centers overlap with existing VA facilities to help highlight the potential to expand access and coverage?

Response. Attached are listings from the Web site for the National Institute for Disability and Rehabilitation Research (*http://www.ed.gov/about/offices/list/osers/nidrr/index.html*) that describe their current funded portfolio of Model Systems for Burn Rehabilitation, TBI Rehabilitation and SCI Rehabilitation. In addition, I am providing you with a list of its Rehabilitation Research and Training Centers and Rehabilitation Engineering Research Centers, which cover many highly relevant clinical areas.

I have also included a project listing from the National Center for Medical Rehabilitation Research (NCMRR), which is a division of the National Institute for Child Health and Human Development (NICHD) at the National Institutes of Health (NIH). These projects are directly relevant to the TBI problem as well.

Please note that this is only a representative sample of the locations in the civilian care delivery system where expertise exists that could be tapped to complement,

supplement and enhance the current VA and DOD capabilities. Many of these civilian programs are located in larger urban areas, and are associated with universities and academic medical centers. As such, it is likely that a number will be proximate to existing VA or military facilities.

In the case of the Kessler Institute for Rehabilitation, we are very near the East Orange VA (which has recently reached out to us to explore the potential for clinical collaboration), and also have active clinical research projects in cooperation with the Bronx VA in New York.

Many of the civilian clinical programs operate extended networks of outreach themselves. For example, while Kessler Institute for Rehabilitation's primary TBI Center of Excellence is located on our West Orange, New Jersey campus (12 miles from Manhattan); we operate additional programs in northern New Jersey at our Saddle Brook campus, and also in western New Jersey at our Chester campus.

It is also common for rehabilitation hospitals to operate outpatient therapy facilities and clinics. Kessler, for example, operates more than 50 rehabilitation centers throughout New Jersey. Many of our sites are capable of delivering specialized programs for patients who have completed inpatient programs in our Centers of Excellence. Thus, the private sector is very likely to represent an extensive distribution channel to reach smaller communities where no VA or military facilities exist.

I am not familiar with all of the existing 1,266 VA facilities, nor their specific capabilities, but I suggest that taking stock of them would best be pursued by a Coordinating Council that included VA, DOD and civilian representation.

[National Institute for Disability and Rehabilitation Research (NIDRR) rehabilitation model systems for Burn, TBI and SCI; list of NIDRR Rehabilitation Research and Training Centers; list of NIDRR Rehabilitation, Engineering Research Centers; and list of projects for the National Center for Medical Rehabilitation Research (NCMRR) follow:]

MODEL SYSTEMS FOR BURN REHABILITATION FUNDED BY THE NATIONAL INSTITUTE FOR DISABILITY AND REHABILITATION RESEARCH

UCHSC Burn Model System Data Coordination Center (BMS/DCC)

Dennis C. Lezotte, Ph.D., University of Colorado Health Sciences Center, Denver, CO; Project Number: 144; Start Date: October 1, 2002; Length: 60 months.

Abstract: The BMS/DCC establishes a data management and analytical support facility for Burn Model Systems clinical and outcomes research projects.

Objectives include: (1) to serve the clinical, research, and public communities to which it is responsible; (2) to serve the needs of good scientific procedure in multi-institutional outcomes research; and (3) to support the needs for patient safety and data confidentiality as required by Federal regulations when conducting collaborative clinical studies. The BMS Project is structured as a set of interacting, observational, randomized, and quasi-experimental clinical studies run at different centers that share the common purpose of acquiring and disseminating knowledge about burn injury care and rehabilitation. The project offers support in four important areas: project management, data management, analytical support, and dissemination. Support is provided in developing appropriate integrated systems to affect national data collection, project management, data coordination, technical support, collaborative clinical projects, scientific conduct, scientific publication, and effective dissemination. The UCHSC BMS/DCC continues to accumulate and integrate a central repository of data from the Model Systems to enhance their abilities to make sentinel statements and change the way burn injury rehabilitation is done. While the main function of the DCC is to integrate and manage these data, it also needs to be responsive to the technical and analytical needs of these individual clinical centers. In addition, the DCC provides and coordinates statistical support among the clinical and statistical groups from each Burn Center and is prepared to expand this support, adding several new protocols and/or clinical studies where appropriate.

Johns Hopkins University Burn Injury Rehabilitation Model System (JHU–BIRMS)

James A. Fauerbach, Ph.D., Johns Hopkins School of Medicine, Baltimore, MD; Project Number: 101; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project tests interventions targeting three common postburn secondary complications affecting health and function: generalized deconditioning, muscle atrophy, and acute stress disorder. Testing the effectiveness of these interventions holds promise for improving the health and function of burn survivors as well as enhancing their options for workplace and community reintegration. The JHU–BIRMS includes several projects: (1) testing the efficacy of its augmented exercise program in rehabilitating people with generalized deconditioning, (2) testing the ef-

ficacy of enhanced cognitive-behavioral therapy in treating individuals with acute stress disorder and preventing the development of chronic posttraumatic stress disorder, (3) developing a new measure that quantifies the degree of social stigmatization experienced by burn survivors and its impact on emotional adjustment and integration into the workplace and the community (this project involves the Phoenix Society, the largest foundation supporting burn survivors and their significant others), (4) a collaborative effort with the University of Washington on a workplace integration study identifying and quantifying those factors interfering with early and complete return to work, and (5) a collaborative study on health and function with the University of Texas.

North Texas Burn Rehabilitation Model System (NTBRMS)

Karen Kowalske, M.D., The University of Texas Southwestern Medical Center, Dallas, TX; Project Number: 143; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project conducts five research projects, two collaborative and three site-specific: (1) barriers to return-to-work following major burn injury; (2) long-term outcome following major burn injury; (3) outcome following deep, full-thickness hand burns; (4) the evolution over time of burn-associated neuropathy; and (5) the socioeconomic determinants of disability in individuals with burn injury. The North Texas Burn Rehabilitation Model System (NTBRMS) is a collaboration of Parkland Health and Hospital System (PHHS) and the University of Texas, Southwestern Medical Center (UTSW). Collaboration occurs on many levels at the NTBRMS. Clinical collaboration is the hallmark of the burn team, which includes individuals from several institutions who work together seamlessly, as well as collaboration with rural care providers through rural clinics and a biannual seminar. Research collaboration occurs locally with the surgeons and academic computing staff, and nationally with the other model systems.

Pediatric Burn Injury Rehabilitation Model System

David Herndon, M.D., University of Texas Medical Branch, Galveston, TX; Project Number: 102; Start Date: October 1, 2002; Length: 60 months.

Abstract: This program conducts independent and multi-center projects focusing on evaluating and improving the rehabilitation provided to the burned child, striving to decrease disability and improve reintegration into society. The project continues longitudinal assessments of patients, expanding the database that includes measures of cardiopulmonary function, physical growth and maturation, bone density, range of motion, activities of daily living, scar formation, reconstructive needs, and measures of psychosocial adjustment. This data is used to identify areas that require improvement and provide functional outcome measures that can be used in the evaluation of treatment methods.

Research activities include: (1) a multi-center project assessing the efficacy of the long-term administration of oxandrolone in the treatment of burn injury with endpoints of improved strength, lean body mass, bone density, and growth; (2) improving rehabilitative outcomes for children by instituting and evaluating major modifications to current treatment for children with large burns; (3) evaluating the use of pressure garments in controlling scar following burn injury; (4) a multi-center study evaluating the relationship between treatment, injury, patient characteristics, and patient outcome in those patients sustaining full thickness hand burns; and (5) evaluating acute stress disorder and posttraumatic stress disorder, including its occurrence, predictive elements, and efficacy of treatment.

University of Washington Burn Injury Rehabilitation Model System

Loren H. Engrav, M.D., University of Washington, Seattle, WA; Project Number: 103; Start Date: October 1, 2002; Length: 60 months.

Abstract: This model system conducts five research projects: (1) A New Approach to the Etiology of Hypertrophic Scarring: develops an increased understanding of hypertrophic scarring. (2) Effect of Virtual Reality on Active Range-of-Motion During Physical Therapy: uses distraction via immersive virtual reality as an adjunctive non-pharmacologic analgesic. This study tests the hypothesis that virtual reality allows patients to tolerate greater stretching during physical therapy compared to no distraction, and that in spite of achieving greater range-of-motion, patients still experience lower pain levels while in virtual reality. (3) Determination of Reasons for Distress in Burn-Injured Adults: identifies reasons behind a burn survivor's distress at various time-points after hospital discharge. (4) Barriers for Return to Work: identifies specific barriers to return to work for burn survivors. (5) Acute Stress Disorder Among Burn Survivors: evaluates the effectiveness of cognitive-behavioral therapy, relative to a non-directive, supportive therapy control group, and a national

comparison sample in reducing the prevalence of posttraumatic stress disorder diagnosis and symptom severity. Projects 4 and 5 are collaborative. In addition, this project participates in the national database.

MODEL SYSTEMS FOR TRAUMATIC BRAIN INJURY REHABILITATION FUNDED BY THE NATIONAL INSTITUTE FOR DISABILITY AND REHABILITATION RESEARCH

UAB TBI Model System

Thomas A. Novack, Ph.D., University of Alabama/Birmingham, Birmingham, AL; Project Number: 151; Start Date: October 1, 2002; Length: 60 months.

Abstract: The University of Alabama at Birmingham (UAB) is maintaining and further developing a Traumatic Brain Injury Model System (TBIMS) that improves rehabilitation services and outcomes for persons with TBI. This project provides a multidisciplinary system of rehabilitation care specifically designed to meet the needs of individuals with TBI, and, as demonstrated over the past 4 years as a TBIMS, adequately enrolls subjects to complete research projects successfully. In addition to contributing data to the TBI National Database, the UAB TBIMS conducts two research projects: (1) an examination of the use of a serotonin agonist medication (sertraline) to lessen the incidence and severity of depression during the first year of recovery following TBI; (2) a study of the impact of a training program in problems solving for caregivers.

Northern California Traumatic Brain Injury Model System of Care

Tamara Bushnik, Ph.D., Santa Clara Valley Medical Center (SCVMC), San Jose, CA; Project Number: 159; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project conducts two studies to better characterize the type and impact of fatigue on the TBI population: (1) a cross-sectional study of people up to 10 years post-TBI and (2) a longitudinal study that focuses on the evolution of fatigue over the first 2 years post-injury. Both studies utilize standardized measurements of fatigue, as well as those for depression/affective disorders, sleep disturbance, activity scales, and measurements of hormone levels reflective of the health of the neuroendocrine system. Two additional studies characterize the impact of late posttraumatic seizures on recovery: (1) a study utilizing data already in the TBIMS National Database that compares the functional, vocational, and medical complication outcomes of those with and without late posttraumatic seizures; (2) a study in collaboration with Denver Hospital Medical Center that interviews individuals at both sites who participated in a previously funded NIDRR grant on seizure risk identification. This study further evaluates barriers to the environment, transportation, and challenges in control of their seizures.

The National Data and Statistical Center for the Traumatic Brain Injury Model Systems

Cynthia Harrison-Felix, Ph.D., Craig Hospital, Englewood, CO; Project Number: 1713; Start Date: October 1, 2006; Length: 60 months.

Abstract: By implementing a comprehensive and innovative program of new data management technologies and operating procedures that emulate the best practices of clinical research organizations and data coordinating centers, the National Data and Statistical Center (NDSC) increases the rigor and efficiency of scientific efforts to longitudinally assess the experience of individuals with traumatic brain injury (TBI) and advances TBI rehabilitation. The TBIMS database and the NDSC introduce the following innovations: a state-of-the-art Web-based data management system; a computer-assisted interview system; a Standard Operating Procedures Manual; training through quarterly Web-based conferences, as well as more frequent in-person conferences; comprehensive Data Collector certification; annual data monitoring visits to each center; analysis of ethnic/racial bias in participant recruitment and retention and collaboration with the NIDRR-funded Center for Capacity Building on Minorities with Disabilities Research; providing more comprehensive methodological as well as statistical consultation; continuation of the TBIMS survival study; a system for following participants from defunded centers; and the use of common procedures, technologies, and training among all Model System Data Centers.

The Rocky Mountain Regional Brain Injury System (RMRBIS)

Gale G. Whiteneck, Ph.D., Craig Hospital; Englewood, CO; Project Number: 152; Start Date: October 1, 2002; Length: 60 months.

Abstract: The Rocky Mountain Regional Brain Injury System (RMRBIS) conducts three research projects: Study 1 examines the effects of Modafinil on fatigue and ex-

cessive sleepiness after TBI. Study 2 assesses the effectiveness of a group therapy intervention for social pragmatic communication. Study 3 uses the unique database assets of Craig Hospital and investigates the environmental and clinical factors that influence outcome over a 40-year time frame to understand the process of living and aging with a TBI. In addition to clinical research and service, Craig Hospital, as the RMRBIS, documents an outstanding record of dissemination, for all customers including clinical consumers, community agencies and advocacy groups, other clinical service centers and systems, and professionals engaged in the treatment of persons with TBI.

The Spaulding/Partners TBI Model System at Harvard Medical School

Mel B. Glenn, M.D., Spaulding Rehabilitation Hospital, Boston, MA; Project Number: 153; Start Date: October 1, 2002; Length: 60 months.

Abstract: The Spaulding TBI Model System (TBIMS) provides a comprehensive spectrum of care for people with TBI through the collaborative efforts of three hospitals that are part of Partners Health Care System, Inc., and four organizations that operate a variety of postacute rehabilitation programs. Research at the center includes development of functional neuroimaging as a tool to guide cognitive rehabilitation treatment for people with TBI, and use of functional magnetic resonance imaging (fMRI), with both a cross-sectional and longitudinal component. The cross-sectional component assesses regional brain activation during the memorization of word lists, both under undirected (spontaneous) conditions and following training and cueing to use a categorization strategy. The longitudinal component studies the ability of the fMRI findings to predict outcome among people with TBI who participate in community integration program with a cognitive rehabilitation focus.

Southeastern Michigan Traumatic Brain Injury System (SEMTBIS)

Robin A. Hanks, Ph.D., Wayne State University and Rehabilitation Institute of Michigan, Detroit, MI; Project Number: 155; Start Date: October 1, 2002; Length: 60 months.

Abstract: The Southeastern Michigan Traumatic Brain Injury System (SEMTBIS) program conducts projects developed with the help of SEMTBIS consumers, as well as other members of the Detroit community. There are three principal studies during this grant cycle: (1) a peer-mentoring intervention: This study is a randomized controlled trial of a peer-mentoring program for both survivors and their caregivers; (2) a dynamic system of survivor and significant-other well-being: This investigation studies 250 community-dwelling adults with TBI and their caregivers/significant others, exploring the relationship of survivor-caregiver situations with survivor distress and family dysfunction. It also studies whether or not social support acts as a moderating influence upon the well-being of persons with TBI; (3) resumption of driving after brain injury: This study examines correlates of driving after brain injury: barriers, fitness to drive, and community rapport. Participatory action is a central component of project implementation, evaluation, and dissemination. SEMTBIS participates in clinical and systems analysis studies of the TBI Model Systems by collecting and contributing data to the uniform, standardized national database. Project findings for the studies described above are available at: *TBINDC.org* or *http://tbindc.org/registry/searchresults.php?searchparam=project/center/4*.

Mayo Clinic Traumatic Brain Injury Model System

James F. Malec, Ph.D., Mayo Medical Center, Rochester, MN; Project Number: 149; Start Date: October 1, 2002; Length: 60 months.

Abstract: This Traumatic Brain Injury Model System (TBIMS) focuses on three local research projects: (1) decisionmaking and outcomes of inpatient and outpatient rehabilitation pathways, (2) very-long-term (5–15+ years postinjury) process and outcome for people with TBI, identified through the Rochester Epidemiology Project, and (3) telehealth-based (Internet) cognitive rehabilitation. Telehealth is a potentially important innovation in this system's region, where distance limits access to medical and rehabilitation services and many consumers have limited access to health care, insurance, employment, and viable political representation. In addition to professional publications and presentations, continuing dissemination efforts include the Mayo Clinic TBIMS Web site, the TBI Hotline, the Messenger newsletter, contributions to the COMBI Web site and COMBI and TBIMS newsletters, and regular participation by Mayo Clinic TBIMS staff at all annual state brain injury association meetings in the extended five-state geographical region. During the next 5 years, the project plans to develop an advocacy training program to help people with TBI and their families and significant others in the region learn self-advocacy skills.

Members of the Mayo TBI Regional Advisory Council were proactively involved in developing this project.

Traumatic Brain Injury Model System of Mississippi (TBIMSM)

Mark Sherer, Ph.D., ABPP–Cn, Methodist Rehabilitation Center, Jackson, MS; Project Number: 154; Start Date: October 1, 2002; Length: 60 months.

Abstract: The TBI Model System of Mississippi (TBIMSM) is a collaborative project of Methodist Rehabilitation Center and the University of Mississippi Medical Center. This project involves three studies. The first study investigates two medications in a parallel group, double blind, placebo controlled, randomized assignment design. The drugs under investigation have differing neurotransmitter effects, although each drug has been reported to have therapeutic benefit. The target population for this study is persons with TBI who are in a state of posttraumatic confusional state (PCS). This is considered a state-of-the-art approach to PCS given the severe lack of controlled research to measure medication usage in PCS. The second study develops and conducts a trial of an intervention to improve the therapeutic alliances between persons with TBI and family members and professional staff serving persons with TBI in a post-acute brain injury neurorehabilitation program (PABIR). The third research project investigates the use of transcranial magnetic stimulation (TMS) to improve the characterization of motor disorders after TBI. Current research suggests that improved use and better understanding of TMS technology will lead to new intervention trials to improve motor function after TBI.

JFK-Johnson Rehabilitation Institute TBI Model System

Keith D. Cicerone, Ph.D., JFK Johnson Rehabilitation Institute, Edison, NJ; Project Number: 157; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project implements and evaluates innovative rehabilitation interventions that address the spectrum of severity and needs of persons with TBI. The first research study investigates the relationship between neurobehavioral (i.e., standardized rating scale) and neurophysiologic (i.e., functional MRI data) indices of brain function in persons with traumatic minimally conscious state (MCS). The second study addresses current clinical and methodological concerns over the effectiveness of cognitive rehabilitation on cognitive functioning, community integration and social participation, return to school and work, and quality of life after traumatic brain injury. The third study uses qualitative inquiry to describe the quality of life after TBI from the perspective of persons at various stages after their injuries. These findings are triangulated with quantitative indices of community integration and satisfaction with functioning, which should provide a richer and more authentic understanding of what it takes to live a fulfilling life after traumatic brain injury.

New York Traumatic Brain Injury Model System (NYTBIMS)

Wayne A. Gordon, Ph.D., Mount Sinai School of Medicine, New York, NY; Project Number: 145; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project advances the understanding of TBI and its consequences and improves rehabilitation outcomes. The research projects focus on depression and fatigue, impairments that limit participation in community and vocational activities: Treatment of Post-TBI Depression is a randomized clinical trial to examine the efficacy of sertraline (Zoloft) in the treatment of depression and anxiety after traumatic brain injury. Study of Post-TBI Fatigue and its Treatment investigates the components, consequences, and correlates of post-TBI fatigue, and in a randomized clinical trial, evaluates the benefits of modafinil (Provigil) to treat fatigue in individuals with TBI.

Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS)

Flora M. Hammond, M.D., Charlotte Mecklenburg Hospital Authority, Charlotte, NC; Project Number: 158; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project investigates posttraumatic irritability, its relationship to the caregiver as a component of the environment, the reaction to amantadine hydrochloride, and the nature of the problem as experienced by those in the community. The mission of CTBIRRS is to improve care and outcomes for survivors of TBI through medical treatments, services, research, and dissemination to expand and enhance services throughout their lifetime. The system begins with prevention and emergency medical services and extends through intensive care, acute care, and comprehensive medical rehabilitation to long-term follow-up, community reintegration, and vocational rehabilitation.

Ohio Regional TBI Model System

John D. Corrigan, Ph.D., Ohio Valley Center for Brain Injury Prevention and Rehabilitation, Columbus, OH; Project Number: 147; Start Date: October 1, 2002; Length: 60 months.

Abstract: This model system includes two local research projects on substance abuse and persons with TBI. Study 1 is a randomized clinical trial testing interventions to promote retention in substance abuse treatment. This study employs intervention strategies found effective for clients with TBI when first engaging with a treatment program. Study 2 tests the concurrent validity of an instrument that documents the extent of a person's prior history of TBI objectively. This instrument is intended for research on TBI as a mediating factor in substance abuse treatment. This model system utilizes innovative community integration programs: Team Brain Injury (follow-up case management), the TBI Network (substance abuse treatment), and Community Capacity Building (education and advocacy operated in conjunction with the Brain Injury Association of Ohio).

The Moss Traumatic Brain Injury Model System

Tessa Hart, Ph.D., Albert Einstein Healthcare Network, Philadelphia, PA; Project Number: 148; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project provides cutting-edge care for persons with TBI, conducts research on treatment of TBI in three key areas, and disseminates new knowledge to consumer and professional audiences, using an extensive collaborative network. Seven Trauma Centers and two nationally renowned rehabilitation facilities, MossRehab and Magee Rehabilitation, collaborate in the clinical component of the Moss Traumatic Brain Injury Model System. The Moss Rehabilitation Research Institute administers the research component, which includes collaborative longitudinal data collection, as well as three local research projects on: (1) the use of assistive technology for cognitive and behavioral disabilities, (2) validation of an observational rating scale of attention dysfunction in a psychostimulant treatment trial, and (3) use of botulinum toxin for treating severe spasticity caused by TBI. The Moss TBIMS emphasizes consumer involvement in clinical program improvement, research design, and dissemination via collaboration with the Brain Injury Association of Pennsylvania and other consumers.

University of Pittsburgh Brain Injury Model System (UPBI)

Ross D. Zafonte, D.O., University of Pittsburgh, Pittsburgh, PA; Project Number: 146; Start Date: October 1, 2002; Length: 60 months.

Abstract: The research focus of the University of Pittsburgh Brain Injury Model System is on innovation in rehabilitation technology for persons with TBI. The project evaluates the impact of selected innovations in technology on service delivery, functional outcome, and as a therapeutic intervention. It addresses the shortcoming in wheelchair design for persons with brain injury by evaluating a unique, personalized powered mobility system. Collaboration with the Robotics Institute at Carnegie Mellon University allows researchers to perform a randomized trial evaluating the efficacy of virtual reality and robotics for persons with TBI. Finally, the project uses intelligent navigation technology to implement and evaluate a Web-based virtual case manager support structure for persons with TBI and their families.

North Texas Traumatic Brain Injury Model System (NT-TBIMS)

Ramon R. Diaz-Arrastia, M.D., Ph.D., The University of Texas Southwestern Medical Center, Dallas, TX; Project Number: 160; Start Date: October 1, 2002; Length: 60 months.

Abstract: The North Texas Traumatic Brain Injury Model System (NT–TBIMS) provides a comprehensive continuum of care for TBI patients from the time of arrival at the emergency department through the intensive care unit, inpatient and outpatient rehabilitation, and long-term follow-up after community integration. Additionally, the NT–TBIMS conducts two research projects aimed at obtaining predictive information regarding outcome after TBI, which is important to the goal of developing novel therapies and tailoring these therapies to individual patients: (1) to determine whether the inheritance of particular alleles in certain candidate genes is associated with a greater risk of poor outcome after TBI; and (2) to determine whether Diffusion Tensor Magnetic Resonance Imaging, a novel imaging technique, is a more reliable indicator of Diffuse Axonal Injury than standard structural MRI.

Virginia Commonwealth Traumatic Brain Injury Model System

Jeffrey S. Kreutzer, Ph.D., Virginia Commonwealth University, Richmond, VA; Project Number: 156; Start Date: October 1, 2002; Length: 60 months.

Abstract: This project, utilizing rigorous scientific methods, examines the benefits of intervention during the acute and post-acute periods after brain injury. TBIMS and other researchers have primarily focused on delineating outcomes. Until recently, concerns about survivors' emotional well-being and adjustment to injury received scant attention. Yet, recent studies have identified a high prevalence of depression, with many survivors reporting feelings of hopelessness, diminished self-esteem, and social isolation. Brain injury also affects the family system; family members commonly describe emotional distress, lack of respite, financial stress, and lack of community support. Projects in three major research areas focus predominantly on survivors. One study examines pharmacological approaches to the treatment of depression, while another examines a structured approach to the treatment of acute cognitive and neurobehavioral problems. Examining the benefits of intervention programs for family members is the third major research area.

University of Washington Traumatic Brain Injury Model System

Kathleen R. Bell, M.D., University of Washington, Seattle, WA; Project Number: 150; Start Date: October 1, 2002; Length: 60 months.

Abstract: This program conducts research relevant to TBI, enhances services to consumers, and furthers the National Database and intersystem collaboration. The program's three research projects are: (1) a randomized controlled intervention study examining the effect of exercise on depression after TBI. This low-cost, community intervention seeks to combat depression and emotional distress in persons with stable TBI by employing exercise as a positive approach to improved emotional and physical functioning and socialization. (2) An examination of the characteristics of TBI survivors who are able to return to employment and hold jobs that are stable and complex in nature, utilizing both the UW TBI longitudinal database and the Model System database. (3) An examination of the impact of the Medicare prospective payment system for inpatient rehabilitation on TBI survivors receiving access to acute rehabilitation efforts. The program also contributes to the National Database.

MODEL SYSTEMS FOR SPINAL CORD INJURY REHABILITATION FUNDED BY THE NATIONAL INSTITUTE FOR DISABILITY AND REHABILITATION RESEARCH

UAB Model Spinal Cord Injury Care System

Amie B. Jackson, M.D., University of Alabama/Birmingham, Birmingham, AL; Project Number: 1649; Start Date: October 1, 2006; Length: 60 months.

Abstract: The University of Alabama at Birmingham provides rehabilitation services specifically designed to meet the special needs of individuals with spinal cord injury (SCI) through its multidisciplinary, comprehensive Spinal Cord Injury Care System (UAB–SCICS). The UAB–SCICS spans the clinical continuum from emergency services through rehabilitation and community re-entry. The System's research includes one collaborative research module and two in-house research projects, all of which ultimately aim at improving the health and function of its constituents. The collaborative research module involves the validation of an outcome measure for functional recovery. One in-house research project involves the assessment of the predictive value of key parts of the neurological exam for return of bladder function; the second is an investigation of the effect of nicotine on different types of SCI pain. The project continues to benefit from the active involvement of persons with SCI in the design and execution of the proposed activities. Project results are disseminated via a variety of accessible formats and venues for both professionals and persons with SCI and their families. A detailed plan of operation ensures timely completion of project goals and tasks. Finally, an evaluation plan has been designed to assess the quality and timeliness of project outcomes and dissemination, as well as short and long term impacts of project activities. Activities of the UAB–SCICS reflect an active partnership both within the components of UAB's health system and between UAB, the Lakeshore Foundation, and the Birmingham VA Medical Center. The project continues as a participant in data collection activities for the National Spinal Cord Injury Statistical Center.

Regional Spinal Cord Injury Care System of Southern California

Robert L. Waters, M.D.; Rod Adkins, Ph.D., Los Amigos Research and Education Institute, Inc. (LAREI), Downey, CA; Project Number: 1029; Start Date: September 1, 2000; Length: 72 months.

Abstract: The Regional Spinal Cord Injury Care System of Southern California's primary mission is to collect initial and follow-up data on persons who have sustained spinal cord injuries and submit it to the national statistics database at the University of Alabama at Birmingham. Another component of the project focuses on literacy in individuals with SCI. Also, the project identifies, evaluates, and eliminates environmental barriers, particularly cultural and social barriers, to enable people with SCI to reintegrate fully into their community, and thus improve their lives. The project has been designed to meet the needs of the approximately 75 percent minority and underserved populations that comprise its clientele, and has samples sufficient for achieving adequate statistical power in the relevant designs and producing meaningful research. Finally, the System contributes new and useful information to the current collection of SCI literature. This project contributes to the national statistics database at the University of Alabama at Birmingham.

The Rocky Mountain Regional Spinal Injury System

Daniel P. Lammertse, M.D.; Susan Charlifue, Ph.D., Craig Hospital, Englewood, CO; Project Number: 1652; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Rocky Mountain Regional Spinal Injury System (RMRSIS) goals are to: (1) implement a program of research focusing on the immediate and long-term health, function, and community integration and participation of people with SCI; (2) improve its existing lifetime system of care for people with SCI; and (3) continue exemplary participation in the National SCI Database. A site-specific study determines if high vs. low tidal volumes are more effective in achieving ventilator weaning for individuals with high level tetraplegia, using a randomized clinical trial design. A collaborative research module study involves the development of a reliable, valid measurement tool to assess community participation. RMRSIS was first designated as a Regional Model System in 1974. The system includes two Level I trauma centers with specialized acute neurotrauma care facilities (St. Anthony Hospital and Swedish Medical Center) and the rehabilitation and lifetime follow-up services of Craig Hospital.

National Capital Spinal Cord Injury Model System

Suzanne L. Groah, M.D., National Rehabilitation Hospital/MedStar Research Institute, Washington, DC; Project Number: 1657; Start Date: October 1, 2006; Length: 60 months.

Abstract: The National Capital Spinal Cord Injury Model System (NCSCIMS) serves Washington, DC and the Nation. By focusing on the frequent and costly complication of pressure ulcers (PU), the NCSCIMS leverages two unique strengths: an existing Rehabilitation Research and Training Center on SCI that focuses on reduction of secondary conditions, and the population of Washington, DC, which is predominantly composed of underserved individuals. The Center includes two site-specific and one modular project and describes a system of care that meets SCIMS priorities: Site Specific Project 1 is a Practice-Based Evidence (PBE) project specifically focused on PU prevention for all individuals with SCI and/or disease (SCUD) during the acute and rehabilitative phases of care (to evolve to the community in later phases). The PBE approach allows a detailed examination of the effects of methods, modalities, and therapies utilized in rehabilitation to prevent PUs, which are often based on evidence-based medicine, but in reality may not be extrapolated to the broader population with SCUD. In this project, researchers aim to utilize a PBE approach to augment evidence based practice while addressing a critical secondary complication for individuals with SCI. Site Specific Project 2 is an SCI Navigator pilot project that combines elements of Peer Mentoring and Patient Navigation to decrease the occurrence of PUs once the individual has returned to the community. In this project, an SCI Navigator assists people with newly acquired SCI in the transition from inpatient rehabilitation to the community, within the framework of an, at times, dysfunctional healthcare system. The NCSCIMS works with the Model System at the University of Pittsburgh to explore Assistive Technology for Mobility (ATM). In this project, researchers investigate the degree to which inadequate wheelchair technology is the factor preventing people with SCI from doing more, work to understand the impact of changes in wheelchair reimbursement, and fully explore the issue of disparity in ATM prescription.

Georgia Regional Spinal Cord Injury Care System

David F. Apple, Jr., M.D., Shepherd Center, Inc., Atlanta, GA; Project Number: 1659; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Georgia Regional Spinal Cord Injury Care System admits approximately 200 individuals annually with acute onset paralysis secondary to spinal cord

injury, and collects post-discharge data on 600 individuals each year. Its patient population comes primarily from Georgia, the rest of the Southeast, and the Eastern Seaboard. The continuum of care begins at injury and continues through transport, assessment, acute care, rehabilitation, emotional adjustment, community reintegration, and lifetime follow-up. The project continues a long record of comprehensive and timely collection of data on subjects who meet the inclusion criteria in three categories: inpatient hospitalization; longitudinal collection at 1, 5, 10, 15, 20, and 25 years post-injury; and registry. In addition to continued model system research, the project conducts two site specific research projects: (1) Psychological Status During Inpatient Rehabilitation and One Year After Onset: Stress, Coping, and Expectation Hope for Recovery; (2) Development and Validation of a Clinical Measure of Wheelchair Seat Cushion Degradation. The project also manages a collaborative data collection research module entitled Impact of SCI on Labor Market Participation.

Midwest Regional Spinal Cord Injury Care System (MRSCIS)

David Chen, M.D., Rehabilitation Institute of Chicago, Chicago, IL; Project Number: 1658; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Spinal Cord Injury Rehabilitation Program at the Rehabilitation Institute of Chicago and the Acute Spinal Cord Injury Program at Northwestern Memorial Hospital demonstrate the ongoing comprehensive, multidisciplinary services that are provided to individuals with SCI which allow them to optimize their rehabilitation outcomes and enhance their ability to return to productive, independent living in the community. In order to contribute to the improvement of outcomes for persons with SCI, the System conducts two site-specific research projects: (1) Development of Low-Cost Devices to Increase Delivery of Intensive Treadmill Training, and (2) Disparities in Access to and Outcomes of Rehabilitation Care for Medicare and Medicaid Beneficiaries with Spinal Cord Injury. In addition, the project includes collaboration on one research project, Assistive Technology for Mobility (ATM) Module. MRSCICS has the capacity to enroll 140 individuals from culturally diverse backgrounds with new spinal cord injuries annually into the Spinal Cord Injury Model Systems database, and collect follow-up data on individuals enrolled between 1973 and 2000.

The New England Regional Spinal Cord Injury Center

Steve Williams, M.D., Boston University Medical Center Hospital, Boston, MA; Project Number: 1656; Start Date: October 1, 2006; Length: 60 months.

Abstract: The New England Regional Spinal Cord Injury Center (NERSCIC), based at Boston Medical Center (BMC), continues to forge new pathways in the care and quality of life of people with traumatic spinal cord injury (SCI). Additionally, NERSCIC maintains a research partnership with Boston's Spaulding Rehabilitation Hospital, Northeast Rehabilitation Hospital in Salem, NH, and Gaylord Hospital in Wallingford, CT. NERSCIC conducts innovative research projects to improve health and long-term functioning of patients with SCI through a site-specific project, Computer Adaptive Testing (CAT) for SCI, and a collaborative module, Telehealth for Health. NERSCIC's site-specific research project involves designing an improved outcome instrument in SCI research using traditional outcome assessment technology that presents difficult choices between comprehensive breadth and precision versus acceptable administration time and respondent burden. To solve this dilemma, this project applies contemporary measurement methods (CATS) to initiate a major transformation in the outcome assessment technology used to assess activity limitation frequently monitored in SCI research. Once the SCI–CAT has been developed using data collected from a major field study, the project conducts a demonstration of the SCI–CAT to evaluate its respondent burden, acceptability to patients and clinicians, as well as its breadth, precision, sensitivity to change, and validity with inpatients and outpatients with SCI who are receiving care from NERSCIC. Comparisons are made between the FIM and SCI–CAT over a 6-month follow-up period. The goal of the collaborative research project, Telehealth for Health, is the development and evaluation of an automated, telephone-based screening, referral, and behavioral intervention system with the long-term objective of promoting health and function by preventing and decreasing the severity of important secondary conditions among individuals with acute SCI, namely pressure ulcers, depression, and substance abuse.

University of Michigan Model Spinal Cord Injury Care System

Denise G. Tate, Ph.D., University of Michigan, Ann Arbor, MI; Project Number: 1653; Start Date: October 1, 2006; Length: 60 months.

Abstract: The overall purpose of this project is to provide comprehensive rehabilitation and community participation services and to generate new knowledge through research, development, and demonstration designed to improve outcomes for persons with spinal cord injury (SCI). A site-specific research study is conducted in partnership with faculty from the University of Michigan Depression Center, Department of Psychiatry, and the Molecular and Behavioral Neurosciences Institute. This study is a randomized clinical trial study designed to evaluate the efficacy of a pharmacological agent, Duloxetine (Cymbalta®), as a preventive agent for reducing depression among persons with SCI. This clinical trial addresses a major need in the field as there are no randomized clinical trials currently available on the effectiveness of antidepressants in persons with SCI. In this study, the drug's effects on pain are also assessed. An outcome of this study is the formulation of recommendations for antidepressant medication use in SCI and implications for clinical practice guidelines. The project continues to operate an efficient data collection system, facilitating research and contributions to the National SCI Database.

Missouri Model Spinal Cord Injury System

Laura H. Schopp, Ph.D., ABPP, University of Missouri/Columbia, Columbia, MO; Project Number: 1019; Start Date: October 1, 2000; Length: 72 months.

Abstract: The Missouri Model Spinal Cord Injury System (MOMSCIS) is committed to developing, implementing, and evaluating innovative research promoting independent living and community integration among persons with spinal cord impairment. The study focuses on the effect of a consumer-directed personal assistance services training intervention on consumer satisfaction, independent living, and community integration. The study develops, implements and evaluates the in-person Individualized Management of Personal Assistant/Consumer Teams (IMPACT) workshop. Workshop participants receive information on preventing and treating secondary medical conditions, including pressure sores, urinary tract infections, bowel and bladder management, autonomic dysreflexia, pain management, chronic fatigue, and thermoregulation, and information on relationship issues, such as hiring and firing, communication styles and strategies, assertiveness, and team building. Study objectives are: (1) to determine the effect of the IMPACT workshop on consumer satisfaction, the incidence of secondary conditions, activity, and participation (as defined by the ICF); (2) to determine the effect of the IMPACT workshop on personal assistants' job satisfaction, job stress and attrition; and (3) to provide online resources to the disability community, including an online personal assistant training manual for consumers and assistants, and an online resources database. Activity and participation are measured by the PARTicipation Survey for persons with Mobility Limitations (PARTS/M).

Northern New Jersey Spinal Cord Injury System

David S. Tulsky, Ph.D., Kessler Medical Rehabilitation Research and Education Corporation (KMRREC), West Orange, NJ; Project Number: 1651; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Northern New Jersey Spinal Cord Injury System (NNJSCIS) provides a comprehensive continuum of state-of-the-art care for persons with spinal cord injury (SCI) and their significant others from time of injury through long-term follow-up in the community and conducts spinal cord research, including clinical research and the analysis of standardized data. NNJSCIS conducts both a site-specific research study and a collaborative module. These studies contribute to evidence-based rehabilitation interventions and clinical and practice guidelines that improve the lives of individuals with SCI and consist of the following: An innovative rehabilitation intervention utilizing technology to prevent respiratory disease in persons with SCI, now the leading cause of death and the third leading cause of hospitalizations in this population; a collaborative module that adapts, develops, and validates an innovative and promising outcome system for use in SCI intervention research; and the NNJSCIS coordinates with the NIDRR-funded Model Systems Knowledge Translation Center to provide scientific results and information for dissemination to clinical and consumer audiences. This project is a cooperative effort of the Kessler Medical Rehabilitation Research and Education Corporation (KMRREC), the Kessler Institute for Rehabilitation (KIR), the University of Medicine and Dentistry of New Jersey-The New Jersey Medical School (UMDNJ–NJMS), and UMDNJ-University Hospital.

Mount Sinai Spinal Cord Injury Model System

Kristian T. Ragnarsson, M.D., Mount Sinai School of Medicine, New York, NY; Project Number: 1655; Start Date: October 1, 2006; Length: 60 months.

Abstract: The research program of Mount Sinai Spinal Cord Injury Model System (MS–SCI–MS) is designed to advance the understanding of spinal cord injury (SCI) and its consequences, and to develop better methods of treatment of secondary conditions of SCI, especially pain. The purpose of this project is to: (1) demonstrate and evaluate a multidisciplinary system of rehabilitation care for persons with SCI in the New York City metropolitan area, including innovative programs for community integration; (2) contribute longitudinal data to the SCI National Database of the Model Systems program; (3) systematically collect and analyze extensive information on chronic pain after SCI. The site-specific project studies modified-release formulation of morphine sulfate for neuropathic pain after spinal cord injury through a randomized, double-blind crossover trial of modified-release morphine and placebo for patients with uncontrolled neuropathic pain of three types.

Northeast Ohio Regional Spinal Cord Injury System

Gregory A. Nemunaitis, M.D., MetroHealth System, Cleveland, OH; Project Number: 1662; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Northeast Ohio Regional Spinal Cord Injury System (NORSCIS) at MetroHealth Rehabilitation Institute of Ohio in collaboration with Case Western Reserve University and the Cleveland FES Center conducts research to further develop the effectiveness of an innovative Model Spinal Cord Injury Care System and to demonstrate how the application of advanced assistive technology can benefit persons with disabilities. NORSCIS offers a world-class multi-disciplinary system of spinal cord injury care and a 40-year tradition of excellence. Efficiency and effectiveness of care (and research potential) are enhanced as all components of the continuum of care (from trauma/emergency care to acute medical/surgical treatment to inpatient rehabilitation to outpatient rehabilitation and community support services) are on one campus. A site-specific project studies advances in functional electrical stimulation (FES) technology to document improvements in function, health, and wellness. An innovative focus on trunk muscle stimulation targets specific clinical problems, including seated stability and mobility, reachable workspace, and pulmonary function. A collaborative research project with UPMC–SCI, is directed at testing and collecting the data needed to understand the impact of coverage changes and to fully explore the issue of disparity in assistive technology for mobility prescription. A collaborative project with Craig Hospital involves the development of a reliable, valid measurement tool to assess community participation. The goal of these hypothesis-driven research and demonstration projects is to develop and measure the effectiveness of new intervention strategies at both the individual patient level and overall systems of care for persons with spinal cord injury.

Regional Spinal Cord Injury Center of the Delaware Valley

Ralph Marino, M.D., Thomas Jefferson University, Philadelphia, PA; Project Number: 1660; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Regional Spinal Cord Injury Center of the Delaware Valley (RSCICDV) provides and evaluates a comprehensive program of coordinated patient care, education, and research activities for individuals who have sustained a traumatic spinal cord injury (SCI). Clinical activities are directed at promoting evidence based practice to improve outcomes and reduce medical complications in persons with SCI. Research activities are designed to develop and validate upper and lower extremity outcome measures for use in clinical trials. Specifically, RSCICDV: (1) contributes to the National Database by enrolling an estimated 50 new subjects per year into the database and by collecting follow-up data on previously enrolled subjects; (2) conducts an onsite research project whose focus is to develop and validate the Capabilities of Arm and Hand in Tetraplegia (CAHT), an objective test of arm and hand functional capabilities needed to conduct clinical trials for neurological recovery in SCI; (3) participates in a collaborative module on evaluating an automated phone follow-up system for people with SCI; (4) participates in a collaborative module on validation of an outcome measure for motor recovery in incomplete SCI; and (5) develops educational resources for patients, healthcare providers and researchers.

University of Pittsburgh Model Center on Spinal Cord Injury

Michael L. Boninger, M.D., University of Pittsburgh, Pittsburgh, PA; Project Number: 1650; Start Date: October 1, 2006; Length: 60 months.

Abstract: The UPMC–SCI continues its research focus on assistive technology (AT) for mobility. Pilot data collected during the previous funding cycle highlighted disparity in wheelchair prescription. Individuals from minority groups and people with low socioeconomic status received less and lower quality equipment. So that

interventions can be developed, the project continues and expands this research to delve into the reasons for disparity. In addition, it investigates the impact of recent Centers for Medicare and Medicaid Services (CMS) changes for AT reimbursement. These changes will likely have a critical impact on the AT provided to individuals with spinal cord injury (SCI). Finally, the project develops a tool to determine how far, how fast, and when people travel in their wheelchairs. This data is related to the types of wheelchairs used, to the number of wheelchair failures, and to measures of participation. From these findings, researchers determine how the wheelchair prescribed impacts participation, and if greater use leads to greater failures. This data can be used to push for improvements in manufacturing and changes in coverage. UPMC–SCI also conducts a randomized, controlled trial to determine if following the Consortium of Spinal Cord Injury Medicine Guidelines on Upper Limb Preservation leads to decreased pain. These guidelines are applied to acutely injured patients who are followed for the first 6 months after injury. Validation of the guidelines' effectiveness helps assure that they become the standard of care across the country. SCI care at the University of Pittsburgh is provided in a multidisciplinary manner with a high level of communication among the constituent services. The project has fully implemented a system of continuity of treatment that begins with the emergency response at the scene of injury and continues with comprehensive treatment and rehabilitation from medical/surgical to acute stage rehabilitation through utilization of assistive technology services and vocational rehabilitation. The research and Model of Care set forth in this proposal will have a significant impact on the lives of individuals with SCI, leading to greater participation and employment. UPMC-SCI continues to enroll and collect long term follow up data on SCI subjects for the National Spinal Cord Injury Statistical Center.

Texas Model Spinal Cord Injury System

Daniel Graves, Ph.D.; William Donovan, M.D., The Institute for Rehabilitation and Research (TIRR), Houston, TX; Project Number: 1661; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Texas Model Spinal Cord Injury System (TMSCIS) provides services along the entire continuum of care from emergency medical service to long-term follow-up and management of secondary conditions. The TMSCIS includes a site-specific research project that is designed to provide high level evidence of the efficacy of a novel treatment to prevent bladder complications. The project is a randomized, double blind placebo, controlled parallel groups investigation of the effects of Botulinum toxin A treatment of detrusor external sphincter dyssynergia (DESD) during early spinal cord injury. Many patients with SCI develop neurogenic bladder dysfunction associated with detrusor hyperreflexia and DESD that can lead to long-term complications in up to 50 percent of patients. These complications include hydronephrosis, vesicoureteral reflux, nephrolithiasis, sepsis, renal insufficiency or failure, and even death. This investigation is intended to determine if the prevention of DESD in the early phase of recovery can prevent some of these complications. In addition, the TMSCIS includes a module designed to develop an outcome measure of trunk and postural control to be utilized in activity-based therapy programs like locomotor training. The outcomes of large scale clinical trials of locomotor training highlight the need for outcome measures that are designed to capture changes brought about by translational research that may not have been necessary for more traditional therapy programs. This scale development project incorporates item response theory methods as well as reliability and validity investigations in a minimum of four model systems.

VCU Model Spinal Cord Injury Center

William O. McKinley, M.D.; David X. Cifu, M.D., Virginia Commonwealth University, Richmond, VA; Project Number: 1020; Start Date: October 1, 2000; Length: 72 months.

Abstract: This project develops and implements a Model Spinal Cord Injury System at Virginia Commonwealth University/Medical College of Virginia (VCU/MCV), that has a concentrated emphasis on employment. Researchers within this Model Systems systematically monitor and assess the impact of interventions, advancing technology, and policy changes on employment following SCI. In addition to contributing to the National Statistical Database at the University of Alabama at Birmingham, the VCU SCI Model System has three research studies. These studies involve the direct utilization of the SCI National Database, a major employment policy study across 18 states, and also an evaluation of technology training on employment of outcome. Involvement of SCI mentors in training new vocational mentors with SCI is also an important aspect of the project. By looking at the issues associated

with employment for persons with SCI, this project complements other resources in place within VCU/MCV, including the RRTC on Workplace Supports, long-term relationships with the Virginia Department of Rehabilitation Services, and existing SCI Model Systems delivery of care. A significant number of persons with disabilities are involved as project staff as well as on an Advisory Board. A close relationship with the Mid-Atlantic Paralyzed Veterans Association (PVA) enhances training, dissemination, and other outreach activities.

Northwest Regional Spinal Cord Injury System

Charles H. Bombardier, Ph.D., University of Washington, Seattle, WA; Project Number: 1654; Start Date: October 1, 2006; Length: 60 months.

Abstract: The University of Washington's Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with SCI and has all the necessary disciplines to provide state-of-the-art medical, surgical, and rehabilitation care. One site-specific project is a randomized controlled intervention study evaluating the effect of proactive, structured, telephone-based counseling and care management on rehospitalization rate and quality of life during the first year after discharge from acute rehabilitation. This study builds upon successful experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because the lifestyle changes and health care behaviors required for successful living after SCI are tremendously challenging, rates of rehospitalization are high, and many people (especially in rural regions) lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain their health. A modular project studies the natural history of major depression under conditions of usual care during the first year after SCI. This project establishes reliable and valid means of screening and diagnosing major depression soon after SCI. It examines the impact of depression on rehabilitation efficiency and compares the effect of standard treatment to clinical practice guideline level care of depression. This study describes depression treatment preferences among people with SCI and lays the foundation for a multi-site clinical trial. This project contributes to the national statistics database at the University of Alabama at Birmingham.

REHABILITATION RESEARCH AND TRAINING CENTERS OF THE NATIONAL INSTITUTE FOR DISABILITY AND REHABILITATION RESEARCH

Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness

Allen W. Heinemann, Ph.D., Feinberg School of Medicine, Chicago, IL; Project Number: 1463; Start Date: December 1, 2004; Length: 60 months.

Abstract: The purpose of this RRTC is to provide national leadership on the functional assessment, outcomes, and health policy issues facing the medical rehabilitation community and the diverse consumers it seeks to serve. The Center conducts research; hosts forums for discussion; publishes in rehabilitation, health policy, and consumer literature; trains researchers in rehabilitation-focused health services research; and disseminates information to diverse consumer, provider, and academic audiences. The RRTC's research seeks to (1) enable comparison of functional status measures across post-acute settings so information can be provided to consumers and other rehabilitation stakeholders about the outcomes and effectiveness of various post-acute care settings; (2) develop an innovative measure of community participation in a meaningful, reliable, and valid manner in order to better describe the long-term outcomes of rehabilitation services; (3) increase the efficiency of outcome data collection so more resources can be directed to patient care; (4) examine how format and presentation style influences patient understanding of rehabilitation quality outcome indicators in order to provide information in ways that are helpful for consumers when selecting rehabilitation services. The project uses recent developments in item response theory and computer adaptive testing and stakeholder input in test development, outcomes reporting, and quality indicator reporting. The expected outcomes are a rational basis for provision of rehabilitation services post-acute care settings, increased efficiency of data collection, a better measure of community participation, and outcome reporting that is responsive to stakeholder needs. Dissemination activities include post-graduate and post-doctoral training opportunities, conferences, and a Web site that provides information on measurement of rehabilitation outcomes across the continuum of post-acute settings.

Rehabilitation Research and Training Center on Policies Affecting Families of Children with Disabilities

H.R. Turnbull, L.L.M.; Ann Turnbull, Ed.D., University of Kansas; Lawrence, KS; Project Number: 110; Start Date: November 1, 2003; Length: 60 months.

Abstract: This center conducts eight research projects on the effects of the policies of governments, systems, networks, and agencies on the family quality of life and community integration (FQOL/FCI) of families who have children with developmental disabilities and emotional-behavioral disabilities or both. Researchers identify four target populations: families, providers, policy-leaders, and networks (all at the Federal, state, and local levels). Three policy challenges are prisms through which the effects of policy on families can be understood: early intervention, alternative schools, and consumer control of funding. For each policy challenge, researchers inquire into whether the applicable Federal and state policies and practices, and the applicable network policies, advance FQOL/FCI; whether the policies across education, social services, and health care are mutually consistent with each other and advance FQOL/FCI; and whether the practices of agencies in those systems advance FQOL/FCI. The center's analytical framework holds that the core concepts shape policies, policies shape services, policies and services should be coordinated and delivered through partnerships. Enhanced FQOL/FCI occurs when there is coherence among core concepts, coordinated policies delivered through partnerships, and coordinated services delivered through partnerships; and influencing factors must invariably be taken into account.

Rehabilitation Research and Training Center on Demographics and Statistics

Andrew J. Houtenville, Ph.D., Cornell University, Ithaca, NY; Project Number: 269; Start Date: December 1, 2003; Length: 60 months.

Abstract: The RRTC on Demographics and Statistics (Cornell StatsRRTC) bridges the divide between the sources of disability data and the users of disability statistics. The project conducts research exploring the reliability of existing data sources and collection methods, and studies the potential to improve current and future data collection efforts. In addition, the project utilizes existing data sources to provide a comprehensive and reliable set of statistics, and increase access to and understanding of how statistics can be used effectively to support decision making. Cornell StatsRRTC works with key organizations to determine their needs and helps them maximize the use of disability statistics in their ongoing efforts to improve the lives of people with disabilities and their families. As members of the Cornell StatsRRTC, the American Association of People with Disabilities, the Center for an Accessible Society, and InfoUse provide vital expertise and resources needed to reach the users of disability data and statistics. The Cornell StatsRRTC includes researchers from Cornell University, Mathematica Policy Research, the Urban Institute, and the Institute for Matching People and Technology, all of which bring extensive expertise in working with and creating sources of disability data.

University of Illinois at Chicago National Research and Training Center on Psychiatric Disability

Judith A. Cook, Ph.D., University of Illinois at Chicago, Chicago, IL; Project Number: 1559; Start Date: October 1, 2005; Length: 60 months.

Abstract: The University of Illinois at Chicago National Research and Training Center on Psychiatric Disability (UIC–NRTC) promotes access to effective consumer-centered and community-based practices for adults with serious mental illness. The Center is conducting five rigorous research projects to enhance the state of evidence-based practice (EBP) in this field: A randomized controlled trial (RCT) study of Wellness Recovery Action Planning (WRAP) to gather evidence regarding its effectiveness; an RCT to evaluate the effectiveness of BRIDGES, a 10-week peer-led education course designed to provide mental health consumers with basic education about the etiology and treatment of mental illness, self-help skills, and recovery principles; an RCT of peer support services delivered by Georgia's Certified Peer Specialists (CPS) at consumer-run Peer Support Centers in order to determine the outcomes of service recipients; a self-directed care program in which adults with serious mental illnesses are given control of financial resources to self-direct their own recovery; and a project using data from 12 clinical trials studies of consumer-operated service programs to create a national data repository to promote research and develop scholarship in this area. The Center also conducts state-of-the-art training, dissemination, and technical assistance projects designed to enhance the leadership skills of people with psychiatric disabilities, and evaluate a self-advocacy skills training program delivered to clients of a large psychosocial rehabilitation agency. Additional projects evaluate self-advocacy skills training programs and implement

training programs to prepare consumer leaders in the State of California to take part in systems change in their local communities. UIC–NRTC is embarking on an academic curriculum transformation project starting at UIC in the medical, social, and behavioral sciences to incorporate principles of recovery and EBP for people with psychiatric disabilities. The UIC–NRTC is designing and administering a no-cost online certification program, providing comprehensive introduction of knowledge required by peer providers. Additionally, the UIC–NRTC is providing training and developing projects and tools to assist individuals in recovery to gain the skills necessary for community integration through enhancing the research capacity of three federally funded consumer-run Technical Assistance Centers. Finally, the UIC–NRTC is offering an annual series of online workshops; Web-based continuing education courses; and a state of science national conference (2008) focusing on EBP, research implementation, consumer-centered systems, workforce development, and other emerging trends.

Rehabilitation Research and Training Center on Improving Vocational Rehabilitation Services for Individuals Who Are Deaf or Hard of Hearing

Douglas Watson, Ph.D., University of Arkansas, Little Rock, AR; Project Number: 263; Start Date: October 1, 2001; Length: 60 months.

Abstract: This program conducts coordinated research and training to enhance the rehabilitation outcomes of persons who are deaf or hard of hearing who are served by VR and related employment programs. When appropriate, the unique needs of specific subgroups within this diverse and heterogeneous population are investigated. The ultimate goal of these efforts is to improve the capacity of the VR system and related programs to address the career preparation, entry, maintenance, and advancement, as well as the community living needs, of the target population. Research activities include: investigating the impact of changes in Federal employment and rehabilitation legislation and policy on the delivery of services to the target population; investigating the impact of business practices that contribute to accessible work and workplace supports to enhance the employment of the target population; and identifying, developing, and assessing rehabilitation-related innovations that enhance employment and community living outcomes of the target population.

Rehabilitation Research and Training Center on Disability in Rural Communities

Tom Seekins, Ph.D., University of Montana, Missoula, MT; Project Number: 265; Start Date: December 1, 2002; Length: 60 months.

Abstract: The research conducted by this project improves the employment status of people with disabilities in the rural U.S., enhances their ability to live independently, and advances the science of rural disability studies. Four core areas comprise eleven research projects in rural employment and economic development; rural health and disability; rural community transportation and independent living; and rural policy foundations. Projects include: (1) develop scientific methods to measure how rural environments influence an individual's community participation; (2) collaborate with very small rural businesses to employ people with disabilities; (3) improve rural transportation options; and (4) create programs to prevent or improve secondary conditions. Other projects explore ways for new partners, including faith-based organizations, to be involved in improving rural services. A training program disseminates research findings, trains students, and sparks the creative engagement of policymakers and social advocates. The innovative STATE (Same-Time Availability to Everyone) policy requires that the project provide standard print publications to the general public only when at least two alternative formats are also available to individuals with disabilities.

Rehabilitation Research and Training Center on Employment Policy and Individuals with Disabilities

Susanne Bruyere, Ph.D.; Richard Burkhauser, Ph.D.; David Stapleton, Ph.D., Cornell University, Ithaca, NY; Project Number: 1466; Start Date: December 1, 2004; Length: 60 months.

Abstract: The ultimate goal of the Employment Policy Rehabilitation Research and Training Center (EP–RRTC) is to increase the employment and economic self-sufficiency of people with disabilities and improve the quality of their lives. The immediate purpose is to contribute to the success of the transition from caretaker policies to economic self-sufficiency policies. Specific goals and objectives are: completion of new research activities that will generate knowledge about the effects of past disability policy and other factors on economic self-sufficiency, the impact of current and future initiatives designed to promote economic self-sufficiency, and/or the likely success of new policy options; completion of 20 publishable papers and companion

policy briefs; training of consumers via 12 or more Washington-based Disability Policy Forums; training of 5 graduate students; a third-year conference; a conference volume; and technical assistance to consumers on policy research and evaluation methods and data. Short-term project outcomes include: annual interpretation of updated employment rate trends; a synthesis and critique of many relevant evaluation efforts; three or more significant policy options and ideas for next steps; reviews of three or more significant policy or program successes; detailed information on interactions between numerous programs and policies, and how they discourage employment; estimates of impacts of two public policies on employment and earnings for state VR clients; estimates of the impact of the ADA on both employer provision of accommodations and job retention after disability onset; estimates of the return to higher education for those with profound hearing loss; and two additional analyses of the role that human capital plays in determining economic self-sufficiency for adults with disabilities. Intermediate outcomes include use of this information in the policy improvement effort, and long-term outcomes include policy changes that increase the economic self-sufficiency of people with disabilities.

Rehabilitation Research and Training Center on Improving Employment Outcomes

John O'Neill, Ph.D., Hunter College of CUNY, New York, NY; Project Number: 1469; Start Date: October 1, 2004; Length: 60 months.

Abstract: This Employment Service Systems Research and Training Center develops, enhances, and utilizes partnerships to improve the quality of employment services, opportunities, and outcomes for people with disabilities. Five research projects have been designed to meet this goal and examine partnerships across public agencies, between not for-profit and public agencies, and between rehabilitation agencies and businesses. The Consortia for Employment Success (CES) creates and evaluates fully integrated disability service provider networks in three local communities. The CES increases access for people with disabilities to both effective, comprehensive placement services, and a well-managed and centralized employer network that will increase employment and career advancement opportunities for persons with disabilities. The Workplace Socialization Model (WPS) supplements the CES Model by focusing on job enhancement and retention. The WPS aims to extend the job tenure of employees with a disability and other positive work outcomes including the employee's job satisfaction, organizational commitment, and level of work culture competency, as well as the employer's satisfaction with the employee's job performance. Identification of "Good Practices" Within Vocational Rehabilitation is designed to identify a variety of good practices currently being used in the State-Federal VR system across the U.S. that facilitate consumer access to services and enhance employment outcomes. Designing and Testing Comprehensive Employment Practice and Policy Initiatives within a Vocational Rehabilitation State Agency develops and tests a model that leads to enhanced employment outcomes. The model includes the "human capital" characteristics of persons with disabilities as well as what vocational rehabilitation delivery systems add to these human capital factors to improve outcomes. A Study of Disability Navigators in One-Stops collects data on Workforce Investment Act regions in which Navigators operate and compares levels of customer satisfaction and employment outcomes between regions that use Navigators and regions that have no such positions.

Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment

Dennis C. Moore, Ed.D., Wright State University, Kettering, OH; Project Number: 1465; Start Date: December 1, 2004; Length: 60 months.

Abstract: This RRTC builds on previous findings to positively impact persons with disabilities who also experience substance use disorders, as well as the service providers upon whom they depend. The highly integrated program of research addresses the following goals and objectives: (1) Promote widespread use of substance use disorder screening among persons with disabilities who utilize disability-related employment services. This is accomplished by developing and validating a new substance abuse screener called the "SASSI–VR". Following two stages of development and validation, the SASSI–VR is evaluated in three vocational rehabilitation (VR) programs on a statewide basis. (2) Conduct a randomized clinical trial of a model of supported employment, Individualized Placement and Support (IPS), to test its efficacy among persons with traumatic brain injury or other severe disabilities that also have a substance use disorder. The two trial sites are affiliated with rehabilitation programs in the Wright State and Ohio State medical schools. Utilization of the IPS model with the study populations holds tremendous potential or impacting services delivery for consumers who experience very low rates of employment. (3) Re-

search policy and practices relative to their impact on VR services for persons with a disability and coexisting substance abuse. Serving as a critical complement to Rl, the roles of policies, statutes, guidelines, and VR service delivery practices will be investigated within the larger community of public agencies. (4) Investigate factors that specifically contribute to unsuccessful case closure among consumers of VR services. This component studies recent VR unsuccessful closures and their counselors, and the study has particular sensitivity to the role of "hidden" substance abuse among unsuccessful closures.

Rehabilitation Research and Training Center on Workplace Supports and Job Retention

Paul Wehman, Ph.D., Virginia Commonwealth University, Richmond, VA; Project Number: 1467; Start Date: November 1, 2004; Length: 60 months.

Abstract: The purpose of the RRTC on Workplace Supports and Job Retention is to study those supports which are most effective in the workplace for assisting persons with disabilities to maintain employment and advance their careers. Research includes two long-term prospective randomized experimental control research projects: (1) determining the efficacy of public/private partnerships, and (2) determining the efficacy of business mentoring and career based interventions with college students with disabilities. The RRTC is partnered with Manpower, Inc., several community rehabilitation programs, and the VCU Business Roundtable. Additional projects look at disability management practices, extended employment supports, job discrimination in employment retention, benefits planning and assistance, and workplace supports. These studies are done in conjunction with Equal Employment Opportunity Commission, the Society of Human Resource Professionals, and the U.S. Chamber of Commerce.

Aging-Related Changes in Impairment for Persons Living with Physical Disabilities

Bryan J. Kemp, Ph.D., Los Amigos Research & Education Institute, Inc., Downey, CA; Project Number: 266; Start Date: August 1, 2003; Length: 60 months.

Abstract: This project is a combined effort of Rancho Los Amigos National Rehabilitation Center and the University of California at Irvine, with other collaborators including the Center for Disability in the Health Professions at Western University and two Rehabilitation Engineering Research Centers. This project evolves from the fact that persons who have a disability are now living into middle age and late life in ever-increasing numbers. However, many of these people appear to be experiencing premature age-related changes in health and functioning. The project tests a model for improved understanding of these problems and interventions to help alleviate them. Persons who are experiencing these kinds of problems and their families are included in all center projects. The training, dissemination, and technical assistance activities include clinical training of current and future health providers, current and future researchers, persons with disabilities, their families, and policymakers. Both traditional methods of one-on-one and group training as well as technology-based distance training techniques are used to reach national audiences and underserved populations.

Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC/NMD)

Craig McDonald, M.D., University of California, Davis, Davis, CA; Project Number: 273; Start Date: December 1, 2003; Length: 60 months.

Abstract: The purpose of the Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC/NMD) is to enhance the health, function, and quality of lives of persons with neuromuscular diseases (NMD). The goals of this project are to: (1) develop a program for multicenter rehabilitation research in NMD through the Cooperative International Neuromuscular Research Group (CINRG); (2) conduct research that continues to address rehabilitation needs, particularly related to exercise, nutrition, pain, secondary conditions, and the quality of life of individuals with neuromuscular diseases; (3) develop and evaluate new or emerging technologies and interventions that provide the information needed to improve employment, community integration, and quality of life outcomes for this population of individuals with disabilities; (4) develop and evaluate appropriate health promotion and wellness programs that enhance the ability of individuals with neuromuscular disease to be physically active and participate in recreational activities; and (5) conduct a comprehensive program of training, dissemination, utilization, and technical assistance activities that are well-anchored in the research program and address the needs of stakeholders.

Rehabilitation Research and Training Center on Spinal Cord Injury: Promoting Health and Preventing Complications through Exercise

Suzanne L. Groah, M.D., National Rehabilitation Hospital/MedStar Research Institute, Washington, DC; Project Number: 270; Start Date: December 1, 2003; Length: 60 months.

Abstract: This project systematically and comprehensively addresses the role and impact of physical activity in the prevention of secondary conditions in people with spinal cord injury (SCI). Initially, the project establishes critical, yet-undefined physiological responses to exercise in SCI and comprehensively examines cardiovascular disease risk in individuals with SCI applying accepted guidelines used in the able-bodied population. The project develops exercise formats specifically designed according to severity of SCI and chronicity of SCI to address the prevention of and knowledge regarding osteoporosis and other secondary conditions. In addition, the project determines whether regular exercise is related to fewer secondary conditions. These research findings feed into four training activities that include a peer mentoring program for newly injured people with SCI, a consumer-driven education curriculum for physical therapy and medical students, a state-of-science and training conference, and the development of a virtual resource network on exercise and prevention. The RRTC is a collaborative effort of clinical and disability researchers, SCI consumer organizations, and independent living advocates. The RRTC maintains a Live Journal site at *http://rrtc-sci.livejournal.com/* and a Webcast on Exercise and Physical Activity for Persons with SCI at *http://nrhfoundry.medstar.net/mediasite/viewer/?cid=d8381286-2ad2-4fed-922c-31464b0cc049*.

RRTC on Technology Promoting Integration for Stroke Survivors: Overcoming Social Barriers

Elliot J. Roth, M.D., Rehabilitation Institute Research Corporation, Chicago, IL; Project Number: 275; Start Date: October 1, 2003; Length: 60 months.

Abstract: This project develops and evaluates a sequence of robotic training and assistive devices that are designed with the idea of promoting efficient function in the workplace or at home, and with the further intent that they form a basis for the development of appropriate technologies to allow people with disabilities ready access to existing facilities in the community. At each stage the project engages engineering students as a means to provide intensive effort for development of novel designs, but also to provide valuable opportunities for training students in the themes related to recovery of function and community integration of people with disabilities. Other projects at this center include: the use of emotionally expressive and narrative writing to facilitate coping and adaptation after stroke; computerized training for conversational scripts that facilitate access to the community and workforce; and a consumer-directed, dynamic assessment methodology for evaluating community living and work participation environments and technologies for use by people who have had a stroke. In addition to these projects, the RRTC develops and evaluates a comprehensive plan for training directed to stroke survivors and their families, students, researchers, clinicians, and service providers. These approaches are implemented through a variety of mechanisms, including continuing education courses, Web-based presentations, and intensive training in our research facilities.

Missouri Arthritis Rehabilitation Research and Training Center (MARRTC)

Jerry C. Parker, Ph.D., University of Missouri, Columbia, MO; Project Number: 274; Start Date: October 1, 2003; Length: 60 months.

Abstract: The purpose of the Missouri Arthritis Rehabilitation Research and Training Center (MARRTC) is to provide leadership at the national level in support of three key objectives: to reduce pain and disability, to improve physical fitness and quality of life, and to promote independent living and community integration for persons with arthritis of all ages in the United States. State-of-the-science rehabilitation research addresses the needs of persons with arthritis in the following areas: (1) home and community-based self-management programs, (2) benefits of exercise and physical fitness, and (3) technologies available to the broad populations of persons with arthritis in the environments where they live, learn, work, and play. The MARRTC conducts training and capacity-building programs for critical stakeholders within the arthritis disability arena, including consumers, family members, service providers, and policymakers. Additionally, the MARRTC provides technical assistance for persons with arthritis and other stakeholders in order to promote utilization of arthritis-related, disability research. The MARRTC also provides widespread dissemination of informational materials to persons with disabilities, their rep-

resentatives, service providers, and other target audiences (e.g., editors and reporters).

Rehabilitation Research and Training Center on Traumatic Brain Injury Interventions

Wayne A. Gordon, Ph.D., Mount Sinai School of Medicine, New York, NY; Project Number: 1464; Start Date: October 1, 2004; Length: 60 months.

Abstract: The research program includes two randomized clinical trials (RCTs) and two projects supportive of better everyday interventions and better research: Research Study 1 (R1) is an RCT of a treatment for depression: cognitive behavioral therapy, adapted to address the unique cognitive and behavioral challenges of people with TBI that often pose barriers to treating depression, a major factor in reducing post-TBI quality of life, is compared to supportive therapy. In R2, a second RCT, a standard day treatment program is compared to a similar program (Executive Plus), augmented with modules to improve executive functioning and attention training. R3, Support for Evidence-Based Practice, evaluates all published research on post-TBI interventions and assessment of outcomes; it serves as a national resource for disseminating the results. It also implements three participatory action research-based analyses of high priority areas, including meta-analyses if appropriate. In addressing improved outcome measurement, R4 focuses on the PART instrument, a measure of participation currently being tested within eight TBI Model Systems. R4 focuses on creating a subjective approach to serve as a complement to the PART's current focus on objective assessment. A major focus of the RRTC is placed on capacity building of clinical and research professionals to address the need for better day-to-day interventions in the lives of people with TBI. Often their medical needs are misread, their brain injury goes unidentified, and they find services and accommodations inappropriate. Capacity building focuses on students early in their educational career—to help shape career choice and points of view; graduate and post-graduate students; and practicing "gate keepers" in the community, primarily psychologists and physicians.

Rehabilitation Research and Training Center on Health and Wellness in Long Term Disability

Gloria Krahn, Ph.D., M.P.H., Oregon Health and Science University, Portland, OR; Project Number: 1459; Start Date: October 1, 2004; Length: 60 months.

Abstract: The vision of the RRTC is to contribute to the reduction of health disparities for person with disabilities through an integrated program of research, training, technical assistance, and dissemination. The Center has three inter-related strands of work to address its three intended outcomes/goals: (1) identify strategies to overcome barriers that impede access to routine healthcare for individuals with disabilities; (2) identify interventions in areas such as exercise, nutrition, pain management, or complementary and alternative therapies that promote health and wellness and minimize the occurrence of secondary conditions for persons with disabilities; and (3) develop improved status measurement tool(s) to assess health and well-being of individuals with disabilities regardless of functional ability. In order to achieve these outcomes, the RRTC conducts a coordinated program of research and training activities using a logic model framework. RRTC projects summarize and validate existing research findings on barriers to health care access as well as rigorously test and compare new strategies to overcoming identified barriers. The RRTC also examines and evaluates the practices of exemplary generic and specialized health promotion programs for people with disabilities in order to create an evidence-based set of evaluation and planning criteria. In addition, the RRTC organizes and uses panels to assess current health status measurement tools and develops or refines measures to more accurately reflect the health and well-being of people living with disabilities. Throughout these activities the RRTC disseminates informational materials and provide technical assistance to individuals with disabilities, their representatives, providers, and other interested parties.

Multiple Sclerosis Rehabilitation Research and Training Center

George H. Kraft, M.D., University of Washington, Seattle, WA; Project Number: 109; Start Date: October 1, 2003; Length: 60 months.

Abstract: This center conducts rehabilitation research that: (1) Develops new interventions and practices in the areas of disease suppression, strength enhancement, preserving employment, depression management, and pain control; (2) collects data from an extensive survey and explores complex interactions among multiple variables, models factors that predict differing levels of participation by people with MS, and proposes points of intervention that modify changes in function; and (3) fa-

cilitates enhanced participation through training, technical assistance, and dissemination through professional meetings, publications, and a State-of-the-Science conference. In addition, a Web-based knowledgebase provides technical assistance to individuals with MS and healthcare providers with respect to caregiver issues, financial and insurance planning, self-sufficiency and coping, and assistive technology.

Rehabilitation Research and Training Center on Personal Assistance Services

Charlene Harrington, Ph.D., R.N., University of California, San Francisco, San Francisco, CA; Project Number: 267; Start Date: July 1, 2003; Length: 60 months.

Abstract: This project provides research, training, dissemination, and technical assistance on issues of personal assistance services (PAS) in the United States. Center projects focus on: (1) the relationship between formal and informal PAS and caregiving support, and the role of AT in complementing PAS; (2) policies and programs, barriers, and new models for PAS in the home and community; (3) workforce development, recruitment, retention, and benefits; and (4) workplace PAS models that eliminate barriers to formal and informal PAS and AT at work. The Center is based at the University of California, San Francisco, and includes the Topeka Independent Living Resource Center, InfoUse, the Paraprofessional Healthcare Institute, the Institute for the Future of Aging Services, as well as faculty members at the University of Maryland, Baltimore County Policy Sciences Graduate Program, the West Virginia University Job Accommodation Network, and the University of Michigan's Institute of Gerontology and the Department Health Management and Policy. A Blue Ribbon Advisory Committee of PAS users, disability advocates, business leaders, independent living center leaders, and academics provide guidance to the project.

Rehabilitation Research and Training Center for Children's Mental Health

Robert Friedman, Ph.D., University of South Florida, Tampa, FL; Project Number: 1454; Start Date: October 1, 2004; Length: 60 months.

Abstract: The Research and Training Center Children's Mental Health conducts an integrated set of research projects designed, in the short run, to enhance knowledge about effective implementation of systems of care, and, in the long run, to make it possible for children with serious emotional disturbances to live, learn, work, and thrive in their own communities. The Center has developed a theory of factors that contribute to effective implementation; within that theory is a strong emphasis on the importance of understanding from a systemic perspective the interrelationship between the different factors, and their relationship to the community culture and context in which a service delivery system exists. The Center has a set of six interconnected research projects that use both quantitative and qualitative methods, and are holistic in their focus, to further test and develop its theory. The Center translates new knowledge from research into change in policy and practice through a targeted program of training, consultation, technical assistance, publication, and dissemination. To support these efforts, the Center maintains dissemination partnerships with a range of organizations committed to help present research findings in formats well-suited for key audiences of state and local policymakers, family organizations, researchers, and representatives of related service sectors.

Rehabilitation Research and Training Center on Aging with Developmental Disabilities

Tamar Heller, Ph.D., University of Illinois at Chicago, Chicago, IL; Project Number: 276; Start Date: October 1, 2003; Length: 60 months.

Abstract: The mission of the RRTCADD is to have a sustained beneficial impact on the health and community inclusion of adults with intellectual and developmental disabilities (I/DD) as they age through a coordinated set of research, training, and dissemination activities. Major goals are: (1) improving health and function of adults with I/DD, (2) enhancing caregiving supports and transition planning among older caregivers and other family members, and (3) promoting aging and disability friendly environments that enable adults with I/DD to participate in community life. Each goal is addressed through coordinated and complementary sets of activities within the core areas. Projects promoting health and functioning include: examination of age-related changes, epidemiological surveys, research on health care utilization, and development of community-based health promotion interventions. To enhance caregiving supports and transition planning, RRTCADD research includes epidemiological surveys on family demographic and health characteristics, including families of minority backgrounds and families of persons with dual diagnoses of I/DD and psychiatric impairments; sibling roles and interventions in transition planning; and consumer direction in family support. Projects examining aging and dis-

ability-friendly environments include research to identify features of communities and residences that hinder and assist community integration as people with I/DD age, state policies regarding nursing home use, and dementia care in family homes and other community residences. Training and dissemination activities involve collaborations with national provider, professional, and consumer organizations to enhance skills and to promote progressive interventions and policies.

Rehabilitation Research and Training Center on Full Participation in Independent Living

Glen W. White, Ph.D., The University of Kansas, Lawrence, KS; Project Number: 107; Start Date: January 1, 2001; Length: 60 months.

Abstract: Through research, training, and dissemination, this project makes available person-environment strategies that enable full participation in society by persons with disabilities from diverse cultures, varying socioeconomic strata, and emerging disability populations. This mission is implemented through multiple research and training activities that are influenced by independent living (IL) philosophy and values; for example, participatory action research is emphasized, in which consumers take an active role throughout the research process. The RRTC develops, tests, and uses measurement tools to investigate the interactional relationship between personal and environmental factors and their effects on full participation in IL by the designated populations. Based on the project's Analytical Research Framework, the four core areas of intervention development and testing include: (1) increasing the knowledge base about the emerging universe of disability, (2) community participation and wellness, (3) cultural IL accommodations, and (4) personal and systems advocacy.

Rehabilitation Research and Training Center on Measurement and Interdependence in Community Living RRTC/MICL

Glen W. White, Ph.D., The University of Kansas, Lawrence, KS; Project Number: 1721; Start Date: October 1, 2006; Length: 60 months.

Abstract: The goal of the Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL) is to increase the independence and participation of people with disabilities in their communities through the development and implementation of scientifically sound, theoretically driven, and evidence-based interventions. RRTC/MICL researchers accomplish this through six core projects. Two research projects, one on community participation and a second on economic utility, involve development of theory-driven measurement tools. The remaining four projects include the application of these measurement tools as part of their methods and procedures. Two of these projects are interventions and two develop model assessments. The first assessment project uses secondary analysis to develop and implement a model for assessing the economic utility and health-related outcomes of participants enrolled in Home and Community-Based Service (HCBS) waivers. The second assessment project evaluates the effects of different independent living advocacy-service models to determine the comparative effectiveness of different models in increasing community participation. The first intervention project examines the effectiveness of personal assistance services and enhanced training to increase consumer participation in the community. Finally, the second intervention project is a multisite study that examines the effects of a consumer-led grassroots approach in identifying and removing barriers to increase community participation. Together, these projects represent a comprehensive, integrated, and robust set of activities that recognize that "disability" is an interaction between the characteristics of an individual and his or her environment.

Opening Doors for Children with Disabilities and Special Health Care Needs

Judith S. Palfrey, M.D., Children's Hospital, Boston, MA; Project Number: 1643; Start Date: October 1, 2005; Length: 60 months.

Abstract: This rehabilitation research and training center (RRTC) on children with disabilities who have special health care needs (CYDS) tests the effectiveness of two intensive interventions, integrated transition planning and community participation in recreation and fitness, and demonstrates the viability of a screening tool to promote access to services and supports for traditionally underserved communities. Research activities include two intervention projects that use randomized controlled designs to improve the educational and recreational activities of CYDS and a demonstration project to improve the early identification of CYDS from traditionally underserved communities. Research Study 1 investigates the use of a regional interagency team that integrates innovative practices in education, social services, and medical support for transition aged students. Research Study 2 builds

off of innovative practices in recreation and volunteer training to examine a model that integrates CYDS into community recreation activities. Research Study 3 models the integration of a reliable screening mechanism into the flow of activity at a busy, urban neighborhood health center. The RRTC is a collaboration of the Massachusetts Consortium for Children with Special Health Care Needs, the Parent Advocacy Coalition for Educational Rights (PACER), and six Multicultural Community Based Organizations that serve traditionally underrepresented communities. RRTC staff and collaborators include nationally and internationally known experts in pediatrics, nursing, public policy, education, family advocacy, rehabilitation, and community organizing.

Rehabilitation Research and Training Center Recovery and Recovery Oriented Psychiatric Rehabilitation for Persons with Long Term Mental Illness

Marianne Farkas, Sc.D.; E. Sally Rogers, Sc.D., Boston University, Boston, MA; Project Number: 1453; Start Date: November 1, 2004; Length: 60 months.

Abstract: This project focuses on the concepts and dimension of recovery and the various factors that inhibit and facilitate recovery from long-term mental illness by a comprehensive and meritorious set of research projects and training, technical assistance, and dissemination activities. The research and the training, dissemination, and technical assistance programs are organized into the following three programmatic areas of investigation and development: concepts and dimensions of recovery; factors enhancing recovery, and factors inhibiting recovery. The research projects are designed to have an impact on the field at multiple levels, including the personnel level as well as the program and system levels. Research projects use a participatory research process with significant input from consumers and other stakeholders, and culminate in dissemination, training, or technical assistance activities to maximize the input of the research program. The Training, Dissemination, and Technical Assistance (TDTA) projects are designed to provide exposure, experience, and expertise levels of knowledge transfer. The TDTA program produces new technologies in recovery and psychiatric rehabilitation, as well as increases the likelihood that researchers, service providers, and others use the cumulative knowledge developed by the RRTC. The RRTC is tied together by its programmatic focus on three specific core areas, strengthened by the use of appropriate research strategies, and assisted by a vigorous program of training, technical assistance, and dissemination activities designed to maximize the impact of the RRTC at all levels in the field of psychiatric rehabilitation.

Research and Training Center on Community Living (RTC/CL)

Charlie Lakin, Ph.D., University of Minnesota, Minneapolis, MN; Project Number: 271; Start Date: October 1, 2003; Length: 60 months.

Abstract: The Center conducts research, training, technical assistance, and dissemination to enhance inclusion and self-determination of citizens with intellectual and developmental disabilities (ID/DD). The research program has six outcome areas: policy studies, data base supports for full participation, self-determination and consumer-control, workforce development, and quality assessment and improvement systems. The research program within the priority areas includes: (1) research syntheses of the state of knowledge and practice; (2) secondary analyses of high quality, topically relevant national and state data sets; (3) case studies of best practices; (4) evaluation of demonstration efforts to improve policy and practice; (5) survey and interview studies of critical issues; and (6) group process studies with key constituencies. An integrated intramural training program addresses the development of skilled disability researchers and community service professionals. Outreach training programs provide training and technical assistance to agencies and individuals providing support to people with ID/DD, including members of their families. The College of Direct Support provides online interactive multimedia training to thousands of direct support professionals across the U.S. Outreach programs include conferences and workshops for a wide variety of national, regional, and state audiences, a state-of-the-art conference, annual "Reinventing Quality" conference, and intensive technical assistance with community organizations, including advocacy and self-advocacy organizations. The Center disseminates practical information to targeted audiences through its internal publication program that includes: IMPACT, Policy Research Brief, DD Data Brief, and Frontline Initiative. It maintains high standards for scholarly productivity and publication through books, journal articles and technical reports. About 18,000 people visit Center Web sites each month for access to view publications or other information on best practices in person-centered services ("*QualityMall.org*"), national statistics on services and expenditures, the direct support workforce, and other contemporary topics.

Rehabilitation Research and Training Center for Community Integration for Individuals with Disabilities, Strengthening Family and Youth Participation in Child and Adolescent Mental Health Services

Barbara Friesen, Ph.D., Portland State University, Portland, OR; Project Number: 1458; Start Date: October 1, 2004; Length: 60 months.

Abstract: This project conducts research, training, and technical assistance activities to study and promote effective, community-based, culturally competent, family centered, individualized, and strength-based services for children and youth with emotional or behavioral disorders and their families. Projects include: (1) "Community Integration (CI) of Transition-Age Youth," designed to gain understanding of CI and related concepts from the perspectives of transition-age youth, young adults, and caregivers; (2) "Transforming Futures: Research on Expanding the Career Aspirations of Youth with Mental and Emotional Disorders," explores transition experiences; (3) "Partnerships in Individualized Planning" develops an intervention to increase youth and family member participation in the individualized service planning process, a conceptual framework for understanding recovery in children's mental health, and ways to reduce stigma; (4) "Work-Life Integration" addresses CI for adult caregivers of children and youth with emotional disorders, specifically around maintaining employment. It is designed to influence human resource professionals' practice, and aims to reduce stigma and increase organizations' family friendliness; (5) "Transforming Transitions to Kindergarten" focuses on the preschool-kindergarten transition for young children with challenging behaviors. It develops and tests an intervention promoting children's successful school entry while empowering caregivers; (6) "Practice-Based Evidence: Building Effectiveness from the Ground Up," conducts a case study in partnership with a Native American youth organization and the National Indian Child Welfare Association, and addresses the need to study practices that are believed to be helpful, but for which little evidence exists.

Rehabilitation Research and Training Center Promoting Community Integration of Individuals with Psychiatric Disabilities

Mark Salzer, Ph.D., University of Pennsylvania, Philadelphia, PA; Project Number: 268; Start Date: October 1, 2003; Length: 60 months.

Abstract: The goal of this Center is to ensure that people with psychiatric disabilities not only move from institutional care to more integrated settings but also are free to choose to participate in a wide range of roles in their communities. The Center's 5-year mission focuses on three core areas: (1) Factors Associated with Community Integration develops a coherent conceptual framework for community integration and identifies key factors, intervention models, and appropriate instrumentation and research methodologies; (2) Policies Associated with Community Integration identifies, develops, and assesses the effectiveness of a range of public policies and system strategies promoting community integration and engage key stakeholders in learning about and utilizing the Center's findings; and (3) Intervention Supports that Assist Community Integration identifies, develops, and assesses the effectiveness of support service interventions promoting community integration, and provides training, technical assistance, and dissemination based on those initiatives to change behaviors and practices of key stakeholders. This Center capitalizes upon the longstanding history of collaboration among three Philadelphia-based central partners: The University of Pennsylvania, the peer-operated Mental Health Association of Southeastern Pennsylvania, and The Matrix Center at Horizon House, Inc.

Rehabilitation and Training Center on Community Integration of Persons with TBI

Angelle M. Sander, Ph.D.; Margaret Struchen, Ph.D., The Institute for Rehabilitation and Research (TIRR), Houston, TX; Project Number: 272; Start Date: November 1, 2003; Length: 60 months.

Abstract: The research program of this project includes: development and evaluation of a social network mentoring program; an investigation of racial/ethnic differences in acceptance of disability, community integration needs, barriers, and supports; a distance learning program to train family members in rural areas as paraprofessionals; assessment of employers' attitudes toward persons with TBI and a pilot educational intervention to reduce attitudinal barriers in the workplace; a randomized clinical trial to assess the effectiveness of a brief substance abuse intervention; a qualitative exploration of intimacy following TBI; and a study investigating the role of social communication abilities and environmental factors on social integration. Training projects include: a National Information, Educational Resources, Dissemination, and Technical Assistance Center for the Community Integration of Individuals with TBI; development of educational materials for increasing community awareness of TBI and reducing attitudinal barriers; adoption of a social action

network program from disability studies for improving positive identity; partnering with artists in the community to implement a Center for Creative Expressions for Persons with TBI; training of community healthcare professionals in the community integration needs of persons with TBI; a rehabilitation fellowship in community integration of persons with TBI; and a state-of-the-science conference and book on community integration.

REHABILITATION ENGINEERING RESEARCH CENTERS OF THE NATIONAL INSTITUTE FOR DISABILITY AND REHABILITATION RESEARCH

RERC on Spinal Cord Injury: Keep Moving: Technologies to Enhance Mobility and Function for Individuals with Spinal Cord Injury

Philip Requejo, Ph.D.; Robert Waters, M.D., Los Amigos Research and Education Institute, Inc. (LAREI), Downey, CA; Project Number: 483; Start Date: November 1, 2002; Length: 60 months.

Abstract: This RERC improves the lives of individuals with SCI by promoting their health, safety, independence, and active engagement in daily activities. Activities include: (1) monitoring trends and evolving product concepts that represent future directions for technologies in SCI, (2) conducting research to advance the state of knowledge, (3) disseminating the information to the population, (4) developing and testing prototype devices that are useful and effective and transferring them to the marketplace, (5) advancing employment opportunities for individuals with SCI, and (6) developing ways to expand research capacity in the field of SCI. The R&D program is focused on a key issue for individuals with SCI, the need to maintain mobility for as long as possible in order to enhance independent function. A survey of the user population determines where areas of greatest need exist. An active Mobile Arm Support for adults allows those with limited arm function greater independence. The shoulder-preserving wheelchair, gait training robotic assist device, and adaptive exercise equipment are all specifically geared to preserve or enhance mobility in individuals with SCI. A project on optimized wheelchair suspension keeps people mobile by increasing comfort and reducing tissue loading.

Rehabilitation Engineering Research Center: Develop and Evaluate Technology for Low Vision, Blindness, and Multi-Sensory Loss

John A. Brabyn, Ph.D., The Smith-Kettlewell Eye Research Institute, San Francisco, CA; Project Number: 1646; Start Date: August 1, 2006; Length: 60 months.

Abstract: This Center conducts a program of research and development to enhance the independence of blind, visually impaired, and deaf-blind individuals. Research includes investigation of assessment methods to guide rehabilitation of infant cortical visual impairment; practical innovations in assessment and interventions for elders with visual impairments; and development of independent assessment guidelines for emerging visual prostheses. The Center also conducts research in access to graphical information for blind, visually impaired, and deaf-blind persons, developing tools for rapid screen overview, auditory and tactile graph presentation, image classification, and on-demand production of tactile street maps. To address signage and travel information, the project is investigating information interfaces for travelers who are blind or visually impaired, and innovative computer vision methods to find and read existing print signs and labels. To address the rising barriers to accessing visual displays and appliances for employment and daily living, there is a designer education campaign and development of a universal talking LCD/LED display reader, practical consumer tools, and jobsite adaptations for employees who are blind or visually impaired. Other projects include development of a new-generation robotic finger-spelling hand for deaf-blind communication, and pilot investigations of difficulties in lipreading and sign language reading experienced by those with combined auditory and visual impairment.

Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC–ACT)

Cathy Bodine, University of Colorado, Denver, CO; Project Number: 1451; Start Date: November 1, 2004; Length: 60 months.

Abstract: The goal of this RERC is to research, develop, evaluate, implement, and disseminate innovative technologies and approaches that will have a positive impact on the way in which individuals with significant cognitive disabilities function within their communities and workplace. The Center incorporates: (1) a consumer-driven model for identifying the most significant barriers to independent living and workforce; (2) an approach that is balanced and uses both well-established and newly emerging technologies in its development projects; (3) a focus both on functional lim-

itations and specific disabilities; and (4) mutually beneficial partnerships with private industry and public agencies. Research activities include: Needs, knowledge, barriers, and uses of AT by persons with cognitive disabilities; technology for remote family support for people with cognitive disabilities; influences on AT use, non-use, and partial, and inappropriate use by persons with traumatic brain injury; AT enhancement of written expression for children and adults; needs assessment for creating affordable, context-aware technologies; and technology to promote decision-making skills and self-determination for students with cognitive disabilities. Development activities include: Design, implementation, and deployment of context aware technologies for persons with cognitive disabilities residing in community living environments; development of HealthQuest, an Internet-based product that enables individuals with intellectual disabilities to become active participants in their own health care; XML repository of common tasks; batteryless micropower sensors for context aware technologies; perceptive animated interfaces for workforce training; and environmentally appropriate behavioral cues for individuals with TBI.

Rehabilitation Engineering Research Center on Hearing Enhancement

Matthew H. Bakke, Ph.D., Gallaudet University, Washington, DC; Project Number: 484; Start Date: October 1, 2003; Length: 60 months.

Abstract: The mission of this RERC is to build and test components of a new, innovative model of aural rehabilitation tools, services, and training, in order to improve assessment and fitting of hearing technologies and to increase the availability, knowledge, and use of hearing enhancement devices and services. Component A: (1) develops and evaluates new methods for field evaluation and fitting of hearing aids; (2) develops and evaluates techniques to enhance auditory self-monitoring; and (3) develops methods for predicting the speech-to-interference ratio and intelligibility of speech for a hearing aid when used with a wireless telephone. Component B conducts a needs assessment survey of people who use hearing technologies and evaluates the use of Bluetooth technology as a means of improving and expanding wireless connection to a hearing aid. Component C investigates environmental factors affecting children's speech recognition abilities in classroom settings. Component D investigates the use of distortion product otoacoustic emission and reflectance for diagnosis of hearing loss and tinnitus; and creates and standardizes sets of synthesized nonsense syllables for use in hearing aid research. Component E develops a new, innovative model for the delivery of aural rehabilitation services to adults with hearing loss. In addition the RERC conducts a program of training and dissemination that will reach a diverse audience of people, both consumers and professionals.

Rehabilitation Engineering Research Center on Technology for Successful Aging

William C. Mann, Ph.D., University of Florida, Gainesville, FL; Project Number: 475; Start Date: October 1, 2001; Length: 60 months.

Abstract: The RERC-Tech-Aging conducts research, development, education, and information dissemination work on technology for successful aging. Projects of the RERC focus on the closely related areas of communications, home monitoring, and "smart" technologies. The technology driving the focus for this RERC is developing rapidly and requires an understanding of current and emerging technology areas, including wireless technology, computers, sensors, user interfaces, control devices, and networking. Successful integration of this technology into products and systems for older persons requires an understanding of their complex health, independence, and quality-of-life issues. The RERC-Tech-Aging tests currently available home monitoring products and demonstrates their effectiveness in relation to independence, quality of life, and health related costs. The RERC-Tech-Aging also identifies needs and barriers to home monitoring and communication technology, and addresses needs of special populations including rural-living, elders, and people aging with disability. The RERC-Tech-Aging brings together national expertise to meet this challenge, including major universities, industry leaders working in this area, major aging or aging-related organizations, major Federal agencies that relate to funding or services in this area, other NIDRR-funded RERCs and RRTCs, and service-related organizations that assist in identifying study participants.

Rehabilitation Engineering Research Center for Wireless Technologies

Helena Mitchell, Ph.D., Georgia Institute of Technology, Atlanta, GA; Project Number: 1671; Start Date: October 1, 2006; Length: 60 months.

Abstract: The Rehabilitation Engineering Research Center for Wireless Technologies' mission is to: (1) promote equitable access to and use of wireless technologies by persons with disabilities; and (2) encourage adoption of Universal Design

in future generations of wireless technologies. To accomplish these aims, the RERC is organized into three main project sections: The Research Section is comprised of four research initiatives: Facilitating User Centered Research is designed to establish a research portal that communicates to industry the needs of people with disabilities for wireless technologies. Customer-driven Usability Assessment enhances the usability of future generations of cell phones and other wireless products by developing a methodology for assessing their usability by representative users with disabilities. Collaborative Policy Approaches to Promote Equitable Access develops, implements, and evaluates specific policy initiatives related to accessible wireless technologies and services. Advanced Auditory Interfaces develops, tests, and disseminates guidelines for the design of advanced auditory interfaces for cell phones and other handheld electronic devices. The Development Section includes four projects that promote equitable access to and use of wireless technologies by persons with disabilities through the development of prototype designs: Alternative Interfaces continues its work on the V2 standards for universal remote consoles and Real-time Location-based Information Services expands on previous work on the RERC's personal captioning system by addressing the needs of patrons with vision or hearing impairments in three different venues—exhibit spaces, airports, and hospitals. Development of Wireless Emergency Communications and Ensuring Access to Emergency Assistance both focus on the area of wireless emergency communications for people with disabilities; developing wireless communication technology to be used by emergency personnel to contact individuals with disabilities, and by people with disabilities to signal the need for assistance. The Training and Dissemination Section promotes the synthesis of new knowledge into practice with the RERC's State of the Science conference and a number of initiatives designed to educate consumers, providers, and other professionals, including: university courses, an annual student design competition, conference tutorials and workshops, all geared toward access and usability of mobile wireless technologies.

Rehabilitation Engineering Research Center on Wheeled Mobility

Stephen H. Sprigle, Ph.D., Georgia Institute of Technology, Atlanta, GA; Project Number: 491; Start Date: November 1, 2003; Length: 60 months.

Abstract: The goal of this RERC is to undertake a major shift in the way wheeled mobility is conceptualized and understood, from the design of assistive devices that enable some individuals to perform some activities, to the design of a broad range of interventions that enable as many individuals as possible to actively engage and participate in everyday community life. Research activities include: (1) User Needs and Design Input uses participatory focus groups to identify needs of wheelchair users; (2) User Needs of Older Adults assesses the needs of older adults living at home and in other residential settings; (3) Effects of Environment and Mobility Technology on Participation and Activity measures the influences of environmental barriers and specialized wheelchair technology on participation and activity in everyday life; (4) Efficacy of Animation and Visualization Training uses computer simulation techniques to investigate their efficacy in improving mobility training; and (5) Clinical and Functional Implications of Seating Standards and Guidelines studies the relationship between standardized measures of cushion performance and actual impact on wheelchair users. Development efforts include: (1) development and marketing of new mobility devices in collaboration with industry design partners; (2) development of a wheelchair for frail elders that can be used in any residential environment; (3) interventions to overcome barriers to participation including guidelines and technologies to help wheelchair users overcome environmental and technological barriers; (4) development of animation and visualization training through computer simulations to improve training in transfers and outdoor mobility; and (5) development of valid wheelchair cushion test methods which enables clinicians to prescribe appropriate wheelchair cushions based on positioning and aload distribution.

Rehabilitation Engineering Research Center on Workplace Accommodations

Karen Milchus; Jon Sanford, Georgia Institute of Technology, Center for Assistive Technology & Environmental Access, Atlanta, GA; Project Number: 480; Start Date: November 1, 2002; Length: 60 months.

Abstract: This RERC identifies, designs, and develops devices and systems to enhance the workplace productivity of people with disabilities. Universal design is a primary focus of the Center: making the design of products and environments usable by all workers to the greatest extent possible, without the need for adaptation or specialized design. The RERC's research projects evaluate existing workplace products and services and determine areas where further product development is

needed. The Center also studies archival materials to identify factors that contribute to successful or unsuccessful outcomes, and analyzes policies and practices that may influence the nature and availability of workplace accommodations for persons with disabilities. The RERC's development activities focus on Remote Services and Universal Design in the Workplace. The Remote Services projects investigate ways that remote technologies such as videoconferencing and telework can be used to facilitate employment and provide technical support services to people with disabilities. The Universal Design projects work with manufacturers to develop new generations of universally designed and accessible products. Digital human modeling tools developed by the project provide visualizations of products or systems with human interaction and movement and reduce the need for preliminary physical prototypes. Products are developed for workers in office, manufacturing, retail/sales, service industry, and other environments. Finally, training, technical assistance, and dissemination activities on workplace accommodations and universal design promote the transfer of new knowledge into practice.

RERC on Rehabilitation Robotics and Telemanipulation: Machines Assisting Recovery from Stroke (MARS)

W. Zev Rymer, M.D., Ph.D., Rehabilitation Institute Research Corporation, Chicago, IL; Project Number: 481; Start Date: November 1, 2002; Length: 60 months.

Abstract: MARS–RERC focuses its research and development on restoring function in hemispheric stroke survivors. Five projects assess different approaches that have the potential to improve performance of the upper extremity, and one project attempts to restore gait and fluid locomotion to the lower extremities. These projects include: the ARM Guide, a robotic therapy for force training of the upper extremity in chronic hemiparetic stroke; Lokomat-Gait restoration in hemiparetic stroke patients using goal-directed, robotic-assisted treadmill training; Augmented Reality Robotic Rehabilitation, which is in the development of a robotic system with an augmented reality interface for rehabilitation retraining of arm function for brain-injured individuals; Robotic Assisted Finger Extension, rehabilitation of finger extension in chronic hemiplegia; and T–WREX, a home-based telerehabilitation system for improving functional hand and arm movement recovery following stroke utilizing an anti-gravity orthosis and video games to track progress. In addition to these projects, MARS–RERC's purpose is to train undergraduate engineering students, medical students, physician residents, graduate students in engineering and neuroscience, and allied health clinicians, including physical and occupational therapists in the area of rehabilitation robotics. The broad intent of MARS–RERC is to develop robotic devices or machines that assist the therapist in providing treatments that are rationally based, intensive, and long in duration. This project is a collaboration of the Rehabilitation Institute of Chicago (RIC), the Catholic University of America (CUA) and National Rehabilitation Hospital in Washington, DC, the University of Illinois at Chicago (UIC), and the University of California at Irvine (UCI).

Rehabilitation Engineering Research Center in Prosthetics and Orthotics

Steven A. Gard, Ph.D., Northwestern University, Chicago, IL; Project Number: 490; Start Date: October 1, 2003; Length: 60 months.

Abstract: This Center conducts ten research projects, three of which are pilot studies. In the area of human locomotion the objectives are to conduct quantitative studies that include non-disabled gait, modeling of gait, roll-over shape influence on transtibial amputee gait, gait initiation, shock absorption studies, the role of the spine in walking, transfemoral socket design studies, and evaluation of stance-control orthotic knee joints. Pilot studies, where preliminary data is not available, are proposed on partial foot prosthesis/orthosis systems, on evaluation of Ankle Foot Orthoses and on the design of a Shape & Roll foot for children. Six developmental projects include a simple gait monitoring instrument (Direct Ultrasound Ranging System), a new prosthetic ankle joint that adapts to inclines, and a manual through which individuals in low-income countries can make their own artificial feet. In addition, two upper-limb prosthetics development projects are proposed that deal with reaching, manipulation, and grasping. Finally, an outcomes measurement tool is developed for prosthetics and orthotics (P&O) facilities in their reporting to the American Board of Certification. The vision for this RERC is to improve the quality of life for persons who use prostheses and orthoses through creative applications of science and engineering to the P&O field. The goal is to uncover new knowledge and understanding in P&O and to bring more quantification to the field, which will enable them to develop new concepts and devices to improve the quality, cost-effectiveness, and delivery of P&O fittings.

Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech)

James H. Rimmer, Ph.D., University of Illinois at Chicago, Chicago, IL; Project Number: 479; Start Date: November 1, 2002; Length: 60 months.

Abstract: This program researches access to recreational opportunities and physical endurance of people with disabilities, targeting four primary areas: (1) increased access to fitness and recreation environments; (2) interventions to increase physical activity and recreation participation; (3) adherence strategies to reduce physical activity relapse and dropout rates; and (4) randomized clinical trials to evaluate improvements in health and function. Research and development projects include: (1) a comprehensive needs assessment that involves ongoing assessment of consumer needs as they pertain to existing and emerging recreational and fitness technologies; (2) research on the use of information technology and a newly designed environmental accessibility instrument for facilitating access to recreational and fitness environments and promoting improved health and function; (3) research on the use of "teleexercise" technology for promoting participation and for monitoring intensity and physiological/psychological outcomes of home-based exercise programs; (4) research and development of technology to create virtual exercise environments to promote greater adherence to exercise and thereby improved health and function; (5) development of technology to allow users adaptive control of exercise machines; (6) development of broadly applicable aftermarket accessory kits for adapting existing cardiovascular exercise equipment for use by people with disabilities and determining the efficacy of the new adaptations in improving fitness; and (7) development of an online RecTech solutions database of currently available recreational and fitness technologies to make available solutions more accessible to consumers. Two training projects promote capacity building for future recreation, fitness, exercise physiology, engineering, and rehabilitation professionals, and two additional training projects support professional development.

Rehabilitation Engineering Research Center on Technology Access for Landmine Survivors

Yeongchi Wu, M.D.; Kim Reisinger, Ph.D., Center for International Rehabilitation, Chicago, IL; Project Number: 487; Start Date: November 1, 2003; Length: 60 months.

Abstract: The Center strives to improve the quality and availability of amputee and rehabilitation services for landmine survivors by focusing on the development of "appropriate technology," i.e., technology that is most suitable to the limited technical and human resources available in most mine-affected regions through the application of research methodologies, the development of mobility aids, and the creation of educational materials, all of which are designed specifically for mine-affected populations and disseminated through a network of rehabilitation service providers in mine-affected regions. Laboratory-based research projects investigate issues of importance relating to transtibial alignment, ischial containment socket trim lines as they relate to the gait of transfemoral amputees, and the evaluation of a non-toxic resin for the direct lamination of prosthetic sockets. Field-based research evaluates an anatomically based transtibial alignment methodology and a wheelchair prototype manufacturing and dissemination strategy. Development projects, many of which contain research components, can be classified into two areas: those that improve the service delivery through improved fabrication techniques, and those that develop appropriate prosthetic components and mobility aids. In order to promote the successful transfer of techniques and technologies that are developed, the RERC creates training materials that describe the manufacture, assembly, and use of the technique or devices developed under the research and development program. Additionally, because the current number of trained prosthetic technicians in developing countries is far from sufficient to adequately meet the needs of landmine survivors, the center produces education and training materials covering the basic science of prosthetics and orthotics. All materials are adapted to the specific languages, culture, and needs of the mine-affected regions served by the RERC and distributed through a blended distance learning network.

Rehabilitation Engineering Research Center on Wheelchair Transportation Safety

Lawrence W. Schneider, Ph.D. (Michigan); Patricia Karg, Ph.D. (Pittsburgh); Gina Bertocci, Ph.D. (Louisville), University of Michigan, Ann Arbor, MI; Project Number: 1672; Start Date: November 1, 2006; Length: 60 months.

Abstract: Research conducted by the RERC on Wheelchair Transportation Safety (RERC WTS) advances the safety, usability, and independence of people who remain seated in their wheelchairs when traveling in motor vehicles. Research and develop-

ment projects involve close collaboration with manufacturers, transit providers, vehicle modifiers, clinicians, and consumers to ensure quick translation of results into meaningful solutions that benefit travelers with mobility disabilities. Projects range from developing innovative solutions for forward-facing and rear-facing wheelchair passenger stations in large accessible transit vehicles, to investigating issues of school-bus transportation for children seated in WC–19 compliant and noncompliant wheelchairs, and to improving frontal- and rear-crash protection for occupants in private vehicles. Continuing research from previous grants, the RERC WTS extends the in-depth investigations of adverse events involving wheelchair-seated travelers, but also conducts a study of the transportation experience of wheelchair users in large public transit vehicles, including the process of entering and exiting the vehicle, accessing the wheelchair station, securing the wheelchair and restraining the occupant, and traveling to and from destinations. In addition to conducting research and development in six project areas, RERC WTS staff engages in information dissemination, training of future researchers, transferring innovative technology concepts to the marketplace, developing and revising voluntary industry standards, and convening the second State-of-the-Science Workshop on Wheelchair Transportation Safety. The RERC is a partnership of the University of Michigan Transportation Research Institute, the University of Pittsburgh, the University of Louisville, and the University of Colorado.

Rehabilitation Engineering Research Center on Children with Orthopedic Disabilities

Richard A. Foulds, Ph.D., New Jersey Institute of Technology, Newark, NJ; Project Number: 1560; Start Date: November 1, 2005; Length: 60 months.

Abstract: The Rehabilitation Engineering Research Center on Technology for Children with Orthopedic Disabilities focuses on research and development assisting children to achieve their full potential as productive citizens. The work plan includes a roster of projects designed to enhance the physical skills of these children to be successful in learning, playing, and living independently. This project includes three research and three development projects, as well as training projects serving the needs of children, families, students, and professionals. Project selection is driven by the RERC on Children with Orthopedic Disabilities' vision of RERCs as a source of innovation and of new technologies designed to address the serious problems faced by children with disabilities. This project is a collaboration of New Jersey Institute of Technology, the Childrens' Specialized Hospital, and Rutgers University, bringing together two academic departments of biomedical engineering with the Nation's largest pediatric rehabilitation hospital.

Rehabilitation Engineering Research Center on Technology Transfer (T2RERC)

Steve Bauer, Ph.D., State University of New York (SUNY) at Buffalo, Buffalo, NY; Project Number: 489; Start Date: October 1, 2003; Length: 60 months.

Abstract: The activities of this project transfer and commercialize new and improved assistive devices, conduct research to improve technology transfer practice, and support other stakeholders involved in the technology transfer process. Four research projects investigate innovative ways to facilitate and improve the process of technology transfer for all stakeholders: (1) Identify Innovative Technology Transfer Practices—draws critical success factors from examples of retrospective and prospective AT transfer case studies in various sectors; (2) Identify Innovative Technology Transfer Policies—traces the outputs and outcomes of Federal transfer programs supporting AT related projects and assesses their efficacy; (3) Facilitate AT Industry Innovation through Focused Market Research—provides a context for transfer opportunities involving the AT industry and for public policy decision making; and (4) Assess the Efficacy of Transferred Products—determines the extent to which products previously transferred through the T2RERC impact the functional capabilities of consumers. Four development projects increase the number and quality of successful transfers from RERC's and other sources: (1) Transfer Products through a Supply Push Approach—facilitates the movement of new or improved prototype inventions to the marketplace through licenses, sales, or entrepreneurial ventures; (2) Transfer Technologies through a Demand Pull Approach—validates technology needs within the AT industry and introduces advanced technology solutions to address those needs; (3) Improve the Accessibility of New Mainstream Products—extends participatory research to integrate consumers' functional requirements into the design of new mainstream products; and (4) Facilitate RERC Transfer Activity Through Informatics—establishes a pilot informatics infrastructure and assesses its utility for increasing communication, collaboration, and transfers between RERC's.

Rehabilitation Engineering and Research Center (RERC) on Universal Design and the Built Environment at Buffalo

Edward Steinfeld, Arch.D., State University of New York (SUNY) at Buffalo, Buffalo, NY; Project Number: 1561; Start Date: November 1, 2005; Length: 60 months.

Abstract: The RERC on Universal Design and the Built Environment is engaging the public and private sectors across four broad domains of the built environment: (1) community infrastructure, (2) public buildings, (3) housing, and (4) products. The RERC–UD generates strategically important research, development, education, and dissemination deliverables, to advance the fields of rehabilitation engineering and environmental design. The RERC–UD deliverables integrate universal design principles within the generally accepted models, methods, and metrics of design and engineering professionals in the building and manufacturing industries. Research projects document the efficacy of existing universally designed environments, and generate critical human factors data essential to resolving design and engineering problems. Development projects create evidence-based guidelines to implement universal design concepts within the tools of the design professions, and formulate methods to evaluate the usability of designs for people with mobility, sensory, and cognitive impairments. The usefulness of the guidelines and evaluation methods are demonstrated by applying them to the development of innovative products and environments with industry partners. Training activities emphasize online certificate programs in universal design for design professionals, builders, manufacturers, and consumer advocates; a Web portal and site for students and educators; and graduate programs that train researchers in advanced methods. Dissemination outputs include traditional refereed and trade publications, an extensive Web site with downloadable information products and design tools, model home demonstrations in local communities across the country, and outreach activities with professional, business, and standards development organizations. The RERC–UD's state-of-the-science conference includes stakeholders in a plan to elevate universal design to an integral component of the mainstream design and engineering disciplines.

Rehabilitation Engineering Research Center on Communication Enhancement

Frank DeRuyter, Ph.D., Duke University, Durham, NC; Project Number: 488; Start Date: November 1, 2003; Length: 60 months.

Abstract: The mission of this RERC is to assist people who use augmentative and alternative (AAC) technologies in achieving their goals across environments. The goals and objectives of the RERC are to advance and promote AAC technologies through the outputs and outcomes of research and development activities and to support individuals who use, manufacture, and recommend these technologies in ways they value. Research projects cover the following areas: (1) improving AAC technology to better support societal roles; (2) enhancing AAC access by reducing cognitive/linguistic load; and (3) enhancing AAC usability and performance. Projects address issues of literacy, telework, specialized vocabulary, contextual scenes and intelligent agents, improving interface performance, and monitoring and simulating communication performance. Development activities include: (1) technology and policy watch; (2) new interfaces; and (3) reducing the cognitive/linguistic burden on AAC users. Activities address monitoring emerging technologies, standards, and policies; technologies to supplement intelligibility of residual speech, dysarthric speech, and gesture recognition; brain interface; AAC WebCrawling; and enhancing the role of listeners in AAC interactions.

National Center for Accessible Public Transportation

Katharine Hunter-Zaworski, Ph.D., Oregon State University, Corvallis, OR; Project Number: 485; Start Date: October 1, 2003; Length: 60 months.

Abstract: This RERC addresses the need for improvements in the accessibility of public transportation. This center is both important and timely because of major changes in the travel industry, and the need to adapt to those changes in a way that provides safe and dignified travel for persons with disabilities. The transportation focus of this RERC is inter-city travel via air, rail, and bus. Air, rail, and over-the-road buses (OTRB) account for nearly all of the inter-city public transportation. Accessibility issues focus on persons with mobility, agility, and hearing disabilities and account for a large percentage of persons with disabilities. Two areas of research are addressed: (1) the biomechanics of wheelchair transfers in confined spaces; and (2) the perceptions, reactions, and attitudes of subjects toward existing and proposed accessibility solutions. The biomechanics studies include the use of a sophisticated eight-camera motion analysis system in conjunction with force plates to determine the motions and forces involved in dependent and independent transfers in confined spaces, such as an aircraft aisle. The survey-based study includes

comprehensive surveys of groups that are directly involved with accessibility issues including travelers with disabilities, non-travelers with disabilities, and employees of airlines and airports. Drawing on results of their research, the RERC focuses on four development topics: (1) vehicle boarding technologies; (2) real time passenger information and communications systems; (3) accessible lavatories; and (4) passenger assistance training tools and techniques. The accessible lavatory project has two main components; regulations and new designs for the next generation of aircarft.

Rehabilitation Engineering Research Center on Telerehabilitation

David M. Brienza, Ph.D., University of Pittsburgh, Pittsburgh, PA; Project Number: 1450; Start Date: December 1, 2004; Length: 60 months.

Abstract: The vision of this RERC is to serve people with disabilities by researching and developing methods, systems, and technologies that support remote delivery of rehabilitation and home health care services for individuals who have limited local access to comprehensive medical rehabilitation outpatient and community-based services. Research and development activities include: (1) Telerehabilitation Infrastructure and Architecture: development of an informatics infrastructure and architecture that builds on existing programs and technologies of the University of Pittsburgh Medical Center's e-Health System, supports the RERC's research and development activities, meets HIPAA requirements, provides a test-bed for third party telerehabilitation applications, and can be used as a model for future telerehabilitation infrastructure; (2) Telerehabilitation Clinical Assessment Modeling: development of a conceptual model for matching consumers with telerehabilitation technology. The model is user-oriented and driven by consumer experiences regarding satisfaction, simplicity, and reimbursability of telerehabilitation; (3) Teleassessment for the Promotion of Communication Function in Children with Disabilities: development of a Web-based teleassessment infrastructure that links therapists and child participants, allowing therapeutic content to be adapted to the child's individual progress and abilities; (4) Remote Wheeled Mobility Assessment: determines if individuals with mobility impairments can obtain appropriate prescriptions for wheeled mobility devices through the use of a telerehabilitation system based upon information and telecommunications technologies; (5) Behavioral Monitoring and Job Coaching in Vocational Rehabilitation: researches technologies to conduct remote delivery of rehabilitation services to individuals who have limited access to rehabilitation services that are necessary to participate in and achieve education and employment outcomes in their community; and (6) Remote Accessibility Assessment of the Built Environment: determines the effectiveness of a remote accessibility assessment system in evaluating the built environment of wheeled mobility device users.

Rehabilitation Engineering Research Center on Wheelchair Transportation Safety

Patricia Karg, University of Pittsburgh, Pittsburgh, PA; Project Number: 477; Start Date: November 1, 2001; Length: 60 months.

Abstract: This RERC aims to improve the safety of wheelchair users who remain seated in their wheelchair while using public and private motor-vehicle transportation. RERC tasks investigate and develop new wheelchair tiedown and occupant restraint system technologies, including wheelchair-integrated restraints and universal docking concepts, that enable wheelchair users to secure and release their wheelchair independently and quickly, and use an effective occupant restraint system without the need for assistance. The RERC also researches the issues and factors involved in providing improved occupant protection to wheelchair-seated drivers and passengers in rear and side impacts, and uses a multifaceted approach, including in-depth investigations of real-world accidents, to investigate the incidence, severity, and causes of injuries to wheelchair-seated occupants in different sizes of vehicles and in different types of crashes and non-impact incidents experienced during vehicle motion. In particular, this RERC explores the need for, and suitability of, using different levels of wheelchair securement and occupant restraint in larger public transit vehicles, with the goal of recommending and developing equipment and systems that provide for a safe ride and that are more compatible with the operational needs of the transit environment. The program includes a comprehensive research and development effort that involves consumers, manufacturers, students, clinicians, transport providers, and rehabilitation technology experts. The RERC also has active programs of information dissemination, training, and technology transfer using personnel, mechanisms, and facilities that have been previously established at the University of Pittsburgh/University of Michigan.

Rehabilitation Engineering Research Center on Accessible Medical Instrumentation

Jack Winters, Ph.D.; Molly Follette Story, M.S. , Marquette University, Milwaukee, WI; Project Number: 482; Start Date: November 1, 2002; Length: 60 months.

Abstract: The RERC on Accessible Medical Instrumentation: (1) increases knowledge of, access to, and utilization of healthcare instrumentation and services by individuals with disabilities; (2) increases awareness of and access to employment in the healthcare professions by individuals with disabilities; and (3) serves as a national center of excellence for this priority topic area. Specific research projects include: (1) needs analysis for people with disabilities as both recipients and providers of healthcare services, and for manufacturers of healthcare instrumentation; (2) usability analyses to determine what makes certain medical instrumentation either exemplary or problematic yet essential to healthcare service delivery; (3) accessibility and universal usability analysis to identify classification and measurement approaches that could be used to explore metrics for accessibility of medical instrumentation; and (4) policy analyses to explore how medical policies affect healthcare utilization and employment in the healthcare professions of persons with disabilities. Specific development projects include: (1) development of tools for usability and accessibility analysis; (2) development of modified and new accessible medical instrumentation; (3) monitoring of, and involvement in development of, emerging, accessible healthcare technologies; and (4) development of design guidelines for accessible medical instrumentation and model policies for healthcare service delivery.

Rehabilitation Engineering Research Center on Telecommunication Access

Gregg C. Vanderheiden, Ph.D. (Trace); Judy Harkins, Ph.D. (Gallaudet University), University of Wisconsin/Madison, Madison, WI; Project Number: 1435; Start Date: October 1, 2004; Length: 60 months.

Abstract: The focus of this RERC is on advancing accessibility and usability in existing and emerging telecommunications products for people with all types of disabilities. Telecommunications accessibility is addressed along all three of its major dimensions: user interface, transmission (including digitization, compression, etc.), and modality translation services (relay services, gateways, etc.). Research and development projects cover three areas: (1) development of tools, techniques, and performance-based measures that can be used to evaluate current and evolving telecommunication strategies including visual communication and cognitive access; (2) solving the problems faced by individuals using hearing aids or cochlear implants with digital phones (including development of tools that users can employ to match appropriate hearing technologies with telecommunication technologies); and (3) improving access to emerging telecommunications for people with visual, hearing, physical, and cognitive disabilities' particularly digital and IP-based systems including emergency communication. The RERC looks at advances that have both short- and long-term outcomes related to assistive technologies (AT), interoperability, and universal design of telecommunications. In addition, the RERC provides technical assistance to government, industry, and consumers, training for industry, and education for new researchers in this field. The RERC is a collaboration of the Trace Center at the University of Wisconsin and the Technology Access Program at Gallaudet University.

Rehabilitation Engineering Research Center on Universal Interface and Information Technology Access

Gregg C. Vanderheiden, Ph.D., University of Wisconsin/Madison, Madison, WI; Project Number: 486; Start Date: October 1, 2003; Length: 60 months.

Abstract: The focus of this RERC is on both access to information (e.g., content) in its various forms, as well as access to interfaces used within content and by electronic technologies in general. The research and development program is carefully designed to provide an interwoven set of projects that together advance accessibility and usability in a fashion that takes into account, and supports, the full range of access strategies used by manufacturers and people with disabilities. These strategies range from enhancing the design of mainstream products that can be used by individuals with different ability sets to enhancing the ability of users to deal with the information and interfaces as they encounter them. Key to these projects are the development of new models and approaches for characterization of the functional requirements of current and future interfaces, and a better understanding of the type, diversity, and similarity of functional limitations across etiologies and disabilities. Research activities include: model generation and initial pilot studies for the characterization of interface requirements (current and emerging) and cross-disability user abilities; abstract user interfaces and human interface sockets; emerging technologies and future research needs; and accessible real-time visual information

presentation in meetings and virtual meetings. Development projects include: tools to facilitate the incorporation of cross-disability interface features in public information technologies; tools to facilitate AT–IT interoperability; server-based and "virtual assistive technology"; and support for national and international standards and guidelines efforts.

NATIONAL CENTER FOR MEDICAL REHABILITATION RESEARCH (NCMRR) PROJECTS LIST

Project Number	Description
F31—Predoctoral Individual National Research Service Award:	
1F31HD053986–01	COWAN, RACHEL E UNIVERSITY OF PITTSBURGH AT PITTSBURGH PREDOCTORAL FELLOWSHIPS FOR STUDENTS WITH DISABILITIES SHINOWARA, NANCY
5F31HD049319–02	AJIBOYE, ABIDEMI B NORTHWESTERN UNIVERSITY MINORITY PREDOCTORAL FELLOWSHIP PROGRAM QUATRANO, LOUIS A
5F31HD049326–02	JAGODNIK, KATHLEEN M CASE WESTERN RESERVE UNIVERSITY UPPER EXTREMITY CONTROL USING REINFORCEMENT LEARNING NITKIN, RALPH M
F32—Postdoctoral Individual National Research Service Award:	
3F32HD047099–02S1	LOVERING, RICHARD M. UNIVERSITY OF MARYLAND BALT PROF SCHOOL THE ROLE OF CYTOKERATINS IN SKELETAL MUSCLE INJURY NITKIN, RALPH M
5F32HD049217–02	KLUZIK, JOANN KENNEDY KRIEGER RESEARCH INSTITUTE, INC. LEARNING POSTURAL DYNAMICS IN A NOVEL REACHING TASK QUATRANO, LOUIS A
K01—Research Scientist Development Award—Research & Training:	
1K01HD049476–01A2	ZACKOWSKI, KATHLEEN KENNEDY KRIEGER RESEARCH INSTITUTE, INC. MECHANISMS OF LOCOMOTOR RECOVERY IN MULTIPLE SCLEROSIS SHINOWARA, NANCY
1K01HD049593–01A1	PURSER, JAMA L DUKE UNIVERSITY CANDIDATE GENES AND LONGITUDINAL DIABILITY PHENOTYPES NITKIN, RALPH M
1K01HD050369–01A1	MORTON, SUSANNE M UNIVERSITY OF MARYLAND BALT PROF SCHOOL EFFECT OF CONTRALATERAL LEG ON MOTOR OUTPUT POST STROKE ANSEL, BETH
1K01HD050582–01A1	REISMAN, DARCY S UNIVERSITY OF DELAWARE LOCOMOTOR ADAPTATIONS FOLLOWING STROKE NITKIN, RALPH M
5K01HD042057–06	AGUILAR, GUILLERMO UNIVERSITY OF CALIFORNIA RIVERSIDE PORT WINE STAIN TREATMENT FOR INFANTS AND YOUNG CHILDREN NITKIN, RALPH M
5K01HD042491–04	LUDEWIG, PAULA M UNIVERSITY OF MINNESOTA TWIN CITIES BIOMECHANICALLY BASED SHOULDER REHABILITATION STRATEGIES NITKIN, RALPH M
5K01HD043352–04	SALSICH, GRETCHEN B SAINT LOUIS UNIVERSITY PATELLOFEMORAL PAIN: TIBIOFEMORAL ROTATION IMPAIRMENTS NITKIN, RALPH M

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5K01HD045293–03	MURPHY, SUSAN L UNIVERSITY OF MICHIGAN AT ANN ARBOR CLINICAL STRATEGIES TO REDUCE OSTEOARTHRITIS DISABILITY NITKIN, RALPH M
5K01HD046602–02	KALPAKJIAN, CLAIRE ZABELLE UNIVERSITY OF MICHIGAN AT ANN ARBOR MENOPAUSAL TRANSITION IN WOMEN WITH SPINAL CORD INJURY NITKIN, RALPH M
5K01HD046682–02	OSTIR, GLENN V UNIVERSITY OF TEXAS MEDICAL BR GALVESTON ASSESSING QUALITY OF LIFE FOR REHABILITATION PATIENTS QUATRANO, LOUIS A
5K01HD047148–02	QUANEY, BARBARA M UNIVERSITY OF KANSAS MEDICAL CENTER MOTOR PERFORMANCE AND CORTICAL CHANGES IN CHRONIC STROKE NITKIN, RALPH M
5K01HD047669–02	LANG, CATHERINE E WASHINGTON UNIVERSITY MECHANISMS UNDERLYING LOSS OF HAND FUNCTION AFTER STROKE ANSEL, BETH
5K01HD048437–02	EARHART, GAMMON M WASHINGTON UNIVERSITY PARKINSONIAN GAIT DISORDERS: MECHANISMS AND TREATMENT NITKIN, RALPH M
K02—Research Scientist Development Award—Research:	
5K02HD044099–04	YEATES, KEITH O CHILDREN'S RESEARCH INSTITUTE OUTCOMES OF TRAUMATIC BRAIN INJURY IN CHILDREN QUATRANO, LOUIS A
5K02HD045354–03	HALEY, STEPHEN M BOSTON UNIVERSITY COMPUTER ADAPTIVE TESTING OF FUNCTIONAL STATUS QUATRANO, LOUIS A
7K02HD045354–04	HALEY, STEPHEN M BOSTON UNIVERSITY MEDICAL CAMPUS COMPUTER ADAPTIVE TESTING OF FUNCTIONAL STATUS QUATRANO, LOUIS A
K08—Clinical Investigator Award:	
1K08HD049459–01A2	SNOW, LEANN UNIVERSITY OF MINNESOTA TWIN CITIES SKELETAL MUSCLE PLASTICITY POST-STROKE NITKIN, RALPH M
1K08HD049616–01A2	EVANS, MELISSA C VIRGINIA COMMONWEALTH UNIVERSITY ARTERIAL CELL SIGNALING IN VASODILATORY SHOCK. NICHOLSON, CAROL E
1K08HD051609–01A1	FAIRCHILD, KAREN D UNIVERSITY OF VIRGINIA CHARLOTTESVILLE HYPOTHERMIA ENHANCES INFLAMMATORY CYTOKINE EXPRESSION VIA NF-KAPPA B NICHOLSON, CAROL E
1K08HD052619–01	BURNS, ANTHONY S THOMAS JEFFERSON UNIVERSITY THE LOWER MOTOR NEURON & SPINAL CORD INJURY: IMPLICATIONS FOR REHABILITATION NITKIN, RALPH M
1K08HD052885–01	SHEW, STEPHEN BRIAN UNIVERSITY OF CALIFORNIA LOS ANGELES EFFECT OF CYSTEINE ON GLUTATHIONE PRODUCTION IN CRITICALLY ILL NEONATES NITKIN, RALPH M

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5K08HD044558–03	DE PLAEN, ISABELLE G CHILDREN'S MEMORIAL HOSPITAL (CHICAGO) MECHANISMS OF ACUTE BOWEL INJURY ROLE OF NF-KB NICHOLSON, CAROL E
K12—Physician Scientist Award (Program):	
2K12HD001097–11	WHYTE, JOHN MOSS REHABILITATION HOSPITAL REHABILITATION MEDICINE SCIENTIST TRAINING (RMST) PROGRAM NITKIN, RALPH M
5K12HD047349–03	DEAN, JONATHAN MICHAEL UNIVERSITY OF UTAH PEDIATRIC CRITICAL CARE SCIENTIST DEVELOPMENT PROGRAM NICHOLSON, CAROL E
K23—Mentored Patient-Oriented Research Devel Award:	
1K23HD049472–01A1	RAGHAVAN, PREETI MOUNT SINAI SCHOOL OF MEDICINE OF NYU INTERHEMISPHERIC TRANSFER OF GRASP CONTROL AFTER STROKE ANSEL, BETH
1K23HD049552–01A2	VARGUS-ADAMS, JILDA N CHILDREN'S HOSPITAL MED CTR (CINCINNATI) TOWARDS IMPROVED CLINICAL TRIALS IN CEREBRAL PALSY NICHOLSON, CAROL E
5K23HD041040–05	KEENAN, HEATHER T UNIVERSITY OF UTAH OUTCOMES OF TRAUMATIC BRAIN INJURY NICHOLSON, CAROL E
5K23HD042014–05	TRAUTNER, BARBARA W BAYLOR COLLEGE OF MEDICINE E. COLI FOR PREVENTION OF CATHETER UTI IN SCI PATIENTS NITKIN, RALPH M
5K23HD042128–04	LENGENFELDER, JEAN KESSLER MEDICAL REHAB RES & EDUC CORP USING FMRI TO IDENTIFY ENCODING DEFICITS IN TBI NITKIN, RALPH M
5K23HD042702–04	CHEN, CHRISTINE C NEW YORK UNIVERSITY MEASURING HAND FUNCTION—DEVELOPMENT OF OUTCOME MEASURE QUATRANO, LOUIS A
5K23HD043843–04	BERGER, RACHEL P CHILDREN'S HOSP PITTSBURGH/UPMC HLTH SYS USING BIOCHEMICAL MARKERS TO DETECT ABUSIVE HEAD TRAUMA NICHOLSON, CAROL E
5K23HD044425–04	SCHAECHTER, JUDITH DIANE MASSACHUSETTS GENERAL HOSPITAL FMRI AND TMS OF MOTOR RECOVERY AFTER HEMIPARETIC STROKE NITKIN, RALPH M
5K23HD044632–04	VAVILALA, MONICA S UNIVERSITY OF WASHINGTON HEMODYNAMICS AND OUTCOME IN PEDIATRIC BRAIN INJURY NICHOLSON, CAROL E
5K23HD046489–03	WATSON, R SCOTT UNIVERSITY OF PITTSBURGH AT PITTSBURGH CONSEQUENCES OF SURVIVING CRITICAL ILLNESS IN CHILDHOOLD NICHOLSON, CAROL E
5K23HD046690–02	WALZ, NICOLAY C CHILDREN'S HOSPITAL MED CTR (CINCINNATI) SOCIAL DEVELOPMENT FOLLOWING PRESCHOOL BRAIN INJURY NITKIN, RALPH M

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5K23HD047634–03	MORRIS, MARILYN C COLUMBIA UNIVERSITY HEALTH SCIENCES EXCEPTION FROM INFORMED CONSENT IN PEDIATRICS NICHOLSON, CAROL E
5K23HD048637–02	MARINO, BRADLEY S CHILDREN'S HOSPITAL OF PHILADELPHIA TESTING THE PEDIATRIC CARDIAC QUALITY OF LIFE INVENTORY NICHOLSON, CAROL E
5K23HD048817–02	ZUPPA, ATHENA F CHILDREN'S HOSPITAL OF PHILADELPHIA IMPROVING DRUG DEVELOPMENT FOR THE CRITICALLY ILL CHILD NICHOLSON, CAROL E
K24—Midcareer Investigator Awd in Patient-Oriented Res:	
5K24HD041504–04	STEVENSON, RICHARD D UNIVERSITY OF VIRGINIA CHARLOTTESVILLE GROWTH AND PHYSICAL MATURATION IN CEREBRAL PALSY NITKIN, RALPH M
5K24HD043819–03	CAMPAGNOLO, DENISE I ST. JOSEPH'S HOSPITAL AND MEDICAL CENTER HEALTH AND IMMUNITY FOLLOWING SPINAL CORD INJURY NITKIN, RALPH M
K25—Mentored Quantitative Research Career Development:	
1K25HD048643–01A1	MONSON, KENNETH L UNIVERSITY OF CALIFORNIA SAN FRANCISCO VASCULAR MECHANOTRANSDUCTION IN TRAUMATIC BRAIN INJURY NICHOLSON, CAROL E
5K25HD043993–02	ERIM, ZEYNEP REHABILITATION INSTITUTE OF CHICAGO IMPAIRED MOTOR UNIT CONTROL IN BRAIN AND SPINAL INJURY NITKIN, RALPH M
5K25HD044720–04	PERREAULT, ERIC J NORTHWESTERN UNIVERSITY REFLEX CONTROL OF MULTI-JOINT MECHANICS FOLLOWING STROKE NITKIN, RALPH M
5K25HD047194–02	STERGIOU, NICK UNIVERSITY OF NEBRASKA OMAHA NONLINEAR ANALYSIS OF POSTURAL FUNCTION IN INFANTS NICHOLSON, CAROL E
P01—Research Program Projects:	
5P01HD033988–10	JENSEN, MARK P UNIVERSITY OF WASHINGTON MANAGEMENT OF CHRONIC PAIN IN REHABILITATION MEDICINE QUATRANO, LOUIS A
R01—Research Project:	
1R01AR052113–01A1	WEINSTEIN, STUART L UNIVERSITY OF IOWA BRACING IN ADOLESCENT IDIOPATHIC SCOLIOSIS (BRAIST) SHINOWARA, NANCY
1R01HD046570–01A2	MOSSBERG, KURT A UNIVERSITY OF TEXAS MEDICAL BR GALVESTON PHYSICAL WORK CAPACITY AFTER TRAUMATIC BRAIN INJURY ANSEL, BETH
1R01HD047242–01A2	MCALLISTER, THOMAS W DARTMOUTH COLLEGE RCT METHYLPHENIDATE & MEMORY/ATTENTION TRAINING IN TBI ANSEL, BETH
1R01HD047516–01A2	ISKANDAR, BERMANS UNIVERSITY OF WISCONSIN MADISON FOLIC ACID ENHANCES REPAIR MECHANISM IN THE ADULT CNS SHINOWARA, NANCY

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1R01HD047709–01A2	VAN DILLEN, LINDA WASHINGTON UNIVERSITY CLASSIFICATION—DIRECTED TREATMENT OF LOW BACK PAIN SHINOWARA, NANCY
1R01HD047761–01A2	CHENG, MEI-FANG RUTGERS, THE STATE UNIV OF NJ-NEWARK BRAIN DAMAGE AND RECOVERY OF FUNCTION IN THE ADULT SYSTEM ANSEL, BETH
1R01HD048741–01A2	BASTIAN, AMY J. KENNEDY KRIEGER RESEARCH INSTITUTE, INC. HUMAN LOCOMOTOR PLASTICITY IN HEALTH AND DISEASE ANSEL, BETH
1R01HD048946–01A2	YEATES, KEITH CHILDREN'S RESEARCH INSTITUTE SOCIAL OUTCOMES IN PEDIATRIC TRAUMATIC BRAIN INJURY ANSEL, BETH
1R01HD049471–01A2	SUMAN, OSCAR E UNIVERSITY OF TEXAS MEDICAL BR GALVESTON EXERCISE AND QUALITY OF LIFE IN SEVERELY BURNED CHILDREN NICHOLSON, CAROL E
1R01HD049774–01A2	MULROY, SARA J LOS AMIGOS RESEARCH/EDUCATION INSTITUTE SHOULDER PAIN IN SCI: A LONGITUDINAL STUDY SHINOWARA, NANCY
1R01HD051844–01A1	PROTAS, ELIZABETH J UNIVERSITY OF TEXAS MEDICAL BR GALVESTON GAIT AND STEP TRAINING TO PREVENT FALLS IN PARKINSON'S DISEASE SHINOWARA, NANCY
1R01HD052127–01	CRISCO, JOSEPH J RHODE ISLAND HOSPITAL (PROVIDENCE, RI) 3–D MULTI-ARTICULAR MODELS OF THE CARPUS SHINOWARA, NANCY
2R01HD032943–06A2	DILLER, LEONARD NEW YORK UNIVERSITY SCHOOL OF MEDICINE PROBLEM-SOLVING TREATMENT/ADULT/ACQUIRED BRAIN DAMAGE QUATRANO, LOUIS A
2R01HD037433–05A1	CAVANAGH, PETER R CLEVELAND CLINIC LERNER COL/MED-CWRU DESIGN CRITERIA FOR THERAPEUTIC FOOTWARE IN DIABETES QUATRANO, LOUIS A
2R01HD037985–05	SNYDER-MACKLER, LYNN UNIVERSITY OF DELAWARE DYNAMIC STABILITY OF THE ACL DEFICIENT KNEE SHINOWARA, NANCY
2R01HD040289–05A1	BASTIAN, AMY J KENNEDY KRIEGER RESEARCH INSTITUTE, INC. MECHANISMS AND REHABILITATION OF CEREBELLAR ATAXIA NITKIN, RALPH M
3R01HD034273–10S1	TAUB, EDWARD UNIVERSITY OF ALABAMA AT BIRMINGHAM A TREATMENT FOR EXCESS MOTOR DISABILITY IN THE AGED ANSEL, BETH
3R01HD045798–03S2	CHIARAVALLOTI, NANCY D. KESSLER MEDICAL REHAB RES & EDUC CORP IMPROVING LEARNING IN MS: A RANDOMIZED CLINICAL TRIAL QUATRANO, LOUIS A
3R01HD048628–01A1S1	FROEHLICH-GROBE, KATHERINE UNIVERSITY OF KANSAS MEDICAL CENTER A RANDOMIZED EXERCISE TRIAL FOR WHEELCHAIR USERS QUATRANO, LOUIS A
5R01AR048781–06	AGARWAL, SUDHA OHIO STATE UNIVERSITY EXERCISE DRIVEN MOLECULAR MECHANISMS OF JOINT REPAIR NITKIN, RALPH M

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5R01EB001672–04	WEIR, RICHARD FERGUS FFRENCH NORTHWESTERN UNIVERSITY MULTIFUNCTION PROSTHESIS CONTROL USING IMPLANTED SENSORS SHINOWARA, NANCY
5R01HD030149–11	SIPSKI, MARCA L UNIVERSITY OF ALABAMA AT BIRMINGHAM EFFECTS OF SCI ON FEMALE SEXUAL RESPONSE SHINOWARA, NANCY
5R01HD031476–08	KAUFMAN, KENTON R. MAYO CLINIC COLL OF MEDICINE, ROCHESTER MICROSENSOR FOR INTRAMUSCULAR PRESSURE MEASUREMENT QUATRANO, LOUIS A
5R01HD032116–12	ALVAREZ-BUYLLA, ARTURO UNIVERSITY OF CALIFORNIA SAN FRANCISCO ORIGINS OF NEW NEURONS AND GLIA IN THE POSTNATAL BRAIN NITKIN, RALPH M
5R01HD034273–11	TAUB, EDWARD UNIVERSITY OF ALABAMA AT BIRMINGHAM A TREATMENT FOR EXCESS MOTOR DISABILITY IN THE AGED ANSEL, BETH
5R01HD035047–07	STUIFBERGEN, ALEXA K UNIVERSITY OF TEXAS AUSTIN HEALTH PROMOTION FOR WOMEN WITH FIBROMYALGIA QUATRANO, LOUIS A
5R01HD036019–13	FRIEDMAN, RHONDA B GEORGETOWN UNIVERSITY COGNITIVELY BASED TREATMENTS OF ACQUIRED DYSLEXIAS QUATRANO, LOUIS A
5R01HD036020–09	CHEN, XIANG YANG WADSWORTH CENTER SUPRASPINAL CONTROL OF SPINAL CORD PLASTICITY SHINOWARA, NANCY
5R01HD036895–07	MUELLER, MICHAEL J WASHINGTON UNIVERSITY VISUALIZING DIABETIC FEET TO OPTIMIZE ORTHOTIC FITTING QUATRANO, LOUIS A
5R01HD037661–05	RIVERA, PATRICIA A UNIVERSITY OF ALABAMA AT BIRMINGHAM PROBLEM-SOLVING FOR CAREGIVERS OF WOMEN W/ DISABILITIES QUATRANO, LOUIS A
5R01HD037880–07	COLLINS, JAMES J BOSTON UNIVERSITY NONLINEAR DYNAMICS AND ENHANCED SENSORIMOTOR FUNCTION ANSEL, BETH
5R01HD038107–06	KRUPP, LAUREN B STATE UNIVERSITY NEW YORK STONY BROOK INTERVENTIONS TO IMPROVE MEMORY IN PATIENTS WITH MS ANSEL, BETH
5R01HD038582–05	BUCHANAN, THOMAS S UNIVERSITY OF DELAWARE FES AND BIOMECHANICS: TREATING MOVEMENT DISORDERS QUATRANO, LOUIS A
5R01HD038878–06	LAWLOR, MARY C UNIVERSITY OF SOUTHERN CALIFORNIA BOUNDARY CROSSINGS: RE-SITUATING CULTURAL COMPETENCE QUATRANO, LOUIS A
5R01HD040692–04	TAUB, EDWARD UNIVERSITY OF ALABAMA AT BIRMINGHAM RANDOMIZED CONTROLLED TRIAL OF PEDIATRIC CI THERAPY NICHOLSON, CAROL E
5R01HD040909–04	HENRY, SHARON M UNIVERSITY OF VERMONT & ST AGRIC COLLEGE MECHANISMS OF SPECIFIC TRUNK EXERCISES IN LOW BACK PAIN SHINOWARA, NANCY

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5R01HD041055–05	SNYDER-MACKLER, LYNN UNIVERSITY OF DELAWARE NMES FOR OLDER INDIVIDUALS AFTER TOTAL KNEE ARTHROPLASTY SHINOWARA, NANCY
5R01HD041487–05	FIELD-FOTE, EDELLE C. UNIVERSITY OF MIAMI-MEDICAL SCHOOL COMPARISON OF POST-SCI LOCOMOTOR TRAINING TECHNIQUES SHINOWARA, NANCY
5R01HD041490–04	BRIENZA, DAVID M. UNIVERSITY OF PITTSBURGH AT PITTSBURGH RCT ON PREVENTING PRESSURE ULCERS WITH SEAT CUSHIONS QUATRANO, LOUIS A
5R01HD042141–05	GARSHICK, ERIC HARVARD UNIVERSITY (MEDICAL SCHOOL) RESPIRATORY FUNCTION AND ILLNESS IN SPINAL CORD INJURY SHINOWARA, NANCY
5R01HD042385–05	LEVINE, BRIAN T ROTMAN RESEARCH INSTITUTE THE NEUROANATOMY OF COGNITION IN TRAUMATIC BRAIN INJURY NITKIN, RALPH M
5R01HD042527–05	CLARK, JANE E. UNIVERSITY OF MARYLAND COLLEGE PK CAMPUS ADAPTIVE SENSORIMOTOR CONTROL IN CHILDREN WITH DCD NICHOLSON, CAROL E
5R01HD042588–04	STINEMAN, MARGARET G UNIVERSITY OF PENNSYLVANIA DO AMPUTEES BENEFIT FROM REHABILITATION SERVICES? QUATRANO, LOUIS A
5R01HD042705–03	MARTIN, ANATOLE D UNIVERSITY OF FLORIDA RESPIRATORY MUSCLE TRAINING IN VENTILATOR DEPENDENT PTS. ANSEL, BETH
5R01HD042729–05	WADE, SHARI L CHILDREN'S HOSPITAL MED CTR (CINCINNATI) CHILD AND FAMILY SEQUELAE OF PRESCHOOL BRAIN INJURY QUATRANO, LOUIS A
5R01HD042838–05	JENSEN, MARK P UNIVERSITY OF WASHINGTON REHABILITATION OF SPINAL CORD INJURY-RELATED PAIN SHINOWARA, NANCY
5R01HD043137–04	KUIKEN, TODD A REHABILITATION INSTITUTE OF CHICAGO EMG PROPAGATION IN PLANAR MUSCLES FOR PROSTHESIS CONTROL QUATRANO, LOUIS A
5R01HD043249–03	LAZAR, RONALD M COLUMBIA UNIVERSITY HEALTH SCIENCES NEUROCHEMICAL CHALLENGE IN HUMAN STROKE RECOVERY ANSEL, BETH
5R01HD043323–04	MOHR, DAVID C NORTHERN CALIFORNIA INSTITUTE RES & EDUC A CONTROLLED TRIAL OF CBT FOR MS INFLAMMATION QUATRANO, LOUIS A
5R01HD043378–04	LYSACK, CATHERINE L WAYNE STATE UNIVERSITY COMMUNITY LIVING AFTER SPINAL CORD INJURY SHINOWARA, NANCY
5R01HD043499–05	LEWIS, CORA E UNIVERSITY OF ALABAMA AT BIRMINGHAM LAXITY AND MALALIGNMENT IN A LARGE COHORT STUDY OF OA SHINOWARA, NANCY
5R01HD043500–05	SHARMA, LEENA NORTHWESTERN UNIVERSITY LAXITY AND MALALIGNMENT IN A LARGE COHORT STUDY OF OA SHINOWARA, NANCY

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5R01HD043501–05	TORNER, JAMES C UNIVERSITY OF IOWA LAXITY AND MALALIGMENT IN A LARGE COHORT STUDY OF OA SHINOWARA, NANCY
5R01HD043502–05	NEVITT, MICHAEL C UNIVERSITY OF CALIFORNIA SAN FRANCISCO LAXITY AND MALALIGNMENT IN A LARGE COHORT STUDY OF OA SHINOWARA, NANCY
5R01HD043770–04	SCHENKMAN, MARGARET L UNIVERSITY OF COLORADO DENVER/HSC AURORA EXERCISE, PHYSICAL FUNCTION, AND PARKINSON'S DISEASE SHINOWARA, NANCY
5R01HD043859–03	LEE, SAMUEL C UNIVERSITY OF DELAWARE STRENGTH TRAINING USING NMES FOR CHILDREN WITH CP NICHOLSON, CAROL E
5R01HD043943–03	DAROUICHE, RABIH O BAYLOR COLLEGE OF MEDICINE PREVENTION OF UTI IN PERSONS WITH SPINAL CORD INJURY SHINOWARA, NANCY
5R01HD043988–04	HAPP, MARY E UNIVERSITY OF PITTSBURGH AT PITTSBURGH IMPROVING COMMUNICATION WITH NONSPEAKING ICU PATIENTS ANSEL, BETH
5R01HD043991–04	SCHWARTZ, MYRNA F ALBERT EINSTEIN HEALTHCARE NETWORK AAC PROCESSING SUPPORT FOR SPOKEN LANGUAGE IN APHASIA ANSEL, BETH
5R01HD044295–04	ZHANG, LI-QUN REHABILITATION INSTITUTE OF CHICAGO NEUROMECHANICAL CHANGES CAUSED BY STROKE & STRETCHING ANSEL, BETH
5R01HD044444–02	AW, MARY C MCMASTER UNIVERSITY FAMILY-CENTRED FUNCTIONAL THERAPY FOR CEREBRAL PALSY NICHOLSON, CAROL E
5R01HD044772–04	WOLF, WILLIAM A UNIVERSITY OF ILLINOIS AT CHICAGO DRUG-ENHANCED REHABILITATION IN RECOVERY FROM STROKE NITKIN, RALPH M
5R01HD044775–04	PARENT, JACK M UNIVERSITY OF MICHIGAN AT ANN ARBOR AUGMENTATION OF NEUROGENESIS AND RECOVERY AFTER STROKE NITKIN, RALPH M
5R01HD044816–02	CHAE, JOHN CASE WESTERN RESERVE UNIVERSITY FES FOR FOOT-DROP IN HEMIPARESIS ANSEL, BETH
5R01HD044830–04	EDGERTON, V. REGGIE UNIVERSITY OF CALIFORNIA LOS ANGELES SEROTONERGIC FACILITATION & ROBOTICS IN SPINAL LEARNING NITKIN, RALPH M
5R01HD044831–04	HODGE, CHARLES J UPSTATE MEDICAL UNIVERSITY CORTICAL PLASTICITY: MECHANISMS AND MODULATION NITKIN, RALPH M
5R01HD045343–03	KREBS, HERMANO IGO MASSACHUSETTS INSTITUTE OF TECHNOLOGY THE EFFECT OF PROXIMAL AND DISTAL TRAINING ON STROKE REC QUATRANO, LOUIS A
5R01HD045364–03	DUHAIME, ANN-CHRISTINE DARTMOUTH COLLEGE TRAUMA TO IMMATURE BRAIN: RESPONSE REPAIR & TREATMENT NICHOLSON, CAROL E

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5R01HD045412–03	DUNLOP, DOROTHY D NORTHWESTERN UNIVERSITY FUNCTIONAL LIMITATION, ARTHRITIS, DEPRESSION, & RACE QUATRANO, LOUIS A
5R01HD045512–03	THOMAS, JAMES S OHIO UNIVERSITY ATHENS PREDICTING RECURRENCE OF LOW BACK PAIN—STUDY #2 SHINOWARA, NANCY
5R01HD045639–03	STERNAD, DAGMAR PENNSYLVANIA STATE UNIVERSITY-UNIV PARK VARIABILITY AND STABILITY IN SKILL ACQUISITION SHINOWARA, NANCY
5R01HD045694–02	ALONSO, ESTELLA M CHILDREN'S MEMORIAL HOSPITAL (CHICAGO) FUNCTIONAL OUTCOMES IN PEDIATRIC LIVER TRANSPLANTATION NICHOLSON, CAROL E
5R01HD045751–02	LIGHT, KATHYE E UNIVERSITY OF FLORIDA EXAMINING PARAMETERS OF CONSTRAINT-INDUCED THERAPY ANSEL, BETH
5R01HD045798–03	CHIARAVALLOTI, NANCY D. KESSLER MEDICAL REHAB RES & EDUC CORP IMPROVING LEARNING IN MS: A RANDOMIZED CLINICAL TRIAL QUATRANO, LOUIS A
5R01HD045834–03	GREENDALE, GAIL A UNIVERSITY OF CALIFORNIA LOS ANGELES THE YOGA FOR HYPERKPHOSIS TRIAL ANSEL, BETH
5R01HD045968–02	CLARK, ROBERT S. UNIVERSITY OF PITTSBURGH AT PITTSBURGH GENDER-SPECIFIC TREATMENT OF PEDIATRIC CARDIAC ARREST NICHOLSON, CAROL E
5R01HD046442–02	ALEXANDER, MICHAEL P BETH ISRAEL DEACONESS MEDICAL CENTER COGNITION AND FUNCTIONAL RECOVERY AFTER CARDIAC ARREST ANSEL, BETH
5R01HD046700–02	KLINE, ANTHONY E UNIVERSITY OF PITTSBURGH AT PITTSBURGH NOVEL REHABILITATIVE APPROACHES FOR RECOVERY FROM TBI ANSEL, BETH
5R01HD046740–02	DOBKIN, BRUCE H UNIVERSITY OF CALIFORNIA LOS ANGELES FMRI PREDICTOR MODEL FOR STROKE LOCOMOTOR REHABILITATION QUATRANO, LOUIS A
5R01HD046774–03	MURRAY, WENDY M PALO ALTO INSTITUTE FOR RES & EDU, INC. BIOMECHANICAL MODELING OF TENDON TRANSFER IN TETRAPLEGIA QUATRANO, LOUIS A
5R01HD046814–03	DELP, SCOTT L STANFORD UNIVERSITY SIMULATION-BASED TREATMENT PLANNING FOR GAIT DISORDERS QUATRANO, LOUIS A
5R01HD046820–03	KAUTZ, STEVEN A UNIVERSITY OF FLORIDA INTERMUSCULAR COORDINATION OF HEMIPARETIC WALKING QUATRANO, LOUIS A
5R01HD046922–03	TING, LENA H GEORGIA INSTITUTE OF TECHNOLOGY NEUROMECHANICAL MODELING OF POSTURAL RESPONSES QUATRANO, LOUIS A
5R01HD047447–02	MOORE, JASON H. DARTMOUTH COLLEGE GENETICS BASIS OF TRAUMA RECOVERY NITKIN, RALPH M

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5R01HD047569–02	DEWALD, JULIUS P NORTHWESTERN UNIVERSITY THE ROLE OF THE CORTEX IN DISCOORDINATION AFTER STROKE ANSEL, BETH
5R01HD048051–03	VANDENBORNE, KRISTA H UNIVERSITY OF FLORIDA MOLECULAR SIGNATURES OF MUSCLE REHABILITATION NITKIN, RALPH M
5R01HD048162–03	WAGNER, AMY K UNIVERSITY OF PITTSBURGH AT PITTSBURGH DOPAMINE GENETIC VARIANTS MODULATING RECOVERY AFTER TBI NITKIN, RALPH M
5R01HD048176–03	MCALLISTER, THOMAS DARTMOUTH COLLEGE ROLE OF CANDIDATE ALLELES IN COGNITIVE OUTCOME AFTER TBI NITKIN, RALPH M
5R01HD048179–03	DIAZ-ARRASTIA, RAMON R UNIVERSITY OF TEXAS SW MED CTR/DALLAS GENETIC FACTORS IN OUTCOME FROM TRAUMATIC BRAIN INJURY NITKIN, RALPH M
5R01HD048501–02	LIEBER, RICHARD L UNIVERSITY OF CALIFORNIA SAN DIEGO DIRECT DETERMINATION OF LOWER EXTREMITY OF MUSCLE DESIGN SHINOWARA, NANCY
5R01HD048628–02	FROEHLICH-GROBE, KATHERINE UNIVERSITY OF KANSAS LAWRENCE A RANDOMIZED EXERCISE TRIAL FOR WHEELCHAIR USERS QUATRANO, LOUIS A
5R01HD048781–02	AN, KAI-NAN MAYO CLINIC COLL OF MEDICINE, ROCHESTER BIOMECHANICS OF WHEELCHAIR PROPULSION SHINOWARA, NANCY
5R01HD048924–02	OSTRY, DAVID J MC GILL UNIVERSITY MOTOR CONTROL OF HUMAN ARM STIFFNESS NITKIN, RALPH M
5R01HD049773–02	ABBAS, JAMES J ARIZONA STATE UNIVERSITY ADAPTIVE ELECTRICAL STIMULATION FOR LOCOMOTOR RETRAINING SHINOWARA, NANCY
5R01HD049777–02	CHAE, JOHN CASE WESTERN RESERVE UNIVERSITY ELECTRICAL STIMULATION FOR UPPER LIMB RECOVERY IN STROKE ANSEL, BETH
5R01HD050385–02	DAHLQUIST, LYNNDA M UNIVERSITY OF MARYLAND BALT PROF SCHOOL VIRTUAL REALITY AND ACUTE PAIN MANAGEMENT FOR CHILDREN QUATRANO, LOUIS A
5R01HD052891–02	RIMMER, JAMES H UNIVERSITY OF ILLINOIS AT CHICAGO BUILDING HEALTH EMPOWERMENT ZONES FOR PEOPLE WITH DISABILITIES QUATRANO, LOUIS A
5R01NS050506–02	DUNCAN, PAMELA W. UNIVERSITY OF FLORIDA LOCOMOTOR EXPERIENCE APPLIED POST-STROKE (LEAPS) NITKIN, RALPH M
7R01EB001672–05	WEIR, RICHARD FERGUS FFRENCH REHABILITATION INSTITUTE OF CHICAGO MULTIFUNCTION PROSTHESIS CONTROL USING IMPLANTED SENSORS SHINOWARA, NANCY

Project Number	Description
R03—Small Research Grants:	
1R03HD044534–01A2	CAURAUGH, JAMES H UNIVERSITY OF FLORIDA SUBACUTE STROKE RECOVERY: BIMANUAL COORDINATION TRAINING ANSEL, BETH
1R03HD049408–01A1	SAWAKI, LUMY WAKE FOREST UNIVERSITY, HEALTH SCIENCES DRIVING NEUROPLASTICITY WITH NERVE STIMULATION AND MODIFIED CIT NITKIN, RALPH M
1R03HD049735–01A1	BONINGER, MICHAEL L UNIVERSITY OF PITTSBURGH AT PITTSBURGH WHEELCHAIR PROPULSION TRAINING SHINOWARA, NANCY
1R03HD049885–01A1	CLENDANIEL, RICHARD A DUKE UNIVERSITY COMPENSATORY MECHANISMS FOLLOWING VESTIBULAR LOSS ANSEL, BETH
1R03HD050530–01A1	MODLESKY, CHRISTOPHER M UNIVERSITY OF DELAWARE VITAMIN K AND BONE IN CHILDREN WITH CEREBRAL PALSY NITKIN, RALPH M
1R03HD050532–01A1	SHARKEY, NEIL A PENNSYLVANIA STATE UNIVERSITY-UNIV PARK AN OBJECTIVE EVALUATION OF SEGMENTED FOOT MODELS SHINOWARA, NANCY
1R03HD051717–01A1	CHEN, YUYING UNIVERSITY OF ALABAMA AT BIRMINGHAM INTERVENTION ON WEIGHT CONTROL OF PERSONS:SPINAL INJURY QUATRANO, LOUIS A
1R03HD051825–01	KRAMER, ANDREW M UNIVERSITY OF COLORADO DENVER/HSC AURORA TWO-YEAR OUTCOMES OF OLDER PERSONS WITH STROKE ANSEL, BETH
1R03HD053135–01	HILLSTROM, HOWARD J HOSPITAL FOR SPECIAL SURGERY DEVELOPMENT OF A GEOMETRIC FOREFOOT MODEL: A TOOL FOR CLINICAL DECISION MAKING SHINOWARA, NANCY
1R03HD053163–01A1	BOYD, LARA A UNIVERSITY OF KANSAS MEDICAL CENTER COMPENSATORY BRAIN ACTIVATION AFTER STROKE NITKIN, RALPH M
5R03HD046930–02	STEFANATOS, GERRY A. ALBERT EINSTEIN HEALTHCARE NETWORK NEUROPHYSIOLOGICAL EFFECTS OF AMPHETAMINE APHASIA ANSEL, BETH
5R03HD048457–02	BOGNER, JENNIFER A OHIO STATE UNIVERSITY SELF-REGULATION IN CO-OCCURRING TBI AND SUBSTANCE ABUSE ANSEL, BETH
5R03HD048465–02	COOPER, RORY A UNIVERSITY OF PITTSBURGH AT PITTSBURGH ADVANCED 3D CONTROL TECHNIQUES FOR POWERED WHEELCHAIRS SHINOWARA, NANCY
5R03HD048481–02	JARIC, SLOBODAN UNIVERSITY OF DELAWARE HAND FUNCTION IN MULTIPLE SCLEROSIS QUATRANO, LOUIS A
5R03HD050591–02	SCHWEIGHOFER, NICOLAS UNIVERSITY OF SOUTHERN CALIFORNIA TASK PRACTICE SCHEDULES TO ENHANCE RECOVERY AFTER STROKE ANSEL, BETH

Project Number	Description
7R03HD053163–02	BOYD, LARA A UNIVERSITY OF BRITISH COLUMBIA COMPENSATORY BRAIN ACTIVATION AFTER STROKE NITKIN, RALPH M
R13—Conferences:	
1R13HD048157–01A1	CREPEAU, ELIZABETH B MERICAN OCCUPATIONAL THERAPY ASSN HABITS AND REHABILITATION: PROMOTING PARTICIPATION QUATRANO, LOUIS A
1R13NS056636–01	GRIGGS, ROBERT C UNIVERSITY OF ROCHESTER NOVEL TREATMENT FOR MUSCLE DISEASE: FUELING THE PIPELINE AND FINDING THE PRODUCT SHINOWARA, NANCY
2R13DC006295–04	TOMPKINS, CONNIE A UNIVERSITY OF PITTSBURGH AT PITTSBURGH RESEARCH SYMPOSIUM IN CLINICAL APHASIOLOGY ANSEL, BETH
R21—Exploratory/Developmental Grants:	
1R21HD046628–01A2	HEISS, DEBORAH G OHIO STATE UNIVERSITY EFFICACY OF THERAPEUTIC EXERCISE FOR RECURRENT BACK PAIN QUATRANO, LOUIS A
1R21HD047405–01A1	MATSUOKA, YOKY UNIVERSITY OF WASHINGTON ROBOTIC STROKE REHABILITATION USING PERCEPTUAL FEEDBACK ANSEL, BETH
1R21HD047756–01A2	WHITALL, JILL UNIVERSITY OF MARYLAND BALT PROF SCHOOL BILATERAL AND UNILATERAL TRAINING IN CHRONIC STROKE ANSEL, BETH
1R21HD049842–01A2	KIPKE, DARYL R UNIVERSITY OF MICHIGAN AT ANN ARBOR CORTICAL CONTROL USING MULTIPLE SIGNAL MODALITIES NITKIN, RALPH M
1R21HD050457–01A1	ARUIN, ALEXANDER S UNIVERSITY OF ILLINOIS AT CHICAGO COMPELLED BODY WEIGHT SHIFT THERAPY IN INDIVIDUALS WITH STROKE RELATED SHINOWARA, NANCY
1R21HD050717–01A1	RIVIERE, CAMERON N CARNEGIE-MELLON UNIVERSITY NONLINEAR FILTERING OF ATHETOID MOVEMENT SHINOWARA, NANCY
1R21HD051861–01	CERMAK, SHARON BOSTON UNIVERSITY PHYSICAL ACTIVITY, FITNESS AND OBESITY IN CHILDREN WITH COORDINATION DISORDERS SHINOWARA, NANCY
1R21HD051988–01	SUGAR, THOMAS G ARIZONA STATE UNIVERSITY ROBOTIC SPRING ANKLE FOR GAIT ASSISTANCE SHINOWARA, NANCY
1R21HD052197–01A1	LEWIS, GWYN N REHABILITATION INSTITUTE OF CHICAGO THE UTILITY OF RTMS TO ENHANCE HAND FUNCTION IN STROKE NITKIN, RALPH M
1R21HD053669–01	ENGLISH, ARTHUR W EMORY UNIVERSITY PROTEOGLYCAN DEGRADATION AND FUNCTIONAL RECOVERY AFTER PERIPHERAL NERVE INJURY NITKIN, RALPH M

Project Number	Description
5R21HD045841–03	WARE, JOHN E UALITYMETRIC, INC. DYNAMIC ASSESSMENT OF PEDIATRIC HEALTH AND FUNCTIONING QUATRANO, LOUIS A
5R21HD045855–03	GRAY, DAVID B WASHINGTON UNIVERSITY REHABILITATION OUTCOMES, COMMUNITY PARTICIPATION AND ICF QUATRANO, LOUIS A
5R21HD045864–03	SATISH, USHA G UPSTATE MEDICAL UNIVERSITY SIMULATION BASED MAPPING OF DECISION MAKING IN CHILDREN QUATRANO, LOUIS A
5R21HD045869–03	VELOZO, CRAIG A UNIVERSITY OF FLORIDA DEVELOPING A COMPUTER ADAPTIVE TBI COGNITIVE MEASURE QUATRANO, LOUIS A
5R21HD045873–03	BONATO, PAOLO SPAULDING REHABILITATION HOSPITAL FIELD MEASURES OF FUNCTIONAL TASKS FOR CIT INTERVENTION QUATRANO, LOUIS A
5R21HD045881–03	STINEMAN, MARGARET G UNIVERSITY OF PENNSYLVANIA VIRTUAL RECOVERY SIMULATION QUATRANO, LOUIS A
5R21HD045882–03	YORKSTON, KATHRYN M UNIVERSITY OF WASHINGTON DEVELOPING A SCORE OF COMMUNICATIVE PARTICIPATION QUATRANO, LOUIS A
5R21HD045887–03	RILEY, BARTH B UNIVERSITY OF ILLINOIS AT CHICAGO A DYNAMIC DISABILITY SPECIFIC PHYSICAL ACTIVITY SCALE QUATRANO, LOUIS A
5R21HD046540–02	LEVY, CHARLES E UNIVERSITY OF FLORIDA THE IMPACT OF POWER-ASSIST WHEELCHAIR ON QOL QUATRANO, LOUIS A
5R21HD046844–02	MAKHSOUS, MOHSEN REHABILITATION INSTITUTE OF CHICAGO PRESSURE RELIEF SYSTEM FOR PREVENTING PRESSURE ULCERS QUATRANO, LOUIS A
5R21HD046876–02	HORNBY, T GEORGE REHABILITATION INSTITUTE OF CHICAGO PHYSICAL AND PHARMACOLOGICAL EFFECTS ON MOVEMENT IN SCI SHINOWARA, NANCY
5R21HD046903–02	SAPIENZA, CHRISTINE M UNIVERSITY OF FLORIDA EXPIRATORY MUSCLE TRAINING IN PATIENTS WITH PARKINSON'S SHINOWARA, NANCY
5R21HD046938–02	MOSES, PAMELA A UNIVERSITY OF CALIFORNIA SAN DIEGO WHITE MATTER DIFFUSION MRI IN CHILDREN WITH EARLY STROKE ANSEL, BETH
5R21HD047263–02	COHEN, LINDSEY L GEORGIA STATE UNIVERSITY AUTOMATED TRAINING FOR PEDIATRIC PAIN MANAGEMENT QUATRANO, LOUIS A
5R21HD047463–02	THOMAS, NEAL J PENNSYLVANIA STATE UNIV HERSHEY MED CTR SURFACTANT PROTEIN VARIANTS IN PEDIATRIC LUNG INJURY NICHOLSON, CAROL E
5R21HD047643–02	HERMANN, GERLINDA E LSU PENNINGTON BIOMEDICAL RESEARCH CTR THROMBIN AND CNS: GASTRIC DYSFUNCTION AFTER HEAD TRAUMA ANSEL, BETH

Project Number	Description
5R21HD047754–02	FRIED-OKEN, MELANIE OREGON HEALTH & SCIENCE UNIVERSITY AAC REHABILITATION FOR CONVERSATION IN DEMENTIA ANSEL, BETH
5R21HD048566–02	VALERO-CUEVAS, FRANCISCO J CORNELL UNIVERSITY ITHACA DEVELOPING A CLINICALLY USEFUL MEASURE OF DYNAMIC PINCH QUATRANO, LOUIS A
5R21HD048742–02	MORGAN, DON W MIDDLE TENNESSEE STATE UNIVERSITY UNDERWATER TREADMILL TRAINING IN SPASTIC DIPLEGIA SHINOWARA, NANCY
5R21HD048944–02	DAMIANO, DIANE L WASHINGTON UNIVERSITY EFFECTS OF MOTOR-ASSISTED CYCLING IN CEREBRAL PALSY SHINOWARA, NANCY
5R21HD048972–02	HASTINGS, MARY K WASHINGTON UNIVERSITY BOTULINUM TOXIN EFFECTS ON PLANTAR ULCER RECURRENCE QUATRANO, LOUIS A
5R21HD049019–03	WITTENBERG, GEORGE UNIVERSITY OF MARYLAND BALT PROF SCHOOL MOTOR-FUNCTIONAL NEUROANATOMY IN CEREBRAL PALSY NICHOLSON, CAROL E
5R21HD049020–02	GIORDANO, LOUIS A DUKE UNIVERSITY BEHAVIOR ANALYSIS OF CHRONIC LOW BACK PAIN QUATRANO, LOUIS A
5R21HD049135–02	CHASE, THERESA M CRAIG HOSPITAL MASSAGE TO REDUCE PAIN IN PEOPLE WITH SPINAL CORD INJURY SHINOWARA, NANCY
5R21HD049662–02	VAN DEN BOGERT, ANTONIE J CLEVELAND CLINIC LERNER COL/MED-CWRU INTELLIGENT CONTROL OF UPPER EXTREMITY NEURAL PROSTHESES QUATRANO, LOUIS A
5R21HD049832–02	VAVILALA, MONICA S CHILDREN'S HOSPITAL AND REG MEDICAL CTR CEREBRAL EDEMA IN PEDIATRIC DIABETIC KETOACIDOSIS NICHOLSON, CAROL E
5R21HD049883–02	LEWIS, GWYN N REHABILITATION INSTITUTE OF CHICAGO BILATERAL ACTIVATION IN UPPER-LIMB STROKE REHABILITATION ANSEL, BETH
5R21HD049893–02	WANG, JIONGJIONG UNIVERSITY OF PENNSYLVANIA HEMODYNAMIC NEUROIMAGING OF PEDIATRIC STROKE NICHOLSON, CAROL E
5R21HD050655–02	ODDSSON, LARS I E BOSTON UNIVERSITY TREATMENT OF MOTOR FUNCTION AND BALANCE- A NEW TOOL SHINOWARA, NANCY
5R21HD050707–02	MATHERN, GARY W UNIVERSITY OF CALIFORNIA LOS ANGELES CORTICAL PLASTICITY AFTER HEMISPHERECTOMY NITKIN, RALPH M
7R21HD046938–03	MOSES, PAMELA A SAN DIEGO STATE UNIVERSITY WHITE MATTER DIFFUSION MRI IN CHILDREN WITH EARLY STROKE ANSEL, BETH
R24—Resource-Related Research Projects:.	

Project Number	Description
5R24HD050821–02	RYMER, WILLIAM Z REHABILITATION INSTITUTE OF CHICAGO ENGINEERING FOR NEUROLOGIC REHABILITATION NITKIN, RALPH M
5R24HD050836–02	WHYTE, JOHN ALBERT EINSTEIN HEALTHCARE NETWORK RESEARCH METHODS FOR COGNITIVE REHABILITATION NITKIN, RALPH M
5R24HD050837–02	LIEBER, RICHARD L UNIVERSITY OF CALIFORNIA SAN DIEGO NATIONAL CENTER FOR MUSCLE REHABILITATION RESEARCH NITKIN, RALPH M
5R24HD050838–02	SELZER, MICHAEL E UNIVERSITY OF PENNSYLVANIA CENTER FOR EXPERIMENTAL NEUROREHABILITATION TRAINING NITKIN, RALPH M
5R24HD050845–02	BREGMAN, BARBARA S GEORGETOWN UNIVERSITY NATIONAL CAPITAL AREA REHIBILIATION RESEARCH NETWORK NITKIN, RALPH M
5R24HD050846–02	HOFFMAN, ERIC P CHILDREN'S RESEARCH INSTITUTE INTEGRATED MOLECULAR CORE FOR REHABILITATION MEDICINE NITKIN, RALPH M
R34—Clinical Trial Planning Grant:	
1R34HD050531–01A1	MOLER, FRANK W UNIVERSITY OF MICHIGAN AT ANN ARBOR PLANNING HYPOTHERMIA TRIAL FOR PEDIATRIC CARDIAC ARREST NICHOLSON, CAROL E
R37—Method to Extend Research in Time (MERIT) Award:	
5R37HD031550–25	GOSHGARIAN, HARRY G WAYNE STATE UNIVERSITY FUNCTIONAL PLASTICITY IN THE MAMMALIAN SPINAL CORD NITKIN, RALPH M
5R37HD037100–08	OLNEY, JOHN W WASHINGTON UNIVERSITY ACUTE BRAIN INJURY, MECHANISMS AND CONSEQUENCES NITKIN, RALPH M
R41—Small Business Technology Transfer (STTR) Grants—Phase I:	
1R41HD052318–01A1	HALEY, STEPHEN M CRECARE, LLC COMPUTER ADAPTIVE TESTING OF PEDIATRIC SELF-CARE AND SOCIAL FUNCTION QUATRANO, LOUIS A
5R41HD047726–02	BARBOUR, RANDALL LOCKE PHOTON MIGRATION TECHNOLOGIES CORP OPTICAL TOMOGRAPHY FOR DIAGNOSIS OF NEC NICHOLSON, CAROL E
5R41HD049224–02	RIMMER, JAMES H EXERSTRIDER PRODUCTS, INC. UNIVERSAL EXERCISE KITS FOR MANUAL WHEELCHAIR USERS SHINOWARA, NANCY
R42— Small Business Technology Transfer (STTR) Grants—Phase II:	
4R42HD051240–02	PESHKIN, MICHAEL A CHICAGO PT, LLC DEVICE FOR OVERGROUND GAIT/BALANCE TRAINING POST-STROKE SHINOWARA, NANCY
5R42HD043664–03	ZHANG, LI-QUN REHABTEK, LLC DEVELOPING AN INTELLIGENT & PORTABLE STRETCHING DEVICE SHINOWARA, NANCY

Project Number	Description
R43—Small Business Innovation Research Grants (SBIR)—Phase I:	
1R43HD047493–01A2	PITKIN, MARK R POLY-ORTH INTERNATIONAL NEW IIZAROV TECHNIQUE FOR PEDIATRIC CRITICAL CARE NICHOLSON, CAROL E
1R43HD049211–01A1	GOLDIE, JAMES H INFOSCITEX CORPORATION ROBOTICALLY-AIDED HAND REHABILITATION QUATRANO, LOUIS A
1R43HD049960–01A1	THROPE, GEOFFREY B NDI MEDICAL, LLC NEUROSTIMULATION FOR ELBOW EXTENSION IN TETRAPLEGIA SHINOWARA, NANCY
1R43HD050006–01A1	HARTMAN, ERIC C CUSTOMKYNETICS, INC. STIMULATION-AUGMENTED EXERCISE AND NEUROMOTOR THERAPY SHINOWARA, NANCY
1R43HD051014–01A1	GREELEY, HAROLD P CREARE, INC. PHYSICAL ACTIVITY MONITOR QUATRANO, LOUIS A
1R43HD052310–01	SCHERER, MARCIA J INSTITUTE/MATCHING PERSON & TECHNOLOGY IMPROVING MATCH OF PERSON/ASSISTIVE COGNITIVE TECHNOLOGY QUATRANO, LOUIS A
1R43HD052311–01	RICHTER, W MARK MAX MOBILITY OPTIPUSH WHEELCHAIR TRAINING SYSTEM SHINOWARA, NANCY
1R43HD052313–01	VEATCH, BRADLEY D ADA TECHNOLOGIES, INC. A BIOACTUATOR-DRIVEN ANKLE DORSIFLEXOR UNIT QUATRANO, LOUIS A
1R43HD052327–01	TOWNSEND, WILLIAM T BARRETT TECHNOLOGY, INC. ADVANCED ROBOTIC DEVICE FOR THE SAFE REHABILITATION FOR STROKE AND BRAIN INJURY QUATRANO, LOUIS A
1R43HD053196–01	HERMES, MATTHEW E TURBO WHEELCHAIR COMPANY, INC. LIGHTWEIGHT, COMPLIANT MANUAL WHEELCHAIR HIGH-TONE CHILD SHINOWARA, NANCY
1R43HD053211–01	SCHAEFER, PHILIP R VORTANT TECHNOLOGIES, LLC A LIP READING CLICK DEVICE FOR DISABLED COMPUTER USERS SHINOWARA, NANCY
1R43HD054091–01	VEATCH, BRADLEY D ADA TECHNOLOGIES, INC. A LOW-COST UPPER-EXTREMITY PROSTHESIS FOR UNDER-SERVED POPULATIONS QUATRANO, LOUIS A
1R43HD054262–01	SELBIE, W. SCOTT C-MOTION, INC. ANALYTICAL TOOLS FOR OPTIMIZING NEUROREHABILITATION OF GAIT SHINOWARA, NANCY
1R43HD054313–01	EDELL, DAVID J INNERSEA TECHNOLOGY ULTRA-LOW-POWER WIRELESS IMPLANT STIMULATOR FOR PROSTHESIS SENSORY FEEDBACK QUATRANO, LOUIS A
1R43HD055110–01A1	FLYNN, LOUIS L LIGHTNING PACKS, LLC GENERATION OF ELECTRICITY BY NORMAL HUMAN MOVEMENT SHINOWARA, NANCY

Project Number	Description
5R43HD044271–02	GREEN, STEVE C GREEN TECHNOLOGIES, INC. A MANUAL STANDUP WHEELCHAIR QUATRANO, LOUIS A
5R43HD047071–02	AXELSON, PETER WILLIAM BENEFICIAL DESIGNS, INC. OPTIFIT WHEELCHAIR FITTING SYSTEM SHINOWARA, NANCY
5R43HD047086–02	GIUFFRIDA, JOSEPH P LEVELAND MEDICAL DEVICES, INC. ADAPATIVE WIRELESS COMPUTER MOUSE FOR MOVEMENT DISORDERS SHINOWARA, NANCY
5R43HD049251–02	MERZENICH, MICHAEL M POSIT SCIENCE CORPORATION BRAIN PLASTICITY BASED TRAINING FOR FOCAL DYSTONIA SHINOWARA, NANCY
5R43HD051061–02	RENSING, NOA M MICROOPTICAL ENGINEERING CORPORATION VISIONKEY+: ADVANCED EYE ACTIVATED KEYBOARD QUATRANO, LOUIS A
8R43HD054291–02	RIFKIN, JEROME R TENSEGRITY PROSTHETICS, INC. TENSEGRITY FOOT WITH COORDINATED JOINT MOTION SHINOWARA, NANCY
R44—Small Business Innovation Research Grants (SBIR)—Phase II:	
1R44HD050047–01A1	TUEL, STEPHEN M PHASE V PHARMACEUTICALS, INC. TIZANIDINE FORMULATION FOR SPASTICITY WITH DYSPHAGIA QUATRANO, LOUIS A
1R44HD053176–01	JAKOBS, THOMAS INVOTEK, INC. RELIABLE/SAFE LASER POINTING-PEOPLE LOCKED-IN SYNDROME QUATRANO, LOUIS A
1R44HD054401–01	RICHTER, W MARK MAX MOBILITY ERGOCHAIR SMART MANUAL WHEELCHAIR SHINOWARA, NANCY
2R44HD037776–02A1	HAMILTON, PATRICK S.E.P., LTD AN AMBULATORY LORDOSIMETER FOR POSTURE CONTROL QUATRANO, LOUIS A
2R44HD040023–02A2	LOPRESTI, EDMUND F AT SCIENCES SMART WHEELCHAIR COMPONENT SYSTEM QUATRANO, LOUIS A
2R44HD042334–02	BENJAMIN, MALVERN J RHEOMEDIX, INC. PULMONARY AIRFLOW MONITOR IN TRACHEOSTOMIZED CHILDREN QUATRANO, LOUIS A
2R44HD046319–02	KLEDARAS, JOANNE B PRAXIS, INC. MONETARY EQUIVALENCE: READINESS INSTRUCTIONAL TRACK (PHASE II) QUATRANO, LOUIS A
2R44HD047044–02	JAKOBS, THOMAS INVOTEK, INC. SPEECH SUPPLEMENTED WORD PREDICTION PROGRAM QUATRANO, LOUIS A
2R44HD049205–02	KYLSTRA, BART DAEDALUS WINGS, INC. POWER PROPULSION ATTACHMENT FOR MANUAL WHEELCHAIRS SHINOWARA, NANCY

Project Number	Description
5R44HD033942–05	WYATT, CATHERINE MEALTIME PARTNERS, INC. ADD REGULATORY COMPLIANCE AND COST (REV A) QUATRANO, LOUIS A
5R44HD035793–06	MEGINNISS, STEVE M MAGIC WHEELS, INC. TWO-SPEED MANUAL WHEELCHAIR WHEEL QUATRANO, LOUIS A
5R44HD039962–03	BONINGER, RONALD M THREE RIVERS HOLDINGS, LLC DEVELOPMENT OF AN ERGONOMIC MANUAL WHEELCHAIR PUSHRIM QUATRANO, LOUIS A
5R44HD041805–03	KOENEMAN, JAMES B KINETIC MUSCLES, INC. CLINICAL ASSESSMENT OF A MASSED PRACTICE THERAPY DEVICE SHINOWARA, NANCY
5R44HD041820–04	HARTMAN, ERIC C CUSTOMKYNETICS, INC. ADAPTIVE STIMULATOR FOR EXERCISE AND REHABILITATION QUATRANO, LOUIS A
5R44HD042367–03	VAIDYANATHAN, RAVI THINK-A-MOVE, LTD AN EAR DEVICE ENABLING HANDS FREE WHEELCHAIR CONTROL QUATRANO, LOUIS A
5R44HD042892–03	IRVINE, BLAIR OREGON CENTER FOR APPLIED SCIENCE, INC. TRAINING PARENTS TO ADVOCATE FOR STUDENTS WITH TBI QUATRANO, LOUIS A
5R44HD043513–03	SEARS, HAROLD H MOTION CONTROL, INC. ELECTRIC HEAVY-DUTY WORK HAND QUATRANO, LOUIS A
5R44HD043516–03	GREEN, STEVE C GREEN TECHNOLOGIES, INC. A MODAL RECIPROCATING PUSHRIM DRIVE WHEELCHAIR QUATRANO, LOUIS A
5R44HD043567–03	KYLSTRA, BART DAEDALUS WINGS, INC. MANUAL WHEELCHAIR UTILIZING SINGLE LEVER FOR PROPULSION SHINOWARA, NANCY
5R44HD044288–03	BEHRMANN, GREGORY P EM PHOTONICS, INC. FIBER OPTICAL MICRO-SENSOR FOR MEASURING TENDON FORCES QUATRANO, LOUIS A
5R44HD047119–03	BOONE, DAVID A CYMA CORPORATION COMPUTERIZED PROSTHETIC ALIGNMENT SYSTEM (COMPAS) QUATRANO, LOUIS A
5R44HD049252–03	TUEL, STEPHEN M PHASE V PHARMACEUTICALS, INC. BACLOFEN FORMULATION FOR SPASTICITY WITH DYSPHAGIA QUATRANO, LOUIS A
5R44HD051157–03	GOODWIN, DIANNE M BLUE SKY DESIGN, INC. ACCESSIBLE MOUNTING AND POSITIONING TECHNOLOGY SHINOWARA, NANCY
T15—Continuing Education Training Program:	
1T15HD050255–01A1	BLACKMAN, JAMES A UNIVERSITY OF VIRGINIA CHARLOTTESVILLE NIH GRANT PREP. WORKSHOPS FOR REHABILITATION RESEARCH NITKIN, RALPH M

Project Number	Description
T32—Institutional National Research Service Award:	
1T32HD049303–01A1	FINEMAN, JEFFREY R UNIVERSITY OF CALIFORNIA SAN FRANCISCO RESEARCH TRAINING IN PEDIATRIC CRITICAL CARE MEDICINE NICHOLSON, CAROL E
1T32HD049350–01A1	LEVIN, HARVEY S BAYLOR COLLEGE OF MEDICINE MENTORED RESEARCH TRAINING IN REHABILITATION SCIENCE NITKIN, RALPH M
2T32HD007422–16	TATE, DENISE G UNIVERSITY OF MICHIGAN AT ANN ARBOR U MICHIGAN MED REHABILITATION RESEARCH TRAINING PROGRAM NITKIN, RALPH M
2T32HD007539–06	OTTENBACHER, KENNETH J UNIVERSITY OF TEXAS MEDICAL BR GALVESTON INTERDISCIPLINARY PREDOCTORAL REHABILITATION RESEARCH TRAINING NITKIN, RALPH M
2T32HD040686–06A1	KOCHANEK, PATRICK M UNIVERSITY OF PITTSBURGH AT PITTSBURGH PEDIATRIC NEUROINTENSIVE CARE AND RESUSCITATION RESEARCH NICHOLSON, CAROL E
5T32HD007414–14	JOHNSTON, MICHAEL V KENNEDY KRIEGER RESEARCH INSTITUTE, INC. RESEARCH TRAINING IN BRAIN INJURY REHABILITATION NITKIN, RALPH M
5T32HD007418–15	RYMER, WILLIAM Z NORTHWESTERN UNIVERSITY PATHOPHYSIOLOGY AND REHABILITATION OF NEURAL DYSFUNCTION NITKIN, RALPH M
5T32HD007425–15	SALCIDO, RICHARD UNIVERSITY OF PENNSYLVANIA RESEARCH TRAINING IN NEUROLOGICAL REHABILITATION NITKIN, RALPH M
5T32HD007434–14	MUELLER, MICHAEL J WASHINGTON UNIVERSITY DOCTORAL TRAINING PROGRAM IN MOVEMENT SCIENCE NITKIN, RALPH M
5T32HD007447–14	BASFORD, JEFFREY R MAYO CLINIC COLL OF MEDICINE, ROCHESTER MAYO REHABILITATION RESEARCH TRAINING CENTER NITKIN, RALPH M
5T32HD007459–13	BREGMAN, BARBARA S GEORGETOWN UNIVERSITY TRAINING IN RECOVERY OF FUNCTION AFTER CNS INJURY NITKIN, RALPH M
5T32HD007490–09	BINDER-MACLEOD, STUART A. UNIVERSITY OF DELAWARE PT/PHD PREDOCTORAL TRAINING PROGRAM NITKIN, RALPH M
5T32HD041899–04	RODGERS, MARY M UNIVERSITY OF MARYLAND BALT PROF SCHOOL ADVANCE REHABILITATION RESEARCH TRAINING PROJECT NITKIN, RALPH M
5T32HD043730–04	VANDENBORNE, KRISTA H UNIVERSITY OF FLORIDA TRAINING IN REHABILITATION AND NEUROMUSCULAR PLASTICITY NITKIN, RALPH M
U01—Research Project (Cooperative Agreements):	
3U01AR052171–02S1	AMTMANN, DAGMAR UNIVERSITY OF WASHINGTON UW CENTER ON OUTCOMES RESEARCH IN REHABILITATION (RMI) QUATRANO, LOUIS A

Project Number	Description
5U01AR052171–03	AMTMANN, DAGMAR UNIVERSITY OF WASHINGTON UW CENTER ON OUTCOMES RESEARCH IN REHABILITATION(RMI) QUATRANO, LOUIS A
5U01HD042652–04	DIAZ-ARRASTIA, RAMON R UNIVERSITY OF TEXAS SW MED CTR/DALLAS TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042653–05	TEMKIN, NANCY R UNIVERSITY OF WASHINGTON TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042678–05	ZAFONTE, ROSS UNIVERSITY OF PITTSBURGH AT PITTSBURGH TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042686–04	TIMMONS, SHELLY D UNIVERSITY OF TENNESSEE HEALTH SCI CTR TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042687–05	NOVACK, THOMAS UNIVERSITY OF ALABAMA AT BIRMINGHAM TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042689–05	BULLOCK, M ROSS VIRGINIA COMMONWEALTH UNIVERSITY TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042736–04	EISENBERG, HOWARD M. UNIVERSITY OF MARYLAND BALT PROF SCHOOL TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042738–05	JALLO, JACK TEMPLE UNIVERSITY TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK ANSEL, BETH
5U01HD042823–05	RIEDEWALD, WILLIAM T COLUMBIA UNIVERSITY HEALTH SCIENCES TRAUMATIC BRAIN INJURY CLINICAL TRIALS NETWORK-DCC ANSEL, BETH
5U01HD049934–02	DEAN, JONATHAN MICHAEL UNIVERSITY OF UTAH CENTRAL DATA MANAGEMENT AND COORDINATING CENTER NICHOLSON, CAROL E
U10—Cooperative Clinical Research (Cooperative Agreements):	
5U10HD049945–02	ZIMMERMAN, JERRY J CHILDREN'S HOSPITAL AND REG MEDICAL CTR 1ST TIER DRUGS+THEOPHYLLINE IN PEDIATRIC SEVERE ASTHMA NICHOLSON, CAROL E
5U10HD049981–02	POLLACK, MURRAY M CHILDREN'S RESEARCH INSTITUTE ASSESSMENT AND PREDICTION OF FUNCTIONAL STATUS NICHOLSON, CAROL E
5U10HD049983–02	CARCILLO, JOSEPH A UNIVERSITY OF PITTSBURGH AT PITTSBURGH METOCLOPRAMIDE PREVENTS PICU NOSOCOMIAL INFECTION NICHOLSON, CAROL E
5U10HD050009–02	ANAND, KANWALJEET S ARKANSAS CHILDREN'S HOSPITAL RES INST PCCM NETWORK: REMEDIES FOR OPIOID TOLERANCE & WITHDRAWAL NICHOLSON, CAROL E

Project Number	Description
5U10HD050012–02	NEWTH, CHRISTOPHER J CHILDREN'S HOSPITAL LOS ANGELES PHYSIOLOGICALLY GUIDED VENTILATOR STRATEGIES IN CHILDREN NICHOLSON, CAROL E
5U10HD050096–02	MEERT, KATHLEEN L WAYNE STATE UNIVERSITY COLLABORATIVE PEDIATRIC CRITICAL CARE RESEARCH NETWORK NICHOLSON, CAROLE
U13—Conference (Cooperative Agreement):	
5U13NS043180–05	SANGER, TERENCE D STANFORD UNIVERSITY NIH TASK FORCE ON CHILDHOOD MOTOR DISORDERS ANSEL, BETH

Question 2. What would be the key components for a successful collaboration with the VA?

Response. I recommend creating an enduring administrative structure for ongoing collaboration. A Coordinating Council should be established and staffed by the VA, and include representation from the DOD and the organizations that represent the civilian rehabilitation hospitals and the specialty of Physical Medicine and Rehabilitation. At a minimum, the American Medical Rehabilitation Providers Association (AMRPA), the American Hospital Association (AHA), the Federation of American Hospitals (FAH), and the American Academy of Physical Medicine and Rehabilitation (AAPM&R) should be invited to participate. The charge to this Council should include the following:

- Work collaboratively to create a short-term and long-term sustainable plan for how to allow the civilian provider community to augment, strengthen, and complement the DOD and VA in providing medical rehabilitation services (both inpatient and outpatient) to current and former members of the armed services who qualify.
- Establish attributes and criteria to define rehabilitation service delivery capacity (both qualitatively and quantitatively) for specific disabling conditions, including, but not limited to:
  - TBI
  - SCI
  - Amputation
  - Burn
  - Low Vision
  - Hearing Impairment
  - Post Traumatic Stress Disorder (PTSD)
- Determine the DOD, VA, and civilian care delivery settings that are capable of providing services that meet or exceed these criteria.
- Establish the relative locations of VA and civilian programs, with the hope of identifying locations where collaboration might be possible, and where the civilian sector could broaden access for servicemembers.
- Define which areas of the VA and DOD need enhancement through cooperating with civilian providers.
- Create or adopt a qualifying and contracting methodology to allow civilian providers to contract with the DOD and/or VA.
- Identify the appropriate payment methods and practices to utilize the civilian providers and provide adequate and timely reimbursement for the services they offer.
- Establish the research questions and activities needed to better understand the rehabilitation care delivery needs of these servicemembers, and how to improve the efficiency and effectiveness of the collaboration to achieving more successful outcomes.
- Oversee the implementation and operation of the collaboration and refine it over time as appropriate.

Question 3. What difference in care and support do you anticipate in serving returning veterans, rather than the Institute's existing patients? Would your facilities have the expertise to also deal with TBI, PTSD, or other unique health and readjustment issues for returning veterans?

Response. Kessler Institute for Rehabilitation currently provides comprehensive care and treatment for patients who are identical to those being injured in our country's service. Our multidisciplinary team includes:

• Physiatrists and Neurologists, who are expert at diagnosing and treating the behavioral, cognitive and medical problems these patients face.
• Neuropsychologists to assess, treat and support brain injured patients and their families.
• Rehabilitation Psychologists, who can assess and treat PTSD, substance abuse, adjustment to disability and the other common psychological problems associated with health catastrophes.
• Rehabilitation Nurses, who can manage wound care, provide bladder and bowel retraining, contribute to restoring function for real world application, and provide patient and family education.
• Physical Therapists, Occupational Therapists, Speech Language Pathologists and many other disciplines to effectively address the range of physical and functional problems individuals face, as well as goals to be achieved.
• Prosthetists and Orthotists to provide prostheses and orthoses, including C-legs and other state-of-the-art devices.
• Rehabilitation Technologists to provide sophisticated power wheelchairs, electronic environmental control systems, computer access and other high tech devices that are needed by the most severely injured and disabled.

Our West Orange campus has the current capacity to care for 48 TBI inpatients and 48 SCI inpatients at any given time. Our outpatient programs include therapies by all the disciplines mentioned above, as well as a specialized Cognitive Rehabilitation Program that provides individually tailored, multidisciplinary care for patients with TBI scheduled a few times a week or as intensively as a day hospital, depending on needs and goals. We offer similar services at our Saddle Brook and Chester campuses as well.

We operate two additional programs of special interest: a program for Severe Disorders of Consciousness (SDOC), and a dual-diagnosis program for patients with concomitant TBI and SCI. The SDOC program offers highly innovative and advanced evaluative and treatment services for the most severely brain injured patients. This program is having a remarkable impact on many or our patients. Our dual-diagnosis program is also capable of handling other combinations of disabling conditions, such as amputations that occur in addition to a TBI.

In addition to the clinical services we offer, we serve as a major research and educational center for TBI, SCI and other rehabilitation conditions. For example, with our partners, the Kessler Medical Rehabilitation Research and Education Center (KMRREC) and UMDNJ-New Jersey Medical School, we are funded as an SCI Model System. We have been previously funded as a TBI Model System, and are currently reapplying for that award as well.

These and other resources make the medical and rehabilitation care we would provide to injured servicemembers excellent, goal directed, and efficient. What would differ from our typical patient experience are the insurance, funding and administrative aspects of working with the VA or military under whatever contract mechanisms that would be developed. We do have experience in working with TRICARE already, so that would not be an issue.

I suspect that all these matters would be favorably accommodated if there were an identified case manager from the VA or DOD, who would be actively engaged and involved with us in a way that would enable the economic and other administrative needs of the patients and their families to be dealt with efficiently and effectively.

I am sure that the capabilities I described of Kessler Institute for Rehabilitation are also available at a number of other centers that have become specialized in managing the most complexly injured and disabled patients. From my conversations with the leadership of many rehabilitation programs, I am certain a strong enthusiasm exists to offer their capacity to enhance access to care by our servicemembers.

Chairman AKAKA. Thank you very much, Dr. Gans.

I want to tell you that your testimonies have been excellent.

Director Duckworth, you testified that the prosthetics service at Walter Reed is better than VA care, and, Dr. Gans, your Institute is consistently ranked as one of the top rehabilitation facilities in this country. I would like for both of you to comment. What do we need to do to make VA care the very best?

Ms. DUCKWORTH. Senator Akaka, I think for those programs that are already in existence in the VA, the polytrauma centers, the blind rehabilitation program, the spinal cord injury centers that are already state-of-the-art certainly maintain, but also give them more funds so that they can really reach out and do the job that they are trying to do.

For those programs where the VA is behind, such as the prosthetics program, to try to help them catch up at this point, it is too late into the war; it is too late into the game. And you would negatively affect the new amputees who are within their first 2 years of amputation. Allow those new patients to go back to Walter Reed or to go to a civilian prosthetist. That way you also maintain the quality of care for the veterans already in the system. I cannot really speak as much about the rehabilitation programs, but I know that the rehab program, the spinal rehab, the blind rehab centers, and the polytrauma centers in the VA are certainly state-of-the-art and capable of doing the job.

Chairman AKAKA. Dr. Gans?

Dr. GANS. I think coordination and cooperation is the key. Very happily, we had the opportunity to have a conversation with the New Jersey VA just last week regarding the traumatic brain injury patients and are now starting discussions about how we can be useful as a service delivery supplement to their resources and how we can cooperate. Many of the VAs are medical school facilities. They are training centers. We have all sorts of interactions between the civilian community and the VA. And we can build upon those strengths to provide educational programs, to provide resources, identify where the private sector has knowledge and expertise that could be tapped by the VA to help build and strengthen programs, where it simply does not make sense because the need is to transient, and to let the VA contract out with the private sector for specialized services. The high-tech kinds of prosthetic devices that are being discussed are really very high-end, very complicated, sophisticated devices. The military experience has dramatically expanded our knowledge and ability about how to use these devices in the civilian sector as well, and it is a small enough number in the size of the entire health care community that that kind of expertise really does need to be concentrated in centers of excellence that should be shared resources.

Chairman AKAKA. It seems as though VA is geared toward older patients. We are concerned that younger veterans may be having difficulties as a minority within the VA system.

Mr. Pruden and Director Duckworth, have you seen improvement in the ability of VA health care providers to treat younger patients returning from Iraq and Afghanistan? And do you think that VA, on the whole, is now ready to manage this younger population? Mr. Pruden?

Mr. PRUDEN. Sir, I believe that the VA is doing a lot and making a lot of steps toward that goal, but they are not there yet.

I had an infection last spring due to a bacteria that I picked up in Iraq called acinetobacter, and when I came back in 2003, there had not been very many cases of this at all in the United States, this particular strain. It has become very common now to see it in blast injuries coming back from Iraq and Afghanistan. Infectious

Disease at Walter Reed is very familiar with this problem. But when I went to Infectious Disease at the local VA, they had no idea what I was talking about. So I brought them printouts from CDC and showed them what was going on. Long story short, I wound up coming back to Walter Reed and having treatment here for that, a regimen of antibiotics. But the Infectious Disease chief down there said, "If you had stayed here, we would have had to amputate your foot." That was my other leg, and I definitely wanted to keep that one.

You know, they are not quite there yet. I think there is a lot of information that needs to be grasped, specifically with regards to diseases endemic to Central Asia and Iraq, where these guys are going to be picking up things, also with regards to the types of blast injuries and, again, TBI, PTSD, those kinds of things. They need to be more educated and prepared for us.

Chairman AKAKA. Thank you.

Director?

Ms. DUCKWORTH. Mr. Chairman, I think in some programs the VA certainly has state-of-the-art capability, and I would like to cite again this spinal cord injury center in Hines and the blind rehab center. Those are, in fact, two places where Walter Reed sends its patients for rehabilitation, so those are certainly up there. Those other programs with information sharing such as learning about these bacteria—I also suffer. I think about 90 percent of us now have this bacteria. That is an easy information-sharing kind of thing. But other things, traumatic brain injury, some of these things, the high-tech prosthetics, we do not have the time to play catch-up, not when the care is needed now with the traumatic brain injury patients. As Mrs. Mettie was saying, you lose ground so quickly that you may never regain if they do not access that high-quality care right away. And in those instances, I think a cooperative agreement between DOD, VA, and civilian practitioners, civilian providers, is critical because when you lose ground that early into your injury, you may never regain that ground back.

Chairman AKAKA. Thank you. My time in the first round has expired.

Senator Craig?

Senator CRAIG. Well, thank you very much, Mr. Chairman.

I am a little overwhelmed with all of your testimony, and I say that in the positive sense, as someone who, in cooperation with this Chairman and he with me when I was Chairman, has spent a great deal of time attempting to make VA better, and we think we have.

You are saying something that I began to recognize a year ago, and it resulted in the introduction of legislation, S. 815, a few weeks ago. And I think, Tammy, you have said it well. There is no time to catch up. There is a huge private sector capability out there that is needed now, today. It was needed yesterday. And all of you are speaking to that.

But here is our problem. I did not condemn. I simply offered some degree of observation as to what the Ranking Member here Patty Murray is doing. That is catch-up money. And it may not be well used today in a way that it should be used. And I do not say that in any condemnation of the VA at all.

What we have is a wonderful health care delivery system within the VA, but you are speaking of its limitations. And yet every organization that is out there in support of it is also in defense of it. And when I offer a way for those who cannot get the public service, the VA service they need, a way to gain the private sector access, I am roundly criticized as someone who wants to tear down the current system or not adequately fund it. I think quite the opposite.

Your response to an opportunity to have those who are eligible for VA health care to also have, if they are service-connected disabled, access to selected and/or other private facilities, you have all given testimony to it at this moment. Your reaction to a piece of legislation that would qualify a veteran or an active servicemember for that kind of potential health care.

Ms. DUCKWORTH. Senator Craig, I certainly would support that; however, not at the expense of more funds going to the VA. I have to respectfully disagree with you that what Senator Murray is proposing is catch-up money. It is money that is badly needed in the system. At the same time as that funding, we also need access to private practices. As I mentioned earlier, we have a large generation of Vietnam veterans entering the system that we need to be ready to care for them as well. So we need both. The VA is already underfunded, and to take away those funds that they need to do their job so that they can support those state-of-the-art facilities—the blind rehab, the spinal cord, taking care of our older veterans—you know, it is not an either/or. We need both.

Senator CRAIG. Well, you know, I appreciate that. Please go ahead, Jonathan.

Mr. PRUDEN. Sir, I do not know if I have a good answer for you. I agree with Major Duckworth's statement that the VA needs more funds to adequately address the needs of veterans currently.

I think great care has to be taken. Like you said, if they leave in droves, we will know something else. And I do not believe they will leave in droves, either, but if they do—or there is a significant number that leave, I guess my question is: What happens to VA if a significant number do choose the private practice? That would be a concern for me.

Senator CRAIG. Yes, please.

Ms. METTIE. An observation that I have made throughout this past year is for the acute care——

Senator CRAIG. Just a moment. Mr. Chairman, do we know what the noise source is here?

We are either under construction or destruction.

[Laughter.]

Senator CRAIG. Please continue, and hover close to that mike.

Ms. METTIE. All right. Something I have noticed in the acute care is that if there could be an established place for these soldiers to go to in the beginning, instead of saying you have got to go to a nursing home, we do not know what progress they are going to make, and those first 6, 8 months, they make tremendous progress. My son had leaps and bounds in April and May. He was tapping his toe to music. He would raise his hand to anybody who walked in the room. We lost it all in May. Nobody knows why.

So we look at that part and say we need more aggressive therapy in the beginning, but also, now that we are a year down the road, I look at Palo Alto and previously was told, well, we are filled, you cannot get in. Over half of the beds are empty because they do not have adequate staff. They do not have enough therapists to work with the patients. So how are we going to help all of these TBI-injured soldiers if they do not have the staff to work with them?

Senator CRAIG. Well said. Thank you.

Doctor Gans?

Dr. GANS. Senator, as I mentioned earlier, the VA is a very important health care delivery system for those who use it, and it is also an important resource for medical education, for research, and I certainly would not want to see that harmed in any way. I think that my perspective is that we can augment and complement, and for those unique specialized and relatively rare things where there are pockets of capacity and expertise outside of the VA, where it does not really make sense to re-establish a large capacity that is going to be only transiently needed, it makes much more sense to just collaborate and cooperate. My perspective is let's come up with a plan. Let's have the leadership of the civilian community and the veterans and the military plan together and identify those areas where augmentation and complementation make sense, plan together where it makes sense for the private sector to help support the development of the reinvigorated larger capacity within the system, but just have it make sense and serve the common good.

Senator CRAIG. Well, Doctor, I think you have said it better than I did. I appreciate that very much.

My time is up. Thank you, Mr. Chairman.

Chairman AKAKA. Thank you very much, Senator Craig.

Senator Murray?

Senator MURRAY. Thank you very much, and thank you so much to all of you for really excellent testimony and helping us wade through these challenges that we have in front of us. I do not think any of us disagree that once you get into the VA system, you get good care, and it is critical that we get to the point, Tammy, where we are not having to play catch-up, because these men and women are there, they are coming back, and we have to have the capacity to do that.

There is a system in place that does allow us to contract out within the VA for care. Oftentimes, people do not know about it. Nobody has told them. The paperwork gets lost. And I think we have to be very careful not to just say, well, abandon the VA, we will go to private care, when, Dr. Gans, you very precisely told us that that kind of capacity is already a problem within the private system of care, and we do not want to pass people off. They get stuck like Denise did at a private facility that was not capable of dealing with them, and the paperwork gets behind, and the payments do not get there, and we do not support the resources that are needed for private care. So there are a lot of dangerous red flags as we look at how we deal with this.

But our responsibility here is to make sure that the VA has the capacity it needs for the men and women who are coming back today and for our older veterans as they are, as you precisely told us, now really getting into our VA system as well.

Tammy, I wanted to ask you in particular—you mentioned testing, and I am deeply concerned that we are not within the military testing soldiers for—I think you said PTSD and TBI in particular. You mentioned several other things. Ninety percent of our soldiers are coming back with this bacterial infection. Is that being tested for?

Ms. DUCKWORTH. You get the infection, and it is very quickly you are known to have it. It is just in the soil over there, and it gets in your wounds. About 90 percent—I think that was the number I was given when I was going through Walter Reed—who come through with open wounds have this infection in some form or another.

Senator MURRAY. And were you recommending that they get tested when they went into the VA? Or were you recommending that they get tested before they were separated from the military?

Ms. DUCKWORTH. I think that when they enter the VA system, there needs to be another round of comprehensive testing for traumatic brain injury, post-traumatic stress disorder, vision, and hearing, because as scientists found out, a lot of the polytrauma patients who come through, they are tested for everything else, and sometimes they forgot—"Oh, maybe we need to check their vision." And they are finding that 60 percent of the patients who have entered Hines polytrauma center have had some form of functional vision loss that was not——

Senator MURRAY. But wouldn't it make sense that they get tested before they leave the military—if we get an adequate system that makes sure that our military and our VA records are copacetic, another challenge. But wouldn't it make sense that they get that testing before they are ever separated?

Ms. DUCKWORTH. Yes, ma'am, but for some of these injuries, TBI and post-traumatic stress disorder, they may not reoccur for a while, PTSD especially, and this is where the 2-year rule is so vitally important, because with the vets of this war, if they do not get care for war-related illnesses for 2 years——

Senator MURRAY. Well, some of our veterans who are returning when they get separated, if they are not tested, may not think of going to a VA facility and may show up, you know, 6 months later not being able to remember.

Ms. DUCKWORTH. They should be tested both times.

Mr. PRUDEN. Can I comment on that, ma'am? I have been working with some guys over the past few years who came back from 3rd ID with me. Several of them were injured in 2005. One of these young men lost both his legs. The guy beside him was killed. He was unconscious for an unknown amount of time. I believe he suffers from PTSD and has substance abuse issues, which I think may have masked some of the symptoms of TBI. His mother tells me he cannot remember anything he used to be able to remember.

It was not until 2 weeks ago now, after almost 2 years in DOD care, that we got him into the VA system, enrolled, and he is just now—we just got him back up to Walter Reed to be screened for a TBI just 2 weeks ago.

Senator MURRAY. After 2 years of being out?

Mr. PRUDEN. Yes, ma'am, and yet he was unconscious—and it was after I talked to him, I said, "Do you think you might have a

TBI?" And he said, "Well, you know, I don't think so. I am OK." And his Mom said, "But you can't remember anything." Sometimes soldiers are not willing or able to understand what is going on with them, and especially if they have a TBI and PTSD. And it takes someone coming along and saying, "Maybe we should screen you for this."

Senator MURRAY. Yes. Mr. Chairman, I am going to have to run to the floor. But I think part of what we do is mandatory testing before they separate as well as when they enter the VA because we are losing a lot of people out there. That is critical.

Before I run, Denise, if you wanted to comment on that?

Ms. METTIE. I just wanted to interject something quickly. My son spent 15 months in Iraq the first time. When he got back, they did a quick PTSD test, and he suffered extreme PTSD. They said they could not medicate him because he would not be deployable again and that——

Senator MURRAY. If they medicated him, he would not be——

Ms. METTIE. If they medicated——

Senator MURRAY. So they did not because——

Ms. METTIE. No, and so he self-medicated by alcohol. He could not sleep at night, and this was what he did for the whole year until he was redeployed. And one of his comments, "Well, you know, I won't drink anymore because there is no alcohol over there." That needs to be addressed.

Senator MURRAY. And one last question for you, Denise. You navigated this system and were an advocate on your own, it sounds like, quite a bit of the time.

Ms. METTIE. Yes.

Senator MURRAY. Thank God your son had a family that was able to be there. I am certain you have seen many people who do not have a close family member who can——

Ms. METTIE. And that is what scares me. You know, there are many members who are probably in nursing homes because they have no one to be their advocate. I think these people in particular need to be looked at again.

Senator MURRAY. Were there any VA case managers that worked with you throughout this time?

Ms. METTIE. Yes.

[Laughter.]

Senator MURRAY. That does not sound positive. Do you want to——

Ms. METTIE. I cannot say I received a lot of help.

Senator MURRAY. Well, Mr. Chairman, again, I want to thank all of you, and I do have questions for the second panel. I have to manage the supplemental on the floor, but I hope that the VA and DOD officials who are testifying today will quickly respond to our questions. You have heard what these witnesses have had to say. We do not want any platitudes. We want to know what real solutions are, and we want to be able to support them from this Committee.

So thank you very much, Mr. Chairman.

Chairman AKAKA. Thank you very much, Senator Murray.

Senator Burr?

Senator BURR. Thank you, Mr. Chairman.

I think we are all struck by the testimony—not surprised, but we are struck in, as I think Senator Craig put it, a very positive way. The challenge for us is that we all agree that we need more money in the system. We all agree that we need to look at the services provided, and that they need to represent the cases that are walking in the door, but that we cannot forget about that last generation that is walking through.

We all agree that we need to do much better on the health IT, that records should follow individuals, whether they are at Walter Reed or Bethesda, to the communities they go to and potentially to the private sector stops that they make along the way.

Jonathan, I will take one objection with something you said. Over 50 is not old, OK?

[Laughter.]

Senator BURR. But our big challenge is to try to take everything that you have presented to us that are personal experiences, personal observations, and extrapolate that out to the entire population and make it work. And I want to challenge my colleagues here that I do not think this is a construct that we can take and just put in legislative language and all of a sudden mandate this, this, and this happens.

We recognized very early on in North Carolina that we were going to have a bigger deployment of Guard and reservists in this mission, and certainly we have seen it from every State. One of the smartest things I think we did was that we started a program at UNC-Chapel Hill to follow the deployments and the returns of all these Guard and reservists, and to try to accumulate the data in real time as we went along as to how we do each one better the next time. How do we make the deployment smoother? How do we make the return better? And I think progressively we have changed that process.

And I would suggest to my colleagues that we need to look at how we turn outside and ask an outside entity to look at the VA, to look at Walter Reed and Bethesda, to look at the private sector, and to try to figure out how we design this in a way that we maximize the care that we provide.

Ms. Mettie, I wish I could tell you how we can take individuals that may not have been as responsive as they should have, who work within the VA, who maybe do not make the individual assessments that they should, even with a persistent parent or persistent spouse. I think all of us would hope that it would work beautifully, and the fact is that we hear too many stories where it does not, so we know we have still got a tremendous amount of work to do.

But some of the things, maybe most of the things you have talked about today, these are fixable, that we can integrate them into a seamless process that does not distinguish between public and private, that does not distinguish between this location or that location, that maximizes the talents that we have throughout the health care delivery system in this country. It will take some effort on our part to do that in a way that, quite frankly, it would work successfully and it would protect the VA system, which I know many want to. I think every Member of this Committee wants to.

Ms. Mettie, if there was one point in your process that you sit there today and you say, "If the decision had been different here,

we would be dealing with a different outcome, possibly," what would that one point be?

Ms. METTIE. Oh, no doubt about it, that would be last April when we transferred Evan to the private skilled nursing facility. We were seeing tremendous progress at that time. He was smiling. He was giving thumbs up. He was lifting and raising his hands to command.

My feeling is, if he would have been in a VA facility that had acute care, we would have seen progress continue. But as it was, by the first or mid-May, he had developed five types of infections from being in this facility for 3 weeks, and when he was sent back to the VA, he had to recover from all of these infections, and we lost everything.

I strongly feel that if he would have been taken better care of at that point, we would see a different person today.

Senator BURR. It is my hope that our system will get better at identifying those critical decision points for these warriors that come back and for the families, and that we learn from each one how to do it better in the future.

Mr. Chairman, if I could, I would like to go to Jonathan for just a second, because I think, Jonathan, your recovery probably mirrors to some degree, I think, what Senator Craig was talking about. You were at Johns Hopkins receiving some care. You were going back to Walter Reed for some things—or was that your buddy that you were talking about?

Mr. PRUDEN. That was one of my soldiers.

Senator BURR. That was one of your soldiers.

Mr. PRUDEN. Yes, sir.

Senator BURR. You know, your question was: Why couldn't you do multiple things at the same place? I think that is what Senator Craig is getting at. Why can't we do multiple things? And I think this fear that there is an attempt to lessen our emphasis on the VA or on DOD hospital we have to get over if we want to successfully try to create a pathway that fits every soldier that comes back in the system. Unfortunately, your pathway was a little bit different than your soldier's, and Tammy's pathway was a little bit different than your pathway, and certainly Evan's has been different than yours.

Each one is unique, and there is no doubt that when you walk in an emergency room as a private citizen, there is a triage person that makes an assessment of you and your symptoms and a decision that is made hopefully by a group as to what their treatment is going to be.

My fear is that we are not evaluating the patient for the problem and try and determine what the best course for that individual patient, that individual soldier, that individual Marine that is coming back, that we are trying to fit them into a system that we have already designed. And that makes treatment bifurcated. It makes crucial points of decision not make sense. And it changes, more importantly, outcomes.

I would only suggest to my colleagues, the only thing we need to be concerned with is the outcome. Let's not be concerned with how we get there. Let's try to raise our success rate of the outcomes of these troops that come back with very different injuries, very dif-

ferent circumstances, and let's make sure that the outcome is more positive tomorrow.

I once again want to thank each of you.

Chairman AKAKA. Thank you very much, Senator Burr.

Senator Tester?

Senator TESTER. Thank you, Mr. Chairman, and I, too, want to thank the panel members for your testimony and your ideas. I think they are outstanding, and we just need to figure out a way we can apply them, which I think is what Senator Burr was talking about.

First of all, to Tammy and Jonathan, thank you for your service, thank you for your sacrifice. I appreciate that a lot.

To Denise, you know, the Good Lord gave us the ability to love, and a mother's love for her son is pretty special, and I thank you for what you have done for your son.

And thank you, Dr. Gans, for your perspective.

I just want to touch on a couple of things, and I am not going to ask—most of the questions have been asked. I just want to touch on a couple of things, because each one of you brought up the fact, the need for potential outsourcing of services. And, I guess, if I was going to ask a question, it would be what kind of parameters would you put around that. From previous questions it is apparent that it should not be wide open, and I agree with that, by the way. But if it deals with prosthetics, if it deals with traumatic brain injury, if it deals with other areas by which we can outsource, that would be great to really put that into policy.

I come from a State where it is a long ways to the veterans' hospital. Maybe distance should also apply in there. But if there are ways we can figure out how to outsource in a reasonable way, I think you are right on. And, quite frankly, I am glad every one of you brought it up, because that tells me that that is probably one of the solutions.

The other thing deals with testing, and I think, Tammy, you brought it up, and I think we need to have our testing very complete, and I appreciate that information.

I am not going to be able to be here for the second panel, and I really wanted to be, but I have got a conflict. And so for Michael and Ellen, I just want to tell you that my first statements stand. Once you get into the system, they do some pretty good work, but there are some problems that we have to deal with, and these problems cannot be addressed, I do not think, by us alone. I think it is going to take a collaborative effort. I think it is going to take some honest assessment on services rendered, dollars needed, and human resources in the kind of job they are doing in the field, and both at the DOD level and at the VA level. And I think that is critically important.

Technological and medical transfer, I think Jonathan talked about it, with the bacteria, or whatever you got, from the Department of Defense to the VA, I think that has got to happen. That is as important as passing the medical records along so we can get these folks the kind of treatment they need.

But ultimately, in the end, I will just tell you this: As a policymaker in the U.S. Senate, it is going to be virtually impossible to fix this problem without the bureaucracy's help. Senator Burr

talked about it, the fact that if we make policies and force policies down on the bureaucracy, it is not going to fix the problem. We need to work together. And the fact that these folks are sitting right here today, I hope that there is not one person in the bureaucracy that says these are individual cases and this is not the rule. The fact is that the reason these folks are here today is because we do have some problems and we need to work on the outcomes to make sure that we have successes right down the line.

So with that, thank you very much. I really appreciate these panelists coming up today. I appreciate your time. Thank you.

Chairman AKAKA. Senator Brown?

Senator BROWN. Thank you, Chairman Akaka. And thank you. I was at another hearing and could not hear your testimony, although I have read much of all of your testimony.

Mr. Pruden, you said something that intrigued me about having an advocate, and my mother several years ago—she was in her early 80's. This is a very different situation. But she fell and fractured or shattered her shoulder, and she had my brother and me and my wife in the hospital with her in the emergency room as an advocate. People were nearby. The hospital was crowded, as city emergency rooms often are, or all medical facilities are. And because she had family members there really advocating for her with doctors and nurses to get pain medication, to do all that was needed, she got better treatment, frankly, than some others that were there that did not have family members.

I heard you talk about your son a little. I am sorry I did not hear the rest of your testimony. And, Director Duckworth, you seem to be generally pretty pleased with the treatment you got. Talk to me, the three of you, because you have all been so much a part of this, how important that would be to whether your experience was you had somebody there for you that was an advocate. If you read the *Post* stories about Walter Reed, there was the absence of that for them in many cases, too, and how our system, how the VA should do this so that every patient feels like they have someone there to make sure they get the care they need.

Since you talked about it, Mr. Pruden, do you want to start? And then Director Duckworth and then Ms Mettie, if you would.

Mr. PRUDEN. Thank you. Having an advocate is vitally important. I had my wife, Amy, there right along, and, you know, in my early days I was in ICU and on a lot of morphine, and I did not understand what was going on exactly. And my wife was there to make sure things were happening for me.

I think a lot of times the gap that we see, the problems that I addressed for a lot of my soldiers as they were coming back wounded have not been because the resources were not available to them, but because the information was not available or there was a lack of communication somewhere, and they could not get from Point A to Point B.

I had a soldier dragging his foot around for weeks until I saw him and said, "Why are you dragging your foot around?" "Well, sir," he said, "they didn't have an AFO for me." It is a foot orthosis to correct nerve damage. And he had been dragging his foot around because he did not know any better. Nobody told him that he could get an AFO.

And I can give you countless examples of incidents like that where people just did not know what was available. Secretary Nicholson's hiring of 100 OIF/OEF patient advocates is a step in the right direction, and I think we need to see more of that on both sides of the house.

Senator BROWN. Director Duckworth?

Ms. DUCKWORTH. Senator, I have to say the same thing, and the reason Jonathan and I are here today is because we did what a lot of patients are doing at the medical treatment facilities, whether it is DOD or VA. Those of us who are more capable of advocating are advocating not just for ourselves but for our buddies as well.

When I was in the ICU, I had my husband,—he is now a major as well, but at the time a captain. When somebody told him that this is the way things were with the bureaucracy—for example, in the first couple of days, they told my 65–year-old mom there was no room. She had to sleep on the floor of the ICU waiting room. He had 15 years in the military, just saying wrong answer, that is not what you do, and fight the bureaucracy.

When I am at Hines and I go into the prosthetics lab, and as I walk through, the prosthetists look at me and say, "Wow, is that a C-leg? Can I touch it?" I had the wherewithal to say, "This is not acceptable," and worked the system myself to get to a place where I could go to the prosthetist of my choice. But a young troop with a brain injury who does not have that cannot make their way through the system. The patient advocate at Hines, the ones that I use, Ivy Bryant, is excellent. But part of her doing her job is going to be an understanding of the military system and also an understanding of the medical pipeline, because she is a caseworker, she does not necessarily understand that a patient needs a particular medical procedure. So there is definitely need for that, and that is why you find people like Jonathan and me here, is because we found ourselves advocating for our buddies, just like there were guys who advocated for us when we were not capable of taking care of ourselves.

Senator BROWN. Ms. Mettie?

Ms. METTIE. I don't know if you were here when I was talking about a particular test that was done on Evan last May, SSEP, that measures electric impulse activity. And on that one, the one on the top of the head that measures the cortical impulse was not registering anything, so the rehab doctor said it is unlikely that he will ever regain anything. And because of movements that we had seen and commands that he had done, I just told her that her test was wrong. I have my own faith, and we are going on my prognosis.

Well, from that point on where we were at the VA, it was, Let's see more Mom, and took care of Evan to the best of our ability. They took personal care of him, but there was no therapy.

In October, he had his cranioplasty done to replace his skull, and when we got back to the VA, they redid the SSEP test. The rehab doctor called me and apologized for ever doing the first one because this one was normal. It was an immediate difference on how he was treated. All of a sudden, OT, speech, everybody was coming in to work with him. And all of these months I had been pushing say-

ing he is there, all you got to do is work with him. But nobody would.

Senator BROWN. I guess that answers it. Thank you.

Thank you, Mr. Chairman.

Chairman AKAKA. Thank you very much, Senator Brown.

I want to thank this panel very much. We have further questions. We will place them in the record, and we will keep the record open for a week. But let me tell you, your testimonies have been excellent. It has been helpful to us, and as you know, we are trying to do our best to help the veterans of our country. And you have really helped us to do that.

So, again, thank you very much for coming. Some of you had to travel to get here, and we really do appreciate that. And so I want to thank you for your testimonies again and thank the audience for being so patient.

Thank you to the first panel.

I would like to call the second panel to the desk. I welcome our second panel of witnesses. Dr. Kussman is acting head of the Veterans Health Administration, though I have been informed that your new title is Executive-in-Charge. I hope that the Administration will soon send up a nomination for the Under Secretary of Health position.

Ms. Embrey is the Deputy Assistant Secretary of Defense for Force Health Protection and Readiness, and Director of Deployment Health Support.

Dr. Kussman and Ms. Embrey, thank you so much for your presence. I know that it was a bit unusual to have Administration witnesses not testify first, but as I said in my opening statement, it is my desire to have you address the testimony of the witnesses who preceded you. So I thank both of you for being here today. I want you to know that your full statements will appear in the record of the Committee.

So we will begin with testimony from Dr. Kussman.

STATEMENT OF MICHAEL J. KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Dr. KUSSMAN. Good morning, Mr. Chairman. Before I give my prepared remarks, if you will indulge me for a second, I do not know if anybody from the first panel is still here, but for the record I would like to say that our job is make things better, not more complicated. And when I hear these stories where we clearly have not met the expectations and done things in the manner that I would like to see them, it pains me both professionally and personally.

As you know, I am a veteran and a retiree myself, and so I appreciated the testimony of the first panel. I can assure you that we will continue to do everything that we can to improve the system.

Mr. Chairman and Members of the Committee, good morning. Mr. Chairman, thank you for the opportunity to testify today on the polytrauma and prosthetics issues on behalf of the Department. While we have learned a great deal on these subjects in the past few years, with your help and the help of many others, both inside and outside the Government, we continue to try to improve our

performance. Never in the 75-year history of the Department of Veterans Affairs has there been a greater level of collaboration and cooperation between VA and the Department of Defense.

VA has coordinated the transfer of over 6,800 injured or ill active-duty servicemembers and veterans from DOD to the VA. Our highest priority is to ensure that those returning from the Global War on Terror who transition directly from DOD military treatment facilities to VA medical centers continue to receive the best care available anywhere.

This month, we are calling each of those severely injured servicemembers and veterans to see if they need additional support, and we are directing facilities to provide OIF/OEF program managers at each facility. VA social workers, benefits counselors, and outreach coordinators advise and explain the full array of VA services and benefits to servicemembers while they are still being cared for by DOD. In addition, our social workers help newly wounded soldiers, sailors, airmen, and Marines and their families plan a future course of treatment for their injuries after they return home.

Case management of our patients begins at the time of transition from DOD and continues as their medical and psychological needs dictate. VA requires that every medical center will have full-time nurse and social worker case managers for OIF/OEF veterans' needs, and we are in the process of hiring 100 OIF/OEF veterans to serve as ombudsmen to support severely wounded veterans and their families.

Each VA medical center also has an OIF/OEF program manager to coordinate activities locally for OIF/OEF veterans and to ensure the health care and benefits needs of returning servicemembers and veterans are fully met. VA has distributed specific guidance to field staff to ensure that the roles and functions of the OIF/OEF program managers and case managers are fully understood and that proper coordination of benefits and services occurs at the local level.

Mr. Chairman, 15 years ago, VA, in collaboration with the Defense and Veterans Brain Injury Center, established 4 comprehensive centers to care for veterans with traumatic brain injury. These centers are located in Richmond, Tampa, Minneapolis, and Palo Alto and provide exemplary clinical care for brain-injured patients and are recognized as leaders in their field.

Today our Polytrauma System of Care provides the highest quality of medical and rehabilitation case management and support services for veterans and active-duty servicemembers who have sustained complex injuries, including traumatic brain injury, while in service to our country. Our ability to successfully integrate medical care and rehabilitative medicine makes our centers unique among health care facilities in the United States and possibly the world. We are a flexible, dynamic system able to adjust to the changing needs of combat-injured veterans and proud of the service we provide them.

Last year, VA's Prosthetic and Sensory Aids Service provided service to over 22,000 unique OIF/OEF veterans for a variety of services and products. When viewing amputee care alone since the beginning of the war, VA's Prosthetic and Sensory Aids Service has

served a total of 157 of the 560 OIF/OEF major amputees. Some of these amputees have come to us through the Polytrauma Rehabilitation Centers.

Finally, VA provides outreach to our newest veterans through our Vet Center Program. Vet Centers were created by Congress as the outreach element in VA's Veterans Health Administration. Our Vet Centers have served 180,000 combat veterans to date and have provided bereavement services to the families of over 900 fallen warriors. VA will open 15 new Vet Centers and 8 new Vet Center outstations at locations throughout the Nation by the end of 2008. At that time Vet Centers will total 232. We also expect to add staff to 61 existing facilities to augment the services they provide. Seven of the 23 new centers will open during calendar year 2007.

Mr. Chairman, that concludes my presentation, and at this time I would be pleased to answer any questions you may have.

[The prepared statement of Dr. Kussman follows:]

PREPARED STATEMENT OF MICHAEL J. KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Mr. Chairman and Members of the Committee, good afternoon. Thank you for this important opportunity to discuss on the Veterans Health Administration's (VHA) efforts to ensure a seamless transition process for our injured service men and women, and our ongoing efforts to continuously improve this process.

VHA's work to create a seamless transition for men and women as they leave the service and take up the honored title of "veteran" begins early on. Our Benefits Delivery at Discharge Program enables active duty members to register for VA health care and to file for benefits prior to their separation from active service. Our outreach network ensures returning servicemembers receive full information about VA benefits and services. And each of our medical centers and benefits offices now has a point of contact assigned to work with veterans returning from service in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF).

VHA has coordinated the transfer of over 6,800 severely injured or ill active duty servicemembers and veterans from DOD to VA. Our highest priority is to ensure that those returning from the Global War on Terror transition seamlessly from DOD Military Treatment Facilities (MTFs) to VA Medical Centers (VAMCs) and continue to receive the best possible care available anywhere. Toward that end, we continually strive to improve the delivery of this care.

In partnership with DOD, VA has implemented a number of strategies to provide timely, appropriate, and seamless transition services to the most seriously injured OEF/OIF active duty servicemembers and veterans.

VA social workers, benefits counselors, and outreach coordinators advise and explain the full array of VA services and benefits. These liaisons and coordinators assist active duty servicemembers as they transfer from MTFs to VA medical facilities. In addition, our social workers help newly wounded soldiers, sailors, airmen and Marines and their families plan a future course of treatment for their injuries after they return home. Currently, VA Social Worker and Benefit Liaisons are located at 10 MTFs, including Walter Reed Army Medical Center, the National Naval Medical Center Bethesda, the Naval Medical Center San Diego, and Womack Army Medical Center at Ft. Bragg.

Since September 2006, a VA Certified Rehabilitation Registered Nurse (CRRN) has been assigned to Walter Reed to assess and provide regular updates to our Polytrauma Rehabilitation Centers (PRC) regarding the medical condition of incoming patients. The CRRN advises and assists families and prepares active duty servicemembers for transition to VA and the rehabilitation phase of their recovery.

VA's Social Worker Liaisons and the CRRN fully coordinate care and information prior to a patient's transfer to our Department. Social Worker Liaisons meet with patients and their families to advise and "talk them through" the transition process. They register servicemembers or enroll recently discharged veterans in the VA health care system, and coordinate their transfer to the most appropriate VA facility for the medical services needed, or to the facility closest to their home.

In the case of transfers of seriously injured patients, both the CRRN and the Social Worker Liaison are an integral part of the MTF treatment team. They simultaneously provide input into the VA health care treatment plan and collaborate with

both the patient and his or her family throughout the entire health care transition process. Video teleconference calls are routinely conducted between DOD MTF treatment teams and receiving VA PRC teams. If feasible, the patient and family attend these video teleconferences to participate in discussions and to "meet" the VA PRC team.

I should note that one important aspect of coordination between DOD and VA prior to a patient's transfer to VA is access to clinical information. This includes a pre-transfer review of electronic medical information via remote access capabilities. The VA polytrauma centers have been granted direct access into inpatient clinical information systems from Walter Reed Army Medical Center (WRAMC) and National Naval Medical Center (NNMC). VA and DOD are currently working together to ensure that appropriate users are adequately trained and connectivity is working and exists for all four polytrauma centers. For those inpatient data that are not available in DOD's information systems, VA social workers embedded in the military treatment facilities routinely ensure that the paper records are manually transferred to the receiving polytrauma centers.

Another data exchange system, the Bidirectional Health Information Exchange (BHIE) allows VA and DOD clinicians to share text-based outpatient clinical data between VA and the ten MTFs, including Walter Reed and Bethesda.

VA case management for these patients begins at the time of transition from the MTF and continues as their medical and psychological needs dictate. Once the patient transfers to the receiving VAMC, or reports to his or her home VAMC for care, the VA Social Worker Liaison at the MTF continues to coordinate with VA to address after-transfer issues of care. Seriously injured patients receive ongoing case management at the VA facility where they receive most of their care. Since April of 2006, points of contact or case managers have been identified in every VA medical center. In response to the Secretary's request this week, VA is in the process of hiring the 100 OIF/OEF veterans to serve as case advocates to support their severely injured fellow veterans and their families.

Moreover, VA's Prosthetic and Sensory Aids Service (PSAS) provided service to over 22,000 OIF/OEF unique veterans for a variety of services and products.[1] When viewing amputee care alone since the beginning of the war, Prosthetics has served a total of 187 of the current 554 OIF/OEF major amputees, including veterans and active duty servicemembers. Some of these amputees have come to us through the Polytrauma Rehabilitation Centers.

VA has four Polytrauma Rehabilitation Centers, located at Tampa, FL; Richmond, VA; Minneapolis, MN; and Palo Alto, CA. The Army has assigned full time active duty Liaison Officers to each one in order to support military personnel and their families from all Service branches. The Liaison officers address a broad array of issues, such as travel, housing, military pay, and movement of household goods.

In addition, Marine Corps representatives from nearby local Commands visit and provide support to each of the Polytrauma Rehabilitation Centers. At VA Central Office in Washington, DC, an active duty Marine Officer and an Army Wounded Warrior representatives are assigned to the Office of Seamless Transition to serve as liaisons. Both the Army and the Marine Liaisons play a vital role in ensuring the provision of a wide bridge of services during the critical time of patient recovery and rehabilitation.

VHA understands the critical importance of supporting families during the transition from DOD to VA. We established a Polytrauma Call Center in February 2006, to assist the families of our most seriously injured combat veterans and servicemembers. The Call Center operates 24 hours-a-day, 7 days-a-week to answer clinical, administrative, and benefit inquiries from polytrauma patients and family members. The Center's value is threefold. It furnishes patients and their families with a one-stop source of information; it enhances overall coordination of care; and, very importantly, it immediately elevates any system problems to VA for resolution.

VA's Office of Seamless Transition includes two Outreach Coordinators—a peer-support volunteer and a veteran of the Vietnam War—who regularly visit seriously injured servicemembers at Walter Reed and Bethesda. Their visits enable them to establish a personal and trusted connection with patients and their families.

These Outreach Coordinators help identify gaps in VA services by submitting and tracking follow-up recommendations. They encourage patients to consider participating in VA's National Rehabilitation Special Events or to attend weekly dinners held in Washington, DC, for injured OEF/OIF returnees. In short, they are key to

[1] These services include but are not limited to wheelchairs, eyeglasses, hand-cycles, running legs (prostheses), mono-skis, prosthetic hands, talking GPS systems for the blind, and Personal Digital Assistants for Traumatic Brain Injury patients.

enhancing and advancing the successful transition of our service personnel from DOD to VA, and, in turn, to their homes and communities.

In addition, VA has developed a vigorous outreach, education, and awareness program for the National Guard and Reserve. To ensure coordinated transition services and benefits, VA signed a Memorandum of Agreement (MOA) with the National Guard in 2005. Combined with VA/National Guard State Coalitions in 54 states and territories, VA has significantly improved its opportunities to access returning troops and their families. We are continuing to partner with community organizations and other local resources to enhance the delivery of VA services. At the national level, MOAs are under development with both the United States Army Reserve and the United States Marine Corps. These new partnerships will increase awareness of, and access to, VA services and benefits during the demobilization process and as service personnel return to their local communities.

VA is also reaching out to returning veterans whose wounds may be less apparent. VA is a participant in the DOD's Post Deployment Health Reassessment (PDHRA) program. DOD conducts a health reassessment 90–180 days after return from deployment to identify health issues that can surface weeks or months after servicemembers return home.

VA actively participates in the administration of PDHRA at Reserve and Guard locations in a number of ways. We provide information about VA care and benefits; enroll interested Reservists and Guardsmen in the VA health care system; and arrange appointments for referred servicemembers. As of December 2006, an estimated 68,800 servicemembers were screened, resulting in over 17,100 referrals to VA. Of those referrals, 32.8 percent were for mental health and readjustment issues; the remaining 67.2 percent for physical health issues.

Congress created the Readjustment Counseling Service (RCS), commonly known to veterans as the Vet Center Program, as VHA's outreach element. Program eligibility was originally targeted to Vietnam veterans; today it serves all returning combat veterans. The Vet Center Program receives high ratings in veterans' satisfaction, employee satisfaction, and other measurable indicators of quality and effective care.

The approximate number of OEF/OIF combat veterans served by Vet Centers to date is 165,000 (119,600 through outreach; 45,400 seen at centers). In February of 2004, the Secretary of Veterans Affairs approved the hiring of 50 OEF/OIF combat veterans to support the Program by reaching out actively to National Guard, and Reserve servicemembers returning from combat. An additional 50 were hired in March of 2005. This action advanced the continuing success of our Vet Centers in their ability to assist our newest veterans and their families. VA Vet Centers have provided bereavement services to 900 families of fallen warriors.

VA plans to expand its Vet Center Program. We will open 15 new Vet Centers and eight new Vet Center outstations at locations throughout the Nation by the end of 2008. At that time, Vet Centers will total 232. We expect to add staff to 61 existing facilities to augment the services they provide. Seven of the 23 new centers will open this Calendar Year 2007.

In addition, the President has created an Interagency Task Force on Returning Global War on Terror Heroes (Heroes Task Force), chaired by the Secretary of Veterans Affairs, to respond to the immediate needs of returning Global War on Terror servicemembers. The Heroes Task Force, which had its first meeting in early March, will work to identify and resolve any gaps in service for servicemembers. As Secretary Nicholson said, no task is more important to the VA than ensuring our heroes receive the best possible care and services.

Finally, The VA is partnering with the State VA Directors in the "State Benefits Seamless Transition Program" in which severely injured servicemembers can release their contact information to their home State VA Office to be educated about their State Benefits.

VA staff assigned to major MTFs are coordinating with Heroes to Hometown as a resource to provide to servicemembers returning to civilian life.

Mr. Chairman, this concludes my presentation. At this time, I would be pleased to answer any questions you may have.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. AKAKA TO MICHAEL J. KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Question 1. In response to [vet] account of VA's inability to deal with his recent infection (acinetobacter), you stated that all relevant VA clinicians are competent to handle this bacterium. You also promised to look into [vet] case in order to identify

any shortcomings. Please provide the Committee with a brief, informal summary of your conclusions as they become available.

Response. Dr. Gary Roselle, National Program Director for Infectious Diseases, has reviewed the veteran's health record and has prepared a report. As the report does have protected personal information it has been provided under separate cover to the Chairman only.

Question 2. Four times a year, VA submits to Congress a mandated report on medical service utilization by veterans of Operations Enduring Freedom and Iraqi Freedom. We have not received the latest report, which we were expecting in February. I would appreciate you looking into this and expediting the production, clearance and forwarding of this document to Committee staff.

Response. Attached is the Veterans Health Administration's (VHA) most recent report, Analysis of VA Healthcare Utilization Among US Southwest Asian War Veterans, dated April 2007.

[The Veterans Health Administration's (VHA) report follows:]

ANALYSIS OF VA HEALTH CARE UTILIZATION AMONG
US SOUTHWEST ASIAN WAR VETERANS

OPERATION IRAQI FREEDOM
OPERATION ENDURING FREEDOM

(*VHA Office of Public Health and Environmental Hazards, April 2007*)

CURRENT DOD ROSTER OF RECENT WAR VETERANS

- Evolving roster development by DOD Defense Manpower Data Center (DMDC)
  - In September 2003, DMDC developed initial file of "separated" .Iraqi and Afghan troops using proxy files: Active Duty and Reserve Pay files, Combat Zone Tax Exclusion, and Imminent Danger Pay data.
  - In September 2004, DMDC revised procedures for creating periodic updates of the roster and now mainly utilizes direct reports from service branches of deployed OIF (Operation Iraqi Freedom) and OEF (Operation Enduring Freedom) troops.
  - DMDC is actively addressing the limitations of the current roster to improve the accuracy and completeness of future rosters

CURRENT DOD ROSTER OF RECENT WAR VETERANS

- Latest Update of roster
  - Provided to Dr. Kang, Veterans Health Administration (VHA) Environmental Epidemiology Service, on January 11, 2007.
- Qualifications for OIF/OEF deployment roster
  - Contains list of veterans who have left active duty and does not include currently serving active duty personnel
  - Does not distinguish OIF from OEF veterans
  - Roster only includes separated OIF/OEF veterans with out-of-theater dates through November 2006
  - 3,011 veterans who died in-theater are not included

UPDATED ROSTER OF SW ASIAN WAR VETERANS WHO HAVE LEFT ACTIVE DUTY

- 686,306 OIF and OEF veterans who have left active duty and become eligible for VA health care since Fiscal Year 2002
  - 46 percent (316,562) Former Active Duty troops
  - 54 percent (369,744) Reserve and National Guard

USE OF DOD LIST OF WAR VETERANS WHO HAVE LEFT ACTIVE DUTY

- This roster is used to check the VA's electronic inpatient and outpatient health records, in which the standard ICD–9 diagnostic codes are used to classify health problems, to determine which OIF/OEF veterans have accessed VA health care as of December 31, 2006.
- The data available for this analysis are mainly administrative information and are not based on a review of each patient record or a confirmation of each diagnosis. However, every clinical evaluation is captured in VHA's computerized patient record. The data used in this analysis are excellent for health care planning purposes because the ICD–9 administrative data accurately reflects the need for health care resources, although these data cannot be considered epidemiologic research data.

• These administrative data have to be interpreted with caution because they only apply to OIF/OEF veterans who have accessed VHA health care due to a current health question. These data do not represent all 686,306 OIF/OEF veterans who have become eligible for VA healthcare since Fiscal Year 2002 or the approximately 1.4 million troops who have served in the two theaters of operation since the beginning of the conflicts in Iraq and Afghanistan.

USE OF DOD LIST OF WAR VETERANS WHO HAVE LEFT ACTIVE DUTY (2)

• Because VA health data are not representative of the veterans who have not accessed VA health care, formal epidemiological studies will be required to answer specific questions about the overall health of recent war veterans.
• Analyses based on this updated roster are not directly comparable to prior reports because the denominator (number of OIF/OEF veterans eligible for VA health care) and numerator (number of veterans enrolling for VA health care) change with each update.
• This report presents data from VHA's health care facilities and does not include Vet Center data or DOD health care data.
• The following data are "cumulative totals" since Fiscal Year 2002 and do not represent data from any single year.
• The numbers provided in this report should not be added together or subtracted to provide new data without checking on the accuracy of these statistical manipulations with VHA's Office of Public Health and Environmental Hazards.

VA HEALTH CARE UTILIZATION FROM FISCAL YEAR 2002 TO 2007 (1ST QT) AMONG SW ASIAN WAR VETERANS

• Among all 686,306 separated OIF/OEF Veterans
  ○ 33 percent (229,015) of total separated veterans have sought VA health care since Fiscal Year 2002
  ○ 97 percent (221,255) of 229,015 evaluated OIF/OEF patients have been seen as outpatients only by VA and not hospitalized
  ○ 3 percent (7,760) of 229,015 evaluated OIF/OEF patients have been hospitalized at least once in a VA health care facility

VA HEALTH CARE UTILIZATION FOR FISCAL YEAR 20022007 (1ST QT) BY SERVICE COMPONENT

• 316,562 Former Active Duty Troops
  ○ 35 percent (112,301) have sought VA health care since Fiscal Year 2002
• 369,744 Reserve/National Guard Members
  ○ 32 percent (116,714) have sought VA health care since Fiscal Year 2002

COMPARISON OF VA HEALTH CARE REQUIREMENTS

The 229,015 OIF/OEF veterans evaluated by VA over approximately 5 years from Fiscal Year 2002 to Fiscal Year 2007 (1st QT) represents about 4 percent 5.5 million individual patients who received VHA health care in anyone year (total VHA population of 5.5 million in 2006).

Frequency Distribution of SW Asian War Veterans According to the VISN Providing the Treatment

Treatment Site	OIF/OEF Veterans Treated at a VA Facility [1]	
	Frequency	Percent
VISN 1 VA New England Healthcare System	11,163	4.9
VISN 2 VA Healthcare Network Upstate New York	6,728	2.9
VISN 3 VA New York/New Jersey Healthcare System	9,242	4.0
VISN 4 VA Stars & Stripes Healthcare System	11,021	4.8
VISN 5 VA Capital Health Care System	5,821	2.5
VISN 6 VA Mid-Atlantic Healthcare System	12,224	5.3
VISN 7 VA Atlanta Network	16,597	7.2
VISN 8 VA Sunshine Healthcare Network	19,289	8.4
VISN 9 VA Mid-South Healthcare Network	13,660	6.0
VISN 10 VA Healthcare System of Ohio	6,351	2.8
VISN 11 Veterans in Partnership Healthcare Network	8,275	3.6
VISN 12 VA Great Lakes Health Care System	14,490	6.3

Frequency Distribution of SW Asian War Veterans According to the VISN Providing the Treatment—Continued

Treatment Site		OIF/OEF Veterans Treated at a VA Facility[1]	
		Frequency	Percent
VISN 15	VA Heartland Network	7,645	3.3
VISN 16	South Central VA Health Care Network	19,871	8.7
VISN 17	VA Heart of Texas Health Care Network	13,683	6.0
VISN 18	VA Southwest Healthcare Network	11,636	5.0
VISN 19	VA Rocky Mountain Network	9,222	4.0
VISN 20	VA Northwest Network	13,186	5.8
VISN 21	VA Sierra Pacific Network	9,781	4.3
VISN 22	VA Desert Pacific Healthcare Network	18,226	8.0
VISN 23	VA Midwest Health Care Network	12,749	5.6

[1] Veterans can be treated in multiple VISNs. A veteran was counted only once in any single VISN but can be counted in multiple VISN categories. The total number of OIF–OEF veterans who received treatment (n = 229,015) was used to calculate the percentage treated in any one VISN.

Demographic Characteristics of Iraqi and Afghan Veterans Utilizing VA Health Care

	Percent SW Asian Veterans (n = 229,015)
Sex	
Male	88
Female	12
Age Group	
<20	4
20–29	52
30–39	23
≥40	20
Branch	
Air Force	12
Army	66
Marine	12
Navy	10
Unit Type	
Active	49
Reserve/Guard	51
Rank	
Enlisted	92
Officer	8

DIAGNOSTIC DATA

• Veterans of recent military conflicts have presented to VHA with a wide range of possible medical and psychological conditions.

• Health problems have encompassed more than 7,990 discrete ICD–9 diagnostic codes.

• The three most common possible health problems of war veterans were musculoskeletal ailments (principally joint and back disorders), mental disorders, and "Symptoms, Signs and Ill-Defined Conditions."

• As in other outpatient populations, the ICD–9 diagnostic category, "Symptoms, Signs and III-Defined Conditions," was commonly reported. It is important to understand that this is not a diagnosis of a mystery syndrome or unusual illness. This ICD–9 code includes symptoms and clinical finding that are not coded elsewhere in the IC–D9. It is a diverse, catch-all category that is commonly used for the diagnosis of outpatient populations. It encompasses more than 160 sub-categories and primarily consists of common symptoms that do not have an immediately obvious cause during a single clinic visit or isolated laboratory abnormalities that do not point to a particular disease process and may be transient.

Frequency of Possible Diagnoses Among Recent Iraq and Afghan Veterans

Diagnosis (Broad ICD–9 Categories)	(n = 229,015)	
	Frequency [1]	Percent
Infectious and Parasitic Diseases (001–139)	24,114	10.5
Malignant Neoplasms (140–208)	1,801	0.8
Benign Neoplasms (210–239)	7,506	3.3
Diseases of Endocrine/Nutritional/Metabolic Systems (240–279)	41,911	18.3
Diseases of Blood and Blood Forming Organs (280–289)	4,175	1.8
Mental Disorders (290–319)	83,889	36.6
Diseases of Nervous System/Sense Organs (320–389)	69,767	30.5
Diseases of Circulatory System (390–459)	33,218	14.5
Disease of Respiratory System (460–519)	41,144	18.0
Disease of Digestive System (520–579)	70,350	30.7
Diseases of Genitourinary System (580–629)	21,484	9.4
Diseases of Skin (680–709)	32,735	14.3
Diseases of Musculoskeletal System/Connective System (710–739)	99,484	43.4
Symptoms, Signs and Ill Defined Conditions (780–799)	77,275	33.7
Injury/Poisonings (800–999)	40,708	17.8

[1] Hospitalizations and outpatient visits as of 12/31/2006; veterans can have multiple diagnoses with each healthcare encounter. A veteran is counted only once in any single diagnostic category but can be counted in multiple categories, so the above numbers add up to greater than 229,015.

Frequency of Possible Mental Disorders Among OIF/OEF Veterans since 2002 [1]

Disease Category (ICD 290–319 code)	Total Number of SW Asian War Veterans [2]
PTSD (ICD–9CM 309.81) [3]	39,243
Nondependent Abuse of Drugs (ICD 305) [4]	33,099
Depressive Disorders (311)	27,023
Neurotic Disorders (300)	21,084
Affective Psychoses (296)	14,489
Alcohol Dependence Syndrome (303)	6,329
Sexual Deviations and Disorders (302)	3,735
Special Symptoms, Not Elsewhere Classified (307)	3,701
Drug Dependence (304)	2,798
Acute Reaction to Stress (308)	2,643

[1] Note: ICD diagnoses used in these analyses are obtained from computerized administrative data. Although diagnoses are made by trained healthcare providers, up to one-third of coded diagnoses may not be confirmed when initially coded because the diagnosis is ''rule-out'' or provisional, pending further evaluation.

[2] A total of 83,889 unique patients received a diagnosis of a possible mental disorder. A veteran may have more than one mental disorder diagnosis and each diagnosis is entered separately in this table; therefore, the total number above will be higher than 83,889.

[3] This row of data does not include information on PTSD from VA's Vet Centers and does not include veterans not enrolled for VHA health care. Also, this row of data does not include veterans who did not have a diagnosis of PTSD (ICD 309.81) but had a diagnosis of adjustment reaction (ICD–9 309).

[4] 82 percent of these veterans (26,998) had a diagnosis of tobacco use disorder (ICD–9 305.1).

SUMMARY

• Recent Iraq and Afghan veterans are presenting to VA with a wide range of possible medical and psychological conditions.

• Recommendations cannot be provided for particular testing or evaluation—veterans should be assessed individually to identify all outstanding health problems.

• 33 percent of separated OIF/OEF veterans have enrolled for VA health care since 2002 compared to 32 percent in the last quarterly report 3 months ago. As in other cohorts of military veterans, the percentage of OIF/OEF veterans receiving health care from the VA and the percentage with any type of diagnosis will tend to increase over time as these veterans continue to enroll for VA health care and to develop new health problems.

SUMMARY (2)

• Because the 229,015 Iraqi and Afghan veterans who have accessed VA health care were not randomly selected and represent just 16 percent of the approximately 1.4 million recent U.S. war veterans, they do not constitute a representative sample of all OIF/OEF veterans.

• Reported diagnostic data are only applicable to the 229,015 VA patients—a population actively seeking health care—and not to all OIF/OEF veterans.

For example, the fact that about 37 percent of VHA patients' encounters were coded as related to a possible mental disorder does not indicate that ⅓ of all recent war veterans are suffering from a mental health problem. Only well-designed epidemiological studies can evaluate the overall health of Iraqi and Afghan war veterans.

SUMMARY (3)

• High rates of VA health care utilization by recent Iraqi and Afghan veterans reflect the fact that these combat veterans have ready access to VA health care, which is free of charge for 2 years following separation for any health problem possibly related to wartime service.

Also, an extensive outreach effort has been developed by VA to inform these veterans of their benefits, including the mailing of a personal letter from the VA Secretary to war veterans identified by DOD when they separate from active duty and become eligible for VA benefits.

• When a combat veteran's 2-year health care eligibility passes, the veteran will be moved to their correct priority group and charged all copayments as applicable. If their financial circumstances place them in Priority Group 8, their enrollment in VA will be continued, regardless of the date of their original VA application.

FOLLOW-UP

• VA will continue to monitor health care utilization of recent Iraq and Afghan veterans using updated deployment lists provided by DOD to ensure that VA tailors its health care and disability programs to meet the needs of this newest generation of war veterans.

Question 3(a). What steps has VA taken to address the Inspector General's recommendations regarding VA's case management for victims of Traumatic Brain Injury (TBI)?

Response. The Department of Veterans Affairs (VA) developed the Polytrauma System of Care (PSC) to improve access to specialized rehabilitation services for polytrauma and TBI patients. PSC will also facilitate delivery of care closer to home, and provide life-long case management services to veterans of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) and active duty service members. VA facilities participating in the PSC are distributed geographically throughout the country so as to facilitate access to specialized care closer to the home, and to help veterans and their families to transition back into their home communities. Interdisciplinary teams of professionals have been designated at these facilities to work together to develop an integrated plan of medical and rehabilitation treatment for each veteran. In some cases, polytrauma may cause long-term impairments and functional disabilities. VA is committed to providing services and coordinating the lifelong care needs of these individuals.

The four components of the PSC include:

• Polytrauma Rehabilitation Centers (PRC)—These four regional centers (Richmond, Virginia; Tampa, Florida; Palo Alto, California; and Minneapolis, Minnesota) are fully operational. They provide acute comprehensive medical and rehabilitation care for complex and severe injuries and serve as resources for other facilities in the PSC.

• Polytrauma Network Sites (PNS)—These 21 sites including the four PRCs, one in each of the Veterans Integrated Service Networks (VISN), are also fully operational. Its role is to manage the post-acute effects of TBI and polytrauma and to coordinate lifelong rehabilitation services for patients within their VISN.

• Polytrauma Support Clinic Teams (PSCT)—VA has designated 72 medical centers as sites for PSCTs. These are local teams of providers with rehabilitation expertise that manage patients with stable polytrauma sequelae and respond to new problems that might emerge in consultation with regional and network specialists. They provide proactive case management and assist with patient and family support services.

• Polytrauma Points of Contact (PPOC)—All other facilities provide local PPOCs. These are smaller facilities without the expertise or resources to meet the rehabilitation and prosthetic needs of the polytrauma patients. The PPOCs are knowledgeable of the services available for veteran with TBI within the VHA system of care and have the ability to coordinate care. Each of these facilities ensures that at least one person is identified to serve as point of contact for consultation and referral of polytrauma patients to a facility capable of providing the level of services required.

The Inspector General's report included four specific recommendations, below is VHA response to each of the recommendations:

Recommended Improvement Action(s) A. The Under Secretary for Health should improve case management for TBI patients to ensure lifelong coordination of care.

Case management has a crucial role in ensuring lifelong coordination of services for patients with polytrauma and TBI, and is an integral part of the system at each polytrauma care site. PSC uses a proactive case management model, which requires both nurse and social work case managers to maintain regular contact with veterans and their families to coordinate services and to address emerging needs. As an individual moves from one level of care to another, the case manager at the referring facility is responsible for a "warm hand off" of care to the case manager at the receiving facility closer to the veteran's home. Every combat injured veteran with TBI is assigned a case manager at the polytrauma system of care facility closest to his or her home. The assigned case manager handles the continuum of care and care coordination, acts as the point of contact for emerging medical, psychosocial, or rehabilitation problems, and provides patient and family advocacy.

The Office of Social Work (OSW) released VHA Handbook 1010.01, "Transition Assistance and Case Management for Operation Enduring Freedom and Operation Iraqi Freedom Veterans" in March 2007 which details care and services provided to all returning veterans including those with seriously and mild TBI. Each combat injured veteran with TBI is assigned a case manager at the PSC facility closest to his or her home. The assigned case manager handles the continuum of care and care coordination, acts as the POC for emerging medical, psychosocial or rehabilitation problems and provides patient and family advocacy.

A Polytrauma Telehealth Network (PTN) links facilities in the PSC available to support care coordination and case management. The PTN ensures that polytrauma and TBI expertise are available throughout the PSC and that care is provided at a location and time that is most accessible to the patient. The PTN allows provision of specialized expertise available at the PROs and PNSs to be delivered at facilities close to the veteran's home.

Specialized rehabilitation care for patients with polytrauma and TBI requires a continuum of services that may include inpatient and outpatient rehabilitation, long-term care, transitional living and community re-entry programs, and vocational rehabilitation and employment services. The 21 PNSs have completed inventories of VA and non-VA TBI specific services within its VISNs. These are used to coordinate resources to meet individualized treatment needs of patients closer to home. The case managers dedicated to the PSC are responsible for identifying and coordinating these services for the individual patient as close to home as possible.

During the August 2006 Polytrauma System of Care Conference, polytrauma social work case managers received training on expectations for proactive and continuing case management of active duty personnel and veterans with brain injury and polytrauma. Monthly conference calls are held to mentor and educate the PNS case managers.

The OSW, in collaboration with Physical Medicine & Rehabilitation Service (PM&RS), has established a social work case management work group. This group is developing a new model of social work TBI and polytrauma case management that will address the care coordination, psychosocial and family support issues of this special population across different sites, levels of rehabilitation, and health care service delivery. This group is also identifying training needs and is working with the Employee Education System to offer a variety of educational programs. A 1-hour training session was held in January 2007 via conference call to educate social workers concerning the signs and symptoms of mild to moderate TBI.

VHA is publishing a new VHA Handbook on Transition Assistance and Case Management of OEF/OIF Veterans. The Handbook requires each VA medical center (VAMC) to appoint a master's prepared nurse or social worker to serve as the OEF/OIF program manager to oversee all seamless transition activities, coordination of care for OEF/OIF service members and veterans, and coordination of case management services for severely injured OEF/OIF service members/veterans, including those with TBI. The Handbook also describes the functions of 100 new transition patient advocates, who will be assigned to severely injured service members/veterans, including those with TBI, and their families. Recruitment for the new positions is already underway.

The Office of Seamless Transition (OST) implemented a seamless transition performance measure for Fiscal Year (FY) 2007. Severely injured OEF/OIF service members/veterans who are transferred by VA/Department of Defense (DOD) liaisons at the military treatment facilities (MTF) must be assigned a VAMC case manager prior to transfer. This VAMC case manager must contact the service member/veteran within 7 calendar days of notification of the transfer. OST developed a tracking system which the VA/DOD social work liaisons, stationed at the MTF, enter the patients transferring to VA into. As of October 2006, the tracking system automati-

cally generates an e-mail to the receiving facility when the VA/DOD liaison enters a potential transfer date. The receiving facility assigns a case manager in the tracking system and the case manager must contact the patient within 7 calendar days of notification of the transfer.

VA has partnered with the Army Wounded Warrior (AW2) Program to assign an AW2 soldier and family management specialist to 22 VAMCs located in the VISN 21. The AW2 staff will integrate with existing polytrauma teams and will function as case managers for both soldiers and their families. They will work with soldiers, veterans and their families to ensure they are fully linked to VA care and benefits. Currently, 17 AW2 staff members are in place, with 5 more scheduled to begin their assignments by the end of 3rd quarter Fiscal Year 2007.

Recommended Improvement Action(s) B: The Under Secretary for Health should work with DOD to establish collaborative policies and procedures to ensure that TBI patients receive necessary continuing care regardless of their active duty status, and that appropriate medical records are transmitted.

The revised VA/DOD memorandum of agreement (MOA) entitled, "Department of Veterans Affairs (VA) and Department of Defense Memorandum of Agreement Regarding Referral of Active Duty Military Personnel Who Sustain Spinal Cord Injury, Traumatic Brain Injury, or Blindness to Veterans Affairs Medical Facilities for Health Care and Rehabilitative Services" is currently in the Office of the Assistant Secretary of Defense for Health Affairs. DOD is shifting billing and reimbursement under this MOA from the Military Medical Support Office to the three TRICARE regional offices. There are no changes that impact the transfer of clinical care between the two agencies.

VA and DOD have developed the capability to share electronic medical records bidirectionally to coordinate the care of shared patients. The VA/DOD Bidirectional Health Information Exchange (BHIE) supports the real-time bidirectional exchange of outpatient pharmacy data, allergy information, lab results, and radiology reports between all VA facilities and select DOD host sites receiving large numbers of OEF/OIF combat veterans such as the Walter Reed Army Medical Center (WRAMC), the Bethesda National Naval Medical Center (BNNMC), and the Landstuhl Army Medical Center in Germany. All VAMCs have the capability to view the DOD BHIE data. In addition to BHIE capability, VA and DOD have made significant progress toward sharing inpatient data. VA and DOD have developed the capability to permit the four VA regional polytrauma centers to view DOD inpatient data stored in DOD's clinical information system (CIS). This capability provides unprecedented access to electronic DOD inpatient data by VA clinicians treating patients transferred from DOD and enhances continuity of care between DOD and VA. VA and DOD also conducted successful testing of the bidirectional sharing of inpatient narrative and discharge summaries.

Recommended Improvement Action(s) C: The Under Secretary for Health should develop new initiatives to support families caring for TBI patients, such as those identified by patients and family members we interviewed.

VA and DOD provided a national satellite broadcast, "Serving our Newest Generation of Veterans" in May 2006. This live broadcast was repeated on multiple dates and times to provide VA staff opportunities for viewing. The continuing education program included presentations on understanding the military culture, providing appropriate care across the lifespan; addressing the needs of families of polytrauma patients through supportive services; educating patients, families and staff about polytrauma rehabilitation (which includes a video about the four PRCs), amputation care, cognitive issues, physical and recreation therapy needs of polytrauma patients; and transforming the rehabilitation environment to better meet the unique needs of young polytrauma patients.

PM&RS National Program Office identified a subject matter expert in the area of therapeutic support for families dealing with stress and loss. During the August 2006 "Polytrauma System of Care Conference," a nationally recognized expert, provided an educational session on the impact of trauma on the family, assisting families with coping and providing strategies for VA providers. VHA is continuing to work with this nationally recognized expert as a consultant. She presented at a conference for Polytrauma Rehabilitation Center staff and VA leadership in December 2006.

OSW has held four quarterly educational conference calls for VHA social workers on polytrauma and seamless transition. Each call stressed different aspects of assessing and meeting the needs of families of polytrauma and other OEF/OIF patients.

VHA has hired seven clinical staff members who are assigned to the Center for Intrepid Joint Services Rehabilitation Facility (Center) at Brooke Army Medical Center in San Antonio, Texas. VHA staff will provide clinical services and seamless

transition services to active duty service members undergoing rehabilitation at the Center. VHA staff further provide supportive services to families such as logistical support (e.g., transportation), education regarding VA services, and case management support. An MOA for VA's role in the operation of the Center was signed by Secretary Nicholson in September 2006, and by the Secretary of the Army in January 2007. The Center was dedicated on January 29, 2007, and is currently receiving active duty patients for rehabilitation.

The PRCs at Minneapolis, Minnesota and Palo Alto, California have Fisher Houses to lodge the families of active duty service members and veterans undergoing polytrauma rehabilitation. A Fisher House is under construction at the James A. Haley VA Hospital in Tampa, Florida with an estimated completion date of June 2007. The Fisher House Foundation will break ground for a new Fisher House at the PRC in Richmond, Virginia in late Spring/early Summer 2007, with an estimated completion date of Fall 2007.

The Fisher House Foundation has plans to build three additional Fisher houses in 2007 (Dallas, Los Angeles, and Seattle) and 10 additional in 2008 and 2009. The Fisher houses will support families of OEF/OIF patients, including polytrauma and TBI patients at the PNS.

Each PRC and PNS has established a General Post Fund for family lodging and associated needs. Voluntary Service accepts donations made to VAMCs for family lodging into the Family Lodging General Post Fund. Social workers access the funds to help families defray the costs of hotel lodging, meals, and local transportation at facilities without Fisher Houses or when the Fisher House is full.

OSW is working with the Fisher House Foundation's Hero Miles Program to provide free airline ticket vouchers for the families of polytrauma patients so they can visit the patient.

More than 200 VHA social workers attended the Uniformed Services Social Work & Seamless Transition Conference in August 2006. VA hosted conference offered a seamless transition track with workshops on transferring care from DOD to VA facilities, meeting the needs of families, treating combat stress and post traumatic stress disorder (PTSD), and working with veterans suffering from polytraumatic injuries.

Recommended Improvement Action(s) D: The Under Secretary for Health should work with DOD to ensure that rehabilitation for TBI patients is initiated when clinically indicated.

In April 2006, a VA/DOD TBI Executive Board was established. A TBI Summit was held in September 2006 that brought together non-VA, DOD, and VA subject matter experts to discuss contemporary practice concerning the identification and treatment of individuals with brain injuries. Outcomes of this meeting included identification of priority issues, and building consensus across DOD and VA concerning case management, assessment and treatment.

In April 2007, VA sponsored a conference to educate VA and DOD staff about services and programs for OEF/OIF veterans. Specialized educational tracts included mental health, polytrauma and TBI, diversity and women's health, pain management, seamless transition, and prosthetics and sensory aids. Each VISN developed an action plan for management of OEF/OIF veterans.

A VA/DOD rehabilitation nurse liaison has been hired and assigned to WRAMC in September 2006. This individual monitors and follows the severely injured, assesses readiness for rehabilitation, communicates closely with the rehabilitation nurse admission case managers at the PRCs, provides updates on medical status, functional status, recovery progress, and nursing care issues. The rehabilitation nurse liaison will have close contact with families, providing education concerning impairments, rehabilitation process, and orientation to VA PRCs. A second nurse liaison is being hired for BNNMC, and should be in place by September 2007.

Question 3b. Additionally, can you please address Denise Mettie's concerns about the care afforded to her severely brain injured son, including the fact that he was not initially referred to a Polytrauma Center?

Response. While at National Naval Medical Center, this severely injured veteran was referred to the PSC and evaluated by the Palo Alto VA PRC. Considering the medical presentation of the patient, plans were made to move him to a PNS closer to his family—the Puget Sound VA Medical Center. The Polytrauma case manager has worked closely with the veteran's family, coordinating evaluations from another VA PRC and two private sector facilities. All consulting medical facilities concur that his care needs are currently best met by a skilled nursing facility. The case manager continues to be actively involved in his care and support of his family.

Question 4. I am concerned that some younger veterans have been placed into long-term care facilities intended for older patients with dementia or other age-re-

lated conditions. It seems that the need for age-appropriate care for some of our younger veterans has been well established. What is VA doing to ensure that younger veterans with traumatic brain injuries receive this type of long-term care, including opportunities for continued therapy and mental stimulation, if warranted?

Response. VA is taking measures to recognize the generational differences of this population and incorporate them into the care routines as well as cohort them in the nursing home with populations that are similar in ability to communicate and interact. In VA nursing homes, transforming the culture of care to make the living space more home-friendly is important. Having an Internet cafe, computer games, or age appropriate music and videos available for nursing home residents is necessary. Allowing for family, especially children, to visit, and perhaps even stay over when needed; personalizing care routines such as bathing and dining times; offering food items that are palatable to younger persons are examples of the changes occurring in VA nursing home care. Unlike other cohorts of veterans in nursing home care, this cohort thrives on independence, is physically strong, and is part of a generation socialized differently than their older counterparts.

VA has and will continue to admit young veterans into VA nursing homes when the veteran presents with sufficient functional impairment or health care needs that cannot be adequately addressed in a home and community based setting. Many returning veterans are presenting with multiple and severe disabilities including speech, hearing and visual impairment as well as loss of limbs and compounded with behavioral issues due to the stress of combat as well as brain injury. In addition, they have families, including children, who want to be actively involved in their care.

Question 5. Denise Mettie's testimony touched on the need of families of veterans with traumatic brain injuries for support and assistance during the initial rehabilitation stage and throughout subsequent years. How does VA plan to provide these families with the support and training that they need in order to successfully care for their loved ones?

Response. Consistent with VA's legal authorities, while patients are being treated in an inpatient setting at a PRC, their families have access to the following services:

- A social work case manager who is responsible for coordinating care, ensuring access to psychosocial services for patient and family, providing caregiver support within their scope of practice, and coordinating support services to meet family needs.
- Accommodations at a Fisher House, if available, hotel accommodations where a Fisher House is not yet available, transportation, telephone cards, and gift certificates for meals and entertainment.
- Clinical psychologists and social work case managers who facilitate caregiver support groups and/or individual interventions to address issues such as the role of bereavement in family transition, expected role changes within the family, intra-familial conflicts, marital strife, and other family stressors.
- Referrals as appropriate to mental health or medical resources.
- Chaplain services providing counseling and spiritual support for families and caregivers.

Consistent with VA's legal authorities, while patients are being treated in the outpatient setting at a PNS or by a PSCT, their families have access to the following services:

- Interdisciplinary team that includes a social work and nurse case manager. Clinical and psychosocial case management and coordination of the veteran's lifelong care needs by an interdisciplinary team.
- VA paid home care services (skilled home nurse care, home health aide, homemaker, respite care, adult day health care) required by the veteran.
- VA Home and Community Care Services (home based primary care, adult day health care).
- A 24/7 Polytrauma helpline through the call center operated by the Dayton VAMC.
- VA Vet Centers that offer counseling services to combat veterans and their families/significant others to help with readjustment issues, including treating combat stress and PTSD and helping families and caregivers deal with the effects of combat service.

For those patients that require long term care, VA provides access to the following services:

- VA nursing home care units with access to rehabilitation therapies.
- Contract nursing home care in the local community.
- VA medical foster care.

• Veterans and their families continue to receive psychosocial support and case management throughout the continuum of care.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV TO MICHAEL J. KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Question 1. What is the VA policy regarding health care professionals and research experts who are willing to volunteer their expertise for the care of returning veterans?

Response. VHA Handbook 1620.1, dated July 15, 2005 provides direction for healthcare professional volunteers. Volunteer assistance by physicians, dentists, nurses, and other professionally licensed persons to assume full responsibility for professional services in their respective fields may be accepted under certain circumstances. All such volunteer assignments must first be approved in advance by the facility chief of staff, or designee, who must ensure that any resulting volunteer appointment is first processed through all applicable credentialing and privileging procedures as described in VHA Handbook 1100.19. Any volunteer serving in this capacity must have appropriate training, work under the supervision of a VA compensated clinical staff member, and meet the other criteria for acceptance as a volunteer in VA's Voluntary Service (VAVS) program. Limited health care procedures, not requiring certification, can be approved as volunteer assignments by the clinical service involved. Any volunteer serving in this capacity must have appropriate training, work under the supervision of a VA compensated clinical staff member, and meet the other criteria for acceptance as a volunteer in the VAVS Program. The assignment must be in the area of supplementary assistance, and may be performed by either a lay or professionally licensed person working as a volunteer.

In addition, the professional may not be assigned to their "area of expertise." For example, a surgeon may not be assigned to be in an area where they would perform surgery. We would use them where their skills could best serve the veteran and enhance patient care.

Question 2(a). Can you provide information on the number of VA rehabilitation beds and services?

Response. VA supports 1768 rehabilitation beds nationwide—578 inpatient rehabilitation beds, 241 beds allocated for blind rehabilitation, and 949 spinal cord injury (SCI) specialty beds. Additionally, VA has implemented a rehabilitation treatment specialty within nursing homes to further expand availability of rehabilitation services for veterans as necessary.

VA provides highly specialized acute inpatient rehabilitation for veterans and active duty service members with TBI and polytrauma at four Level I PRCs. Each PRC has 12 rehabilitation beds (48 of the total 578 inpatient beds) that are accredited for brain injury rehabilitation and comprehensive rehabilitation by the Commission for Accreditation of Rehabilitation Facilities (CARF). Referral patterns and bed occupancy at the PRC are monitored on a weekly basis and VA has consistently maintained adequate capacity for patients with polytrauma/TBI.

An additional 245 rehabilitation beds (of the total 578 inpatient beds) are located across 17 Component II PNS that are not co-located with a PRC. These beds are CARF accredited for comprehensive inpatient rehabilitation and have not required a high demand for inpatient care to date; i.e., typically one or two OIF/OEF inpatients at a time.

Question 2(b). What action has VA taken to date to provide for such care, and what are the long term costs to maintain such capacity?

Response. VA's General Purpose Funding is distributed to its facilities based on the Veterans Equitable Resource Allocation (VERA) model, which includes funding to maintain capacity for rehabilitation care. Conditions such as TBI, SCI and blindness are specifically addressed for funding as separate patient classes within the complex care group. Long range planning models for these groups of patients use higher incidence and prevalence statistics to account for combat-related injuries.

Additionally, the PRC and PNS receive Special Purpose Funding from VA Central Office to support a portion of the rehabilitation specialists, consultants, staff training, and equipment used in rehabilitation care. The VISNs and medical centers have also provided additional resources to meet specific program needs.

Question 2(c). Has VA considered other rehabilitation centers to meet immediate needs?

Response. VA contracts with the private sector to provide services to eligible veterans as a complement to its system of care whenever indicated and authorized. De-

cisions to contract care are determined based on the needs of the individual patient, and VA staff coordinates episodes of contracted civilian care in support of the continuum of lifelong care for veterans with long-lasting disabilities.

Question 3. What new research is VA undertaking or commissioning to study the interactions of TBI and PTSD? What research is VA doing on the effects of vision loss and hearing loss on TBI diagnosis and care?

Response. VA's Office of Research and Development (ORD) supports a broad portfolio in TBI and related neurotrauma research and estimates devoting over $29.6 million to this research in Fiscal Year 2007.

This includes studying the interactions of TBI and PTSD. In one ongoing study, VA researchers collaborating with DOD are collecting risk factor and health information from military personnel prior to their deployments to Iraq. These soldiers will be reassessed upon their return and several times after that to identify possible changes that occurred in emotions or thinking as a result of their combat exposures, and to identify predisposing factors to PTSD as well as other health conditions. A goal of this study is to determine whether neuropsychological findings observed from pre- to post-deployment persist until long-term follow-up, and to examine the associations at long-term follow-up of neuropsychological changes and self-reported traumatic brain injury with the development of PTSD.

ORD has also issued a solicitation for new research in combat casualty neurotrauma seeking to advance treatment and rehabilitation for veterans who suffer TBI and other traumas from improvised explosive devices and other blasts. The solicitation is still active and applicants are asked to pay special attention to cooperative projects in TBI with DOD, including co-morbid conditions with TBI such as PTSD. ORD has also issued a special solicitation for new research on TBI and polytrauma (i.e., combinations of multiple injuries, including brain injuries, sensory loss, nerve damage, infections, emotional problems, amputations and/or spinal cord injuries) that includes studying the interactions of TBI and PTSD.

These solicitations are also seeking new research examining sensory loss and TBI. Ongoing ORD projects in this area are aiming to identify and characterize deficits in neural processing relevant to vision and hearing among veterans suffering from blast-related injuries, including those with TBI, and to develop effective rehabilitation therapies that improve visual and hearing functions important to everyday life. The overarching goals of these projects are to develop earlier detection strategies and enhanced treatment of blast-related injuries with respect to hearing, vision and potentially other important neural consequences.

In addition, VA recently established a Polytrauma and Blast-Related Injury Quality Enhancement Research Initiative (PT/BRI QUERI) coordinating center to use the results of research to promote the successful rehabilitation, psychological adjustment and community reintegration of OEF/OIF veterans. The scope of the PT/BRI QUERI includes the full range of health problems, healthcare system and psychosocial factors that impact returning veterans, and focuses on the complex pattern of co-morbidities and related functional problems and healthcare needs among the combat-injured. The PT/BRI QUERI links VA investigators with VA's polytrauma system of care, including the four lead centers located in Minneapolis, Richmond, Tampa, and Palo Alto. The polytrauma QUERI has two particular emphases: (1) to accelerate the diffusion and use of new knowledge generated by VA research in the areas of traumatic brain injury, sensory loss, prosthetics and amputation, and (2) to identify and address the needs of informal caregivers such as spouses or parents in order to allow veterans to remain in home and community-based settings.

Question 4. What type of comprehensive screening is VA doing for returning veterans on 161, PTSD, vision loss, and hearing loss?

Response. In regards to screening veterans for TBI, VA has developed a comprehensive approach to screening and evaluation of TBI by implementing a mandatory TBI screening clinical reminder across the VA. This includes a screening instrument that uses a data system prompt with an algorithm to refer patients with positive screens to a Level II or Level Ill polytrauma team for complete evaluation. All OIF/OEF veterans receiving medical care in VA facilities will be screened for possible TBl. The patient's medical record is checked at every visit through the use of computerized clinical reminders, software built into VHA's electronic medical record, to determine if screening has been completed. If screening was missed or has not yet done, VA providers will be "reminded" through the use of the computerized clinical reminder to perform screening. This approach helps ensure that patients who may have been missed or came before screening was mandatory get screened. Those who screen positive for TBI will be offered further evaluation and treatment by clinicians with expertise in the area of TBI.

Veterans receive comprehensive eye examinations by ophthalmologists and/or optometrists in VAMC Eye Clinics. Veterans documented with vision loss are referred to VAMC Low Vision Clinics and Blind Rehabilitation Centers, where they receive clinical visual rehabilitation examinations by Optometrists or Ophthalmologists. Vision rehabilitation therapists at these centers conduct functional vision assessments to determine veterans' abilities in activities of daily living, literacy abilities, orientation and mobility, etc. Patients with moderate to severe polytrauma and TBI receive vision evaluations as part of the comprehensive rehabilitation management procedures.

VA does not routinely screen returning veterans for hearing loss; however, active duty service members receive a post-deployment health survey that addresses hearing-related concerns. Audiology services are routinely provided for veterans injured on active duty and undergoing physical evaluation boards within MTFS. Injured veterans transferred to the VA health care system are typically screened for hearing loss by an audiologist or speech-language, and more comprehensive evaluation and treatment is completed by an audiologist as warranted (e.g., hearing aids, assistive alerting and listening devices, cochlear implants). All veterans with hearing concerns may file a claim for military service-related disability with the Veterans Benefits Administration.

VA screens all returning veterans who come to VA for care for PTSD, depression and alcohol abuse using questions that are used annually for all veterans. A screening tool for mild TRI is currently being released nationally.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BERNARD SANDERS TO MICHAEL J. KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Question 1. Is screening for TBI and PTSD currently mandatory at VA? If so, then what efforts are being made to re-screen those veterans that may have been missed or misdiagnosed, when they first returned, before screening was mandatory?

Response. Screening for PTSD has been mandatory since 2004 for all veterans, and screening for TBI in OEF/OIF veterans became mandatory as of April 2, 2007.

Enrolled veterans who screen positive for PTSD or other mental disorders are assessed to determine if the diagnosis is accurate or if there are other problems which need treatment. If a patient is found to have a problem other than PTSD, that condition is treated. Also there is re-screening of all enrolled OEF/OIF veterans for PTSD every year for the first 5 years after the initial screen. There is also annual re-screening for depression and alcohol abuse.

In regards to screening veterans for TBI, VA has developed a comprehensive approach to screening and evaluation of TBI by implementing a mandatory TBI screening clinical reminder across VA. This includes a screening instrument that uses a data system prompt with an algorithm to refer patients with positive screens to a Level II or Level III polytrauma team for complete evaluation. All OEF/OIF veterans receiving medical care within the VA will be screened for possible TBI. The patient's medical record is checked at every visit through the use of computerized clinical reminders, software built into VHA's electronic medical record, to determine if screening has been completed. If screening was missed or has not yet done, VA providers will be "reminded" through the use of the computerized clinical reminder to perform screening. This approach helps ensure that patients who may have been missed or came before screening was mandatory get screened. Those who screen positive for TBI will be offered further evaluation and treatment by clinicians with expertise in the area of TBI.

Question 2. Can you tell me how many veterans in Vermont are currently being treated for TBI? And PTSD? Since there are reports of reoccurrence of PTSD with older veterans, please break down the answers for PTSD into two categories: OEF/OIF and all other veterans. Please also provide the answers to the above questions for New England as a whole. In addition, how many veterans have been diagnosed with TBI or PTSD but have not sought treatment? Again, please break down the answers for PTSD into two categories: OEF/OIF and all other veterans. Please also provide the answers to the above questions for New England as a whole. My staff has asked VA for this data but has not received it. This information is crucial for my office to understand the patient levels that the facilities in my state and surrounding states should plan for and are currently serving.

Response. The Defense Manpower Data Center roster of 686,306 OEF/OIF veterans was matched against VA's inpatient (PTF) and outpatient (OPC) treatment records to retrieve all VA treatment data as of December 31, 2006. A total of 229,015 veterans have sought care from a VAMC from the start of OEF in October

2001 to December 2006. Using these health care records, 129 OEF/OIF veterans were identified as having been evaluated or treated for a condition *possibly* related to a TBI from VISN 1.

These conditions are listed as follow:

- ICD–9–CM 310.2: Postconcussion Syndrome: n=21
- ICD–9 CM 800: Fracture of skull: n=0
- ICD–9 CM 801: Fracture of base of skull: n=0
- ICD–9 CM 802: Fracture of face bones: n=27
- ICD–9 CM 803: Other and unqualified skull fracture: n=0
- ICD–9 CM 804: Multiple fractures involving skull or face with other bones: n=1
- ICD–9 CM 850: Concussion: n=47
- ICD–9 CM 851: Cerebral laceration and contusion: n=1
- ICD–9 CM 852: Subarachnoid, subdural, and extradural hemorrhage, following injury: n=0
- ICD–9 CM 853: Other and unspecified intracranial hemorrhage following injury: n=0
- ICD–9 CM 854: Intracranial injury of other and unspecified nature: n=41
- ICD–9 CM 950: Injury to optic nerve and pathways: n=2

Of these 129 veterans, 18 patients resided in Vermont.

Because there is no ICD–9 code specific to TBI, the above number should be considered tentative and provisional. The sum of the number of patients corresponding to each ICD–9 code (n=140) is more than 129 because a patient may carry more than one ICD–9 code.

VHA does not have data on veterans diagnosed with TBI or PTSD who have not sought treatment.

VISN 1 specific OIF/OEF veterans coded with potential PTSD through 1st Qt Fiscal Year 2007

Number of Unique OIF/OEF Veterans with PTSD Using VA Facilities During Fiscal Year 2002–1st Qt Fiscal Year 2007

VISN-Facility	Inpatients		Outpatients		Total Patients[1]		Vet Centers[4]			Grand Total[5]
	Primary[2]	Any[3]	Primary[2]	Any[3]	Primary[2]	Any[3]	PTSD	Sub-PTSD	Other	
1-BEDFORD	9	29	162	181	62	186	44	6	51	222
1-BOSTON	25	66	485	565	488	581	270	18	430	713
1-MANCHESTER			142	179	142	179	123	9	441	261
1-NORTHAMPTON	18	24	159	171	160	172	77	1	1,416	209
1-PROVIDENCE	11	30	296	348	297	352	106	1	676	404
1-TOGUS	2	12	240	282	240	285	220	78	373	410
1-WEST HAVEN	6	17	441	483	441	484	186	8	543	556
1-WHITE RIVER JCT	10	15	180	229	180	230	110	726	539	306
VISN 1	77	178	2,008	2,312	2,010	2,329	1,136	847	4,469	2,906

[1] The "total patient" counts were generated by matching a cumulative roster of 686,306 unique OIF/OEF veterans, who had been separated from active duty as of November 30, 2006, with VA inpatient (PTF) and outpatient (OPC) databases for Fiscal Year 2002, 2003, 2004, 2005, 2006 and through 1st Qt Fiscal Year 2007. The DOD Defense Manpower Data Center identified and provided the identity of these veterans to the VA Environmental Epidemiology Service on January 11, 2007.

[2] The number for "Primary" indicates the total number of unique veterans whose primary reason for the inpatient or outpatient visit was for treatment or evaluation of PTSD.

[3] The number for "Any" indicates the total number of unique veterans with PTSD, whether or not the primary reasons for the inpatient or outpatient visit was for treatment or evaluation of PTSD.

[4] The Vet Center counts were based on matching the DMDC OIF/OEF roster with Vet Center user's record through 1st Qt Fiscal Year 2007.

[5] The number for "Grand Total" (n=45521) indicates the sum of "Any Total Patients"(n=39243) and "Vet Center PTSD" (n=11660) after excluding known duplicates (n=5382).

The overall number of unique veterans in VISN 1 who received treatment for PTSD in FY 2006 was 19,356.

Question 3. What do you think of mandatory mental health screening by DOD for all service members that are deployed, when they return from service? Could this help remove the stigma of service members having to ask for mental health treatment, if everyone was required to be screened for mental health issues?

Response. DOD currently screens all returning service members for health issues when they return from deployment using the Post Deployment Health Assessment (PDHA) and again 3–6 months post deployment using the Post Deployment Health Reassessment (PDHRA). Both the PDHA and PDHRA include mental health questions. VA also has mandatory screening of OEF/OIF veterans who come to VA for care using questions on PTSD, depression and alcohol abuse. These questions are

the same as those used annually to screen all veterans. It is believed that screening all service members and veterans is an approach that can reduce stigma and at the same time ensure assessment of the population at risk.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHNNY ISAKSON TO MICHAEL KUSSMAN, M.D., EXECUTIVE-IN-CHARGE, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Question 1: Do you have any plans to expand the Active Duty Rehabilitation program at the Augusta VA Medical Center?

Response: The Department has no current plans to expand the Active Duty Rehabilitation program at the Augusta Veterans Affairs Medical Center (VAMC). The Augusta Department of VAMC has been able to meet the military's needs for all inpatient rehabilitation referrals; 93 percent of the referrals come from the southeast regional medical command. Fort Gordon remains the primary referral source with 66 percent of referrals, followed by 10 percent from Fort Campbell and 7 percent from Fort Stewart. The occupancy rate for the 30-bed active duty rehabilitation (ADR) inpatient unit at the Augusta VAMC has increased in recent months from 35 percent to 86 percent, VA will continue to monitor occupancy rates to determine the need for additional rehabilitation services in the future.

Question 2: Do you have any plans to expand the Active Duty Rehabilitation program to other VA Medical Centers across the country?

Response: The Veterans Health Administration (VHA), in consultation with the Department of Defense (DOD), is presently evaluating the need for additional polytrauma rehabilitation centers (PRC) to augment the services currently being provided at VAMCs across the country. VHA currently provides the highest quality medical, rehabilitation, and support services for veterans and active duty servicemembers through the VHA integrated polytrauma/traumatic brain injury (TBI) system of care, consisting of: (1) four regional polytrauma/TBI rehabilitation centers providing acute intensive medical and rehabilitation care for complex and severe polytraumatic injuries; (2) 21 polytrauma/TBI rehabilitation network sites, which implement the post-acute rehabilitation plan of care; and (3) 72 polytrauma/TBI support clinic teams located at local medical centers throughout the 21 Veterans Integrated Service Networks (VISN), which provide routine follow-up of care for veterans with a history of TBI and polytrauma.

Question 3: Do you feel that treating active duty troops at VA medical centers benefits the Department of Veterans Affairs?

Response: VA mission is to "care for him who has borne the battle." Meeting the comprehensive health care needs of returning Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans and servicemembers is the Departments highest priority. VA works closely with the Department of Defense to ensure our returning servicemen and women receive the highest quality of care and seamless transition of benefits, without regard to where their care is provided.

Chairman AKAKA. Thank you very much, Dr. Kussman.

Ms. Embrey?

STATEMENT OF ELLEN P. EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

Ms. EMBREY. Mr. Chairman, thank you very much the opportunity to be here today. On behalf of the Assistant Secretary of Defense for Health Affairs, I am going to be talking to you about health care needs of returning servicemembers and new veterans.

The Department of Defense, and the military health system specifically, is committed to protecting the health of our servicemembers, providing the best and world-class health care to more than 9 million beneficiaries and coordinating the transition of servicemembers' medical care to the Department of Veterans Affairs whenever necessary and appropriate.

Over the last several years, our two Departments have fostered a more effective, aligned Federal health care partnership by coordi-

nating and developing common health care and support services along the continuum of care. The Global War on Terrorism has posed a particular challenge to both Departments in adapting particularly for long-term rehabilitative care for our complex wounded, injured, and ill combat veterans. We owe very much to them, as demonstrated by the first panel, for their sacrifice to our Nation, and we are committed to working together to ensure that they get the very best that our health systems can offer and, consistent with Dr. Gans' testimony, working with the civilian industry if that is appropriate to get them the best care that they need.

The DOD/VA Joint Executive Council established the core partnership, a strategic plan and goals to better align and coordinate the health and benefits services of each of our two Departments.

Before continuing more about these efforts, I would like to briefly discuss the Department of Defense response to the recent findings of inadequate administration of support services, care coordination, and disability processing.

The Department of Defense is strongly committed to taking corrective actions to improve performance in these areas. Secretary Gates has formed an Independent Review Group to advise him on the actions that need to be taken, and they have 45 days to complete their assessment, and that is coming up here very shortly.

In addition, each military department has undertaken a focused review to take actionable actions immediately as they find them. And the Under Secretary of Defense for Personnel and Readiness, Dr. David Chu, has convened a working group to assess ways to improve the policies and programs of the Department based on the results of these ongoing reviews.

DOD is also cooperating with the President's Commission, as well as the interagency Veterans Affairs task force that was established to review these matters as well.

DOD's collective focus in these areas is on five major programs: facilities; caseworkers and case managers, along with the family support that goes with that; the disability determination process; traumatic brain injuries and treatment of severely injured; and post-traumatic stress disorders and mental health.

With respect to TBI, or traumatic brain injury, I thank you very much and your distinguished colleagues in Congress for your interest and support in expanding TBI research and treatment within the Department.

Now, I would like to refocus my remarks on overall DOD and VA partnerships in health care. The VA and DOD established and collaborated on the use of Joint Incentive Fund to eliminate budgetary constraints as a possible determinant for that sharing. Designated funding covers startup costs associated with innovative and unique sharing agreements, and at the end of 2006, 47 Joint Incentive Fund projects accounting for $88.8 million of the $90 million in the fund has been approved by the Executive Health Council. We are jointly staffing DOD and VA Federal health facilities at several locations around the country and have sharing agreements between DOD medical treatment facilities and Reserve component units with 157 VA medical centers.

This increased sharing has facilitated improved but not perfect coordinated transition of servicemember care from DOD to VA.

This transition involves effectively managing medical care and benefits during the transition from active duty to veteran status to ensure continuity of care and services.

The Department has been working with VA on streamlining and better aligning our support for coordinated transition in three main areas: medical care and disability benefits, transition to home and community, and sharing servicemember personnel and health information. The first panel spoke to all three of these and the issues that are at hand and the challenges before us.

Servicemembers who transition directly from DOD medical treatment facilities to one of the VA polytrauma centers are met by a familiar face in uniform. In 2006, the VA expanded their 4 centers for polytrauma to a polytrauma network with an additional 21 sites, and DOD assets will be there as well. The VA has placed their assets in our military treatment facilities. Their Joint Seamless Transition Program has been worked by the VA in coordination in with the military services and which facilitates a more timely receipt of benefits for the severely injured servicemembers while they are still on active duty. There are currently 12 VA social workers and counselors assigned at 10 military treatment facilities.

As of the end of last month, VA social workers supported 7,082 new patient transfers to the Veterans Health Administration from participating military hospitals. The VA has also placed liaisons at each of our three TRICARE regional offices to enhance communications and coordination between us to better support our shared beneficiaries.

DOD and VA partnering has been a key focus with respect to shaping common clinical services for our beneficiaries. An area of particular concern is our shared clinical focus on identification and treatment and follow-up for traumatic brain injuries. DOD fielded a clinical practice guideline for the management of mild TBI in CENTCOM, the theater of operations, in August of 2006, including requiring field use of a standard military acute concussion evaluation tool to assess in the field and document TBI for medical records upon return.

Efforts to build a more comprehensive DOD-wide program, including VA experts, is now underway to establish common protocols and procedures to identify, treat, document, and follow up on those who have suffered a TBI while either deployed or in garrison.

I see that my time is up, and I would be happy to yield the floor back to the Chairman for further questions.

[The prepared statement of Ms. Embrey follows:]

PREPARED STATEMENT OF ELLEN P. EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

Thank you, Mr. Chairman, for the opportunity to speak to you today on behalf of the Assistant Secretary of Defense for Health Affairs regarding the health care needs of returning servicemembers and new veterans.

The Department of Defense, and the military health system in particular, is committed to protecting the health of our Servicemembers, providing world-class healthcare to more than 9 million beneficiaries, and, seamlessly coordinating the transition of Servicemembers' medical care to the Department of Veterans Affairs (VA) whenever necessary.

Over the last several years, our two Departments have made significant strides in coordinating and developing common health care and support services along the entire continuum of care. Both agencies have been making concerted efforts to work

closely to maintain and foster a more effective, aligned Federal healthcare partnership. The Global War on Terrorism poses a challenge to both Departments, as the severity and complexity of wounds, and the increased survival rates yield increasing demands on our system for long term rehabilitative care for our wounded, injured and ill combat veterans. We owe much to them for their sacrifice to our nation, and we are committed to work together to ensure they get the very best that our health systems can offer, and keeping their associated bureaucratic burdens to a minimum.

In April 2003, a DOD–VA Joint Executive Council (JEC), chaired by the Under Secretary of Defense for Personnel and Readiness and the Deputy Secretary of the Department of Veterans Affairs, was established to jointly set strategies, goals and plans to better align and coordinate the health and benefit services of the two Departments. The JEC meets quarterly to review progress against the mutually developed plans.

The VA/DOD Joint Strategic Plan reflects common goals from both the VA Strategic Plan and the Military Health System (MHS) Strategic Plan—and specifically articulates the shared goals and objectives developed and ratified by DOD/VA leadership. Three weeks ago, Dr. David S.C. Chu, Under Secretary of Defense for Personnel and Readiness, and Mr. Gordon H. Mansfield, Deputy Secretary, Department of Veterans Affairs, directed additional joint initiatives to improve alignment, leverage shared resources, and improve delivery of care to our returning combat veterans.

The spectrum of DOD–VA collaboration and sharing activities encompasses clinical services, education and training, research and development, patient administration, and information/data technology sharing. Before providing an overview of these activities, I'd like to briefly highlight the Departments' response to the recent findings of inadequate administration of support services, care coordination, and disability processing. The Department is strongly committed to taking corrective actions to improve performance in these areas. Secretary Gates has formed an Independent Review Group (IRG) to advise him on actions that need to be taken, each Military Department has undertaken a focused review of these matters, and the Under Secretary of Defense for Personnel and Readiness Dr. Chu, has convened a working group to assess ways to improve policies and programs based on the results of these ongoing reviews. DOD is also cooperating with the President's Commission on Care for America's Returning Wounded Warriors and is participating actively in the Interagency Task Force on Returning Global War on Terror Heroes.

DOD's collective focus is centered on five major program areas:

1. *Facilities*. DOD's medical facilities, outpatient housing, medical barracks, and the full spectrum of hotel services provided by the Department are being assessed to ensure standards of quality our Servicemembers and families expect and deserve are met.

2. *Case Workers/Case Managers and Family Support*. Practices for case management, including care coordination, case-manager-to-patient ratios, family support models, and related support services are being assessed to ensure our wounded and ill Servicemembers get needed support throughout their healthcare delivery and rehabilitation, regardless of whether their care is delivered in DOD or VA facilities. In some instances, patients will continue to obtain care in both systems. For that reason, establishing case-management protocols and systems that seamlessly support all configurations of care in both systems is a high priority.

3. *Disability Determination Processes*. Medical, personnel, and disability-benefit determination experts within and outside the DOD are actively involved in an effort to develop and recommend a streamlined process that minimizes delay while providing fair, consistent, and timely determinations for all Servicemembers.

4. *Traumatic Brain Injuries (TBI) and Treatment of the Severely Injured*. Since the Global War on Terrorism began, DOD has been collaborating with VA on the full spectrum of combat wounds, injuries and associated illnesses, particularly those occurring as a result of improvised explosive devices. Both Departments are working together to identify best practices for providing and supporting highest quality acute and long term care for severely injured and ill servicemembers, as well as to determine the most effective means to screen, diagnose, and treat individuals who experience a TBI. Civilian TBI experts and researchers are important collaborators to both Departments in shaping how to apply available research outcomes in establishing an evidence-based, comprehensive program in both systems to detect, diagnose and treat this health risk to our servicemembers and veterans.

5. *Post-Traumatic Stress Disorder (PTSD)/Mental Health*. The short-term and long-term mental health needs of our Servicemembers and veterans are major priorities of both Departments. To further transition support, a VA/DOD Mental Health Working Group was formed in 2003 under the Joint Executive Council to focus specifically on mental health initiatives and transition of care. DOD continues to criti-

cally evaluate its capabilities, policies and programs to ensure effective support for returning servicemembers and new veterans' mental health needs, including their families. This includes looking at improved methods of information sharing from VA medical records regarding mental health conditions and treatments for Reserve Component members that may contraindicate future deployments. With the renewed support of the line commanders and leaders, new approaches to reducing the stigma of seeking mental-health treatment will be explored. We will continue to pursue expanded opportunities for collaboration with VA to ensure the coordinated transition of veterans with mental-health needs.

Supporting all of these collaborative efforts, we will continue to grow, enhance, align, and integrate the technology infrastructure that supports both systems, enabling greater access to clinical and administrative information for the benefit of the people we serve.

The following provides greater detail on our comprehensive sharing initiatives:

OVERALL DOD–VA SHARING EFFORTS

As a result of the National Defense Authorization Act for Fiscal Year 2003, VA and DOD have been actively collaborating on a wide spectrum of joint initiatives. Section 721 of that Act required that the departments establish, and fund on an annual basis, an account in the Treasury referred to as the Joint Incentive Fund (JIF). The JIF provides a means to eliminate budgetary constraints as a possible deterrent to sharing initiatives by providing designated funding to cover the startup costs associated with innovative and unique sharing agreements. At the end of Fiscal Year 2006, 47 JIF projects—accounting for $88.8 million of the $90 million in the fund—had been approved by the Health Executive Council out of a total of more than 200 proposals. The 2006 projects cover such diverse areas of medical care as mental-health counseling, Web-based training for pharmacy technicians, cardio-thoracic surgery, neurosurgery, and increased physical therapy services for both DOD and VA beneficiaries.

We also are jointly staffing a number of Federal health facilities. These include:

• The Center for the Intrepid—opened in January 2007, provides a state-of-the-art facility in San Antonio, Texas, explicitly to rehabilitate wounded warriors. This follows the Walter Reed Amputee Training Center's example of onsite collaboration.

• Integrated DOD–VA operations in several locations, for example: North Chicago (Great Lakes Naval Station); New Mexico (Kirtland AFB); Nevada (Nellis AFB); Texas (Fort Bliss); Alaska (Elmendorf AFB); Florida (NAS Key West); Hawaii (Tripler AMC), and California (Travis AFB).

• At the end of Fiscal Year 2006, DOD military treatment facilities and Reserve Units were involved in sharing agreements with 157 VA Medical Centers, enabling improved visibility of medical needs in VA for reservists entitled to VA care after returning from combat operations.

COORDINATED TRANSITION

Coordinated transition involves effectively managing medical care and benefits during the transition from active duty to veteran status to ensure continuity of services and care. Efforts to date have focused on enabling Servicemembers to enroll in VA healthcare programs and file for VA benefits before separation from active duty status. Additionally, the Department has been engaged with VA on initiatives and programs supporting coordinated transition focused on three general areas: (1) medical care and disability benefits, (2) transition to home and community, and (3) sharing Servicemember personnel and health information. The Joint Executive Council has established a Coordinated Transition Working Group to examine and make recommendations for improvement to the transition process.

For Servicemembers who transition directly from DOD military treatment facilities to VA medical centers, DOD and VA implemented the Army Liaison/VA Polytrauma Rehabilitation Center Collaboration program—also called "Boots on the Ground"—in March 2005. This program is designed to ensure that severely injured Servicemembers (primarily Army soldiers) who are transferred directly from a military treatment facility to one of the four VA Polytrauma Centers—in Richmond, Tampa, Minneapolis, and Palo Alto—are met by a familiar face and a uniform. A staff officer or non-commissioned officer assigned to the Army Office of the Surgeon General is detailed to each of the four locations, to provide support to the family through assistance and coordination with a broad array of such issues as travel, housing, and military pay. This coordination process has been working exceptionally well. However, this transition has not always worked as well when Servicemembers are transferred to other locations around the country. In response, VA opened 21 new Polytrauma Network Sites in Fiscal Year 2006 to provide continuity of care to

injured Servicemembers. The Department deeply values the sacrifices that these veterans and their families have made. With our VA colleagues, we are committed to doing all we can to improve our coordination and case management of Servicemembers who transition to any VA facility.

VA also is placing personnel in our medical facilities. The Joint Seamless Transition assists severely injured Servicemembers while they are still on active duty so that they can receive benefits in a timely manner. There are 12 VA social workers and counselors assigned at 10 military treatment facilities, including Walter Reed Army Medical Center and the National Naval Medical Center in Bethesda. These social workers ensure the seamless transition of healthcare, including a comprehensive plan for treatment. Veterans Benefits Administration counselors visit all severely injured patients and inform them of the full range of VA services, including readjustment programs, educational and housing benefits. As of February 28, 2007, VA social worker liaisons had processed 7,082 new patient transfers to the Veterans Health Administration from participating military hospitals.

VA also partners with DOD medical facilities through a Cooperative Separation Physical Examination and Benefits Delivery at Discharge (BDD) program which began in 2004. The BDD program eliminates the disadvantage of previous procedures, in which Servicemembers were required to undergo two physical examinations within months of each other. Under VA's BDD program, Servicemembers can begin the claims process with VA up to 180 days before separation at any of the 131 DOD sites where local agreements have been established.

Finally, VA has placed liaisons in each of our three TRICARE Regional Offices in Washington, DC, San Antonio, TX, and San Diego, CA, providing an important communications and coordination link between the DOD and VA to better support our shared beneficiaries.

Within DOD, providing assistance and support to the families of wounded or ill servicemembers during this tumultuous time of transition continues to be a high priority. Thus, the Military Severely Injured Center (MSIC), established in February 2005 within the Military Community and Family Policy Office, operates a hotline center which functions 24 hours a day, 7 days a week. The Center's mission is to identify and resolve policy and program gaps in support and augments and reinforces the support that each of the Service-specific programs —the Army Wounded Warrior Program, the Navy Safe Harbor program, the Air Force Helping Airmen Recover Together (Palace HART) program, and Marine4Life—provide.

CLINICAL SERVICES

DOD and VA are working together on some of the most complex clinical matters emerging from the current war. We are developing joint Evidenced-Based Clinical Practice Guidelines that are means for disseminating throughout our systems the most current scientific and medical knowledge. These guidelines allow our organizations to provide fact-based state-of-the-art medical care that is easily transferable between the two medical care delivery systems.

Although our range of shared clinical activity spans most specialty areas, we are placing a particular focus in the following areas:

Mental Health

Mental-health services are available for all Servicemembers and their families before, during, and after deployment. Servicemembers are trained to recognize sources of stress and the symptoms of distress in themselves and others that might be associated with deployment. Combat-stress control and mental healthcare are available in-theater. In addition, before returning home, we brief Servicemembers on how to manage their reintegration into their families, including managing expectations, the importance of communication, and the need to control alcohol use.

After returning home, Servicemembers are provided easy and direct access to mental healthcare services following a continuum of care model. Same-day appointments and daily walk-in appointments are available in military mental health clinics, and behavioral healthcare providers are integrated into primary care clinics in both the DOD and VA. TRICARE also is available for 6 months after return for Reserve and Guard members and TRICARE Reserve Select programs are available for continuing health insurance coverage for Reserve and Guard members and their families after the 6-month transition period. To facilitate access for all Servicemembers and family members, especially Reserve Component personnel, the Military OneSource Program—a 24/7 referral and assistance service—is available by telephone and on the Internet. In addition, we provide face-to-face counseling in the local community for all Servicemembers and family members. We provide this nonmedical counseling at no charge to the member, and it is completely confidential. For clinical care, family members can access mental health services directly in the

TRICARE network. Up to eight sessions are available without a referral from a primary care manager and without pre-authorization requirements from TRICARE.

The Periodic Health Assessment (PHA) was added to the continuum of assessments in February 2006. This annual requirement for all deployable assets of the Department includes a robust mental health section that complements the deployment health assessment process, allowing the opportunity for assessment, referral to care, and treatment outside the deployment cycle.

To supplement mental-health screening and education resources, we added the Mental Health Self-Assessment Program (MHSAP) in 2006. This program provides Web-based, phone-based, and in-person screening for common mental health conditions and customized referrals to appropriate local treatment resources. The program also includes parental screening instruments to assess depression and risk for self-injurious behavior in their children, along with suicide prevention programs in DOD schools. Spanish versions of the screening tools are available as well.

Traumatic Brain Injury (TBI)

The Department is working on a number of measures to evaluate and treat Servicemembers affected or possibly affected with traumatic brain injury (TBI). For example, in August 2006, a clinical practice guideline for management of mild TBI in-theater for the Services was developed and fielded. Detailed guidance was provided to Army and Marine Corps line medical personnel in the field to advise them on ways to deal with TBI. The clinical practice guideline included a standard Military Acute Concussion Evaluation (MACE) tool to assess and document TBI for the medical record. TBI research in the inpatient medical area is also underway.

A program to integrate the outstanding work completed in TBI by the military departments has been initiated to establish a comprehensive DOD program, and experts from VA are included in this effort. This comprehensive program will provide system-wide common protocols and procedures to identify, treat, document, and follow up on those who have suffered a TBI while either deployed or in garrison. In addition, it will address TBI surveillance, transition to non-DOD care, long-term care, education and training, and research.

DOD has also modified the questions asked during the Post-deployment Health Assessment, the Post-deployment Health Reassessment, and the Periodic Health Assessment to help identify individuals who may have suffered a TBI.

ADMINISTRATION AND LOGISTICS

The DOD/VA Health Executive Council worked with industry to synchronize data on approximately 16,000 items from 17 manufacturers and more than 160,000 items from Prime Vendor distributors. A contract was awarded for a data synchronization pilot study to determine the best purchase of medical items from the healthcare industry. We continue to make progress on joint procurement activities. As of September 2006, there were 77 joint National contracts, 7 Blanket Purchase Agreements (BPAs) and 46 medical/surgical shared contracts.

Both Departments face a challenge familiar to health organizations, insurers, employers and individuals across the country—the rising costs of healthcare. One area—pharmacy—is particularly noteworthy. Nearly 6.7 million beneficiaries use our pharmacy benefit, and in Fiscal Year 2006, our total pharmacy cost was more than $6 billion. Our partnership with VA on joint contracting for prescription drugs is part of this solution, and our collective purchasing efforts have saved DOD more than $784 million in Fiscal Year 2006.

OCCUPATIONAL EXPOSURES

DOD and VA have collaborated on a number of recent projects related to occupational and environmental exposures. Projects related to chemical warfare agents and depleted uranium are two examples. DOD undertook a wide-ranging initiative to identify all exposures to chemical and biological agents from World War II to the present. To date, DOD has provided more than 19,000 names of test participants to VA. As part of this effort, DOD declassified the medically relevant information from test records and identified the records of approximately 6,700 soldiers who were involved in testing of chemical agents, placebos, and/or pharmaceuticals in Edgewood, MD, during the period of 1955–75. DOD provided the names of these individuals, the dates of the tests, and the types of exposures to VA. VA and DOD collaborated on writing a letter to veterans to explain the history of the testing program and to provide information about the availability of VA healthcare. VA started mailing notification letters in June 2006.

We continue to monitor the health affects of our Servicemembers exposed to depleted uranium (DU) munitions. DOD policy requires urine uranium testing for

those wounded by DU munitions. We also test those in, on, or near a vehicle hit by a DU round, as well as those conducting damage assessments or repairs in or around a vehicle hit by a DU round. The policy directs testing for any Servicemember who requests it. More than 2,215 Servicemember veterans of Operation Iraqi Freedom have been tested for DU exposures. Of this group, only nine had positive tests, and these all had fragment exposures.

Testing continues for veterans exposed to DU munitions from the 1990–1991 Persian Gulf War. The 74 individuals with the most significant exposures to DU in a Department of Veterans Affairs medical follow-up program have been extensively studied with physical exams and laboratory analyses for over 12 years. To date, none have developed any uranium-related health problems. This DU follow-up program is in place today for all Servicemembers with similar exposures.

HEALTH INFORMATION TECHNOLOGY AND DATA SHARING

In the health information technology arena, DOD and VA have engaged in a number of important efforts to share essential clinical and management information in support of health care services to our wounded servicemembers and all eligible former military members who seek care from VA.

The work of capturing and sharing relevant clinical information between the DOD and VA begins on the battlefield. With the expanded use of the Web-based Joint Patient Tracking Application (JPTA), our medical providers should have improved visibility into the continuum of care across the battlefield, and from theater to sustaining base. DOD grants access to JPTA for VA providers who are treating Servicemembers in VA. In addition, we are working with VA to explore ways to share relevant patient injury/wound trend data to assist VA in predicting and preparing for treatment of OIF and OEF combat veterans.

Since September 2003, DOD has provided a roster to VA periodically, which lists OIF and OEF veterans who have either deactivated back to the Reserve/National Guard, or who have separated entirely from the military. VA uses this roster to evaluate the healthcare utilization of OIF/OEF veterans. VA performed its most recent analysis related to 631,174 veterans in November 2006. Thirty-two percent of these individuals had sought VA healthcare at least once. The three most common diagnostic categories were musculoskeletal disorders (mostly joint and back disorders), mental disorders, and dental problems. These data are quite useful in VA's planning for allocation of healthcare resources.

Servicemembers who have substantial medical conditions are evaluated in the Physical Evaluation Board (PEB) process to determine if they are fit to stay on active duty or if they should be medically separated. DOD provides the names of individuals who enter the PEB process to VA, to facilitate the transition of care and to assist in starting the paperwork to provide VA benefits. In 2005, DOD and VA signed a memorandum of understanding that stated that DOD would send these data to VA. In October 2005, DOD delivered the first list to VA of names, current locations, and medical conditions. Since then, DOD has sent a list of names to VA periodically, which will continue in the future. Data on more than 16,000 individuals have been transferred to VA. The Veterans Health Administration and Veterans Benefit Administration plan to send letters to these individuals to inform them about the availability of VA healthcare and disability benefits, respectively.

The Federal Health Information Exchange (FHIE) enables the transfer of protected electronic health information from DOD to VA at the time of a Servicemember's separation. Every month, DOD transmits laboratory results, radiology results, outpatient pharmacy data, allergy information, discharge summaries, consult reports, admission, disposition and transfer information, elements of the standard ambulatory data records, and demographic data on separated Servicemembers. As of February 2007, DOD had transmitted more than 182 million messages to the FHIE data repository on more than 3.8 million retired or discharged Servicemembers. This number grows each month.

DOD expanded the breadth of data transferred under the FHIE in recent years. In September 2005, we began monthly transmission of the electronic Pre- and Post-Deployment Health Assessment information to VA, followed in November 2006 with monthly transmission of Post-Deployment Health Reassessments (PDHRAs) for separated Servicemembers and demobilized National Guard and Reserve members. Weekly transmission of PDHRAs for individuals referred to VA for care or evaluation started in December 2006. As of February 2007, VA has access to more than 1.6 million assessment forms on more than 681,000 separated Servicemembers and demobilized Reserve and National Guard members.

The FHIE has been successful in improving data sharing as Servicemembers' transition from DOD to VA care. In some communities, however, beneficiaries eligi-

ble for both DOD and VA care may obtain care from both systems. The Bidirectional Health Information Exchange (BHIE) enables the real-time sharing of allergy, outpatient pharmacy, demographic, laboratory, and radiology data between DOD BHIE sites and all VA treatment facilities for patients treated in both DOD and VA facilities. As of January 2007, BHIE was operational at 14 DOD medical centers, 17 hospitals, and more than 170 outlying clinics. In the 3rd Quarter Fiscal Year 2007, all DOD sites and all VA sites will be able to view allergy information, outpatient pharmacy data, radiology reports, and laboratory results (chemistry and hematology) on shared patients.

We have begun testing our ability to share inpatient information, and successfully completed initial testing at Madigan Army Medical Center (AMC) and VA Puget Sound Health Care System (HCS) in August 2006—enabling access to inpatient discharge summaries from Madigan AMC's Clinical Information System (CIS) and VA's VistA system. We implemented this functionality in November 2006 at Tripler AMC where we make emergency department discharge summaries available to VA on shared patients. We also installed this functionality at Womack AMC in February 2007. We plan further deployment in additional DOD sites in Fiscal Year 2007. In the future, we will make additional inpatient documentation, such as operative notes and inpatient consultations available to VA.

We also began the exchange of important clinical information between each of our clinical data repositories. The Clinical Data Repository/Health Data Repository (CHDR) establishes interoperability between DOD's Clinical Data Repository (CDR) and VA's Health Data Repository (HDR). In September 2006, the CHDR interface successfully exchanged standardized and computable pharmacy and medication allergy data between William Beaumont AMC and El Paso VA HCS on patients who receive medical care from both healthcare systems. Exchanging computable pharmacy and allergy data supports drug-drug and drug-allergy order checking for shared patients using data from both DOD and VA.

In December 2006, DOD also began deployment and VA continued field testing at Eisenhower AMC and Augusta VA Medical Center (MC) and at Naval Hospital Pensacola and VA Gulf Coast HCS. During the 2nd Quarter Fiscal Year 2007, the organizations implemented CHDR at Madigan AMC and VA Puget Sound HCS, Naval Health Clinic Great Lakes and North Chicago VA HCS, Naval Hospital San Diego-Balboa and VA San Diego HCS, and Mike O'Callaghan Federal Hospital and VA Southern Nevada HCS. By July 2007, DOD will send out instructions to sites to allow remaining DOD AHLTA locations to begin using CHDR.

Finally, the Laboratory Data Sharing Initiative (LDSI) facilitates the electronic sharing of laboratory order entry and results retrieval between DOD, VA, and commercial reference laboratories for chemistry tests. LDSI is available to all DOD and VA sites with a business case for its use. Either Department may function as a reference lab for the other. We are currently testing the addition of laboratory anatomic pathology and microbiology orders and results retrieval using the Logical Observation Identifiers Names and Codes (LOINC) and Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) standards.

While the DOD and VA are pleased with this accelerated data sharing over the last several years, we remain interested in even more collaborative efforts in the information technology arena. Both Federal health systems are proud of their successful deployments of enterprise-wide health information technologies, AHLTA and VistA, yet we both are seeking a new inpatient electronic medical record system. Consequently, we have embarked on a study to explore the potential for a joint inpatient system. This would offer several potential benefits. First and foremost, electronic sharing of inpatient data would enhance our ability to provide "seamless transition" of medical data for our severely injured and wounded Servicemembers to VA care. Second, there are potential cost efficiencies that would derive from joint-license procurements and joint-development activities. Finally, such an effort would likely proliferate opportunities for additional data sharing between DOD and VA. The Departments have embarked on a joint assessment that will recommend to DOD and VA leadership the best strategy for accomplishing these objectives.

Our efforts in enhancing DOD–VA collaboration over the last several years have been successful. Yet, we are not satisfied that we have achieved all that is possible. We have an aggressive plan to work through some of the greater technological and management challenges in the coming year. With the support of the Congress, we are confident we will be successful.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. AKAKA TO ELLEN EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

Question 1. What are your thoughts on providing seriously injured, separating servicemembers or their families with an electronic medium containing as complete a medical record as possible, perhaps to include scanned representations of paper records? This matter was raised by Senator Burr at the Committee's hearing. I would appreciate your thoughts on the feasibility of this additional precaution on behalf of our injured veterans.

Response. Separating Servicemembers may receive a copy of their medical records now. Further, providing Servicemembers with their electronic health information is part of the Military Health System strategic plan. But it is not clear that scanning older paper records for all is the best approach. Rather, we should focus on those with serious injuries, as we are doing with patients going to the VA polytrauma clinics.

Question 2. The Fiscal Year 2007 Defense Authorization Bill mandated that DOD include brain injury-related questions on its Post-Deployment Health Assessment (PDHA) questionnaire, which is administered to all returning servicemembers. This action was supposed to have occurred within 6 months of the bill's passage. As we have now reached this deadline, has DOD added this requirement to the PDHA in compliance with the law? Additionally, has DOD begun to distribute the new questionnaire for use by returning units?

Response. The existing Post-Deployment Health Assessment (PDHA) questionnaire has always contained questions about several general symptoms that are often associated with traumatic brain injury (TBI) or post-concussive syndrome. Also, the Post-Deployment Health Re-Assessment (PDHRA) questionnaire specifically asks if the servicemember was exposed to a blast or explosion during their deployment. The DOD issued policy guidance to add two TBI-specific screening questions to all assessments, and is in the process of modifying the various electronic versions of these assessment tools. The Assistant Secretary of Defense for Health Affairs' policy memo mandating the use of these screening questions set an implementation date of June 1, 2007.

In addition, in August 2006, a clinical practice guideline for management of mild TBI in-theater was developed and fielded. The clinical practice guideline included a standard Military Acute Concussion Evaluation (MACE) tool to assess and document TBI for the medical record. This clinical practice guideline and the MACE are in use in the USCENTCOM Theater of Operation today.

Question 3. Several weeks ago, the Committee staff requested from DOD's legislative office a detailed listing of non-mortal casualties of the Global War on Terror, by specific type of injury or condition. They were told that such information will take some time to obtain, as each service keeps its own detailed casualty records. Please expedite the collection of the data that staff has requested, and forward it as soon as possible.

Response.

Injuries and Wounded in Action

	Operation Enduring Freedom (OEF)	Operation Iraqi Freedom (OIF)	Total
Total	1,133	24,187	25,320
Returned to duty within 72 hours	40%	56%	55%

Source: Defense Manpower Data Center, as of March 17, 2007.

Disease and Non-Battle Injuries (DNBI) USCENTCOM (OEF/OIF) Combined

[Overall DNBI rate—4% of forces per week]

Injuries, all types	26%
Respiratory (colds, allergies, etc.)	13%
Dermatologic (rashes, lesions, etc.)	12%
Diarrhea and other abdominal problems	6%
Mental Health	3%
Combat Stress	2%

Disease and Non-Battle Injuries (DNBI) USCENTCOM (OEF/OIF) Combined—Continued

[Overall DNBI rate—4% of forces per week]

All other categories combined	38%

Source: Air Force Institute for Operational Health, as of March 10, 2007.

Question 4. Director Duckworth testified at the Committee's hearing about the need for States to be able to track returning servicemembers and new veterans. What is DOD doing to ensure that State Directors of Veterans Affairs have the most complete and up-to-date information on separating servicemembers?

Response. The Department of Defense (DOD) is coordinating with the Department of Veterans Affairs (VA) and State Directors of Veterans Affairs in the "State Benefits Seamless Transition Program." This initiative expands the communication links and coordination between VA, DOD, and the State departments of Veterans Affairs. This program began as a pilot project with the Florida State Department of Veterans' Affairs in September 2006. The Defense Veterans Program Coordination Office, in DOD, has participated in the planning of this program since its inception.

The State Benefits Seamless Transition Program involves VA staff located at ten DOD medical facilities around the country. The VA personnel at the military hospitals identify injured servicemembers who will transfer to VA facilities, such as the four VA Polytrauma Centers. After veterans sign an informed consent form, VA staff contact State Veterans' Affairs offices on behalf of the veterans. The State offices, in turn, contact the veterans to inform them about available State benefits. This should facilitate earlier access to State benefits and enhance the States' capabilities to provide long-term support to veterans and their families.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. PATTY MURRAY TO ELLEN EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

TRAUMATIC BRAIN INJURY

Secretary Embrey, I've been having a very hard time getting real numbers from your department on how many servicemembers need treatment for Traumatic Brain Injury (TBI).

I asked the Defense Secretary last month. He got back to me last week with a preliminary figure. He said that 2,121 Iraq and Afghanistan war veterans have been treated for TBI since October 2001.

But—and this is important—he said that number is incomplete because it does NOT include cases from every Pentagon medical facility. And it does NOT include all mild-to-moderate cases of TBI that occur in the field.

As I said, if we don't have accurate numbers, we can't set the right budgets, and we can't solve the problem.

One solution is to document any time that a servicemember is exposed to an IED incident. This would be noted in their medical records—so even if they don't suffer an immediate injury—we can follow up with them later to see if they have TBI.

I understand that in August 2006—your office received a report from an Armed Forces advisory board outlining a comprehensive plan to address the TBI problems.

Question 1. Is that system up and running today? If not, why not?

Response. The Department of Defense (DOD) has responded to the recommendations of the Armed Forces Advisory Board. In November, we convened a panel of experts to address detection and treatment of mild traumatic brain injury. From that meeting and other efforts in the DOD, we now have clinical practice guidelines for in-theater management of mild traumatic brain injury as well as a tool, the Military Acute Concussion Evaluation (MACE), to help assess the severity of a possible traumatic brain injury. Both the clinical practice guidelines and the MACE are in use in the Operation Iraqi Freedom and Operation Enduring Freedom theaters of operation.

In addition, the Assistant Secretary of Defense for Health Affairs has requested a comprehensive plan to address TBI within the DOD. I am the lead, with Vice Admiral Arthur, the Navy Surgeon General in support. We have planned meetings in April and May with the Service Surgeons General and personnel from the Services' Manpower and Reserve Affairs offices, along with representatives from the Department of Veterans Affairs and the principal supporting DOD organizations such as the U.S. Army Medical Research and Materiel Command, and the Defense and Veterans Brain Injury Center. The goal is to coordinate all current Service and DOD

efforts to develop a comprehensive program from the point of injury to resolution. This will include attention to baseline assessment, field evaluation, and treatment, screening post-deployment and in the periodic health assessment, education for military and family members, and research into protective, mitigating, and post-incident treatment and rehabilitation techniques that will maximize recovery.

Question 2. Have you run into anyone at the Pentagon who's opposed to tracking IED exposure in medical records for servicemembers who are not visibly injured on the battlefield?

Response. No. The primary issue regarding recording exposure to IED explosions in the medical record is setting boundaries for what is determined to be an IED exposure. Any person injured or symptomatic after an exposure is considered exposed. For those not injured and not symptomatic, we do not have a methodology to decide who was "exposed." Such a determination might be dependent on distance from the explosion, whether the explosion occurred near buildings or in an open environment, etc.

JOINT PATIENT TRACKING APPLICATION (JPTA)

Secretary Embrey, today we don't have a "seamless transition" between the Pentagon and the VA. More than two years ago, Congress required the Pentagon to improve patient tracking and management. This would ensure that servicemembers do not fall through the cracks and that their records move with them so they can get timely, complete care. It would create one record of all medical services a patient receives from the battlefield onward. It's known as the Joint Patient Tracking Application.

Question 3. Is this system up and running today? If not, why not?

Response. The DOD has improved patient tracking and management from the theater to definitive care facilities. The Theater Medical Information Program (TMIP) is running today on the battlefield, and it includes capabilities to document inpatient, outpatient, and ancillary care in an electronic health record. The Joint Patient Tracking Application (JPTA) is also up and running today and it tracks patients as they move from our combat support hospitals into receiving facilities. The JPTA is only one of several information sources the DOD makes available to the Department of Veterans Affairs (VA) to provide information that helps VA providers care for our wounded servicemembers. The JPTA is a Web-based patient tracking application that gives DOD and VA providers an ability to track and report some of their patient data, but it is not an electronic health record. When DOD patients transfer to the VA for care, the DOD sends copies of all medical records documenting treatment provided by the referring DOD facility along with them. Other sources of medical records for the VA are available through the Bidirectional Health Information Exchange and the Federal Health Information Exchange, where we have transferred over 182 million messages on more than 3.8 million retired or discharged servicemembers. Through these systems, the VA has access to patients' electronic health records and medical histories.

Question 4. Why didn't your office follow through with the new policy?

Response. The Department has made great strides to assure compliance with the law as documented in the Joint Medical Readiness Oversight Committee Report to Congress on our implementation of the National Defense Authorization Act of Fiscal Year 2005. The Joint Patient Tracking Application (JPTA) was developed at Landstuhl Regional Medical Center to streamline the process of tracking patients for Operations Enduring Freedom and Iraqi Freedom as they moved from the USCENTCOM Theater. The system was piloted and put into use to track patients from USCENTCOM to Landstuhl beginning in January 2004. In November 2004, the Assistant Secretary of Defense for Health Affairs issued a memorandum directing JPTA be implemented for patient tracking throughout the Military Health System by November 2007.

Question 5. How many stateside military hospitals do not use JPTA as required by law?

Response. Currently all 21 receiving facilities in CONUS that support movement/transition of servicemembers from theater use the Joint Patient Tracking Application (JPTA). More facilities will implement the tracking capabilities when required. Additionally, there are currently 17 Department of Veterans Affairs (VA) receiving facilities using the JPTA for tracking VA eligible patients coming from the Department of Defense.

Question 6. What reason would they have for not using it?

Response. The Joint Patient Tracking Application (JPTA) is but one of several capabilities used to meet our force health protection imperatives, and it is not an elec-

tronic health record. Most physicians are aware of JPTA as a patient tracking system to assist in transfer of essential patient information to the next level of care. The physicians who do use JPTA as a means to capture electronic information do so if no other primary or authoritative system for patient care is available, e.g., Theater Medical Information Program systems or Service-specific health care applications. Common JPTA users are patient administrators, clinicians, case managers, and the medical liaisons who track servicemember locations for commanders.

Question 7. Do you agree that not following the law places the wounded soldier at a disadvantage and creates delays in data collection while denying access to care and compensation?

Response. The Department has made great strides to assure compliance with the law as documented in the Joint Medical Readiness Oversight Committee Report to Congress on our implementation of the National Defense Authorization Act of Fiscal Year 2005. I believe our ongoing initiatives address Congressional direction and enable us to increase responsiveness to medical situations from the point-of-injury through the health care continuum. The Theater Medical Information Program systems are a critical part of AHLTA that empowers us to collect information to provide the most complete electronic medical record possible. This helps to promote quality and efficient health care for our servicemembers throughout the continuum of care.

Question 8. If you truly want a seamless transition why have you not implemented the law?

Response. The Department has made great strides to assure compliance with the law as documented in the Joint Medical Readiness Oversight Committee Report to Congress on our implementation of the National Defense Authorization Act of Fiscal Year 2005. DOD initiatives directly support coordinated transition and title 10 (Subtitle A, Part II, Chapter 55, Section 1074f) requirement for electronic capture of medical data in theater. It supports Public Law 105–85, subtitle F, section 765, which states that the "Secretary of Defense shall establish a system to assess the medical condition of members of the Armed Forces . . . who are deployed outside the United States . . . as part of a contingency operation . . . or combat operation." DOD initiatives also support the Presidential Executive Order Promoting Quality and Efficient Health Care in Federal Government Administered or Sponsored Health Care Programs, Presidential Special Directive, dated April 2004, and Presidential Directive/Endorsement, dated November 1997.

Question 9. What do you think happens when soldiers have to wait on paperwork the DOD is required by law to collect and produce?

Response. The Department is committed to protect the health of our servicemembers as one of our highest priorities. With or without the Joint Patient Tracking Application (JPTA), the Department of Defense (DOD) provides information on servicemembers who are treated in Department of Veterans Affairs (VA) facilities or are on their way to the VA for care. When our patients are referred to the VA for care, DOD sends with them copies of all paper and electronic records from AHLTA and JPTA, documenting treatment provided by the referring DOD facility. Normally, a discussion of the details of the case takes place between the referring DOD physician and the receiving VA physician.

It is important to note that JPTA does not contain all patient medical information and, therefore, must be included with other data system information to ensure a more complete transfer of patient information to the VA.

In addition, the Bidirectional Health Information Exchange and the Federal Health Information Exchange support information exchange between DOD and VA, and the DOD has transferred over 182 million messages on more than 3.8 million retired or discharged servicemembers. Through these systems, the VA has access to patients' electronic health records and medical histories.

The DOD welcomes the opportunity to brief Members of the Committee on DOD's strategy and current capabilities for managing in-theater medical tracking and surveillance.

AMPUTATION

Question 10. Please define the locations and dates for the "Global War on Terror (GWOT)," "Operation Iraqi Freedom (OIF)," "Operation Enduring Freedom (OEF)," the Iraq War, the Afghanistan War, and "Operation Noble Eagle" (ONE).

Response. Global War on Terror (GWOT): September 11, 2001—current, multiple locations.

Operation Iraqi Freedom (OIF): March 19, 2003—current, location: Iraq.

Operation Enduring Freedom (OEF): October 7, 2001—current, location: Afghanistan.

The Iraq War is the same as Operation Iraqi Freedom.

The Afghanistan War is the same as Operation Enduring Freedom.

Operation Noble Eagle: September 11, 2001—current, location: various, primarily homeland defense and civil support.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BERNARD SANDERS TO ELLEN EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

Question 1. Is screening for TBI and PTSD currently mandatory at DOD? If so, then what efforts are being made to re-screen those servicemembers that may have been missed or misdiagnosed when they first returned, before screening was mandatory?

Response. The existing Post-Deployment Health Assessment (PDHA) questionnaire always contained questions about several general symptoms that are often associated with traumatic brain injury (TBI) or post-concussive syndrome. Also, the Post-Deployment Health Re-Assessment (PDHRA) questionnaire specifically asks if the servicemember was exposed to a blast or explosion during their deployment. On March 8, 2007, the Assistant Secretary of Defense for Health Affairs issued policy guidance that requires the addition of two TBI-specific screening questions to both the PDHA and PDHA self-reporting tools as well as the Health Assessment Review Tool (a required part of each servicemember's annual Periodic Health Assessment), with an effective date of June 1, 2007. All three of these assessment tools already include the validated four-question Primary Care Post-Traumatic Stress Disorder screening scale. In addition, in August 2006, a clinical practice guideline for management of mild TBI in-theater was developed and fielded. The clinical practice guideline included a standard Military Acute Concussion Evaluation (MACE) tool to assess and document TBI for the medical record. This clinical practice guideline and the MACE are in use in the USCENTCOM Theater of Operation today.

There is no plan to re-screen servicemembers, except at the time of their Periodic Health Assessments or next deployments. Because the Periodic Health Assessment is an annual requirement, all servicemembers will have been screened after the passage of one year.

Question 2. What do you think of mandatory mental health screening by the DOD for all servicemembers that are deployed, when they return from service? Could this help remove the stigma of servicemembers having to ask for mental health treatment, if everyone was required to be screened for mental health issues?

Response. There already is mandatory mental health screening accomplished during every Post-deployment Health Assessment and the Post-deployment Health Reassessment. This is accomplished through the inclusion of various mental health screening questions on the two self-reporting tools, the responses of which are then evaluated by primary care providers who interview the individuals and make clinical judgments regarding the need for additional evaluation or treatment, including potential referral to mental health specialists. We have no evidence that a mandatory screening by a mental health professional would be more effective than the current approach. A trial program is underway at Fort Lewis and a formal validation study is underway to compare mental health outcomes of the two different approaches. The results of the study are expected in 2008.

Question 3. How many OIF/OEF soldiers, who have their home of record in Vermont, has the DOD diagnosed with PTSD or some form of TBI?

Response. From 2002, the number of servicemembers from Vermont with a PTSD diagnosis is 73. For TBI, there have been 11.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHNNY ISAKSON TO ELLEN EMBREY, DEPUTY ASSISTANT SECRETARY, HEALTH AFFAIRS/FORCE HEALTH PROTECTION AND READINESS, DEPARTMENT OF DEFENSE

Question. Do you feel that treating active duty troops at Department of Veterans Affairs (VA) medical centers benefits the Department of Defense (DOD)?

Response. The VA's treatment of active duty personnel continues to be of great benefit to DOD. VA medical facilities have been providing a wide range of health services to active duty personnel under agreements with the military services and DOD for more than twenty years. These agreements range from basic medical serv-

ices in geographically remote areas to specialized care for personnel with severe brain and spinal cord injuries.

Chairman AKAKA. Well, I thank you both very much for your testimony.

One of the concerns has been medical hold. Mr. Pruden's testimony discussed a veteran who was in medical hold for 3 years and 8 months, and it is difficult to think that that has happened.

Ms. Embrey, both Mr. Pruden and Ms. Mettie talked about lengthy medical holds and holdovers. It is our understanding that the Army maintains patients in medical hold much longer than the Navy and the Marines.

What is DOD doing to ensure that medical holds are appropriate and are not unnecessarily long?

Ms. EMBREY. Mr. Chairman, I believe that the Army was dedicated to giving the most time possible for injured and ill reservists who are put on medical holdover—those are the principal population that are retained on active duty—to give them an opportunity to heal so that they could return to duty. And medical hold is a status for individuals where they are allowed the time to heal until such time that no further or additional medical treatment would improve their outcome. And for some individuals, that is a very long time, and for others it is a very short time.

In 2004, the Department initiated a monthly reporting process where we reviewed the number of gains and losses to the medical hold process from each of the services, and we get that monthly report and we actively engage each of the Surgeons General in the Departments to ask what they are doing to address the time that is involved while these individuals are in the medical hold status.

So, I think, we have actively working with the services to make sure that it is being effectively managed. It is clear that we could do a better job.

Chairman AKAKA. I am glad to note that. We know that VA's prosthetics services are geared toward patients with diabetes and other diseases rather than combat wounds. DOD has the best prosthetics around, but at some point DOD will shed some of its prosthetic and rehabilitation functions.

Dr. Kussman, the Department of Defense has taken primary responsibility for rehabilitating young combat amputees and for fitting them with state-of-the-art prosthetic devices. Director Duckworth testified about her view that the Hines VA does not have the same level of prosthetic care that exists at Walter Reed.

We also know about the state-of-the-art work being done at the Center for the Intrepid. In time, some of the newer veterans will come to VA for prosthetic replacements or for other reasons.

What steps is VA taking to ensure that VA will be prepared to take over the care of these amputees from war zones?

Dr. KUSSMAN. Thank you, Mr. Chairman, for the question. I also obviously listened to the testimony that was given by the first panel.

We have been a national leader with prosthetics for a long time, as you know, and there is no argument about the fact that prior to the war, half of our patients were over 60 years of age, and by that mere nature, most of the amputees.

But we have adapted to do that. We have over 600 contracts with private contractors around the country to provide the care, 63 labs, 125 certified prosthetists throughout the system.

One of the challenges has been that some of the care that comes at Walter Reed, for instance, is truly state-of-the-art and only available there because it is research. And so a lot of times when somebody comes to us, it is done in a partnership with the handoff, and the patients go back to Walter Reed because the expertise and the technology is not available anywhere but at Walter Reed.

With our leadership of Fred Downs, who is there on a weekly basis, who runs our prosthetic services, he meets with all the amputees, explains to them the services that are available. In truth, Walter Reed contracts a large amount of its prosthetic care, just like we do. And so we believe that we have the services available.

As Major Duckworth talked about, she preferred to see a specialist down in Florida—which, by the way, we are paying for—and she also commented on a physical therapist not being able to come with her today. I do not know the specifics about that, but we sent the prosthetists from Hines with her down to Orlando, I believe, to see what was going on and to be sure that we could provide her the same level of care in Hines.

So I think that we are continuing to improve. I think we have a robust program. For somebody to say, a prosthetist in our system to say they have never seen a C-leg or whatever, I can't—I wouldn't take umbrage with the comment except that we certainly provide a large number of C-legs and anything else that is commercially available.

Chairman AKAKA. Thank you very much. We will have a second round.

Now I would like to call on Senator Burr.

Senator BURR. Thank you, Mr. Chairman.

I want both of you to know how much we appreciate your service. You are in two vitally important areas to this country and, more importantly, to our military and to our veterans.

Having said that, I hope that both of you really did listen to the witnesses before—and I appreciate the recap of everything we are doing. Ms. Embrey, your testimony is filled with a tremendous detail of collaboration between the VA and DOD in so many areas—clinical service, education, training, research and development, patient administration, joint initiatives to improve alignment, leverage shared resources.

We are now in the fifth year of this current conflict. At what point do we actually look at what is going on and implement changes? I get the impression—and I say this to you, Dr. Kussman, with the firm reality you have not been there that long from the standpoint of what you are doing now. How many real-life experiences do we have to listen to before we do away with the committees and the working groups and the interagency collaboration efforts and we actually implement some of this in the system?

So my question, Ms. Embrey, is real simple. Does DOD have the capabilities today to electronically transfer the records to VA of people that we are transferring over into that system?

Ms. EMBREY. Yes.

Senator BURR. And do we do that?

Ms. EMBREY. Yes.

Senator BURR. Then how can somebody enter the VA system or how can a mother be entrusted to be the delivery point of a son's medical records if we have got a system that electronically transfers that into the other side that works?

Ms. EMBREY. That is a good question.

Senator BURR. It is an important question.

Ms. EMBREY. I think that both Departments have implemented initiatives in their electronic health systems that allow them to capture electronic health records, but they do not necessarily transfer along—they have laboratory information and things like that, but they do not give that electronically directly to the individual, and the individual is entitled to their medical records, copies of their medical records as well.

Senator BURR. But do you not agree that the single most important thing in that transfer to the VA is to transfer all of the medical data that is pertinent to that patient?

Ms. EMBREY. And we believe we are doing that. We have extensive meetings. We have a comprehensive management plan that we discuss DOD providers are the individual to be transitioned to the VA. There are conference calls. There are dialogues between the losing provider and the gaining providers. There is a plan for how that individual is supposed to be managed, and the records that go along with that are transferred electronically.

Senator BURR. Does it concern you that out of the two witnesses that spoke on today, they had trouble having their medical records provided in the VA system?

Ms. EMBREY. I think that is absolutely evident, and I would wonder what the root cause is. I think we have institutional structures in place to make that happen, but at the individual level, I believe some things don't get included because somebody didn't update something.

Senator BURR. Well, let me suggest rather than to make this complicated, if we admit there is a problem, and if, in fact, DOD has the capacity today to download the medical records of any patient, why don't we invest in little flash drives and why don't we download the information to the patient, to the parent, to the spouse, to whoever, as well as transferring it to the VA so that at least in full detail we have got some redundancy? Because, clearly, the system of electronically transferring it isn't either doing it successfully or in total or, in fact, we need to look at the DOD system and, in fact, ask ourselves, "Does it truly capture all the medical data that is needed by the patient or by the next facility, VA or private sector?"

Let me ask you, Dr. Kussman: Are you getting the medical records for all the——

Dr. KUSSMAN. I believe that we are getting all the information that is available. As you know, the Secretary made an announcement a few weeks ago, concurrently with Dr. Winkenwerder, to work on a combined single inpatient electronic health record. The information that is presently available is lab tests and x-rays and other things, and both Departments have worked hard to get that going. But the record itself still is in paper.

Senator BURR. And I have tremendous respect for the Secretary and Dr. Winkenwerder, whom I talk to on an occasional basis. But let me go back to you, Ms. Embrey. We do have the capabilities within DOD to produce all the medical records electronically. Is that correct?

Ms. EMBREY. We do not have a common inpatient system, electronic system. Each of the services uses different applications, and so that is, again, going back to what Dr. Kussman just said, both of us need to and have agreed to collaborate on acquiring or developing a joint application for inpatient care that would provide complete seamless transaction inpatient care to both systems.

Senator BURR. So the data exists within DOD. We just cannot pull it all together. Is that what you are saying? Or part of the DOD is still paper and part is electronic?

Ms. EMBREY. That is correct.

Senator BURR. OK. So that makes it impossible to capture all the data.

Ms. EMBREY. Some of the military treatment facilities capture inpatient data electronically, but it differs between services. And so there is no common way for us to set up an exchange electronically with the VA. Our solution to that has been to capture as much information as has been available to capture electronically and put it into a central data repository, and it is that repository we use to provide VA with the information.

Senator BURR. You know, an amazing thing happened before I came to this hearing. I need to know something real quick, and I went to my computer, and I Googled it. And instantaneously it looked at a lot of different databases around the world, and it came up with the information that I needed.

We are way past needing to combine databases, if, in fact, we want to glean the information out of multiple databases. If we are trying to merge databases, whether it is DOD or whether it is CMS, we are going to be sitting here years from now not having the capabilities to extract the information we need for somebody who really needs the information.

So, one, we have learned something today. If, in fact, even though they are different, each area electronically stores the information, we can get it today. If we cannot figure it out, call Google. They can tell us how to do it.

If, in fact, we are not electronically storing it today, then we know the first step. We do not need the collaboration between the Secretary and Dr. Winkenwerder. We know exactly what we need to do, and we probably ought to have done that years ago.

The transfer between the two of you, if, in fact, we fix those first two pieces, is easy. It did not take a working group to do it. It did not take any collaborative agreement. It took sitting down and figuring out what is it we need to do to have this capability. And, Mr. Chairman, it frustrates me.

Again, I have great respect for both of you for everything that you commit to do. I pledge continually, whether it is DOD or VA, to be here as an ally to make sure that we have got sufficient resources. But to me, for us not to move forward as quickly as we can at a time that you have heard witnesses say we are not doing it, time is absolutely essential to the outcome of the individuals

that are affected, and we are dealing with something as it relates to medical records that does not really need a tremendous amount more study.

And as I said at the beginning, the thing that frustrates me is the road blocks that you are currently running into. We cannot even get a piece of legislation out of this body that addresses health IT from the standpoint of the private sector because of the competing—so I understand how difficult it is, but the difficulty is both of you are in areas that have very specific responsibilities. You can do this tomorrow if, in fact, you will just commit to doing it. And I will follow up with Secretary Nicholson, and I will follow up with Dr. Winkenwerder to make sure that at least this piece is emphasized with them, and my hope is that you will take to heart the fact that three of these witnesses told very personal stories today. And I believe that we could rotate those chairs and you could hear personal stories, like I do, as long as we are willing to sit here. And each of those stories are unique and they are different, and all of them we have made the same promise to, that this will be the best, that this will address their needs, and the fact that we still fall short—and we probably always will in some cases—just lets us know how important the work that we are going to do is.

So, again, I thank both of you. I thank you, Mr. Chairman, because I know I went over my time.

Chairman AKAKA. Thank you very much, Senator Burr. I want to thank you for your thoughtful questions and your remarks that touch on collaboration and coordination that we are seeking here.

Let me go on to a second round and touch on the diseases that were mentioned by our first panel.

A program has been developed by medical staff at Fort Sam Houston in conjunction with Walter Reed to provide guidance to military clinicians on diagnosing and treating severe infection. We heard Mr. Pruden and Director Duckworth talk about this issue.

Ms. Embrey, what is DOD doing about serious illnesses and fatalities in DOD facilities resulting from antibiotic-resistant infections, some of which may have been picked up in Iraq? Has DOD shared this expertise with VA?

Ms. EMBREY. The acinetobacter infection that was referred to is endemic in Iraq. It does embed in the wounds of injured and wounded soldiers. Early in the conflict, we did discover this, and an aggressive infection control program was developed and issued and is abided by in theater and at every receiving facility in the United States because it could spread, especially if it is resistant to antibiotics.

We have issued bulletins. We have clinical working groups with the VA who participate with us on all of the protocols that we learn as we care for our wounded servicemembers, and we share that with the VA. VA is well aware of the acinetobacter threat, and they issue guidance to their community as well.

So I believe we are doing everything we can to aggressively address infection control in our treatment facilities.

Chairman AKAKA. Yes. Another seeming problem that has occurred has been tracking of veterans. Dr. Kussman and Ms. Embrey, Director Duckworth testified about the need for States to be able to track returning servicemembers and veterans. What is

being done to ensure that State Directors have the best and most up-to-date information?

Dr. Kussman?

Dr. KUSSMAN. Mr. Chairman, before I answer the question, if I could go back for just a second to the acinetobacter thing. As Ms. Embrey said, we have had combined teams looking at the protocols and clinical guidance we put out to all our facilities years ago when this first came up. So I was really disturbed about Captain Pruden's comment that an infectious disease specialist there said he did not know what to do about that, and I certainly will look into it because it is well known as a problem, and we have certainly disseminated that knowledge.

Major Duckworth raised the issue. We had a test case in Florida. The Governor of Florida approached the VA and said, look, we do not have any exposure of when people are going to leave your facilities and come home. And we tested that for about 3 or 4 months, and it was a great success. We now have agreements with 19 States. I don't know why exactly Illinois is not part of that, but I will certainly contact Major Duckworth and see how we can move Illinois. But our hope is that all 50 or 52 jurisdictions—we take Puerto Rico and the District, and others—that we will have that in place where all the States—we have a very robust memorandum of agreement with the States, as well as the Reserve and National Guard, to be sure that we are communicating with them regularly.

When it does not work, we need to know about it, and we need to fix it.

Chairman AKAKA. Yes, Ms. Embrey, would you like to comment on that?

Ms. EMBREY. I just want to say that Guard and Reserve individuals who continue to serve in the Department of Defense, we are very interested in maintaining visibility on their treatment and continuing health and wellness to continue to serve. And so I took and listened with interest on the State VA's role in helping us work with our Reserve component members and sustaining their health. And so we will be doing that. We will be looking into that.

Chairman AKAKA. Well, thank you.

Director Duckworth made the case for increasing the window of automatic eligibility for VA care from 2 to 5 years. This is something that I believe is important for dealing with what we call "invisible wounds," which sometimes do not manifest itself for many, many years.

Secretary Nicholson has testified before this Committee that the current 2-year period provides ample opportunity for a veteran to apply for enrollment in the VA system, and that an expansion of this window is not necessary.

Dr. Kussman, has VA's position changed on this?

Dr. KUSSMAN. I think it is under review, but if I could comment on it, when the 2 years pass, these patients are not refused or not eligible for care. As you know, they are all veterans. They all have got a DD214. So whether it is 3 years or 10 years later, you can come to the VA, be evaluated, and if it is for—certainly for TBI that is related to things that have happened when you are on active duty or PTSD, it will be determined to be service connected and the person would continue to get care.

The only difference of the 2 years or greater is that for those 2 years we automatically enroll the person as a Priority 6, a level 6, with no copays, regardless of what their income status or anything else is. But after that, they still could come and regardless of what their income status is, if they have a service connection, they would still be eligible to enroll and get compensation and pension for that injury.

Chairman AKAKA. Dr. Kussman, as Mr. Pruden testified, VA seems to be out of practice in dealing with injuries resulting from war rather than from diseases or illness. What can be done about this so that we are giving our younger veterans the care they need in the most sensitive manner?

Dr. KUSSMAN. As I mentioned, there are some learning things related to some of the new prosthetics and everything. But as far as the injuries related, we have been a national and international expert for the last almost 30 years on PTSD, and since 1991 when we developed our four traumatic brain injury centers in partnership with DOD, the Defense and Veterans Brain Injury Center, we have actually been leading the country in the treatment of that. And as you know, Major Duckworth did mention about screening and things and checking. For quite a while now, we have had an automatic screen in our electronic health record for PTSD. So whenever an OIF/OEF veteran comes in, regardless of what the symptoms are—because generally they will not come and say, "I have got PTSD," or "I have got a mental health problem." They come for something else. We have an automatic drop-down menu that requires the primary care person, who generally sees that person, to ask the questions related to PTSD.

As you probably know, we have developed that same thing for TBI. We have tested it in 12 sites, and the only reason we did not implement it right away totally was that we have a very robust electronic health record, probably the world's leader in that, and that we wanted to be sure that when we put this electronic drop-down menu we did not break something in the electronic health record.

But as of April 1st, this electronic reminder for TBI as well as PTSD will be implemented around our system because, obviously, people don't come and say, "I have got TBI," just as they do not say—and I applaud your comments on invisible illness. So we need to be aggressive in our outreach to determine whether the individuals have it. If they are positive for the screen, then they are referred to more sophisticated neuropsychiatric evaluation. As you know, it is difficult. We all know what to do with significant, severe traumatic brain injury. Those are the ones that come back in the medical evacuation chain and then come to us generally through our polytrauma centers. But mild to moderate TBI is a challenge in the civilian community as well as in the DOD and VA. And we are trying to develop—we have worked with DOD and the civilian community to develop this screening mechanism that will allow us to try to determine mild to moderate TBI where the individual might not even know they have got a problem, no one has picked it up. And we need to track these people to be sure that whatever we can do to help them, we should do it.

Chairman AKAKA. I would tell you that this has been a good hearing today, and I thank you so much for your responses. I want to thank all the witnesses for appearing at today's hearing. We truly appreciate your taking the time to give us all a better understanding of the issues that our servicemen and women are facing.

My hope is that today's hearing will help promote more thoughtful and focused interaction between VA and DOD, particularly when they are taking care of seriously injured servicemembers. And, again, I want to thank you so much for being helpful to the cause, and we are here to try to improve the system. And we can do well doing it together.

Thank you very much, and this hearing is adjourned.

[Whereupon, at 12:12 p.m., the Committee was adjourned.]

A P P E N D I X

[Note: The following questions were submitted by Hon. Daniel K. Akaka to Hon. Daniel L. Cooper at the hearing held on March 7, 2007, which was already at press when the Committee received VBA's response.]

QUESTIONS SUBMITTED BY HON. DANIEL K. AKAKA TO HON. DANIEL L. COOPER, UNDER SECRETARY FOR BENEFITS, DEPARTMENT OF VETERANS AFFAIRS

Question 1. What would be the cost of expanding the BDD program to all OIF/OEF veterans?

Response. Resources necessary to open additional intake sites include dedicated funds, staffing reallocation, support infrastructure, equipment, and telecom needs. DOD is required to establish a Memorandum of Understanding with VA at each site and the military installation must provide space. Given the significant level of investment, one of the criteria in establishing the current BDD intake sites was the size of the separation site.

A BDD claim is a pre-discharge claim taken from a servicemember at one of the 140 BDD intake sites and processed through the BDD program. There are specific criteria for BDD claims to include servicemembers having 60–180 days remaining on active duty and availability for all required medical examinations. However, any servicemember may file a pre-discharge claim for disability compensation. A pre-discharge claim may be accepted from a servicemember with 180 days or less remaining on active duty. All claims from servicemembers who have participated in the Global War on Terrorism receive priority handling of their claim.

Question 2. What is VBA's rationale for rating headaches associated with traumatic brain injury at 10 percent while migraines are rated at 50 percent? What type of guidance has VBA provided to the field concerning rating headaches that stem from traumatic brain injuries?

Response. The diagnostic code for rating headaches is 8100. Although it is titled "Migraine," any type of headache can be evaluated analogously under this diagnostic code. The possible evaluation levels are 0, 10, 30, and 50 percent, depending on the severity (the frequency and duration of attacks and whether or not they are prostrating).

There is not currently a special diagnostic code or set of evaluation criteria for headaches from traumatic brain injury. Subjective complaints such as headache, dizziness, insomnia, etc., recognized as symptomatic of brain trauma are rated under a hyphenated diagnostic code, 8045–9304 with a maximum rating of 10 percent, according to instructions contained in diagnostic code 8045. We are currently in the process of reviewing and potentially revising the entire neurology section of the rating schedule. We plan to address all types of headaches, including headaches due to trauma.

We are preparing additional training material for adjudicators on evaluating the residuals of traumatic brain injury. This will include a discussion of post-traumatic headaches.

[Note: The following is a summary of the VA/DOD seamless transition study conducted by the Government Accountability Office.]

DOD AND VA HEALTH CARE: CHALLENGES ENCOUNTERED BY INJURED SERVICEMEMBERS DURING THEIR RECOVERY PROCESS*

WHAT GAO FOUND

Despite coordinated efforts, DOD and VA have had problems sharing medical records for servicemembers transferred from DOD to VA medical facilities. GAO reported in 2006 that two VA facilities lacked real-time access to electronic medical records at DOD facilities. To obtain additional medical information, facilities exchanged information by means of a time-consuming process resulting in multiple faxes and phone calls.

In 2005, GAO reported that VA and DOD collaboration is important for providing early intervention for rehabilitation. VA has taken steps to initiate early intervention efforts, which could facilitate servicemembers' return to duty or to a civilian occupation if the servicemembers were unable to remain in the military. However, according to DOD, VA's outreach process may overlap with DOD's process for evaluating servicemembers for a possible return to duty. DOD was also concerned that VA's efforts may conflict with the military's retention goals. In this regard, DOD and VA face both a challenge and an opportunity to collaborate to provide better outcomes for seriously injured servicemembers.

DOD screens servicemembers for PTSD but, as GAO reported in 2006, it cannot ensure that further mental health evaluations occur. DOD health care providers review questionnaires, interview servicemembers, and use clinical judgment in determining the need for further mental health evaluations. However, GAO found that 22 percent of the OEF/OIF servicemembers in GAO's review who may have been at risk for developing PTSD were referred by DOD health care providers for further evaluations. According to DOD officials, not all of the servicemembers at risk will need referrals. However, at the time of GAO's review DOD had not identified the factors its health care providers used to determine which OEF/OIF servicemembers needed referrals. Although OEF/OIF servicemembers may obtain mental health evaluations or treatment for PTSD through VA, VA may face a challenge in meeting the demand for PTSD services. VA officials estimated that follow-up appointments for veterans receiving care for PTSD may be delayed up to 90 days.

GAO's 2006 testimony pointed out problems related to military pay have resulted in debt and other hardships for hundreds of sick and injured servicemembers. Some servicemembers were pursued for repayment of military debts through no fault of their own. As a result, servicemembers have been reported to credit bureaus and private collections agencies, been prevented from getting loans, gone months without paychecks, and sent into financial crisis. In a 2005 testimony GAO reported that poorly defined requirements and processes for extending the active duty of injured and ill reserve component servicemembers have caused them to be inappropriately dropped from active duty, leading to significant gaps in pay and health insurance for some servicemembers and their families.

[Note: The following is a summary of the VA/DOD seamless transition study conducted by the VA Office of Inspector General.]

HEALTH STATUS OF AND SERVICES FOR OEF/OIF VETERANS AFTER TRAUMATIC BRAIN INJURY REHABILITATION *

EXECUTIVE SUMMARY

In response to the influx of servicemembers returning from recent conflicts in Afghanistan and Iraq, the Office of Inspector General, Office of Healthcare Inspections undertook an assessment of selected aspects of the health care and other services provided for these patients by the Department of Veterans Affairs. This review addresses the care of individuals with traumatic brain injury (TBI), focusing on their status approximately 1 year following inpatient rehabilitation. We interviewed a group of these patients to directly ascertain their overall well-being, functional status, and social integration, and to measure their perceptions of VA health care and services. In order to gauge the effectiveness of VA rehabilitation efforts, we also compared outcomes with those of TBI patients in the largest national civilian database. Finally, we visited Veterans Health Administration (VHA) facilities, met with

TBI program leaders, and surveyed those responsible for coordination of care for TBI patients.

Our inspection found that many of the 52 patients we interviewed continued to suffer some degree of cognitive or behavioral impairment approximately 16 months after injury. These patients had very similar outcomes when compared with a matched group of TBI patients from the private sector.

VHA has enhanced case management for TBI patients, but long-term case management needs further improvement. In addition, improvement is needed in coordination of care, so that patients are able to make a smoother transition between Department of Defense (DOD) and VA care. A recent VHA Directive, published after data collection for this report, defines roles for staff at all VHA facilities to ensure a seamless transition of care for servicemembers and veterans from DOD to the VA health care system.

We found that families often provide heroic support for injured servicemembers, but we also found that they frequently do so with limited assistance. To adequately meet the needs of its TBI patients, VHA needs to provide additional help for the family members and other caregivers so vital to the well-being of these patients in the long-term.

We recommended that the Under Secretary for Health should: (a) improve case management for TBI patients to ensure lifelong coordination of care, (b) work with DOD to establish collaborative policies and procedures to ensure that TBI patients receive necessary continuing care regardless of their active duty status and that appropriate medical records are transmitted, (c) develop new initiatives to support families caring for TBI patients, and (d) work with DOD to ensure that rehabilitation for TBI patients is initiated when clinically indicated.

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