

EXTENSIONS OF REMARKS

THE TRANSFORMATION OF
HEALTH CARE

HON. GEORGE E. BROWN, JR.

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Monday, October 4, 1993

Mr. BROWN of California. Mr. Speaker, I rise today to bring to the attention of my colleagues an outstanding paper written by Dr. A. Douglas Will who is the medical director of Loma Linda University Medical Center. The Loma Linda University School of Medicine, located in Redlands, CA, is at the cutting edge of the revolution in health care. The center has developed a highly successful integrated system in medical information management, which utilizes a magic card for each patient containing complete records and medical information, such as President Clinton is advocating.

I recently had the honor of visiting with Dr. Will in my district office in Colton, CA. I thoroughly enjoyed the opportunity to meet with a man so dedicated to the continual improvement of health care and requested a copy of any articles he had written. He sent the following paper entitled, "The Transformation of Health Care," which he used as a handout in a course in medical informatics taught for the Association of American Medical Colleges. It is an excellent paper, describing with clarity and insight the need to improve quality in all aspects of medical care. I urge my colleagues to carefully consider these ideas, which are in accordance with my own, as a meaningful contribution to the health care debate.

THE TRANSFORMATION OF HEALTH CARE

(By A. Douglas Will, M.D., M.P.H.)

Academic medical centers today are facing a major threat to their survival and they are poorly prepared to succeed in a fiercely competitive health care marketplace. Faculty practice plans face an eroding patient base, the disappearance of the fee-for-service patient, increased channeling of patients to other providers, constantly declining contractual rates for managed care, increasing requirements for regulation and utilization review, and declining compensation for faculty. At the same time, medical schools must respond to the shift to outpatient care and create an effective but affordable educational environment for students and residents in the ambulatory setting. More generalist physicians must be trained and they must be empowered to render broader and higher quality care. Costs are high and margins are low. To succeed, medical schools must lower practice overhead, raise their rate of collections, and expand their patient base through more effective service.

The road to cost containment in health care today is the journey to quality. It is frequently said that American's receive the highest quality health care in the world. Today many high quality physicians, nurses and others work hard to deliver health care. Quality is defined by the M.D. degrees, the

board certification and the credentials of physicians and other health care professionals. However, those high quality people work in a system that is straining under a burden of grossly inefficient operating procedures. From a global economic and operational perspective, poor procedures breed poor quality. Working harder is not enough. Working smarter is an absolute necessity. One of the principal causes of high cost today is poor quality. Poor quality pervades a health care system that pays little attention to its processes, is ignorant about its costs, drowns in inefficiency and waste, and does little to measure the effectiveness of its product. Quality in health care should be redefined with the definition that works in every other service industry. Quality is giving people what they want and what they need. The American public should demand and receive higher quality care at a lower price.

In 1903 the Kitty Hawk flew. Within a few years the Red Baron was engaged in spectacular dog fights in the skies over Europe. Today, scientific, economic, technological, social, political and legal forces are converging to form a powerful stimulus for change in health care. The collision of those forces will have an effect that will be as far reaching as the advent of powered flight and as important in its economic and social impact as both World Wars. In 1991, health care jumped a full percentage point, the sharpest one-year increase in three decades. If today's rate of growth continues, health care is projected to reach \$16 trillion dollars by 2030, or one-third of the nation's economic output. At the same time 37 million Americans are living today without health insurance coverage.

Most discussions of health care reform today focus on payment reform. The American health care system has within it a broad spectrum of models for payment, ranging from indemnity insurance to various forms of managed care and globally budgeted care such as the Veterans Administration system. The method of payment is an extremely powerful determinant of behavior and cost. However, no matter which payment method is adopted or which third party writes the check, inefficient and ineffective processes involved in the provision of care result in billions of dollars in wasted resources. Whether paid by an employer or by taxes, the cost of health care is always paid for by the people. Effective reform of health care must have the goal of providing people with higher quality care that costs less no matter how the provider is paid. What is needed is a paradigm shift that fundamentally changes not only the way health care is paid for but also the way it is delivered.

Health care is an information based service industry. Higher quality care can be achieved at reduced cost through effective use of modern information management. Unnecessary and redundant test ordering can be eliminated. Waste and fraud from erroneous claims submission can be eliminated. Lower administrative and management overhead can be achieved. Appropriate resource utilization can be achieved by guiding physicians to contextually sensitive knowledge about

diseases and their treatment. Physicians can be given direct access to information about plan authorization requirements and restrictions before they expend resources. Pharmaceutical usage can be monitored and managed through controlled formularies. Appropriate resource utilization can be facilitated by providing cost information on laboratory tests and medications to physicians so that they can discuss these factors with their patients and both can make informed decisions about the medical necessity of costly testing and treatment. Patients can be educated about their disease and take greater responsibility for maintaining their health.

During the time that health care costs have skyrocketed, the cost of computing has constantly fallen. Early computers filled a large room with vacuum tubes, wires and ducts and cost a fortune. Today one with much greater power can sit in the palm of your hand and costs a few hundred dollars. The same processes that led to improved performance for lower costs in computing can be applied to health care, leading to ever increasing quality for ever decreasing cost. In a recent article in the Los Angeles Times, Ross Arnett, Director of Office of National Health Statistics was quoted as having said that, unlike many other areas of the economy, medical spending is very labor-intensive and "doesn't lend itself to the kind of things you gain efficiency from, like robotics." We agree that medical spending is very labor-intensive. We disagree that it does not lend itself to efficiency.

The improved performance and reduced cost in computing has been achieved by getting inside and changing the intrinsic operations of the system, not by simply changing the purchase order. In general, systems fail at their connections. The improvement in computing is a result of constantly improving the connections between components by placing them on a single, integrated chip. We believe that the greatest potential for improvement in health care lies in improving the connections between physicians, other health care workers, and patients while redefining their roles and responsibilities and changing and streamlining the processes by which health care is delivered.

Health care is a service industry that is intensely dependent on information. Physicians are knowledge workers. Physicians drive most health care costs through the power of their pens. Do they have the information they need to optimize resource utilization and minimize expenditures while maximizing patient benefit? The best way to influence physician behavior and directly impact cost is by providing them with contextually sensitive information in time to impact decisions and improve outcomes. To be successful today, physicians must abandon 19th century industrial aged technologies that they continue to use for maintaining patient's medical records and adopt information tools that place contextually sensitive information at their finger tips.

The first objective when faced with a patient with a problem is to identify the problem and do what's right. The sheer volume of medical facts today have vastly outstripped the power of the human mind to recall them

● This "bullet" symbol identifies statements or insertions which are not spoken by a Member of the Senate on the floor.

Matter set in this typeface indicates words inserted or appended, rather than spoken, by a Member of the House on the floor.

all. The explosion of medical knowledge has been one of the major forces driving specialization leading to highly fractionated care. Correct medicine is cost effective medicine but knowing what's right is not easy. To do the right thing, physicians must have immediate access to text books and the medical literature. Access to knowledge removes uncertainty and empowers generalist physicians to render a broader range of care.

Physicians need to do the right thing, the right way. If pilots flew airplanes the way physicians practice medicine, they would simply get in the cockpit, fire up the engines, and take off. Pilots follow a checklist to ensure accuracy, reliability, and thoroughness. Physicians do not. Doing the right thing the right way can best be achieved by developing and following protocols and practice guidelines. Given thousands of diseases, and hundreds of protocols, no one can remember them all. Protocols and practice guidelines must be available to physicians with the click of a button at the time that they make management decisions.

The right thing needs to be done, the right way, on time. How can the health care system be efficient when so much time is spent waiting, rescheduling, and waiting again? Schedules can be optimized so that services can be rendered in a timely way. Today, physicians communicate with one another using an antiquated transcription and mail system that frequently leaves patients waiting for consultation reports, laboratory results, and X-rays that are "in the mail."

The right thing has to be done, the right way, on time, the first time. It has been estimated that up to 100 billion dollars is expended annually on paperwork alone. Coding and billing are frequently done three to four times before they are done correctly. Blue Shield of California has estimated that up to 15% of the time coding is done incorrectly. In one recent study of physicians treating cancer, one half day a week was spent by the physicians and 18 hours a week was spent by their staff seeking reimbursement for denied claims. No one benefits from this waste of resources. We need to do the right thing, the right way, on time, the first time, every time. The economic burden of malpractice totals billions of dollars. Every day avoidable errors are made by overlooking abnormal laboratory results, prescribing medications contraindicated by drug interactions or failing to recognize the significance of historical or physical examination findings noted by other physicians, frequently because their records are unavailable or illegible. These errors could be avoided by providing physicians with rapid, reliable access to the information they need, when they need it, wherever they need it.

The rate of growth of health care spending is out of control. As the population ages and as the unprecedented economic impact of AIDS and other diseases unfolds, the costs can be expected to spiral upwards. To cope with these pressures, we must measure the effectiveness of our diagnostic and treatment approaches. Although more than 350,000 prostatectomies are performed annually in the United States at a cost of roughly 4 billion dollars, fewer than 400 patients have ever been followed systematically to study the benefit of the operation. Outcome analysis must become a part of the daily practice of medicine. Effective outcome analysis requires the use of standardized nomenclature and the use of protocols and practice guidelines.

Two-thirds of all visits to doctors end with the patient walking out with a prescription.

Alternative methods of bringing closure to a patient's visit must be promoted. Patients need to be empowered to take more responsibility for maintaining and regaining their health by being better informed through clearer instructions from their physicians because of access to helpful educational materials. They should take ownership of their own medical record. After all, who else should be more interested in what it says? It has been shown that patients can be effectively engaged in deciding the treatment they receive and their involvement improves outcomes while lowering expenditures. Patient satisfaction should be maximized by efficient, well organized, and personalized care. Patients should have confidence that they have received the best care possible, delivered in a reliable, consistent, accurate and thorough manner.

Many approaches to health care reform involve rationing and are like carpet bombing from 30,000 feet. They don't see the dead and wounded. What is needed is a smart bomb that eliminates waste and fraud, permitting access to affordable health care to all Americans. The technology required to create such an infrastructure is mature, economical and available today. A great deal of the economic burden can be stripped from today's health care system while achieving an overall improvement in clinical outcomes and perceived value to the nation. Peter Drucker has said that "the best way to predict the future is to create it". We believe that it can be assembled out of components we already have sitting on the shelf.

There are two broad approaches to containing health care costs. The first is global budgeting. In global budgeting, an overall cap is placed on total health care expenditures. Global budgeting may be used alone or in combination with the second strategy known as micromanagement. In micromanagement, physician's behavior is regulated through controls such as utilization review, formulary control, and pre-authorization requirements. To be highly effective in influencing physician behavior it is necessary to employ both of these methods for control. The method by which this can be accomplished is to provide contextual information to physicians to influence and concurrently track resource utilization.

At Loma Linda University School of Medicine, we have developed an integrated medical administrative and clinical management software system which provides data collection, communication, and access for key information needed in the delivery of health care. It is highly personalized and includes a picture of the patient so that a physician or nurse can easily recall the patient during telephone calls. The program is so powerful that the picture is captured and linked to the chart by simply clicking a button. Multiple tests and appointments can be scheduled in a coordinated manner to optimize the use of time. Coding, billing, and accounting functions are streamlined and automated. Administrative reports are available real-time.

The system provides the fundamental tools required by physicians to create a patient's medical record. These tools are very powerful, intuitive, and easy to use. They include a highly sophisticated interface that allows physicians to build a description of the patient's problem and physical findings by simply clicking buttons. Sketches of physical findings can be made using a built in draw function. Physicians can dictate directly into the computer for transcription or they can record voice messages to be played later

by other members of the healthcare team. A full featured word processor permits direct keyboard entry of observations. The patient can be photographed or videotaped. Data entered by any of these methods is integrated into the patient's medical record. This information becomes immediately available to all other members of the health care team with the required security clearance to care for the patient.

Because the system creates a computerized record, the complete health history of the patient can be carried by the patient on an optical card the size of a credit card. In addition to text, this optical card can store X-rays, sound, photographs, and video-clips. An inventory of every problem for which the patient has sought medical care is maintained by linking all physician notes related to the problem. All prescriptions are recorded and the patient's entire medication history is immediately accessible including a description of any adverse drug reactions. All previous visits by the patient to a physician anywhere are listed chronologically and can be recalled instantaneously.

The system provides immediate access to an enormous wealth of knowledge. Since knowledge can be accessed from within a patient's medical record, it is contextual and can be tailored to a particular problem experienced by a patient. In addition to detailed information about diseases and drugs, the system fully supports the use of protocols. The potential for immediate access to thousands of specialized protocols makes it possible to develop and implement national practice guidelines and make them available to physicians at the time that they make treatment decisions. The use of standardized diagnostic and therapeutic protocols makes outcomes research a practical reality. Outcomes research is essential to achieve sustainable quality improvement and makes it possible to constantly fine tune resource utilization to minimize cost.

The system gives the physician an intelligent window on the world of information. The window filters the information, presenting important details like the cost of drugs and tests at the time that they are ordered. It links every resource used; to the physician ordering the resource utilization; to the diagnosis for which the tests or treatments are ordered; to the documentation supporting the need to expend resources. As a result, utilization review can be done in the background using inferences to screen for medical practices that vary from the usual. Concurrent review by peers is greatly facilitated because chart review from a remote site is immediately possible. A fully functional electronic mail system is integrated with the medical record system, providing a method for physicians to communicate with one another and receive medical alerts and other messages.

Because the system uses a highly distributed database it can be used by a single physician or scaled up to a national level—today! It does not require a national high speed data network to be implemented, but once an infrastructure like NREN is in place it will improve performance even more dramatically. The system was built using inexpensive and mature technologies and was designed to take full advantage of constantly improving hardware performance over the next decade. The system is extensible and creates the environment for continual growth with constantly expanding functionality and performance.

Because the system integrates and automates so many clerical functions, it significantly reduces the burgeoning overhead

costs of a rapidly growing health care labor force. Because it is simple to operate, the skill level required by personnel is lowered, reducing dependence on highly skilled and highly paid individuals. This factor operates across the health care employment spectrum. Fewer people are enabled to deliver more care. Generalist physicians are empowered to deliver broader and more comprehensive services reducing the need for specialized care. Patients are empowered to become actively involved and participate more fully in the health care equation. Knowledge about health, wellness and disease prevention can be made available to them in their homes or offices. People can take ownership of their own medical records and become responsible for their own health.

TRIBUTE TO THE 90TH ANNIVERSARY OF SAN BERNARDINO AERIE 506

HON. JERRY LEWIS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Monday, October 4, 1993

Mr. LEWIS of California. Mr. Speaker, I would like to bring to your attention the fine work and outstanding public service of the Fraternal Order of Eagles in San Bernardino, CA. The Eagle's will be celebrating the 90th birthday of Aerie 506 on October 9.

It would be difficult to describe all of the fantastic work that the Eagle's have done for San Bernardino and California's Inland Empire. During July of this year, the Eagles held a Law Enforcement and Paramedics Day picnic to show their appreciation to those heroic individuals who risk their own lives in the name of public safety. Highlighted that day was the work of the San Bernardino, Colton, and Rialto Police Departments; the San Bernardino, Highland Rialto, Colton, and Loma Fire Departments and Paramedics; and the San Bernardino County and Highland Sheriff's Office and the California Highway Patrol. And how important is the San Bernardino Aerie 506? Over \$9,000 was raised in July to assist these agencies purchase necessary equipment they could not otherwise afford.

In 1992, the men and women associated with San Bernardino Aerie raised and donated over \$36,000 to nearly 50 worthy organizations, charities, and hospitals throughout the Inland Empire. In reviewing the number of groups, and the diversity of organizations that Aerie 506 assists, it is quite apparent that the Eagles more than live up to their motto of "People helping people."

Mr. Speaker, I ask that you join me, our colleagues, and the many people and organizations who have benefitted from the work of the San Bernardino Fraternal Order of Eagles in honoring this remarkable group of men and women. The contributions of Aerie 506 have touched the lives of many people in California's Inland Empire. It is indeed fitting that the House of Representative recognize the Eagles for 90 years of selfless contributions to our community.

TRIBUTE TO NANCY K. TIBERIO

HON. JAMES A. TRAFICANT, JR.

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Monday, October 4, 1993

Mr. TRAFICANT. Mr. Speaker, I rise today to pay tribute to the memory of a very special constituent of mine, Dr. Nancy Katherine Tiberio, whose extraordinary achievements and contributions to our community by the early age of 32 remain unsurpassed.

Nearly 1 year ago today, Dr. Nancy Tiberio passed away after a long and brave battle with cancer. Because of Nancy's exceptional background I wish to place permanently in the CONGRESSIONAL RECORD this tribute to the contribution she made to her community, to her State, and to our country. Nancy Tiberio represented what could only be described as one of America's outstanding young people and it is important that her fine example be acknowledged and expressed in today's tribute.

Mr. Speaker, and Members of the House, let me take this opportunity to describe some of Nancy's achievements and special qualities. Nancy was born on March 14, 1960 in Youngstown, OH. She was raised in the 17th District by her parents, Frank C. Tiberio and Norma June Hall Tiberio. She attended Boardman High School where she graduated as the only student with a perfect 4.0 grade point average and of course the highest of honors. As a sophomore, Nancy competed against seniors in academic contests where she won first place awards in both chemistry and Latin. After graduation in 1978 she attended Georgetown University in Washington, DC, where she completed her course-work in biology in 1982. After completing her studies at Georgetown, Nancy went on to attend medical school at Case Western Reserve University where she earned her M.D. in 1990.

Nancy's father Dr. Frank C. Tiberio graduated from Case-Western Reserve—formerly Western Reserve University—approximately 30 years before Nancy. Dr. Frank Tiberio, a former WWII POW still actively practices medicine in Youngstown and continues to be a key member of our community.

Nancy's decision to attend medical school represented a crossroads in her career. This is because her love and talent for art and dance was equally as strong as her passion for science and medicine. You see, not only was Nancy a dedicated student of science but she was also dedicated to the art of dance. Nancy Tiberio was the principal dancer of the Ballet Western Reserve when she was in her teens. This young lady's commitment to achievement began at the age of 5 when her training in ballet commenced. She performed in the group's annual Christmas season production of "The Nutcracker" and its spring and fall shows in the Youngstown area. Even while studying at Georgetown University she maintained her dancing skills by performing regularly with the Georgetown University Dance Theater. Not surprisingly, Nancy choreographed her own routines.

Nancy Tiberio could have easily become a professional ballerina but her desire to help people is what became the key element in her

choice to become a physician over a professional dancer. This was demonstrated by the amount of time Nancy volunteered at the Free Clinic of Greater Cleveland located on Euclid Avenue while working on her residency in the field of internal medicine. Nancy's father confided in me that she exhibited a compelling reverence for all life including animals and even tiny insects. In fact, the practice of adopting stray animals as a child was a trait she never seemed to grow out of. In recognition of Nancy's extraordinary reverence for life and her love for medicine and people, her friends have established the "Nancy K. Tiberio, M.D. Endowment Fund" at the Case-Western Reserve University School of Medicine. The money will be used to help medical students who are interested in the speciality of internal medicine.

It is rare that people have so many talents that they must choose between them. As it turns out, not only did Nancy excel in medicine and dance but she also was an accomplished pianist and artist, winning awards for her pencil sketches and water color paintings. It is apparent that Nancy possessed the very special gift to pursue many varied interests to the fullest. The key however is that she was able to enjoy each interest not so much for selfish reasons but for the benefit of other people, typically those less fortunate than herself.

Nancy's dedication, persistence, imagination, diversification, courage and most of all her caring, collectively exemplify what each and every one of us as Americans should strive for. Her memory demands that these traits be recognized and admired. She represented the American ideal of excellence in every respect and for this I pay her this greatly deserved tribute.

SENATE COMMITTEE MEETINGS

Title IV of Senate Resolution 4, agreed to by the Senate on February 4, 1977, calls for establishment of a system for a computerized schedule of all meetings and hearings of Senate committees, subcommittees, joint committees, and committees of conference. This title requires all such committees to notify the Office of the Senate Daily Digest—designated by the Rules Committee—of the time, place, and purpose of the meetings, when scheduled, and any cancellations or changes in the meetings as they occur.

As an additional procedure along with the computerization of this information, the Office of the Senate Daily Digest will prepare this information for printing in the Extensions of Remarks section of the CONGRESSIONAL RECORD on Monday and Wednesday of each week.

Meetings scheduled for Tuesday, October 5, 1993, may be found in the Daily Digest of today's RECORD.

MEETINGS SCHEDULED

OCTOBER 6

9:00 a.m. Labor and Human Resources Business meeting, to consider pending calendar business.

SD-430

9:30 a.m. Agriculture, Nutrition, and Forestry To hold hearings to examine proposals to reorganize the Department of Agriculture.

SD-138

10:00 a.m. Commerce, Science, and Transportation Business meeting, to consider pending calendar business.

SR-253

10:30 a.m. Labor and Human Resources To continue hearings on the Administration's proposed Health Security Act, to establish comprehensive health care for every American.

SD-430

2:00 p.m. Conferees On H.R. 2520, making appropriations for fiscal year 1994 for the Department of the Interior and related agencies.

S-128, Capitol

OCTOBER 7

10:00 a.m. Small Business Urban and Minority-Owned Business Development Subcommittee To hold hearings on fostering minority enterprise development.

SR-428A

2:30 p.m. Agriculture, Nutrition, and Forestry Agricultural Research, Conservation, Forestry and General Legislation Subcommittee To hold hearings on the implementation of American agricultural research priorities.

SR-332

OCTOBER 13

10:00 a.m. Veterans' Affairs To hold hearings to examine the role of the Department of Veterans Affairs under the Administration's proposal to reform the nation's health care system.

SR-418

OCTOBER 14

3:00 p.m. Foreign Relations To hold hearings on the nominations of Leslie M. Alexander, of Florida, to be Ambassador to Mauritius, and to serve concurrently as Ambassador to the Federal and Islamic Republic of the Comoros, Robert Gordon Houdek, of Illinois, to be Ambassador to Eritrea, and David P. Rawson, of Michigan, to be Ambassador to the Republic of Rwanda.

SD-419

OCTOBER 19

9:30 a.m. Commerce, Science, and Transportation Surface Transportation Subcommittee To hold hearings on the use of intelligent vehicle highway systems for commercial vehicles.

SR-253

OCTOBER 20

9:30 a.m. Indian Affairs To hold oversight hearings on issues relating to Indian self-governance.

SR-485

10:00 a.m. Commerce, Science, and Transportation To hold hearings to examine violence in television programs, focusing on S. 1383, to prohibit the distribution to the public of violent video programming during hours when children are reasonably likely to comprise a substantial portion of the audience, S. 973, to require the Federal Communications

Commission to evaluate and publicly report on the violence contained in television programs, and S. 943, to protect children from the physical and mental harm resulting from violence contained in television programs.

SR-253

OCTOBER 21

9:30 a.m. Energy and Natural Resources To hold hearings on S. 447, to facilitate the development of Federal policies with respect to those territories under the jurisdiction of the Secretary of the Interior.

SD-366

Environment and Public Works Clean Air and Nuclear Regulation Subcommittee To hold hearings on the implementation of the acid rain provisions of the Clean Air Act Amendments of 1990.

SD-406

2:00 p.m. Veterans' Affairs Business meeting, to consider pending calendar business.

SR-418

2:30 p.m. Veterans' Affairs To hold hearings to review research on the health effects of agent orange and other herbicides used in Vietnam.

SR-418

OCTOBER 28

9:30 a.m. Indian Affairs To hold oversight hearings on issues relating to Indian child abuse.

SR-485

NOVEMBER 3

9:30 a.m. Indian Affairs To hold hearings on S. 720, to clean up open dumps on Indian lands.

SR-485