B. *Determination of Degree of Shortage.*

The degree of shortage of a given population group will be determined in the same way as described for areas in paragraph C of part I of this appendix.

APPENDIX E TO PART 5—CRITERIA FOR DESIGNATION OF AREAS HAVING SHORTAGES OF PODIATRIC PROFESSIONAL(S)

Part I—Geographic Areas

A. *Criteria.*

A geographic area will be designated as having a shortage of podiatric professional(s) if the following three criteria are met:

1. The area is a rational area for the delivery of podiatric services.

2. The area's ratio of population to foot care practitioners is at least 28,000:1, and the computed podiatrist shortage to meet this ratio is at least 0.5.

3. Podiatric professional(s) in contiguous areas are overutilized, excessively distant, or inaccessible to the population of the area under consideration.

B. *Methodology.*

In determining whether an area meets the criteria established by paragraph A of this Part, the following methodology will be used:

1. *Rational Areas for the Delivery of Podiatric Services.*

(a) The following areas will be considered rational areas for the delivery of podiatric services:

(i) A county or a group of contiguous counties whose population centers are within 40 minutes travel time of each other.

(ii) A portion of a county, or an area made up of portions of more than one county, whose population, because of topography, market and/or transportation patterns or other factors, has limited access to contiguous area resources, as measured generally by a travel time of greater than 40 minutes from its population center to these resources.

(b) The following distances will be used as guidelines in determining distances corresponding to 40 minutes travel time:

(i) Under normal conditions with primary roads available: 25 miles.

(ii) In mountainous terrain or in areas with only secondary roads available: 20 miles.

(iii) In flat terrain or in areas connected by interstate highways: 30 miles.

Within inner portions of metropolitan areas, information on the public transportation system will be used to determine the area corresponding to 40 minutes travel time.

2. *Population Count.*

The population count used will be the total permanent resident civilian population of the area, excluding inmates of institutions, adjusted by the following formula to take into account the differing utilization rates of podiatric services by different age groups within the population:

Adjusted population=total population × (1 + 2.2 × (percent of population 65 and over) − 0.44 × (percent of population under 17)).

3. *Counting of Foot Care Practitioners.*

(a) All podiatrists providing patient care will be counted. However, in order to take into account productivity differences in podiatric practices associated with the age of the podiatrists, the following formula will be utilized:

Number of FTE podiatrists = 1.0 × (podiatrists under age 55)

+ .8 × (podiatrists age 55 and over)

(b) In order to take into account the fact that orthopedic surgeons and general and family practitioners devote a percentage of their time to foot care, the total available foot care practitioners will be computed as follows:

Number of foot care practitioners = number of FTE podiatrists

+ .15 × (number of orthopedic surgeons)

+ .02 × (number of general and family practioners).

4. *Determination of Size of Shortage.*

Size of shortage (in number of FTE podiatrists) will be computed as follows:

Podiatrist shortage = adjusted population / 28,000 − number of FTE foot care practitioners.

5. *Contiguous Area Considerations.*

Podiatric professional(s) in areas contiguous to an area being considered for designation will be considered excessively distant, overutilized or inaccessible to the population of the area under consideration if one of the following conditions prevails in each contiguous area:

(a) Podiatric professional(s) in the contiguous area are more than 40 minutes travel time from the center of the area being considered for designation.

(b) The population-to-foot care practitioner ratio in the contiguous areas is in excess of 20,000:1, indicating that contiguous area podiatric professional(s) cannot be expected to help alleviate the shortage situation in the area for which designation is requested.

(c) Podiatric professional(s) in the contiguous area are inaccessible to the population of the area under consideration because of specified access barriers (such as economic or cultural barriers).

C. *Determination of Degree of Shortage.*

Designated areas will be assigned to groups, based on the ratio (R) of adjusted population to number of foot care practitioners, as follows:

Group 1 Areas with no foot care practitioners, and areas with R >50,000 and no podiatrists.

Group 2 Other areas with R >50,000.

Group 3 Areas with 50,000 >R >28,000.

APPENDIX F TO PART 5—CRITERIA FOR DESIGNATION OF AREAS HAVING SHORTAGES OF PHARMACY PROFESSIONAL(S)

Part I—Geographic Areas

A. *Criteria*.

A geographic area will be designated as having a shortage of pharmacy professional(s) if the following three criteria are met:

1. The area is a rational area for the delivery of pharmacy services.

2. The number of pharmacists serving the area is less than the estimated requirement for pharmacists in the area, and the computed pharmacist shortage is at least 0.5.

3. Pharmacists in contiguous areas are overutilized or excessively distant from the population of the area under consideration.

B. *Methodology*.

In determining whether an area meets the criteria established by paragraph A of this Part, the following methodology will be used:

1. *Rational Areas for the Delivery of Pharmacy Services*.

(a) The following areas will be considered rational areas for the delivery of pharmacy services:

(i) A county, or a group of contiguous counties whose population centers are within 30 minutes travel time of each other; and

(ii) A portion of a county, or an area made up of portions of more than one county, whose population, because of topography, market or transportation patterns or other factors, has limited access to contiguous area resources, as measured generally by a travel time of greater than 30 minutes to these resources.

(b) The following distances will be used as guidelines in determining distances corresponding to 30 minutes travel time:

(i) Under normal conditions with primary roads available: 20 miles.

(ii) In mountainous terrain or in areas with only secondary roads available: 15 miles.

(iii) In flat terrain or in areas connected by interstate highways: 25 miles.

Within inner portions of metropolitan areas, information on the public transportation system will be used to determine the area corresponding to 30 minutes travel time.

2. *Counting of Pharmacists*.

All active pharmacists within the area will be counted, except those engaged in teaching, administration, or pharmaceutical research.

3. *Determination of Estimated Requirement for Pharmacists*.

(a) *Basic estimate*. The basic estimated requirement for pharmacists will be calculated as follows:

Basic pharmacist requirement = .15 × (resident civilian population/1,000) + .035 × (total number of physicians engaged in patient care in the area).

(b) *Adjusted estimate*. For areas with less than 20,000 persons, the following adjustment is made to the basic estimate to compensate for the lower expected productivity of small practices.

Estimated pharmacist requirement = (2 − population/20,000) × basic pharmacist requirement.

4. *Size of Shortage Computation*.

The size of the shortage will be computed as follows:

Pharmacist shortage = estimated pharmacist requirement − number of pharmacists available.

5. *Contiguous Area Considerations*.

Pharmacists in areas contiguous to an area being considered for designation will be considered excessively distant or overutilized if either:

(a) Pharmacy professional(s) in contiguous areas are more than 30 minutes travel time from the center of the area under consideration, or

(b) The number of pharmacists in each contiguous area is less than or equal to the estimated requirement for pharmacists for that contiguous area (as computed above).

C. *Determination of Degree-of-Shortage*.

Designated areas will be assigned to degree-of-shortage groups, based on the proportion of the estimated requirement for pharmacists which is currently available in the area, as follows:

Group 1—Areas with no pharmacists.

Group 2—Areas where the ratio of available pharmacists to pharmacists required is less than 0.5.

Group 3—Areas where the ratio of available pharmacists to pharmacists required is between 0.5 and 1.0.

APPENDIX G TO PART 5—CRITERIA FOR DESIGNATION OF AREAS HAVING SHORTAGES OF VETERINARY PROFESSIONAL(S)

Part I—Geographic Areas

A. *Criteria for Food Animal Veterinary Shortage*.

A geographic area will be designated as having a shortage of food animal veterinary professional(s) if the following three criteria are met: