

## **Section 1100.510 Introduction, Formula Components, Planning Area Development Policies, and Normal Travel Time Determinations**

- a) **Introduction**

This Subpart details the policies and methodologies utilized to assess the need for beds and services. The calculations and numeric results, as well as the related data elements that pertain to the methodologies detailed in this Subpart, are contained in the Inventory of Health Care Facilities.
- b) **Formula Components**

Formulas utilized by HFSRB in projecting the need for beds and services can be categorized as demand based or incidence based need formulas. Each of these formula types represents a different conceptual outlook and incorporates different data elements as formula variables.

  - 1) **Demand Based Formula.** Demand equations utilize the concept that what has occurred in the past will occur in the future. The formulas utilize inpatient days of care and population projections as the key data variables. The first formula step is to establish a utilization to population ratio (use rate). This ratio basically says that within a population an average number of inpatient days of care will be generated. This rate is then applied to the population projection for the same area. This states that if the rate of use is constant, a future population can be expected to generate an identifiable number of inpatient days. These projected days are then converted to a daily census (total projected patient days divided by days in year) and multiplied by an occupancy target. The projected day figure can be equated to 100% occupancy of service for which need is projected. An occupancy factor adjustment is applied to insure that sufficient beds exist to handle days when inpatient admissions are exceptionally high. This type of formula may also be adjusted by the application of minimum and maximum use rates in planning areas that lack facilities or certain types of beds or where a high concentration of beds and services has caused unnecessary duplication. These rates are controls and serve to inflate (minimum use rate) or deflate (maximum use rate) the projected bed need. These rates are established when historical patterns of use are influenced by a maldistribution of services. By adding to or subtracting from the number of needed beds, development of new beds and facilities can be influenced to add beds to underserved areas and to restrict bed growth in areas of high bed to population ratios.
  - 2) **Incidence Based Formula.** This type of formula utilizes the incidence level of a disease or a condition within a population to predict need. Utilizing national or State rates, the formula predicts the number of planning area residents who will need hospitalization based on the number of people who live in the planning area. Utilizing a standard estimate of how long a patient will be hospitalized, admissions are converted into

patient days. As in the demand formulas, days are then converted to an average daily census and an occupancy factor adjustment is applied to obtain area bed need.

c) Planning Area Development Policies

HFSRB recognizes the need to establish planning areas for the purpose of assessing and determining the need for health care facilities, beds, and services. In establishing planning areas the following principles and factors apply:

- 1) For purposes of delineating planning area boundaries and for purposes of calculating population estimates, the smallest geographical areas to be utilized shall be community areas for the city of Chicago and townships for all other areas in the State outside of Chicago.
- 2) Source of patient information shall be the primary basis for the allocation of geographic areas (e.g., townships, community areas, counties) into planning areas. As a general principle, 50% or more of residents receiving care from facilities or resources located within the planning area should reside within the planning area.

HFSRB NOTE: Source of patient information may only be available on a zip code basis. In such cases, the relationship between zip code boundaries and community area or township boundaries will be approximated for use in establishing planning area boundaries.

- 3) Planning area boundaries should be established taking into consideration the number and type of existing health care facilities and services located within the area, shared and overlapping market areas between or among facilities, and patterns of patient referral to area health care facilities. Planning areas may vary in size in order to ensure access within a reasonable travel time.
- 4) The primary market area for health care facilities located within a planning area should serve a substantial number of residents of the planning area. A primary market area means the geographic location in which 50% or more of a facility's patients/residents reside. HFSRB recognizes that certain health care facilities (e.g., tertiary and specialty facilities) may have primary market areas that are not entirely contained within the planning area in which the facility is located.
- 5) Planning area boundaries can also be influenced by the following factors:
  - A) natural geographic boundaries;
  - B) political boundaries that affect the patterns of services;

- C) transportation patterns and systems;
  - D) time and distance required to access service by area residents;
  - E) affiliations between health care facilities and other health care entities that affect patterns of service;
  - F) trade and economic market patterns that influence the financing of health care services;
  - G) the lack of existing health resources or services in an area;
  - H) referral patterns to obtain tertiary services;
  - I) the impact of reimbursement or managed care programs;
  - J) socio-economic factors such as but not limited to population density, income level, or age characteristics.
- 6) Planning area boundaries may vary by category of service. HFSRB recognizes that certain services (e.g., neonatal ICU, comprehensive physical rehabilitation, selected organ transplantation, cardiac surgery, etc.) may require a large population base in order to assure the provision of quality care and to be cost effective.
- 7) Planning areas for the acute care categories of services of medical-surgical/pediatrics, obstetrics and intensive care must contain a minimum population of 40,000. This population base would be sufficient to support a 100 bed hospital based upon a facility target occupancy of 80% and an inpatient day use rate of 725 days per 1,000 population.
- 8) Planning areas for general long-term service must contain a minimum population of 10,000. This population base would be sufficient to support 100 nursing care beds based upon a rate of 9 beds per 1,000 population (projected 1997 statewide need divided by projected 1997 State population) with a target occupancy of 90%.
- 9) HFSRB recognizes that some long-term care facilities may have a primary market area that is not contained within the planning area in which the facility is located. Placement in long-term care facilities may be influenced by such factors as, but not limited to: location of next of kin or relatives; seeking services of a specialized nature such as treatment for various diseases or disabilities; or seeking services related to religious, ethnic, or fraternal needs. Because of the significant degree of mobility that is exercised in seeking long term care services, HFSRB shall not allocate portions of a facility's beds and services to more than one

planning area.

d) Normal Travel Time Determinations

Normal Travel Time for proposed projects shall be the time determined by MapQuest, Inc. (MapQuest – www.mapquest.com) multiplied by an adjustment factor that is based upon the location of the applicant facility.

- 1) For applicant facilities located in the ~~City of Chicago~~ counties of Cook, DuPage, Will and Kane, ~~Normal Travel Time shall be calculated as MapQuest times 1.25~~ the distance shall be 10 miles OR a factor of 0.5.
- 2) For applicant facilities located in the Chicago Metropolitan region, including the counties of ~~Cook (excluding Chicago), DuPage, Will, Kendall, Kane, McHenry, Lake, DeKalb, and Kankakee~~ Lake and Aux Sable Township of Grundy County, plus the counties of Winnebago, Peoria, Sangamon, Rock Island, Madison, and St. Clair and Champaign, ~~Normal Travel Time shall be calculated as MapQuest times 1.15~~ the distance shall be 15 miles OR a factor of 0.78.
- 3) For applicant facilities located in any other area of the State, ~~Normal Travel Time shall be calculated as MapQuest times~~ the distance shall be 20 miles OR a factor 1.0.

~~e) Independent Travel Time Studies may be prepared and submitted in addition to the above to refine or supplement the determination of Normal Travel Time, provided that they are conducted as follows:~~

- ~~1) The study is conducted by an engineering firm pre-qualified in traffic studies by the Illinois Department of Transportation (IDOT) or prepared by a professional engineer also certified by the Institute of Transportation Engineers (ITE) as a Professional Traffic Operations Engineer (PTOE).~~
- ~~2) A Travel Time shall consist of a minimum of three round trips for each defined survey route.~~
- ~~3) No more than one third of the round trips shall start or conclude during a rush hour period, i.e.:~~

~~Morning Peak Period: 6:30 AM-9:30 AM~~

~~Evening Peak Period: 3:30 PM-6:30 PM~~

- ~~4) The routes used for determination of Normal Travel Time shall be reasonably direct.~~
- ~~5) Average travel time for a one-way trip will be considered.~~

6) ~~All travel routes and calculations of Normal Travel Time are to be documented and sealed by the responsible professional engineer.~~

~~HFSRB NOTE: Calculations produced by MapQuest, Inc. have been used as a basis for the above methodologies. MapQuest assumes vehicular travel at posted speed limits, with some adjustment for number of intersections and turns. The adjustment factors in subsection (d) are intended to reflect additional factors related to density of population.~~