

STATE OF MARYLAND



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STATE HEALTH PLAN FOR FACILITIES AND SERVICES:

ACUTE CARE HOSPITAL SERVICES

COMAR 10.24.10
Effective January 26, 2009

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State Health Plan for Facilities and Services: Acute Care Hospital Services

.01 Incorporation By Reference. This Chapter is incorporated by reference in the Code of Maryland Regulations.

.02 Introduction.

A. Purposes of the State Health Plan for Facilities and Services.

The Maryland Health Care Commission has prepared this Chapter of the State Health Plan for Facilities and Services (“State Health Plan”) to meet the current and future health system needs of all Maryland residents.

The State Health Plan serves two purposes:

(1) It establishes health care policy to guide the Commission’s actions. Maryland law requires that all State agencies and departments involved in regulating, funding, or planning for the health care industry carry out their responsibilities in a manner consistent with the State Health Plan and available fiscal resources.

(2) It is the foundation for the Commission’s decisions in its regulatory programs. These programs ensure that changes in health care facilities and services are appropriate and consistent with the Commission’s policies. The State Health Plan contains policies, methodologies, standards, and criteria that the Commission uses in making Certificate of Need (“CON”) decisions.

The Commission views the State Health Plan as a policy blueprint for positive change in health care delivery that provides guidance on resource allocation decisions based on considerations of the appropriate balance among availability, accessibility, cost, and quality of health care.

B. Legal Authority for the State Health Plan.

The State Health Plan is adopted under Maryland's health planning law, Maryland Code Annotated, Health-General §19-118. This Chapter partially fulfills the Commission's responsibility to adopt a State Health Plan at least every five years and to review and amend the Plan as necessary. Health-General §19-118(a)(2) provides that the State Health Plan shall include:

- (1) The methodologies, standards, and criteria for Certificate of Need review;

and

- (2) Priority for conversion of acute capacity to alternative uses where appropriate.

C. Organizational Setting of the Commission.

The Commission is an independent agency located within the Department of Health and Mental Hygiene for budgetary purposes. The purposes of the Commission, as enumerated at Health-General §19-103(c), include responsibilities to:

- (1) Develop health care cost containment strategies to help provide access to appropriate quality health care services for all Marylanders, after consulting with the Health Services Cost Review Commission; and

- (2) Promote the development of a health regulatory system that provides, for all Marylanders, financial and geographic access to quality health care services at a reasonable cost by advocating policies and systems to promote the efficient delivery of and improved access to health care services, and enhancing the strengths of the current health care service delivery and regulatory system.

The Commission has sole authority to prepare and adopt the State Health Plan and to issue Certificate of Need decisions and exemptions based on the State Health Plan. Health-General §19-118(e) requires the Secretary of Health and Mental Hygiene to make annual recommendations to the Commission on the State Health Plan and permits the Secretary to review and comment on the specifications used in its development. However, Health-General §19-110(a) provides that the Secretary does not have power to disapprove or modify any determinations the Commission makes regarding or based upon the State Health Plan. The Commission pursues effective coordination with the Secretary and State health-related agencies in the course of developing the State Health Plan and plan amendments. As required by statute, the Commission coordinates with the hospital rate-setting program of the Health Services Cost Review Commission to assure access to care at reasonable costs. The Commission also coordinates its activities with the Maryland Insurance Administration.

D. Plan Content and Applicability.

A Certificate of Need is required for: (1) the building, development, or establishment of an acute care general hospital; (2) the relocation of an existing or previously approved acute care general hospital to another site; (3) a change in the bed capacity of an acute care general hospital, except for changes in licensed capacity that result from the annual recalculation made pursuant to Health-General §19-307.2; (4) certain changes in the type or scope of any “health care service”¹ offered by an acute care general hospital; and (5) a capital expenditure by an acute care general hospital that exceeds the current threshold for capital expenditures. This Chapter of the State

¹ “Health care service” is defined at Health-General §19-120(a)(3) and (4) as “any clinically related patient service” including a medical service. Medical service means any of the following categories of health care services: medicine, surgery, gynecology, addictions, obstetrics, pediatrics, psychiatry, rehabilitation, chronic care, comprehensive care, extended care, intermediate care, or residential treatment; or any subcategory of the rehabilitation, psychiatry, comprehensive care, or intermediate care categories of health care services for which need is projected in the State Health Plan. Hospitals have the ability to undertake certain capital expenditures that exceed the threshold requirement for CON review and approval under the terms of COMAR 10.24.01.03 and 10.24.01.04.

Health Plan supersedes any previously adopted Acute Inpatient Services Chapter of the State Health Plan, COMAR 10.24.10. and is applicable to all matters regarding acute care hospital services except for: obstetric services, addressed in COMAR 10.24.12; acute psychiatric facilities and services, addressed in COMAR 10.24.07; and acute alcoholism and drug abuse treatment services, addressed in COMAR 10.24.14.

.03 Issues and Policies.

Certificate of Need (CON) regulation had its beginnings in Maryland in the early 1970s, a period during which about half the states were establishing such programs in an effort to gain control over a health care system that was expanding rapidly, in terms of spending and complexity, largely as a response to the major gains in private and public health insurance coverage (the Medicare and Medicaid programs were established in 1965), changes in health care service delivery, population growth, and physician workforce growth and specialization. Unlike most states, Maryland also responded more specifically to the issue of hospital price inflation in the 1970s by developing a hospital rate setting system and, unlike any other state, has maintained comprehensive hospital rate regulation through the present day.

The Maryland CON program has evolved during its existence and the scope of the program has become more focused on a limited number of health care facility and project categories, including the establishment of hospitals, the relocation and replacement of existing hospitals, adding beds or operating rooms at hospitals, and major hospital capital projects. Over the course of thirty years, CON and hospital rate regulation have influenced the shape of the hospital industry in Maryland. Maryland has fewer hospital beds than the nation as a whole (2.0 per thousand compared to the U.S ratio of 2.7 in 2005) and, until very recently, also had a lower rate of hospital admissions. (Maryland exceeded the national ratio in 2005, with 120.1

admissions per thousand compared with the U.S. rate of 117.9, after consistently trending below the U.S. ratio from 1994 through 2004.) Because of a higher level of success in reducing the length of hospital stays, Maryland continues to trend below the nation in the demand for hospital days (569.2 per thousand population in 2005 compared to the U.S. rate of 666.4) but has achieved more efficient use of hospital beds (an average annual bed occupancy rate of 75% from 2001 through 2005 compared to the overall national occupancy rate of 66% during that same period). In 2005, Maryland recorded negligibly lower levels of inpatient surgical demand (MD: 33.7 per thousand population; U.S.: 34.1) and emergency department visits (MD: 385.7 visits per thousand population; U.S.: 388) than the nation as a whole. Maryland recorded a substantially lower rate of total outpatient visits to hospitals (which include emergency department visits) than the U.S. in 2005 (1,205 visits per thousand population compared to the U.S. rate of 1,977) and a higher rate of hospital-based outpatient surgery (63.8 cases per thousand population compared to the U.S. rate of 59.0 per thousand), despite the fact that Maryland has more Medicare-certified ambulatory surgery centers per capita than any other state. Hospital expenditures per capita in Maryland have ranged from 84% to 93% of the U.S. hospital spending level between 1994 and 2005, with an advantage that is narrowing in recent years. (From 1994 through 1999, per capita hospital expenditures in Maryland averaged 86.4% of national spending levels. In 2000 through 2005, Maryland's per capita rate of hospital spending averaged 89.6% of the U.S. spending level.)²

Maryland's hospitals are overwhelmingly not-for-profit (46 of 47 general acute care hospitals), there are no specialized surgical hospitals, and relatively few special hospitals of any kind (such as long-term care, psychiatric, or medical rehabilitation hospitals). There are no

² All statistics in this paragraph from the *AHA Hospital Statistics* series, 2000-2007.

public general hospitals in Maryland (i.e., general hospitals owned and operated by state or local government). Most of Maryland's general acute care hospitals (53%) are affiliated with other Maryland general hospitals in eight multi-hospital systems. The now mature rate setting system has resulted in a high-level of financial stability among the State's hospitals, with most hospitals recording margins adequate for assurance of long-term viability, few hospitals failing or in serious danger of failing, and a high proportion of hospitals demonstrating the ability to obtain funding for capital investment at favorable interest rates.

Hospital inpatient and outpatient care together represent the largest single category of health care expenditures in Maryland, accounting for nearly a third of the State's total health care expenditures in 2006; an estimated expenditure of approximately \$10.3 billion in that year. Growth in spending for inpatient hospital care accounted for 24% of Maryland's overall growth in health care spending between 2002 and 2006 and spending for outpatient hospital care accounted for 11% of total expenditure growth. Hospital service expenditures increased at an annual average rate of 9% between 2002 and 2006, faster than the national experience, and narrowing the gap between per capita spending by Marylanders for hospital services, an average of \$1,825 in 2006 and the national average, \$2,077 in 2006.³

The chief hospital policy objectives which serve as a practical focus for the Maryland Certificate of Need program in its fourth decade of operation are reflected in the following six policy statements, which are also consistent with the considerations outlined in Maryland regulation for use by the Maryland Health Care Commission in reviewing health care facility capital projects. Given the return of growth in general hospital patient census which began in the late 1990s (after almost three decades of decline), the CON program should strive to allow for reasonable increases in hospital bed capacity. It should consider hospital expansion plans with

³ All figures in this paragraph from *State Health Care Expenditures, Experience from 2006*, MHCC, January, 2008.

an eye to avoiding the overbuilding that occurred in the 1960s and 70s, which failed to anticipate both the massive shift away from inpatient to outpatient services and the ability to shrink hospital inpatient stays. Hospitals continue to reconfigure their physical plants to more conveniently serve the continuing growth in outpatient service volumes. This often involves the creation of separate facilities and discrete service channels for outpatients and inpatients. There has also been a strong emphasis on meeting the perceived market demand for private patient rooms and more technologically sophisticated space for the delivery of inpatient services to a patient population that is, on average, more acutely ill. The CON program should assure that this reconfiguration places an equally strong emphasis on achieving operational efficiencies, which is a reasonable expectation as the volume of service being delivered grows. It is also a necessity, given the tight supply of skilled labor for hospital jobs. CON regulation should also assure that facility designs reflect the state-of-the-art in facilitating safer patient care, improving patient outcomes, and minimizing negative environmental impacts. The CON program should continue to serve as a means for achieving a balance between geographic access to specialized services and the need for limiting the number of programs offering specialized services, when such “regionalization” of service delivery offers benefits in quality and cost-effectiveness.

Policy 3.0 **Acute care hospital services will be provided in the most cost-effective manner possible consistent with appropriately meeting the need for such services and providing appropriate access to such services.**

Policy 3.1 **All Marylanders will have reasonable geographic and financial access to appropriate acute care hospital services. All Maryland hospitals and health systems will strive to address the needs of underserved**

populations and to reduce identified ethnic and racial disparities in the provision of acute hospital care.

Policy 3.2 All Maryland hospitals and health systems will consider smart and sustainable growth policies as well as green design principles in hospital siting decisions and facility design choices.

Policy 3.3 Hospitals and health systems will continuously and systematically work to improve the quality and safety of the care they provide. This will include planning and implementing integrated electronic health record systems that contribute to infection control, patient safety, and quality improvement and implementing the capability for sharing electronic health information, including clinical data, with other health care providers.

Policy 3.4 Specialized acute care services should be provided on a coordinated, regional basis.

Policy 3.5 The all-payer hospital rate setting system will be retained as an essential mechanism to contain increases in hospital and health system costs for all payers and as a means for promoting the maintenance of financial stability in the Maryland hospital system. The CON program will appropriately coordinate its capital project review activities with the hospital rate setting system with the objective of containing the cost of hospital facilities and services.

.04 Standards.

A. General Standards.

The following general standards encompass Commission expectations for the delivery of acute care services by all hospitals in Maryland. Each hospital that seeks a Certificate of Need for a project covered by this Chapter of the State Health Plan must address and document its compliance with each of the following general standards as part of its Certificate of Need application. Each hospital that seeks a Certificate of Need exemption for a project covered by this Chapter of the State Health Plan must address and demonstrate consistency with each of the following general standards as part of its exemption request.

(1) Information Regarding Charges.

Information regarding hospital charges shall be available to the public. After July 1, 2010, each hospital shall have a written policy for the provision of information to the public concerning charges for its services. At a minimum, this policy shall include:

(a) Maintenance of a Representative List of Services and Charges that is readily available to the public in written form at the hospital and on the hospital's internet web site;

(b) Procedures for promptly responding to individual requests for current charges for specific services/procedures; and

(c) Requirements for staff training to ensure that inquiries regarding charges for its services are appropriately handled.

(2) Charity Care Policy.

Each hospital shall have a written policy for the provision of charity care for indigent patients to ensure access to services regardless of an individual's ability to pay.

(a) The policy shall provide:

(i) Determination of Probable Eligibility. Within two business days following a patient's request for charity care services, application for medical assistance, or both, the hospital must make a determination of probable eligibility.

(ii) Minimum Required Notice of Charity Care Policy.

1. Public notice of information regarding the hospital's charity care policy shall be distributed through methods designed to best reach the target population and in a format understandable by the target population on an annual basis;

2. Notices regarding the hospital's charity care policy shall be posted in the admissions office, business office, and emergency department areas within the hospital; and

3. Individual notice regarding the hospital's charity care policy shall be provided at the time of preadmission or admission to each person who seeks services in the hospital.

(b) A hospital with a level of charity care, defined as the percentage of total operating expenses that falls within the bottom quartile of all hospitals, as reported in the most recent Health Service Cost Review Commission Community Benefit Report, shall demonstrate that its level of charity care is appropriate to the needs of its service area population.

(3) Quality of Care.

An acute care hospital shall provide high quality care.

(a) Each hospital shall document that it is:

(i) Licensed, in good standing, by the Maryland Department of Health and Mental Hygiene;

(ii) Accredited by the Joint Commission; and

(iii) In compliance with the conditions of participation of the Medicare and Medicaid programs.

(b) A hospital with a measure value for a Quality Measure included in the most recent update of the Maryland Hospital Performance Evaluation Guide that falls within the bottom quartile of all hospitals' reported performance measured for that Quality Measure and also falls below a 90% level of compliance with the Quality Measure, shall document each action it is taking to improve performance for that Quality Measure.

B. Project Review Standards.

The standards in this section are intended to guide reviews of Certificate of Need applications and exemption requests involving acute care general hospital facilities and services. An applicant for a Certificate of Need must address, and its proposed project will be evaluated for compliance with, all applicable review standards. An applicant for a Certificate of Need exemption must address, and its proposed project will be evaluated for consistency with, all applicable review standards.

(1) **Geographic Accessibility.**

A new acute care general hospital or an acute care general hospital being replaced on a new site shall be located to optimize accessibility in terms of travel time for its likely service area population. Optimal travel time for general medical/surgical, intensive/critical care and pediatric services shall be within 30 minutes under normal driving conditions for 90 percent of the population in its likely service area.

(2) **Identification of Bed Need and Addition of Beds.**

Only medical/surgical/gynecological/addictions (“MSGA”) beds and pediatric beds identified as needed and/or currently licensed shall be developed at acute care general hospitals.

(a) Minimum and maximum need for MSGA and pediatric beds are determined using the need projection methodologies in Regulation .05 of this Chapter.

(b) Projected need for trauma unit, intensive care unit, critical care unit, progressive care unit, and care for AIDS patients is included in the MSGA need projection.

(c) Additional MSGA or pediatric beds may be developed or put into operation only if:

(i) The proposed additional beds will not cause the total bed capacity of the hospital to exceed the most recent annual calculation of licensed bed capacity for the hospital made pursuant to Health-General §19-307.2; or

(ii) The proposed additional beds do not exceed the minimum jurisdictional bed need projection adopted by the Commission and calculated using the bed need projection methodology in Regulation .05 of this Chapter; or

(iii) The proposed additional beds exceed the minimum jurisdictional bed need projection but do not exceed the maximum jurisdictional bed need projection adopted by the Commission and calculated using the bed need projection methodology in Regulation .05 of this Chapter and the applicant can demonstrate need at the applicant hospital for bed capacity that exceeds the minimum jurisdictional bed need projection; or

(iv) The number of proposed additional MSGA or pediatric beds may be derived through application of the projection methodology, assumptions, and targets contained in Regulation .05 of this Chapter, as applied to the service area of the hospital.

(3) **Minimum Average Daily Census for Establishment of a Pediatric Unit.**

An acute care general hospital may establish a new pediatric service only if the projected average daily census of pediatric patients to be served by the hospital is at least five patients, unless:

(a) The hospital is located more than 30 minutes travel time under normal driving conditions from a hospital with a pediatric unit; or

(b) The hospital is the sole provider of acute care general hospital services in its jurisdiction.

(4) **Adverse Impact.**

A capital project undertaken by a hospital shall not have an unwarranted adverse impact on hospital charges, availability of services, or access to services. The Commission will grant a Certificate of Need only if the hospital documents the following:

(a) If the hospital is seeking an increase in rates from the Health Services Cost Review Commission to account for the increase in capital costs associated with the proposed project and the hospital has a fully-adjusted Charge Per Case that exceeds the fully adjusted average Charge Per Case for its peer group, the hospital must document that its Debt to Capitalization ratio is below the average ratio for its peer group. In addition, if the project involves replacement of physical plant assets, the hospital must document that the age of the physical plant assets being replaced exceed the Average Age of Plant for its peer group or

otherwise demonstrate why the physical plant assets require replacement in order to achieve the primary objectives of the project; and

(b) If the project reduces the potential availability or accessibility of a facility or service by eliminating, downsizing, or otherwise modifying a facility or service, the applicant shall document that each proposed change will not inappropriately diminish, for the population in the primary service area, the availability or accessibility to care, including access for the indigent and/or uninsured.

(5) Cost-Effectiveness.

A proposed hospital capital project should represent the most cost effective approach to meeting the needs that the project seeks to address.

(a) To demonstrate cost effectiveness, an applicant shall identify each primary objective of its proposed project and shall identify at least two alternative approaches that it considered for achieving these primary objectives. For each approach, the hospital must:

(i) To the extent possible, quantify the level of effectiveness of each alternative in achieving each primary objective;

(ii) Detail the capital and operational cost estimates and projections developed by the hospital for each alternative; and

(iii) Explain the basis for choosing the proposed project and rejecting alternative approaches to achieving the project's objectives.

(b) An applicant proposing a project involving limited objectives, including, but not limited to, the introduction of a new single service, the expansion of capacity for a single service, or a project limited to renovation of an existing facility for purposes of modernization, may address the cost-effectiveness of the project without undertaking the analysis

outlined in (a) above, by demonstrating that there is only one practical approach to achieving the project's objectives.

(c) An applicant proposing establishment of a new hospital or relocation of an existing hospital to a new site that is not within a Priority Funding Area as defined under Title 5, Subtitle 7B of the State Finance and Procurement Article of the Annotated Code of Maryland shall demonstrate:

(i) That it has considered, at a minimum, an alternative project site located within a Priority Funding Area that provides the most optimal geographic accessibility to the population in its likely service area, as defined in Project Review Standard (1);

(ii) That it has quantified, to the extent possible, the level of effectiveness, in terms of achieving primary project objectives, of implementing the proposed project at each alternative project site and at the proposed project site;

(iii) That it has detailed the capital and operational costs associated with implementing the project at each alternative project site and at the proposed project site, with a full accounting of the cost associated with transportation system and other public utility infrastructure costs; and

(iv) That the proposed project site is superior, in terms of cost-effectiveness, to the alternative project site or sites located within a Priority Funding Area.

(6) Burden of Proof Regarding Need.

A hospital project shall be approved only if there is demonstrable need. The burden of demonstrating need for a service not covered by Regulation .05 of this Chapter or by another chapter of the State Health Plan, including a service for which need is not separately projected, rests with the applicant.

(7) Construction Cost of Hospital Space.

The proposed cost of a hospital construction project shall be reasonable and consistent with current industry cost experience in Maryland. The projected cost per square foot of a hospital construction project or renovation project shall be compared to the benchmark cost of good quality Class A hospital construction given in the Marshall Valuation Service® guide, updated using Marshall Valuation Service® update multipliers, and adjusted as shown in the Marshall Valuation Service® guide as necessary for site terrain, number of building levels, geographic locality, and other listed factors. If the projected cost per square foot exceeds the Marshall Valuation Service® benchmark cost, any rate increase proposed by the hospital related to the capital cost of the project shall not include the amount of the projected construction cost that exceeds the Marshall Valuation Service® benchmark and those portions of the contingency allowance, inflation allowance, and capitalized construction interest expenditure that are based on the excess construction cost.

(8) Construction Cost of Non-Hospital Space.

The proposed construction costs of non-hospital space shall be reasonable and in line with current industry cost experience. The projected cost per square foot of non-hospital space shall be compared to the benchmark cost of good quality Class A construction given in the Marshall Valuation Service® guide for the appropriate structure. If the projected cost per square foot exceeds the Marshall Valuation Service® benchmark cost, any rate increase proposed by the hospital related to the capital cost of the non-hospital space shall not include the amount of the projected construction cost that exceeds the Marshall Valuation Service® benchmark and those portions of the contingency allowance, inflation allowance, and capitalized construction interest

expenditure that are based on the excess construction cost. In general, rate increases authorized for hospitals should not recognize the costs associated with construction of non-hospital space.

(9) Inpatient Nursing Unit Space.

Space built or renovated for inpatient nursing units that exceeds reasonable space standards per bed for the type of unit being developed shall not be recognized in a rate adjustment. If the Inpatient Unit Program Space per bed of a new or modified inpatient nursing unit exceeds 500 square feet per bed, any rate increase proposed by the hospital related to the capital cost of the project shall not include the amount of the projected construction cost for the space that exceeds the per bed square footage limitation in this standard or those portions of the contingency allowance, inflation allowance, and capitalized construction interest expenditure that are based on the excess space.

(10) Rate Reduction Agreement.

A high-charge hospital will not be granted a Certificate of Need to establish a new acute care service, or to construct, renovate, upgrade, expand, or modernize acute care facilities, including support and ancillary facilities, unless it has first agreed to enter into a rate reduction agreement with the Health Services Cost Review Commission, or the Health Services Cost Review Commission has determined that a rate reduction agreement is not necessary.

(11) Efficiency.

A hospital shall be designed to operate efficiently. Hospitals proposing to replace or expand diagnostic or treatment facilities and services shall:

(a) Provide an analysis of each change in operational efficiency projected for each diagnostic or treatment facility and service being replaced or expanded, and document

the manner in which the planning and design of the project took efficiency improvements into account; and

(b) Demonstrate that the proposed project will improve operational efficiency when the proposed replacement or expanded diagnostic or treatment facilities and services are projected to experience increases in the volume of services delivered; or

(c) Demonstrate why improvements in operational efficiency cannot be achieved.

(12) Patient Safety.

The design of a hospital project shall take patient safety into consideration and shall include design features that enhance and improve patient safety. A hospital proposing to replace or expand its physical plant shall provide an analysis of patient safety features included for each facility or service being replaced or expanded, and document the manner in which the planning and design of the project took patient safety into account.

(13) Financial Feasibility.

A hospital capital project shall be financially feasible and shall not jeopardize the long-term financial viability of the hospital.

(a) Financial projections filed as part of a hospital Certificate of Need application must be accompanied by a statement containing each assumption used to develop the projections.

(b) Each applicant must document that:

(i) Utilization projections are consistent with observed historic trends in use of the applicable service(s) by the service area population of the hospital or State Health Plan need projections, if relevant;

(ii) Revenue estimates are consistent with utilization projections and are based on current charge levels, rates of reimbursement, contractual adjustments and discounts, bad debt, and charity care provision, as experienced by the applicant hospital or, if a new hospital, the recent experience of other similar hospitals;

(iv) Staffing and overall expense projections are consistent with utilization projections and are based on current expenditure levels and reasonably anticipated future staffing levels as experienced by the applicant hospital, or, if a new hospital, the recent experience of other similar hospitals; and

(iv) The hospital will generate excess revenues over total expenses (including debt service expenses and plant and equipment depreciation), if utilization forecasts are achieved for the specific services affected by the project within five years or less of initiating operations with the exception that a hospital may receive a Certificate of Need for a project that does not generate excess revenues over total expenses even if utilization forecasts are achieved for the services affected by the project when the hospital can demonstrate that overall hospital financial performance will be positive and that the services will benefit the hospital's primary service area population.

(14) Emergency Department Treatment Capacity and Space.

(a) An applicant proposing a new or expanded emergency department shall classify service as low range or high range based on the parameters in the most recent edition of *Emergency Department Design: A Practical Guide to Planning for the Future* from the American College of Emergency Physicians. The number of emergency department treatment spaces and the departmental space proposed by the applicant shall be consistent with the range set forth in the most recent edition of the American College of Emergency Physicians

Emergency Department Design: A Practical Guide to Planning for the Future, given the classification of the emergency department as low or high range and the projected emergency department visit volume.

(b) In developing projections of emergency department visit volume, the applicant shall consider, at a minimum:

(i) The existing and projected primary service areas of the hospital, historic trends in emergency department utilization at the hospital, and the number of hospital emergency department service providers in the applicant hospital's primary service areas;

(ii) The number of uninsured, underinsured, indigent, and otherwise underserved patients in the applicant's primary service area and the impact of these patient groups on emergency department use;

(iii) Any demographic or health service utilization data and/or analyses that support the need for the proposed project;

(iv) The impact of efforts the applicant has made or will make to divert non-emergency cases from its emergency department to more appropriate primary care or urgent care settings; and

(v) Any other relevant information on the unmet need for emergency department or urgent care services in the service area.

(15) Emergency Department Expansion.

A hospital proposing expansion of emergency department treatment capacity shall demonstrate that it has made appropriate efforts, consistent with federal and state law, to maximize effective use of existing capacity for emergent medical needs and has appropriately

integrated emergency department planning with planning for bed capacity, and diagnostic and treatment service capacity. At a minimum:

(a) The applicant hospital must demonstrate that, in cooperation with its medical staff, it has attempted to reduce use of its emergency department for non-emergency medical care. This demonstration shall, at a minimum, address the feasibility of reducing or redirecting patients with non-emergent illnesses, injuries, and conditions, to lower cost alternative facilities or programs;

(b) The applicant hospital must demonstrate that it has effectively managed its existing emergency department treatment capacity to maximize use; and

(c) The applicant hospital must demonstrate that it has considered the need for bed and other facility and system capacity that will be affected by greater volumes of emergency department patients.

(16) Shell Space.

(a) Unfinished hospital shell space for which there is no immediate need or use-shall not be built unless the applicant can demonstrate that construction of the shell space is cost effective.

(b) If the proposed shell space is not supporting finished building space being constructed above the shell space, the applicant shall provide an analysis demonstrating that constructing the space in the proposed time frame has a positive net present value that:

(i) Considers the most likely use identified by the hospital for the unfinished space;

(ii) Considers the time frame projected for finishing the space; and

(iii) Demonstrates that the hospital is likely to need the space for the most likely identified use in the projected time frame.

(c) Shell space being constructed on lower floors of a building addition that supports finished building space on upper floors does not require a net present value analysis. Applicants shall provide information on the cost, the most likely uses, and the likely time frame for using such shell space.

(d) The cost of shell space included in an approved project and those portions of the contingency allowance, inflation allowance, and capitalized construction interest expenditure that are based on the construction cost of the shell space will be excluded from consideration in any rate adjustment by the Health Service Cost Review Commission.

.05 Methodologies for Projecting Acute Care Hospital Bed Need.

A. Period of Time Covered.

(1) The base year from which projections are calculated is the most recent calendar year.

(2) The target year to which projections are calculated is ten years after the base year.

B. Services and Age Groups.

(1) Exclusions.

(a) No projections are made for newborn services.

(b) Patients classified as rehabilitation in the acute care hospital discharge abstract data base are excluded from the calculations.

(c) Projections for acute psychiatric services are made according to the methodology in the Acute Psychiatric Services section of the Maryland State Health Plan, COMAR 10.24.07, and patients with psychiatric diagnoses are excluded from the calculations.

(d) Projections for obstetrical services are not included in this chapter. Policies, standards and definitions for obstetrical services are found in the State Health Plan for Facilities and Services: Acute Hospital Inpatient Obstetric Services, COMAR 10.24.12. Utilization projections are made for this service separately.

(2) Services for Which Need is Projected.

(a) Projections are made for pediatric services provided to patients under 15 using patient records with principal diagnoses not categorized as newborn, acute psychiatric, or obstetrical.

(b) Projections are made for medical/surgical/gynecological/addictions (MSGA) services provided to patients with principal diagnoses not categorized as newborn, acute psychiatric, obstetrical, or pediatric, using age groups 15-44, 45-64, 65-74, and 75 and older, and using payor groups Medicare and non-Medicare.

C. Geographic Areas. Need is projected by jurisdiction.

D. Assumptions.

(1) Interstate patterns of migration from the District of Columbia and states bordering Maryland (Delaware, Pennsylvania, Virginia, and West Virginia), by service and age group, will be accounted for in the baseline projection at the jurisdictional level, using the most recent jurisdictional population projections developed for official government use in the applicable state or the District of Columbia. Discharges and days originating from non-bordering

states, foreign countries, or unidentified locations will be held constant as a proportion of total discharges and days from the base year to the target year in the baseline projections.

(2) Statewide target year expected discharge rates (for target year 2010) are as follows:

(a) Calculate the average annual rate of change in the statewide MSGA Medicare discharge rate per 1,000 population (65+) during the ten-year period preceding the base year by summing the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(b) Calculate the average annual rate of change in the statewide MSGA Medicare discharge rate per 1,000 population (65+) during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(c) Determine the minimum target year expected MSGA Medicare discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (a) or (b) above.

(d) Determine the maximum target year expected MSGA Medicare discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (a) or (b) above.

(e) Calculate the average annual rate of change in the statewide MSGA non-Medicare discharge rate per 1,000 population (15-64) during the ten-year period preceding

the base year by summing the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(f) Calculate the average annual rate of change in the statewide MSGA non-Medicare discharge rate per 1,000 population (15-64) during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(g) Determine the minimum target year expected MSGA non-Medicare discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (e) or (f) above.

(h) Determine the maximum target year expected MSGA non-Medicare discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (e) or (f) above.

(i) Calculate the average annual rate of change in the statewide pediatric discharge rate per 1,000 population (0-14) during the ten-year period preceding the base year by summing the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(j) Calculate the average annual rate of change in the statewide pediatric discharge rate per 1,000 population (0-14) during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(k) Determine the minimum target year expected pediatric discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (i) or (j) above.

(l) Determine the maximum target year expected pediatric discharge rate by calculating the discharge rate for the target year if the discharge rate changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (i) or (j) above.

(3) Statewide Lengths of Stay.

(a) Target year expected lengths of stay are calculated as follows:

(i) Calculate the average annual rate of change in the statewide MSGA Medicare average length of stay during the ten-year period preceding the base year by summing the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(ii) Calculate the average annual rate of change in the statewide MSGA Medicare average length of stay during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(iii) Determine the minimum target year expected MSGA Medicare average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (i) or (ii) above.

(iv) Determine the maximum target year expected MSGA Medicare average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (i) or (ii) above.

(v) Calculate the average annual rate of change in the statewide MSGA non-Medicare average length of stay during the ten-year period preceding the base year by summing the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(vi) Calculate the average annual rate of change in the statewide MSGA non-Medicare average length of stay during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(vii) Determine the minimum target year expected MSGA non-Medicare average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (v) or (vi) above.

(viii) Determine the maximum target year expected MSGA non-Medicare average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (v) or (vi) above.

(ix) Calculate the average annual rate of change in the statewide pediatric average length of stay during the ten-year period preceding the base year by summing

the percentage of change for each year to the next year during the ten-year period and dividing by ten.

(x) Calculate the average annual rate of change in the statewide pediatric average length of stay during the five-year period preceding the base year by summing the percentage of change for each year to the next year during the five-year period and dividing by five.

(xi) Determine the minimum target year expected pediatric average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the lowest average annual rate of change calculated in (ix) or (x) above.

(xii) Determine the maximum target year expected pediatric average length of stay by calculating the average length of stay for the target year if the average length of stay changed, year to year, from the base year to the target year, by the highest average annual rate of change calculated in (ix) or (x) above.

(b) Minimum allowable jurisdictional average lengths of stay are calculated as follows:

(i) The minimum allowable jurisdictional MSGA Medicare average length of stay is the first whole number of days below the minimum target year expected MSGA Medicare average length of stay determined in B(a)(iii) above.

(ii) The minimum allowable jurisdictional MSGA non-Medicare average length of stay is the first whole number of days below the minimum target year expected MSGA non-Medicare average length of stay determined in B(a)(vii) above.

(iii) The minimum allowable jurisdictional pediatric average length of stay is the first whole number of days below the minimum target year expected pediatric average length of stay determined in B(a)(xi) above.

(4) Jurisdictional Minimum Occupancy Standards.

(a) For MSGA services, the jurisdictional minimum occupancy standards used in calculating gross bed need are based on the average daily census projected for the jurisdiction, applied at the hospital level, and are as follows:

<i>MSGA Jurisdictional Minimum Occupancy</i>	
<i>Average Daily Census</i>	<i>Minimum Percent Occupancy</i>
0-49	70
50-99	75
100-299	80
300+	83

(b) For pediatric services, the jurisdictional minimum occupancy standards used in calculating gross bed need are based on the average daily census projected for the jurisdiction, applied at the hospital level, and are as follows:

<i>Pediatric Jurisdictional Minimum Occupancy</i>	
<i>Average Daily Census</i>	<i>Minimum Percent Occupancy</i>
0- 6	50
7-24	65
25-49	70
50-99	75
100+	80

(c) For jurisdictions with more than one hospital, the minimum occupancy standard used in calculating gross bed need will be a jurisdictional standard calculated by prorating the occupancy standards in (a) for MSGA services and in (b) for pediatric services, at hospital level using the assumption that target year average daily census for the jurisdiction will

be proportioned to each hospital in the jurisdiction at the same ratio which total jurisdictional average daily census was allocated among the hospitals in the base year.

E. Data Sources.

(1) Bed Inventory.

(a) Counts of licensed hospital beds in Maryland are obtained from the Commission's most recent *Acute Care Bed Inventory*.

(b) Counts of Certificate of Need approved and exempt beds are obtained from the Commission's Certificate of Need program records.

(2) Population.

(a) Base year and target year population, by area of residence, and age, are obtained from the most recent Maryland Department of Planning estimates.

(b) Projections of future population, by area of residence and age, are obtained from the following sources:

(i) Maryland population is obtained from the most recent Maryland Department of Planning projections; and

(ii) Population in other states are obtained from the most recent projections prepared by respective state agencies charged with preparing the projections, or from the U.S. Census Bureau.

(3) Utilization. Base year utilization of Maryland hospital inpatient services, including age, principal diagnosis on admission, special care days, payor source, and area of residence of each patient, are obtained from the Commission's hospital discharge abstract data obtained under COMAR 10.24.02.

(4) **Migration.** Migration data are obtained from the Commission's hospital discharge abstract data obtained under COMAR 10.24.02.

(5) **Case Mix.**

(a) Maryland case mix-adjusted average length of stay data, by service and hospital, are obtained from the Commission's hospital discharge abstract data obtained under COMAR 10.24.02.

(b) Record selection criteria conforms to exclusions and requirements set forth in §§B(1) and B(2) of this regulation.

F. Method of Calculation to Project Need for Medical/Surgical/Gynecological/Addictions Beds.

(1) **Baseline Projection.**

(a) Calculate the ratio of target year to base year population, by area of residence and age group, by dividing the target year projected population, by area of residence and age group, by the base year estimated population, by area of residence and age group.

(b) Calculate the target year number of patient days, by area of residence, jurisdiction of care, and age group, by multiplying the base year number of patient days, by area of residence, jurisdiction of care and age group, by the ratio of target year to base year population, by area of residence and age group.

(c) Calculate the target year number of patient days, by jurisdiction of care, by summing, over area of residence and age group, the target year number of patient days, by area of residence, jurisdiction of care, and age group.

(d) Calculate the target year number of patient days, by jurisdiction of care and payor group, by multiplying the target year number of patient days, by jurisdiction of care,

by the ratio of the base year number of patient days, by jurisdiction of care and payor group, to the base year number of patient days, by jurisdiction of care.

(e) Calculate the target year number of discharges, by area of residence, jurisdiction of care, and age group, by multiplying the base year number of discharges, by area of residence, jurisdiction of care, and age group, by the ratio of target year to base year population, by area of residence and age group.

(f) Calculate the target year number of discharges, by jurisdiction of care, by summing, over area of residence and age group, the target year number of discharges, by area of residence, jurisdiction of care, and age group.

(g) Calculate the target year number of discharges, by jurisdiction of care and payor group, by multiplying the target year number of discharges, by jurisdiction of care, by the ratio of the base year number of discharges, by jurisdiction of care and payor group, to the base year number of discharges, by jurisdiction of care.

(h) Calculate the target year average length of stay, by jurisdiction of care and payor group, by dividing the target year number of patient days, by jurisdiction of care and payor group, by the target year number of discharges, by jurisdiction of care and payor group.

(i) Calculate the target year average length of stay by dividing the target year number of patient days, summed over all jurisdictions of care and payor groups, by the target year number of discharges, summed over all jurisdictions of care and payor groups.

(2) **Adjustments in Discharges.**

(a) Using the values found in §D(2) of this regulation, calculate the target year expected number of discharges, by payor group, by multiplying the target year expected

discharge rate, by payor group, by the target year projected population, by age group, summing over all age groups, and dividing by 1,000.

(b) Calculate the proportional statewide change in number of discharges, by payor group, by subtracting the statewide target year expected number of discharges, by payor group, from the statewide target year numbers of discharges, by payor group, and dividing the result by the statewide target year number of discharges, by payor group.

(c) Calculate the adjusted target year number of discharges, by jurisdiction of care and payor group, by multiplying the proportional statewide change in number of discharges, by payor group, by the target year number of discharges, by jurisdiction of care and payor group, and subtracting the result from the target year number of discharges, by jurisdiction of care and payor group.

(d) Calculate the adjusted statewide expected number of discharges by summing, over all jurisdictions of care and payor groups, the adjusted target year number of discharges, by jurisdiction of care and payor group.

(e) Jurisdictional and adjusted statewide target year number of discharges are published as a notice in the *Maryland Register*.

(3) Adjustments in Average Lengths of Stay.

(a) Calculate the base year average length of stay, by jurisdiction of care, by dividing the base year number of patient days, by jurisdiction of care and payor group, by the base year number of discharges, by jurisdiction of care and payor group, and summing over all payor groups.

(b) For each jurisdiction in which the actual overall MSGA average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the case

mix-adjusted base year average length of stay, by payor group, by multiplying the case mix-adjusted base year average length of stay, by hospital and payor group, by the base year number of discharges, by hospital and payor group, summing over all hospitals in the jurisdiction, and dividing the result by the base year number of discharges, by payor group.

(c) For each jurisdiction in which the actual overall MSGA average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the case mix factor, by payor group, by subtracting the case mix-adjusted base year average length of stay, by payor group, from the base year average length of stay, by payor group, and dividing the result by the base year average length of stay, by jurisdiction of care.

(d) Using the values found in §D(3)(a) of this regulation, calculate the proportional statewide change in average length of stay, by payor group, by subtracting the statewide expected average length of stay, by payor group, from the statewide target year average length of stay, by payor group, and dividing the result by the statewide target year average length of stay, by payor group.

(e) For each jurisdiction in which the actual overall MSGA average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the adjusted target year average length of stay, by payor group, by adding the proportional statewide change in average length of stay, by payor group, to the case mix factor, by payor group, multiplying the result by the base year average length of stay, by payor group, and subtracting the result from the target year average length of stay, by payor group.

(f) For all other jurisdictions, calculate the adjusted target year average length of stay, by payor group, by multiplying the proportional statewide change in average

length of stay by the base year average length of stay, by payor group, and subtracting the result from the target year average length of stay, by payor group.

(g) For jurisdictions in which the adjusted target year average length of stay, by payor group, is less than the minimum allowable average length of stay, by payor group, found in §D(3)(b) of this regulation, the adjusted target year average length of stay is set equal to the minimum allowable average length of stay.

(h) Calculate the adjusted statewide target year expected average length of stay by payor group, by multiplying the adjusted target year average length of stay, by jurisdiction of care and payor group, by the adjusted target year number of discharges, by jurisdiction of care and payor group, calculated in accordance with §F(2)(c) of this regulation, summing the product over all jurisdictions of care, and dividing the result by the adjusted statewide number of discharges, by payor group.

(4) Gross and Net Bed Need Projection.

(a) Calculate the adjusted target year patient days, by jurisdiction of care, by multiplying the adjusted target year discharges, by jurisdiction of care and payor group, by the adjusted target year average length of stay, by jurisdiction of care and payor group, and summing the result over all payor groups.

(b) Calculate the average daily census, by jurisdiction of care, by dividing the adjusted target year patient days, by jurisdiction of care, by 365.

(c) Calculate the target year gross bed need, by jurisdiction of care, by dividing the average daily census, by jurisdiction of care, by the jurisdictional minimum occupancy standard found in §D(4) of this regulation. For jurisdictions with more than one hospital, the jurisdictional minimum occupancy standard used in calculating target year gross

bed need will be calculated by pro-rating the MSGA occupancy standards found in §D(4) of this regulation, at the hospital level, using the assumption that target year MSGA average daily census for the jurisdiction will be proportioned to each hospital in the jurisdiction at the same ratio in which total jurisdictional MSGA average daily census was allocated among the hospitals in the base year.

(d) Calculate the target year net bed need, by jurisdiction of care, by subtracting the licensed and Certificate of Need-approved bed capacity, by jurisdiction of care, from the target year gross bed need, by jurisdiction of care.

(e) Calculate the target year statewide net bed need by summing, over all jurisdictions of care, the target year net bed need, by jurisdiction of care.

(f) Jurisdictional gross and net bed need for the MSGA service will be calculated annually and published as a notice in the *Maryland Register*. The jurisdictional gross and net bed need for the MSGA service will apply in the review of a Certificate of Need application acted on by the Maryland Health Care Commission after the publication of the jurisdictional gross and net bed need in the *Maryland Register*.

G. Method of Calculation to Project Need for Pediatric Beds.

(1) Baseline Projection.

(a) Calculate the ratio of target year to base year population by area of residence, by dividing the target year projected population ages 0-14, by area of residence, by the base year estimated population, by area of residence.

(b) Calculate the target year number of patient days, by area of residence and jurisdiction of care, by multiplying the base year number of patient days, by area of

residence and jurisdiction of care, by the ratio of target year to base year population ages 0-14, by area of residence.

(c) Calculate the target year number of patient days, by jurisdiction of care, by summing, over area of residence, the target year number of patient days, by area of residence and jurisdiction of care.

(d) Calculate the target year number of discharges, by area of residence and jurisdiction of care, by multiplying the base year number of discharges, by area of residence and jurisdiction of care, by the ratio of target year to base year population ages 0-14, by area of residence.

(e) Calculate the target year number of discharges, by jurisdiction of care, by summing, over area of residence, the target year number of discharges, by area of residence and jurisdiction of care.

(f) Calculate the target year average length of stay, by jurisdiction of care, by dividing the target year number of patient days, by jurisdiction of care, by the target year number of discharges, by jurisdiction of care.

(g) Calculate the statewide target year average length of stay by summing, over all jurisdictions of care, the target year number of patient days, by jurisdiction of care, summing over all jurisdictions of care, the target year number of discharges, by jurisdiction of care, and dividing the resulting number of patient days by the resulting number of discharges.

(2) **Adjustments in Discharges.**

(a) Using the value found in §D(2) of this regulation, calculate the target year expected number of discharges by multiplying the target year expected discharge rate by the target year projected population ages 0-14, and dividing by 1,000.

(b) Calculate the proportional statewide change in number of discharges by subtracting the statewide target year expected number of discharges from the statewide target year number of discharges, and dividing the results by the statewide target year number of discharges.

(c) Calculate the adjusted target year number of discharges, by jurisdiction of care, by multiplying the proportional statewide change in number of discharges by the target year number of discharges, by jurisdiction of care, and subtracting the result from the target year number of discharges, by jurisdiction of care.

(d) Calculate the adjusted statewide number of discharges by summing, over all jurisdictions of care, the adjusted target year number of discharges, by jurisdiction of care.

(2) **Adjustments in Average Lengths of Stay.**

(a) Calculate the base year average length of stay, by jurisdiction of care, by dividing the base year number of patient days, by jurisdiction of care, by the base year number of discharges, by jurisdiction of care.

(b) For each jurisdiction in which the actual overall pediatric average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the case mix-adjusted base year average length of stay, by multiplying the case mix-adjusted base year average length of stay, by hospital by the base year number of discharges, by hospital, summing over all hospitals in the jurisdiction, and dividing the result by the base year number of discharges.

(c) For each jurisdiction in which the actual overall pediatric average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the case mix factor by subtracting the case mix-adjusted base year average length of stay, from

the base year average length of stay, by jurisdiction of care, and dividing the result by the base year average length of stay.

(d) Using the value found in §D(3)(a) of this regulation, calculate the proportional statewide change in average length of stay by subtracting the statewide expected average length of stay from the statewide target year average length of stay, and dividing the result by the statewide target year average length of stay.

(e) For each jurisdiction in which the actual overall pediatric average length of stay exceeded the case mix-adjusted average length of stay in the base year, calculate the adjusted target year average length of stay by adding the proportional statewide change in average length of stay to the case mix factor, multiplying the result by the average length of stay in the base year and subtracting the result from the target year average length of stay.

(f) For all other jurisdictions, calculate the adjusted target year average length of stay by multiplying the proportional statewide change in average length of stay by the average length of stay in the base year and subtracting the result from the target year average length of stay.

(g) For jurisdictions in which the adjusted target year average length of stay is less than the minimum allowable average length of stay found in §D(3)(b) of this regulation, the adjusted target year average length of stay is set equal to the minimum allowable length of stay.

(h) Calculate the adjusted statewide target year expected average length of stay by multiplying the adjusted target year average length of stay, by jurisdiction of care, by the adjusted target year number of discharges, by jurisdiction of care, calculated in accordance with

§G(2)(c) of this regulation, summing the product over all jurisdictions of care, and dividing the result by the adjusted statewide number of discharges.

(4) Gross and Net Bed Need Projection.

(a) Calculate the adjusted target year patient days, by jurisdiction of care, by multiplying the adjusted target year discharges, by jurisdiction of care, by the adjusted target year average length of stay, by jurisdiction of care.

(b) Calculate the average daily census, by jurisdiction of care, by dividing the adjusted target year patient days, by jurisdiction of care, by 365.

(c) Calculate the target year gross bed need, by jurisdiction of care, by dividing the average daily census, by jurisdiction of care, by the jurisdictional minimum occupancy standard, found in §D(4) of this regulation. For jurisdictions with more than one hospital operating a pediatric service, the jurisdictional minimum occupancy standard used in calculating target year gross bed need will be calculated by pro-rating the pediatric occupancy standards found in §D(4) of this regulation, at the hospital level, using the assumption that target year pediatric average daily census for the jurisdiction will be proportioned to each hospital in the jurisdiction at the same ratio in which total jurisdictional pediatric average daily census was allocated among the hospitals in the base year.

(d) Calculate the target year net bed need, by jurisdiction of care, by subtracting the licensed and Certificate of Need-approved bed capacity, by jurisdiction of care, from year gross bed need, by jurisdiction of care.

(e) Calculate the target year statewide net bed need by summing, over all jurisdictions of care, the target year net bed need, by jurisdiction of care.

(f) Jurisdictional gross and net bed need for the pediatric service will be calculated annually and published as a notice in the *Maryland Register*. The jurisdictional gross and net bed need for the pediatric service will apply in the review of a Certificate of Need application acted on by the Maryland Health Care Commission after the publication of the jurisdictional gross and net bed need in the *Maryland Register*.

H. Mathematical Formulas.

(1) The need projection methodologies described in §§F and G of this regulation are shown in this section in mathematical form.

(2) Terms used in §§F and G of this regulation are defined in alphabetical order in the following table:

Term	Definition
h	hospital in a given jurisdiction
i	area of residence, where 1, ..., 24 = Maryland jurisdictions and 25, ..., 48 = out-of-state areas
j	jurisdiction of care, where 1, ..., 24 = Maryland jurisdictions
k	age group, where 1 = 15-44, 2 = 45-64, 3 = 65-74, and 4 = 75 and older
m	minimum and maximum, where 1 = minimum and 2 = maximum
p	payor group, where 1 = Medicare and 2 = non-Medicare
ADC	average daily census
ATDIS	adjusted target year number of discharges
ATELOS	adjusted target year expected length of stay
ATLOS	adjusted target year average length of stay

ATPD	adjusted target year patient days
BLOS	base year average length of stay
BDIS	base year number of discharges
BODIS	base year number of out-of-state discharges
BPD	base year number of patient days
BPOP	base year estimated population
CAP	licensed and CON-approved bed capacity
CHDIS	statewide proportional change in discharges
CHLOS	statewide proportional change in average length of stay
CMF	case mix factor
CMBLOS	case mix-adjusted base year average length of stay
GNEED	target year gross bed need
MLOS	minimum allowable average length of stay
NNEED	target year net bed need
OCC	minimum occupancy standard
RPOP	ratio of target year population to base year population
TDIS	target year number of discharges
TEDIS	target year expected number of discharges
TEDISR	target year expected discharge rate per 1,000 population
TELOS	target year expected average length of stay
TLOS	target year average length of stay
TPD	target year patient days
TPOP	target year projected population

(3) Need for MSGA inpatient hospital beds in each jurisdiction, and statewide need, are calculated as shown in the following table of formulas:

(a) *Baseline Projection.*

- (i) $RPOP_{ik} = TPOP_{ik}/BPOP_{ik}$
- (ii) $TPD_{ijk} = (BPD_{ijk})(RPOP_{jk})$
- (iii) $TPD_i = [\sum_k TPD_{ijk}]$
- (iv) $TPD_{jp} = [(TPD_j)(BPD_{jp})/BPD_j]$
- (v) $TDIS_{ijk} = (BDIS_{ijk})(RPOP_{ik})$
- (vi) $TDIS_j = \sum_k TDIS_{ijk}$
- (vii) $TDIS_{jp} = [(TDIS_j)(BDIS_{jp})/BDIS_j]$
- (viii) $TLOS_{jp} = TPD_{jp}/TDIS_{jp}$
- (ix) $TLOS = (\sum_j TPD_{jp})/(\sum_j TDIS_{jp})$

(b) *Adjustments in Discharges.*

- (i) $TEDIS_p = \{\sum_k [(TEDISR_p)(TPOP_k)]\}/1,000$
- (ii) $CHDIS_p = [(TDIS_p - TEDIS_p)/TDIS_p]$
- (iii) $ATDIS_{jp} = TDIS_{jp} - [(CHDIS_p)(TDIS_{jp})]$
- (iv) $ATDIS = \sum_j ATDIS_{jp}$

(c) *Adjustments in Average Lengths of Stay.*

- (i) $BLOS_j = \sum (BPD_{jp}/BDIS_{jp})$
- (ii) If $BLOS > CMBLOS_h$, $CMBLOS_{jp} = [\sum (CMBLOS_{jp})(BDIS_{jp})/BDIS_{jp}](BLOS/CMBLOS)$
- (iii) If $BLOS > CMBLOS_h$, $CMF_{jp} = (BLOS_{jp} - CMBLOS_{jp})/BLOS_j$
- (iv) $CHLOS_p = (TLOS_p - TELOS_p)/TLOS_p$

(v) If $BLOS > CMBLOS$, $ATLOS_{jp} = TLOS_j - [(CHLOS_p + CMF_{jp})(BLOS_j)]$

(vi) If $BLOS < CMBLOS$, $ATLOS_p = TLOS - [(CHLOS_p)(BLOS)]$

(vii) If $ATLOS_{jp} < MLOS_p$, then $ATLOS_{jp} = MLOS_p$

(viii) $ATELOS = [\sum_j (ATLOS_{jp})(ATDIS_{jp})]/ATDIS_p$

(d) Gross and Net Bed Need Projection.

(i) $ATPD_j = \sum_p [(ATDIS_{jp})(ATLOS_{jp})]$

(ii) $ADC_j = ATPD_j/365$

(iii) $GNEED_j = ADC_j/OCC_j$

(iv) $NNEED_j = GNEED_j - CAP_j$

(v) $NNEED = \sum_j NNEED_j$

(4) Need for pediatric inpatient hospital beds in each jurisdiction, and statewide need, are calculated as shown in the following table of formulas:

(a) Baseline Projection.

(i) $RPOP_i = TPOP_i/BPOP_i$

(ii) $TPD_{ij} = (BPD_{ij})(RPOP_i)$

(iii) $TPD_j = [\sum_i TPD_{ij}]$

(iv) $TDIS_{ij} = (BDIS_{ij})(RPOP_j)$

(v) $TDIS_j = [\sum_i TDIS_{ij}]$

(vi) $TLOS_j = TPD_j/TDIS_j$

(vii) $TLOS = (\sum_j TPD_j)/(\sum_j TDIS_j)$

(b) Adjustments in Discharges.

(i) $TEDIS = [(TEDISR)(TPOP)]/1000$

(ii) $CHDIS = [(TDIS - TEDIS)]/TDIS$

$$(iii) ATDIS_j = TDIS_j - [(CHDIS)(TDIS_j)]$$

$$(iv) ADTIS = \sum_j ATDIS_j$$

(c) *Adjustments in Average Lengths of Stay.*

$$(i) BLOS_j = BPD_j / BDIS_j$$

$$(ii) \text{ If } BLOS > CMBLOS \text{ } CMBLOS_j = [\sum (CMBLOS_j)(BDIS_j)] / BDIS_j$$

$$(iii) \text{ If } BLOS > CMBLOS \text{ } CMF_j = [(BLOS_j - CMBLOS_j)] / BLOS_j$$

$$(iv) CHLOS = [(TLOS - TELOS)] / TLOS$$

$$(v) \text{ If } BLOS > CMBLOS \text{ } ATLOS_j = TLOS_j - [(CHLOS + CMF_j)(BLOS_j)]$$

$$(vi) \text{ If } BLOS < CMBLOS \text{ } ATLOS = TLOS - [(CHLOS)(BLOS)]$$

$$(vii) \text{ If } ATLOS_j < MLOS \text{ } ATLOS_j = MLOS_j$$

$$(viii) ATELOS = [\sum (ATLOS_j)(ATDIS_j)] / ATDIS$$

(d) *Gross and Net Bed Need Projection.*

$$(i) ATPD_j = (ATDIS_j)(ATLOS_j)$$

$$(ii) ADC_j = ATPD_j / 365$$

$$(iii) GNEED_j = ADC_j / OCC_j$$

$$(iv) NNEED_j = GNEED_j - CAP_j$$

$$(v) NNEED = \sum_j NNEED_j$$

I. Update, Correction, Publication, and Notification.

(1) The Commission will update acute care hospital bed need projections annually and publish them in the *Maryland Register* prior to use in Certificate of Need review and exemptions from Certificate of Need.

(2) Recomputation of gross bed need prior to a scheduled update will be done only when a substantial error has been identified.

(3) Updated projections published in the *Maryland Register* supersede any published in either the *Maryland Register* or any plan approved by the Commission.

(4) Published projections remain in effect until the Commission publishes updated acute care hospital bed need projections, and will not be revised during the interim other than to incorporate inventory changes resulting from Commission Certificate of Need decisions and changes exempted from Certificate of Need review, or to correct errors in the data or computation.

06. Definitions.

A. In this Chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) “Acute care hospital” or “acute care general hospital” means a hospital classified as a general hospital (defined in Health General §19-307 that provides services to patients with medical conditions, illnesses, or injuries that can be diagnosed and treated on an outpatient basis or that require inpatient hospitalization of a short duration.

(2) “Acute care hospital services” means care, either short-term inpatient or outpatient care, provided by an acute care hospital.

(3) “Acute inpatient care” means short-term hospital care provided to patients with conditions of short duration requiring stays of, on average, less than 30 days.

(4) “Average Age of Plant” is the ratio of Accumulated Depreciation to Depreciation.

(5) “Bed capacity” means the number of hospital beds that an acute care hospital can physically accommodate, including beds that are available for use and those that

could be physically set up in space appropriate for licensed acute inpatient care as admissions might warrant.

(6) “Case mix-adjusted average length of stay” means the average length of stay for a service calculated by applying the statewide average length of stay by diagnosis related group (DRG) and, when appropriate, by payer group, to each hospital’s own case mix.

(7) “Charity care” means:

(a) Free or discounted health and health-related services provided to persons who cannot afford to pay;

(b) Care to uninsured, low-income patients who are not expected to pay all or part of a bill, or who are able to pay only a portion using an income-related fee schedule;

(c) Health care services that were never expected to result in cash inflows;

or

(d) The unreimbursed cost to the health system for providing free or discounted care to persons who cannot afford to pay and who are not eligible for public programs. Charity care results from a provider’s policy to provide health care services free of charge or discounted to individuals who meet certain financial criteria. Generally, a hospital bill must be generated and recorded and the patient must meet the organization’s criteria for charity care, and demonstrate an inability to pay. Charity care does not include bad debt.

(8) “Consolidation” means a merger such that one or more acute inpatient services are eliminated or centralized at one or more of the hospitals of the merged organization.

(9) “Critical care unit” means a specific area of a hospital that provides maximum surveillance and support of vital functions and definitive therapy for patients with acute but reversible life-threatening impairment of single or multiple vital organ systems due to

disease or injury, including specialized care units (both multidisciplinary and multispecialty) such as coronary care units and intensive care units.

(10) “Current procedural terminology (CPT)” is a coding system used to describe medical, surgical, and diagnostic services. It was developed and is maintained by the American Medical Association and is used by the Centers for Medicare and Medicaid Services.

(11) “Debt to Capitalization ratio” is the ratio of Long-term Debt to the sum of Long-term Debt and Fund Balance. For hospitals that are part of multi-hospital systems, the system wide Debt to Capitalization ratio is applicable.

(10) “Diagnosis-related group” or “groupers (DRG or DRGs)” is a system to classify hospital cases into groups that are expected to have similar hospital resource use, developed for Medicare as part of the prospective payment system. For purposes of this Chapter, the term refers to DRGs used by the Health Services Cost Review Commission in regulation of hospital charges.

(11) “Excess acute care beds” means the difference between the total number of licensed beds plus Certificate of Need-approved beds, and the number of beds projected to be needed in a jurisdiction, as calculated in accordance with Regulation .05 of this Chapter.

(12) “Fully-adjusted Charge per Case” means the final Charge per Case in the Health Services Cost Review Commission’s Reasonableness of Charges (“ROC”) Report used in the determination of rate actions, that has been adjusted for all of the factors used by HSCRC in development of the ROC Report.

(13) “Green design principles” means the design principles outlined in the LEED® for Healthcare Rating System of the U.S. Green Building Council.

(14) “High charge hospital” means a hospital whose charges, as reflected in the most recent “Reasonableness of Charges” Report of the Health Services Cost Review Commission, exceeds the average charge for its Peer Group by more than three (3) percent.

(15) “Hospital” means any nonfederal facility in Maryland with one or more beds licensed for acute general or specialty care, as defined in Health-General §19-301(f)-(g).

(16) “Inpatient Unit Program Space per bed” means a measure of space in a given patient care nursing unit of a hospital, such as a general medical/surgical unit, which includes patient rooms, family space, and support space. Family spaces include visitor lounges, family toilets, and consult rooms. Support space includes staff work stations, nourishment areas, medication areas, physician work areas (dictation, picture archiving and communication system reading station, reporting, Health Insurance Portability and Accountability Act), clean supply areas, soiled utility areas, equipment/cart alcoves, equipment storage areas, exam rooms, environmental services, offices, staff lounges, staff toilets, and staff lockers. Patient rooms include anterooms, satellite work stations, and patient toilets/showers. Inpatient unit program space does not include space for intra departmental circulation, walls, structural space, building envelope and mechanical and electrical support space (shafts, closets, and chases) or space for vertical and building circulation. Vertical circulation space includes stairs and elevators. Building circulation space includes corridors that connect departments.

(17) “Jurisdiction” means any of the 23 Maryland counties and Baltimore City.

(18) “Jurisdictional population” means the population residing within a jurisdiction.

(19) “Medical/surgical/gynecological/addictions services (MSGA)” means acute inpatient care not defined as neonatal, pediatric, obstetrical, or psychiatric services.

(20) “Merger” means the combining of two or more independent hospitals under a permanent, legally binding arrangement or reorganization so as to result in a reduction in hospital capacity in the State or the reapportionment and reconfiguration of beds or services among the health care facilities of a merged or consolidated organization that operates more than one health care facility, or a merged or consolidated organization that operates one or more health care facility and holds a Certificate of Need to construct a health care facility, so as to result in a reduction in capacity in one or more hospitals in the State.

(21) “Net Present Value” means the present value of net cash flows. It is a calculation that looks at both inflow and outflow of cash for a project. The present value must be calculated by calculating the expected cash flow and then discounting the cost of capital.

(22) “Non-health related use” means

- (a) Any use that does not involve the rendering of patient care services, or
- (b) Any service not subject to a Certificate of Need review.

(23) “Occupancy rate” means a number calculated by dividing a facility’s average daily census during a given time period by the total number of beds (licensed, physical, or set up and staffed) during that same time period, numerically expressed as a percentage.

(24) “Operational efficiency” is the ratio of output, defined as a given volume of patient care service produced by a discrete unit or department of a hospital to the inputs required to produce the same given volume of patient care service by the discrete unit or department of the hospital. A common measure of outputs and inputs, such as money value, must be used in order to establish the operational efficiency ratio. Improving or increasing the level of operational efficiency for a discrete hospital unit or department would require increasing the ratio of output to inputs for a given volume of service.

(25) “Primary service area” means:

(i) The Maryland postal ZIP code areas from which the first 60 percent of a hospital’s patient discharges originate during the most recent 12 month period, where the discharges from each ZIP code are ordered from largest to smallest number of discharges;

(ii) Point ZIP codes physically within any of the ZIP codes designated in (i); and

(iii) Maryland ZIP codes physically contiguous to any of the ZIP codes designated in (i) that provided 50 percent or more of their discharges to the hospital in the 12-month period.

(iv) In the case of a merged or consolidated organization, the ZIP codes are tabulated separately for each hospital, and all the ZIP codes identified for either are included in the primary service area of the merged or consolidated organization.

(26) “Principal payment” means the amount of a loan due during one year which is attributable to the principal portion of the debt, less interest costs.

(27) “Quartile” means that section of a distribution of data points equivalent to one-fourth of the sample population when the population is ranked by value and divided evenly into fourths. The lower quartile would be the bottom 25 percent of hospitals ranked from high to low.

(28) “Regional population” means the population residing within two or more jurisdictions of an acute care hospital’s primary service area.

(29) “Representative list of services and charges” means, at a minimum, a list containing:

(a) The average charge per case for the ten most frequently occurring inpatient diagnoses (determined by DRG) for discharged medical/surgical patients, and also for discharged obstetric patients, discharged pediatric patients, and discharged acute psychiatric patients, if the hospital operates an inpatient unit for any of these latter three services; and

(b) The average charge per procedure for the ten most frequently occurring outpatient procedures (defined by CPT codes) in three clinical areas: diagnostic imaging; outpatient surgery; and laboratory services. This list should be updated, with respect to DRGs, CPT codes, and charges, at least quarterly.

(30) “Service Area” means the contiguous area comprised of the postal zip code areas from which the first 85% of a hospital’s discharged patients originated during the most recent 12 month period.

(31) “Service capacity” means the number of applicable units of service that can be produced by a given facility, or service program at the facility, or a service program’s practical, maximum level of service production.

(32) “Shell space” means a space constructed to meet future needs. It is unfinished interior space enclosed at the time of construction by an exterior building envelope and left unfinished at the conclusion of the construction project. This space is not used for any purpose at the conclusion of the construction project and is not used for any purpose for a stated period of time after construction.

(33) “Smart and sustainable growth policies” means the policies articulated in §5-7A-01 of the State Finance and Procurement Article.

(34) “Threshold for capital expenditures” means:

(a) For a hospital, \$10,000,000 for the period June 1 through December 31, 2006, after that to be adjusted annually by the Commission according to the Consumer Price Index – Urban (CPI-U) for the Baltimore Metropolitan Area published by the U.S. Department of Labor, and rounded off to the nearest \$50,000; and

(b) For a health care facility other than a hospital, \$5,000,000 for the period June 1 through December 31, 2006 to be adjusted by the Commission according to the Consumer Price Index-Urban (CPI-U) for the Baltimore Metropolitan Area published by the U.S. Department of Labor, and rounded off to the nearest \$50,000.

(35) “Total operating revenues” mean the sum of all revenues collected in a year from the provision of patient care services by an acute care hospital.

(36) “Uncompensated care” means the charity care and bad debt that the Health Services Cost Review Commission recognizes in a hospital’s established rates.