MARYLAND Health Care Commission

Randolph S. Sergent, Esq., Chairman
Ben Steffen, Executive Director

STATE HEALTH PLAN FOR FACILITIES AND SERVICES:

ACUTE CARE HOSPITAL SERVICES

COMAR 10.24.10

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mhcc.maryland.gov

Toll Free: 1-877-245-1762
TTY Number: 1-800-735-2258
Fax: 410-358-1236

4160 Patterson Avenue
Baltimore, MD 21215

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

.01 Incorporation by Reference.

This Chapter of the State Health Plan for Facilities and Services: Acute Care Hospital Services 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 (Commission) has prepared this Acute Care Hospital Services chapter (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.

B. Legal Authority for the State Health Plan.

The State Health Plan is adopted under Maryland's health planning law, Health-General Article §19-118 , Annotated Code of Maryland (Health General). 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 CON 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 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 (HSCRC); and

(2) Promote the development of a health regulatory system that provides financial and geographic access to quality health care services at a reasonable cost, for all Marylanders, 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 CON decisions and exemptions based on the State Health Plan. Health-General §19-118(e) requires the Secretary of Health 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 developing the State Health Plan and plan amendments. As required by statute, the Commission coordinates with the hospital rate-setting program of the HSCRC to assure access to care at reasonable costs. The Commission also coordinates its activities with the Maryland Insurance Administration.

D. Plan Content and Applicability.

This Chapter of the State Health Plan supersedes any previously adopted Acute Care Hospital Services Chapter of the State Health Plan, COMAR 10.24.10, and is applicable to all matters regarding acute care general hospital services in addition to any State Health Plan chapter addressing specific services.

A CON 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 bed capacity, that results from the annual recalculation made under 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; or

[1] "Health care service" is defined at Health-General §19-120(a)(3) as "any clinically related patient service" including a "medical service". A "medical service" means any of the following health care services: "medicine, surgery, gynecology, addictions, obstetrics, pediatrics, psychiatry, rehabilitation, chronic care, comprehensive care,

(5) A capital expenditure by an acute care general hospital that exceeds the current hospital capital threshold.

.03 Issues and Policies.

All 43 Maryland acute care general hospitals are organized as private, not-for-profit corporations, and 36, or 83.7 percent, of the 43 hospitals are part of multi-hospital health systems. When this State Health Plan Chapter of regulation was last updated in CY 2009, Maryland had 47 acute care general hospitals licensed to operate 10,827 acute care hospital beds. At that time, Maryland was nearing the peak of a broad ten-year increase in hospital use rates.

Maryland hospital closures have involved, for the most part, replacement of the hospital with outpatient health care campuses, anchored by a freestanding medical facility (FMF), operating as a satellite hospital emergency department for a parent hospital. The Commission has supported this transition and the development of other outpatient diagnostic and treatment services on these FMF campuses to facilitate access to care.

Maryland has experienced declining demand for acute care general hospital beds. The number of licensed acute care hospital beds for FY 2023 is 9,454 compared to 10,583 in FY 2012.[2] Changes in the licensed acute care hospital bed inventory in Maryland parallel changes in the average daily census (ADC) for these hospitals, because licensed beds are recalculated each year by analyzing the ADC for the most recent available 12-month period, multiplied by 140 percent.[3] In the last two decades the majority of hospital physical plant modernization and expansion projects reviewed by the Commission have included the transition of semi-private to private room capacity. Often these hospitals also maintain semi-private rooms that, operationally, become single occupancy rooms. Since the emergence of the COVID-19 pandemic, it is desirable to maintain some surge bed capacity at acute care general hospitals.

A. Utilization Trends.

Hospital use is a key factor in the evaluation of projects involving establishment or relocation of acute care general hospitals or changes in hospital bed capacity in this State Health Plan Chapter. Since 2009, the demand, as measured by ADC, for three of the four general acute care bed licensure categories in Maryland has declined, as shown in the following table.

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extended care, intermediate care, and residential treatment." Health-Gen. §19-120(a)(6). Hospitals have the ability to undertake certain capital expenditures that exceed the threshold requirement for CON review and approval without the review and approval, under the terms of COMAR 10.24.01.03 and 10.24.01.04.

[2] Maryland Health Care Commission. "Annual Report on Selected Maryland Acute Care and Special Hospital Services: Fiscal Year 2012." https://mhcc.maryland.gov/mhcc/pages/hcfs/hcfs_hospital/documents/acute_care/CHCF_CON_Acute_Annual_Report_Selected_MD_Acute_Special_Hospital_FY2012_Corrected_RPT_20110701.pdf; Maryland Health Care Commission. "Fiscal Year 2023: Licensed Acute Care Beds by Hospital and Service" https://mhcc.maryland.gov/mhcc/pages/hcfs/hcfs_hospital/documents/acute_care/chcf_Acute_Care_Beds_fy2023.pdf

[3] Health General §19-307.2.

Inpatient Use, Acute Care Licensed Bed Utilization by Bed Type:
All Maryland Acute Care General Hospitals, Calendar Years 2009 and 2022

	CY 2009	CY 2022			CY 2009	CY 2022
MSGA				**Obstetric**		
Discharges	552,817	342,859		Discharges	78,199	66,840
Patient days	2,312,341	2,064,741		Patient days	220,599	161,535
ALOS (days)	4.2	6.0		ALOS (days)	2.8	2.4
ADC (people)	6,335.2	5,656.8		ADC (people)	604.4	442.6
Psychiatric				**Pediatric**		
Discharges	27,440	23,576		Discharges	24,432	10,313
Patient days	140,313	197,536		Patient days	76,925	49,218
ALOS (days)	5.1	8.5		ALOS (days)	3.1	4.8
ADC (people)	384.4	541.2		ADC (people)	210.8	134.8

Source: Commission staff analysis of HSCRC Discharge Database, CY 2009 and CY 2022.

The largest category of beds is for delivery of medical, surgical, gynecological, and addictions (MSGA) services. MSGA services accounted for 83.5 percent of total acute care hospital patient days in CY 2022. While MSGA discharges declined an average of 4.7 percent annually between CY 2009 and CY 2022, the average length of stay (ALOS) increased by an average of 2.3 percent annually over the same period, resulting in an average annual decline in MSGA patient days of 0.9 percent between CY 2009 and CY 2022. The ALOS of MSGA patients in Maryland hospitals in CY 2022 was 6.0 days, almost two full days longer than the ALOS of 4.2 days observed in CY 2009.

The second largest category of beds is for delivery of acute psychiatric services. The 28 acute care general hospitals with acute psychiatric beds provide a major portion of overall psychiatric hospitalizations in Maryland. Psychiatric patient days accounted for 8.0 percent of total acute care general hospital patient days in CY 2022. Patient bed days for psychiatric patients are the only category of inpatient care provided by acute care general hospitals that has increased since CY 2009. This growth was driven by longer lengths of stay for psychiatric patients. Psychiatric patient discharges declined between CY 2009 and CY 2022 by an average of 2.3 percent annually, while the ALOS for psychiatric patients increased by 3.1 percent annually over the same period.

Postpartum obstetric (OB) services, provided by 32 acute care general hospitals, make up the third largest category of hospitals' patient census, accounting for 6.5 percent of total acute care days in CY 2022. OB services, like MSGA services, declined in both the total number of discharges and patient days since CY 2009.

The bed category least utilized in Maryland is the one licensed for pediatric services. Hospitalization of pediatric patients, younger than 15 years old, has declined precipitously. While 30 acute care general Maryland hospitals still allocate beds to this service, the median number of licensed pediatric beds among these hospitals is just four, and the median ADC among these hospitals in CY 2022 was just 0.4 patients. The three hospitals with the largest pediatric hospitalization programs accounted for 85 percent of total statewide ADC in CY 2022. These patient days accounted for only 1.7 percent of acute hospital patient days in CY 2022 and statewide pediatric ADC in CY 2022 was only slightly more than half of the pediatric ADC observed in

CY 2009. Similar to the trend in ALOS for MSGA and psychiatric discharges, the ALOS for pediatric discharges has increased by almost two days since CY 2009.

In most respects, Maryland hospital use and trends over the period from CY 2009 to CY 2021[4] compared favorably with the nation's hospitals overall, as shown in the following table, and discussed below.

Maryland and the U.S., Selected Comparative Use, CY 2021

	Maryland	U.S.
Ratio per Thousand Population, CY 2021		
Hospital beds	1.8	2.4
Hospital admissions	80.9	96.3
Hospital patient days	469.2	565.2
Hospital outpatient visits	1,270.7	2,367.0
Hospital outpatient emergency department visits	271.8	382.5
Hospital inpatient surgery cases	21.6	23.5
Hospital outpatient surgery cases	46.1	57.6
Change in Ratio per Thousand Population, CY 2009 - CY 2021		
Hospital admissions	-35.5%	-16.8%
Hospital outpatient visits	-12.7%	13.2%
Hospital outpatient emergency department visits	-36.2%	-7.7%
Hospital inpatient surgery cases	-38.8%	-28.6%
Hospital outpatient surgery cases	-25.9%	1.9%

Sources: American Hospital Association, *Hospital Statistics* series (2011-2023).

In CY 2021, Maryland had fewer hospital beds than the nation as a whole, 1.8 per 1,000 population compared to the U.S. ratio of 2.4 in CY 2021, and it had a lower rate of hospital admissions. Maryland had 80.9 admissions per 1,000 compared with the U.S. rate of 96.3 in CY 2021. Between CY 2009 and CY 2021, the admissions per 1,000 population in Maryland declined by a greater percentage compared to the U.S., 35.5 percent for Maryland compared to 16.8 percent for the U.S. Maryland continues to trend below the nation in the demand for hospital days, 469.2 per 1,000 population in CY 2021, compared to the U.S. rate of 565.2.

Similar to the declining trends in inpatient admissions per 1,000 population since CY 2009, there has been a decline in outpatient hospital visits in Maryland. The percentage of decline in Maryland from CY 2009 to CY 2021 was 12.7 percent. In contrast, nationally, there has been an increase in outpatient hospital visits for the same period, of 13.2 percent. The number of outpatient visits per 1,000 population was much lower in Maryland compared to the U.S. average, both in CY 2009 and CY 2021. In CY 2021, the number of outpatient visits per 1,000 population was 1,270.7 for Maryland compared to 2,367.0 for the U.S. Consistent with the decrease in overall outpatient hospital visits from CY 2009 to CY 2021, the number of outpatient emergency department visits in Maryland, a subset of the total outpatient visits, declined during this period by 36.2 percent, from 426.3 per 1,000 population to 271.8 visits per 1,000 population. In contrast, while the number of outpatient hospital visits increased for the U.S. between CY 2009 and

[4] *AHA Hospital Statistics*, A Comprehensive Reference for Analysis and Comparison of Hospital Trends series (2011-2023).

CY 2021, the number of outpatient emergency department visits declined modestly, by 7.7 percent, from 414.6 to 382.5 per 1,000 population.

Between CY 2009 and CY 2021, there has been a significant decline in the number of inpatient surgeries per capita both in Maryland and for the U.S. In Maryland, the number of inpatient surgeries per 1,000 population fell from 35.3 in CY 2009 to 21.6 in CY 2021, a decrease of almost 39 percent; for the U.S. the decline was almost 29 percent for this period, falling from 32.9 in CY 2009 to 23.5 in CY 2021. The number of outpatient surgeries per 1,000 population in Maryland also fell between CY 2009 and CY 2021, from 62.2 outpatient surgeries per 1,000 population to 46.1 per 1,000 population. In contrast, nationally, the number of outpatient surgeries per 1,000 population increased slightly, from 56.5 in 2009 to 57.6 in CY 2021.

B. The Maryland Hospital Payment Model.

Hospital charges in Maryland are regulated by the HSCRC, an independent State agency which was established by an act of the Maryland legislature in 1971. Since the late 1970's, Maryland has operated under a waiver from Medicare rules that allows Maryland to set hospital rates for both private payors and government payors, as long as certain conditions are met. Since the previous update of this Chapter of the State Health Plan in January 2009, the CON regulatory process and hospital rate setting system, which is unique to Maryland, has continued to evolve.

During the period from CY 2010 to CY 2012, some rural Maryland hospitals were reimbursed through a global budget model known as the Total Patient Revenue model. This was a revenue constraint system with the goal of providing hospitals with a financial incentive to manage their resources efficiently and effectively, to slow the rate of increase in the cost of health care.[5] Historically, Maryland maintained a payment model authorizing rates based on units of service and constraints on charges per case.

In CY 2014, Maryland adopted a new payment model, the Global Budget Revenue Model, under a demonstration with the Centers for Medicare and Medicaid Services (CMS). This model allowed Maryland to reduce per capita hospital expenditures and to focus on further improving patients' health, by including quality improvement goals, such as reducing avoidable readmissions.[6] In addition, Maryland was required to develop a model to address the total cost of care for Medicare beneficiaries, not just hospital costs, by CY 2019.[7]

A new agreement and payment model known as the Total Cost of Care (TCOC) Model was adopted in January 2019. This model is intended to span a ten-year period, as long as Maryland meets the performance model requirements.[8] The agreement with CMS states that in January 2024 or sooner, CMS will consider whether to expand the model to be an ongoing model, and if the model is not expanded, then CMS will consider Maryland's proposal for a new model in 2026 and

[5] Done N, Herring B, Xu T. The effects of global budget payments on hospital utilization in rural Maryland, Health Serv Res. 2019; 54:526-536. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6505416/
[6] Health Services Cost Review Commission, Maryland's Total Cost of Care Model, https://hscrc.maryland.gov/Documents/Modernization/TCOC%20Background%20and%20Summary%20_5_23_18%20.pdf (last visited September 8, 2023).
[7] Ibid.
[8] Ibid.

provide a decision by December 31, 2026.[9] The TCOC Model promotes care coordination across both hospital and non-hospital settings with the investment of resources in patient-centered care teams and primary care enhancements. It requires Maryland to set a Statewide Integrated Health Improvement Strategy that tracks improvements in hospital quality as well as care transformation and population health goals with increased provider payments based on demonstrated improvement in quality measures and the level of achievement for care transformation and population health goals.[10]

C. Policies.

The chief hospital policy objectives for the Maryland CON program are reflected in the following six policy statements.

Policy 3.0: Acute care hospital services will be provided in the most cost-effective manner consistent with meeting the health care needs of patients and communities.

Policy 3.1: Acute hospital services shall be accessible to all who need them. Hospitals and health systems will strive to reduce barriers to hospital services for underserved populations that stem from factors that include, but are not limited to, finance, geography, race, ethnicity, or gender.

Policy 3.2: All 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: All hospitals and health systems will continuously and systematically work to improve the quality and safety of patient care. This includes planning, implementing, and optimizing electronic health record systems and exchange of electronic health information, including clinical data to provide high quality, cost-effective, equitable, and patient-centered care.

Policy 3.4: Specialized acute care services shall be provided on a coordinated, regional basis, when it serves to promote quality and cost-effectiveness, while maintaining sufficient patient access to these services.

Policy 3.5: The CON program will coordinate its capital project review activities with HSCRC, to streamline the CON review process and to ensure that

[9] Health Services Cost Review Commission, Maryland Medicare Total Cost of Care Model Terms, https://hscrc.maryland.gov/Documents/Modernization/7-30-18%20Announced%20Terms_FINAL.pdf

[10] Health Services Cost Review Commission, Maryland's Total Cost of Care Background and Summary https://hscrc.maryland.gov/Pages/tcocmodel.aspx and https://hscrc.maryland.gov/Documents/Modernization/Statewide%20Integrated%20Health%20Improvement%20Strategy/SIHIS%20Proposal%20-%20CMMI%20Submission%2012142020.pdf

HSCRC's fiscal goals for Maryland's hospitals and hospital systems, consistent with the TCOC Model, will be met.

.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 CON for a project covered by this Chapter of the State Health Plan shall address and document its compliance with each of the following general standards that is applicable to its project as part of its CON application. Each hospital that seeks an exemption from CON review for a project covered by this Chapter of the State Health Plan shall address and demonstrate consistency with each of the following general standards as part of its exemption request, unless a standard is not applicable.

(1) Information Regarding Charges.

Information regarding hospital charges shall be available to the public.

(a) At a minimum, a hospital shall:

(i) Comply with requirements of the HSCRC regarding posting or providing charge information; and

(ii) Comply with requirements of CMS for surprise billing and price transparency, including Code of Federal Regulations, Title 45, Parts 149 and 180.

(b) A hospital shall demonstrate compliance with price transparency laws and regulations. Commission staff may request information about the hospital's compliance with price transparency laws and regulations from the applicant hospital, HSCRC, the Consumer Protection Division of the Attorney General's office, and other entities as appropriate.

(2) Charity Care and Financial Assistance Policy.

Each hospital shall have a written policy for the provision of charity care and reduced-cost care to patients who lack health care coverage or whose health care coverage is insufficient.

(a) The hospital's policy shall comply with Health-General §19-214.1.

(b) The policy shall provide that the hospital makes a determination of eligibility within 14 days following a patient's completion of an application for charity care services, application for medical assistance, or both.

(c) 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 HSCRC Community Benefit Report, shall demonstrate that its level of charity care is appropriate to the needs of its service area population.

(d) A hospital shall demonstrate compliance with laws and regulations for financial assistance. Commission staff may request information about the hospital's compliance with laws and regulations for financial assistance from the applicant hospital, HSCRC, the Consumer Protection Division of the Attorney General's office, and other entities as appropriate.

(3) Quality of Care.

An acute care general hospital shall provide high quality care.

(a) Each hospital shall document that it is:

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

(ii) Accredited by the Joint Commission, or other accreditation organization recognized by CMS, as acceptable for obtaining Medicare certification and approved by the State of Maryland; and

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

(b) Each hospital shall explain how the hospital is taking steps to improve its performance for each Quality Measure on which the hospital performed below the statewide average, as reported on the Commission's Maryland Quality Reporting website with respect to measures for patient satisfaction, patient safety, infections, and any other quality measures the Commission deems relevant to a hospital's proposed project.

(c) Each hospital shall:

(i) Explain its efforts to address measures of quality tracked by the HSCRC; and

(ii) Demonstrate that it has implemented a credible plan for achieving progress towards benchmarks for quality established by HSCRC.

B. Project Review Standards.

The standards in this section are intended to guide reviews of CON applications and requests for exemption from CON review involving acute care general hospital facilities and services. An applicant for a CON shall address, and its proposed project shall be evaluated for compliance with, all applicable review standards. An applicant for an exemption from CON review shall address, and its proposed project shall 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 for the population in the likely service area. Optimal travel time for general medical, surgical, intensive care, critical care, and pediatric services shall be within 30 minutes under normal driving conditions. The geographic accessibility standard is met if 90 percent of the population in the health planning region in which the new hospital is located, or in which the existing hospital will be relocated, is within 30 minutes under normal driving conditions of acute care general hospital services, or if the Commission determines that access will be substantially improved for the population in the applicant's service area, through a reduction in travel time.

(2) Non-Geographic Barriers to Access.

Hospital services shall be accessible to all Maryland residents and the type, amount, or quality of hospital care provided may not be affected by the patient's gender, race, ethnicity, or ability to pay.

(a) An acute care general hospital shall only deny admission if it is unable to provide the appropriate level of care for a patient or if a psychiatric patient's admission is involuntary and the hospital or hospital unit has been issued an exemption by the Commission that permits it to serve only voluntary psychiatric patients in accordance with COMAR 10.24.21.

(b) An acute care general hospital shall identify and explain its efforts to address non-geographic access barriers, including but not limited to barriers that stem from a patient's race, gender, ethnicity, or ability to pay. A hospital shall also present how progress has been measured and shall be measured for any access barrier identified.

(3) Identification of Bed Need and Addition of Beds.

An applicant shall demonstrate, in a service-area level needs assessment, that changes in its MSGA bed capacity and pediatric bed capacity resulting from a proposed project are needed.

(a) The applicant's service area-level needs assessment shall include the following information, separately for MSGA and pediatric bed capacity:

(i) A forecast of demand for at least five years following operation of the bed capacity by the population in its likely service area;

(ii) Market share analysis at the zip code area-level for the projected service area;

(iii) The assumptions used to define the service area of the proposed project, including the projected discharge rates;

(iv) The assumptions used to project the hospital's market share of discharges within the service area for the proposed project; and

(v) The assumptions used to project the average length of stay for discharges following development of the proposed project.

(b) An applicant shall demonstrate the reasonableness of all assumptions used in its needs assessment.

(c) An applicant proposing changes in MSGA bed capacity shall address the most recently published MSGA bed need projections developed by Commission staff under Regulation .05 of this Chapter. The applicant shall justify differences in its service area-level needs assessment compared to the published MSGA projections for the jurisdiction where the hospital is located, and any jurisdiction that comprises a quarter or more of the hospital's projected MSGA discharges.

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

An acute care general hospital may establish a new pediatric service unit or, in the case of a hospital relocation, retain a distinct pediatric unit only if the projected ADC 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.

(5) Adverse Impact.

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

(a) A hospital that has permanent revenue of $300,000,000 or greater seeking an adjustment in revenue for capital projects that exceeds a 25 percent threshold of its permanent revenue and a smaller hospital with permanent revenue less than $300,000,000 that exceeds a 50 percent threshold of its permanent revenue base, shall document that its capital to operating costs ratio is below the average ratio of its peer group, per HSCRC standards. For a project that involves the replacement of physical plant assets, the hospital shall document that the average age of the physical plant assets to be replaced exceeds the average age of plant assets for its peer group, or otherwise demonstrate why the physical plant assets require replacement 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, adding, 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 or uninsured.

(6) Cost-Effectiveness.

A proposed hospital capital project shall 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 at least two alternative approaches that it considered for achieving these primary objectives. For each approach, the hospital shall:

(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 §B(6)(a) of this Regulation, 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 State Finance and Procurement Article, Title 5, Subtitle 7B, Annotated Code of Maryland, shall demonstrate:

(i) That it has considered, at a minimum, two alternative project sites located within a Priority Funding Area that provide the most optimal geographic accessibility to the population in its likely service area, as defined in §B(1) of this Regulation;

(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 sites located within a Priority Funding Area.

(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 adjustment in global budget revenue proposed by the hospital related to the capital cost of the project may 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 consistent 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 adjustment in global budget revenue proposed by the hospital related to the capital cost of the non-hospital space may 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 may not recognize the costs associated with construction of non-hospital space.

(9) Inpatient Nursing Unit Space.

The expenditure for space built or renovated for inpatient nursing units that exceeds reasonable space standards per bed for the type of unit being developed may not be recognized in any adjustment in global budget revenue. If the inpatient unit program space per bed of a new or modified inpatient nursing unit exceeds 500 square feet per bed, any adjustment of global budget revenue proposed by the hospital related to the capital cost of the project may not include the 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, unless the applicant demonstrates that the additional square feet per bed is necessary to meet licensure and reasonable design standards.

(10) 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.

(11) 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.

(12) Financial Feasibility.

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

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

(b) Each applicant shall 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 rates of reimbursement, or for a new hospital the anticipated rates of reimbursement, as determined through consultation with the HSCRC;

(iii) Revenue estimates account for current contractual adjustments, 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

(v) 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 CON for a project that does not generate excess revenues over total expenses, when the hospital can demonstrate that the hospital's overall financial performance will be positive and that the services will benefit the hospital's primary service area population.

(c) A hospital proposing an increase in its global budget revenue to account, in whole or in part, for depreciation or long-term interest expenses resulting from a proposed capital project shall timely file a partial rate application for review by HSCRC in conjunction with its CON application to allow an informed opinion on the financial feasibility of the proposed project and the long-term viability of the proposed or existing hospital.

(13) Emergency Department Treatment Capacity and Space.

(a) An applicant proposing a new or expanded emergency department shall classify the emergency department 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-range or high-range and the projected emergency department visit volume, unless the applicant can demonstrate a need for additional treatment space even with efficient operation of the emergency department.

(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, 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.

(14) 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, the applicant hospital shall demonstrate that:

(a) 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) It has effectively managed its existing emergency department treatment capacity to maximize use; and

(c) It has considered the need for bed and other facility and system capacity that will be affected by greater volumes of emergency department patients.

(15) Shell Space.

(a) Unfinished hospital shell space for which there is no immediate need or use may 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 is more cost-effective than not including the shell space based on the following:

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

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

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

(c) For shell space to be constructed on lower floors of a building addition that supports finished building space on upper floors, an applicant shall provide information on the cost, the most likely uses, and the likely time frame for using the 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 revenue adjustment for capital costs by the HSCRC.

.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 for which discharge abstract data from Maryland acute general hospitals are available.

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

B. Services and Age Groups.

(1) Exclusions.

(a) No bed need projections are made for newborn services. Discharges coded with major diagnostic category (MDC) 15 are excluded from the calculations.

(b) Patients classified as rehabilitation in the acute care hospital discharge abstract database, as defined in COMAR 10.24.09, are excluded from the calculations.

(c) Projections for acute psychiatric services are made according to the methodology in the Acute Psychiatric Services Chapter of the State Health Plan, COMAR 10.24.21, and discharges coded with MDC 19 are excluded from the calculations.

(d) Projections for obstetrical services are not included in this Chapter. Utilization projections are made for this service separately. Discharges coded with MDC 14 are excluded from the calculations.

(2) Services for Which Need is Projected.

Projections are made for MSGA services provided to patients with an MDC not categorized as newborn, acute psychiatric, or obstetrical, 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) Utilization of Maryland hospitals by residents from states bordering Maryland (Delaware, the District of Columbia, 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 state government use in the applicable state to the extent data is available from the neighboring states. 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 are calculated as follows:

(a) Calculate the average annual rate of change in the statewide MSGA Medicare discharge rate per 1,000 population (65 years old or older) 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 years old or older) 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 §D(2)(a) or (b) of this regulation.

(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 §D(2)(a) or (b) of this regulation.

(e) Calculate the average annual rate of change in the statewide MSGA non-Medicare discharge rate per 1,000 population (ages 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 (ages 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 §D(2)(e) or (f) of this regulation.

(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 §D(2)(e) or (f) of this regulation.

(3) Statewide Length 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 §D(3)(a)(i) or (ii) of this regulation.

(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 §D(3)(a)(i) or (ii) of this regulation.

(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 §D(3)(a)(v) or (vi) of this regulation.

(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 §D(3)(a)(v) or (vi) of this regulation.

(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 §D(3)(a)(iii) of this regulation.

(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 §D(3)(a)(vii) of this regulation.

(4) Jurisdictional Minimum Occupancy Standards.

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

MSGA Jurisdictional Minimum Occupancy	
ADC	Minimum Percent Occupancy
0-49	70
50-99	75
100-299	80
300+	83

(b) For jurisdictions with more than one hospital, the minimum occupancy standard used in calculating gross bed need will be a jurisdictional standard calculated by pro-rating the occupancy standards in MSGA services at the hospital level using the assumption that target year ADC for the jurisdiction will be proportioned to each hospital in the jurisdiction at the same ratio which total jurisdictional ADC 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 CON approved and exempt beds are obtained from the Commission’s CON 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;

(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; and

(iii) For the District of Columbia, projections developed by the Virginia state agency charged with preparing population projections may be used if unavailable from the District of Columbia agency responsible for official population projections.

(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 collected under COMAR 10.24.02.

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

F. Adjustments to Need Projection Methodology.

If due to exceptional circumstances, Commission staff concludes that the need projection methodology should be adjusted, staff shall publish draft projections for public comment that include an explanation of the new methodology and the rationale for deviating from the methodology. Staff shall consider and respond to these comments before final projections are published.

G. 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.

(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 base 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 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, by payor.

(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 ADC, by jurisdiction of care, by dividing the adjusted target year patient days for each jurisdiction of care, by 365.

(c) Calculate the target year gross bed need, by jurisdiction of care, by dividing the ADC, 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 prorating the MSGA occupancy standards found in §D(4) of this regulation, at the hospital level, using the assumption that target year MSGA ADC for the jurisdiction will be proportioned to each hospital in the jurisdiction at the same ratio in which total jurisdictional MSGA ADC 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 CON-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 be applicable in the review of all CON projects acted on by the 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
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
BDIS	base year number of discharges
BLOS	base year average length of stay
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
CMBLOS	case mix-adjusted base year average length of stay
CMF	case mix factor
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) $TPD_{ijk} = (BPD_{ijk})(RPOP_{ik})$

(iii) $TPD_j = [\Sigma_i \Sigma_k TPD_{ijk}]$

(iv) $TPD_{jp} = (TPD_j)(BPD_{jp}/BPD_j)$

(v) $TDIS_{ijk} = (BDIS_{ijk})(RPOP_{ik})$

(vi) $TDIS_j = [\Sigma_i \Sigma_k TDIS_{ijk}]$

(vii) $TDIS_{jp} = (TDIS_j)(BDIS_{jp}/BDIS_j)$

(viii) $TLOS_{jp} = TPD_{jp}/TDIS_{jp}$

(ix) $TLOS = (\Sigma_j \Sigma_p TPD_{jp})/(\Sigma_j \Sigma_p TDIS_{jp})$

(b) Adjustments in Discharges.

(i) $TEDIS_p = \{\Sigma_k [(TEDISR_p)(TPOP_k)]\}/1{,}000$

(ii) $CHDIS_p = [(TDIS_p - TEDIS_p)]/TDIS_p$

(iii) $ATDIS_{jp} = TDIS_{jp} - [(CHDIS_p)(TDIS_{jp})]$

(iv) $ATDIS = \Sigma_j \Sigma_p ATDIS_{jp}$

(c) Adjustments in Average Lengths of Stay.

(i) $BLOS_j = \Sigma_p (BPD_{jp}/BDIS_{jp})$

(ii) If $BLOS_j > CMBLOS$, $CMBLOS_{jp} = [\Sigma_h (CMBLOS_{jhp})(BDIS_{jhp})]/BDIS_{jp}$

(iii) If $BLOS_j > CMBLOS$, $CMF_{jp} = (BLOS_{jp} - CMBLOS_{jp})/BLOS_j$

(iv) $CHLOS_p = (TLOS_p - TELOS_p)/TLOS_p$

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

(vi) If $BLOS_j \leq CMBLOS$, $ATLOS_{jp} = TLOS_{jp} – [(CHLOS_p)(BLOS_{jp})]$

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

(vii) $ATELOS_p = [\sum_j (ATLOS_{jp})(ATDIS_{jp})]/ATDIS_p$

(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) $NNEED_j = GNEED_j – CAP$

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

I. Update, Correction, Publication, and Notification.

(1) The Commission shall update acute inpatient bed need projections annually and publish them in the *Maryland Register*.

(2) Re-computation 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 inpatient bed need projections and will not be revised during the interim other than to incorporate inventory changes resulting from Commission CON decisions and changes exempted from CON 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 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 either short-term inpatient or outpatient care, provided by an acute care general 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" means the ratio of Accumulated Depreciation to Depreciation.

(5) "Bed capacity" or "physical bed capacity" means the total number of beds that a health care facility can set up and staff in space designed for and licensable for use by patients requiring an overnight stay at the facility.

(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.

(a) "Charity care" means:

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

(ii) 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;

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

(iv) 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.

(b) Charity care results from a provider's policy to provide health care services free of charge or at a discounted charge to individuals who meet certain financial criteria.

(c) "Charity care" does not include bad debt.

(8) "Consolidation" means that one or more acute inpatient services are eliminated or centralized at one or more of the hospitals of a merged asset system.

(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) "Debt-to-capitalization ratio" means 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.

(11) "Diagnosis-related group", "DRG", "DRGs" or "groupers" means 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 HSCRC in regulation of hospital charges. APR-DRGs are the current implementation of the DRG framework used by the HSCRC.

(12) "Excess acute care beds" means the difference between the total number of licensed beds plus CON approved beds, and the number of beds actually occupied or projected to be needed in a jurisdiction or in the State, as calculated in accordance with Regulation .05 of this Chapter.

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

(14) "Hospital" has the meaning stated in Health-General §19-301.

(15) "Hospital capital threshold" has the meaning set forth in Health-General §19-120(a)(4).

(16) Inpatient unit program space per bed.

(a) "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 or 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 workstations, nourishment areas, medication areas, physician work areas (dictation, PACS reading station, reporting, HIPAA), clean supply areas, soiled utility areas, equipment and cart alcoves, equipment storage areas, exam rooms, environmental services, offices, staff lounges, staff toilets, and staff lockers. Patient rooms include anterooms, satellite workstations, and patient toilets and showers.

(b) "Inpatient unit program space per bed" 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 or Baltimore City.

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

(19) "Major diagnostic category" or "MDC" means a set of 25 mutually exclusive categories for principal diagnoses from the ICD-9 and ICD-10 coding systems.

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

(21) "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 CON review.

(22) "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.

(23) "Operational efficiency" means 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 output and inputs, such as money value, shall be used 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.

(24) "Primary service area" means:

(a) 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:

(i) The discharges from each ZIP code area are ordered from largest to smallest number of discharges; and

(ii) Two or more ZIP code areas having the same numbers of discharges are ordered from the largest to smallest based on the percentage of the hospital's discharges originating from the ZIP code area in the most recent 12-month period;

(b) Point ZIP codes physically within any of the ZIP code areas designated in §B(24) of this regulation;

(c) Maryland ZIP code areas physically next to any of the ZIP codes designated in §B(24) of this regulation that provided 50 percent or more of their discharges to the hospital in the most recent 12-month period; and

(d) For a merged asset system, the ZIP code areas that are tabulated separately for each hospital, and all ZIP code areas identified for each hospital which are included in the primary service area of the merged asset system.

(25) "Quartile" means that section of a distribution of data points equivalent to 1/4 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.

(26) "Regional population" means the population residing within two or more jurisdictions of an acute care hospital's primary service area.

(27) "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.

(28) "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.

(29) "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.

(30) "Smart and sustainable growth policies" means the policies articulated in State Finance and Procurement Article, §5-7A-01, Annotated Code of Maryland.

(31) "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.

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