

**Department of Health and Human Services
Division of Licensing and Regulatory Services
State House, Augusta, Maine
Preliminary Analysis**

Date: 06/20/2007

Project: Proposal by Maine Medical Center

Prepared by: Phyllis Powell, M.A., Certificate of Need Manager
Steven R. Keaten, Health Care Financial Analyst

Directly Affected Party: Central Maine Medical Center

Recommendation: APPROVE WITH CONDITIONS

Estimated Capital Expenditure per Applicant	\$25,024,000
Approved Capital Expenditure per CON	\$23,752,000
Maximum Contingency per CON	\$1,272,000
Total Approved Capital Expenditure with Contingency	\$25,024,000
Capital Investment Fund Impact per CON	\$4,257,798

INTRODUCTION

“Maine Medical Center (MMC), a voluntary non-profit 501 (c) (3) organization and a subsidiary of MaineHealth®, also a nonprofit organization, is licensed by the State of Maine, certified to participate in Medicare and accredited by the Joint Commission on the Accreditation of Health Care Organizations. MMC’s main campus is 22 Bramhall Street, Portland, Maine.”

“MMC is dedicated to maintaining and improving the health of the communities it serves by caring for the community by providing high quality, caring, cost effective health services; educating tomorrow’s care givers; and researching new ways to provide care.”

“MMC’s service area is the state of Maine. MMC’s primary service area is the 10-county region of central, southern, and western Maine; the 6-county region of northern Maine is its secondary service area.”

“MMC’s ED project is designed to eliminate undesirable and avoidable threats to patient safety and public health due to the severe overcrowding of MMC’s main campus ED. The project is consistent with this and several other major priorities of the State Health Plan.”

“Demand placed on MMC’s Bramhall ED’s capacity exceeds industry standards and guidelines. MMC proposes to expand and modernize its Bramhall campus Emergency Department (ED) as part of its ten-year Master Facility Plan. This project is necessary to improve public health and patient safety, and to reduce the present overcrowding of MMC’s ED.”

“MMC’s Emergency Service capacity would increase from 34 to 54 treatment beds. An eight-bed Clinical Decision Unit (CDU) also would be established to care for patients during extended observation stays. The introduction of the CDU improves emergency treatment room availability for arriving patients and alleviates demand for inpatient beds.”

“This project involves infilling the lower level shell space in the Obstetrics and Newborns’ building immediately adjacent to the existing ED and renovating the existing ED. Program area would increase from 17,150 to 44,200 gross square feet.”

“The project’s estimated capital expenditure is twenty-five million, twenty-four thousand dollars (\$25,024,000).”

“This project will be funded entirely through MMC equity reserves. MMC’s most recent audited financial statements clearly demonstrate MMC’s ability to support the capital project as proposed in this application.”

“MMC anticipates opening the project in October 2008. Projected incremental annual operating expenses for each of the first three years of operation are:”

Projected Annual Operating Expenses (Inflated)			
Fiscal Year	2009	2010	2011
Operating Expense	\$4,661,000	\$ 4,649,000	\$ 4,781,000

“Deflated third year expenses are \$4,208,000. The estimated Capital Investment Fund annual debit for this proposed project is \$1,402,667.”

I. Project Description

A. From Applicant

MMC’s ED project is designed to eliminate undesirable and avoidable threats to patient safety and public health due to the severe overcrowding of MMC’s main campus ED. Demand placed on MMC’s Bramhall ED’s capacity exceeds industry standards and guidelines. MMC proposes to expand and modernize its Bramhall campus Emergency Department (ED) as part of its ten-year Master Facility Plan. This project is necessary to improve public health and patient safety, and to reduce the present overcrowding of MMC’s ED.”

“MMC’s Emergency Service capacity would increase from 34 to 54 treatment beds. In addition, an eight-bed Clinical Decision Unit (CDU) would be established in order to care for patients during extended observation stays. The introduction of the CDU improves emergency treatment room availability for arriving patients and alleviates demand for inpatient beds.”

“This project involves infilling the lower level shell space in the Obstetrics and Newborns’ building immediately adjacent to the existing ED and renovating the existing ED.”

BRAMHALL CAMPUS EMERGENCY SERVICES

“MMC’s ED, the busiest in Maine, serves as a gateway to the most advanced trauma service in Maine and provides a host of minor and major services to 75,000 patients a year.”

“MMC’s ED serves patients from two locations. Major emergencies and traumas are treated at the Bramhall Campus ED, open 24 hours a day, 365 days a year. Less serious accidents and illness are treated at Brighton FirstCare, open from 9 a.m. to 9 p.m. daily. The Bramhall ED experiences more than 52,000 patient encounters annually; Brighton FirstCare, 24,000 patient visits annually.”

“This proposal addresses the need to expand and modernize MMC’s Bramhall (main) campus ED. Unless noted otherwise, all references are specific to the Bramhall service.”

EXISTING AND PROPOSED ED CAPACITY

“MMC is proposing to expand its Bramhall campus ED capacity in the following manner:”

Comparison of Existing and Proposed ED Capacity		
Category	Capacity	
	Existing	Proposed
Trauma/Critical Care	3	6
Acute Care	19	24
Ambulatory Care	6	18
Psychiatric Care	6	6
TREATMENT SUBTOTAL	34	54
Clinical Decision/Observation	0	8
TOTAL	34	62

Note: Negative pressure treatment rooms in the ED are being increased from 2 to 6 rooms. The rooms will be isolation rooms with anterooms.

EXISTING AND PROPOSED FUNCTIONAL SPACE PROGRAMS

“The proposed change is gross square footage by Functional Area is:”

Comparison of Current and Proposed Square Footage		
Program Components	Current	Proposed
Reception & Waiting	1,740	4,600
Acute Modules	4,860	8,900
Ambulatory Module	1,280	7,200
Critical Care Module	2,060	4,300
Psych Module	930	2,200
Administrative Services	660	3,500
ED Treatment	11,530	30,700
Critical Decision Unit	-	3,100
ED Subtotal	11,530	33,800
Radiology	4,280	5,300
General Circulation	1,340	5,100
TOTAL	17,150	44,200

“The existing Department Schematic is presented as Exhibit D.” *(Not attached. On file at CONU.)*

“The proposed project’s Schematic Diagram is presented as Exhibit E.” *(Not attached. On file at CONU.)*

DESIGN AND CONSTRUCTION BENEFITS

Phasing and Logistics

“The project expansion occurs in shell space adjacent to the existing ED. A principal benefit of this approach is the ability to continue operation of MMC’s ED during construction with minimal disruption. Once construction in the shell space is substantially complete, ED operations can populate the new area and vacate selected areas of the existing ED, enabling it to be renovated.”

Layout and Flexibility

“The layout of the ED optimizes the adjacencies among the various units within the Department, which enables flexing into an adjacent area during periods of unusually high demand for a particular category of service that the planned capacity cannot absorb. For example, critical care patients can overflow into the Acute Care Unit and vice versa. The same flexibility enables patients to move easily between the Acute and Ambulatory units, and between the Ambulatory and Pediatric units.”

“The lay-out flexibility also allows the Department to consolidate services into the Trauma/Critical Care and Acute Care units during low census, late night/early morning hours, maintaining efficient staffing around the clock.”

Adjacencies

“The project includes discrete and separate suites for Pediatric Patients, Psychiatric Patients and Observation Patients. The CDU is in close proximity to the main ED.”

“The project maintains the proximity of the ED, especially the Trauma/Critical Care Unit, to Diagnostic Imaging Services and to the main Surgical Suite to assure timely and direct access to these critical services as required.”

“The design incorporates a second CT scanner room into the Diagnostic Imaging Suite. The Diagnostic Imaging Suite’s single CT scanner serves both ED patients and inpatients’ diagnostic needs. Currently this single CT scanner is capable of providing timely diagnostics.”

“Clinicians continue more and more to rely on CT results to guide medical care. At some point in the future, MMC’s single CT scanner at this location will be overwhelmed, and a second CT scanner will be required to provide appropriate access to this diagnostic technology. Incorporating the room into the design of the Suite anticipates that need and makes provision for its installation.”

“MMC is not proposing to install the second CT scanner at this time. Depending on when a second CT is required, the installation may result in an amendment request to this certificate of need project or entail a separate certificate of need application.”

Construction-Associated Economies

“This project’s infilling shell space reduces the incremental capital cost of the project since most of the foundation and building envelop costs are included in the Obstetrics and Newborns’ building, which received final certificate of need approval on September 5, 2003 (amended June 24, 2005 and May 30, 2006).”

“The project also will benefit from HVAC and electrical infrastructure cost avoidance and operational energy cost savings derived from the MMC Central Utility Plant, which received final approval on April 15, 2004 (amended June 24, 2005 and May 30, 2006).”

PROJECT SCHEDULE

“Certificate of Need approval is anticipated in summer 2007. Design work continues during the Certificate of Need review cycle. Construction is scheduled to commence as soon as possible after a favorable decision from the Department. The project construction is scheduled to be completed by the beginning of MMC’s FY 2009.”

B. CONU Discussion

MMC has submitted a proposal to expand services in their emergency and diagnostic imaging departments. The applicant has provided volumes of information considered by CONU and referenced where appropriate. All information is on file at CONU. This project consists of expanding emergency room services into 27,050 sq ft of shell space located on the lower level of the Obstetrics and Newborn building that is adjacent to their existing ED and renovating 17,150 sq ft of existing space. If approved this project would help alleviate overcrowding in MMC’s emergency department. It would also reduce or eliminate the need to go on diversions, reduce wait times in the emergency room and reduce the boarding of patients in the emergency room. This project is part of MMC’s ten-year Master Facility Plan.

This project would address issues presented in the application in regards to emergency room Trauma/Critical Care, Acute Care, Pediatric Care and Psychiatric Care. In addition, this project would introduce a dedicated observation service unit used for patients who arrive at the ED complaining of chest pain, asthma, congestive heart failure, abdominal pain etc. In the 2006, the Guidelines for Design and Construction of Hospital and Health Care Facilities from the American Institute of Architects recommended a separate Observation/holding unit, but near the main emergency department.

II. Profile of the Applicant

A. From Applicant

SUMMARY

“Maine Medical Center (MMC) is a voluntary non-profit 501 (c) (3) organization and is a subsidiary of MaineHealth®, a nonprofit organization.”

“MMC’s service area is the state of Maine. MMC’s primary service area is the 10-county region of central, southern, and western Maine; the 6-county region of northern Maine is its secondary service area.”

“MMC Emergency Department (ED) is the busiest in Maine. The department serves as a gateway to the most advanced trauma service in Maine and provides a host of minor and major services to 75,000 people a year. Major emergencies and traumas as well as less serious accidents and illness are treated at the Bramhall Campus ED, open 24 hours a day, 365 days a year.”

“The MMC Department of Emergency Medicine operates the Northern New England Poison Center (NNEPC) and the Regional Emergency Medical Information System (REMIS).”

“All of MMC’s 19 ED Physicians are board certified in Emergency Medicine. In addition, individual physicians are fellowship trained in pediatric emergency medicine, toxicology and sports medicine.”

“MMC’s ED nursing staff hold the following certifications: 20 RNs with Certification in Emergency Nursing, 40 RNs with Certification in Trauma Nursing, 39 RNs with Certification in Pediatric Emergency Nursing, 2 RNs with Critical Care Nursing Certification and 15 RNs with Sexual Assault Forensic Examiner Certification.”

“MMC is using selected Key Performance Indicators for ED performance, which have been identified in two recent national initiatives:

- Urgent Matters, a \$6.4 million, 10-hospital campaign supported by the Robert Wood Johnson Foundation that aims to eliminate ED crowding and improve public understanding of challenges facing the health care safety net (Wilson, Siegel, Williams; Perfecting Patient Flow; Urgent Matters Program, National Association of Public Hospitals and Health Systems; Washington, D.C., May 2005) and
- American College of Emergency Physicians’ list of 38 measures that may be useful in understanding, measuring and managing ED overcrowding (Solberg, Asplin, Weinick, Magrid; “Emergency Department Crowding: Consensus Development of Potential Measures”; Annals of Emergency Medicine; December 2003, 42 (6), pp. 824 -834).”

“MMC currently carries an AA- credit rating from Standard & Poor’s. Standard & Poor’s is a highly regarded credit ratings company that evaluates an institution’s credit worthiness based on governance and management, as well as, financial operating performance.”

NAME, ADDRESS, TYPE OF LEGAL ENTITY AND MISSION

Maine Medical Center
22 Bramhall Street
Portland, Maine 04102
<http://www.mmc.org>

MMC Mission:

“The Maine Medical Center is dedicated to maintaining and improving the health of the communities it serves by: caring for the community by providing high quality, caring, cost effective health services; educating tomorrow’s care givers; and researching new ways to provide care.”

SERVICE AREA

“MMC’s service area is the state of Maine. MMC’s primary service area is the 10-county region of central, southern, and western Maine; the 6-county region of northern Maine is its secondary service area. Primary Service Area: Androscoggin, Cumberland, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset, York counties. Secondary Service Area: Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington counties.”

EMERGENCY SERVICES’ SERVICE AREA

“Historically approximately 80% of the patients served by MMC’s ED are residents of the local Portland HSA; an additional 15% are residents of MMC’s ten-county primary service area; the remaining 5% are from the remainder of the state (MMC’s secondary service area), other states and Canada. Based on historic emergency services utilization and patient origin studies, MMC identifies its Emergency Medicine service areas in the following manner:”

MMC Emergency Services’ Service Areas	
Service Area	Communities/Counties Area Served
Local	Portland Hospital Service Area (HSA)
Primary	Androscoggin, Cumberland, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset, York counties
Secondary	Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington counties

LICENSED CAPACITY

“MMC is licensed for 650 beds including 42 newborn beds.”

“MMC’s Emergency Department (Bramhall campus) has the following existing capacity:”

MMC Emergency Treatment Capacity

Category	Capacity
Trauma/Critical Care	3
Acute Care	19
Ambulatory Care	6
Psychiatric Care	6
Clinical Decision/Observation	0
TOTAL	34

LICENSES, CERTIFICATIONS & ACCREDITATIONS

“MMC is licensed by the State of Maine, certified to participate in Medicare and accredited by the Joint Commission on the Accreditation of Health Care Organizations.”

“MMC is designated as a Trauma Center by the Maine State Emergency Medicine Services’ Trauma Advisory Committee. MMC is seeking American College of Surgeons Committee on Trauma verification as a Level One Trauma Center.”

“MMC’s Heart Failure Program has disease-specific certification by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). This certification is awarded to chronic disease management programs that demonstrate compliance with consensus-based national standards, effective use of established clinical guidelines, and measurement of performance and outcomes.”

“MMC is seeking JCAHO disease-specific certification as a Primary Stroke Center. MMC’s Stroke Program involves close collaboration with Emergency Department physicians and neurologists as part of a multidisciplinary 24-hour stroke response team providing rapid, high-quality stroke diagnosis and treatment. Certification demonstrates MMC’s Stroke Program’s compliance with JCAHO standards, implementation and adherence to clinical guidelines, and outcomes of care.”

“MMC’s "Statements of Deficiencies" and site visit reports from the previous three years are on file with the Department of Health and Human Services’ Division of Licensing and Regulatory Services and available for review by Certificate of Need Unit staff. State licensing authority "Statements of Deficiencies" and site visit reports from the previous three years for all the health care facilities and services in which the applicant, one of its principals, or an affiliate has been involved are also on file and available to CONU staff.”

“MMC demonstrates a longstanding ability to meet State of Maine hospital licensure standards and to maintain its certification to participate in the Medicare and MaineCare programs. MMC’s Plan of Correction satisfactorily addressed the deficiencies cited by the Division of Licensing and Regulatory Services during surveys performed in May, June and July 2006. Most recently, MMC was found to be in full compliance with all Medicare Conditions of Participation on August 30, 2006. MMC voluntarily participates in the JCAHO accreditation process. JCAHO last surveyed MMC in July 2005 and fully accredited MMC on November 2, 2005.”

MMC EMERGENCY DEPARTMENT

“Consistent with MMC’s three-pronged mission, MMC’s Emergency Department cares for patients, teaches practitioners and advances research.”

QUALIFICATIONS OF ED’S KEY PERSONNEL

“The following principal individuals are involved in the proposed Bramhall ED expansion project:

- Michael Gibbs, MD, Fellow American College of Emergency Physicians (FACEP), Chief, Department of Emergency Medicine (DEM), Specialty Certification: Emergency Medicine, Associate Professor, Dept. of Surgery, Section of Emergency Medicine, University of Vermont (UVM) College of Medicine, ACEP 2005 National Teacher of the Year.
- Michael Baumann, MD, FACEP, Associate Chief, DEM, Specialty Certification: Emergency Medicine, Associate Professor, UVM.
- Nathan Mick, MD, Medical Director, Pediatric Emergency Medicine, Specialty Certification: Emergency Medicine/Pediatric Emergency Medicine.
- Joy Moody, RN, MSN, Director of Emergency Nursing, Professional Organizations: Sigma Theta Tau, Emergency Nurses’ Association.”

ED STAFF MEET APPLICABLE PROFESSIONAL STANDARDS

“MMC provides assurance that its ED staff are highly trained, well qualified to provide safe, efficient, patient-centered emergency services and meet the applicable professional standards.”

“All of MMC’s 19 ED Physicians are board certified in Emergency Medicine. In addition, individual physicians are fellowship trained in pediatric emergency medicine, toxicology and sports medicine.”

“MMC’s ED nursing staff hold the following certifications: 20 RNs with Certification in Emergency Nursing, 40 RNs with Certification in Trauma Nursing, 39 RNs with Certification in Pediatric Emergency Nursing, 2 RNs with Critical Care Nursing Certification and 15 RNs with Sexual Assault Forensic Examiner Certification.”

ED-SPECIFIC QUALITY KEY PERFORMANCE INDICATORS

Quality and Safety Guiding Principles

“MMC’s Department of Emergency Medicine (DEM) is committed to monitoring, evaluating, researching, and improving the quality and safety of the care provided to the patients, families, and community that MMC serves. DEM believes that we are accountable for the care we deliver and our goals are excellence in quality, safety, and patient / family centeredness.”

“Recent DEM quality and safety work includes the areas of emergency department patient flow; implementation of evidence-based clinical guidelines; implementation of computerized order sets; and the monitoring of indicators for acute myocardial infarction, community acquired pneumonia, and

stroke. Upcoming work includes continued monitoring of the aforementioned areas, as well as an increased focus on safety areas such as the accurate documentation of allergies and the utilization of computerized decision-support tools for radiographs and antibiotic ordering.”

“Rigorous data collection and analysis are essential to determining how successful this project and other patient flow improvement efforts are in addressing ED overcrowding. Using the Input/Throughput/Output model, hospitals can identify key performance indicators (KPIs) to evaluate performance. At present there is not national agreement on a standardized definition, contributing factors or KPIs that are specific to ED overcrowding.”

“MMC is using selected KPIs for ED performance, which have been identified in two recent national initiatives:

- Urgent Matters, a \$6.4 million, 10-hospital campaign supported by the Robert Wood Johnson Foundation that aims to eliminate ED crowding and improve public understanding of challenges facing the health care safety net (Wilson, Siegel, Williams; Perfecting Patient Flow; Urgent Matters Program, National Association of Public Hospitals and Health Systems; Washington, D.C., May 2005) and
- American College of Emergency Physicians’ list of 38 measures that may be useful in understanding, measuring and managing ED overcrowding (Solberg, Asplin, Weinick, Magrid; “Emergency Department Crowding: Consensus Development of Potential Measures”; Annals of Emergency Medicine; December 2003, 42 (6), pp. 824 -834).”

(Please refer to “Exhibit B: References” for a complete listing of cited sources.) (*Not attached. On file at CONU.*)

PARENT ORGANIZATION, AFFILIATED ENTITIES & RELATED PARTIES

“Maine Medical Center is a subsidiary of MaineHealth®, a nonprofit organization”

MaineHealth®
465 Congress Street
Suite 600
Portland, Maine 04101
<http://www.mainehealth.com>

“MaineHealth®’s vision is working together so our communities are the healthiest in America.”

“MaineHealth®’s primary service area is the following ten counties: Androscoggin, Cumberland, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset and York.”

“MaineHealth® consists of the following members:”

“Maine Medical Center – hospital; Maine Medical Partners – diagnostic, physician and practice management services; MMC Realty Corp - real estate. Maine Medical Center is involved in the following joint ventures:

- Maine Heart Center – joint venture with cardiologists, cardiac surgeons and anesthesiologists for managed care contracting;
- MMC Physician Hospital Organization (PHO) - a joint venture with the Portland Community Physicians Organization;
- New England Rehabilitation Hospital of Portland - joint venture rehabilitation hospital with HealthSouth;
- MMC/Maine General Medical Center Joint Venture Cath. Lab.;
- Cancer Care Center of York County –MMC/Southern Maine Medical Center/Goodall Hospital joint venture radiation therapy center.”

“Spring Harbor Hospital – psychiatric hospital.”

“NorDx – reference lab.”

“Home Health Visiting Nurses of Southern Maine – home health care.”

“Occupational Health & Rehabilitation, Inc. – joint venture limited liability corporation providing occupational health services.”

“Intellicare – joint venture providing telephone support services to medical practices.”

“Maine Molecular Imaging – joint venture providing positron emission tomography (PET) scans.”

“MaineHealth® Vital Network - central monitoring system staffed by intensive care physicians and nurses for intensive care patients in multiple locations.”

“St. Andrews Hospital and Healthcare Center – hospital, nursing home, home health agency, physician practices and assisted living.”

“Miles Health Care – hospital, nursing home, home health agency, physician practices and assisted living.”

“Western Maine Health Care Inc. – hospital, nursing home, assisted living and physician practices.”

“Maine PHO – joint Physician-Hospital Organization (PHO) of the PHO’s of Maine General Medical Center, Southern Maine Medical Center, Maine Medical Center, Stephens Memorial Hospital and St. Mary’s Regional Medical Center.”

“Maine Behavioral Health Partnership – joint venture of MaineHealth®, Maine Medical Center, Sweetser, Spurrwink, Southern Maine Medical Center, Spring Harbor Hospital and St. Mary’s Regional Medical Center providing behavioral health case management services for self-insured employers.”

“Synernet – not for profit organization providing group purchasing and consulting services for its member organizations.”

“MaineHealth® also has strategic affiliation agreements with Southern Maine Medical Center, Maine General Health, Mid Coast Health Services, and Sisters of Charity Health System.”

B. CONU Discussion

i. Criteria

Relevant criteria for inclusion in this section are specific to the determination that the applicant is fit, willing and able to provide the proposed services at the proper standard of care as demonstrated by, among other factors, whether the quality of any health care provided in the past by the applicant or a related party under the applicant’s control meets industry standards;

ii. Analysis

This proposal is not a new service for MMC but an expansion of emergency and diagnostic imaging services at the MMC campus on Bramhall Street in Portland, Maine.

The Division of Licensing and Regulatory Services, Medical Facilities Unit confirms that Maine Medical Center is a fully licensed acute care hospital licensed in the State of Maine and is MaineCare and Medicare certified. The Division’s most recent survey was completed on July 10, 2006. No major deficiencies were cited that would affect licensure. MMC was sited for numerous life safety code deficiencies. CMS notified MMC on August 30, 2006 that the deficiencies were standard level code deficiencies and a plan of correction was not required. MMC submitted a plan of correction on October 31, 2006 even though it was not necessary. The last Joint Commission report was completed on July 2005. In that report, MMC passed and had no ED Requirements for Improvements. MMC was fully accredited by the Joint Commission on November 2, 2005

The applicant has shown a long-standing ability to provide hospital based services within licensing standards.

iii. Conclusion

Based on the discussion above the CONU recommends that the Commissioner determine that the applicant is fit, willing and able to provide the proposed services at the proper standard of care.

III. Capital Expenditures, Financing and Compliance

A. From Applicant

The applicant provided the following information in regards to proposed capital expenditures, availability of capital financing, staffing, financial feasibility, economic feasibility and the compliance with rules and regulations of local, State and federal agencies.

SUMMARY

“The proposed capital expenditure for this project is \$25,024,000. Annual depreciation expense is estimated to be \$1,833,000. This project will be funded through MMC equity reserves. MMC’s most

recent audited financial statements, which accompany this application as Exhibit A, (Not attached. *On file at CONU.*) clearly demonstrate MMC's ability to support the capital project as proposed in this application."

PROPOSED CAPITAL EXPENDITURE

**Maine Medical Center Emergency Department
Estimated Capital Expenditure**

(rounded to 000s)

Capital Item	Estimated Cost	
Architects' & Engineers' Fees		
A&E Fees	1,588,000	
A&E Reimbursable Costs	116,000	
Other Consultants	30,000	
Architects' & Engineers' Fees		1,734,000
Building & Improvements Construction	12,518,000	
Site Improvements	201,000	
Building & Improvements Furniture, Furnishings & Equipment		12,719,000
FF&E	6,084,000	
Telecom/Information Furniture, Furnishings & Equipment	1,414,000	7,498,000
Owner's Contingency Fund		1,272,000
Permit Fees (State, Local, CON)		26,000
General Costs & Fees		
Project Management & Representation	149,000	
Owner's Consultants	186,000	
Commissioning & Testing	85,000	
Mock Ups, Warehousing, Curtains	145,000	
General Reimbursable Expenses	382,000	
General Costs & Fees		862,000
Estimated Project Capital Expenditure		\$24,196,000
Interest during Construction		828,000
TOTAL ESTIMATED CAPITAL EXPENDITURE		\$25,024,000

Basis for Estimates

“These capital expenditure estimates have been developed by MMC Departments of Emergency Medicine, Emergency Nursing, Diagnostic Imaging, Facilities Development, Planning, Purchasing, Information Services and Financial Planning in cooperation with TRO Jung Brannen (project architect and design engineers), Sebago Technics (project site architect and civil engineer), William A. Berry and Sons (project construction manager), EQ International (project equipment planners).”

DEPRECIATION SCHEDULE

“The project’s annual depreciation expense for building, improvements, equipment and furniture is based on American Hospital Association’s Estimated Useful Lives of Depreciable Hospital Assets (American Hospital Publishing, Chicago, 2004).”

Estimated Annual Depreciation		
Capital Category	Expenditure	Annual Depreciation
Building & Improvements	\$17,526,000	\$701,000
Major Equipment	1,738,000	306,000
Furniture, Furnishings & Minor Equipment	4,346,000	543,000
Telecom/Information Systems	1,414,000	283,000
TOTAL	<u>\$25,024,000</u>	<u>\$1,833,000</u>

SOURCES & USES

Uses	
Construction, Fees & Equipment	\$24,196,000
Interest during Construction	<u>\$828,000</u>
TOTAL	<u>\$25,024,000</u>
Sources	
Debt	\$0
Equity	<u>\$25,024,000</u>
TOTAL	<u>\$25,024,000</u>

“This project will be funded through MMC equity reserves. MMC’s most recent audited financial statements, which accompany this application as Exhibit A, clearly demonstrate MMC’s ability to support the capital project as proposed in this application.”

STAFFING

Recruitment and Retention

“As one of the largest private employers in Maine, MMC has a full-service Human Resources department to recruit staff. MMC recruits over 800 new/replacement staff each year. MMC has reduced its vacancy rate from over 8% in 2002 to an average vacancy rate of 4% for fiscal year 2006.”

“MMC annually reviews its employee compensation and benefit plans and makes the adjustments necessary to remain competitive in the relevant labor market.”

“MMC’s overall staff turnover rate is 13% for the 12-month period ending July 31, 2006. The Bramhall Emergency Department experienced a Department-specific turnover of only 4.2% for the same period.”

Additional Staffing

“EDs are 24 hour, seven day a week operations. An eight-hour a day position results in 1.4 Full Time Equivalents (FTE), since the ED is a seven-day operation. (56 hours vs. 40 hours for a week) A twenty-four-hour a day position results in 4.2 FTEs. ($1.4 \times 3 = 4.2$)”

“The newly designed Department increases the geographic area that physicians and staff need to cover. MMC is proposing additional physician coverage for the daily eight-hour peak demand period. This additional physician availability during the peak demand period as well as the increased number of treatment rooms should reduce the average time waiting to be seen by a physician. ED physicians have teaching and research responsibilities in addition to clinical responsibilities. The proposed increase includes clinical, teaching and researching time.”

“This project introduces a new dedicated observation service, the Clinical Decision Unit. MMC is proposing around the clock coverage by two RNs for this new unit.”

“The newly designed Department increases the separation between the ambulance and walk-in entries. This design results in a need to provide additional Triage and Registration staffing around the clock to cover both entrances.”

“Engineering and Environmental Services are responsible for maintaining and cleaning an additional 27,000 gsf of building, and the attendant building and medical systems.”

“Materials Management and Pharmacy are responsible for stocking more supply and medication rooms spread out over a larger geographic area.”

“MMC presents the following incremental staffing plan for this project:”

Department	Position	Project-related Staff	
		FTEs	Comment
Medicine	Physician	2.3	1 MD 8 hrs. / day, 7 days / week Clinical time plus research and teaching time.
Nursing	CDU RN	8.4	2 RNs @ 24 hrs. / day, 7 days / week
	Triage RN	4.2	1 RN @ 24 hrs. / day, 7 days / week
Registration	Registration Rep.	4.2	1 Rep. @ 24 hrs. / day, 7 days / week
Engineering	Maintenance Mechanic	.5	Maintenance of additional building systems
Environmental Services	Various	8.9	24-hr. housekeeping plus linen, trash & floors
Materials	Materials Handler	.5	Stocking of additional Supply Rooms
Pharmacy	Pharmacy Tech.	<u>1.0</u>	Stocking of additional Medication Rooms
		30.0	

FINANCIAL AND ECONOMIC FEASIBILITY

Incremental Expenses

“MMC presents a three-year projection of incremental operating and non-operating expenses. This projection is inflation-adjusted based on MMC’s anticipated changes in salary, wages, benefits, non-salary operating expenses (utilities, supplies, etc.). Deflated third year incremental operating expenses are presented in the “Economic Feasibility” subsection of this application.”

Cost Center	Incremental Operating Expenses (Inflation Adjusted)		
	2009	2010	2011
Wages	\$1,901,000	\$1,976,000	\$2,053,000
Benefits	535,000	585,000	617,000
Wages & Benefits	\$2,436,000	\$2,561,000	\$2,670,000
Non-Salary Expenses	392,000	255,000	278,000
Depreciation	1,833,000	1,833,000	1,833,000
TOTAL	<u>\$4,661,000</u>	<u>\$ 4,649,000</u>	<u>\$ 4,781,000</u>

“MMC estimates deflated third year operating expenses associated with this project to be \$4,208,000. This amount is in excess of \$2,000,000, which results in the project being defined as an “Extraordinary Project” for Capital Investment Fund allocations. Therefore, the project, if approved, results in an annual debit of \$1,402,667 over a period of three years.”

Payer Mix

“MMC provides the following information on its payer mix for both the ED and the Hospital in general:”

	ED	Hospital
Medicare	34%	41%
Medicaid	17%	13%
Blue Cross	6%	18%
Commercial	33%	23%
Self Pay	10%	5%

Impact on MaineCare

“Approval of this project has no impact on MaineCare. MaineCare currently reimburses MMC for emergency services at a rate that is below MMC’s current cost of providing care. Additional costs as a result of this project will not be reimbursed by MaineCare. MaineCare’s rate setting is independent of MMC’s fee schedule and costs of care.”

Financial Feasibility

“The accompanying income statements and balance sheets for MMC for FY 2005 (Exhibit A, hard copy only); the pro forma operating statements for FY 2009– 2011, the first three years following completion of the project; and MMC – Hospital recent and anticipated capital budget expenditures for FY 2004 through 2011 demonstrate that MMC can fully support the proposed capital and operating expenses associated with the project.

The pro forma statements also include key financial ratios that the Certificate of Need Unit has used in the past to determine the feasibility of a project. These ratios are:

- Operating Margin which is a measure of profitability,
- Debt Service Coverage Ratio which is a measure of the ability to meet debt service obligations, and
- Current Ratio which is a measure of liquidity.”

“MMC’s projected performance on these key financial ratios is:”

Measure	MMC Key Financial Ratios		
	FY09	FY10	FY11
Operating Margin	2.43%	2.51%	2.56%
Current Ratio	1.72	1.67	1.65
Debt Service Coverage Ratio	7.40	7.71	7.69

Economic Feasibility

“The Department of Health and Human Services and the Department of Professional and Financial Regulation’s Bureau of Insurance use deflated costs to calculate the charges towards the Capital Investment Fund and to assess the impact on regional health insurance premiums. (December 5, 2006 letter from P. Powell)”

“The deflated third year operating expenses presented in the following table are the result of backing out the inflation assumptions that MMC made regarding its annual expenses as described elsewhere in this application. MMC does not deflate the annual depreciation expense, since MMC made no assumptions regarding underlying inflation.”

Deflated 3rd Year Operating Expenses

Cost Center	Present Value
Wages	\$1,689,000
Benefits	453,000
Wages & Benefits	\$2,142,000
Non-Salary Expenses	233,000
Depreciation	<u>1,833,000</u>
TOTAL	\$4,208,000

Insurance Premium Impact

“The Certificate of Need Unit relies upon the Maine Department of Professional and Financial Regulation’s Bureau of Insurance to assess the impact on health insurance premiums based on the information that the applicant submits.”

Capital Investment Fund

“The CONU assesses a project’s economic feasibility in part on the availability of sufficient Capital Investment Fund credits to approve the estimated 3rd year operating expenses associated with the proposed project.”

“MMC estimates deflated third year operating expenses associated with this project to be \$4,208,000. This amount is in excess of \$2,000,000, which results in the project being defined as an “Extraordinary Project” for Capital Investment Fund allocations. Therefore, the project, if approved, results in an annual debit of \$1,402,667 over a period of three years.”

B. CONU Discussion

i. Criteria

Relevant criteria for inclusion in this section are specific to the determination that the economic feasibility of the proposed services is demonstrated in terms of:

1. Capacity of the applicant to support the project financially over its useful life, in light of the rates the applicant expects to be able to charge for the services to be provided by the project;
2. Applicant's ability to establish and operate the project in accordance with existing and reasonably anticipated future changes in federal, State and local licensure and other applicable or potentially applicable rules;

ii. Analysis

An analysis of the Marshall & Swift valuation system (November, 2005 x Current Cost Multiplier-April, 2007 x Local Cost Multiplier) that projects cost for certain building classes, estimates that the cost per square foot to construct a new single story General Hospital grade Class A Type good construction would be \$312.42 per square foot (\$273.48 x 1.12 Current Cost Multiplier x 1.02 Local Cost Multiplier). The Marshall & Swift valuation system does not give estimates for renovating an existing building but typically renovating existing space is more costly. Given this estimate, the projected cost to build a new building for this project would be \$13,808,964 (\$312.42 x 44,200 sq. ft.). This does not include higher costs for renovating 17,150 sq ft of existing emergency room space. MMC capital budget projects \$14,453,000 as the cost of construction/renovation. Their projected cost appears to be in line with Marshall & Swift estimate taking into consideration higher costs for renovating existing space.

The CONU financial analysis considers information contained in the 2006 Almanac of Hospital Financial and Operating Indicators and generally accepted accounting standards in determining the financial capability of the hospital to support this proposed project.

The review of financial indicators is important because they present a fair and equitable representation of the financial health of an organization and can present appropriate comparisons. This provides a sound basis for a determination of whether the hospital has the ability to commit the financial resources to develop and sustain the project. While there are a number of indicators that are used in the industry, the ones applied to this review have been selected due to their direct relevance to the financial health of the applicant. The following analysis is based upon information provided by the applicant in its application. One item of terminology needs to be defined. Throughout the analysis, a comparison of high-performance and low-performance hospitals is referenced. These groups are based on the uppermost and lowermost quartiles of hospitals based on their return on investments. CONU chose not to specifically discuss return on investment, but instead to use that ratio to group all hospitals in regards to making a comparison to the particular project and applicant.

Profitability:

Non-profit hospitals need to perform at financially sustainable levels in order to carry out their public missions. An adequate operating margin is a key indicator of the financial health of a hospital.

According to the 2006 Almanac of Hospital Financial and Operating Indicators, operating margins in the high performing hospital group have seen greater improvements in margins while hospitals in the low performing group are sliding. High performing hospitals are doing better now than five years ago. Over the same time, lower performing hospitals are generally doing worse than five years ago. There is a widening gap between high and low performing hospitals. Improvement in operating profits for

high-performing hospitals drives this widening performance gap. As a comparison, operating margins in the Northeast Region are considerably lower than in other regions.

	2004 Northeast Median	2004 Maine State Median	2004 MMC's	2011 MMC's Proforma
Operating Margin	1.60%	3.10%	3.05%	2.56%

The Maine State average for 2004 was 3.1%. MMC's in 2004 was 3.05, slightly below the average that puts them in the 50th percentile. The trend for the State of Maine has been inconsistent with a low of -1.2 to a high of 3.1 over the 2000 to the 2004 period. MMC had a spike in its operating margin in 2005 to 4.26% but went back to 3.85% in 2006.

The effect of this project on operating margins for the first three years of operation (2009-2011), as projected by the applicant, is an increase from 2.43% to 2.56%. This is not a significant impact on the operating margins for the hospital and is reflective of the conservative assumptions by the applicant.

Liquidity:

Liquidity measures a hospital's ability to manage change and provide for short-term needs for cash. Liquidity alleviates the need for decision making to be focused on short-term goals and allows for more efficient planning and operation of a hospital.

Days Cash On Hand is a ratio that is industry accepted, easily calculated, and used to determine a hospital's ability to meet cash demands.

According to the 2006 Almanac of Hospital Financial and Operating Indicators, high performing hospitals have approximately 80 days cash on hand while low performing hospitals have 45 days. Urban hospitals with revenues greater than \$150 million had approximately 81.9 days cash on hand in 2004.

	2004 Northeast Median	2004 Maine State Median	2004 MMC's Average	2011 MMC's Proforma
Days Cash on Hand	81.20 Days	73.40 Days	186.84 Days	192.97 Days

In 2004, the average days cash on hand from all sources for hospitals in the State of Maine was 73.4 days. The CONU calculated days cash on hand for MMC in 2004 as approximately 187 days indicating that MMC was between the 90th to 100th percentile. MMC's days cash on hand increased to 189 in 2005 and to 204 in 2006.

According to the same source, the average day's cash on hand between 2000 and 2004 remained about 68 days. Maine had 15% less days cash on hand than the Northeast Region at 80 days, 12 days more than the Maine average.

The impact of this proposed project has little effect with projected days cash on hand per applicants assumptions ranging from 150 days cash on hand in 2009 to 193 days cash on hand in 2011. This

project will not have a substantial impact on MMC's operating ability to meet its cash demands and MMC should be able to adequately support this project.

Capital Structure Ratios:

Many long-term creditors and bond rating agencies evaluate capital structure ratios to determine the hospital's ability to increase its amount of financing. During the past 20 years, the hospital industry has radically increased its percentage of debt financing. This trend makes capital structure ratios important to hospital management because these ratios are widely used by outside creditors. Values for these ratios ultimately determine the amount of financing available to a hospital. Debt service coverage is the most widely used capital structure ratio. Debt service coverage minimums are often seen as loan requirements when obtaining financing. Debt service coverage is the ratio of earnings plus depreciation and interest expense to debt service requirements. In 2004, the median Maine hospital's debt service coverage (DSC) was 3.45x.

	2004 Northeast Median	2004 Maine State Median	2004 MMC's Average	2011 MMC's Proforma
Debt Service Coverage	3.12	3.45	5.80	7.43

MMC had a DSC in 2004 of 5.80x which places the hospital in the range of 75th - 90th percentile. The statewide trend for 2000-2004 is inconsistent with a low of 2.39 in 2002 and a high of 3.71 in 2000. The DSC for MMC in 2005 increased to 8.99 and then declined slightly to 8.79 in 2006. The trend, as projected by MMC will be steady between 6.88 in 2009 to 7.43 in 2011 placing them near the 90th percentile.

MMC has the capacity and the ability to have adequate debt service coverage.

According to the 2006 Almanac of Hospital Financial and Operating Indicators, Fixed Asset Financing: "Low performance hospitals have historically used more debt to finance net fixed assets than high performance hospitals. With the removal of capital cost pass throughs, long term debt will become most costly relative to equity. High performance hospitals are restructuring their capital positions to reflect this shift in the relative costs of debt and equity capital. However, we expect fixed asset financing ratios to continue to remain stable during the next 5 (five) years as hospitals curtail their growth in new capital expenditures and reduce their reliance on long term debt."

	2004 Northeast Median	2004 Maine State Median	2004 MMC's Average	2011 MMC's Proforma
Fixed Asset Financing	62.9	54.3	38.0%	31.0%

The Northeast has considerably higher rates in financing fixed assets than other regions. The 2004 average for hospitals in the State of Maine was 54.3 percent in regards to fixed asset financing. In 2004, MMC's capital structure ratio was at 38 percent, which is between the 10th to 25th percentile for the State of Maine. For the years 2000-2004, hospitals with revenues similar to MMC averaged 68.4

percent. The fixed asset financing ratio over the past 5 years has remained relatively consistent in the State of Maine.

The applicant is not using any outside sources to fund this project which is consistent with the way MMC is spending funds on fixed assets. MMC's fixed asset financing ratio remains constant throughout the projected forecast period (2009-2011).

Efficiency Ratios:

According to the 2006 Almanac of Hospital Financial and Operating Indicators, total asset turnover (TAT) provides an index of the number of operating revenue dollars generated per dollar of asset investment. Higher values for this ratio imply greater generation of revenue from the existing investments of assets. Larger hospitals usually have lower values for turnover than smaller hospitals. This can be attributed to two factors. First, larger hospitals are most likely to have newer physical plants. Second, capital intensity is often greater in larger hospitals due to more special services and higher levels of technology.

	2004 Northeast Median	2004 Maine State Median	2004 MMC's Average	2011 MMC's Proforma
Total Asset Turnover	1.06	1.18	0.74	0.70

In 2004, according to the source cited above, Maine hospitals had a TAT ratio of 1.18. For 2004, MMC had a TAT of .74 times decreasing to .73 times in 2005 and .64 times in 2006. This is indicative of the recent projects undertaken at MMC.

In the period of 2000 – 2004, there has been a steady increase in the TAT for Maine hospitals.

iii. Conclusion

The CONU concludes that, as proposed, the applicant can financially support the project. Expected demands on liquidity and capital structure are expected to be adequate to support projected operations. Financing and turnover ratios, show little impact on the organization as a whole from engaging in this project. The hospital has shown significant earnings which are not expected to be significantly impacted by this project. The applicant has chosen not to borrow any funds to undertake this project which saves the project considerable interest expenses not being added to the cost to the healthcare system

The applicant's projected cost for this project is also in line with CONUs' estimates using Marshall & Swift as a methodology.

CONU recommends the Commissioner determine that the economic feasibility of the project has been demonstrated.

IV. Need

A. From Applicant

SUMMARY

“MMC’s ED project is designed to eliminate undesirable and avoidable threats to patient safety and public health due to the severe overcrowding of MMC’s main campus ED. Demand placed on MMC’s Bramhall ED’s capacity exceeds industry standards and guidelines.”

“ED overcrowding is both a national and a local issue. The Institute of Medicine’s Committee on the Future of Emergency Care in the United States Health System released a series of reports in June 2006 that address the critical condition of the nation’s emergency care system.”

“Constrained capacity coupled with exceedingly high demand:

- Increases the challenges of eliminating threats to patient safety,
- Reduces ED treatment room availability to address emergent and urgent demand,
- Increases the probability of delaying emergent and urgent patients’ timely access to treatment and
- Significantly diminishes MMC’s ability to respond to mass casualty public health events such as multiple-victim accidents, epidemics and pandemics.”

“MMC anticipates that the community need for its ED services will continue to increase over time and that improving access to this care for patients is essential to protect public health and safety. Continuing advances in the treatment of cardiovascular disease, stroke, cancer, kidney disease, HIV, etc. and the aging of the population will result in more and more seriously ill patients presenting to EDs and requiring highly complex and time-consuming emergency diagnostic and treatment services.”

Overcrowding

Overcrowding, A National Concern

“The American College of Emergency Physicians defines Emergency Department Overcrowding as:”

A situation in which the identified need for emergency services outstrips available resources in that ED. This situation occurs in hospital EDs, when there are more patients than staff, ED treatment beds and wait times exceed a reasonable period. Crowding typically involves patients being monitored in non-treatment areas and awaiting ED treatment beds or inpatient beds. Crowding may also involve an inability to appropriately triage patients, with large numbers of patients in the ED waiting area of any triage assessment category.

Crowding Resources Task Force, American College of Emergency Physicians, Responding to Emergency Department Crowding: A Guidebook for Chapters, (ACEP, Dallas Texas, 2002)

“The Institute of Medicine’s Committee on the Future of Emergency Care in the United States Health System (IOM) states:”

Emergency department overcrowding is a nationwide phenomenon, affecting rural and urban areas alike (Richardson et al., 2002). In one study, 91 percent of EDs responding to a national survey reported overcrowding as a problem; almost 40 percent reported that overcrowding occurred daily (Derlet et al., 2001). Another study, using data from the National Emergency Department Overcrowding Study (NEDOCS), found that academic medical center EDs were crowded on average 35 percent of the time. This study developed a common set of criteria to identify crowding across hospitals that was based on a handful of common elements: all ED beds full, people in hallways, diversion at some time, waiting room full, doctors rushed, and waits to be treated greater than 1 hour (Weiss et al., 2004; Bradley, 2005).

Overcrowding can adversely impact the quality of care in the ED and trauma centers. It can also lead to dangerous delays in treatment in the ED and can cause delays in EMS transport (Schull et al., 2003, 2004).

Hospital-Based Emergency Care: At the Breaking Point (National Academies Press, Washington, DC, June 2006, pp. 31-2)

“ED overcrowding increases the risk of multiple effects including:

- Delays to time-sensitive clinical interventions;
- Poor patient outcome;
- Prolonged patient pain and suffering;
- Medical errors;
- Compromised patient confidentiality;
- Prolonged patient waits and dissatisfaction;
- Ambulance diversions;
- Patients leaving without being served;
- Decreased physician and staff productivity; and
- Frustration and stress among visitors, patients, physicians and hospital staff.”

Derlet, Richards, “Overcrowding in the nation's emergency departments: Complex causes and disturbing effects,” *Annals of Emergency Medicine*. 2000, 35 (1), pp. 83-85.

“The American Hospital Association (AHA) released the following statistics in August 2006 that indicate that ED and inpatient bed capacity both declined during the past ten year period while the number of ED visits, per capita rate of ED visits and the rate of visits per hospital have all increased. In summary supply has decreased while demand has increased, effecting timely access to ED services.”

United States' Emergency Services: 1995 – 2004

	1995	2000	2004	% Change 1995 – 2004
ED Supply				
Number of hospitals with ED	4,730	4,517	4,422	-7%
Number of hospital beds (1,000s)	847	800	781	-8%
ED Demand				
Hospital ED visits (millions)	94	103	112	19%
ED visits per 1,000 pop.	358	365	382	7%
ED visits per ED hospitals (1,000s)	19.9	22.8	25.4	28%

Source: AHA Annual Hospital File, 1995, 2000 and 2004.

Overcrowding, A Local Concern

“MMC’s request for additional ED capacity addresses demands that MMC is facing today. The current demand on MMC’s ED demonstrates the need for additional emergency treatment and observation capacity. This project is necessary to improve public health and patient safety by reducing the present overcrowding of MMC’s ED to more appropriate levels.”

“The current demand on MMC’s emergency services has occurred while other hospitals have provided general emergency services to residents of the greater Portland area and surrounding communities, and while other medical centers have provided trauma and critical care emergency services to residents of the 10-county MMC primary service area and the remainder of the state.”

“Until the overcrowding of MMC’s existing ED is addressed, MMC’s ability to provide quality and timely emergency care to community residents will be severely compromised and constrained. MMC believes that the current situation represents an unnecessary and undesirable risk to the public health and patient safety.”

Comparing MMC ED Utilization to National ED Utilization

“A comparison of MMC and national ED utilization indicates that MMC’s ED is overcrowded. Indicators of ED overcrowding include visit volume, ambulance diversions, ED patient boarding (ED patients waiting for an inpatient bed), wait times to see a physician, time to complete treatment, patient departures prior to completing treatment and percent of patients admitted for inpatient care.”

“The US Government Accounting Office (GAO) reports:

- Fewer than 20% of US hospitals experience 50,000 or more ED visits annually.
- Nearly one in three trauma centers in the US have gone on ambulance diversion due to overcrowded conditions.
- Fewer than 50% of US ED boarder patients were held for 2 or more hours.”

(Hospital Emergency Departments: Crowded Conditions Vary among Hospitals and Communities, GAO, March 2003)

“MMC’s ED experience in comparison is:

Since 2002 MMC’s Bramhall ED has experienced more than 50,000 ED visits per year; in 2001 total visits were 49,900.

MMC’s ambulance diversions have increased in frequency and duration between 2003 and 2006.”

MMC Ambulance Diversions

Year	2003	2004	2005	2006 (prorated)
Incidents	6	8	13	11
Hours	13	24	30	36

56% of MMC’s ED Boarder patients are held for 2 or more hours.

“The following table compares MMC’s 2005 utilization to national measures as reported by the Centers for Disease Control (CDC). MMC admits a higher proportion of its ED patients for inpatient care than average; this is an indicator that MMC’s ED patients have a higher acuity than the norm and a higher probability of needing inpatient treatment. MMC’s above average lengths of stay for boarding patients demonstrate that these patients must also wait frequently for an available inpatient bed in order to be admitted.”

“MMC serves as the ED for Spring Harbor Psychiatric Hospital and New England Rehabilitation Hospital, two MaineHealth® specialty hospitals; the percent of patients transferred out of MMC’s ED is in large part attributable to transfers to these hospitals. In fact, more than 50% of Spring Harbor Hospital’s admissions come through MMC’s ED.”

Comparison of MMC to National ED Measures

	CDC	MMC
Elapsed time until seen by MD		
1 hr <	74%	59%
1 hr – 2 hr	16%	24%
> 2 hr	9%	18%
Mean time in minutes	47	77
Elapsed time in ED		
1 hr <	14%	3%
1 hr – 2 hr	27%	15%
2 hr – 4 hr	35%	36%
> 4 hr	23%	45%
Mean time in minutes	25	325
Departure prior to Completion of Treatment		
Left w/o being seen / evaluation completed	1.9%	3.8%
Left AMA	1.0%	0.2%
Combined	2.9%	4.0%
Patients Admitted or Transferred		
Admitted	13%	22%
Transferred	2%	3%
Combined	15%	25%

Source: Centers for Disease Control, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary, (CDC, Advance Data # 372, June 23, 2006)

“The above table compares MMC’s ED experience with US EDs. It is important to remember that nationally, EDs are overcrowded; MMC’s ED is extremely overcrowded. Nationally only 10% of ED patients wait more than two hours to see a physician; 18% of MMC ED patients, nearly twice the national experience, wait that long to see a physician. Nationally 40% of ED patients complete treatment within two hours; fewer than 20% of MMC ED patients are treated within that time. The national average (mean) total time in the ED is less than ½ hour; MMC’s average time approaches 5 ½ hours, eleven times longer than the national average.”

“MMC’s recent experience is consistent with national findings (*Not attached. On file at CONU.*) as demonstrated by the information presented in the following table:”

MMC ED Visits for Selected Chronic Conditions FY 2000 – 2005

	2000	2001	2002	2003	2004	2005
All Visits	47,600	49,900	52,600	52,000	53,400	52,400
Visits for Selected Chronic Conditions						
Chronic Heart Failure	572	512	478	530	535	522
Stroke	458	458	452	476	464	564
COPD	681	694	674	611	548	614
Acute Respiratory Failure	65	73	71	88	146	182
Combined	1,776	1,737	1,675	1,705	1,693	1,882
Visits for Selected Chronic Conditions as Percent of Total Visits						
Chronic Heart Failure	1.2%	1.0%	0.9%	1.0%	1.0%	1.0%
Stroke	1.0%	0.9%	0.9%	0.9%	0.9%	1.1%
COPD	1.4%	1.4%	1.3%	1.2%	1.0%	1.2%
Acute Respiratory Failure	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%
Combined	3.7%	3.5%	3.2%	3.3%	3.2%	3.6%

Time Critical Access to Emergency Diagnosis and Treatment

“The State Health Plan recognizes that initiating diagnosis and treatment of acute myocardial infarction is time critical. (State Health Plan, p. 17)”

“The State Cardiovascular Health Strategic Plan recognizes that initiating diagnosis and treatment of acute stroke is time critical. (Heart Healthy and Stroke-free in Maine)”

“The following research studies’ results illustrate the impact of ED overcrowding on public health and patient safety:

- Patients presenting during times of increased ED occupancy, who were reasonably similar to those presenting at other times, had significantly higher short-term in-hospital mortality. Richardson, “Increase in patient mortality at 10 days associated with emergency department overcrowding”, *Medical Journal of Australia*, 184 (5), March 6, 2006, pp.213-6.
- ED crowding is associated with increased door-to-treatment times for patients with suspected acute myocardial infarction and may represent a barrier to improving cardiac care in EDs. Schull, Vermeulen, Slaughter, Morrison, Daly, “Emergency Department Crowding and Thrombolysis Delays in Acute Myocardial Infarction,” *Annals of Emergency Medicine*, 2004, 44, pp. 577-585.
- An increase in overcrowding in EDs was associated with a substantial increase in the system response interval and the ambulance transport interval for patients with chest pain. Schull, Morrison, Vermeulen, Redelmeier, “Emergency department overcrowding and ambulance transport delays for patients with chest pain,” *Canadian Medical Association Journal*, 2003, 168 (3), pp. 277-283.

- ED overcrowding has multiple effects, including placing the patient at risk for poor outcome, prolonged pain and suffering of some patients, long patient waits, patient dissatisfaction, ambulance diversions in some cities, decreased physician productivity, increased frustration among medical staff, and violence. Unless the problem is solved in the near future, the general public may no longer be able to rely on EDs for quality and timely emergency care, placing the people of this country at risk. Derlet, Richards, "Overcrowding in the nation's emergency departments: Complex causes and disturbing effects," *Annals of Emergency Medicine*. 2000, 35 (1), pp. 83-85.
- Over one half of all "sentinel event" cases of morbidity and mortality secondary to delays in treatment occur in hospital EDs, and ED overcrowding has been cited as a contributing factor in 31% of these cases. Joint Commission on Accreditation of Healthcare Organizations (JCAHO), Sentinel event alert, June 17, 2002.
- Rapid access to CT scanning is becoming increasingly important to evaluate cardiac and noncardiac chest pain (infarction, stenosis, pneumonia, aortic dissection, pulmonary embolism, etc.) in the ED. White, Kuo, Kelemen, Jain, Musk, Zaidi, Read, Sliker, and Prasad; "Chest Pain Evaluation in the Emergency Department: Can MDCT Provide a Comprehensive Evaluation?" *Am J Roentgenol*, 2005; 185 (2): pp. 533-540.
- Accurate diagnosis is critical to guiding appropriate therapy and that timely initiation of treatment for heart failure in the ED improves patient outcomes such as reduced mortality, decreased intensive care admission, reduced length of stay and fewer invasive cardiac procedures. Peacock, *Effective ADHF Treatment in the ED: Impact on Outcomes*, (i3 DLN, 2005).
- Accurate diagnosis using CT scanning is critical to determining whether an emergency patient is experiencing an acute ischemic stroke or a transient ischemic attack, in which case rtPA therapy is appropriate, or a hemorrhagic stroke, in which case treatment varies radically and rtPA therapy is contraindicated. Adams, *Acute Ischemic Stroke: Future Options for an Unmet Medical Need*, (Medscape.com, 2003).
- Accurately and rapidly delineating stroke diagnoses and subtypes, identifying vascular lesions, and identifying other features through CT scanning influences the risk: benefit of various therapeutic choices. The use of imaging to accelerate diagnoses and therapeutic strategies has significantly streamlined the management of emergent patients with acute cerebrovascular disorders. Kim and Liebeskind, "Neuroimaging Advances and the Transformation of Acute Stroke Care," *Semin. Neurol.*, 2005; 25(40): pp. 341-361.
- Acute ischemic stroke can be effectively and safely managed using Intravenous Therapy with recombinant human tissue-type plasminogen activator (rtPA), the only FDA-approved regimen, if administered within 3 hours of symptom onset. American Heart Association, "New Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care," *Circulation*, Volume 112 (22) Supplement, November 29, 2005

- Timely intervention in the ED using Bi-level Positive Airway Pressure (BiPAP), a noninvasive alternative to intubation, reduces the frequency of intubation, reducing the risk of Ventilator-Associated Pneumonia and its consequences. This strategy benefits acute heart failure and respiratory failure patients. MacIntyre, Mechanical Ventilation: NonInvasive Strategies in the Acute Care Setting, (Medscape, 2003)”

Public Need for Emergency Services

Population Estimates

Local Service Area

“The State Planning Office provides the following population estimates for MMC’s local service area, the Portland HSA:”

MMC’s Local Service Area: Portland HSA Population Estimate						
Age Cohort	2000	2001	2002	2003	2004	2005
17 & Younger	60,300	60,400	60,300	60,200	59,900	59,800
18 to 64	162,100	164,800	167,500	170,000	172,500	174,700
65 & Older	<u>32,600</u>	<u>32,600</u>	<u>32,600</u>	<u>32,600</u>	<u>32,700</u>	<u>32,800</u>
Portland HSA	255,000	257,800	260,400	262,800	265,100	267,300

Source: Maine State Planning Office (SPO)

Primary and Secondary Service Areas

“The State Planning Office provides the following population estimates for MMC’s primary (PSA) and secondary (SSA) service areas. The PSA estimate includes the Portland HSA population:”

MMC Primary & Secondary Service Areas' Population Estimates

Area	2000	2001	2002	2003	2004	2005
Androscoggin	104,100	104,000	103,800	103,700	103,600	103,500
Cumberland	266,100	268,700	271,100	273,300	275,400	277,300
Franklin	28,700	28,700	28,800	28,900	29,000	29,100
Kennebec	117,400	117,500	117,600	117,800	118,000	118,100
Knox	39,700	40,100	40,400	40,700	41,000	41,300
Lincoln	33,700	34,000	34,300	34,600	34,900	35,100
Oxford	54,200	54,400	54,600	54,800	55,000	55,200
Sagadahoc	35,300	35,500	35,700	35,900	36,000	36,200
Somerset	50,200	50,400	50,500	50,600	50,700	50,800
York	<u>187,300</u>	<u>189,700</u>	<u>191,900</u>	<u>194,000</u>	<u>196,000</u>	<u>197,900</u>
PSA	916,700	922,900	928,700	934,200	939,400	944,400
Aroostook	72,500	72,100	71,700	71,400	71,200	71,000
Hancock	51,700	52,200	52,800	53,300	53,800	54,200
Penobscot	143,900	143,900	143,900	144,000	144,100	144,300
Piscataquis	16,400	16,300	16,100	16,000	15,900	15,800
Waldo	36,400	36,800	37,100	37,400	37,800	38,100
Washington	<u>32,700</u>	<u>32,600</u>	<u>32,500</u>	<u>32,400</u>	<u>32,300</u>	<u>32,200</u>
SSA	353,600	353,800	354,100	354,600	355,000	355,600
TOTAL	1,270,300	1,276,700	1,282,800	1,288,800	1,294,400	1,300,000

Source: Maine State Planning Office (SPO)

Portland HSA Residents' Need for ED Services

“MMC compared Portland HSA residents' utilization of emergency services to that of the United States, New England, Maine and other HSAs in Maine.”

“For this comparison MMC extracted information from the American Hospital Association's AHA Hospital Statistics, 2006 Edition, the Maine Health Data Organization's hospital inpatient database and the Maine Health Information Center's Outpatient Hospital Utilization Report Package, Report # 4.”

“The following table presents per capita total emergency visit use rates for 2003, the most recent year for which use rates are available:”

Comparison of 2003 Emergency Visit Per Capita Use Rates	
Geographic Area	Per Capita Use Rate
Total United States	382.0
US Census Division 1: New England	441.9
Maine	542.5
Portland HSA	384.2

Sources:

American Hospital Association, AHA Hospital Statistics, 2006 Edition, (Health Forum, Chicago, 2006) Table 3, p. 11; Table 5, p. 31, Table 6, p. 87; Maine Health Data Organization's hospital inpatient database; and Maine Health Information Center's Outpatient Hospital Utilization Report Package, Report # 4.

"The Portland HSA's emergency visit per capita rate is comparable to the Total United States per capita use rate for the same year and well below the Maine and New England rates."

"The table on the following page presents both emergency outpatient usage and emergency usage resulting in an inpatient admission."

"Outpatient emergency visits are visits that do not result in an inpatient admission. High utilization of outpatient emergency services may indicate inappropriate utilization of emergency services. ED utilization that results in an inpatient admission suggests a high acuity, appropriate use of ED services. This supposition is supported by the Maine Quality Forum's analysis of ambulatory care sensitive conditions discharges that found MMC has the lowest rate of such inpatient utilization among Maine hospitals."

"The local HSA's low per capita utilization indicates that the demand placed on MMC's ED capacity is driven by community need, not inappropriate utilization. The Portland HSA has the lowest rate of all Maine HSAs. (Note: The York HSA's proximity to and reliance on New Hampshire hospitals for health care historically have been acknowledged to skew any results such as these that rely solely on Maine hospital reporting systems.)"

Portland HSA Residents' Use of Local Emergency Services

"To further test the reasonableness of the Portland HSA residents' use of emergency services, MMC compared the HSA population's actual use of local emergency services to the estimated need for emergency services. MMC computed the HSA's estimated need by applying national ED age cohort utilization rates (CY 2004 rates most recently available) to the Portland HSA population."

"MMC used national white race ED utilization rates, which are lower than national total population utilization rates, and held utilization rates constant throughout the comparison period. There has been a six percent increase in utilization rates during the most recent ten year period; rates for the adult age cohorts have demonstrated the most increase. Thus, MMC's estimate is a conservative need projection."

“Local emergency service visits are based on Mercy Hospital’s historic and forecast emergency visit volume as reported in Mercy’s Replacement Hospital certificate of need application materials (on file with the Department) and MMC historic visit volume. Mercy ED and MMC’s Brighton FirstCare visits are assumed to be one hundred percent devoted to Portland HSA residents while MMC’s Bramhall ED visits are allocated as 80% local residents and 20% out of area patients based on historic patient origin. Local utilization ranges from 92% to 98% of projected need.”

**Portland HSA Local Emergency Care
Comparison of Actual and Estimated Visits**

	2000	2001	2002	2003	2004	2005
Estimated Portland HSA Residents’ ED Visits	91,700	92,700	93,500	94,400	95,300	96,000
Local Emergency Care						
Mercy ED	27,500	27,100	26,300	26,200	25,600	26,300
MMC Emergency Services						
Portland HSA	38,100	39,900	42,100	41,600	42,700	41,900
Out of Area	<u>9,500</u>	<u>10,000</u>	<u>10,500</u>	<u>10,400</u>	<u>10,700</u>	<u>10,500</u>
MMC ED	47,600	49,900	52,600	52,000	53,400	52,400
Brighton FirstCare	<u>19,000</u>	<u>21,800</u>	<u>23,150</u>	<u>24,000</u>	<u>23,300</u>	<u>24,100</u>
MMC Emergency Services	66,600	71,700	75,750	76,000	76,700	76,500
Actual to Estimated Visits	93%	97%	98%	98%	97%	97%

Sources:

Estimated Visits. National Center for Health Statistics, “National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary”, Advance Data # 372, June 23, 2006, Table 12, White Race & Age ED visit rates applied to State Planning Office population estimates. Mercy Emergency Services: Mercy Replacement Facility CON, Exhibit E, on file with the Certificate of Need Unit. MMC Emergency Services: MMC Internal Databases.

“These analyses demonstrate that:

- Portland HSA residents’ utilization of Emergency Medical Services appears reasonable when compared to national, regional, state and other HSAs utilization;
- Portland HSA residents’ need for emergency medical treatment supports the combined volume forecasts presented by both Mercy Hospital and MMC;
- The proposed project does not have an adverse effect on Mercy Hospital’s emergency service delivery, volume, quality or cost; and
- The proposed project does not result in inappropriate increases in service utilization.”

“Regardless of the metric used, MMC’s current capacity of 34 treatment beds is inadequate to provide appropriate timely access to emergency services today or in the future. The following table compares the existing 34-bed capacity to the needed capacity for current demand (2004 to 2006) and for forecast demand (2009 to 2012).”

Comparison of Existing and Needed Treatment Capacity

	Existing Capacity	2004-2006 Need	2009-2012 Need
Trauma/Critical Care	3	6	6
Acute Care	19	32	30
Ambulatory Care	6	12	12
Psychiatric Care	6	6	6
TREATMENT CAPACITY	34	56	54

“The proposed capacity provides the appropriate timely access to emergency services and maintains reasonably efficient room utilization while allowing for additional growth beyond the forecast 2012 volume.”

Comparison of Existing & Proposed Capacity to Guidelines

	2006	2012
Annual Visits	54,700	60,500
Treatment Capacity	34	54

Metric	Guideline	Existing	Proposed
Access	ED Treatment Room Available @ 95% (composite)	19%	98%
Utilization	1,200 visits / treatment room	1,600	1,120

Clinical Decision Unit Capacity

“MMC anticipates reduced lengths of stay in the ED Treatment Areas as a result of introducing a dedicated CDU and various other Patient Flow initiatives.”

“MMC forecasts that between 30,000 and 32,000 hours of observation care per year will be relocated from the ED Treatment Areas to the CDU, primarily associated with Critical and Acute Care ED patients. This results in a peak period average daily census ranging from 5.2 to 5.4 observation patients.”

“MMC then applied the Poisson Statistical Analysis based on a ninety percent (90%) probability of CDU Bed being available when required. This resulted in a proposed CDU capacity of 8 beds.”

“The proposed location of this unit adjacent to the ED enhances the value of the unit for surge capacity in the case of a mass casualty public health incident.”

Proposed ED Treatment and Observation Capacity

“MMC made some minor adjustments to the distribution of the indicated capacity. A portion of the acute capacity is reallocated to the ambulatory area. This adjustment allows for a more efficient

management and staffing of the ED, and enables MMC to maximize the use of its existing ED infrastructure to support eighteen treatment beds instead of only eleven. As noted in the discussion on flexibility between ED Units, patients may be safely and appropriately treated in either area without compromising the quality of their care.”

“Based on current and projected need for MMC ED treatment and observation services, MMC is proposing to expand its Bramhall campus ED capacity in the following manner:”

MMC ED Treatment & Observation Capacity Category	Capacity	
	Existing	Proposed
Trauma/Critical Care	3	6
Acute Care	19	24
Ambulatory Care	6	18
Psychiatric Care	6	6
TREATMENT SUBTOTAL	34	54
Clinical Decision/Observation	0	8
TOTAL	34	62

Rapid Diagnosis and Evaluation

“Emergent care for critical care patients can be extremely time critical, especially for patients experiencing acute myocardial infarction, congestive heart failure, chest pain, cardiogenic pulmonary edema, chronic obstructive pulmonary disease, community acquired pneumonia, pulmonary embolism or acute ischemic stroke.”

“Timely access to diagnostic imaging, primarily CT and Ultrasound, supports a rapid initiation of diagnosis, evaluation and treatment, which is especially beneficial for critical care patients. Technological advances, mostly in multi-slice CT scanning, enable a more reliable determination of the physiology, cause and severity of cardiovascular, cerebrovascular and respiratory events such as infarctions, strokes and failures.”

“The IOM states:”

Strategically locating advanced imaging equipment in the ED will shorten patient wait times and improve throughput by accelerating diagnosis. Among the technologies that are positioned to do just that are digital radiography (DR) systems, 16-slice or higher CT scanners and high-field MR systems, and handheld ultrasound systems.

Hospital-Based Emergency Care: At the Breaking Point (National Academies Press, Washington, DC, June 2006, p. 147)

“MMC’s Diagnostic Imaging Suite adjoining the ED provides the necessary timely access to imaging services for emergent and urgent care patients. Timely emergency care is often predicated upon rapidly receiving diagnostic results.”

“The proportion of emergency visits in which diagnostic imaging procedures are conducted continues to increase. The National Center for Health Statistics (NCHS), US Centers for Disease Control and Prevention has tracked ED activity for years. Their reports demonstrate that the reliance on CT Scanning and Ultrasound imaging to guide emergency medical response has increased dramatically.”

“Nationally between 1999 and 2004 the percent of ED patients having CT Scans almost doubled (4.7% to 9.3%) while the percent receiving Ultrasound increased from 1.9% to 2.6%. When the increase in number of ED visits is combined with the increase in percent of patients receiving these services, national ED CT Scans more than doubled and Ultrasound procedures increased by close to 50% during this period. (NCHS, Advance Data Reports #320, June 25, 2001; #340, March 18, 2004; # 358, May 26, 2005, # 372 June 2006)”

“The design of the Diagnostic Imaging Suite includes a second CT scanner room that anticipates the need to add another CT scanner in the future. Increased use of mobile ultrasound will augment MMC’s fixed ultrasound unit in the Diagnostic Imaging Suite.”

B. CONU Discussion

i. Criteria

Relevant criteria for inclusion in this section are specific to the determination that there is a public need for the proposed services as demonstrated by certain factors, including, but not limited to:

- Whether, and the extent to which, the project will substantially address specific health problems as measured by health needs in the area to be served by the project;
- Whether the project will have a positive impact on the health status indicators of the population to be served;
- Whether the services affected by the project will be accessible to all residents of the area proposed to be served; and
- Whether the project will provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project;

ii. Analysis

The applicant has provided documentation that supports their assertion that the need for emergency room visits and diagnostic imaging services continues to grow in their geographic location. Emergency room and diagnostic imaging services are provided at their hospital campus located on Bramhall Street in Portland. MMC proposes to increase space for their emergency department and diagnostic imaging services department from its current 17,150 square feet to 44,200 square feet with the bulk of the expansion being placed in shell space that is available in the lower level Obstetrics and Newborns’ building that is adjacent to the existing emergency department. The proposal is to increase the number of emergency department treatment rooms from 34 to 62. Included in the proposed emergency room expansion are a total of 62 treatment rooms, an increase from the current 34 now available at the Bramhall campus. 54 treatment rooms will be used for trauma/critical, acute care, ambulatory care and psychiatric care and 8 rooms for a new proposed clinical decision unit (CDU) to be used to care for patients during extended observation stays. This project also involves providing

space for a second CT Scanner which the applicant believes will be needed in the near future but at this time has not committed the equipment purchase in this application. No determination of need is made at this time with regard to additional CT equipment.

The additional space/room the applicant wishes to make available for a second CT scanner is limited to 1020 sq. ft. This represents 2.3% of the total space of this proposed project. The applicant will be required to contact the CONU before adding an additional scanner to determine CON applicability. It appears prudent to allow the additional CT space to be built at this time in space that already exists since it is being added at a minimal cost to the project and may be used as storage space until the time arises for a second CT scanner. Future costs to develop this additional room would be more costly to add when the need presents itself.

The applicant provided considerable data for the record (*Not attached. On file at CONU*) that shows that need for emergency room services will continue to grow despite the applicant's ability to keep Portland's HSA visit per capita use rate and below the averages of New England and the State of Maine.

The Maine Quality Forum provided information on this application for the record. Created under Dirigo, the Forum has adopted the national consensus standard definition of healthcare quality. To be quality care, care must be safe, timely, effective, equitable and patient centered. Contributors to quality include structure, process, utilization and outcome. The Forum offered the following comments and assessment regarding this application.

The MQF acknowledged that the elapsed time in the ED (excessive wait times) and departure prior to completion of treatment (departure without care) are signs of a stressed system and that the mismatch of the undersized physical plant with the patient demands explains some of the quality failures.

The main concern from the MQF in this application is that the applicant did not discuss the impact of the proposed project on the security of its patients and its health care workers. "MMC responded that they currently staff its ED with two security staff 24 hours a day, 7 days a week. One staff is devoted to the Psychiatric Unit while the other is stationed at the main entrance to the Department. These staff members are augmented by other security staff if it appears that an additional response is desirable. The Regional Emergency Medical Information System Medical Communication and Transfer Center is located adjacent to the ambulance entrance to the ED. This 24-hour Center will manage the locking device on that entrance to maintain a secure environment."

MMC is the largest hospital in Maine and has the busiest emergency department in the State in regards to volume of patients seen in the emergency department. MMC is designated as a Trauma Center and is one of only three tertiary hospitals in Maine. MMC receives referrals from all over Maine but its primary service area is the 10 county region of central, southern and western Maine.

According to an April, 2002 American Hospital Association survey of hospitals, the capacity constraints in emergency rooms translate into longer waiting times for treatment, longer stays in the ED and longer waiting times to get admitted to a general acute, critical care, or psychiatric bed.

The Joint Commission reported in June, 2002 that EDs are the source of just over one-half of all reported event cases of patient death or permanent injury due to delays in treatment, 31 percent of these cases cited overcrowding as the contributing factor.

The U.S General Accounting Office (Report: GAO 03-460) revealed that overcrowding at hospital EDs has multiple effects including prolonged pain and suffering for patients and long emergency room waits which threatens the ability of emergency room physicians to provide timely patient care.

Evidence of overcrowding at hospitals includes ambulance diversions, patient boarding and long waits in emergency rooms. MMC has provided documentation that ambulance diversions have continued to rise from 6 in 2003 to 13 in 2005; 56% of ED boarder patients are held for more than 2 hours; and the average (mean) total time for MMC's patients in the ED is approaching 5 1/2 hours. This compares unfavorably to national ED measures according to Centers for Disease Control, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary presented in the table on page 28.

iii. Conclusion

It was evident from the CONU's site visit at the hospital that the current emergency room is undersized and over-crowded. While we were there, the waiting room was filled to capacity and patients were on gurneys waiting in the hall ways.

Recent CON expansion approvals were in the range from 1,618 to 1,564 ED visits per room per year at MaineGeneral Medical Center for their Augusta and Waterville campuses (01/05) to 1,207 ED visits per room per year at Southern Maine Medical Center (07/05). MMC is proposing 1,120 ED visits per room per year. This appears to be reasonable as MMC sees a higher level of acuity among its ED patients.

The CONU recommends that the Commissioner determine that the applicant has justified the need of this project based upon the above information. The CONU believes two conditions should be placed on this approval:

1. The applicant must notify the CONU when it plans to add a second CT Scanner in order to determine if a subsequent review or separate application may be required.
2. The applicant be required to report annually to the CONU the number of elopements, ambulance diversions and patient boardings that occur once this project is online for a period of three years.

V. Alternatives

A. From Applicant

SUMMARY

“Since FY 2000 MMC’s ED room utilization has exceeded the recommended utilization levels according to industry standards and guidelines.”

“MMC is Maine’s principal Trauma and Tertiary Care Provider. MMC performs a key role in public health and safety initiatives as the major tertiary and trauma care center for the state of Maine, providing 24-hour, 7-days per week access to essential emergency and trauma care. Certain subspecialty medical care provided at MMC is unavailable at other trauma centers in Maine and serves the needs of the entire state. As a result, MMC accepts trauma patient diversions and transfers from Eastern Maine Medical Center and Central Maine Medical Center, Maine’s Level Two Trauma Centers.”

“There is no alternative provider of trauma and tertiary care for Portland and surrounding communities. Trauma centers located in Lewiston and Bangor provide trauma care for those cities and surrounding communities, not the greater Portland region.”

B. CONU Discussion

i. Criteria

That the proposed services are consistent with the orderly and economic development of health facilities and health resources for the State as demonstrated by:

- The impact of the project on total health care expenditures after taking into account, to the extent practical, both costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care;
- The availability of State funds to cover any increase in State costs associated with utilization of the project’s services; and
- The likelihood that more effective and accessible, or less costly. Alternative technologies or methods of service delivery may become available.

ii. Analysis

William A. Bremer, Bureau of Insurance assessment memorandum to Phyllis Powell, Manager CONU dated May 2, 2007 states the following:

“The Bureau of Insurance applied the assessment model that was previously developed internally with support from its consultant, Milliman, Inc., of Minneapolis, MN, in order to develop an estimate of the impact that this CON project is likely to have on private health insurance premiums in Maine Medical Center’s service area and in the entire state of Maine. I have worked with you and your staff at the CON Unit, using data and support from the U.S Census Bureau, the State Planning Office, the State Office of Integrated Access and Support, and the Bureau of Insurance, as well as Richard Linehan, Director of Planning, MMC, to perform this assessment.”

“The methodology compares the CON project’s Year 3 operating costs (adjusted to the year ending June 30, 2007) to the estimated private health insurance average premium per person for the same period—which is the period of time for which the 2006-2007 capital investment fund has been established. Based on the model, I estimate that the maximum impact of this CON project on private

health insurance premiums in Maine Medical Center's service area for the project's third year of operation will be approximately \$0.276 per \$100 (0.276%) of premium. I further estimate that this project, in its third year of operation, will have an impact on statewide private health insurance premiums of approximately \$0.104 per \$100 (0.104%) of premium."

Total approved 3rd year operating costs are projected to be \$4,781,000 and of that amount MaineCare's 3rd year cost is \$812,770 (\$4,781,000 x 17.0%), which is both the Federal and State portions combined. Currently the impact to the Maine budget per year would be approximately \$284,470 (\$812,770 x 35% (State Portion)).

There are no alternative considerations available to this project as MMC is the principal trauma and tertiary care center in the Portland HSA. Mercy Hospital, the only other hospital in the Portland HSA, is expected to address their emergency room limitations in the next phase of their facility replacement project.

iii. Conclusion

The CONU supports the assessment by the Bureau of Insurance. This project will pose a minimum financial impact to third party payors.

CONU staff estimates that the cost to the Maine budget would be \$284,470 at full reimbursed cost based upon MMC's payor mix for this project. The actual impact to the State budget may be less as MaineCare doesn't always pay full costs as presented by MMC or other healthcare providers.

The CONU is unaware of the likelihood that more effective and accessible, or less costly alternative technologies or methods of service delivery may become available.

CONU recommends that the Commissioner determine that the proposed project is consistent with the orderly and economic development of health facilities in the State.

VI. State Health Plan

A. From Applicant

SUMMARY

"MaineHealth®, MMC and MMC's proposed ED project are responsive to and consistent with the Maine State Health Plan, Maine Quality Forum initiatives, Maine Emergency Medical Services Trauma Program Plan, Maine CardioVascular Health Program Strategic Plan and the Office of Adult Mental Health Services' Consent Decree Plan."

"MaineHealth®, MMC and MMC's proposed project are responsive to, consistent with and directly address elements of Making Maine the Healthiest State - Maine's State Health Plan, Office of Health Policy and Finance, (SHP)."

“This project involves providing timely, adequate and appropriate access to 24-hour emergency services care in Maine’s largest and most comprehensive trauma and tertiary care center in order to assure timely access to needed emergency care. MMC’s ED project is designed to eliminate undesirable and avoidable threats to patient safety and public health due to the severe overcrowding of MMC’s main campus ED.”

“MaineHealth® and MMC have designed and implemented seven major initiatives in chronic disease and care management... asthma, diabetes, depression, congestive heart failure, Clinical Improvement Registry, MMC PHO Clinical Improvement Plan and Care Management, the Care Partners Program for adults without insurance and the Center for Tobacco Independence. **All of these programs improve the ability of patients to manage these diseases... including reducing the need for emergency department visits and hospital admissions where these chronic diseases cause acute episodes.**”

“Two other initiatives will be added in 2007, regional protocols to improve emergency department psychiatric care, regional protocols for stroke care and a 5 year initiative on youth overweight. For FY 2007, MaineHealth® and Maine Medical Center will invest \$5,919,000 in support of these initiatives.”

“MMC is also making several specific investments in this ED project that address chronic disease and care management. Those include the development of a Clinical Decision Unit, an Emergency Department based vaccination program and a regional telepsychiatry service improving care in Maine’s smaller, rural communities.”

“MMC has led the MaineHealth®’s Acute Myocardial Infarction / Primary Coronary Intervention (emergency angioplasty) Program. This program is designed to improve care and outcomes of individuals with AMI throughout the MaineHealth® service area. The program involves collaboration among eleven hospitals and their medical staffs. Program services are evidence based and consistent with American College of Cardiology / American Heart Association clinical guidelines.”

“MMC provides a number of community access services that compliment this project and that reduce the reliance on EDs by populations with little or no access to other venues of medical care. These include Outpatient Clinics, Family Practice Center and Community Mental Health Center at McGeachey Hall.”

“MaineHealth®, the parent of MMC, has supported HealthInfoNet (previously MHINT) since its inception. MaineHealth® and MMC leaders were active participants in developing the project. MaineHealth® contributed \$50,000 to underwrite the second phase of the project. Bill Caron, President of MaineHealth®, serves on the Board of Directors of HealthInfoNet. MaineHealth® acted as the guarantor for the initial eighteen-month engagement of the HealthInfoNet’s Executive Director. MaineHealth® is negotiating to make its proprietary MaineHealth® information system available to HealthInfoNet.”

“MMC is in the fourth year of the implementation of its electronic medical record/patient management system, which includes computerized order entry and results reporting for medication, lab and imaging. It provides clinical decision support, e.g., drug interactions, standing orders/protocol sets. Physicians at the hospital, in their offices and at home have access to an electronic version of the

record which is updated after discharge. MMC/MaineHealth have developed a PACS (picture archiving and retrieval system) project for imaging services at Maine Medical Center, Stephens Memorial Hospital, Miles Memorial Hospital, St. Andres Hospital, St. Mary's Regional Medical Center and 12 other sites."

"The Maine Quality Forum has adopted the national consensus standard definition of healthcare quality. To be quality care, care must be safe, timely, effective, efficient, equitable, and patient centered. MaineHealth®, MMC and MMC's proposed ED project are responsive to and consistent with this definition of healthcare quality."

"MaineHealth®, MMC and this project are consistent with the six elements of the Maine Quality Forum Certificate of Need Analysis Grid."

"MMC is one of only 3 Maine hospitals to be qualified as a Trauma Center by the Maine EMS Trauma Advisory Committee. MMC intends to continue its participation as a qualified Trauma Center. MMC is seeking American College of Surgeons Committee on Trauma verification as a Level One Trauma Center."

"MaineHealth®, MMC and this project are consistent with Maine CardioVascular Health Program Strategic Plan. MMC's Heart Failure Program is JCAHO certified. MMC has led the MaineHealth®'s Acute Myocardial Infarction / Primary Coronary Intervention (emergency angioplasty) Program. MMC is seeking JCAHO certification as a Primary Stroke Center."

"MMC, its Emergency Department and this project are consistent with and responsive to the Department's Office of Adult Mental Health Services' Consent Decree Plan. MMC provides specialized inpatient psychiatric care for patients with medical complications and for geriatric psychiatric patients. MMC's ED serves as Spring Harbor Hospital's ED. MMC's ED has cooperated with Amistad to implement the Department-sponsored peer services within MMC's ED. MMC's ED in cooperation with Spring Harbor Hospital is developing a Telepsychiatry Service to support outlying community hospitals in diagnosing and treating patients presenting in their Emergency Departments."

Maine State Health Plan

"MMC and its proposed project address the specific priorities related to the Certificate of Need program outlined in the SHP."

Projects that protect public health and safety are of the utmost importance.

Projects that directly and unambiguously protect the public's health and safety are assigned the highest priority in the current environment, where resources are constrained. Examples of such programs include:

Projects that have as a primary, overriding objective the elimination of specific threats to patient safety. (SHP, p. 56)

Essentially the ED serves as the ‘safety net for the safety net.’ Therefore, the role of the ED is crucial for public health. Any threat to the EDs ability to provide quality emergency care constitutes a public health crisis. Currently the greatest threat to the viability of the US emergency care system is reported to be overcrowding.

“Trzeciak and Rivers, “Emergency department overcrowding in the United States: an emerging threat to patient safety and public health,” *Emerg. Med. J.*, 2003; 20; pp. 402-405.”

Time-Sensitive Treatment, ED Overcrowding and Delays

“MMC’s ED project is designed to eliminate undesirable and avoidable threats to patient safety and public health due to the severe overcrowding of MMC’s main campus ED. Demand placed on MMC’s Bramhall ED’s capacity exceeds industry standards and guidelines.”

“Constrained capacity coupled with exceedingly high demand:

- Increases the challenges of eliminating threats to patient safety;
- Reduces ED treatment room availability to address emergent and urgent demand;
- Increases the probability of delaying emergent and urgent patients’ timely access to treatment; and
- Significantly diminishes MMC’s ability to respond to mass casualty public health events such as multiple-victim accidents, epidemics and pandemics.”

“MMC anticipates that the community need for its ED services will continue to increase over time and that improving access to this care for patients is essential to protect public health and safety. Continuing advances in the treatment of cardiovascular disease, cancer, diabetes, kidney disease, HIV, etc. and the aging of the population will result in more and more seriously ill patients presenting to EDs and requiring highly complex and time-consuming emergency diagnostic and treatment services.”

“The introduction of a helipad on MMC’s Bramhall campus will improve access for helicopter-transported patients requiring emergency and trauma care, increasing the need for timely access to MMC’s main campus ED treatment services.”

“Projects that center on a redirection of resources and focus toward population-based health and prevention; such efforts address our state’s greatest area of need. This includes addressing – at a population level as opposed to an individual patient level – the most significant health challenges facing Maine – cardiovascular disease, cancer, chronic lung disease, diabetes, depression and drug addiction; Projects that specifically incorporate as a primary component of the initiative for which approval is being sought, a comprehensive scope of concern including prevention, early detection, treatment and rehabilitation of chronic conditions, especially cardiovascular disease, cancer, lung disease, diabetes, and depression. Such efforts will contribute to efforts to implement the care model across our communities and will encourage appropriate utilization of resources and maximize patient outcomes. At a minimum, priority projects will devote a portion of the total “value” or cost of the project to new investment in a related public health effort that is aimed at reducing the demand for the service proposed under the application at the population level. Projects demonstrating additional new investment in such public health initiatives should receive a higher priority ranking.” (SHP pp. 56-7)

Maine Medical Center and MaineHealth® Commitment to Health Status, Chronic Care and Case Management

“The vision of MaineHealth® is “Working together so our communities are the healthiest in America.”

“The mission of MMC is “MMC is dedicated to maintaining and improving the health of the communities it serves by caring for the community, educating tomorrow’s care givers and researching new ways to provide care.”

“MaineHealth® is building an integrated delivery system with five essential elements:

1. **The premier provider network** providing care across the continuum from prevention and health maintenance through home health, ambulatory and acute diagnostic and treatment services, tertiary referral services, rehabilitation, chronic care and long term care;
2. **Clinical integration initiatives** building on the chronic care management model to bring together providers to develop and implement integrated, team based and evidence based approaches to the care of patients, particularly those with chronic diseases;
3. **Health status improvement initiatives** building programs to partner with community and governmental organizations, providers and the public to improve health status;
4. **Health professions education and research;**
5. **Administrative integration initiatives** that improve the efficiency of health care delivery, including clinical information systems.”

“MaineHealth® and MMC have designed and implemented seven major initiatives in chronic disease and case management... asthma, diabetes, depression, congestive heart failure, Clinical Improvement Registry, MMC PHO Clinical Improvement Plan and Care Management, the Care Partners Program for adults without insurance and the Center for Tobacco Independence. **All of these programs improve the ability of patients to manage these diseases... including reducing the need for emergency department visits and hospital admissions where these chronic diseases cause acute episodes.**”

“Because of the size and scope of these initiatives and when they were developed, it is not appropriate to “charge off” the expenses of these programs to a single hospital project like the proposed ED expansion and renovation. **These initiatives are the types of activities that the State Health Plan expects CON applicants to design and implement... MaineHealth® and MMC simply began making these investments before the State Health Plan was developed.**”

“The seven major initiatives are:

1. **AH! Asthma Health** – a comprehensive patient and family education and care management program which targeted childhood asthma initially and has expanded to include adults;
2. **Target Diabetes** – a comprehensive diabetes education and care management program;
3. **Caring for ME** – designed to improve the ability of primary care providers to care for patients with depression and to educate patients and families on their roles in self management;

4. **Healthy Hearts** – designed to improve the care of patients with congestive heart failure and to educate patients and families on their roles in self management;
5. **Clinical Improvement Registry** - a computer based system provided to primary practices in the MMC Physician-Hospital Organization and several other hospital physician organizations. The Registry provides patients and physicians with data on the management of chronic illness including asthma, diabetes, cardiovascular disease, depression and heart failure;
6. **MMC Physician Hospital Organization Clinical Improvement Plan** – the Plan includes funding 15 practice based registered nurse care managers which support 149 physicians in 46 primary care practices. Currently they are focusing on diabetes, depression and asthma;
7. **Care Partners** – provides free physician and hospital care, drugs and care management to over 1,000 adults in Cumberland, Kennebec and Lincoln counties who do not qualify for federal and state programs. Since its inception in 2001, it has cared for over 4,300 adults. It reduced emergency visits per 1,000 member months from 53.9 in 2002 to 30.4 in 2004.
8. **Center for Tobacco Independence** – MaineHealth through a contract with the State manages the statewide smoking cessation program.”

“Two other initiatives will be added in 2007, which will benefit from the MMC ED project and which will improve care of emergency department patients. MMC and Spring Harbor Hospital are developing regional protocols to improve emergency department care and reduce length of stay. We are also developing regional protocols for stroke care. Finally, MaineHealth® and Maine Medical Center have joined with several other organizations including Hannaford, United Way, Unum, Anthem and TD Banknorth, to design and implement a 5 year initiative on youth overweight.”

“MaineHealth® and MMC believe that these initiatives are entirely consistent with the goals of the State Health Plan regarding how to approach chronic disease.”

“In addition to being consistent with the State Health Plan’s general goals for addressing chronic disease, Care for ME is most directly aligned with the State Health Plan goals that are specific to integrating mental health and primary care services. MMC believes that this initiative will enhance efforts to reduce the reliance on emergency services to address the effects of depression.”

“For FY 2007, MaineHealth® and Maine Medical Center will provide the following levels of support for these initiatives:” (All Exhibits are not attached. *On file at CONU.*)

**MaineHealth® and MMC FY 2007 Support
for**

Major Initiatives in Chronic Disease and Case Management

Asthma, Diabetes, Depression and Congestive Heart Failure	\$2,716,000
MMC PHO Clinical Improvement Plan	\$2,500,000
Care Partners	\$229,000
Center for Tobacco Independence	\$221,000
Stroke Patients Protocols	\$89,000
ED Protocols	\$64,000
Youth Overweight	<u>\$100,000</u>
Total	\$5,919,000

Clinical Decision Unit Protocols

“Establishing the CDU supports MMC efforts to implement evidence-based protocols for treating chronic conditions. A major element of such treatment is emphasizing community-based and primary care-oriented management of chronic diseases, which reduces individuals’ reliance on emergency and inpatient treatment.”

“The CDU’s initial focus is improving upon the protocols currently in place with asthma. (See above) Once the CDU is opened and the protocol-based liaison with community-based primary care firmly established, the liaison protocol approach will be extended to other chronic respiratory conditions and then the other chronic conditions addressed through MaineHealth®’s Clinical Integration Program.”

“Projects that incorporate best practices in building construction, renovation and operation to minimize environmental impact both internally and externally.” (SHP, p. 57)

“This project will be designed and engineered to incorporate best practices in building construction, renovation and operation in order to minimize environmental impact. The project will benefit from operational energy cost savings derived from the MMC Central Utility Plant currently under construction.”

“Projects that contribute to lower costs of care and greater efficiencies are also high priorities..... Projects that physically consolidate hospitals or services that serve all or part of the same area and that demonstrate an appropriate, cost effective use for the “abandoned” infrastructure, that do not result in increased costs to the health care system and that, in accordance with state policy as expressed in Maine’s Growth Management Act, do not contribute to sprawl.” (SHP, p. 57)

“MMC has managed to absorb the growing and increasingly complex need for its emergency services with the same building footprint that it has had since the early 1990s. MMC has exhausted the options available to it with this existing space and is seeking authorization to increase its emergency services square footage and capacity.”

“MMC’s commitment to providing high quality emergency care at lower cost and greater efficiency resulted in the consolidation of MMC and Brighton Medical Center 24-hour Emergency Services at MMC’s Bramhall campus in 1996 shortly after the merger. The MMC Brighton campus ED infrastructure supports MMC’s Brighton FirstCare program, an Urgent Care Service. Brighton FirstCare has proven an effective tool in meeting urgent care need as evidenced by its growth.”

“In 1999 MMC established a subsidiary hospital, Spring Harbor Hospital, as the successor to Jackson Brook Institute. With this new subsidiary, MMC’s ED increased its responsibility for emergency psychiatric care, again without any increase in treatment square footage. MMC continues to serve as Spring Harbor Hospital’s Emergency Department.”

“MMC has successfully addressed the community’s need for emergency services with its existing ED treatment capacity despite the fact that since FY 2000 MMC’s ED room utilization has exceeded the recommended utilization levels according to industry standards and guidelines.”

“A major basis for this project is making the best and highest use of MMC’s Bramhall facilities to address the needs of complex inpatient, emergency and trauma patients; and to improve access to MMC’s Bramhall facilities for those patients requiring emergency and trauma care that should be delivered in a tertiary care center such as MMC.”

“The project involves the renovation and infill of existing facilities. There is minimal expansion of building footprint. This project involves infilling the lower level of the Obstetrics and Newborns’ building immediately adjacent to the existing ED and renovating the existing ED. As a result, the project does not contribute to sprawl and is in accordance with state policy as expressed in Maine’s Growth Management Act.”

“The project also benefits from HVAC and electrical infrastructure cost avoidance and operational energy cost savings derived from the MMC Central Utility Plant currently under construction.”

“This project provides MMC’s patients with appropriate access to emergency services in modern facilities. The project enables MMC to fulfill the clinical demands placed upon it by patients in a cost-effective and energy-efficient manner.”

“Telemedicine projects that facilitate improvements and cost efficiencies in the quality of diagnosis and treatment especially in Maine’s smaller, rural communities;” (SHP, p. 58)

Telepsychiatry

“Concurrent with this project, MMC and Spring Harbor Hospital (SHH) are developing a telepsychiatry service to ensure psychiatric consultation is available to all MaineHealth® System ED’s that do not have their own psychiatric resources. Despite their lack of psychiatric resources, St. Andrews, Miles Memorial, and Stephens Memorial EDs are nonetheless called upon by their respective communities to respond to adults and children who present to them in psychiatric crisis.”

“This telepsychiatry service is designed to provide these outlying EDs with immediate access to MMC and SHH psychiatric resources for consultations. MMC acts as SHH’s ED. More than 50% of SHH admissions come through MMC’s ED. This same telepsychiatry system will enable SHH psychiatrists to observe these patients while they are still in MMC’s ED.”

“Projects that advance access to services and reflect a collaborative, evidence-based strategy for introducing new services and technologies are also priority projects.” (SHP, p. 58)

“In addition to caring for acutely ill or injured patients, EDs help ensure that basic health care is available to anyone, regardless of ability to pay. EDs care for underserved populations who have no other options for medical care because of numerous socioeconomic barriers. For indigent patients, the uninsured, and the homeless, the ED serves as a "provider of last resort".”

“In 2000, the Institute of Medicine (IOM) studied the US health care "safety net" that serves uninsured or otherwise vulnerable populations. The ED meets the IOM definition of safety net provider because

EDs care for patients "by explicitly adopted mission, regardless of their ability to pay", and vulnerable populations comprise a "substantial share" of the ED patient mix."

"EDs, however, differ from other safety net providers in two important ways. Firstly, EDs offer access to comprehensive services within the hospital (including subspecialty care) 24 hours/day. Secondly, and most importantly, the ED is required by law to treat all patients, even when reimbursement is not guaranteed. This precedent was set by the Emergency Medical Treatment and Labor Act (EMTALA), a US law mandating that ED patients cannot be turned away, regardless of payer status. Because refusing patients access to the ED would be an unsafe practice, the Health Care Financing Administration (HCFA) now strictly enforces EMTALA, making ED services the first and only health care in the US to be guaranteed by law."

"MMC's ED project is designed to advance community and regional access to necessary Emergency and Trauma/Critical Services by reducing the overcrowding of MMC's main campus ED. As demonstrated in "Section IV Needs to be Addressed" of this application, access to MMC's Emergency Services is unduly constrained due to its inadequate treatment capacity."

Collaborative, Evidence-based Care

"MMC's Heart Failure Program is certified by JCAHO and its Stroke Program is undergoing review to become certified. These disease-specific program certifications indicate MMC's commitment to collaborative, evidence-based clinical practice."

"MMC's recently introduced Chest Pain Observation Protocol is an example of how MMC's ED medical practices reflect a collaborative, evidence-based strategy for introducing new services:

MMC's Departments of Cardiac Services and Emergency Medicine in collaboration with representatives from Family Practice, the Hospitalist service, Internal Medicine, Nursing and Radiology developed an ED protocol for the rapid rule out and diagnosis of low risk patients presenting to the ED with chest pain. Patients presenting to the ED with chest pain have a multitude of acute and non-acute cardiac and non-cardiac conditions. Some patients clearly require admission, but many could be spared an admission and sent home if they could be quickly ruled out in an observation setting and risk stratified with an appropriate stress test. This protocol identifies a group of patients with a low likelihood of an acute coronary syndrome. The development involved extensive collaboration among the disciplines, a thorough literature review and a three-month pilot to test the results. Once the results from the pilot demonstrated the efficacy of the protocol it was implemented."

"MMC has led the MaineHealth®'s Acute Myocardial Infarction / Primary Coronary Intervention (emergency angioplasty) Program. This program is designed to improve care and outcomes of individuals with AMI throughout the MaineHealth® service area. The program involves collaboration among hospitals and their medical staffs. Program services are evidence based and consistent with American College of Cardiology / American Heart Association clinical guidelines."

"MMC also notes that these endeavors are consistent with the SHP's major short range goal regarding care of heart attack patients. (See SHP, p. 17.)"

Contributions to Health Knowledge, Research and Evidence-Based Practice

“MMC notes that the Department of Health and Human Services (DHHS) recognizes and considers the special needs and circumstances of biomedical and behavioral research projects which are designed to meet a national need and for which local conditions offer special advantages. Further, the Department may also consider whether the project has the “potential for contribution toward total health knowledge through research” and whether the applicant “intend(s) to utilize acceptable research techniques to develop and share new knowledge gained.” (DHHS CON Application Format, 2006 Revision, Additional Considerations)”

“MMC’s Department of Emergency Medicine demonstrates special advantages in furthering Emergency Medicine research. This project not only advances community access to necessary emergency care; it also supports the furtherance of emergency medicine evidence-based research and physician education. MMC’s ED overcrowded condition hampers MMC’s ability to perform its teaching and research roles in Emergency Medicine. Decompressing the ED dramatically improves MMC’s ability to educate physicians and to perform vital evidence-based research to further the body of emergency medicine knowledge.”

“MMC’s Emergency Medicine Residency Program, the only Emergency Medicine Residency in Maine, increases the number of Emergency Medicine physicians whose presence further improves community access to high quality emergency care. Research demonstrates that emergency medicine residents tend to remain in the states where they trained or nearby.”

“The Residency Program encourages the pursuit of the most up to date evidence-based clinical practice, encourages respect and collaboration, and teaches effective information exchange among all members of the health care team, patients and families.”

“MMC’s Department of Emergency Medicine maintains a Division of Research with a commitment to academic progress and achievement. The Division of Research maintains a standard of excellence, ethics, and peer-recognition as a contributor to emergency medicine research and academics.”

“From January 2001 through June 2006 the Division has published approximately two hundred and fifty peer-reviewed articles, papers and book chapters.”

“The care of heart attack patients in Maine will improve over the course of the next two years, by developing standard processes of care, statewide, ensuring that the right type of clinical intervention is delivered at the right time to as many patients as possible.”

“This objective relates to a major quality improvement initiative described in the Quality portion of the Plan. Setting this work in progress should result in better outcomes for heart attack patients in Maine.” (SHP, p 17)

“Up to 20% of these patients have acute myocardial infarction, and 10% of those may require thrombolysis. Thus, for every 5000 ambulance patients with chest pain, approximately 100 are candidates for thrombolytic therapy. On the basis of the delays we observed at the 50th, 90th and 95th percentiles, we estimated an average increase in the transport interval of approximately 2.8 minutes

per patient in the period of greater ambulance diversion (in 1999). A 30-minute delay in the initiation of thrombolysis can shorten average survival of patients with acute myocardial infarction by 1 year, so a 3-minute delay might shorten survival by as much as 0.1 year. Therefore, on an ecologic level, an increase in transport time of 2.8 minutes each for 100 thrombolysis patients could amount to 10 years of life lost annually in our study setting.”

“Schull, Morrison, Vermeulen, Redelmeier, “Emergency department overcrowding and ambulance transport delays for patients with chest pain,” Canadian Medical Association Journal, 2003,168 (3), pp. 277-283.”

“ED crowding is associated with increased door-to-treatment times for patients with suspected acute myocardial infarction and may represent a barrier to improving cardiac care in EDs; and an increase in overcrowding in EDs was associated with a substantial increase in the system response interval and the ambulance transport interval for patients with chest pain. MMC’s proposed project is designed to reduce ED crowding and the associated risks to public health and patient safety, including patients experiencing heart attacks. Whether the treatment choice is thrombolytic therapy or angioplasty, the need for timely response is a constant.”

“Projects and/or applicants demonstrating certain attributes should be deemed higher priority than those without those attributes....”

“Projects that include a complimentary preventive component that will lead to a reduced need for services at the population level will receive the highest priority among all applications reviewed in a given review cycle.” (SHP, pp. 58-9)

“MMC provides a number of community access services that compliment this project and that reduce the reliance on EDs by populations with little or no access to other venues of medical care. In addition to the major initiatives described elsewhere in this application (asthma, diabetes, depression, heart failure, tobacco, PHO care management, CarePartners care management), which include significant patient education programs, the following MMC programs contribute to potential reductions in ED usage, particularly for low income patient populations.”

Outpatient Clinics

“MMC provides primary care to financially disadvantaged and special patient populations. These clinics include Adult Cystic Fibrosis, Broncho-Pulmonary, Burn, Cardiac, Colposcopy, Cystic Fibrosis, Dermatology, Diabetes, Enterostomal, Endocrine, Geriatric, G. I., Infectious Disease, International, Nerve Block, Surgical, Primary Care, Displasia, General Pediatric, Pediatric G. I., Neonatal Intensive Care Unit Follow-Up, Pediatric Continuity, Pediatric Pulmonary, Spina Bifida, TB, Urgent Care, Virology, Wound Care.”

Family Practice Center

“MMC provides primary care to East End Portland emphasizing community-based, long-term, comprehensive, preventive care on a sliding fee scale.”

Community Mental Health Center at McGeachey Hall

“This MMC-sponsored program is the primary source of outpatient mental health and vocational rehabilitation services for residents of greater Portland.”

“Projects and/or applicants that demonstrate a tangible, real (as opposed to in kind) investment in the MHINT (Maine Health Information Network Technology) project should be assigned a higher priority ranking than applicants failing to make such an investment. These investments must be for hardware, software or direct financial contribution to the MHINT project.” (SHP, p. 59)

“MaineHealth®, the parent of MMC, has supported HealthInfoNet (previously MHINT) since its inception. MaineHealth® and MMC clinical and information technology leaders were active participants in the advisory committees that developed the project during its first phase.”

“MaineHealth® was one of the four Maine health care delivery systems that each contributed \$50,000 to underwrite the second phase of the project. Bill Caron, President of MaineHealth®, serves on the Board of Directors of HealthInfoNet. MaineHealth® acted as the guarantor for the initial eighteen-month engagement of the HealthInfoNet’s Executive Director to assure the organization’s ability to secure the preferred candidate for the position.”

“MaineHealth® is negotiating with HealthVision to make its proprietary MaineHealth® information system available to HealthInfoNet as the platform to develop pilot projects.”

Applicants and/or projects representing real investments in electronic medical records systems both in the hospital and in community medical practices will receive a higher priority ranking than those applicants failing to make such an investment. Qualifying investments will support clinical data exchange between separate data systems or applications using accredited standards for the exchange of data such as HL7. (SHP, p. 59)

“MMC is in the fourth year of the implementation of its electronic medical record/patient management system, which includes computerized order entry and results reporting for medication, lab and imaging. It provides clinical decision support, e.g., drug interactions, standing orders/protocol sets. Physicians at the hospital, in their offices and at home have access to an electronic version of the record which is updated after discharge. MMC/MaineHealth have developed a PACS (picture archiving and retrieval system) project for imaging services at Maine Medical Center, Stephens Memorial Hospital, Miles Memorial Hospital, St. Andres Hospital, St. Mary’s Regional Medical Center and 12 other sites.”

“On the ambulatory side, a number of MMC owned practices have an electronic ambulatory record and the system is being added to other practices. In April 2007, we will complete the MaineHealth® plan for an ambulatory electronic record for the MaineHealth® member hospitals (Maine Medical Center, Stephens Memorial Hospital, Miles Memorial Hospital and St. Andrews) and their medical staffs.”

“We are also implementing an electronic patient tracking/management system in the Emergency Department. The ED system will add patient tracking, critical value reporting and multidisciplinary

electronic documentation of care. The system will be fully integrated with the hospital based Eclipsys enterprise computer system.”

Hospitals and Health Network

“In recognition of its commitment to and use of electronic and computerized systems, MMC was recently named one of the nation's "Most Wired Hospitals" according to the 2006 Most Wired Survey and Benchmarking Study released in the July issue of Hospitals & Health Networks magazine. The award recognizes the breadth of MMC's use of information technology in support of clinical and business processes, customer service, safety and quality, workforce, and public health and safety.”
“MMC is the first and only hospital in Maine to achieve this award, and one of only six hospitals in Massachusetts, New Hampshire, and Vermont. The honor is awarded by judges who are drawn from the members of the American Hospital Association and the College of Healthcare Information Management Executives.”

“MMC was also named one of the "Most Wireless Hospitals" for its use of wireless technology in support of patient care. This award is only given to 25 hospitals in the United States.”

“The Most Wired Survey is conducted annually by Hospitals & Health Networks magazine, which uses the results to name the 100 Most Wired hospitals and health systems. It focuses on how the nation's hospitals use of information technologies for quality, customer service, public health and safety, business processes and workforce issues.”

Leapfrog Group

“MMC is one of only a few dozen hospitals to meet the computerized system standards of the Leapfrog Group, a consortium of employers and unions driving patient safety standards nationally that recommends, among other things, that at least 75% of physicians’ orders be entered into a computer.”

“Projects that exercise less than a 0.5% increase on regional insurance premiums shall be given priority consideration under the CON review process.” (SHP, p. 59)

“The Maine Department of Professional and Financial Regulation’s Bureau of Insurance performs this assessment. MMC would be happy to respond to any concern, issue, question or request for additional information to assist the Bureau in this assessment.”

“MMC’s ED in cooperation with Spring Harbor Hospital is developing a Telepsychiatry Service to support outlying community hospitals in diagnosing and treating patients presenting in their Emergency Departments.”

B. CONU Discussion

i. Criterion

Relevant criterion for inclusion in this section is specific to the determination that the project is consistent with the State Health Plan.

State Health Plan goals targeted by <u>Applicant include:</u>	<u>State Health Plan Priority</u>
Protect public health and safety	Highest Priority
Contribute to lower cost of care and greater efficiencies	High Priority
Advance access to services	High Priority
Complimentary preventive component that will lead to a reduced need for services	High Priority
Less than a 0.5% increase on regional insurance premiums	Priority Consideration

The applicant has provided a number of research studies that illustrate the impact of ED overcrowding on public health and safety. Those studies are made part of the record and are *on file at CONU*.

The CONU received the required assessment by Dora Mills, M.D. Director, Maine Center For Disease Control and Prevention to Catherine Cobb, Director, Division of Licensing and Regulatory Services, and was sent via e-mail dated February 1, 2007, and makes the following comments:

1. Whether, and the extent to which the project is consistent with and furthers the goals of the State Health Plan.

“According to this CON application, this project is designed to eliminate undesirable and avoidable threats to patients’ safety and the public health due to the severe overcrowding of the hospital’s emergency department (ED), as evidenced by extensive information provided (national data, MMC’s ambulance diversions, border patient housed, wait times, left without being seen, etc.). The expansion to the ED also includes an expansion of negative pressure treatment rooms from 2 to 6, which is effective in protecting others from contagious diseases. The ED expansions otherwise are focused on expanding rooms in the categories of trauma/critical care (3 to 6), acute care (19 to 24), ambulatory care (6 to 18) and clinical decision/observation (0 to 8) and space in the psychiatric area (900 sf to 2,300 sf). Given that MMC’s ED serves a ten-county area, is one of three trauma centers and regional resource centers for public health emergencies in the state, serves as the ED for a children’s hospital and a nearby psychiatric hospital, clearly MMC’s ED needs to be adequate in order to assure patient safety. Additionally, the observation unit can be used to improve MMC’s surge capacity.”

“This application does not directly involve the redirection of resources and focus toward population-base health and prevention. However, the applicant does make the argument that both MMC and its parent institution, MaineHealth, are an integrated delivery system that includes a number of prevention population-based initiatives. Eight specific initiatives are described as well as the nearly \$6 million that both MMC and MaineHealth are investing in 2007 to support these initiatives. Additionally, the applicant does state that they plan to provide ED-based vaccinations (influenza and pneumococcal) with the new ED.”

“The application does not demonstrate significant cost savings.”

“The application does not include an abandoned infrastructure.”

“Although this project does not include a telemedicine component per se, concurrently MMC with Spring Harbor Hospital is developing a telepsychiatry service to 3 rural hospitals in its service area.”

“This application does not propose new technologies and services, though does make room available for a second CT scanner for future installation.”

“As mentioned, the applicant has a long history of providing population-based comprehensive preventive programs. While “green technology” is not mentioned per se, it is mentioned that the project will be designed and engineered to incorporate best practices to minimize environmental impact. Specifics cannot be found to back this up. The applicant demonstrates an investment in MHINT as well as EMR, in that it is in its 4th year in developing and implementing an EMR.”

Summary of Alignment to 2006/07 State Health Plan:

“Maine Medical Center is a trauma center that serves patients from the entire state. The project is intended to eliminate undesirable and avoidable threats to patient safety and to public health due to the overcrowding of their emergency department. Projections of need for additional space and beds has been developed and the resulting analysis is that MMC should increase their capacity from 34 to 54 beds in their emergency department. A second hospital in the Portland area has been stated to be at full capacity for their emergency department as well; however no statistics are provided that demonstrates that currently there is an access problem for patients entering the emergency departments for either hospital.”

2. Whether, and the extent to which, the project will substantially address specific health problems as measured by health needs in the area to be served by the project.

“This project is a construction/renovation of an emergency room and while no specific health problems have been identified in the application as a result of the current emergency room capacity, the applicant states the overcrowding conditions will ultimately lead to future problems.”

3. Whether the project will have a positive impact on the health status indicators of the population to be served.

“There is no evidence that additional emergency room capacity as defined in this project will significantly impact the health status indicators of the population.”

4. Whether the services affected by the project will be accessible to all residents of the area proposed to be served.

“Because Maine Medical Center is a non-profit institution, it has to make its services accessible to all residents in the service area.”

5. Whether the project will provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project.

“The applicant notes a number of quality and outcome measures that are expected to be improved, including: improved patient waiting times for those presenting with acute myocardial infarctions, strokes, respiratory failure, chest pain; increased use of alternatives to intubation; reduced utilization of down stream high-cost resources; reduced numbers of patients leaving prior to completing treatment; reduced overall waiting times; reduced lengths of stay; etc.”

ii. Analysis

The CONU concurs with some of the assessment from the Maine Center For Disease Control and Prevention as noted below:

MMC has demonstrated that the project will protect public health and safety as it will allow patients to be seen in a more-timely manner for treatment, it will reduce or eliminate ambulance diversions, reduce elopements and should reduce boarding times. This project also incorporates an investment of \$253,000 in new initiatives for regional protocols to improve emergency department psychiatric care, stroke care and a five-year initiative on youth obesity. In addition, this project will incorporate best practices in building construction.

MMC has demonstrated that this project will contribute to lower cost of care and increased efficiencies as this project will be fitted into vacant shell space in the lower level Women and Infants Building thereby not contributing to sprawl. The applicant will be able to treat patients in a more timely and efficient manner thereby lowering chances of patient illnesses becoming more complicated and more costly to treat. The applicant continues to strive to meet the Dirigo voluntary cost targets.

MMC has demonstration that this project will advance access to services as stated above this project involves an investment for new initiatives totaling \$253,000.

MMC has demonstrated that this project includes a complementary preventive component as this project includes an investment of \$1,414,000 in telecom/information systems.

MMC has demonstrated that this project exercises less than a 0.5% increase on regional insurance premiums as stated by the assessment from the Bureau of Insurance.

iii. Conclusion

The CONU recommends that the Commissioner determine that this application is consistent with the State Health Plan.

VII. Outcome and Community Impact

CONU Discussion

i. Criteria

Ensures high-quality outcomes and does not negatively affect the quality of care delivered by existing service providers.

ii. Analysis

This project will not negatively affect the quality of care delivered by existing service providers. The other provider of these services in the Portland area includes Mercy Hospital that, according to the applicant is also experiencing overcrowding conditions. This project is not meant to increase market share but to solve MMC's overcrowding in their emergency department in order to better serve their population. Mercy Hospital plans a new replacement facility with phase one already approved by the Department. Mercy's second phase would address their emergency department.

The MQF states that the application supports the finding that this project will not negatively impact the quality of emergency services provided by others.

iii. Conclusion

The CONU recommends that the Commissioner determine that this project ensures high-quality outcomes and does not affect the quality of care by existing service providers.

VIII. Service Utilization Impact

CONU Discussion

i. Criteria

Does not result in inappropriate increases in service utilization, according to the principles of evidence-based medicine adopted by the Maine Quality Forum, as established in Title 24-A, section 6951.

ii. Analysis

Throughout the application, the applicant states that they want to adequately provide for the patients that present themselves at their emergency department in an appropriate and timely manner without excessive wait times that can lead to a delay in treatment.

The MQF did not comment on inappropriate increases in service utilization. They did however report that MMC's specific clinical quality metrics show it to be average for the state while the statewide rate is best in the U.S.

iii. Conclusion

The CONU recommends that the Commissioner determine that this project will not result in inappropriate increasing in service utilization.

IX. Other

CONU Discussion**i. Criterion**

Relevant criterion for inclusion in this section is related to the needed determination that the project can be funded within the Capital Investment Fund. 22 M.R.S.A. Sec. 335 (7).

ii. Analysis

The large hospital project cycle is a competitive cycle. The CIF has been introduced to limit the development of hospital projects to a level sustainable in regards to its impact on the growth of healthcare costs. The CONU has determined that, if approved, this project can be funded within the CIF.

X. Timely Notice**CONU Discussion**

Letter of Intent filed:	September 8, 2006
Subject to CON review letter issued:	September 14, 2006
Technical assistance meeting held:	October 17, 2006
CON application filed	December 19, 2006
CON certified as complete:	December 19, 2006
Public informational meeting held	January 22, 2007

The CONU has recommended that the Commissioner determine that a timely notice was given.

XI. Findings and Recommendations

Based on the preceding analysis, the CONU makes the following findings and recommendations:

- A. That the applicant is fit, willing and able to provide the proposed services at the proper standard of care as demonstrated by, among other factors, whether the quality of any health care provided in the past by the applicant or a related party under the applicant's control meets industry standards;
- B. The economic feasibility of the proposed services is demonstrated in terms of the:
 1. Capacity of the applicant to support the project financially over its useful life, in light of the rates the applicant expects to be able to charge for the services to be provided by the project; and
 2. The applicant's ability to establish and operate the project in accordance with existing and reasonably anticipated future changes in federal, state and local licensure and other applicable or potentially applicable rules;

- C. That there is a public need for the proposed services as demonstrated by certain factors, including, but not limited to;
1. the project will substantially address specific health problems as measured by health needs in the area to be served by the project;
 2. the project will have a positive impact on the health status indicators of the population to be served;
 3. the services affected by the project will be accessible to all residents of the area proposed to be served; and
 4. the project will provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project;
- D. That the proposed services are consistent with the orderly and economic development of health facilities and health resources for the State as demonstrated by:
1. The impact of the project on total health care expenditures after taking into account, to the extent practical, both costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care;
 2. The availability of State funds to cover any increase in State costs associated with utilization of the project's services; and
 3. The likelihood that more effective, more accessible or less costly alternative technologies or methods of service delivery may become available;

In making a determination under this subsection, the commissioner shall use data available in the state health plan under Title 2, section 103, data from the Maine Health Data Organization established in chapter 1683 and other information available to the commissioner. Particular weight must be given to information that indicates that the proposed health services are innovations in high quality health care delivery, that the proposed health services are not reasonably available in the proposed area and that the facility proposing the new health services is designed to provide excellent quality health care.

- E. That the project is consistent with the State Health Plan;
- F. That the project ensures high-quality outcomes and does not negatively affect the quality of care delivered by existing service providers;
- G. That the project does not result in inappropriate increases in service utilization, according to the principles of evidence-based medicine adopted by the Maine Quality Forum; and
- H. That the project can be funded within the Capital Investment Fund. 22 M.R.S.A. Sec.335 (7).

The CONU recommends that this project be **APPROVED with the following conditions:**

1. The applicant must notify the CONU when it plans to add a second CT Scanner in order to determine if a subsequent review or separate application may be required.
2. The applicant be required to report annually to the CONU the number of elopements, ambulance diversions and patient boardings that occur once this project is online for a period of three years.