Addendum A

Certificate of Need Staff Analyses

Applicant: Maine General Medical Center

Project: Construct a New Inpatient Hospital in Augusta, Consolidate inpatient services, Convert the Thayer Campus into Outpatient Facility with "Free-standing" Emergency Department and related activity.

Staff Analysis Reports **Page**

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Steven Keaten
Fit, Willing and Able
September 2010

Section A- Fit, Willing, and Able

CON Criteria

The applicant is fit, willing and able to provide the proposed services at the proper standard of care.

Project Scope

The major scope of this project proposes to build a new hospital facility located in North Augusta adjacent to MGMC's Harold Alfond Center for Cancer Care (HACCC). The new hospital would consist of 4 levels: Terrace Level, and Levels 1, 2 and 3. There is also mechanical space on the roof. The new hospital would consist of 578,140 gross square feet and would consolidate all of MGMC's inpatient beds into one location. The current hospital located in Augusta would close, the Seton Campus in Waterville would close and the Thayer Campus in Waterville would close to all inpatient services and be developed into a comprehensive outpatient facility consolidating all of MGMC's outpatient services in the Waterville area. The Thayer Campus would continue to offer 24-hour Emergency Department services, imaging and day surgery services. This project would result in a reduction of 61 licensed inpatient beds.

MGMC is currently working with Maine DOT and City of Augusta to develop plans to redesign the Exit 113 ramp off I-95 to access the new hospital location in Augusta. MGMC is working with Delta Ambulance for the transportation of patients requiring inpatient services from the Thayer Campus to the new regional hospital in Augusta. MGMC will offer a program through KVCAP/KV Transit for people of the Waterville area to commute to the new hospital in Augusta.

The new proposed hospital facility in Augusta would contain the following:

- The Terrace (Terrace Level) will consist of an inpatient rehabilitation unit with 20 inpatient beds, cafeteria and dietary department, community education, laboratory and pharmacy, sterile processing, materials management, laundry, central utility plant, receiving and staff entrance.

- Floor 1 (Level 1) will consist of an inpatient med/surgical unit consisting of 36 inpatient beds, an inpatient critical care unit consisting of 16 inpatient beds, emergency department (ED) with an ED ambulance entrance and ED public entrance, imaging services, outpatient services and clinic, library/prevention center, cardiac rehab, public support space and the main entrance.

- Floor 2 (Level 2) will consist of an inpatient med/surg unit with 36 inpatient beds, an inpatient women's services with 18 inpatient beds, interventional procedures/surgical with a PACU and patient prep/recovery, community education and administration.

- Floor 3 (Level 3) will consist of two inpatient med/surg units with 70 inpatient beds, an inpatient behavioral health unit with 30 inpatient beds, information technology and physician office space.

- The roof will consist of mechanical space.

The applicant states that the project will allow the hospital to reduce licensed hospital beds by 61 due to the higher occupancy rates afforded by the private room model and ongoing refinement in care processes. Table 1 is a comparison of existing beds to proposed beds.

Table 1					
Description	**Existing**			**Proposed**	**Change**
Occupancy	*Single*	*Double*	*>2*	*Single*	
Licensed Beds	77	204	6	226	-61
Staffed Beds					
Med/Surg Beds	30	98		142	14
ICU/CCU Beds	23			16	-7
Pediatric Beds	3	2		0	-5
Nursery					
OB/GYN Beds	18	2		18	-2
Rehabilitation Beds	4	16		20	0
Behavioral Health	2	28		30	0
Total	**80**	**146**		**226**	**0**
Nursery (Bassinets)	32			8	-24
Labor/Delivery Rooms	10			8	-2

The inpatient consolidation will not reduce the number of inpatient beds available. The new inpatient hospital will eliminate all multiple-bedded rooms.

The project does not entail any reduction in the existing capacity of the operating rooms or the emergency department at the Thayer Campus. Table 2 describes existing capacity at the Thayer Campus.

Table 2	
Description	**Existing**
Thayer	
Procedure Rooms	1
OR	7
OR/Cath Lab	0
OR/Specialty	0
Procedure/Endo/CI	5
Procedure/Cysto	1
Total	**14**
Emergency Dept. Rooms	
Exam/Treatment	20
Trauma	2
Observation	0
Total	**22**
PACU Cubicles	8
Pre-Op/Recovery Cubicles	25
Total	**33**

Table 3 compares the existing service capacity at the Augusta Campus to the proposed new regional hospital.

Table 3			
Description	**Existing Augusta Facility**	**Proposed New Hospital**	**Change**
Augusta			
Operating/Procedure Rooms			
OR	7	8	1
OR/Cath Lab	1	1	0
OR/Specialty	1	2	1
Procedure/Endo/CI	5	5	0
Procedure/Cysto	1	1	0
Total	**15**	**17**	**2**
Emergency Dept. Rooms			
Exam/Treatment	23	15	-8
Trauma	0	2	2
Observation	0	8	8
Total	**23**	**25**	**2**
PACU Cubicles	6	16	10
Pre-Op/Recovery Cubicles	14	48	34

Procedure Bronch Cubicle	1	0	-1
Total	**21**	**64**	**43**

As presented in Table 3, the proposal calls for increasing the number of operating rooms in the North Augusta Hospital by two rooms. The proposed emergency room is expected to add dedicated trauma rooms and a dedicated observation unit.

One of the major changes to the Thayer Campus involves the facility becoming a Hospital Provider-based off campus ED. This is a type of "freestanding" ED. This type of "freestanding" ED has specific requirements from the Centers for Medicare and Medicaid Services (CMS). The Thayer Campus Operating Room Suites will be utilized as an Outpatient Surgical facility. All surgical services at Thayer will become outpatient services as all the inpatient rooms will be at the North Augusta location

Applicant CON History

MGMC has the following history of CON projects:

- May 29, 1997, combined the health systems of Kennebec Health System (Kennebec Valley Medical Center, Augusta) and Mid-Maine Health Systems (Mid-Maine Medical Center, Seton and Thayer Hospitals in Waterville and C.A. Dean Memorial Hospital in Greenville).

- November 21, 1997 (amended November 6, 1998), MGMC received approval for an addition and renovation to its Critical Care and Surgery Suite at the Augusta Campus for $13,593,735 in capital costs.

- December 23, 1997, Eastern Maine Healthcare received approval to acquire C.A. Dean Memorial Hospital and Nursing Home in Greenville from MGMC.

- April 8, 1998, MGMC received approval for an expansion and renovation to their Surgical Suite at the Waterville Thayer Campus for $8,010,717 in capital costs.

- April 18, 1999, HealthReach Network became an affiliate of MGH for $500,000 in capital costs.

- January 16, 2001, a joint venture between MGMC and Maine Medical Center received approval to place a cardiac catherization lab in Augusta for $2,141,564 in capital costs.

- September 8, 2001, a Letter of Intent (LOI) was received for a Master Facilities Plan at MGMC. The LOI expired a year later because no application was submitted.

- January 14, 2005 (amended November 21, 2005), MGMC received approval to renovate their ED and Radiology Departments at both their Augusta and Waterville Thayer Campuses for $14,865,759 in capital costs.

- July 21, 2005 (amended March 14, 2006), MGMC received approval to build an outpatient cancer treatment facility in North Augusta for $35,256,276 in capital costs.

- June 1, 2006, MGMC received an unfavorable preliminary analysis on a CON application to build a new inpatient tower on the Waterville Thayer Campus for $107,299,000 in capital costs. A suspension of the application was granted on July 5, 2006 and expired a year later without further action by the applicant.

- December 11, 2006, MGMC received approval to renovate their OB/GYN floor on their Augusta Campus for $2,831,617.

There have been no CONU related projects at the Seton Campus in Waterville since the MGMC merger in 1997. According to MGMC "in July 2009, MGMC completed consolidation of its acute rehabilitation and behavioral health inpatient beds into its existing Thayer and Augusta facilities. To accomplish that consolidation required a decrease of 24 beds due to physical space limitations. With that redistribution of services, MaineGeneral reduced behavioral health and oncology specialty coverage from two campuses to one and inpatient care from three campuses to two with annual savings of $932,000."

In addition to these projects, MGMC has also recently received a "Not Subject to Review" determination for a July 13, 2009 Letter of Intent to purchase a DaVinci robot to be located at the Thayer Campus.

Licensing Standards

The applicant is licensed by the State of Maine and accredited by the Joint Commission and other professional accrediting bodies. The applicant has demonstrated that it is capable of successfully managing a large construction project as evidenced by the Harold Alfond Cancer Center. The applicant also provided evidence that they are engaged in discussions with CMS and the State of Maine Division of Licensing and Regulatory Services relative to CMS guidelines for "Provider-based Off-campus Emergency Departments". This type of Emergency Department will occur in Waterville as a result of relocating inpatient services from Waterville to the new hospital in Augusta. It will be the first such "free-standing" ED in the State of Maine. In order for MGMC to be a licensed healthcare facility in Maine, the applicant must be in compliance with CMS standards.

CONU recommends the following conditions:

Condition A-1: *The applicant must demonstrate compliance with the CMS hospital Conditions of Participation (CoPs) and provider-based regulations at 42 CFR 413.65*

or other regulations in force prior to operating the Waterville Emergency Department as a "Provider-based Off-campus Emergency Department".

Condition A-2: *The applicant will attain Joint Commission accreditation for the "Provider-based Off-campus ED" in Waterville by the end of the second full year of operation.*

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden, with the inclusion of the proposed conditions A-1 and A-2, to show that the applicant is fit, willing and able to provide the proposed services at the proper standard of care.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Larry Carbonneau and Steven Keaten
Financial Feasibility
September 2010

Section B- Financial Feasibility

CON 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 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.**

CON Analysis

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.**

Total expenditures in this project exceed $428,500,000. The applicant expects to contribute 8.2% ($35,000,000) in equity financing and fundraise an additional 9.3% ($40,000,000) towards this project, leaving 82.5% ($353,513,021) of this project to be financed from outside sources at 6% interest over 30 years. These numbers are large and tend to obscure the story of the financial viability of the project. A comparison of the scope of this project to the current financial size of MGH helps elucidate just how significant this project is.

Since the submission of the CON in December 2009, progress has been made on the fundraising assumptions that are part of the Equity Contribution Assumption of $75 million outlined on page 11 of the application. As of May 7, 2010, the Harold Alfond Foundation will provide a grant of $25 million and match donations dollar for dollar up to an additional $10 million. MGMC will launch its capital campaign during the spring of 2011 and is confident that it will raise the $10 million required to receive the total match. The $45 million is included as part of the $75 million total equity contribution from MGMC reflected in the application.

As described previously, MGMC operates two full service hospitals and one outpatient hospital on three distinct campuses. The main focus of the project is consolidating inpatient services in North Augusta. Currently, the net property, plant and equipment of MGMC total $139,850,884. MGMC increased property, plant and equipment by $68.6 million from the end of fiscal year

2006 through the end of fiscal year 2009. Property, plant and equipment are projected to increase by more than $508.1 million for the years 2010 through 2018 (year 3 of operations). Purchases of property, plant and equipment in 2008 and 2009 were $33,252,486 and $14,852,764, respectively.

Financial Results of the Project

Chart 1 represents the applicant's expected results for operating margin and earnings before interest, depreciation and amortization. The project is described as a consolidation. While consolidations can be merely a combining event, the State has a compelling interest in supporting consolidations that bring about increased efficiency within the health care system. This project is projected to save the hospital $7.1 million in operational expenditures. Section D looks closer at whether the costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care are reasonable. Based on the idea that the project will contribute some efficiency, CONU would expect to see operating margin improve. Chart 1 illustrates the annual change in operating margin as calculated by CONU based on information provided by the applicant.

Chart 1

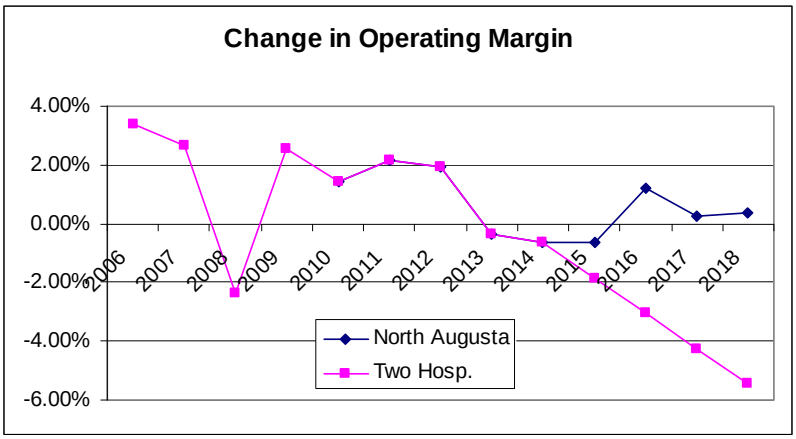
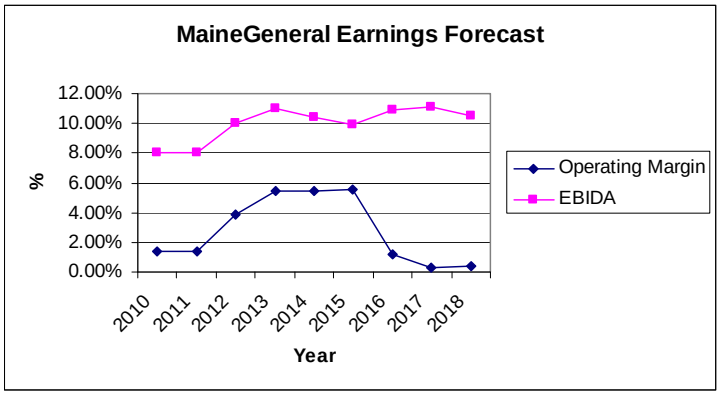


Chart 1 shows that through 2014, the financial performance is the same but starting in 2015, when the new hospital is expected to become operational, the expectation is that performance will drop off linearly from that point on if the new hospital is not built. Although it is barely above zero, the project does produce a more positive earnings margin than the current facilities.

Chart 2 looks at 2010-2018 forecasted results assuming the approval of this project. The lower line is operating margin. Once the first year of the project begins, operating margin does not improve and it worsens significantly in 2016 as compared to 2012. The reason for the decrease in profitability is that there are significant annual costs of this project, namely depreciation and interest, the expected growth in services provided are necessary for this project to achieve any level of profitability. This project has an impact on the financial viability of the hospital. It should be clear that this is a significantly capital intensive project. The profitability of this project is dependent on generating more visits, more billings and more revenue-generating activity. This, in light of occupancy projections at the higher end of the range of inpatients per population evidenced by historic data supports CONU's determination that there is a significant

likelihood that the project will not achieve positive earnings. Chart 2 is a graphic representation of the percentages included in Attachment 7 by the applicant.

Chart 2



Financial analysts utilize EBITDA, which means earnings before interest, taxes, depreciation and amortization to analyze profitability. Since this is a not-for-profit entity, MGMC uses EBIDA. The numbers are the same in the instant analysis.

EBITDA can be used to analyze and compare profitability between companies and industries because it eliminates the effects of financing and accounting decisions; however, this is a non-GAAP (Generally Accepted Accounting Principles) measure that allows a greater amount of discretion as to what is (and is not) included in the calculation. This means that companies often change the items included in their EBITDA calculation from one reporting period to the next.

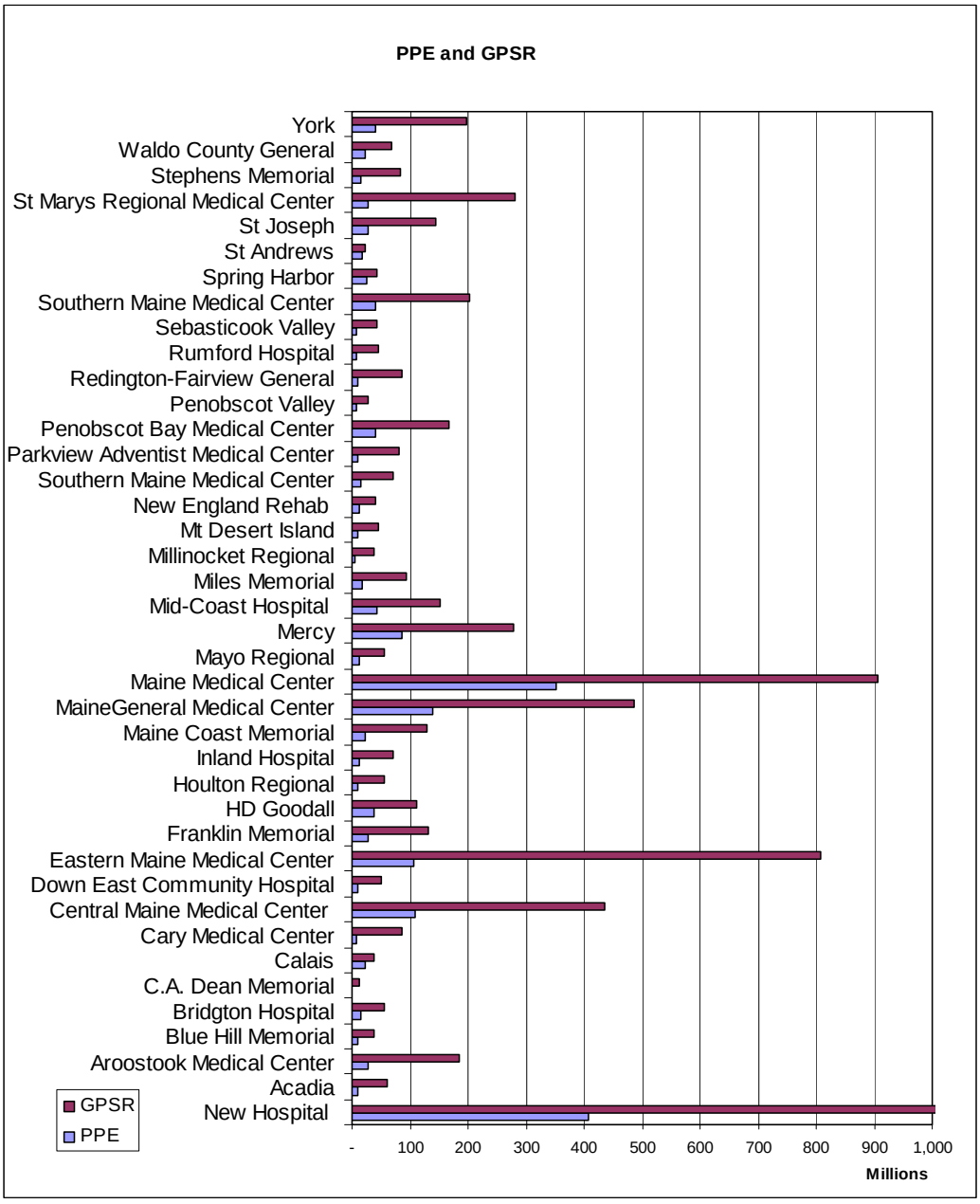
EBITDA first came into common use with leveraged buyouts in the 1980s, when it was used to indicate the ability of a company to service debt. As time passed, it became popular in industries with expensive assets that had to be written down over long periods of time. EBITDA is now commonly quoted by many companies, especially in the technology sector - even when it isn't warranted. A common misconception is that EBITDA represents cash earnings. EBITDA is a good metric to evaluate profitability, but not cash flow. EBITDA also leaves out the cash required to fund working capital and the replacement of old equipment, which can be significant. Consequently, EBITDA is often used as an accounting strategy to enhance a company's earnings. When using this metric, it's key that reviewers also focus on other performance measures because often companies are trying to minimize the substantial up-front costs of large capital projects. Because the application is for a significant capital project, CONU is including limited consideration of EBITDA to emphasize the risks of the project. There are significant financial risks to a project with large capital outlays which are dependent on increases in revenues to achieve profitability.

This project, absent the costs related to the large expenditures, may not improve margin. This is because savings generated from this project are not significant compared to revenues. The capital expenditure and subsequent activity does not produce a noticeable effect on earnings as shown in Chart 2. The lack of an effect on earnings is because capital expenditures do not generate more patient utilization, only the introduction of more physician services may increase patient utilization. The applicant has not demonstrated that the project does anything to enhance the

margin of the hospital. The improved financial performance of the hospital as demonstrated by the operating margin is mostly related to the large revenue increases predicted.

Chart 3 illustrates the effect on MGMC by undertaking this project. Chart 3 shows the gross patient service revenue (GPSR) generated for every dollar in net property, plant and equipment (PPE). The hospitals are labeled and in alphabetical order except that the 2018 MGMC hospital, labeled “New Hospital”, is on the bottom.

Chart 3

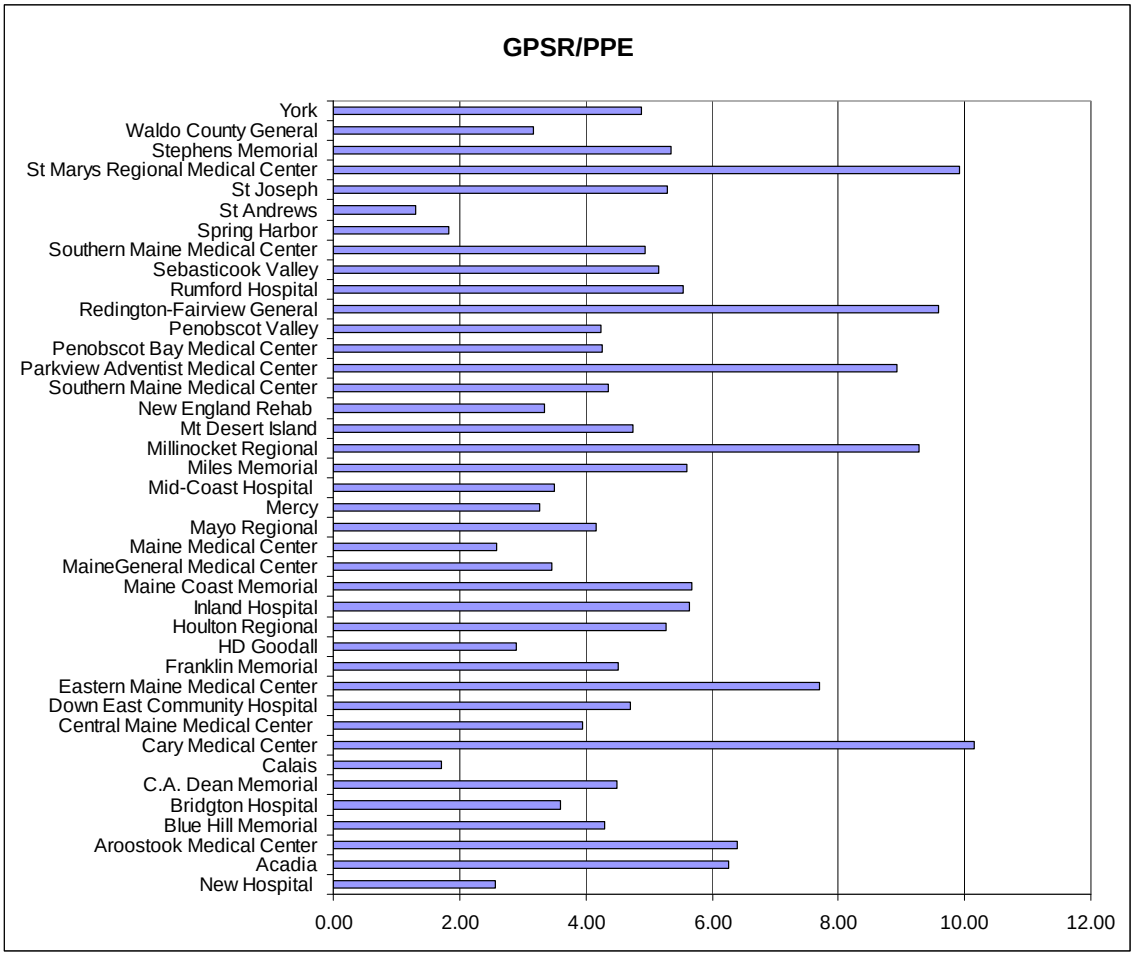


Since the new North Augusta Campus is reporting in 2018, CONU expects that GPSR should be higher for the new hospital. The 2018 MGMC GPSR is 2.14 times the GPSR of the 2007 MGMC GPSR. Excluding this proposed project, the four highest GPSRs belong to MMC, EMMC, MGMC and CMMC. MMC, as expected due to the size and scope of the hospital, is clearly the current outlier with respect to net property, plant and equipment with nearly $400 million in net property, plant and equipment. The projected increases in revenues as depicted in Chart 3 for MGMC is examined in greater detail in the CONU analysis in Section D.

Chart 4 illustrates that for every $3.47 in charges MGMC in 2007 had a $1 in net fixed assets, this shows that MGMC has relatively more net property, plant and equipment. The new hospital

by year three will be down to $2.56 in charges per dollar invested in property, plant and equipment. MMC was at $2.58, EMMC was at $7.70 and CMMC was at $3.95. As discussed in C, MGMC does not provide the same level of services that these other hospitals, especially MMC, provide. It is expected that MMC employs more technology because of some of the services it provides. Other hospitals that did poorly in this comparison are Spring Harbor, Goodall and St. Andrews Hospital. These considerably smaller hospitals are considering merger plans with MaineHealth. If MGMC is trying to improve their efficiency by eliminating overhead, this project does not demonstrate that as evidenced by Chart 4.

Chart 4

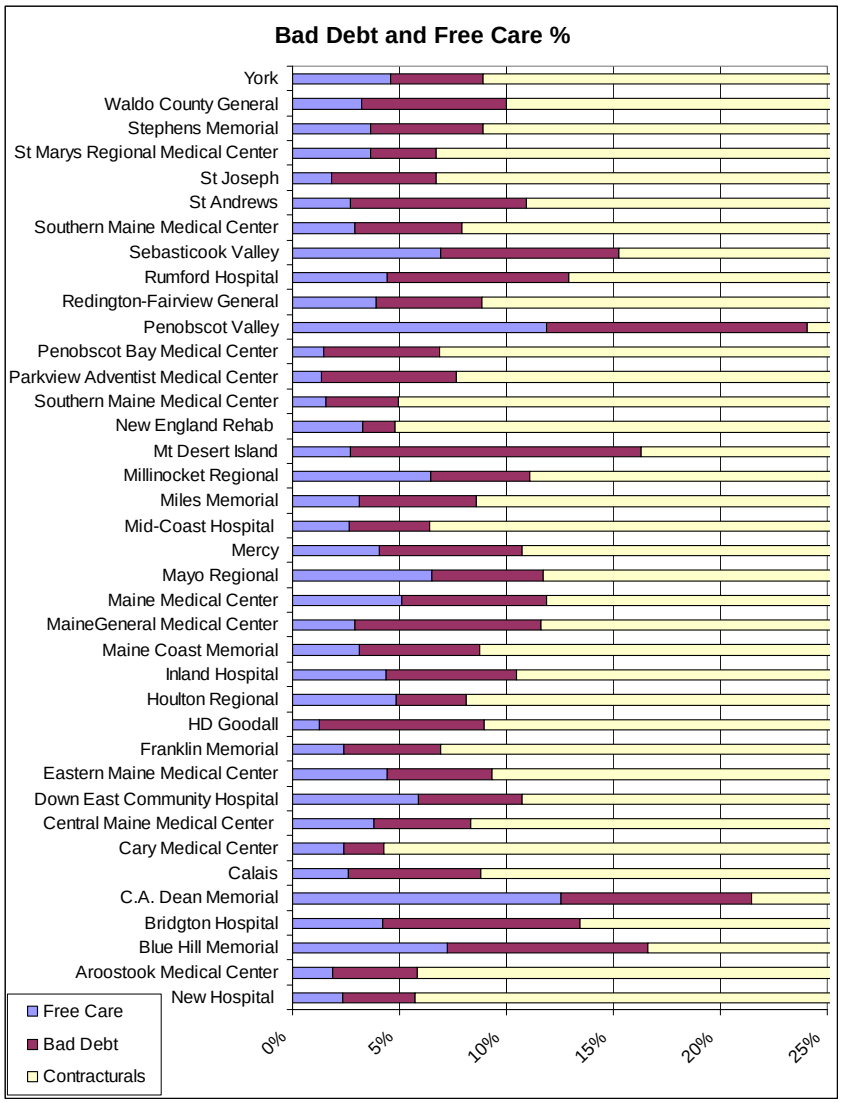


While reviewing the application in regards to the criteria in this section, CONU focused on two questions: (1) does the applicant include a financial forecast that incorporates reasonable assumptions and is the forecast completed correctly; and (2) do the forecasted financials allow for enough contingency for the project to remain successful if the goals for the project are not achieved?

The remainder of this section will discuss the first question and how MGMC plans to maintain operations and eventually improve financial results by undertaking this large project. The second question is better answered later in the review subsection entitled, Sensitivity Analysis.

In further discussion on the inclusion of reasonable assumptions in the application, the applicant's financial projection regarding bad debt and Free Care in 2018 is illustrated by Chart 5 while comparing it to all hospitals in 2007.

Chart 5



The proposed MGMC hospital has a considerably lower percentage of free care and bad debt projected in 2018 compared with its 2007 results. In 2007, MGMC's discounted services were comprised of approximately the same percentage of free care but bad debt will remain nearly at the same level indicating a decrease of 4-5%. CONU will test the impact of that assumption in the Sensitivity Analysis portion of this section.

The assumptions in the application generate a significant increase in cost per adjusted discharge day. Chart 6 shows the expected cost per admission while the lower line reflects this per day in the hospital. This indicates that there will be a significant and noticeable increased impact on costs to treat inpatients at this hospital if this project is approved. The costs per adjusted discharge per day (CPAD-D) are to increase by more than 4% annually. The Bureau of Insurance

in Section E, reports on the potential impact to regional health insurance premiums for commercial providers.

Chart 6

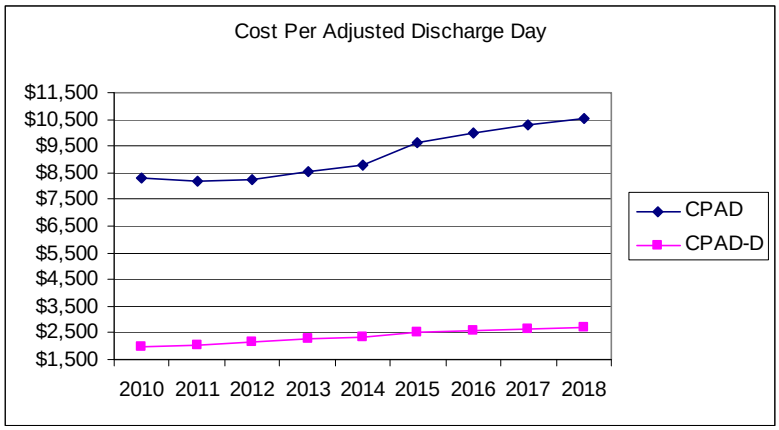
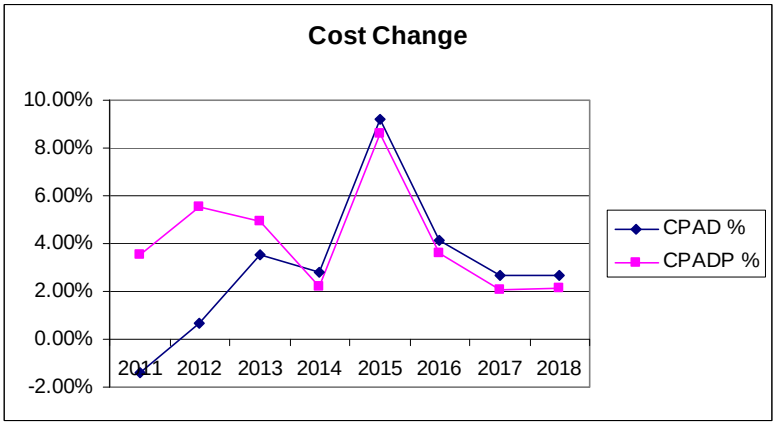


Chart 7 reflects this change and the suddenness of this increase by looking at the percentage change in costs per year if the project is approved.

Chart 7



This project will have a significant impact on the costs of providing health care in this area as demonstrated by the Bureau of Insurance analysis and the information presented above.

Incorporated Assumptions in Financial Forecast

The applicant expects revenues to increase as a result of additional recruitment of physicians. This assumption is based on the response to the HACCC. The HACCC project was one-tenth this size and was approved less than 4 years ago and has been operational for a significantly shorter time than that.

A critical component of this application is the location of the proposed facility. MGMC proposed building the replacement hospital at its North Augusta Campus where the HACCC is located. HACCC is located on Old Belgrade Road. Maine DOT is currently (April 2010) conducting an

Environmental Assessment on the Exit 113 exchange project which is part of a bigger project to improve the Exit 112 interchange and alleviate traffic congestion there. Maine DOT estimates costs of the Exit 113 interchange to be $14 million for both the interchange and improvements to Old Belgrade Road. 60% of the expenses would be borne by Federal and State sources and 40% (5.6 million) would be from local municipal sources as well as cost sharing with affected businesses. MGMC would share a portion of these costs. Currently, CONU has no information regarding the proposed sharing of costs between municipal and affected business. MGMC may be a significant portion of the traffic in the area. MGMC would have to apply for a traffic movement permit. Any significant delay in completion of that project would greatly affect the patients and the operations of the North Augusta location. CON timelines, including extensions, require that the project is fully commenced within 2 years from the issuance of a CON. The applicant is relying on a major highway project to support access to the northern Augusta location for the proposed new hospital. The highway project timelines are not controlled by the applicant. As a consequence of this significant concern, CONU recommends that the Commissioner include a condition disallowing the closing of the Waterville inpatient facility and related services until after the full exit 113 interchange is built along with the corresponding improvements to Old Belgrade Road. This condition is predicated on financial issues as well as other issues included in Section D – Orderly and Economic Development and is outlined in that section.

Financial Ratio Analysis

In an effort to sustain readability, the pertinent financial ratios, as well as financial projections are on file with CONU. The following discussion relies on the information presented by the applicant. At the technical assistance meeting held in October 2009, the applicant was presented a format with which to complete significant financial projections, including construction timelines and operating expenditures. Twenty-three ratios were developed with the applicant's submission to help elucidate the current financial position of the hospital and the impact of the proposed project on its operating and financial feasibility.

The applicant completed the financial module presented by CONU and it appears to be completed in a concise and consistent manner with assumptions and comments made in other sections of the application.

The years presented are 2008 through 2010 (audited) and 2015 and 2018 (projected). The year 2015 is the final year before the project starts. Year 2018 is the third operating year for the project. The source for Maine Industry Medians and Northeast Regional Medians is the 2010 Almanac of Hospital Financial and Operating Indicators (The Almanac). We are presenting 2008 reported numbers for comparison to the project.

There are four areas of financial ratio analysis related to the ability of the project to be successful. These ratios are profitability, liquidity, capital structure, and activity ratios.

Profitability ratios attempt to show how well the hospital does in achieving an excess of revenues over expenditures or providing a return. Generating revenue in excess of expenditures is important to secure the resources necessary to update property, plant and equipment, implement

strategic plans, or respond to emergent opportunities for investment. Losses, on the other hand, threaten liquidity, drain other investments, and may threaten the long-term viability of the organization. The profitability ratios reported here include the operating margin, which measures the profitability from operations alone, the net margin (called total margin in some sources), which measures profitability including other sources of income, and the return on total assets.

Chart 8

Financial Performance Indicators

Profitability	**2008**	**2009**	**2010**	**2015**	**2018**	**2008 ME State Median**	**2008 Northeast Median**
Operating Margin	-2.35 %	2.53 %	1.45 %	-1.86 %	-0.35 %	0.82 %	0.44 %
Net Margin	-1.33 %	-1.07 %	2.30 %	0.40 %	1.33 %	1.90 %	0.90 %
Return on Total Assets	-1.25 %	-1.09 %	2.81 %	0.55 %	0.99 %	1.56 %	1.23 %

The review of financial indicators is important because they can present a fair and equitable representation of the financial health of an organization and assist in presenting 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. These groups are based on the uppermost and lowermost quartiles of hospitals based on their return on investments. Because return on investment (ROI) is so dependent on the age of plant, this analysis chose to not specifically discuss ROI but decided instead to use that ratio to group all hospitals in regards to making a comparison to the particular project and applicant.

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. Of great concern to CONU is the determination of the reasonableness of the methodology the applicant has used in determining the appropriateness of the timing and scope of the project. Over time, capital expenditures can and need to be made in order to meet the goals expressed in the State Health Plan. CONU evaluates the applicant's ability to organize and respond to its challenges in improving and maintaining the health care system.

Nationally, operating margins declined significantly during 2008 largely due to deteriorating economic conditions with northeast hospitals weaker than other regions across the United States. Small rural hospitals are in worse financial position than any other sector of hospitals. Operating margins in the high performing hospital group have seen greater improvements in margins over the last 5 years (2004-2008) with the exception of 2008, while hospitals in the low performance 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.

The trend for operating margin in the State of Maine has been improving from a low of 2.50% in 2004 to a high of 3.52% in 2006. The average dropped significantly to 0.82% in 2008. MGMC in 2008 was -2.35%, which puts them lower than the median for hospitals in Maine.

Without this project MGMC forecasts a worsening operating loss through 2018. Operating margins are projected to decrease significantly from 2.53% in 2009 to -5.42% in 2018 if this project is not approved. If the project is approved, the project reduces the operating margin loss from -5.42% to -0.35% in 2018. MGMC forecasts a positive operating margin in 2020 if this project is approved. It seems unlikely that the hospital would not adopt additional strategies to reduce costs in order to avoid the scenario of even greater losses if this project was not developed.

The success of MGMC's project is dependent on the following: (1) expected growth in the market; (2) the ability to attract and retain doctors in an increasingly difficult market; (3) the ability to recover some of the lost services being provided by hospitals outside the service area; and (4) reducing operating costs.

An alternative mentioned by the applicant but not discussed in Section D, relates to MGMC becoming a member of MaineHealth. MaineHealth has demonstrated its ability to provide resources to ensure physician coverage and the organizational strength to reduce operating costs. If MGMC were to become a member of MaineHealth, it might expect to have the same volume of patients through physician recruitment assistance by MaineHealth, while eliminating 76% of the capital expenditures ($102 million compared to $428 million) and 81% of the debt ($67 million vs. $353 million). Other expenditures would be reduced but offset through membership fees. This project, while still encompassing new construction of physician office space and some projects, would have a CIF debit of $8.2 million compared to $21 million and reduce the amount of time needed to implement a project to ensure physicians are available in the area. If such a project were approved, the operating margin could be as high as 4.37% in 2018 instead of -0.35%.

The effect of this project on operating margins, as projected by the applicant, is an increase from -5.42% to -0.35% by the third operating year (2018). This project is expected to cause a significant impact on the operating margin on the hospital. What the projections indicate is that additional projects may not be feasible during the first years of this project.

Chart 9

Financial Performance Indicators

Profitability	**2008**	**2009**	**2010**	**2015**	**2018**
Operating Surplus	-$ 6,835,219	$ 7,615,552	$ 5,098,616	-$ 7,950,000	-$ 1,925,257
Total Surplus	-$ 3,860,055	-$ 3,206,152	$ 8,103,616	$ 1,700,000	$ 7,333,743

This table validates that MGMC has the capacity to financially support this project when taking into account total surplus of funds.

Liquidity: Current ratios and acid test ratios are indicators of the ability of a hospital to meet its short-term obligations. The acid test ratio is generally considered to be a more stringent measure because it recognizes only the most liquid assets as resources available for short-term debt; the current ratio assumes that inventory and accounts receivable can be liquidated sufficiently to meet short-term obligations. Days in accounts receivable and average payment period also are used to monitor liquidity. Respectively, they indicate the average length of time the hospital takes to collect one dollar of receivables or pay one dollar of commercial credit. Together, they can provide a cursory indication of cash management performance.

Chart 10

Financial Performance Indicators

Liquidity	**2008**	**2009**	**2010**	**2015**	**2018**	**2008 ME State Median**	**2008 Northeast Median**
Current Ratio	1.85	2.22	2.21	3.29	1.95	1.53	1.55
Days in Patient Accounts Receivable	32.06	29.96	33.37	33.59	33.54	46.2 Days	47.0 Days
Days Cash on Hand	109.73	110.84	88.62	156.31	161.81	49.6 Days	68.1 Days
Average Payment Period	40.77	43.78	40.00	35.89	35.61	53.4 Days	60.3 Days

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

Days cash on hand is a ratio that is an industry accepted easily calculated, method to determine a hospital's ability to meet cash demands. In terms of liquidity, MGMC currently has average adequate liquidity, with a payment lag of 9 days between being paid and paying for services. The Maine median average was 8 days. The average payment period stays between 2 and 13 days throughout the projection. Both of these numbers represent significantly better cash

management than the Maine Industrial average. Days cash on hand was in a range of 90-110 days historically and is projected to increase significantly during the course of the project.

Activity and Capital Structure: Activity ratios indicate the efficiency with which an organization uses its resources, typically in an attempt to generate revenue. Activity ratios can present a complicated picture because they are influenced both by revenues and the value of assets owned by the organization. The total asset turnover ratio compares revenues to total assets. Total assets may rise (or fall) disproportionately in the year of heavy (dis)investment in plant and equipment, or decrease steadily with annual depreciation. Thus, it is helpful to view total asset turnover at the same time as age of plant. Debt service coverage (DSC) is reviewed in greater detail. DSC measures the ability of a hospital to cover its current year interest and balance payments.

Nationally, 2008 marked a steep decline of cash on hand, hospitals with revenue of greater than $150 million have 89 days cash on hand. MGMC with net patient service revenue of $280 million and cash on hand of 110 days in 2008 has above the average cash on hand for its peer group. Interestingly, S & P Bond ratings showed no clear distinction between ratings and cash on hand for investment grade ratings. This may mean that high performing hospitals do attempt to control excess levels of cash on hand.

In 2006, the average days cash on hand for all sources for hospitals in the State of Maine was 49.6 days. Calculated days cash on hand for MGMC in 2006 was approximately 110 days indicating that MGMC was in the 75th percentile.

According to The Almanac, between 2004 and 2008 the average days cash on hand remained about 69 days. In 2008, cash on hand reached a five year low. Between 2008 and 2018 average days cash on hand for MGMC is projected to increase by about 52 days. In 2008, Maine had 26% less days cash on hand than the Northeast Region at 68 days. This 68 days regionally was 18 days more than the Maine average.

The impact of the proposed project is calculated to be an increase of 95 days cash on hand in the third operating year as compared to the non-CON operating projection (with and without this project). This is a significant increase in days cash on hand. Based upon information from The Almanac, this hospital is projected to be about average for days cash on hand, compared to today's industry averages, with or without the project. This is most likely an effect of not investing in the buildings maintenance at the level necessary to maintain operations if the project was not proposed. The applicant included the assumption that a significant amount of modifications to the facilities that would occur during 2011-2015 will not occur if the project is approved. This accounts for part of the reason for improved cash balances, as the applicant projected significant operating losses in the original 2012-2018 projection without the project. This project will have a substantial impact on MGMC's operating ability to meet its cash demands, because cash demands will increase dramatically. If actual cash on hand is lower, based on reduced revenue, the Cash Flow to Total Debt ratio indicates that MGMC is 50% less likely to be able to handle the cash outlays encumbered by this project. This is indicated by the reduction from 23% to 12% in Chart 11 Derived from information contained in the financial module as presented by the applicant.

Chart 11

Financial Performance Indicators

Solvency	**2008**	**2009**	**2010**	**2015**	**2018**	**2006 ME State Median**	**2008 Northeast Median**
Equity Financing	68.9 %	62.2 %	64.3 %	72.0 %	47.0 %	56.4 %	47.9 %
Debt Service Coverage	2.27	2.77	4.19	3.87	2.37	3.55	2.70
Cash Flow to Total Debt	16.6 %	16.6 %	29.3 %	23.0 %	12.0 %	18.0 %	12.5 %
Fixed Asset Financing	44.2 %	56.1 %	51.9 %	98.0 %	85.0 %	52.4 %	60.5 %

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 for the hospital. DSC is the most widely used capital structure ratio. DSC minimums are often included loan covenants. DSC is the ratio of earnings plus depreciation and interest expense to debt service requirements. In 2008, the median Maine hospital's DSC was 3.55x.

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 through, 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." (The Almanac)

Debt financing the majority of costs for this project will increase MGMC's debt financing ratio. MGMC had a DSC in 2008 of 2.27x which places it in the range of 25-75th percentile. The statewide trend for 2004-2008 has been relatively stable with a low of 3.10x in 2005 and a high of 3.71x in 2004. The trend for MGMC, in regards to DSC, has been inconsistent for the last 4 years ranging from 2.27x to 6.38x. The trend, as projected by MGMC for the time frame of this project, 2010-2018, is that DSC is expected to decrease to 3.63x by 2018 without the project. The effect of the project is a decrease to 2.37x. This is not a significant decrease in DSC and is still adequate.

MGMC has the capacity and the ability to have adequate DSC. If MGMC were to maintain its DSC at a ratio consistent with its recent history, a range of 0.50x would not impact its ability to service its loans.

The fixed asset financing ratio over the past 5 years has remained relatively consistent in the State of Maine. The proposed project financing and other projects undertaken by MGMC will

add about $310 million in liabilities to their long-term debt by 2018. In 2008, MGMC was at 44% for fixed asset financing, which is below the state average. Without significant contributions, the project may not be feasible.

Efficiency Ratios: Efficiency ratios measure various assets and how many times annual revenues exceed these assets.

Chart 12

Financial Performance Indicators

Efficiency	**2008**	**2009**	**2010**	**2015**	**2018**	**2008 ME State Median**	**2008 Northeast Median**
Total Asset Turnover	0.94	1.02	1.22	1.39	0.75	1.21	1.07
Fixed Asset Turnover	1.97	2.15	2.72	4.26	1.35	2.72	2.62
Current Asset Turnover	5.07	4.16	4.47	3.17	5.63	4.38	4.13

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: (1) larger hospitals are more likely to have newer physical plants; and (2) capital intensity is often greater in larger hospitals due to more special services and higher levels of technology.

In 2008, according to The Almanac, Maine hospitals had a TAT ratio of 1.21. For 2008, MGMC had a TAT ratio of 0.94 times, which is indicative of the relative age of the hospital actually being higher than most hospitals in Maine and is lower than expected for a community hospital but may be reasonable given the number of construction projects MGMC has undertaken recently. By 2018, the significance of the investment will indicate just how much the capital nature of this project will weigh down the hospital. The investment should not be underestimated; the failure of this hospital to attain these levels of revenue (and subsequently have an even lower level of TAT) may ultimately be an expensive lesson to the population of this service area.

In the period of 2004 – 2008, there has been a steady increase in the TAT for Maine hospitals. The expected trend for MGMC is for TAT to lower during the time frame of this project 2010-2018. This is reflective of a hospital planning to spend significant funds for capital improvements or investments in technology. This is a capital intensive project. The capital nature of this project is indicated by the fact that revenues are expected to increase by $123 million during the project time frame while expending $310 million in fixed asset purchases.

Operating costs in the third operating year are expected to increase by $41,727,257. For the Bureau of Insurance this amount is adjusted to a current value of $25,936,090. The impact on the Capital Investment Fund (CIF) is $21,017,186.

Projected demands on liquidity and capital structure are expected to be adequate to support operations. Due to the large scope of this project, financing and turnover ratios show a significant negative impact on the organization as a whole. These ratios are significantly lower because the project is capital intensive. The hospital has shown current earnings which are expected to be significantly impacted by this project; however, the project as proposed shows the hospital will remain profitable, if barely so. The limited profitability that the applicant projects for the three operating years, if continued into the future, could negatively impact the hospital's ability to react to future needs.

Sensitivity Analysis

As part of CONU's review of the financial capabilities of such a large project, consideration must be given to unexpectedly higher expenditures or lower efficiencies and/or lower revenues that may impact the profitability of the hospital. Financial solvency of this hospital is critical to meeting the health care needs of patients in the area.

A serious concern is the impact of optimistic projections of the additional revenues for this project. This project is expected to generate additional revenues to offset the costs of the project. The majority of additional costs to this project will be fixed costs resulting from depreciation and interest expenditures. The applicant has based its future increased revenues through the recruitment of additional physicians. Any reduction in revenues expected from the recruitment of additional physicians would not make this project financially feasible.

MGMC generates patient revenues in two major categories: outpatient and inpatient care. In 2018, MGMC expects to generate $327 million in outpatient revenue received as compared to $133 million in inpatient revenues. It is difficult to predict outpatient charges so far into the future, since other hospitals and sources of increased competition may develop more physician locations in the primary service area that MGMC serves now. Insurance co-pays may make it more likely that local residents seek services from other outpatient providers. These circumstances may make demand for services lower and therefore reduce revenue from outpatients. These same circumstances may also happen to other providers. The effects of competition by HACCC have undoubtedly increased outpatient revenues for MGMC while reducing revenues of other providers that would have provided some of those services before the HACCC. Inpatient revenue is approximately 30% of the revenue received by the hospital. CONU performed a sensitivity analysis on the profitability of the hospital for two scenarios that are likely to occur.

CONU defines the two scenarios as: 1) a 5% reduction in new inpatients that the MGMC forecast includes as being attributable to this project; and 2) a general 6% reduction in inpatients from the current market share related to the historical patient demand.

The first scenario looks at the impact on forecasted revenues if the applicant's forecast for new inpatients is 5% too high. CONU calculated that this scenario reduced revenues by $1,333,016. In 2018, for every $100 received for patient services, the hospital expects to spend $103. A 5% reduction as calculated by CONU would increase the operating loss by 65% to approximately $3,250,000. This reduction in services would be very difficult to counteract with reductions in staffing because it amounts to a decrease of only 490 days of inpatient services or 1.32 inpatients per day.

The second scenario is based on information included in the Noblis report (Attachment 8 of the CON Application) indicating that historical service area volumes have remained relatively stable in the 11 year period of 1998 through 2008. The service area rate has ranged from 116 to 123 discharges per 1,000 populations. This is a range of 6%. The current service area is expected to generate approximately $65 million in inpatient revenue. A 6% reduction would be expected to reduce revenues by $3.9 million. This would necessitate serious operational changes by the hospital not to reduce net assets. In 2008, the MGMC service area rate for inpatient visits dropped from 118 to 112 per 1,000. This occurred at the same time with an operating loss of $6.8 million. CONU is concerned that the project may not do enough to alleviate the volume sensitivity of the hospital.

Staffing

A large portion of the revenue increase is due to the increased number of physicians. The applicant has provided CONU with a recruitment plan to achieve its increased number of staff physicians. The strategy for increasing staff seems to be dependent on the construction of the new hospital. The hospital indicated that staff satisfaction is one of the reasons that physicians leave. Measurements of staff satisfaction as reported by the hospital appear to be above national norms. The causal link between more patients and more physicians and a new more consolidated hospital environment has not been established to where success is determinable. The following quote from the applicant appears in its response to the criteria described above

"Table 3 summarizes the primary hospital-based and specialty care recruitment that will be enabled by the consolidation into a single inpatient hospital. To be conservative, the Financial Module assumed recruitment of 22 of the 30 planned physician additions."

TABLE 3

MaineGeneral Planned Physician Recruitment (net)
Enabled by Consolidating from 2 to 1 Inpatient Settings

Primary Care	Family Practice	13	**Hospital-Based**	Emergency Medicine	1
	Internal Medicine	1		Hospitalist Service	4
	Pediatrics	2		Radiology	0
Primary Care Total		**16**	***Hospital-Based Total***		**5**
Specialty Care - Medical	Cardiology	0	**Specialty Care - Surgical**	Anesthesia	1
	Dermatology	1		General Surgery/Vascular Surgery	1
	Gastroenterology	1		OB/GYN	2
	Infectious Disease	0		Ophthalmology	0
	Medical Oncology	3		Oral Surgery	0
	Nephrology	0		Orthopedics	3
	Neurology	1		Otolaryngology	1
	Occupational Medicine	0		Pathology	1
	Palliative/Hospice Care	0		Plastic Surgery	1
	Physical Medicine/Rehabilitation	0		Podiatry	0
	Psychiatry	0		Thoracic Surgery	1
	Pulmonology	0		Urology	1
	Radiation Oncology	0			
	Rheumatology	1			
Specialty Care - Medical Total		**7**	***Specialty Care - Surgical Total***		**12**

The above chart indicates planned physician recruitment of 40 physicians (16+7+5+12). The financial plan only includes 22 of 30 planned recruitments while the referenced chart indicates 40 recruitments enabled by consolidating inpatients. Table 3 points out the wide disparity of outcomes possible from this project.

CONU recommends the following conditions:

Condition B-1: *Upon approval of this CON and semi-annually until the third fiscal year of the new hospital operation, MGMC will report, using forms approved by the Department, the results of the physician recruitment compared to the physician recruitment goals.*

Condition B-2: *Upon the approval of this CON and annually until the third full fiscal year of the new hospital operation, MGMC will not modify its existing free care policy except in response to the impact of health care reform.*

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.

Changing Laws and Regulations

The department contacted the Centers for Medicare and Medicaid (CMS) regional office located in Boston, MA regarding the certification of emergency services at Thayer as part of this project. For certification to occur, the applicant is required to meet the CMS Conditions of Participation for hospitals.

CONU staff is not aware of any other imminent or proposed changes in laws and regulations that would impact the project. MGMC presently has the organizational strength to adjust to reasonable changes in laws and regulations.

Hospitals are required by State Regulations to be in compliance with CMS Conditions of Participation. Part of the Conditions of Participation include addressing the needs of the patients, this is discussed further in Section C of this report.

Summary

The capital project places before the hospital an extraordinarily high hurdle to financial viability. The capital project assumes the need to include 226 private inpatient rooms as well as physician office space and administrative office space. The expenditures for these areas have been reviewed in Sections B, C and D.

The demonstration of the financial viability of the hospital is only possible if all material assumptions regarding services and demand for those services are reasonable. The ability for this hospital to "recapture" the patient population currently seeking services elsewhere has not been fully demonstrated. The assumption that the Harold Alfond Cancer Center will assure the success of the proposed project is tenuous but meets the minimal standard for providing assurances to the Commissioner that this major assumption is likely to be reasonable . The Cancer Center is a unique, specialty, healthcare facility with unique patient characteristics that may not transfer to the general patient population.

An underlying assumption for financial viability is dependent upon projected patient volume. MGMC expects this project to significantly improve its ability to recruit physicians. Additionally, the applicant expects to recapture part of the market now receiving services from other hospitals not in the immediate area. The sensitivity analysis performed by CONU staff demonstrates the consequences of not meeting the projected patient volume. Obtaining the projected patient volume appears to be intrinsically linked to physical plant development as proposed.

Conclusion

CONU recommends that the Commissioner determine that MaineGeneral Medical Center met the burden to demonstrate, with the inclusion of conditions B-1 and B-2, that the economic feasibility of the proposed services is demonstrated.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Larry Carbonneau
Public Need
September 2010

Section C- Public Need

CON Criteria

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

1) **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;**

2) **Whether the project will have a positive impact on the health status indicators of the population to be served;**

3) **Whether the services affected by the project will be accessible to all residents of the area proposed to be served; and**

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

CON Analysis

1) **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.**

The applicant currently has one emergency department at each of its two inpatient locations. The applicant proposes closing the emergency room at its riverside Augusta location and opening a newer, larger emergency department at the site of the new inpatient hospital in North Augusta. The applicant proposes keeping the current Waterville ED as a freestanding emergency department, or more specifically an "off-campus provider-based emergency department."

The current Augusta ED was approved in 2005 as part of a $4,335,793 CON renovation and expansion to increase the size of the ED to 10,752 square feet, including ambulance entrance bays and office space. This was completed in March 2007. The emergency room has two registration desks. Inside the ED there are four express exam rooms, two isolation exam rooms with an anteroom attached, eleven general exam rooms with one ENT exam room, one resuscitation room, and two behavioral health exam rooms. There are currently 23 total exam spaces. The waiting area and entrance to the ED are common to both a hallway connecting the

remainder of the hospital and both express and regular emergency room access. The current Augusta ED currently has 23 patient rooms dedicated to ED use; therefore, visits per Augusta ED room in FY 2009 were 1,434 (32,966 visits / 23 rooms).

The applicant did not discuss the methodology for their determination of the total size, rooms and services to be provided, except to note that the applicant relied on "The Guidelines for Design and Construction of Healthcare Facilities 2010 edition stipulates the following:

> "2.2-31.3.6 Examination /treatment room or area – A trauma room with a minimum clear floor area of 250 square feet shall be provided."

These guidelines include ranges for department area as well as low and high range for volume per emergency room/bed. For facilities reaching 30,000 annual visits the range provided by the American College of Emergency Physicians guidelines is 1,150 to 1,500 annual emergency department visits per room.

The new ED in North Augusta increases the number of trauma bays (resuscitation) from one to two. The new ED reduces the isolation exam rooms from two to one. There are fourteen universal exam rooms, one GYN room, one isolation room, two trauma rooms, one seclusion room and eight observation rooms for a total of 27 proposed exam spaces in approximately 19,773 square feet. This is nearly twice the space of the old ED in Augusta. The applicant provided a consultant's report from Noblis (NOBLIS), "MGMC Volume Projections – Inpatient and Outpatient Services, Final December 8, 2009 as attachment 8. Additional information provided by the applicant on August 12, 2010 made several adjustments to the projections resulting in an estimated 41,630 ED visits in Augusta for 2018 (this is a reduction of 2,035 visits from the original submission. Projected ED visits per Augusta ED room in FY 2018 are expected to be 1,541 (41,630 visits / 27 rooms). For facilities reaching 40,000 annual visits the range provided by the American College of Emergency Physicians guidelines is 1,212 to 1,600 annual emergency department visits per room.

The Thayer ED was expanded as part of the same 2005 CON as the Augusta ED. The expansion increased the Thayer ED to 15,118 square feet, including an ambulance bay, office space and separate entrances for ambulances and walk-in patients. There are two triage desks. Inside the ED there are two isolation rooms attached to an anteroom, eighteen general exam rooms and two trauma rooms. There are 22 total exam spaces. According to the Noblis Study, MGMC's total Waterville ED visits were 32,208 in FY 2009. The Thayer Campus in Waterville currently has 22 patient rooms dedicated to ED use; therefore, visits per Waterville ED room in FY 2009 were 1,464 (32,208 visits / 22 rooms).

Once the new Augusta Emergency Department opens, the number of ED visits at the Waterville ED is expected to decrease from around 32,000 visits annually to about 26,000 in 2005 and then in 2018 approach 21,000 visits. It is estimated there will be a total of 21,087 ED visits at the Waterville facility in FY 2018. The application states there are no changes in ED design planned for the Thayer Campus; therefore, there will be 22 rooms at the Thayer Campus that are dedicated to ED use in the projected fiscal year of 2018. MGMC's visits per Waterville ED room in FY 2018 are projected to be 958 (21,087 visits / 22 rooms).

As can be seen in Chart 8 the new Augusta ED utilization is within the recommended range suggested by the American College of Emergency Physicians. The projected 958 visits per ED room in Waterville are indicative of a less efficient ED that contains an excess amount of unused capacity when compared to the recent standard.

Chart 8

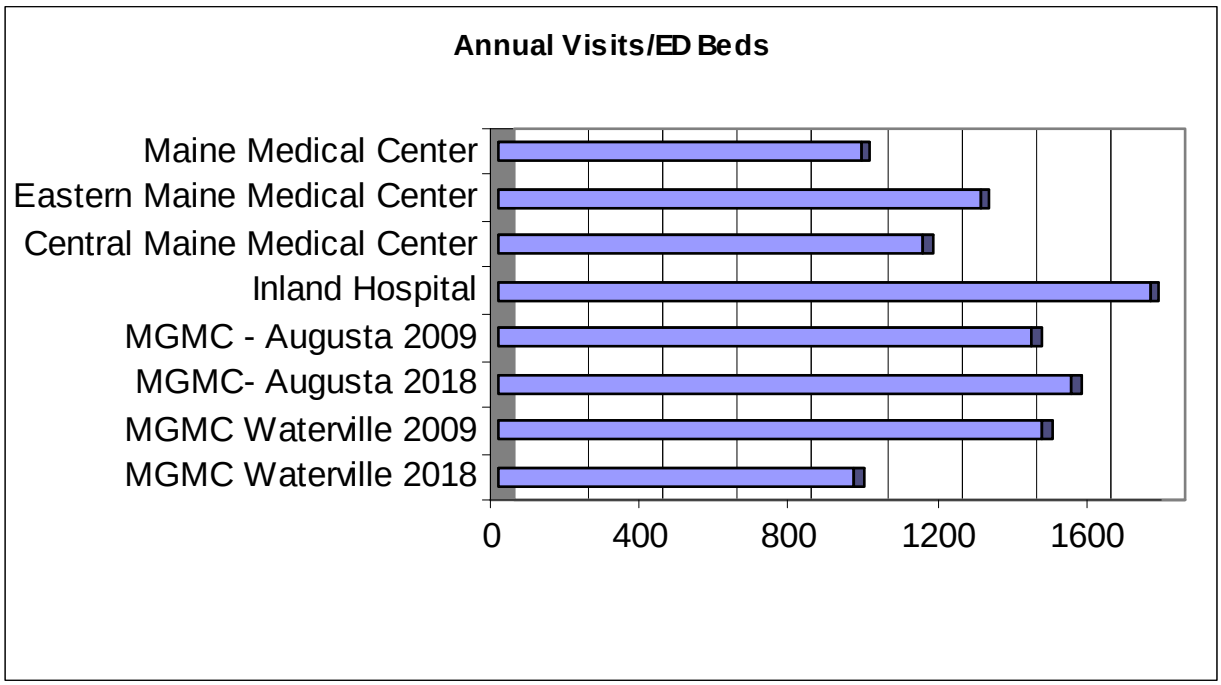


Table 4 depicts the annual visits per ED bed at the existing and planned Augusta and Waterville facilities. For comparison purposes, ED room utilization data from recent CON submissions from Maine Medical Center, Eastern Maine Medical Center, Central Maine Medical Center, and Inland Hospital are included. Table 4 indicates that MGMC's Waterville ED in 2018 is projected to be the second least efficient ED in terms of visits per ED room. Inland Hospital currently has a high ED utilization rate which may mean that Inland hospital does not have the capacity to absorb a significant number of patients from the Thayer facility.

Table 4

Hospital	Annual Visits/ED Bed	ED Visits	ED Beds	Year
Maine Medical Center	975.81	60,500	62	2012 (Projected)
Eastern Maine Medical Center	1,294.18	44,002	34	2007 (Projected)
Central Maine Medical Center	1,141.30	52,500	46	2007 (Projected)
Inland Hospital	1,750.78	15,757	9	2007 (Projected)
MaineGeneral Medical Center (Augusta)	1,434.61	32,996	23	2009
MaineGeneral Medical Center (Augusta Post Project)	1,541.85	41,630	27	2018 (Projected)
MaineGeneral Medical Center (Waterville)	1,464.00	32,208	22	2009
MaineGeneral Medical Center (Waterville Post Project)	958.5	21,087	22	2018 (Projected)

The applicant provided substantial information regarding ED use in the service area. The Noblis Study indicates a shift of ED patients from Waterville to Augusta which explains much of the large decrease in ED patients at the Thayer Campus and the large increase in ED patients at the Augusta Campus. This shift begins in FY 2015, the year the new Augusta facility is planned to become operational.

The Noblis Study uses the following assumptions regarding volume shifts to Augusta:

1. "Identified border communities (by zip) that were equally distant from each campus. Assume that all Waterville ED discharges from these zip codes will be treated in the new Augusta facility after opening.
2. Identified patients who reside in Augusta service area communities but were treated in the Waterville ED. Assume that all of these patients will be treated in the new Augusta facility after opening.
3. Calculated inpatient admission rates by ED visit level and assume that all ED visits which result in an inpatient admission (for visit levels 4 and 5) will be seen in the new Augusta facility after opening. In the draft, used FY 08 admission rates as proxy for FY 09 experience – waiting for FY 09 detail extract to calculate FY 09 admission rates by level. Assume that all Critical Care visits will take place in Augusta. Assume that an additional portion of the more acute visits (visit levels 4 and 5) will begin to migrate to Augusta – 10% per year for visit level 4 and 15% per year for visit level 5 after opening.
4. Assumed no impact from Inland."

MGMC had 32,208 visits in their Waterville ED in 2009. The Noblis Study estimates that based only on demographics, the Waterville ED would have increased ED volume by 3,970 visits between 2009 and 2018. As a result of MGMC implementing their Advanced Medical Home Model, the Noblis Study estimates that the impact on the Waterville facility will be a decrease of 4,493 visits in 2018 from the estimated base. The combined effect of volume shifts from the first two assumptions is a decrease of 5,194 visits in 2018. The impact of the third assumption is expected to result in 254 critical care cases and 5,152 cases from levels 4 and 5 shifting from Waterville to Augusta.

Higher level acuity cases will be shifting to the new Augusta facility. The more complex cases to be handled at the new Augusta facility are likely to require more time in the ED and more resources. These cases have the potential of reducing ED throughput. At the same time, the remaining cases in Waterville will have a lower level of acuity.

The applicant is predicting a 26% increase in patient volumes in Augusta that will be treated in 17% more rooms. There is an expected 3% increase in level II cases while level III cases are expected to decrease by 6%. Level 4 cases are expected to increase 52% while level V cases increase by 85%. The number of critical care cases treated in the Augusta ED is expected to double.

In the fourth assumption, the Noblis Study assumes no patients will migrate from the Thayer facility to Inland Hospital when the Thayer ED becomes a "freestanding" ED. Some patients

who currently would go to the Thayer ED to receive services are likely to choose to go to the Inland Hospital ED.

Maintenance of an emergency department in Waterville

The applicant did not incorporate the use of Urgent Care facilities into the analysis. The applicant did include information that demonstrates a general decrease of patients presenting to the ED because of its AMH program.. The applicant did not expand upon the ability of an urgent care initiative to further reduce the need for a Waterville ED.

The application discusses the Waterville ED with one sentence. The application stated, "…responding to the public's concern and the responsibility of our role as the largest provider of emergency services in the state, we chose to maintain a 24/7 fully staffed emergency department at Thayer." The applicant did not fully develop an analysis for the need for an emergency department in Waterville. This is especially true in the area of fully considering extant options in the Waterville community. The applicant discussed the role of "freestanding" ED services generally but did not discuss a "freestanding" option related to the actual case under consideration where another hospital is closer to the area where the "freestanding" ED is expected to be located.

Because the costs of developing the "freestanding ED" are minimal and the elimination of the ED is Waterville at this time is unwarranted, CONU is recommending that the CON approval contain the following condition.

> **Condition C-1**: *The applicant will demonstrate sufficient ED visits at both the Thayer and Augusta EDs to comply with the most recent guidelines published by the American College of Emergency Physicians. To support this demonstration, the applicant will provide quarterly utilization data for its emergency departments on forms approved by the Department. Failure by the applicant to demonstrate compliance with this range for four consecutive quarters will trigger a subsequent review following approval pursuant to 22 MRSA 332(1)*

Inpatient Rooms

The effective bed occupancy for the current facilities and the replacement facility is the same. This calculates to 72% (x-days 226 365) for 2018. The hospital will be in the 75th percentile for hospitals with 150 to 300 beds. The percentile is based on a 2005 survey completed by the American Hospital Association. The effective occupancy metric represents the average percent of time a hospital's beds are occupied across a given year

MGMC's current licensed bed capacity is 287. The number of staffed beds is 226. The applicant is reducing the number of licensed from 287 to 226 and is replacing 226 beds in 73 semi-private and 80 private rooms with the same number of beds in 226 private rooms. The applicant indicates that the total number of staffed beds will not be reduced by this project.

As commented in The Health Care Advisory Board - Facility Innovation Brief in 2007, on file with CONU entitled "Hospital of the Future", there are widely acknowledged benefits to private rooms. The report identified the consensus is growing among architects and facility planners that

benefits of private rooms include reduced likelihood of medication errors and hospital-acquired infections, fewer patient transfers, and lower noise levels. Additionally, the report also mentioned that private rooms increase patient and family satisfaction ratings. Building all private rooms versus double rooms adds approximately 14% to the cost of building patient spaces. The report also points out that investing in private rooms allows for the potential for higher bed utilization. This is attributable to issues with roommate compatibility such as gender and age, as well as isolation for infection control. Hospitals can sustain a higher occupancy level with all-private rooms than with a mix of private and semi-private rooms. The applicant has proposed replacing the current configuration of 146 beds in 73 rooms with 146 beds in 146 rooms. The current facilities have 80 other beds contained in single rooms. The applicant forecasted an expected number of bed stays in the information provided by the original application materials. CONU determined that this reflects an impatient efficiency rate of 72%. Based on that information as many as 40 rooms could be eliminated from the plan and forecasted need for beds would still be met. The reduction of the inpatient services by 40 beds would increase effective bed occupancy to 87%. This effective bed occupancy is within the cited sources guidelines. The plan for 226 beds in single rooms exceeds the need demonstrated.

On August 20, 2010 the CONU received additional clarifying information from the applicant in regards to its bed need. The applicant stressed that the bed need analysis was developed considering both the 2008 ALOS of 4.84 days as well as the projected 2018 rate of 4.11 days. The applicant provided additional insight into its bed need methodology. The applicant identified that as much as possible it designed the hospital to consider a 4-bed multiple for nurse staffing and 12-bed multiples for support space. These multiples are the most effective use of operation resources according to the applicant. The applicant has specific specialties that make up its 226 bed hospital bed application. These are shown in the following chart.

Applicant Proposed Inpatient Beds

Unit Type	Beds
Medical/Surgical	142
Rehabilitation	20
Behavioral Health	30
Critical Care	16
OB/Pediatrics	18
	226

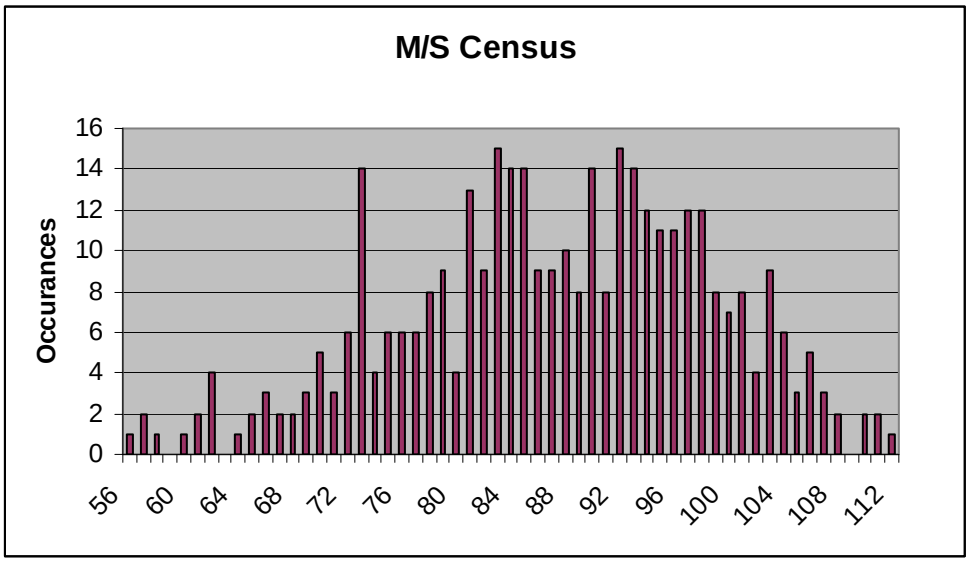
In regards to the specialties, the units are small enough that any occupancy issues do not rise to a material level for the purposes of CON. The remainder of this section will discuss the 142 bed request for Medical/Surgical Units.

The applicant expects to have 12 med/surg pods with 3 pods each on levels 1 and 2, a 3rd 3 pod unit on Level 3 and because of structural issues a 34 bed unit with two 12 bed pods and one 10 bed pod.

There is expected to be two sub-specialty groups in the M/S population: a 12-bed oncology pod and a 6-bed sub-pod for joint replacement. These two sub pods are expected to generate nearly

4,000 bed days. It appears that the 6-bed sub-pod for joint replacement is used on a Monday to Friday schedule and is available for weekend surge coverage.

The applicant provided a census table recreated below that showed the census for med/surg patients per day (the original table did not indicate for what year but included 31,848 days)



The data shows that for the population served there is a wide variation in the population of med/surg inpatients in the hospital. For 91 days (24.93%) the daily census was less than 80 patients or between 39% and 56% occupied. Conversely, at other times of the year there were more than 99 patients for 52 days (14.25%). This would generate occupancy of between 70% and 78%. 20% of the days spent in the hospital occur with occupancy less than 56% and 17% of the days occur with occupancies greater than 70%. 62.5% of the days spent in the med/surg units occur when the med surg unit is between 56% and 70% occupied.

The applicant expects that 2018 admissions are to be at 32,596 admission days for med/surg but also suggest that ALOS not reach 4.11 but reach 4.28 (50% of the expected drop) that admission days were to more likely be 33,945. This increase would most likely shift the whole graph to the right by 6 places. This means that the range of admissions is more likely to be 64 days to 118 days. This would mean than 62% of the time that occupancy would be less than 60%, 62% of the time that occupancy would be between 61% and 72% and the remaining 17% of the time occupancy would be between 73% and 83%.

If it was proposed that the hospital be built with 34 less med/surg beds occupancy in 2018 would be expected to be below 78% one-fifth of the time and between 78% and 97% sixty percent of the time. There would be 25 days that the med/surg population would exceed the 108 beds. This overpopulation is statistically expected to not exceed 10 patients on any given day. This overpopulation may be addressed in some of the other 80 beds in the facility, but would not be ideal. The bed efficiency ratio at 108 beds would be between 83% and 86% for med/surg beds.

The applicant suggested in Attachment H of its August 2010 filing that the cost of building the 10 and 34-bed reduction at a later time were more than twice the cost of building them. This statement is not entirely accurate. The comparison of the dollars expended should be shown in the same dollars and not by comparing inflated dollars to current dollars. The additional construction cost of delaying a 10 bed addition is $924,186. The additional construction cost of delaying a 34 bed addition is $3,058,239. This is a percentage increase of 79% for the 10 bed addition and a 68% increase in the 34-bed addition. This analysis does not consider any operational savings from not having to heat and clean and maintain underutilized space.

It is difficult to determine the appropriate size for the medical/surgical bed units without being involved in the actual operating process. The information described above clearly indicates that there is a significant underutilization problem with the proposed application but CONU is aware of the decision making process utilized by the applicant and understands but does not agree that this application is the only solution. The applicant provided the information in Chart 9 as part of Attachment H in materials received on August 20, 2010. . The lost savings from reducing the med/surg service by only 10 beds instead of 34 is $2,134,053.[1] The applicant determined that removing 34 beds from the med/surg service would reduce construction costs by $4,475,475. The cost to the applicant for delaying the 34 bed unit is $7,533,715.[2] The applicant should be permitted to choose the option they want to achieve needed savings for this project.

Chart 9

SMRT New Hospital Bed Reduction Summary

	Description	Total Add/ Deduct
Deduct 10 Beds		-$1,166,480
Add 10 Beds Future	Assume 1.16 inflation factor	$2,425,173
Deduct 34 Beds		-$4,475,475
Add 34 Beds Future	Assume 1.16 inflation factor	$8,739,109

It is the recommendation of CONU that the commissioner include the following conditions to ensure that the application consists of only needed projects.

Condition C-2: *The applicant shall reduce the med/surgical capacity by 34 beds to achieve the most recent range of efficiency recommended by the Health Care Advisory Board or other source acceptable to the Department and reduce the associated project cost.*

Condition C-3: *The applicant will demonstrate sufficient inpatient bed stays per year at the new Augusta campus to attain effective occupancy according to the most recent guidelines published by the Health Care Advisory Board. The applicant will provide annual utilization data for its inpatient beds on forms approved by the Department. Failure by the applicant to demonstrate the required number of bed stays per year, for two consecutive years, will trigger a subsequent review following approval pursuant to 22 MRSA 332(1).*

Operating Rooms in North Augusta

[1] This is the difference in future cost expenditures for the 34 bed and 10 bed reductions in current dollars.(8,739,109/1.16-4,475,475)-($2,425,475/1.16-1,1,66,480).
[2] Current Value of $8,739,109/1.16.

The financial module contained in the application has a worksheet to review OR construction projects. Without the information requested on the CON worksheet it is not possible for CONU to confirm the applicant's assumptions. The applicant proposed to include two additional OR's in its new Augusta location. Because of the lack of information CONU is recommending that the Commissioner include the following condition.

> **Condition C-4**: *The applicant must provide historic and projected utilization to demonstrate the need for two additional ORs at the new Augusta hospital.*

Operating Rooms in Waterville

The applicant has no plans to change the existing OR space in Waterville even though the focus of the Waterville Campus is changing from combined inpatient and outpatient services to solely outpatient. It appears likely that there will be an overabundance of ORs available in the facility if inpatient care is transferred to North Augusta.

Outpatient facilities and major medical equipment

The applicant did not propose the reduction of capacity or equipment as a result of this project The applicant proposes an additional CT machine based on Attachment 29. This attachment lacked sufficient information to validate the need for an additional CT. As a consequence the CONU is recommending that the CON contain the following condition.

> **Condition C-5:** *The applicant shall remove the new additional CT machine and associated costs from the proposed project.*

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

"Hospital of the Future" identifies the top 5 drivers of Hospital Construction Boom. These five drivers are listed in the order of most given response by Hospital Executives in a 2006 survey (executives could choose more than one response.) These Drivers were identified as:

- Aging Facility - 68%
- Improved Efficiency - 62%
- Competition - 51%
- Population Based Need - 48%
- Increase Market Share - 47%

The applicant has identified four of these as concerns. A less strong impetus for this project is population based need. The application does not suggest that certain hospital-based care is lacking in the area. The applicant has suggested that some patients, for a variety of reasons including the lack of MGMC affiliated doctors in the area, are traveling outside the service area for treatment. The applicant has not demonstrated or suggested the need for an expansion of any services based on a community based need.

Service Area

MGMC describes its service area as the "Kennebec Valley". In the application they state that the population in MGMC's combined primary and secondary service area represents 100% of Kennebec County, 87% of Somerset County, 24% of Waldo County, 20% of Lincoln County, 8% of Sagadahoc County, and 3% of Knox County population. The applicant makes a significant distinction between Southern and Northern tier areas for primary care. The applicant's service area is divided into primary and secondary service areas. Primary areas are defined by the applicant as areas where they provide more than 50% of the services, secondary areas are areas where MGMC provides more than 15% but less than 50% of the service. For MGMC, 77 % of inpatients come from the primary service area and the remaining 23% from its secondary service area. Little discussion is included in the application regarding the other three hospitals located in this service area and the steps these other providers are taking in order to work on health needs of the communities served.

MGMC's definition of service area causes several problems. As an example, if CONU were to apply the MGMC service area definition to other hospitals in the region, Inland Hospital would have no primary area and would be limited to a secondary service area of Oakland, Waterville and a small area of towns stretching from China Village to Unity. MGMC's approach to defining their service area is problematic in conjunction to a system-wide approach for the region.

From an economic standpoint the applicant underestimates the region in which they provide services in. This underestimation deemphasizes a critical mass of patients MGMC currently serves. Economists suggest that the area where 90% of an economic activity arises is a suppliers service area. MGMC would need to undergo dramatic change if more than 10% of its inpatients went elsewhere.

In Exhibit 17, Jennings, Ryan & Kolb on page 14, graphically describe the region identified by MGMC as their service area. This area does not stretch west to Lewiston and East to Bangor even though these areas are included in CONU's map of MGMC's 90% service area. This larger area is currently served by MGMC in some capacity and is a critical to its financial results. MGMC is patient sensitive and cannot afford to limit services to patients within their self-designated, limited, service area. The implications of a smaller service area are that critical needs may be unidentified. Persons located in these areas that are in the 90% service area and outside of MGMC self-described service area need to be considered. The implication is that patients have more choice not less. As a community hospital MGMC will never provide all of the medical services needed in one area. Still, progress towards MGMC goals are continuing, at the Public Hearing for this project a new cardiothoracic surgeon was introduced and spoke about his decision to relocate to the Kennebec Valley. MGMC will be attempting to recruit physicians to provide more specialized services. It is unlikely that MGMC will be able to expand upon the 90% Service Area described previously but it is likely that MGMC will expand its own secondary area.

The 2000 Community Health Profile for Kennebec and Somerset Counties indicated that the risk factors for these counties are similar to the state average. In 2005, MGMC commissioned the

Public Health Research Group (PHRG) to conduct an independent Health Care Needs Study for the service area of Kennebec and Somerset counties. Certain differences in the two county areas were significant compared to statewide averages. For instance, the population changes in the counties, 1.1% in Kennebec and 2.3% in Somerset, were significantly lower than the state growth of 11% from 1990 to 2000. Population growth projections for 2000-2015 were also significantly lower than the State: 4.7% in Kennebec, 5.7% in Somerset and 11.3% in the state. The 2005 PHRG Study pointed out that socioeconomic conditions were less conducive to good health in Somerset County than for Kennebec County and the State in general. Somerset County residents were more likely to not have access to primary care physicians.

The 2005 PHRG Study suggested that Ambulatory Care Sensitive (ACS) Hospital Admission rates are sometimes used to approximate need. The ACS admission rate for patients aged 65+ was higher in Somerset County than in Kennebec County and in the State.

The 2005 PHRG Study indicated that primary care prevalence in Kennebec County appeared to be adequate; however, it called for more outpatient services for substance abuse problems as evidenced by a high substance abuse related hospital admission rate. Overall, the likelihood of co-occurring mental health and chronic disease diagnoses among residents in Kennebec and Somerset counties is greater than in the state overall. The data available to the 2005 PHRG Study indicated that reproductive health services in the region are available and utilized. In terms of pediatric health, the data indicated that primary care is very good.

The additional materials provided by the applicant are a good start to the applicant's program to report the positive impact of the project on community health. In order for this positive impact to be monitored by CON, it is recommended that the Commissioner include the following condition.

> **Condition C-6:** *Upon the approval of this CON and annually for a 3-year period following the opening of the Augusta facility, the applicant will provide data and statistics regarding the project's impact on improving public health indicators on forms approved by the Department.*

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

MGMC attempts to satisfy this criterion by demonstrating their commitment to cancer patients from "northern tier" communities. To meet their needs, MGMC instituted a van service between its Thayer Campus and the HACCC in 2007. The annual operating cost of that service is $35,000. The service is free to patients and their families. After the opening of the new regional hospital that service will be replaced by a fixed route KV Transportation service. Waterville is not the "northern tier" of MGMC's service area and is centrally located when looking at the service diagrams that are part of Attachment A. This expenditure for transportation will increase from $35,000 to $100,000 annually.

A concern for access includes transportation and roads. MGMC has arranged for transportation to and from the campus through KVCAP. MGMC is also engaged in discussions with the Maine

DOT regarding redesigning the entrance and exit ramps for I-95. This will allow traffic to exit the highway and proceed directly to the new hospital. A factor for a CON approval is accessibility to services, in this case, road accessibility. The applicant has stated an anticipated estimated date of completion "in the fall of 2013 in advance of the new regional hospital opening." This is important to ensure adequate access to inpatient services.

CONU recommends the following condition:

> **Condition C-7:** *The applicant shall not close the inpatient services at their Waterville Thayer Campus prior to the completion of the interstate exchange.*

To minimize patient disruption and maximize access to outpatient diagnostic and treatment services, MGMC chose to maintain most of the "northern tier" outpatient operations at the Thayer Campus. This is despite clinicians' preference for a single consolidated facility, discussed in D of this report. Outpatient diagnostic and treatment services constitute the vast majority of patient's medical care. In additional information provided by the applicant, MGMC attempted to explain how its proposal will reduce the need for specialists to cover both emergency rooms. Evidence of communications between the applicant and regional staff of CMS regarding achieving the standards of participation necessary for this portion of the project to be licensed has been provided. CMS standards of participation require specialist coverage at all off-campus emergency departments. As with all CON applications, licensing standards need to be met.

MGH has incorporated the CarePartners program which provides $375,000 of free medical care, pharmaceuticals, and case management services to 500 individuals annually as well as arranges for patients to acquire an additional $300,000 in free pharmaceuticals from drug companies. This commitment has been ongoing for ten years. 92% of the medical staff participates in the program. MGMC has reported $12,982,711 worth of free medical care to CarePartners enrollees. That care included 30,164 office visits.

A major impediment to healthcare access is the cost of care. Hospitals in the State of Maine are required by statute to provide Free Care to patients whose income is at or below 150% of the Federal Poverty Level for necessary services. MGMC's free care policy guidelines exceed statute by providing free care to patients below 175% of the FPL. In addition, MGMC provides discretionary write-offs of 50% to patients at 176-200% of the Federal Poverty Income Guidelines and 25% for patients at the 201-225% level. MGMC's free care charges for services provided without reimbursement was $6.6 million in 2007 and increased to $8.7 million in 2009. The applicant did not indicate whether their policy will remain the same throughout this project. Based upon information provided by the applicant, it appears that the volume of free care is projected to decrease significantly as a percentage of care provided.

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

The applicant failed to address specific health concerns of the area or speak to specific conditions that will be improved as a result of the project. Much of the variation in health status indicators are in areas outside the primary service area of this hospital. The 2005 PHRG Study

shows that more care needs to be provided in the northernmost region of the service area. The applicant has not demonstrated that the service area is lacking in care. The development of a new facility will not necessarily improve care on its own.

MGMC has been a major financial and human resource contributor to the Community Dental Center in the Waterville area. For the past two years MGH has been involved in the "From the First Tooth" project, as previously described, serving as its fiscal agent to expand access, through MGHA primary care practices, to oral health education, examinations and fluoride varnish to reduce early childhood cavities. In addition, the MGMC family practice residency program has taken leadership in providing training to its residents in both oral examinations and tooth extractions to improve access.

Based on earlier community needs survey findings, MGMC has a long history of educating staff in how to look for the signs of domestic violence and how to intervene. Those efforts are ongoing in both the hospital and in the primary care practices.

"Sexual Assault: MGMC has provided leadership to secure funding for training in sexual assault patient management and support with its SAFE/SANE program. This program is training a core group of certified providers to implement a 24/7 on-call program to ensure that all sexual assault victims presenting to the four hospitals in MGMC's primary and secondary service area have the benefit of timely and optimal care."

The rationale for this project is to strengthen and create a sustainable MGMC so that it can continue to make measurable improvements in the health of the people of this region.

MGMC identified seven areas where they hope to quantify their impact on public health. They are as follows:

1. "Success of recruitment strategy predicated on consolidation to one inpatient setting
2. Performance at the 75% to the National Committee for Quality Performance (NCQA) standards and guideline indicators for the 3 practice venues employed by MaineGeneral participating in the Advanced Medical Home Pilot
3. Impact of Evidence Based Design strategies with converging findings from multiple rigorous studies.
4. Impact of care models, 1 in-patient hospital, information technology, and culture on quality, safety and satisfaction performance.
5. Impact of strategies on ED utilization in all MGHA practices
6. Impact of the creation of a "culture of health" at the new regional hospital
7. Enabling more Kennebec Valley service area residents to receive care that is appropriate close to home, as measured by MGMC inpatient market share."

Unfortunately, the applicant mixed up activities, outputs and outcomes. The applicant did not present a plan to connect the input (the new facility) to activities, outputs and outcomes in a cohesive manner. Additional information provided in an August 26, 2010 submission indicates that a plan to monitor and measure these outcomes does exist. As a condition of approval for this project, CONU recommends that the applicant be required to report annually on its ongoing

participation and impact of hospital-sponsored programs to positively impact public health. This condition may be satisfied with participation in the newly developed Health Incentives for System Savings (HISS) program being developed by the CONU. The HISS program has been incorporated into the 2010 – 2011 State Health Plan. The proposed condition is as follows:

Community Impact

The application does not address the hospital's plan to educate the community to provide for informed decision-making by patients seeking emergency medical care.

CMS published clarifications of the requirements for Provider-based Off-campus Emergency Departments (S&C-08-08). The S&C-08-08 memo states: "CMS encourages hospitals with off-campus EDs to educate communities and EMS agencies in their service area about the operating hours and capabilities available at the off-campus ED, as well as the hospital's capabilities for rapid transport of patients from the off-campus ED to the main campus for further treatment. This is particularly desirable in the case of off-site EDs that are closer to another hospital than to their own main campus, as a way to facilitate informed decision-making by patients choosing where to seek emergency medical care and by EMS providers transporting patients in need of emergency medical care."

As a condition of this application, CONU recommends that the applicant develop a program to provide educational materials to health professionals in the service area as well as a general community education program to educate professionals and potential patients of the Waterville ED once it becomes freestanding. This condition should be met six months before the Waterville ED is re-opened as a free-standing ED. The condition is as follows:

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden, with the inclusion of the proposed conditions C-1 through C-7, to show that there is a public need for the proposed project.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Richard April, Steven Keaten and Choanna Givens
Orderly and Economic Development
September 2010

Section D- Orderly and Economic Development

CON Criteria

Relevant criteria for inclusion in this section are specific to the determination 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 the 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.**

CON Analysis

1) **The impact of the project on total health care expenditures after taking into account, to the extent practical, both the costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care.**

The applicant identified several challenges to maintaining its current scope of medical services including:

- Recruiting an adequate number of primary care and specialty physicians;
- Subsidizing primary care practices;
- Patients leaving the service area to obtain medical services; and
- High maintenance and repair expenditures for the Augusta and Seton Campuses.

In 2009, the Maine Development Foundation conducted an economic analysis of the impact of this project on the economy of Central Maine (MDF Study). If the project is implemented, there will be a positive short-term effect predicted on the local economy resulting from the construction of the new facility. This will be accompanied by a negative long-term effect on the local economy resulting from a reduction of hospital employees.

The MDF Study points out that there is an economic multiplier of 1.52. This means for every $1 MGMC spends in Kennebec County, $.52 of additional spending is generated in the economy. The MDF study assumed that the project would eliminate 62 FTE's. The MDF Study concludes that due to the reduction of 62 FTEs, "approximately $2.6 million in operating costs and employee spending will no longer be attributed to MaineGeneral which, like the overall spending relationships, will lead to a total $3.9 million reduction in Kennebec County."

MGMC estimates that because of increased operating efficiencies from operating one consolidated inpatient hospital, a net reduction of 104 FTE's is possible. The long-term economic effect of the reduction in staff is likely to be greater than the amount estimated by the MDF. By extrapolating the MDF calculation for the reduction of 62 FTEs and applying the economic multiplier of 1.52, the overall spending will be reduced by approximately $6.7 million per year in Kennebec County due to the reduction of 104 FTEs. The $7.1 million dollar savings that MGMC envisions would result in decreasing spending by $10.792 million. The long-term effect of employing 104 fewer FTEs at MGMC needs to be weighed against the short-term economic benefit that the Kennebec County region will receive as a result of the construction of the proposed facility and related infrastructure expenditures.

According to the MDF Study, in 2007 approximately $64 million in direct health care spending was lost by MGMC due to patients leaving the region to receive heath care services from other providers within the State of Maine. This represents 30% of MGMC's total share of patient visits for a year. MGMC feels this project will allow them to hire additional physicians and specialists, which will help the hospital recapture some of this $64 million. In the application, MGMC did not quantify how much of this $64 million per year they expect to recapture.

If MGMC is successful at recapturing a material portion of the lost revenue, there would need to be an accompanying decrease in revenues at other Maine hospitals for overall state healthcare expenditures to remain constant. If in-state hospitals lose patients that originate from the MGMC service area and these facilities adapt by filling the idled capacity with other patients and services, total state healthcare expenditures will increase. This is evidenced in the BOI analysis located in Section VI.

It is unclear, based on the information provided by the applicant, whether other hospital facilities will actually lose patients due to a new inpatient facility in Augusta and which facilities and regions will be affected. CONU is also not able to estimate dollar amounts for this predicted shift in location of patient services.

According to the transcript of the January 21, 2010 MGMC public hearing, patient billing rate increases are estimated to be approximately 4% to 5% per year. According to the applicant this is similar to recent year rate adjustments.

The applicant estimates an annual savings through an increased operating efficiency of $7.1 million. MGMC estimates that because of increased operating efficiencies from operating one consolidated inpatient hospital, a net reduction of 104 FTE's is possible. In addition, the investments in green technology will lead to utilities conservation with an estimated $750,000 to $900,000 savings annually when compared to the existing facilities. The most significant costs

to the project are increased depreciation and the incremental increase in interest expenditure on debt resulting from the construction of the proposed facility.

Depreciation expense is expected to increase by $19 million. Interest expense in 2018 is estimated at more than $19 million. The higher interest payments resulting from the construction of the new facility are a primary reason MGMC is projected to have a negative operating margin for several fiscal years following the completion of the project. MGMC uses a 6% interest rate in its future interest projections. MGMC did not provide confirmation in the application that a 6% interest rate has been secured with a lender; therefore, if the project is implemented, the actual rate of borrowing and the associated interest expense could vary materially from MGMC's estimates.

MGMC estimates that total debt service will increase from approximately $8 million in 2010 to approximately $25 million in 2018. The majority of this differential of approximately $17 million is not offset by the savings to be realized through increased operating efficiencies or green technology savings.

A letter dated February 15, 2010 was submitted to CONU during the public comment period by Henry A. Gemery, Ph.D., who is an author and a former Economics professor of Colby College. The letter states:

"The first thing to understand about MaineGeneral's construction and re-organization plan is that it is not proposed for its cost savings. An investment of $322 million would never be undertaken to gain an annual saving of $7.1 million. That is suggested by the lengthy payback period of 45.3 years and even more clearly in present value terms, that is, when interest rates are taken into account. Even at a low long-term interest rate favorable to MG, say 4%, the present or current value of all of the cumulated savings is approximately $177 million. For this, MG would pay $322 million in the present (through the construction period). The negative trade could not be clearer."

A review of the Henry A. Gemery analysis, which uses the perpetual bond approach, is useful in determining an approximation of what the current value of the investment is. The annual savings of $7.1 million estimated by MGMC can be treated similar to a perpetuity investment. The current value is the amount a prudent investor would pay today for the expected long term perpetual savings.

CONU believes that any perpetuity calculation should also include the benefit MGMC expects to receive as a result of adopting green technologies. Therefore, CONU feels it is necessary to modify the Henry A. Gemery calculation to be $7.1 million plus a conservative estimate of $750,000 for the adoption of green technologies. CONU feels the most appropriate rate to use for a perpetuity calculation such as this would be the longest-term rate available that has little financial risk associated with it. In February 2010, according to Bloomberg.com, the current yield on a 30 year treasury bond was 4.5%. Dividing $7,850,000 by .045 gives the result of $174,444,444. This amount is similar to the $177 million submitted by Henry A. Gemery. CONU concurs with Henry A. Gemery that MGMC would not engage in this project for the sole purpose of saving $7.1 million annually.

2) The availability of state funds to cover any increase in state costs associated with utilization of the project's services.

Total 3rd year incremental operating costs are projected by the applicant to be $41,727,257 and of that amount MaineCare's 3rd year cost is $6,380,098 ($41,727,257 x 15.29%) (MaineCare payor mix projected by the applicant for CON reviewable services only), which is both the Federal and State portions combined. The impact to the State portion of the budget by the third year of operation (2018) would be approximately $2,233,034 ($6,380,098 x 35%).

The applicant states on page 33 of the application that the inpatient Medicare payor mix is expected to increase. The applicant's rationale in the application is that this increased Medicare share of services is due to the aging of the population and initiatives to reduce avoidable admissions. The shift is projected to increase from 46% to 52% by fiscal year 2018.

In responding to CON concerns, the applicant subsequently stated "the payer mix information reflects the most significant categories of payer information as measured by inpatient discharge data; it does not represent net reimbursement information." "It is the net patient service revenue payer mix that serves as the basis for the financial projections for this project, not the inpatient discharge percentage by payer." The applicant provided the following table and stated it is to replace the table on page 33 of the application:

MaineGeneral Medical Center
Net Patient Service Revenue

	FY 2010	FY 2016	FY 2017	FY 2018
Private Health Insurance	49.88%	50.89%	51.07%	51.24%
Medicare	30.27%	29.30%	29.13%	28.96%
MaineCare	14.71%	14.55%	14.52%	14.50%
Other	5.14%	5.26%	5.28%	5.30%
Total	100.00%	100.00%	100.00%	100.00%

In the financial module completed by the applicant, the 2018 payor mix for Medicare is 31.05% of net charges received. The information contained in the above chart is not consistent with the information submitted in the financial module. The recent information shows a cost shifting from Medicare to private health insurance. If this outcome occurs, it could improve their financial position from the previous submission.

The revised table shows an increase in the percentage of patient service revenue derived from private health insurance and decreasing the percentage of patient service revenue derived from Medicare and MaineCare. As the population of MGMC's service area ages, a greater percentage of patients will be paying for their hospital services through Medicare. Reimbursement rates are typically higher for patients who use private insurance to cover their hospital services. In order for net patient service revenues to decrease for Medicare and remain relatively constant for MaineCare, the hospital would need to charge private health insurance companies a greater

premium to attain the above percentages. The Bureau of Insurance estimates a regional impact of 3.72%.

3) The likelihood that more effective, more accessible or less costly alternative technologies or methods or service delivery may become available.

MGMC has spent the last seven years analyzing and developing a plan for the future of MGMC and how they will best deliver services to the Kennebec Valley. MGMC developed preliminary financial forecasts for six service configuration options to analyze which option would be most optimal. Three options were developed for utilizing the existing three MGMC hospital facilities. A fourth option is the new regional hospital in North Augusta at the site of the Harold Alfond Cancer Center. The fifth and sixth options are to build a consolidated hospital in Sidney or Waterville.

The North Augusta Campus was unanimously approved during the September 8, 2008 MGMC Board of Directors meeting as it was determined to be the best location for the new consolidated hospital. The new hospital would be constructed on the 165 acres adjacent to the existing Harold Alfond Cancer Center.

In order to ensure adequate patient access to the new hospital, it will be necessary to construct a new highway interchange. MGMC engaged in discussions with the Maine Department of Transportation (DOT) regarding the design of the entrance and exit ramps of I-95. This would allow traffic to exit the highway and proceed directly to the new hospital without having to travel on back roads. The new traffic pattern would also allow quick access to Routes 3 and 27. The applicant estimates completing the new facility in the fall 2013. After the decision was made to build a new facility in northern Augusta, further refinements to the plan were needed to determine the configuration of services. MGMC consulted with the architectural, engineering and planning team of SMRT and TRO Jung/Brannen to develop plans for different service configurations. Four different service scenarios emerged:

1. "The baseline model Cost: $425,167,600. This assumed a new consolidated inpatient hospital on the North Augusta campus, a new medical office building consolidating a variety of outpatient services scattered in many off-site buildings on the North Augusta campus and extensive renovations to Thayer, consolidating a variety of services located throughout the MG system. This option maintained emergency departments, imaging and interventional services – surgery/endoscopy – on both campuses."

2. "The full consolidation model Cost: $447,420,600. This assumed that all services from the Thayer, Seton and Augusta campuses were consolidated into a single inpatient hospital in North Augusta, supported by a new medical office building. This option was the preferred option of the Clinical Council and medical staff."

3. "The specialty hospital model Cost: $237,027,000. This assumed that inpatient services were consolidated from three campuses to two with acute rehab and behavioral health moved from Seton to Thayer, medical/surgical beds maintained in both communities and ICU and OB consolidated into a new inpatient hospital in North Augusta supported by an

on-site medical office building. This option was totally unacceptable to the clinicians due to the fragmentation of inpatient services and the requirement that call coverage be maintained at two campuses."

4. "The consolidated inpatient/surgery/emergency department model Cost: $322,326,600. This assumed consolidation of all inpatient services and in and outpatient surgical services at a new regional hospital in North Augusta supported by an on-site medical office building, and renovation of Thayer to accommodate consolidation of Seton services. This option was determined to be the only clinically and financially feasible option of the four and was carried forward with further refinement in regards to both ED and surgical services, as the basis of this application."

CONU recommends the following condition:
MGMC selected the fourth option indicating that medical offices are integral to the design of the new facility.

The proposed project includes 24,990 DGSF (Department Gross Square Footage) of physician office space at a cost of $18,921,319 and 14,280 DGSF of administrative offices at a cost of $10,182,812, resulting in a total of 39,270 DGSF for medical and administrative offices. The DGSF is projected to cost $741.13 in the MGMC proposed project.

As part of our review, CONU analyzed the cost of construction for the new proposed facility using the Marshall & Swift Valuation Service. The valuation service is a complete, authoritative guide for developing replacement costs, depreciated values and insurable values of buildings and other improvements. It provides costs for a wide range of construction classes and types of occupancies, from warehouses to medical buildings. This service is an aid in determining values of nearly every kind of property where replacement or reproduction cost is desired. Modifiers are included to make the cost applicable to any size building in any locality. According to the Calculator Method in the 2009 Marshall & Swift Valuation Service book, the cost for a typical medical office building is $198.50 per square foot for Class A Type, Good Quality construction. CONU did not adjust this amount for inflation, climate, or other cost multipliers.

CONU asked the applicant to provide the Class and Type of construction using the Marshall & Swift Valuation Service and MGMC responded that the new facility is classified as Class A , Good Quality construction. MGMC provided additional information which attempted to reconcile the projected costs of construction of their new facility with the Marshall & Swift valuation methodology. According to MGMC, the differences can best be summarized as follows: "The Marshall & Swift valuation process requires generic classification of the building into the categories "average", "good", or "excellent". The MGMC new regional hospital represents a blend of these categories."

A recent Not Subject to Review Letter from the Department to the applicant dated September 14, 2010 shows a cost per square foot of $150.12 to build a 50,449 square foot medical office building on Civic Center Drive in Augusta.

To summarize, the cost of the proposed MGMC administrative and medical office space is estimated by CONU, based upon information provided by the applicant, to be approximately $731.13 per DGSF. The unadjusted Marshall & Swift standard for a medical office building is $198.50 per square foot and the applicant recently submitted a proposal to build a medical office building at a cost of $150.12 per square foot. This comparison illustrates that medical office buildings are less costly to construct than medical facilities. Integrating the medical offices into the main hospital building increases the overall cost of the project as well as depreciation expenditures over the long-term.

Condition D-1: *The applicant shall reduce the cost of the administrative and medical office space to an amount agreed upon by the Department.*

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden, with the inclusion of the proposed condition D-1, to show that the proposed services are consistent with the orderly and economic development of health facilities and health resources for the State.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report
State Health Plan
September 2010

Section E- State Health Plan

CON Criteria

Relevant criteria for inclusion in this section are specific to the determination that the applicant has demonstrated that the project is consistent with and furthers the goals of the State Health Plan.

E-1) The applicant is redirecting resources and focus toward population-based health and prevention.

Maine CDC/DHHS Assessment

"The application proposes to adopt 'CDCs best practices for obesity reduction' to address the health needs of its service area. Specific initiatives relative to this priority are: 1) improve nutrition; and 2) invest in walking paths."

"For the first initiative (nutrition), MGMC is planning to incur an additional food cost of $95,000 annually to purchase local produce as well as "redeploy" an estimated $366,000 to develop intensive dietary counseling and support services for patients. As stated by the applicant, this demonstrates that this initiative is targeted primarily toward their patient base and not entirely population-based. Additionally, while this could result in a limited economic boost to local growers and redirect dietary consolidation personnel savings, it is just one piece of a comprehensive nutritional/obesity reduction strategy. A comprehensive population-based strategy for this initiative was not included in the application. The plan, as outlined in the application, does not demonstrate that it meets the criteria in the SHP of "population-based" because it focuses primarily on MGMC patients and staff instead of the service area population."

"For the second initiative (walking paths), MGMC will be investing $142,000 in walking trails and connecting paths at the new regional hospital. It will build on its previous investment in walking paths at the HACCC. This initiative will result in a combined two miles of paths on the medical campus. The application did not quantify the usage of the new paths or of the existing paths. There is no indication of whom and how many people will utilize the paths and what the outcome of that usage is/will be. MGMC did not state whether these paths would also be accessible during the winter months. Again, unless MGMC provides global community-based outreach, the paths are campus specific and readily accessible primarily to patients, visitors and staff."

"Relative to the cost of the project and to other recent CON applications, the proposed investment amount appears small."

"MGMC did not demonstrate their engagement with the local public health infrastructure in developing and implementing these initiatives. It would be helpful if there is a commitment stated to work collaboratively with the local public health infrastructure on developing the newly funded initiatives. That infrastructure would have been able to assist in moving the above initiatives to a true population-based strategy."

CONU Assessment

The total amount that MGMC is investing in the two initiatives is $603,000 out of a project that has $334,454,746 in CON reviewable costs. This is not a significant contribution of resources directed toward health and prevention. Additionally, these efforts are targeted primarily toward MGMC patients and staff and not the population of the service area in total.

E-2) The applicant has a plan to reduce non-emergent ER use.

Maine DHHS/CDC Assessment

"Under this priority, the applicant discussed three strategies for reducing non-emergent ED use including: (1) participation in state initiatives; (2) establish systems for monitoring and feedback; and (3) expand access."

"The application states that "for those physicians not employed by MGMC, many of the practices rely on the emergency department as their after hours and weekend back-up". The application does not discuss how these strategies will decrease utilization of the EDs by non-MGMC physician practices after hours and weekends. The applicant also did not discuss how the plan will impact patients that present themselves at the EDs who do not have a primary care provider. The applicant appears to be focused on the MGH patient population and not on the overall service area."

"As discussed by the applicant under the previous priority, MGH will invest $1,000,000 annually through their Advanced Medical Home Pilot, to enhance primary care recruitment, enhanced primary care compensation, primary nursing, IT and case management support to reduce ED and inpatient utilization. As a result of MGMC implementing their advanced medical home model, Noblis (Exhibit 8 of the application) forecasts a decrease of 4,493 ED visits at the Waterville Campus and 6,106 in Augusta in 2018. Additionally, 12,635 ED visits are projected to shift to Augusta by 2018."

"Although this applicant has presented a plan to reduce non-emergent ED use, Thayer ED will not be operating within the optimal ED visits per bed per year of 1,200-1,600 as recommended by the American College of Emergency Physicians. The 2018 projection for the Waterville ED is 958 visits per bed per year.

CONU Assessment

CONU concurs with the Maine DHHS/CDC Assessment.

E-3) The applicant demonstrates a culture of patient safety, that it has a quality Improvement plan, uses evidence-based protocols, and/or has a public and/or patient safety improvement strategy for the project under consideration and for the other services throughout the hospital.

Maine DHHS/CDC Assessment

"Although MGMC (applicant) is currently engaged in efforts to promote patient safety and evidence based protocols, the application did not demonstrate a linkage between the proposed project and a public and/or patient safety improvement strategy. There is no specific and quantifiable patient safety or quality improvement plan related directly to the project."

"Additionally, there are very unique issues raised by some of the changes planned for the utilization of the Thayer Campus such as an "off-campus, provider based" ED, a type of free-standing ED."

"Building a new inpatient facility with all private rooms was mentioned in other sections as a strategy to improve patient safety and the quality of the services received. It was not brought forward to this section and the effect on quality improvement and patient safety was not quantified nor a method of measurement demonstrated."

CONU Assessment

The applicant did not present quantifiable measurements for MGMC's culture of patient safety specific to this project. The applicant presents research studies and articles to support their presentation however did not present the connection the research has to this project. The applicant did not quantify the extent of existing "safety risks" to patients at MGMC and the projected safety goals to be realized by this project. The applicant did not discuss how they will measure these improvements.

There are several tables in the application particularly the tables presented in Attachment 26 – 2009 Board Quality Report, that demonstrate what MGMC is currently measuring and what their status is at this time. The relationship of these measurements to the project under review was not clearly demonstrated although considerable information was presented that discuss quality initiatives within MGMC. It is unlikely that these same initiatives will not apply to this project.

E-4) The project leads to lower costs of care/increased efficiency through such approaches as collaboration consolidation, and/or other means.

Maine DHHS/CDC Assessment

"The applicant's stated plan is to consolidate two inpatient hospitals into one. This goal is consistent with the SHP priorities. One physical plant for inpatient services should increase efficiencies and reduce duplication."

"This project reduces the number of licensed inpatient beds by 61, but maintains the same number of staffed beds. The application states that the project will contribute toward efficiencies because the consolidation allows a reduction in staff of 104 FTEs out of a current total of 2,167 FTEs (5% reduction). Cost savings resulting from the consolidation are projected to be $7.1 million."

"Additionally, the application on pg 57 states that the configuration of inpatient rooms in the new regional hospital will be arranged into "pods". This should lead to nursing efficiencies by placing the nurses' station closer to patient rooms resulting in shorter walking distances and increased accessibility to the patients. The plans also incorporate storage areas that are closer and more accessible to the units for the same purposes."

"The continued maintenance of two separate EDs and the resources that are needed to do so does not demonstrate a consolidation of those services. Operating two EDs will take two staff configurations, two physical plants and equipment duplication. There will also need to be additional on-call physicians to support both EDs."

"The applicant also proposes to consolidate some Waterville-based outpatient services to the Thayer Campus. This would eliminate the Seton Campus as well as some other buildings located in Waterville."

"While the applicant is consolidating some of its services, it appears that the overall impact of this project results in an increase in the cost of care instead of a decrease."

CONU Assessment

Elsewhere in this analysis, CONU discusses the bed efficiency ratio of the new hospital. There appears to be excess bed capacity that CONU has identified as the basis for Conditions in Section C. The BOI projects increased Statewide and Regional costs. CONU has considered both the costs and benefits of this project when developing conditions and making recommendations to the Commissioner.

E-5) The project improves access to necessary services for the population.

Maine DHHS/CDC Assessment

"The plan to improve access to necessary services for the population in the service area that was presented in this application is contingent on the recruitment and retention of primary care and specialist physicians. Presently, patients in the MGMC service area are receiving these services outside of this service area."

"The movement of inpatient services from Waterville to Augusta would decrease accessibility for some residents that utilize Waterville inpatient services now, especially those residing north or east of Waterville. The completion of the I-95 exit ramp will alleviate some concerns regarding access."

CONU Assessment

CONU concurs with the Maine CDC/DHHS assessment. Additionally, CONU is recommending a condition relative to the proposed highway exit that will facilitate access to the hospital.

CONU recommends the following condition:

> **Condition E-1:** *The consolidation of services between campuses proposed in this application will not occur until the highway exit ramp is completed.*

E-6) The impact of the project on regional and statewide health insurance premiums, as determined by BOI, given the benefits of the project, as determined by CONU.

Bureau of Insurance Assessment

On March 31, 2010 the Bureau of Insurance submitted the following assessment:

"The assessment compares the CON project's Year 3 incremental operating and capital costs per person (adjusted to the year ending December 31, 2010) to the estimated impact of the project on private health insurance premiums. Based on the assessment, I estimate that the maximum impact of this CON project on private health insurance premiums in MaineGeneral Medical Center's region for the project's third year of operation will be approximately 3.72% ($3.72 per $100) 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 0.38% ($0.38 per $100) of premium."

"The magnitude of the impact of this project on regional premiums is substantially greater than in previous CON project assessments performed by the Bureau of Insurance. This is due to the cost of this project relative to the privately insured population that the project will serve. Since the inception of the Superintendent's requirement to assess CON projects in 2003-4, there has been no CON project application of the magnitude of building a completely new community hospital facility with major renovations to an "off-campus" facility and the closing of two existing hospital facilities."

"In addition, this project may "re-capture" hospital services from surrounding community hospitals or the three tertiary hospitals in the state that may once have been performed at MaineGeneral Medical Center or its predecessor facilities but have, over time, increasingly been provided by other hospital facilities to MGMC's regional insured population. The financial information provided by the applicant did not appear to have taken this possibility into account. To the extent such service "re-capture" by MGMC occurs, the above-noted impact of this project on premiums in MGMC's region could be reduced, but there could be modest upward pressure on premiums in the several regions served by these other hospitals."

CONU Assessment

CONU concurs with the BOI assessment.

E-7) Applicants (other than those already participating in the HealthInfoNet Pilot) who have employed or have concrete plans to employ electronic health information systems to enhance care quality and patient safety.

Maine DHHS/CDC Assessment

"The applicant is part of health information exchange (HIE) and projects an expansion and enhancement of services in this area."

CONU Assessment

The applicant demonstrates an ongoing commitment to medical technology, although this is not a medical technology application.

E-8) Projects done in consultation with a LEEDS certified-architect that incorporate "green" best practices in building construction, renovation and operation to minimize environmental impact both internally and externally.

Maine DHHS/CDC Assessment

"MGMC's application specifies that they are utilizing LEEDS certified-architect and incorporating "green" best practices into this project. The applicant demonstrates an ongoing commitment to this priority as evidenced by the HACCC project that attained LEED silver certification status."

CONU Assessment

CONU concurs with the Maine CDC/DHHS assessment.

Conclusion

CONU recommends that the Commissioner determines that MaineGeneral Medical Center met the burden to demonstrate, with the inclusion of condition E-1, that the project is consistent with the State Health Plan.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Larry Carbonneau
Outcomes and Community Impact
September 2010

Section F- Outcomes and Impact

CON Criteria

Relevant criteria for inclusion in this section are specific to the determination that the project ensures high-quality outcomes and does not negatively affect the quality of care delivered by existing service providers.

CON Analysis

This determination requires in-depth analysis and reporting of current measures of safety and high-quality outcomes and how the project will improve the quality of outcomes with measurable standards of care. The applicant proposes seven measurements that they assert meet the criteria that the project ensures high quality outcomes. Several of the measures contained in this section are also contained in other referenced sections of this application.

One of the measures proposed is the National Committee for Quality Assurance's (NCQA) Advanced Medical Home Pilot. The applicant is current participating in this Advanced Medical Home Pilot. It is not clear to CONU whether this measure is dependent, or a result of, this project.

Another initiative proposed by the applicant is related to Obesity. The applicant is proposing walking trails and a Farmer's Market to promote exercise and healthy eating habits. The current HACCC campus has walking trails and an active Farmer's Market that will be expanded as a result of this project. It appears that the Obesity Initiative has been developed without this project. This initiative is discussed further in Section E, State Health Plan. The applicant did not present data demonstrating that these expansions would ensure quality outcomes as a result of this project.

The Maine Quality Forum stated that the Board of Trustees of MGMC receives regular reports on performance indicators of quality assurance. CONU was unable to determine what action the Board of Trustees takes relative to this reporting and how that impacts the quality of care. More specifically, the applicant did not specify what outcome improvements are expected as a result of this project.

Other activities are included that speak to input and output but lack measurable or quantifiable outcomes specific to this project. The Maine Quality Forum has stated that the project is a worthy project. CONU agrees with the Maine Quality Forum; however, the applicant must demonstrate measurable outcomes specific to this project.

The applicant has not provided the CONU with examples of measurement standards to be employed to ensure high quality outcomes. CONU recommends to the Commissioner the following condition:

> **Condition F-1**: *The applicant shall report baseline data and measurable improvements in quality outcomes as a result of this project annually for a period of three years from the opening of the new North Augusta Hospital.*

Quality of Care by other service providers

The applicant did not address how this project will affect the quality of care delivered by existing service providers. The applicant states they will "Create a more competitive model for physician recruitment thereby enabling recruitment targets previously discussed to be met." A discussion of the impact of this "competitive model for physician recruitment" could have addressed the impact of this activity on existing service providers in the MGMC primary and secondary service area but was not included.

There was no evidence presented by the applicant, public or other service providers that indicate that there will be a negative affect on the quality of care delivered by existing service providers. CONU has not identified any potential adverse affects on existing service providers.

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden to demonstrate, with the inclusion of condition F-1, that this project will ensure high-quality outcomes and does not negatively affect the quality of care delivered by existing service providers.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report by Larry Carbonneau
Service Utilization
September 2010

Section G- Service Utilization

CON Criteria

Relevant criteria for inclusion in this section are specific to the determination that the project does not result in inappropriate increase in service utilization, according to the principles of evidence-based medicine adopted by the Maine Quality Forum.

Maine Quality Forum Assessment

"This application was reviewed for health care quality considerations. The application differs from many in that it seeks to consolidate two acute care hospitals in two cities into a single 226 bed regional hospital. Therefore, assessment of the care quality implications of the project goes beyond the usual issues of technology assessment. In this review, attention was given to the proposed North Augusta inpatient facility rather than the proposed outpatient facility which would exist on the Thayer campus in Waterville. Three questions arise regarding care quality issues implicated in this project:

1. Are there quality concerns regarding the applicant?
2. Are quality matters given adequate consideration, when possible, in the design of the proposed facility?
3. Does the structure – both the design and the organization – of the proposed entity support the planned organizational aspects of a reformed health care system for the region?"

Applicant Quality

"For the four quarters ending March 31, 2009, Maine Quality Forum data would indicate that MaineGeneral Medical Center (MGMC) (including both Augusta and Waterville campuses) is an average performer in measures of pneumonia care, surgical care, and care processes relating to infection prevention (see http://www.mqf-online.com/summary/summary.aspx?ProvID=200015&level=0&CompGroup=All). Of note, MGMC performance has improved over the previous measurement period in all measures. MGMC reported one central line associated bloodstream infection between April 1, 2007, and March 31, 2009. In a process of care measure indicating how often proven strategies were used to prevent central line infections, MGMC was in compliance over 99% of cases (424 of 428) observed. Similar performance was reported for compliance with a bundle of care processes used to prevent ventilator associated pneumonia (391/393)."

"Maine Quality Forum does not measure physician or physician practice performance. However, three of MGMC's primary care practices are participating in the selective Maine Patient-Centered Medical Home Pilot, and all have received NCQA Level 1 or higher medical home qualification. The Maine Health Management Coalition awarded a minimum of three green ribbons to each of the practices owned by MGMC (see http://www.mhmc.info/)."

"There is evidence in the application of administrative involvement in quality assurance and improvement, through reports to the Board of Trustees on a regular basis on these and other performance indicators."

Facility Design

"There are several ways in which the design, architecture, and structure of a hospital can affect patient outcomes. The field of "evidence-based design" is emerging to illuminate these issues. Although the field of evidence-based hospital design is relatively new, the application reflects consideration of possible contributions to patient safety and recovery."

"Studies of evidence-based design (EBD) in hospital architecture are sometimes but not usually done to the standards of typical medical evidence. Randomization and clinical control are difficult to accomplish. However, there are some studies which help assess the value of certain design elements in quality improvement."

"The major body of evidence for the effect of design on patient outcomes is in the area of infection, arguably one of the most important targets for prevention. Design impacts airborne transmission of infection through ventilation and air filtration; person to person transmission of infection through accessibility of hand-washing facilities and selection of appropriate surface coverings; and water borne transmission through plumbing and fixture design. Single rooms, although more costly to construct and maintain, have both intuitive and measurable advantages, including infection prevention through "automatic" patient isolation, the ability to utilize vapor cleaning methods without evacuation of a second patient after a bed is vacated, elimination of the necessity to share toilets and bathrooms, and reduced visitor traffic from outside the hospital. Single rooms can be associated with reduction in medical errors and in patient falls."

"The advantages of other design elements are somewhat less clear and compelling, such as the effect of views of nature on speed of healing or the effect of natural light on staff performance. However, environmental factors and adjacencies are very likely to be related to performance and to patient satisfaction."

"The application reflects the applicant's attention to these and other design-related patient effects in the architecture and design of the proposed facility."

CON Analysis

The application states that there will be a reduction in the number of licensed beds; however, the total number of existing beds will remain the same. In section C, it was determined that at 72% projected efficiency, the new hospital, in its third year of operations, would be operating at a significantly low bed efficiency rate for a hospital with 100% private beds. This indicates that excessive capacity exists at this level. A condition included in Section C addresses this concern

Included in Attachment 8 of the CON application is information that supports a forecast for a large shift in ED visits from Waterville to Augusta. This shift is necessitated by access from the south and west and the reduced level of service to be provided by the off-campus Waterville ED. As a result of the proposed service shift, there may be an underutilized ED in Waterville. Sections B, C and E of this analysis discuss these considerations.

Attachment 8 of the application also presents information on volume projections. When analyzed, in combination with the Financial Information contained in Attachment 7 and the Bureau of Insurance Assessment contained in Section E of this analysis CONU concludes that the proposed consolidation does not result in a cost effective, smaller, more efficient hospital and in fact, may result in inappropriate increases in service utilization. A condition included in Section C addressing the efficient utilization of the emergency room in Waterville addresses this concern.

The applicant has not demonstrated 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. CONU staff carefully considered input from the Maine Quality Forum and performed further review of the information contained in the application. The applicant states that there will be a reduction in the number of licensed beds; however, the total number of existing, staffed beds will remain the same. This concern was addressed in Section C. The applicant provided Attachment 8 and then modified that assumption with further information on August 12, 2010 (on file with CONU) indicating a significant decline in the number of emergency room patients and acuity of those patients in Waterville. Another condition included in Section C addresses this concern.

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden to demonstrate 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.

MaineGeneral Medical Center - New Regional Hospital
Certificate of Need Unit
Staff Analysis Report
Capital Investment Fund
September 2010

Section H- Capital Investment Fund

CON Criteria

Relevant criteria for inclusion in this section are specific to the determination that the project can be funded within the Capital Investment Fund.

CON Analysis

CONU has determined that there are incremental operating costs to the healthcare system that are reflected in the CIF debit of $21,017,186. CIF dollars of $ 21,017,186 are available for implementing this project.

Conclusion

CONU recommends that the Commissioner find that MaineGeneral Medical Center has met their burden to demonstrate that the project can be funded within the Capital Investment Fund.