

Final Report

Acute Bed Need Task Force

**Finger Lakes Health Systems Agency
1150 University Avenue
Rochester, NY 14607
February 2008**

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ACUTE CARE BED NEEDS IN THE ROCHESTER AREA FINAL REPORT

EXECUTIVE SUMMARY

In 2006, the Rochester area was the only region in the state which did not receive a reduction recommendation from the Commission on Health Care Facilities for the 21st Century (the “Berger” or “Rightsizing” Commission). While the rest of the state was suffering from too many hospital beds, Monroe County hospitals were dealing with overly high occupancy rates.

In the six years since the closure of The Genesee Hospital, area hospitals have responded by expanding the number of functioning beds within their operating licenses. FLHSA’s Community Access Management Committee (CAMC), which has been monitoring hospital use since the closure of The Genesee Hospital, raised the question of whether Rochester hospitals still have sufficient acute beds to meet the needs of area residents and others who use the hospitals. In fact, hospital representatives on the CAMC believe that the continued overcrowding in Rochester hospitals jeopardize their ability to meet the health care needs of the community.

In April 2007, FLHSA convened the Acute Bed Need Task Force to determine how many beds are needed (for medical, surgical, pediatric, intensive care, and physical rehabilitation patients; obstetrics and mental health need is excluded). Over the next seven months, the Task Force examined a number of factors, such as trends in the length of each hospital stay, which affect need for acute care services. The Task Force found that many of those factors were difficult to quantify or required public policy or investment decisions. Depending on those decisions, need could be higher or lower than otherwise projected.

Despite the uncertainty of some of the planning factors, the Task Force finds that there is need for about 93 additional beds (or a total of 1586 “affected” beds) today to provide a reasonable and efficient occupancy rate, given current hospital patient volume. Looking forward, however, it finds there is a need for up to 1640 medical, surgical, pediatric, intensive care and physical rehabilitation beds (up to 147 new beds) in Monroe County by 2015 to meet the needs of the Finger Lakes region. A decision to support provision of hospital services to a larger area would result in a need for additional beds.

Throughout the study, the Task Force recognized the dilemma inherent in the very different occupancy rates in Monroe County hospitals as compared to hospitals in Ontario, Wayne, Yates, and Livingston counties. While surplus occupancy exists in the latter counties’ hospitals, need for specialists in the rural counties often result in many residents of the outlying counties being hospitalized in Monroe County. Emergency trauma protocols and patient/family preference also contributed to the low hospital occupancy rates. The Task Force discussed possible mechanisms to increase use of the rural hospitals, and thus potentially relieve crowding in Monroe hospitals. Because any possible approaches are at best uncertain in terms of design and implementation, the Task Force set aside the discussion of how the low occupancy rates in the rural county hospitals might offer some synergy with Monroe hospitals for balancing inpatient utilization. Nonetheless, these warrant further exploration in the context of design and efficient and effective use of the

region's health care system.

FLHSA has now convened an additional group, the Community Health System 2020 Commission, to consider questions of broader need for hospital modernization. It also will examine how modern hospitals fit into the whole health care delivery system and what is the total investment needed to assure a high-performing health care system in this region.

Thus, while this Task Force has made its recommendations, they will now be viewed in a larger context. The 2020 Commission may recommend modifications to the bed need numbers, based on its considerations of both the items referred to it by this Task Force and the broader needs of the community.

Addendum – Task Force Action on of the Report

On January 30, 2008, by a vote of 16 in favor, 3 dissenting and 1 abstention, the Acute Bed Need Task Force approved the draft report. As passed by the Task Force, it was expected that two of the three dissenters would submit a minority report that would be part of the report. Further discussion and clarification with these two dissenters resulted in their withdrawing their plan for a minority report. In lieu of a minority report, they asked that the reasons for their dissenting votes be set forth in the transmittal letter to the 2020 Commission, for consideration by the Commission. That transmittal letter is attached on the following pages. The attached report, therefore, together with its various appendices and the letter of transmittal, reflects the thinking of the Task Force in its entirety.

ACUTE CARE BED NEEDS IN THE ROCHESTER AREA FINAL REPORT

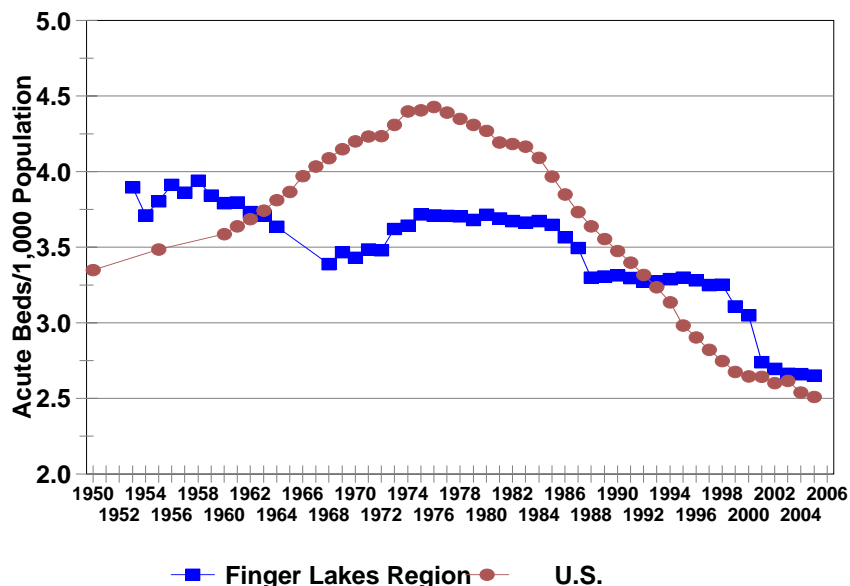
WHY A STUDY IS NEEDED

The Rochester community¹ has long controlled the number of acute hospital beds. The origins of health care planning are often considered to lie with a study of hospital bed need in the early 1960s. In 1961, Marion Folsom, newly returned to Rochester after serving as Secretary of Health, Education and Welfare under President Eisenhower, was asked by local hospitals to head up a public funding campaign for hospital expansion. He agreed, with the caveat that there be an independent study of the need for the requested hospital beds. Following that study, the size of the fund-raising campaign and the number of beds requested was reduced.

While the rest of the country expanded the hospital bed supply through the mid-1990s, the Rochester area largely did not. Further, five hospitals have closed or substantially reduced their services in the region in the past 20 years. Today the 9-county Finger Lakes region has a bed supply, relative to its population, just slightly larger than the nation (Figure 1).

Figure 1

Acute Beds Per Population U.S. and Finger Lakes, 1950-2005

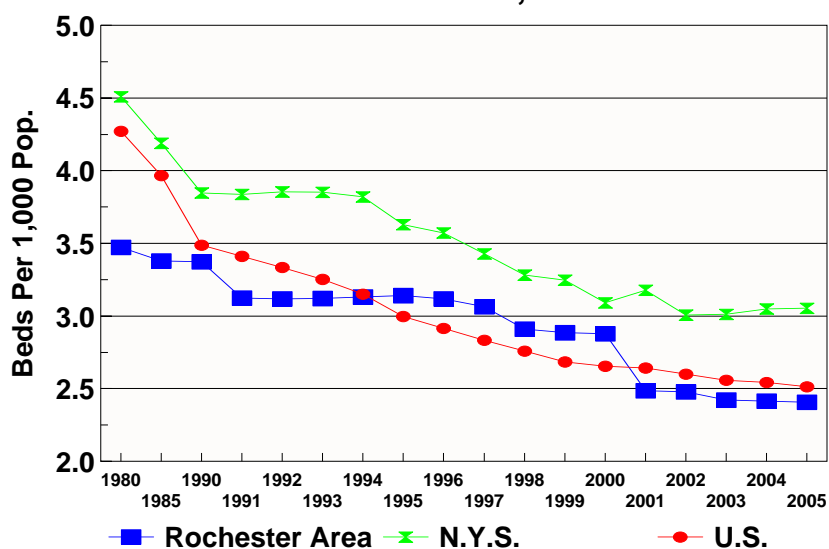


As seen in Figure 2, the 6 counties in the Rochester portion of the region have fewer beds than the

¹The Finger Lakes region comprises 9 counties in Upstate New York: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne and Yates. This report focuses on 6 of those counties (the “Rochester Area” or “Rochester Region”): Monroe, which includes the City of Rochester; and Livingston, Ontario, Seneca, Wayne and Yate (the Central Finger Lakes counties).

nation as a whole or New York State, at slightly fewer than 2.5 beds per 1,000 population. Monroe County by itself, however, has experienced the reduction and closure of two of its hospitals, and has fewer than 2.25 beds for every 1,000 of its “service” population.

Hospital Beds Per Population ROCHESTER AREA, 1980 - 2005



Finger Lakes Health Systems Agency

In 2006, the Rochester area was the only region in the state which did not receive a reduction recommendation from the Commission on Health Care Facilities for the 21st Century (the “Berger” or “Rightsizing” Commission), which recommended the closing or re-structuring of 57 hospitals and 21 nursing homes throughout New York State. While the rest of the state was suffering from too many hospital beds, Monroe hospitals were suffering with overly high occupancy rates.

The origin of the present study, however, lies with the sudden closure in 2001 of The Genesee Hospital. In response to that closure, Dr. Andrew Doniger, Monroe County Health Director, together with FLHSA, convened a group of hospital, physician, insurance, emergency medical services, nursing home and government representatives to assure that no patients “fell through the cracks” as the health care system adjusted to the loss of that major resource. Initially labeled the “Transition Task Force”, after The Genesee Hospital closure crisis was accommodated, the group found value in continuing to meet and changed its name to the Community Access Management Committee (CAMC); its scope changed to issues affecting patients getting into, through, and out of the hospital. Included in that scope are issues such as diversions of ambulances from emergency departments (“Code Red”) and patients having problems being discharged on a timely basis to nursing homes or other long-term care (also known as patients needing Alternate Levels of Care or ALC).

While the CAMC was able to demonstrate at the time of The Genesee closure that the community had an adequate remaining acute bed supply to function safely, FLHSA staff continued to monitor hospital

occupancy levels and report them to the Committee. Over the past six years, area hospitals have responded to The Genesee closure by expanding the number of functioning beds within their operating licenses. CAMC has observed increasing patient volume and hospital occupancy, however, raising the question of whether Rochester hospitals still have sufficient acute beds to meet the needs of area residents and others who use the hospitals. In fact, hospital representatives on the CAMC believe that the continued overcrowding in Rochester hospitals jeopardizes the ability of the hospitals to meet health care needs of the community.

Figure 3 demonstrates the growth of patient census at area hospitals. While the graph also maps the expansion of functioning capacity in area hospitals, it shows that increasingly, the number of medical/surgical patients² exceeds the formal capacity of the hospitals.

Figure 3

Daily Hospital Census vs. Capacity Rochester Hospitals, Med/Surg Beds

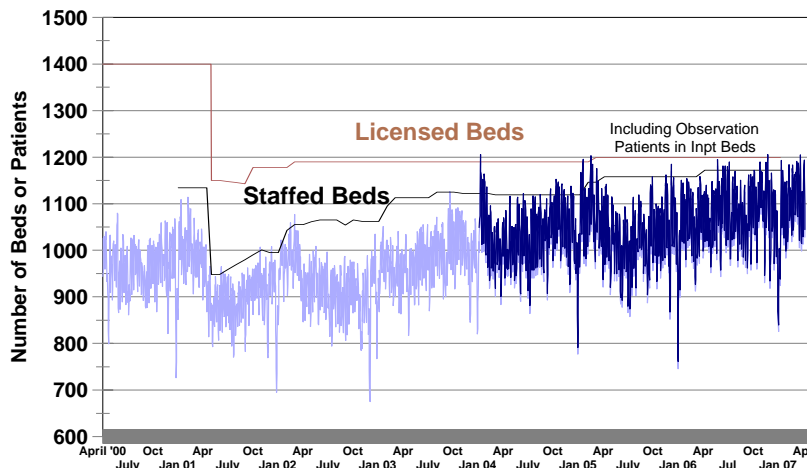
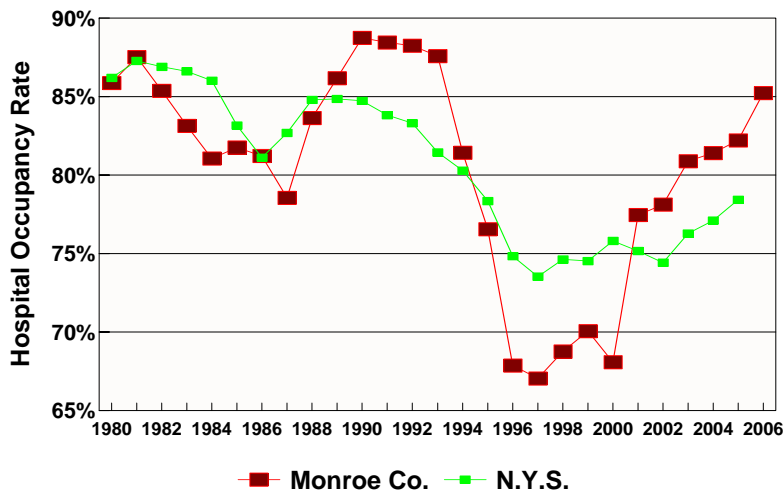


Figure 4

TRENDS IN HOSPITAL OCCUPANCY Monroe County Hospitals, 1980 - 2006



Finger Lakes Health Systems Agency

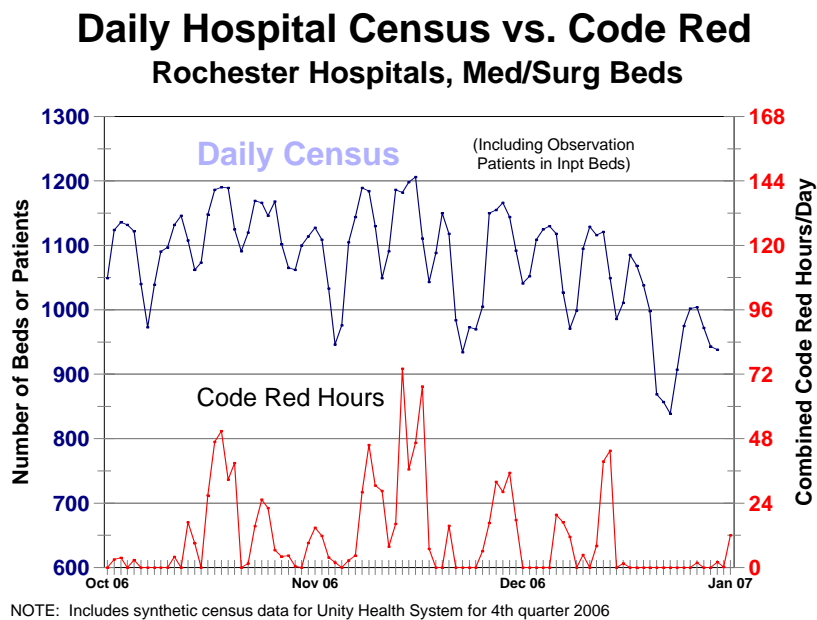
The conversion of St. Mary’s Hospital in 1999 to non-acute services and the closure of The Genesee Hospital in 2001 created sharply higher hospital occupancy rates. These occupancy rates are now similar to periods in the early 1990s when admissions were frequently delayed by difficulties in scheduling a needed bed. Figure 4 displays overall occupancy rates for Monroe hospitals; medical-surgical occupancy is substantially higher and, in recent periods, frequently exceeds 100% of operating capacity.

²Because of data limitations, “medical/surgical” in this study includes medical, surgical, pediatric, intensive care (ICU) and physical rehabilitation patients. Obstetric and mental health patients and beds are excluded. In this graph, only medical and surgical activity is shown.

At the same time Monroe hospitals are experiencing high occupancies, the hospitals in the Central Finger Lakes area (Livingston, Ontario, Wayne, Seneca and Yates counties) surrounding Monroe experience occupancies of their licensed capacity of 45% and lower.

Rochester hospitals are experiencing substantial periods when they are not able to accept new ambulance patients – “Code Red”. Extensive monitoring of code red levels has demonstrated that this condition is largely a symptom of lack of inpatient beds rather than ED capacity. Figure 5, for instance, shows a remarkable correlation between periods of high hospital census and high code red in the four Rochester emergency departments; note that, with lower inpatient census levels during the holiday period, code red nearly disappears.

Figure 5



While facility modernization is not a focus of this report, nonetheless it served as a factor in the need for study, specifically: “How many beds should be modernized if such projects are proposed?”. Many hospitals in the area were built or last underwent a major renovation in the 1970s or 1980s (Figure 6). Also, hospital standards have changed, especially moving to single-bed rooms for infection control purposes and to maximize flexibility in operations. At an estimated cost of new construction of \$1 million or more per bed, and recent renovation projects costing around \$350,000 per bed, the number of beds needed is of concern.

Figure 6

**Age of Hospital Plant
Date of Initial Construction or Last Major Renovation**

Monroe County

Highland Hospital	1984
Lakeside Memorial Hospital	1984
Unity/Park Ridge Hospital	1975
Rochester General Hospital	1987
Strong Memorial Hospital	1975

Central Finger Lakes

Clifton Springs Hospital & Clinic	1991 (partial renovation)
FF Thompson Hospital	1987, 1989, 1993, 2006
Geneva General Hospital	1991
WayneVia/Newark Wayne Community Hospital	Before 1975 (1 unit renovated 1988)

It is known that older populations use hospital services more frequently and for a longer time per admission than do younger populations. Thus, the aging of the population is a prime driver in the need to consider the number of beds required in this region. The following graphs (Figures 7, 8, 9,10) demonstrate that in the future, the region will have a population with a much larger proportion of seniors, particularly as the “baby boom” population matures.

Figure 7

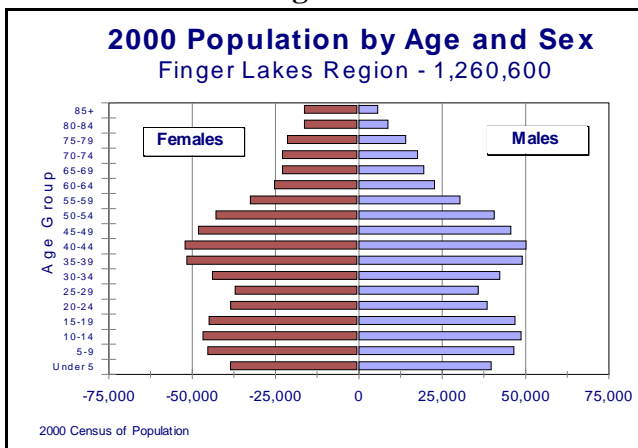


Figure 8

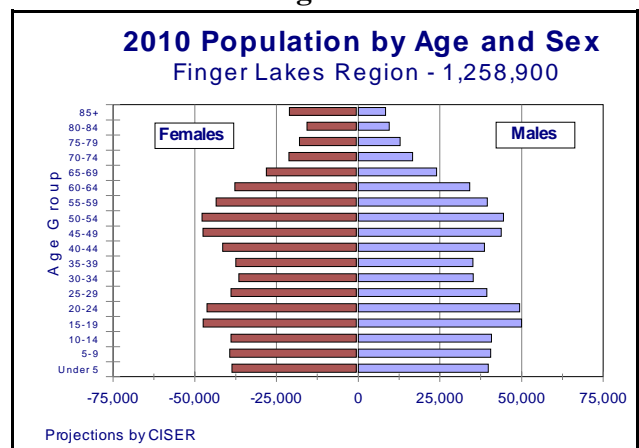


Figure 9

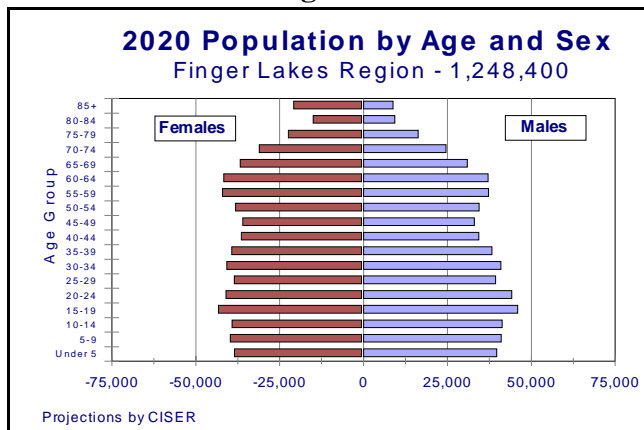
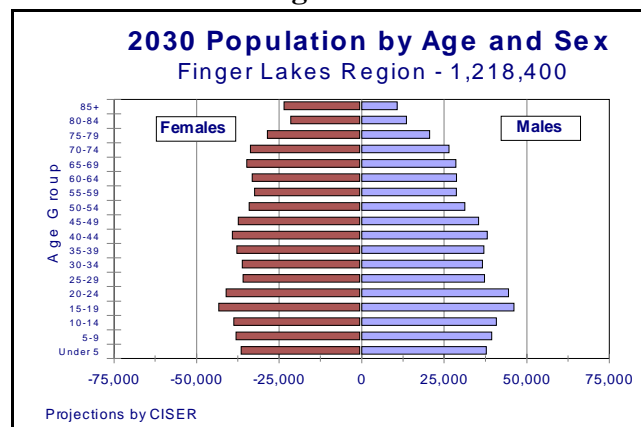


Figure 10



To assist in studying the need for additional acute hospital beds, FLHSA assembled a Task Force of hospital representatives from both Monroe County and the Central Finger Lakes, plus representatives of the business community, local insurers, physicians, county government and consumer organizations. Initially chaired by Dr Andrew Doniger, Director of the Monroe County Health Department, due to illness, Nancy Adams, Executive Director of the Monroe County Medical Society, assumed the chair; the membership of the Task Force is listed in Appendix A. The Charge to the Task Force is shown in Appendix B. The Task Force met on 12 occasions from April 2007 to January 2008. Appendix B also includes a timeline of meetings and topics.

METHOD OF APPROACH

At its simplest, bed need estimation is fairly straight-forward. The number of beds needed equals:

$$\frac{\text{Projected Discharge Rate}^3 \times \text{Projected Population} \times \text{Projected Length of Stay}}{\div \text{Occupancy Rates.}}$$

The complicated part is to determine appropriate projections of future discharge rates and lengths of stays.

For the past 25 years, use of hospitals in the Rochester area has been declining, and for most of that period it has been less than the national average. Underlying that broad comparison are two competing factors. The Rochester area has long experienced a lower discharge rate than national. At the same time, this area has generally kept patients in the hospital for a longer period (the average length of stay or ALOS); the relatively low discharge rate and relatively high ALOS may be linked. Generally discharge rates and ALOS have been declining both nationally and in the Rochester area; the rates in more recent periods, however, particularly the discharge rates, have hit a plateau or increased (Figures 11,12,13).

³Hospital discharges is the measure commonly used; discharges are essentially identical to hospital admissions.

Figure 11

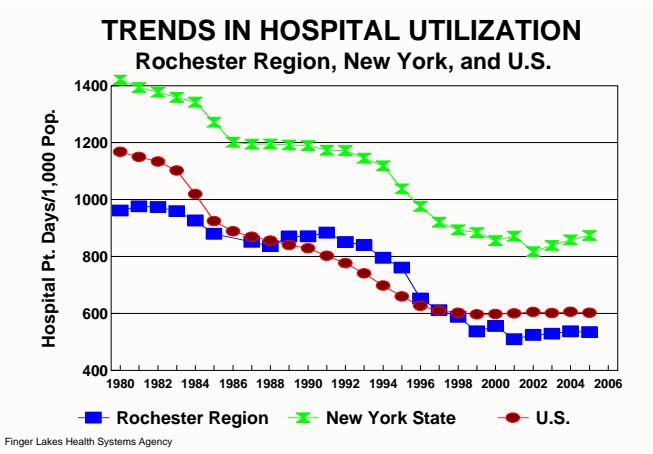


Figure 12

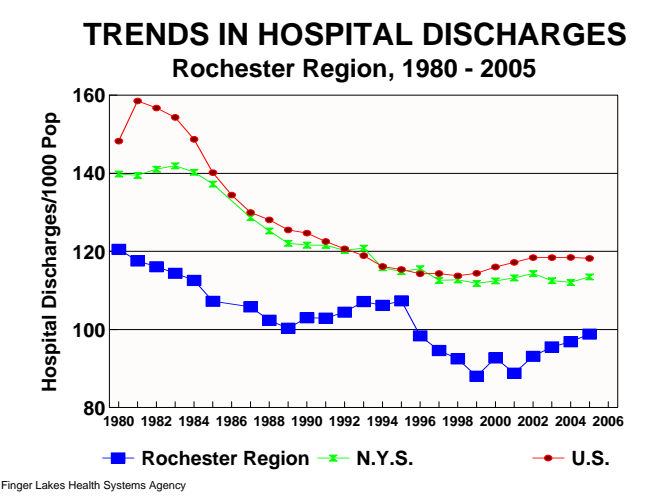
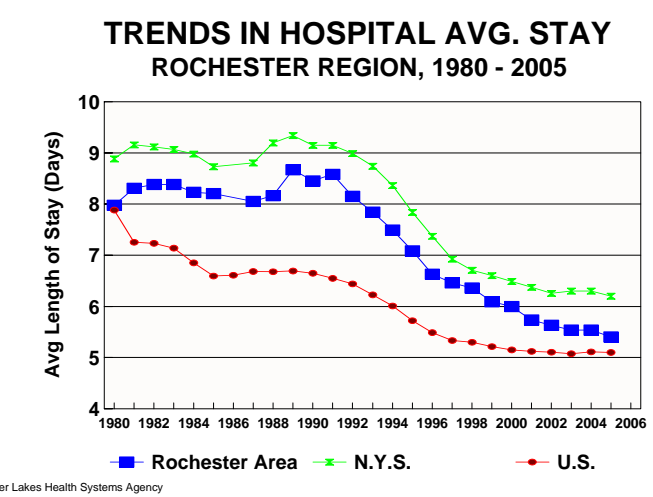


Figure 13



The Statewide SPARCS hospital data system and local records indicate there has been substantial growth in inpatient volume in the six years since the closure of The Genesee Hospital. To project future need for hospital beds, it is important to determine why that growth occurred. In a larger sense one must seek to understand how historic trends in utilization will be influenced by factors within and outside of medical care. Put another way, what will “change the trajectory” of historic trends?

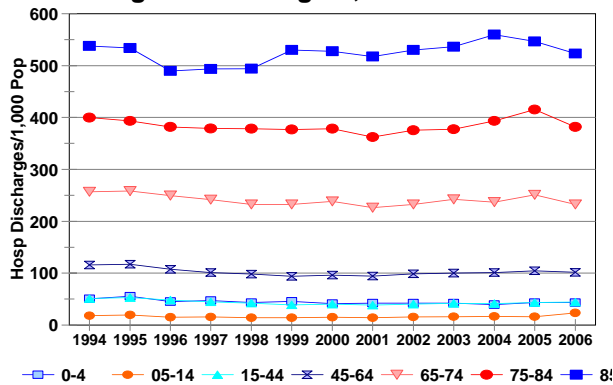
In the course of this study, the following potential influences on future hospital bed need were considered:

- Growth or shrinkage of the population
- Aging of the population
- Chronic Diseases
- Observation Patients
- Patient Migration (within region)
- Patient Migration (outside the region)
- Alternate Level of Care (ALC) patient load
- Long Term Care opportunities
- Information Technology – Regional Data Exchanges
- Information Technology – Electronic Medical Record and other Hospital Information Technology
- Medical Technology
- Physician Supply
- Quality Initiatives
- Race/Poverty

Hospital use is very sensitive to the aging of the population, as older individuals are more prone to be admitted to the hospital (Figures 14,15).

Figure 14

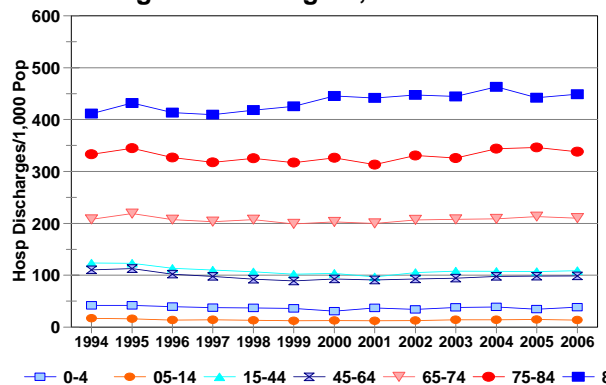
**Male Hospital Discharge Rate
Finger Lakes Region, 1994 -- 2006**



Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

Figure 15

**Female Hospital Discharge Rate
Finger Lakes Region, 1994 -- 2006**



Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

Chronic diseases, such as heart disease, cancer and diabetes, are generating increases in the number of hospital discharges, but much of the impact appears to be tied to the effect of aging. While research suggests that obesity is increasing the chronic disease load, other behavioral changes such as reductions in smoking, reductions in cholesterol levels, and increases in physical activity may offset the impact of chronic diseases. Nonetheless, there appears to be a net upward effect on chronic disease and hospital use, independent of the aging of the population.

Of the remaining factors that might affect hospital use, study indicates there is uncertainty about the impact each would have. For some factors, the literature suggested the effect could be both up and down (Figure 16). An example is medical technology, which not only could help to continue the movement of patients from inpatient to outpatient settings, but which could also provide inpatient treatments for conditions previously not treatable. For other factors, the indications are that while the factor could have a substantial effect, specific public policy changes would be necessary, or public investment decisions made, for the effect to occur. For example: If certain specialty nursing home beds were developed, substantial numbers of ALC patients would be able to be discharged from the hospital in a timely fashion, reducing ALOS. Another example: If recruitment of patients from out of region is encouraged (for instance, as an economic development strategy), additional beds beyond the calculated regional need would be required.

Figure 16

**Factors Having an Impact on
Acute Bed Need**

Factor	Impact on Discharges	Impact on LOS	Impact on PT Days	Impact on Bed Need
Occupancy Rate	—	—	—	↓↑
IT	↓	↓	↓	↓
Med Tech	↓↑	↑↓	↓	↓
Aging	↑	↑	↑	↑
23° Stay/Obs/ Boarders	Inpatient ↓	↓	↓	↓↑
Migration	↑↓	—	↑↓	↑↓
Surge Capacity	—	—	—	↑
LTC Opportunities	—	↓	↓	↓
LTACH	—	↓	↓	↓

Refer to

Appendix C which summarizes the evidence collected during the study for each of the “factors,” as well as the disposition of “factors” in the bed need projection. Note that, collectively, these factors are thought to have a downward influence on use.

RESULTS OF STUDY

Current Need for Acute Beds in Monroe County

Figure 3, titled “Daily Hospital Census vs. Capacity,” shows that, on many days, Rochester hospitals exceed both their operational and licensed medical-surgical capacity. This high occupancy comes at a price, measured in inefficiencies such as frequent patient transfers. Hospitals are also left with no capacity to respond to public health emergencies such as mass casualty events, bioterrorism, or epidemics like the potential pandemic influenza.

Thus, there is need for additional acute hospital beds to care for current patients. Figure 17 calculates the current number of needed beds. To care for current patients with an appropriate occupancy rate, Rochester hospitals presently require 93 additional acute beds.

Figure 17

•	Total Patient Days (Monroe County Hospitals CY 2006 Including “Observation” Patients)	475,000	
•	Average Daily Census (ADC=Total Patient Days ÷ 365)	1,301	
	— Medical/Surgical		1,062.9
	— ICU		136.6
	— Pediatrics		67.4
	— Physical Rehabilitation		34.1
•	Currently Needed Beds (ADC ÷ Occupancy Rate)	1,580.2	
	— Medical/Surgical		1,250.5
	— ICU		192.8
	— Pediatrics		89.9
	— Physical Rehabilitation		47
•	Unmet Need		93
		Have	Unmet Need
	— Medical/Surgical	1,202	48
	— ICU	148	45
	— Pediatrics	96	0
	— Physical Rehabilitation	47	0
	SUM	1,493	93

Future Need for Beds in Monroe County

While this study spent substantial time considering many factors which might have an effect on future inpatient utilization rates, it is uncertain at this time if those effects will come to pass. Without specific public policy changes or public investments, a number of the factors will remain potential influences. Consequently, the Task Force considered three primary approaches to projecting future bed need:

- Option I – Constant Use Rates
 - This assumes that discharge rates grow only due to population aging
 - This assumes ALOS changes only due to population aging
 - This is the general approach the three Monroe hospitals have taken in their planning
- Option II – Historic Trends
 - This assumes that discharge rates continue their trends in age-specific rates
 - This also assumes that ALOS rates continue their trends in age-specific rates
- Variations of Option II – A Range Around Historic Trends
 - This assumes that discharge rates and ALOS rates trends moderate (are higher than the historic trends), stay the same as historic trends, or accelerate (are lower than historic trends).
- Option III – Adjusted Trends
 - This assumes that, through analysis of the various factors which might influence future utilization, a set of age-specific discharge and ALOS rates are developed.

The Option I was accepted by the Task Force as a plausible option, based on the experience of most recent years of Monroe hospitals that rates of discharge and length of stay have not changed, and discharges and patient days will likely change only due to the aging of the population in the near future. Option I calculates a need in 2015 for 147 additional beds in Monroe County.

A number of variations around the Historic Trend were considered. Of 10 permutations considered in depth, only 2 resulted in an increased bed need for 2015; the remainder resulted in a future need lower than the 93 beds presently required. In general, the effect of the long-term decline in use rates exceeded the effect of the aging of the population.

The Option III was not adopted due to the uncertainty of the impact of the factors which are thought to affect use rates. Some in the Task Force, however, believed the factors provide a rationale for concluding the need for beds would be lower than the Option I calculation.

The Task Force adopted two variants of the Option II. Each variant assumes that length of stay will continue to trend downward similar to its historic trend. The variants also assume that there will be an increase in discharge rate due to chronic diseases in the future beyond that due to the aging of the population. In one variant, that increase is assumed to be 2.6% above the historic trend. In the second variant, that increase is assumed to be 5% above the historic trend.

The lesser increase in discharge rates generates a need in 2015 for 83 Monroe County hospital beds more than current supply; in other words, 10 fewer beds than the 93 needed for present patient volume. The greater increase in discharge rates projects a need in 2015 for 112 beds; in other words, 19 beds more than the 93 needed for present volume.

For additional detail, see Appendix E – Statistics and Calculations.

Sensitivity analysis suggests that additional beds may be needed in the period 2030 to 2050. While there is uncertainty of future hospital utilization patterns, the analysis suggests that constructing the infrastructure needed for expansion would be warranted.

Rural Hospitals

Throughout the study, the Task Force struggled with the dilemma inherent in the very different occupancy rates in Monroe County hospitals as compared to hospitals in Ontario, Wayne, Yates, and Livingston Counties. While surplus occupancy exists in the latter counties' hospitals, need for specialists in the rural counties often result in many residents of the outlying counties being hospitalized in Monroe County. Emergency trauma protocols and patient/family preference also contributed to the low hospital occupancy rates. The Task Force discussed possible mechanisms to increase use of the rural hospitals, and thus potentially relieve crowding in Monroe hospitals. Because any possible approaches are at best uncertain in terms of design and implementation, the Task Force set aside the discussion of how the low occupancy rates in the rural county hospitals might offer some synergy with Monroe hospitals for balancing inpatient utilization. Nonetheless, these warrant further exploration in the context of design and efficient and effective use of the region's health care system.

RECOMMENDATIONS

- There is a need for 93 new beds in Monroe County to meet current patient volume.
- Future bed need may be up to 147 above the current complement of 1493 operational beds.

Monroe County Acute Bed Need						
	2007			2015		
	Current Beds	Incremental Need	Total Needed Beds	Incremental Need Compared to 2007	Incremental Need Compared to Current	Total Beds Needed 2015
Low Estimate	1493	93	1586	-10	83	1576
High Estimate	1493	93	1586	+54	147	1640

- There are a number of “factors”, such as the impact of medical technology, information technology, and quality improvements, which suggest the bed need might be less than the 147 potential need.
- There are also a number of “factors”, such as specialized nursing home beds or physician supply, which might have an effect on future bed need but which require considerations of public policy and/or public investment; these should be analyzed further by the upcoming 2020 Commission. Some of these would result in reduced bed need; promotion of acute services for patients from outside the region, on the other hand, would result in additional bed need.
- There is available capacity in the hospitals in surrounding counties. The 2020 Commission should consider further the additional resources offered by those hospitals in the regional health care system.

NEXT STEPS

The initial Charge to the Task Force included consideration of needs for modernization of hospital beds. During the course of the Task Force deliberations, it became clear that modernization was a subject which could best be dealt with separately. This Task Force has focused on the issue of how many acute beds are needed in the area.

FLHSA, however, heard from various interests that there was a need for consideration of modernization. It has convened the Community Health System 2020 Commission (the 2020 Commission) to consider not only questions of modernization, but also how modern hospitals fit into the whole health care delivery system and what is the total investment needed to assure a high-performing health care system in this region.

Thus, while this Task Force has made its recommendations, those recommendations will be viewed in a larger context. The 2020 Commission may recommend modifications to the bed need numbers based on its considerations of both the items referred to it by this Task Force, as well as the broader needs of the community that it finds.

Appendix A**Acute Bed Need Task Force Membership**

Nancy Adams, Chair	William Hoogland
Diane Ashley	Kevin Nacy
Stephen H. Cohen, MD	Kathleen Parrinello
William Carpenter	Stewart Putnam
Mark Cronin	Loren Ranaletta
Donald DeFrees	Douglas Stark
Trilby de Jung, JD	Jaconna Tiller
Katherine Detherage, Ph.D.	John Urban
Andrew S. Doniger, MD	Mervyn U. Weerasinghe, MD
Mary Ann Eldred	James Wissler
Dennis Graziano	

Appendix B
FLHSA Acute Bed Study Task Force
Charge to the Task Force
April 4, 2007

I. TASK

The Task Force will develop a projection of need, if any, for additional acute care capacity in Monroe County. It will also consider the need for renovation & replacement facilities. It will make recommendations to the community on these issues, including contingent recommendations where appropriate.

II. CHARGE TO TASK FORCE

With respect to the Region's needs for Acute Beds in hospitals:

- A. Review/understand existing capacity and utilization;
- B. Examine factors/trends affecting utilization and prioritize which factors/trends are most likely to affect utilization;
- C. Identify the impact these trends have on utilization over the next 5- to 10- year period;
- D. Discuss potential scenarios for capacity in 2020 through 2050;
- E. Make recommendations whether the existing capacity is sufficient for:
 1. Current state, specifically any gaps
 2. Future regional population needs:
 - a. Focus on needs to 2015
 - b. Outline potential needs for 2020 to 2050
- F. Identify required modernization/renovation of the existing capacity;
- G. Where gaps in capacity exist, make recommendations to the community, including contingent recommendations where appropriate

III. AUDIENCE

Foremost, the product of the Task Force will inform and guide the FLHSA and NYS Department of Health planning and regulatory processes, including the CON and CTAAB processes.

However, there are a number of other audiences for which the Task Force outcome will be of substantial interest, and to whom the analyses and recommendations of the Task Force should be addressed:

- Area funders and insurers;
- Area business community, especially in their role as payors for health care;
- Local Government, who also are significant payors for health care, but which also consider the economic development impact of a high quality and economic health care system;
- The general public, who are the ultimate payors for health care, are affected by both increases in costs of care and ease of access to needed care, and of course are the patients;
- Health care providers, including of course local hospitals, but also physicians, pre- and post-hospital care providers and other providers.

IV. METHOD

The Task Force shall develop a status quo projection of need for acute care beds in Monroe County, but will also project need if the status quo can or should be altered:

- A. It will develop a baseline estimate of need, based on analysis of present trends in utilization and population. Estimates for 2010 and 2015 will be developed, along with projections extending further into the future for sensitivity.
- B. It will develop a series of white papers analyzing options to the baseline. Analysis of each option will include consideration of cost, feasibility, impact on the baseline, implementation timing, funding considerations, and impact on access for care for various segments of the community.
- C. It will compare and contrast present acute care practice to other areas of the region, state and nation to look for best practices.

V. "OPTIONS" TO BE CONSIDERED

- Reduction of Length of Stay (LOS)
- Reduction of Alternate Level of Care (ALC)
- Interaction with the Long Term Care (LTC) system
- Impact of the Long Term Acute Care Hospital (LTACH) concept
- Reduction of reimbursement barriers to care in other-than-hospital settings
- Use of available acute resources in areas surrounding Rochester
- Impact of Information Technology
- Other topics as proposed by the Task Force

VI. OTHER TOPICS TO BE CONSIDERED

- State of current hospital infrastructure
- Impact of "23-hour" stays
- Maximum feasible occupancy
- Maximum efficient/economic occupancy

Task Force Meeting Dates and Meeting Topics

April 3, 2007	Discussion of Charge Need for Study
April 30	Introduction to Baseline Projection
May 22	Acute Length of Stay Alternate Level of Care (ALC)
June 12	LTC Opportunities Intro to Long Term Care Hospital
July 31	Greater Rochester Regional Health Information Organization Health Information Technology Impact on Bed Need
September 11	Impact of Medical Technology on Acute Bed Need Bed Need Methodology
October 2	Value of TF to state CON deliberations Long Term Care Hospital consultant report
October 24	Optimal Occupancy Rates 23-Hour Stays/Observation Patients & Boarders Patient Migration Trends Rural Hospital Perspective
November 13	Discussion of Planning Factors
December 11	Discussion of Planning Factors
January 18	Consultant Presentation FLHSA Presentation
January 30	Discuss Draft Report Vote for Acceptance of Report

Appendix C

Factors Potentially Influencing the Need for Acute Hospital Beds

I.	Population Growth	C-1
II.	Population Aging	C-2
III.	Average Length of Stay	C-3
IV.	Chronic Diseases	C-6
V.	Discharge Rates	C-7
VI.	Available Beds	C-8
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VIII.	Information Technology – Regional Data Exchanges	C-13
IX.	Information Technology – Electronic Medical Records and other Hospital Information Technology	C-14
X.	Long Term Care (LTC) Opportunities	C-15
XI.	Long Term Acute Care Hospital (LTACH)	C-16
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I. POPULATION GROWTH

How it Affects Bed Need

In addition to the use rate of hospital service, the size of the population in the area is central to the need for acute hospital beds. Overall, the population in the six-county study area is not anticipated to change significantly in the next ten years. However, demographers project changes in the distribution of the population within the region, and that can have an effect on how many and where beds should be located.

What Information We Have/Used

FLHSA used population projections at the county level for the 9 counties in the Finger Lakes region and the 7 counties which border the region. The population estimates, extending at 5-year intervals to 2030, were developed by the CISER (Cornell Institute for Social and Economic Research) NY Statistical Information System program at Cornell University. Cornell is a NYS Data Center Coordinating Agency and represents New York in the U.S. Census Bureau's Federal-State Cooperative Program for Population Estimates.

Results

Population is a factor built into the bed need formula and therefore any changes (increases or decreases) are automatically reflected in the calculation of bed need.

II. POPULATION AGING

How it Affects Bed Need

Older populations utilize hospitals more frequently than do younger populations. As the population ages (increases the proportion of older population), the need for hospital capacity increases, all other things being the same.

What Information We Have/Used

FLHSA used population projections by age (aggregated into 7 age groups – 0-4, 5-14, 15-44, 45-64, 65-74, 75-84, 85+) and by gender for each county in the 9 counties in the FL region. The use of subdivisions of the senior population (many researchers aggregate all population 65 and older) is better able to capture the impact of the aging of the population.

The population estimates, extending at 5-year intervals to 2030, were developed by the CISER (Cornell Institute for Social and Economic Research) NY Statistical Information System program at Cornell University. Cornell is a NYS Data Center Coordinating Agency and represents New York in the U.S. Census Bureau's Federal-State Cooperative Program for Population Estimates.

Results

Population by age and sex is a factor in the bed need formula; therefore, any changes in the age structure of the population are automatically reflected in the calculation of bed need.

III. AVERAGE LENGTH OF STAY

How it Affects Bed Need

Each admission (discharge) to the hospital involves staying for a certain number of days. Across all patients (or group of patients, such as all newborns, or all medical patients in a certain age group), the total number of hospital days used divided by the number of discharges equals the Average Length of Stay (ALOS). The number of hospital beds needed is directly related to the ALOS: an increase in average length of stay would demand more beds for the same number of discharges, while a decrease in ALOS would result in need for fewer beds.

What Information We Have/Used

Through the SPARCS data system, we have the total discharges and total inpatient hospital days of care and thus can calculate the average length of stay. We have this data by age, sex, service category (medical/surgical, pediatrics, obstetric, newborn, and mental health), county of residence and county of hospitalization, from 1994 through 2006. The SPARCS dataset covers all hospitalizations in New York State hospitals.

Through local data provided to FLHSA by the hospitals, we have patient days (but not discharges) by bed type (medical/surgical, ICU, pediatrics and pediatric intensive care, obstetrics, neonatal and neonatal intensive care, physical rehabilitation, drug and alcohol rehabilitation).

Through local data provided by the hospitals to their local trade association, and subsequently to FLHSA, we have data on discharges and days by bed type (grouped somewhat differently from the data provided directly to FLHSA). We also have information on the number of observation patients (see Observation Patients, below) cared for in inpatient beds and in total.

For this study, we have used the SPARCS data for most of the calculations of discharge rates, ALOS and patient migration. We have used the local data as a supplement to provide information on observation patient days.

Results

Generally, the average length of stay in the Rochester area is longer than in other parts of the nation, although shorter than the average in New York State. (When case-mix adjusted, the Monroe ALOS is approximately 0.3 days longer than the national average, while the Central Finger Lakes is over one day shorter than national average.) The long-term trend in ALOS is downward. See Graph 1.

Within the overall trend, some age groups are experiencing no change in ALOS, while others, particularly the senior age groups, have experienced substantial declines in average length of stay over the past decade. See Graphs 2.

There is uncertainty how external factors will affect ALOS in the future, although those factors would appear to suggest the long-term downward trend would continue. Statistical analysis also suggests the ALOS will continue to decline, based on historic trends combined with population aging, as seen in the chart below.

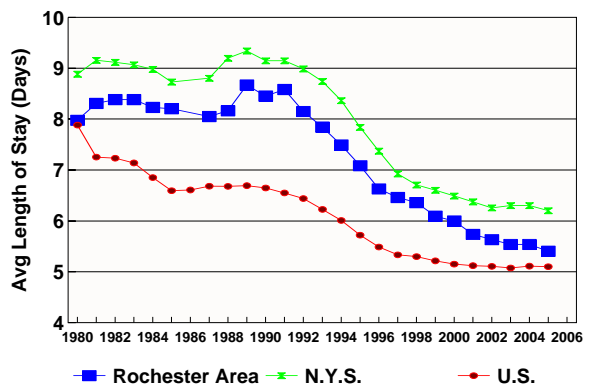
The Task Force considered alternative projections which included continuation of the long-term trend in ALOS and no change in ALOS except those derived from the aging of the population.

Historic and Projected Trends in Average Length of Stay Monroe and Central Finger Lakes Hospitals, 2006 - 2015			
	2006	2010	2015
Monroe Hospitals	5.8	5.4	5.2
C/FL Hospitals*	4.9	4.6	4.4

*Hospitals in Livingston, Ontario, Seneca, Wayne and Yates Counties

Graph 1

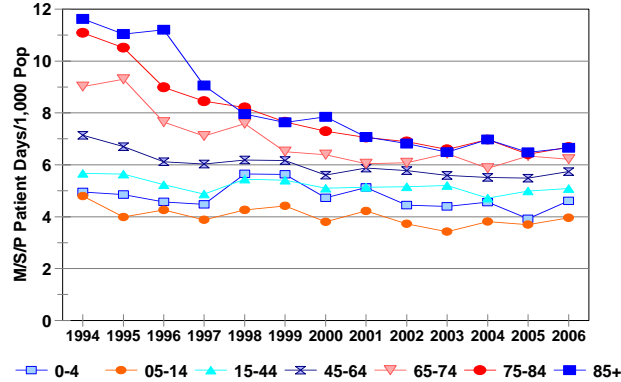
TRENDS IN HOSPITAL AVG. STAY ROCHESTER REGION, 1980 - 2005



Finger Lakes Health Systems Agency

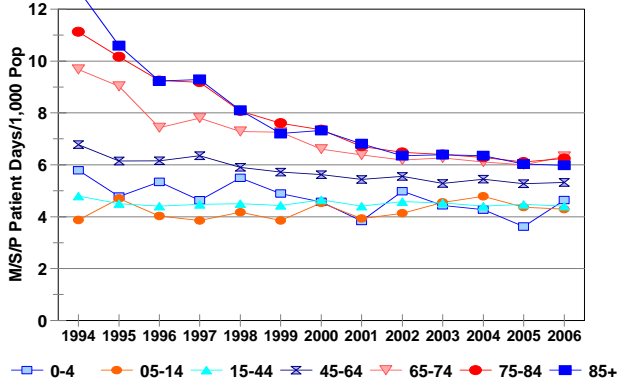
Graph 2

Male M/S/P Length of Stay Monroe Residents, 1994 -- 2006



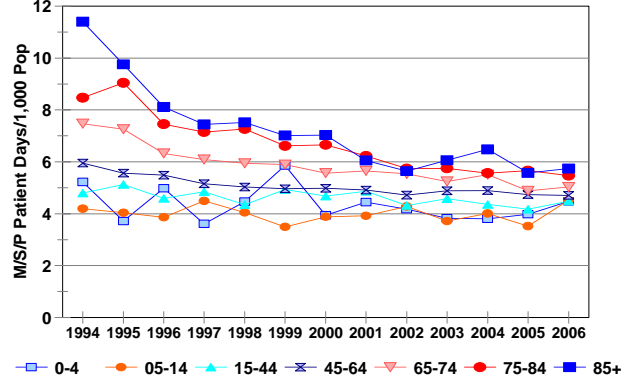
Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

Female M/S/P Length of Stay Monroe Residents, 1994 -- 2006



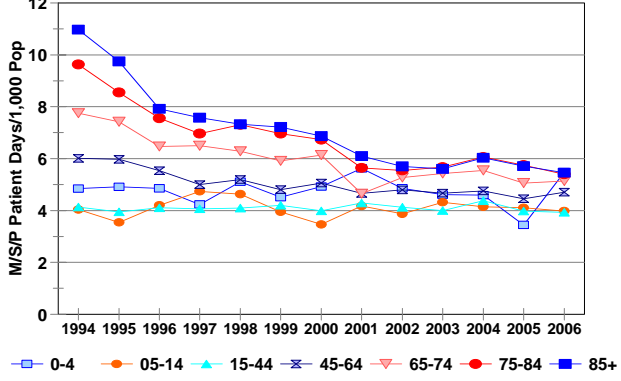
Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

Male M/S/P Length of Stay CFL SubRegion, 1994 -- 2006



Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

Female M/S/P Length of Stay CFL SubRegion, 1994 -- 2006



Data Source: SPARCS; extract and calculations by FLHSA
Population estimates U.S. Census

IV. CHRONIC DISEASES

How it Affects Bed Need

Chronic diseases (e.g., heart disease, cancer, respiratory diseases, diabetes) are primary causes for hospitalization. While much of the impact of chronic disease is captured by consideration of the aging of the population, to the extent that, within age groups, the prevalence of chronic disease is increasing, there is likely to be an increasing need for hospital beds. Much of that increase in need would be a result of an increase in the number of hospitalizations (discharge rate), but there might also be an effect on the length of each hospitalization (ALOS).

What Information We Have/Used

There is substantial evidence that obesity is rising rapidly in the American public; the Milken Institute estimated that from 2003 to 2023, the proportion of the public classified as obese will increase from 22% to 28.7%. An increase in obesity is associated with an increase in breast, colon, prostate and other cancers and with diabetes, heart disease, hypertension and stroke.

Staff reviewed some 25 articles on chronic disease trends; unfortunately, few of them estimated the impact on hospital use. In October 2007, however, the Milken Institute published a comprehensive projection of the number of chronic diseases the U.S. might experience in 2023 and the economic impact of those diseases on the American economy.⁴ The Milken study methodology permitted consideration of the trends in chronic disease with the aging of the population and independent of that aging.

While the Milken study found that obesity rates are rising, it also found that smoking was decreasing, that physical activity levels were rising, that high cholesterol levels were dropping, and that air quality was deteriorating. Those factors, and certain demographic characteristics in addition to aging, are statistically associated with chronic disease levels. However, independent of the effect of aging of the population, the effect of the rise in some at-risk behaviors was nearly cancelled by the decline of others. The Milken study estimated that, independent of aging effects, chronic diseases would increase by 2.6% between 2003 and 2023.

Results

To account for the impact of increasing chronic disease levels, the Task Force considered (age-specific) discharge rates for 2010 and 2015 that would be 2.6% and 5% higher than the long term trend.

⁴DeVol R and Bedroussian A, "An Unhealthy America: the Economic Burden of Chronic Disease," The Milken Institute, Santa Monica CA. Accessed at www.milkeninstitute.org on December 1, 2007.

V. DISCHARGE RATES

How it Affects Bed Need

Each admission (discharge) to the hospital involves staying in an acute care bed for a certain number of days. Across all patients (or group of patients, such as all medical patients in a certain age group), the total number of admissions divided by the population equals the Discharge Rate. The number of hospital beds needed is directly related to the Discharge Rate: an increase in discharge rate would demand more beds for the same number of resident population, while a decrease in discharge rate would result in need for fewer beds for the same population.

What Information We Have/Used

Through the SPARCS data system, we have the total discharges by county of residence, and thus can calculate the discharge rate. We have this data by age, sex, service category (medical/surgical, pediatrics, obstetric, newborn, and mental health), county of residence and county of hospitalization, from 1994 through 2006. The SPARCS dataset covers all hospitalizations in New York State hospitals.

Through local data provided by the hospitals to their Association, and subsequently to FLHSA, we have confirmatory data on discharges by bed type (grouped somewhat differently, however, from the data provided by SPARCS).

For this study, we have used the SPARCS data for most of the calculations of discharge rates, ALOS and patient migration. We have used the local data as a supplement.

Results

Based on trends observed from 1994 to 2006, discharge rates are declining among the population less than 65 years of age, and increasing among older populations. On balance, discharge rates, independent of the aging of the population, would increase by 4.8% among Monroe County residents, 13% in the Central Finger Lakes and 3.9% in the Southern Tier counties. Applied to the projected population by age and sex, discharges are projected to increase by 1.6% among Monroe County residents and 11.2% among the slightly “older” population in the Central Finger Lakes; the Southern Tier would experience a 1.1% decrease in discharges due to changes in discharge rates and changes in the population.

VI. AVAILABLE BEDS

How it Affects Bed Need

The number of available beds, compared to the calculated need, determines the unmet need for new bed resources.

What Information We Have/Used

There are at least three measures of available beds. The first, *licensed beds*, is the broadest. Bed capacity is licensed by the NYS Department of Health and represents the original constructed capacity of the hospital building. However, when hospital occupancies were low, many licensed bed spaces were converted to other uses, both clinical or non-clinical in nature. Those bed spaces, while generally still on the hospital license, are no longer set up for inpatient care; the remaining beds are set up for inpatient care and are called *set-up beds*. Finally, even if a bed is set up for acute care, it may not be staffed if there are insufficient patients (or staff). Thus, a subset of licensed and set up beds is *staffed beds*.

FLHSA has ongoing access to listing of the number of licensed beds. It does not have routine access to how many beds are set and staffed. However, as part of this study, the hospitals provided a listing of licensed, set up, and staffed beds for the past three years.

FLHSA has considered beds by service categories. Mental health, obstetrics and newborn beds are specifically excluded from consideration in the current study. Pediatrics beds present a special case. In the Monroe County hospitals, only Rochester General (RGH) and Strong Memorial (SMH) Hospitals have designated pediatrics beds. RGH uses its pediatrics beds flexibly, and as much as 80 percent of the time, adults are placed in the hospital's pediatrics beds. Strong's pediatrics unit is used exclusively for pediatrics patients under the age of 21, and both occupancy rate and average length of stay for the unit are lower than for Strong's adult medical/surgical beds. Thus, in the calculation of bed need, we have not applied net reduction in pediatrics beds against need for adult beds. Additionally, since it appears that need in the community for pediatrics beds may be declining, it is recommended that, in the next phase of the study, when bed need is assessed, if there are unused pediatrics beds in the community, consideration should be given as to whether some pediatrics beds should be converted to adult use.

Results

Per the hospitals, there is currently the following available bed capacity in the Rochester area.

Licensed Beds, June 2007										REHAB SUB/ALCOHOL	TOTAL
	"Med/Surg" Subtotal	M/S	REHAB	ICU	PED	NICU	OB	MH			
6-County Rochester Area	2016	1,646	84	190	96	69	177	212		70	2,544
CENTRAL SUBTOTAL	504	447	15	42	0	0				30	626
Clifton Springs	106	100	--	6	--	--		18		30	154
Geneva General	120	95	15	10	--	--	12			--	132
F.F. Thompson	101	94	--	7	--	--	12			--	113
Newark-Wayne	90	82	--	8	--	--	14	16		--	120
Soldiers & Sailors	25	22	--	3	--	--		10		--	35
Noyes	62	54	--	8	--	--	10			--	72
MONROE SUBTOTAL	1512	1,199	69	148	96	69				40	1,918
Rochester General	458	378	16	40	24	14	26	30		--	528
Strong Memorial	549	387	20	70	72	52	45	93		--	739
Highland	232	218	--	14	--	--	29			--	261
Unity	187	167	0	20	--	3	21			40	251
Unity-Genesee St	33	0	33	0	--	--		45		--	78
Lakeside Memorial	53	49	--	4	--	--	8			--	61

Set Up Beds, June 2007										REHAB SUB/ALCOHOL	TOTAL
	"Med/Surg" Subtotal	M/S	REHAB	ICU	PED	NICU	OB	MH			
6-County Rochester Area	1884	1,528	73	187	96	69	165	207		70	2,395
CENTRAL SUBTOTAL	416	361	14	41	0	0				30	536
Clifton Springs	57	51	--	6	--	--		18		30	105
Geneva General	105	82	14	9	--	--	10			--	115
F.F. Thompson	101	94	--	7	--	--	12			--	113
Newark-Wayne	66	58	--	8	--	--	14	16		--	96
Soldiers & Sailors	25	22	--	3	--	--		10		--	35
Noyes	62	54	--	8	--	--	10			--	72
MONROE SUBTOTAL	1468	1,167	59	146	96	69				40	1,859
Rochester General	434	359	11	40	24	14	16	30		--	494
Strong Memorial	540	380	20	68	72	52	45	93		--	730
Highland	226	212	--	14	--	--	29			--	255
Unity	187	167	0	20	--	3	21			40	251
Unity-Genesee St	28	0	28	0	--	--		40		--	68
Lakeside Memorial	53	49	--	4	--	--	8			--	61

Staffed Beds, June 2007										REHAB SUB/ALCOHOL	TOTAL
	"Med/Surg" Subtotal	M/S	REHAB	ICU	PED	NICU	OB	MH			
6-County Rochester Area	1745	1,422	52	175	96	69	151	201		70	2,236
CENTRAL SUBTOTAL	289	255	5	29	0	0				30	389
Clifton Springs	57	51	--	6	--	--		18		30	105
Geneva General	71	59	5	7	--	--	6			--	77
F.F. Thompson	56	50	--	6	--	--	12			--	68
Newark-Wayne	40	36	--	4	--	--	7	13		--	60
Soldiers & Sailors	15	14	--	1	--	--		7		--	22
Noyes	50	45	--	5	--	--	7			--	57
MONROE SUBTOTAL	1456	1,167	47	146	96	69				40	1,847
Rochester General	434	359	11	40	24	14	16	30		--	494
Strong Memorial	540	380	20	68	72	52	45	93		--	730
Highland	226	212	--	14	--	--	29			--	255
Unity	187	167	0	20	--	3	21			40	251
Unity-Genesee St	16	0	16	0	--	--		40		--	56
Lakeside Memorial	53	49	--	4	--	--	8			--	61

*For purposes of calculating needed beds, 8 “clinical research” beds at Strong Hospital have been eliminated from figures in the tables above and 2 ICU beds which are under construction have been added.

In the years since the closure of The Genesee Hospital, area hospitals have brought back into acute service (set up) a number of beds previously converted to other uses. At this time, there are few if any opportunities to re-convert licensed but not set up beds. Thus, bed need calculations are being based on set up beds rather than licensed bed capacities. This has the effect of increasing the calculated need for beds, but better reflects the physical realities of current bed resources.

VII. OCCUPANCY RATES

How it Affects Bed Need

There is substantial variability in day-to-day patient census at hospitals. Some of the variability is due to reduction in hospital activity on weekends and holidays, some from clinical considerations, and some from needs of patients and physicians. For any given number of hospital patient days, there is need for resources (such as beds) beyond the “average” need to accommodate the variability. These extra resources are calculated by applying an “occupancy rate” to the average need. For instance, if an average of 100 patients are in a facility, an 80% occupancy rate target would indicate that $100/0.80 = 125$ beds would be needed.

What Information We Have/Used

In NYS regulations⁵, the planning occupancy rate for medical/surgical beds is set at 85% for urban hospitals and 80% for rural hospitals. Also, the occupancy standard for pediatric beds is 70% for urban hospitals and 65% for rural facilities. There are no occupancy standards in regulation for ICU beds or for physical rehabilitation beds, although those types of beds are included in this study.

In the professional literature on hospital planning, need for ICU (and obstetric) beds is best described by a queuing model with patients arriving randomly and some pre-determined level of certainty that a bed would be available. This would be governed by a Poisson distribution of the form:

$$ADC + Z * \sqrt{ADC}$$

where ADC equals the average daily census of the unit or service and Z is a statistical factor determining the “assurance of a bed” level. Generally, $Z = 1.65$ provides a 95% probability a bed would be available, and $Z = 2.33$ gives 99% assurance; put another way, there is a chance no bed would be available for an arriving patient 18 days per year (95%) or 4 days per year (99%). For a unit serving 3 patients per day, such as many ICUs in small hospitals, this formula would result in calculated need for 6 beds at 95% assurance level and 7 beds at 99% level. It would result in an effective 50% occupancy rate for small units, increasing to 75% occupancy rate for units caring for 50 patients per day on average.

Results

The Task Force recommends the following occupancy standards be used in this study:

⁵Section 709.2 of the NYS Code of Rules and Regulations.

Recommended Planning Occupancy Rates		
Unit	Urban	Rural
Med/Surg	85%	80%
ICU	Based on hospital-wide unit size: ADC 0<5, 50% ADC 5<10, 60% ADC 10<25, 67% ADC 25<50, 75% ADC >50, 80%	Based on hospital-wide unit size: ADC 0<5, 50% ADC 5<10, 60% ADC 10<25, 67% ADC 25<50, 75% ADC >50, 80%
Pediatrics	75%	70%
Physical Rehabilitation	80%	80%

Additionally, the Task Force recommended use of the Poisson-based occupancy rates for Medical (vs Surgical) bed units.

This report is based on “community” need and total bed availability other than in consideration of ICU bed need which, due to occupancy being based on unit size, considered the size of present intensive care units in the community. Medical/surgical beds are calculated using an 85% occupancy rate; local hospitals experience medical/surgical occupancy rates above and below the 85% average, which may need to be considered when the 2020 Commission determines bed need for each hospital project.

VIII. INFORMATION TECHNOLOGY – REGIONAL DATA EXCHANGES

How it Affects Bed Need

Regional Information Exchanges (HIEs) are organizations which collect and compile health information from many sources (hospitals, doctors' offices, freestanding laboratories, imaging centers, pharmacies, insurers), then make that data available to health care providers at the point of direct patient healthcare service. They serve to develop an electronic health record for each person. In a 9-county area around Rochester (Monroe, Central Finger Lakes plus Orleans, Genesee and Wyoming counties), the Greater Rochester Regional Health Information Organization (gRRHIO[®]) is developing an HIE.

To the extent that HIEs reduce the need for duplicate testing and other inefficiencies created by not having the patient's medical history at the time of care delivery, the HIE may reduce the number of admissions to the hospital (discharges) and the average length of stay.

What Information We Have/Used

A presentation by the gRRHIO provided background to the Task Force, supplemented by materials provided to staff and materials from the medical literature.

Results

It appears that HIEs around the country may reduce hospital use, especially by avoidance of serious medication errors. They will likely reduce length of stay, especially by providing a mechanism to efficiently tabulate medications taken by patients before admission to and on discharge from the hospital. However, while the literature indicates this downward effect on hospital use will likely occur, the magnitude of its effect on overall rates of use likely will be minimal.

IX. INFORMATION TECHNOLOGY - ELECTRONIC MEDICAL RECORDS AND OTHER HOSPITAL INFORMATION TECHNOLOGY

How it Affects Bed Need

Electronic medical records (as opposed to paper records) and other information technology in the hospital setting have the potential to reduce length of stay by removing present barriers to efficient care processes, thereby reducing bed need.

What Information We Have/Used

Information from the medical literature indicates that electronic records and other IT provide more timely clinical information, diagnosis and treatment, reduce medical errors and improve patient safety, and improve communications among the care team. The literature indicates that there may be a small impact on admissions by avoiding care errors, such as medication errors, which require hospitalization. Reductions in LOS arise:

- from reductions in delays in the treatment ordering process, including delays in order transcription and communication;
- from needed tests being ordered in a timely fashion;
- from delays in ordering ancillary services following nursing assessment;
- from delays in searching for paper documents before visiting a patient; and
- from delays in coordination and communication necessary for discharge planning.

Reductions also come from clinical decision-making support, such as on-line care protocols.

Information was also gathered from the hospitals on the present status of their movement from paper to electronic records.

Results

The literature indicated a fairly wide range of outcomes of implementation of hospital information technology, with studies showing 4.5% to 30% reduction in LOS. Staff to the Task Force suggested that a 5% reduction in LOS due to hospital IT was most reasonable, given the uncertainty in the literature and present state of hospital conversion. The TF referred this item to the 2020 Commission to consider the impact of hospital information technology vs the difficulty for the hospitals in procuring the capital and operating funds needed to fully develop such technology.

X. LONG TERM CARE OPPORTUNITIES

How they Affect Bed Need

Local studies have identified that a substantial portion of patients no longer in need of acute care but not discharged (See Alternate Level of Care) are in need of specialized long-term care services, such as nursing home beds for ventilator-dependent patients. If such services were available, there would be a reduction in average length of stay, and a consequent reduction in acute beds needed.

What Information We Have/Used

From a study done by FLHSA in 2005 in cooperation with Rochester hospitals and a sample of nursing homes, we know the primary barriers to discharge of ALC or other patients no longer in need of acute care.

From a study done by Excellus BCBS of Rochester, in cooperation with area hospitals, nursing homes and home health agencies, a set of four prime barriers to timely discharge of ALC patients was identified.

Results

Barriers to timely discharge of ALC patients identified by the FLHSA study include:

Infectious Disease	29% of ALC patients
Medicaid issues	24%
Uncooperative patients or families	24%
*Behavioral Problems	20%
Need for Ventilator/Respiratory Equipment	16%
Complex Wound Care	16%
Pharmaceutical Cost	14%
*Need for Dialysis	14%
Young Age	13%
History of Drugs/Alcohol Abuse	9%
Obesity	5%

*Identified as priority areas for improvement by Excellus Long Term Care Opportunities Workgroup

The Task Force recognized the potential impact on bed need of providing new services to address these barriers. As such services require resource investment (such as development of specialty nursing home beds), this factor was not considered in bed need at this time but will be referred to the upcoming 2020 Commission for consideration.

XI. LONG TERM ACUTE CARE HOSPITAL

How it Affects Bed Need

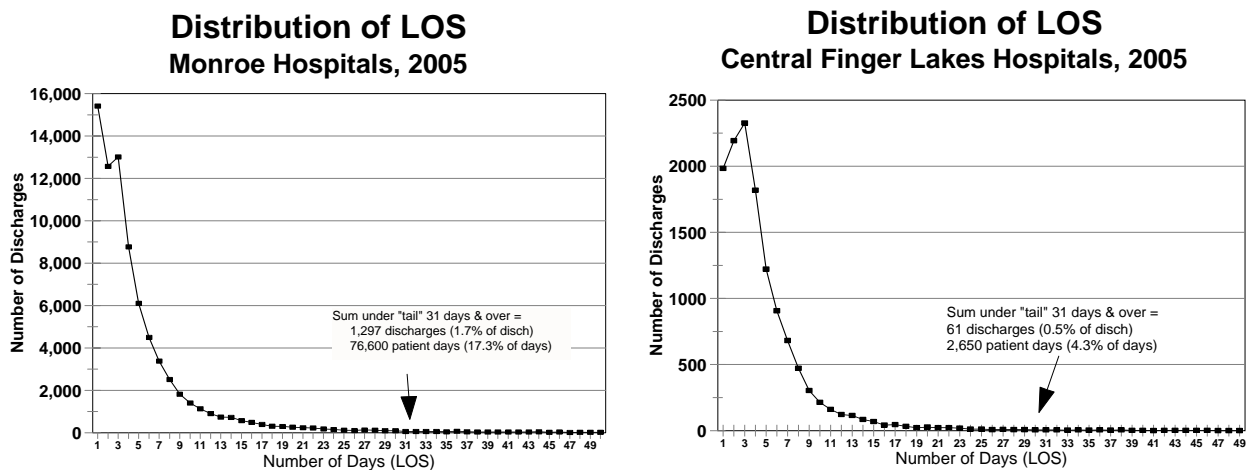
Long Term Acute Care Hospital (LTACH or LTCH) is a Medicare designation for an acute hospital with an average length of stay greater than 25 days. These stays are not for post-acute care; rather, they are for extended acute care. Short-term, acute care hospital patients who are in need of extended acute care can be discharged to an LTCH, reducing the average length of stay of the short-term hospital and thereby reducing need for short-term acute beds. While there are two such facilities in New York State (grandfathered), this category of hospital is not currently recognized by NYS Department of Health.

What Information We Have/Used

SPARCS data includes the length of stay for each discharge. Further, the data set indicates how many of the patient days are ALC days, although there are data quality issues with the ALC field. With that data caveat, the number of days of acute care provided for each discharge is given.

Results

Although the average length of stay in short-term hospitals is around 6 days, FLHSA found that 1.7% of Monroe discharges remain in the hospital for more than 30 days, utilizing 17.3% of all hospital days; the proportions are smaller in the Central Finger Lakes hospitals.



FLHSA engaged a consultant to investigate the need for and issues around the LTCH model. Based on that study, it was determined that there was a need for approximately 52-66 LTCH beds to serve Monroe residents and 10-12 beds for the Central Finger Lakes counties. Further, the study showed that there would be almost a one-for-one offset of acute beds for each LTCH bed developed. That study⁶ is attached to this report by reference (Appendix F).

⁶Votava K, "Extended Acute Care: Community Need for Long Term Care Hospital/s in the Finger Lakes Region", GoodCare.com, Washington DC, October 1, 2007.

XII. MEDICAL TECHNOLOGY

How it Affects Bed Need

Medical technology can affect acute bed need in a number of ways:

- It can increase discharge rates, for instance if patients previously untreated or previously treated on an outpatient basis are now treated in the hospital
- It can reduce discharge rates, by permitting treatments which previously required inpatient care to be performed on an outpatient or ambulatory basis; an example is laproscopic surgery which converted many surgeries from open and inpatient procedures to closed (laproscopic) and ambulatory procedures
- It could increase average length of stay by converting many cases to ambulatory settings; those left needing inpatient care may be more ill or more clinically fragile, with a longer stay. Alternately, it could result in an intensification of treatment, with a presumed improvement in treatment outcome
- It can decrease average length of stay by reducing the intensity of treatment within a hospital admission, for instance as many minimally-invasive procedures reduce LOS to about a day from the longer stay of an open surgical procedure.

Over the past decade, most of the impact of medical technology has been toward reduction in hospital admissions and hospital length of stay.

What Information We Have/Used

A number of national firms forecast for their clients the impact on hospitals in changes in medical care; this study looked at materials from the Advisory Board which projected, by clinical service (e.g., orthopedics), trends in medical technology and their effect on admission rate and LOS. Often, however, different sources will project different, sometimes contradictory, effects of technology. The Task Force was left with uncertainty about the impact of technology.

Results

Given the uncertainty of the direction of effect of technology on hospital use, and given that some technology requires public investment for it to be available, the Task Force referred this topic to the 2020 Commission to evaluate in the light of its findings on efficacy and affordability of investment in hospital and other plants.

XIII. NEED FOR SURGE CAPACITY

How it Affects Bed Need

Planning for public health emergencies (mass casualty, bioterrorism, or infectious disease events such as pandemic influenza) requires some slack bed resources, or “surge capacity”. The planning standard is that there should be 500 beds available per million population. This potentially could mean need for development of beds for surge capacity.

What Information We Have/Used

Local hospitals have identified a number of non-traditional “bed spaces” where patients can be cared for in an emergency.

Results

There is need for about 500 beds of surge capacity in Monroe County and about 125 beds in the Central Finger Lakes counties. Hospitals have identified about 250 “beds” through use of non-traditional spaces such as the Post-Anesthesia Care Unit or putting two beds in nominal single rooms. In the hospitals’ opinion, short term (1-2 days) surge capacity would be achievable if sufficient beds are available to provide an adequate average occupancy. However, for longer term needs resulting from public health emergencies, there would be a shortage unless alternative arrangements were made including community-based and out-of-hospital alternatives. .

XIV. OBSERVATION PATIENTS

How it Affects Bed Need

Certain patients, including both patients waiting for clinical decisions (such as Emergency Department patients waiting for lab or other tests results) or those needing additional monitoring following an outpatient diagnostic or surgical procedure, need to remain in a bed space before they can be discharged. As outpatients, these patients' activity is not included in the inpatient data base, such as the statewide SPARCS hospital database. This may have the effect of reducing discharge rate but would also increase the ALOS of remaining inpatients. However, many of these patients are cared for in an inpatient bed and add to the demand for inpatient beds.

What Information We Have/Used

With the cooperation of the Rochester hospitals and the Rochester Regional Hospital Association, FLHSA has access to data on number of observation patient days per month per hospital.

Results

In 2006, there were over 27,000 Observation Patient "Days" (some patients are only observed for 4 to 6 hours, while others are observed for up to 23 hours), including 10,806 days in inpatient beds. These patients would require at least 75 bed spaces, or 88 bed spaces at 85% occupancy. This bed need is in addition to acute bed need calculated in this study.

How care for these patient days is provided (i.e, in inpatient beds, specially-designed observation beds, or a mix of bed types) will be considered by the 2020 Commission.

XV. PATIENT MIGRATION WITHIN THE REGION

How it Affects Bed Need

The need for hospital care of residents can be met at different hospitals. Patients may “migrate” from one county to another to obtain hospital services. That migration would shift the need from one area to another, and requires an adjustment to bed need for any particular location. Historic migration patterns can remain the same or can change over time.

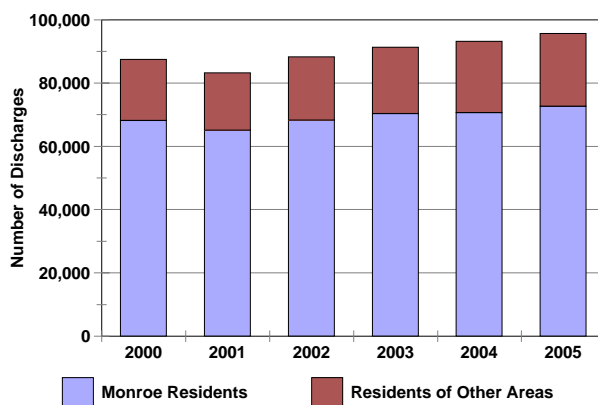
What Information We Have/Used

From the SPARCS database, we can calculate where residents of any county in the state receive care within New York. New York residents who obtain care out of state, such as Chemung County residents obtaining care in Pennsylvania, are not captured in the database. Changes in migration patterns over time can be considered. Additional analysis can suggest the acuity of the hospital care provided by the “receiving” hospital.

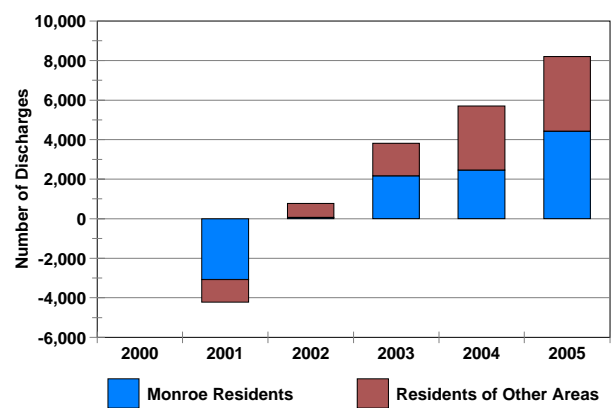
Results

Of particular study is migration from the counties surrounding Monroe into Monroe facilities. There has been a growth in patients in Monroe hospitals from outside Monroe County. The data show that approximately one-half of the growth in patient volume in Monroe hospitals since the closure of The Genesee Hospital are from outside Monroe hospitals.

**Hospitalizations in Monroe Co Hospital
By Patient Origin, 2000 to 2005**

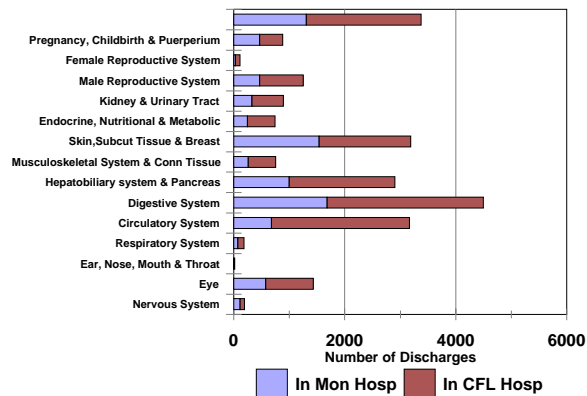


**Changes in Hospitalization, Monroe Co
By Patient Origin, Compared to 2000**

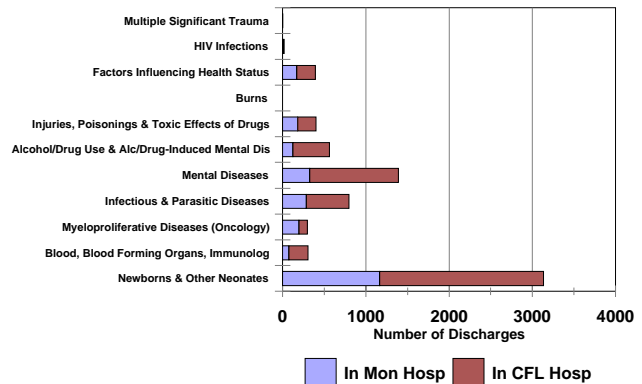


While many discharges in Monroe hospitals are for tertiary hospital services (e.g., cardiac surgery), others are for primary– or secondary–level hospital services. The Task Force considered data on number of discharges by level of intensity (primary/secondary/tertiary/quaternary). The following graphics demonstrate that many hospitalizations of residents of the Central Finger Lakes counties for primary or secondary-level hospital services occur in Monroe hospitals.

**Prim/Sec Discharges by Place of Hosp
Central Finger Lakes Residents, 2006**



**Prim/Sec Discharges by Place of Hosp
Central Finger Lakes Residents, 2006**



Members of the Task Force agreed that a substantial portion of the migration of patients from outside counties into Monroe was due to a lack of physician supply, in particular specialty physicians. Representatives of the rural hospitals indicated that physician recruitment is difficult, particularly for specialty physicians. Analysis of the data indicated there were many situations where sufficient primary and secondary-level patient volume (hospital and ambulatory surgery) existed to support additional physicians in the outlying area; the rural representatives indicated need for income support to recruit and retain those physicians.

Consideration was also given to whether the observed patient migration represented patient choice. The rural hospital representatives indicated that, when they were able to recruit physicians to their practice, patient out-migration diminished substantially over the course of 2 to 3 years.

Consideration was also given to whether the increase in in-migration to Monroe hospitals was explained by re-location of Monroe population to the surrounding counties, but continuation of care-seeking patterns by the former Monroe residents. The figure and table on the following page indicate that the growth of hospital volume from outlying areas to Monroe hospitals is disproportionate to the population growth observed.

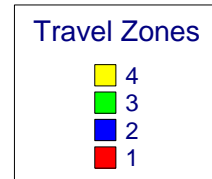
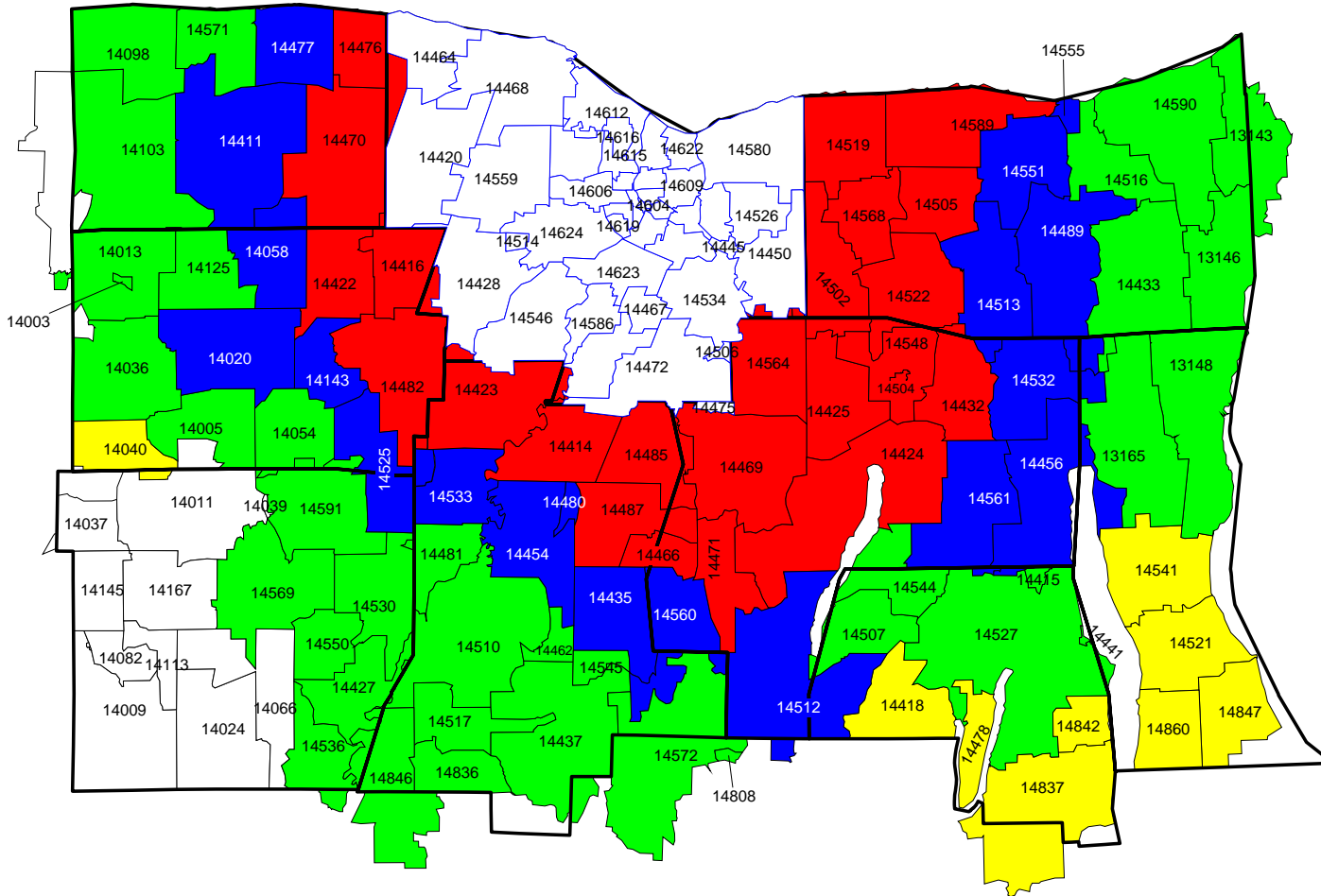
Task Force discussion centered on the following points:

- There has been substantial growth in Monroe hospital volume from outside Monroe County.
- Much of that growth is for hospital services which could be provided in the “home” county if physician services were available.
- Per the rural representatives, reimbursement premiums may be required in order to recruit and retain physicians, especially specialty physicians, to rural areas.
- The hospitals in the counties surrounding Monroe have significant unused bed capacity.

- Patient convenience and quality of care issues aside, there is need to consider if it would be less expensive to provide reimbursement premiums in rural areas or construct additional acute capacity in Monroe?

These concerns were referred to the 2020 Commission for further consideration. Additionally, the bed projections are based on no change in migration patterns.

Monroe County Hospital C-23 Travel Zones



	Population Growth 2000==>2007	Hospital Discharge Growth 2000==>2006	% Hosp Growth to Monroe Hospitals 2000==>2006
Zone 1	2.2%	55%	65.1%
Zone 2	0.1%	65%	45.4%
Zone 3	-2.1%	57%	41.2%
Zone 4	7.6%	49%	28.3%

XVI. PATIENT MIGRATION FROM OUTSIDE THE REGION

How it Affects Bed Need

Local hospitals are Centers of Excellence for certain services or otherwise provide specialty services not available elsewhere. For those services, patients may travel here from outside the region, such as from downstate, from Pennsylvania, or from Canada. Growth of such travel has the effect of increasing local bed need even though the services are not for regional residents.

What Information We Have/Used

The SPARCS database includes information on all acute discharges occurring in NYS hospitals and thus captures and can identify discharges for persons residing out of region.

Results

Monroe hospitals cared for approximately 3,945 discharges, comprising 24,457 patient days, for out of region residents in 2006; Central Finger Lakes hospitals also experienced slightly over 200 discharges (1160 patient days). Monroe patient volume from out of region has increased from 18,225 patient days in 2000, a 33% increase in six years.

The following chart calculates the incremental hospital beds that would be needed if out of region patient volume were to continue to increase.

Monroe Bed Need		
	2010	2015
1%	4	8
2.5%	9	20
5%	18	40
Central Finger Lakes Bed Need		
1%	0	0
2.5%	0	1
5%	1	2

*beyond the current amount of out-of-region patient volume

Bed need estimates developed in this study include the 2006 out-of-region activity but do not project an increase in that activity. The projection of out-of-region growth has economic development implications, but it also will have an impact on hospital care in other parts of New York State and must be approved by NYS Department of Health in the context of that impact.

XVII. PHYSICIAN SUPPLY

How it Affects Bed Need

Health care research literature indicates that provision of care through a richer mix of primary care physicians tends to reduce hospital use, while provision through a richer mix of specialists tends to increase hospital use.

What Information We Have/Used

Local studies have suggested that, while there are shortages of certain specialties, the Rochester area has more specialists per population than many other areas of the country (although not more than other areas with a substantial medical education presence).

Results

Previous efforts and local studies suggest there will need to be some reimbursement and other medical environmental changes in order to increase the number and proportion of primary care physicians trained, recruited or retained locally. This issue is being referred to the 2020 Commission to be considered in the context of other public policy issues including the addition of new beds.

XVIII. QUALITY OF CARE INITIATIVES

How They Affect Bed Need

Improvements in quality of hospital care can improve the efficiency of the care process, leading to a reduction in the length of stay and a consequent reduction in the need for beds.

What Information We Have/Used

There are presently at least two quality of care initiatives in the Rochester area. The first aims to reduce the rate at which patients acquire infections in the hospital (nosocomial infections). The second, a joint venture with the business community, seeks to apply the principles of LEAN/6-Sigma quality improvement processes to health care.

Results

Potential impact of reduction in nosocomial infections:

- Literature indicates 5% of hospital admissions experience nosocomial infection;
- Infected patients ALOS \approx 10 days; uninfected patient ALOS \approx 5 days;
- Blended LOS = $(95 \times 5 \text{ days} + 5 \times 10 \text{ days})/100 = 5.25 \text{ days}$;
- “Elimination” of nosocomial infection could reduce LOS to 5 days, a 5% reduction.

Potential impact of application of LEAN/6-Sigma principles:

- Unknown at this time.

As neither of these initiatives, while having potential, have produced measurable results to date, the Task Force determined not to adjust bed need at this time. Support, including necessary financial support, for these and other quality improvement efforts is recommended. Also, the 2020 Commission should revisit these efforts to determine if results have been achieved and if bed need estimates should be adjusted.

XIX. RACE AND POVERTY***How They Affect Bed Need***

To the extent that low income or minority populations utilize acute hospital services differently than the balance of the population, they may affect bed need in two ways: 1) They may indicate where additional resources are needed to assure access to care; 2) if these populations grow at a slower or faster rate than the overall population, inattention to the differences in use rates may result in too few or too many beds being developed.

What Information We Have/Used

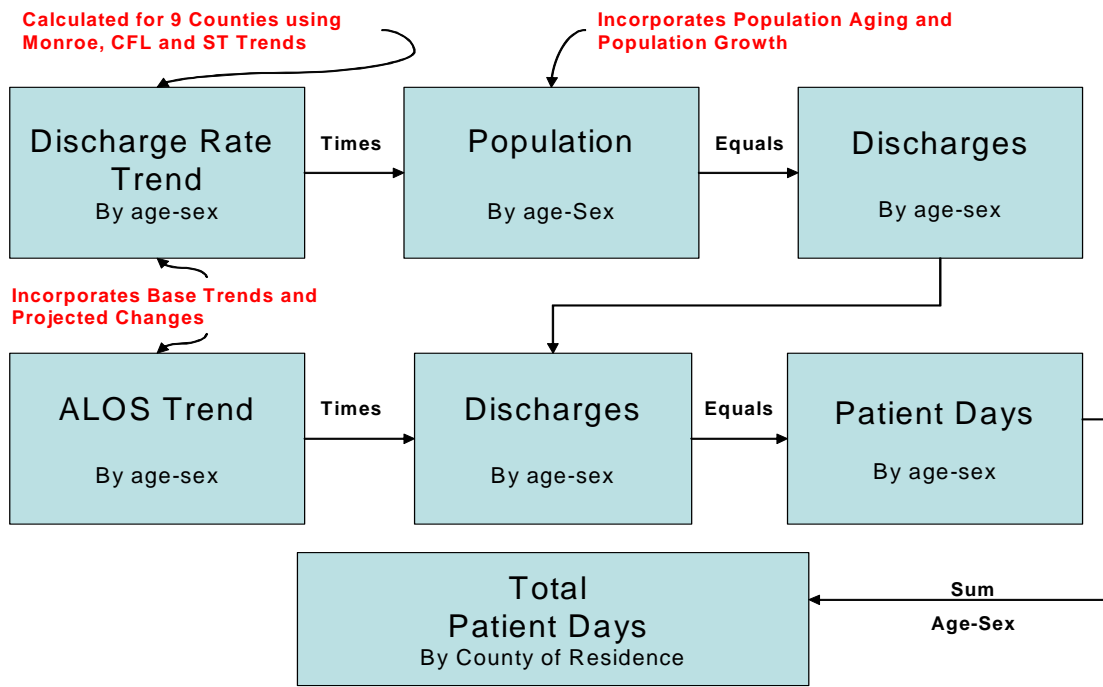
Information is available but has not been assembled at this time.

Results

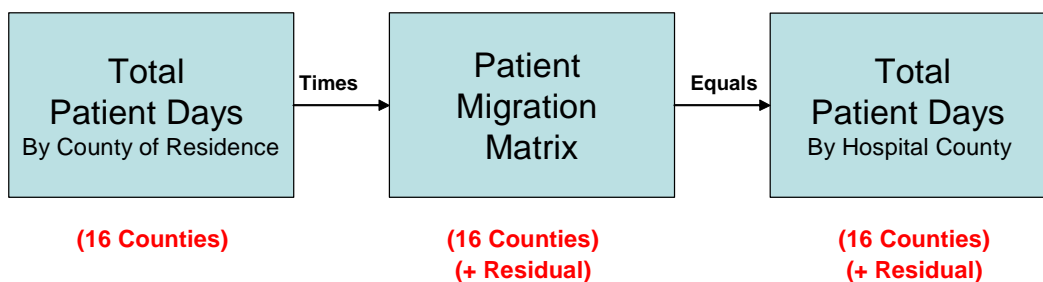
This analysis has been deferred to a later date and is not included in this study.

Appendix D Flow Diagram of Bed Need Methodology, With Numeric Example

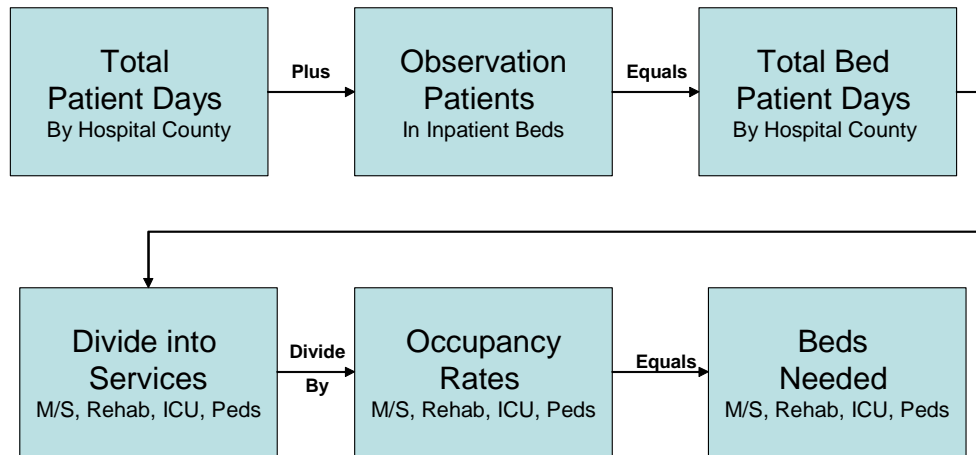
Acute Bed Need Methodology, Step 1



Acute Bed Need Methodology, Step 2



Acute Bed Need Methodology, Step 3



Acute Bed Need Methodology, Step 4



Methodology Step 1 Seneca County

	Current Disch Rate	2015 Disch Rate	2015 Pop	2015 Discharges
<u>Male</u>				
0-4	39.8	40	804	32
5-14	13.8	12	1,981	24
15-44	36.7	28	6,431	180
45-64	85.4	79	4,033	319
65-74	250.9	265	1,451	384
75-84	359.8	440	728	320
85+	555.9	560	408	228
Subtotal	82.8	94.0	15,836	1,488
<u>Female</u>				
0-4	34.0	32	768	25
5-14	10.5	9	1,781	16
15-44	31.7	30	5,071	155
45-64	87.0	87	4,381	381
65-74	211.8	220	1,654	364
75-84	346.8	361	916	331
85+	486.7	505	745	376
<u>Subtotal</u>	<u>85.7</u>	<u>107.6</u>	<u>15,316</u>	<u>1,647</u>
Total	83.2	100.6	31,152	3,135

Methodology Step 2
Migration from Seneca County to Hospital Counties

	<u>2006 % to Hospital Co</u>	<u>2015 Discharges to Hospital County</u>
• Seneca	No Hospital	None
• Ontario	55.63%	1,744
• Wayne	0.20%	6
• Yates	0.01%	0
• Livingston	0.01%	0
• Monroe	24.83%	779
• Chemung	1.39%	44
• Schuyler	1.30%	41
• Steuben	0.01%	0
• Cayuga	0.71%	22
• Tompkins	8.60%	270
• Broome	0.04%	1
• Orleans	0.00%	0
• Genesee	0.00%	0
• Wyoming	0.00%	0
• <u>Residual</u>	7.26%	228
• Total	100.00%	3,135

Methodology Step 2, Cont'd
2015 Discharges from County of Residence to
Ontario County Hospitals

2015 Discharges
from Patient County of
Residence

• Ontario	5,932
• Seneca	1,744
• Wayne	1,368
• Yates	656
• Livingston	127
• Monroe	93
• Chemung	2
• Schuyler	7
• Steuben	39
• Cayuga	19
• Tompkins	14
• Broome	3
• Orleans	1
• Genesee	0
• Wyoming	1
• <u>Residual</u>	<u>111</u>
• Total	10,116

Methodology Step 3
Calculation of Patient Days and Average Daily Census in
Central Finger Lakes

	2015 Discharges
• Ontario	10,116
• Wayne	2,488
• Yates	862
• Livingston	2,381
• Sum	15,847
• Times ALOS	4.4 days
• Projected Patient Days	69,790
• Projected Avg. Daily Census	224.9

Methodology Step 3, Cont'd
Application of Occupancy Rates
Central Finger Lakes 2015

• Average Daily Census	224.9
• ICU	20.9
• Ped	0.0
• Rehab	7.4
• Med/Surg	196.6
• Beds Needed	
• ICU (table of occ rates)	46.6
• Ped (75% occ)	0.0
• Rehab (75% occ)	10.6
• Med/Surg (80% occ)	245.8
• Total	303

Methodology, Step 4
Calculation of Unmet Need in Ontario County

	Beds Needed	Beds Available	Unmet Need
• ICU	46.6	39	8
• Peds	0	0	0
• Rehab	10.6	14	-3
• Med/Surg	<u>245.8</u>	<u>367</u>	<u>-121</u>
• Sum	303	420	-116

Exhibit E

Calculation of Bed Need for Options I, II, IIA and IIB

<u>Hospital County/Subarea</u>	2010 Projections				2015 Projections			
	<u>Option I</u>	<u>Option II</u>	<u>Option IIA</u>	<u>Option IIB</u>	<u>Option I</u>	<u>Option II</u>	<u>Option IIA</u>	<u>Option IIB</u>
Patient Days								
Southern Tier	100,469	94,853	97,038	99,054	101,322	95,027	95,198	97,176
Central Finger Lakes	72,593	67,916	69,642	71,235	75,921	71,091	72,658	74,323
Monroe County	459,680	434,501	444,421	453,578	467,494	437,653	441,674	450,811
Average Daily Census (Patient Days/365)								
Southern Tier	275	260	266	271	278	260	261	266
Central Finger Lakes	199	186	191	195	208	195	199	204
Monroe County	1,259	1,190	1,218	1,243	1,281	1,199	1,210	1,235
Monroe County Hospitals								
Average Daily Census by Type								
ICU/CCU	132	133	136	138	134	134	135	138
Pediatric (5.5%)	69	65	67	68	71	66	67	68
Physical Rehabilitation (2.9%)	37	35	35	36	37	35	35	36
All Other	1,021	958	980	1,000	1,037	965	973	994
Total Inpatient Average Daily Census	1,259	1,190	1,218	1,243	1,280	1,199	1,210	1,235
Bed Need								
ICU/CCU (Poisson distribution)	188	188	192	195	190	189	191	194
Pediatric (75% Occupancy Rate)	92	87	89	91	95	88	89	91
Physical Rehabilitation (75% Occupancy)	49	46	47	48	50	46	47	48
All Other (85% Occupancy Rate)	<u>1,202</u>	<u>1,127</u>	<u>1,152</u>	<u>1,176</u>	<u>1,220</u>	<u>1,135</u>	<u>1,145</u>	<u>1,169</u>
Total Inpatient Acute Beds	1,531	1,448	1,480	1,510	1,555	1,458	1,472	1,502
Observation Patients (85% Occupancy)	87	87	89	88	87	87	90	99
Total Bed Need Monroe Co Hospitals	1,618	1,535	1,569	1,598	1,642	1,545	1,562	1,601
Setup Beds June 2007								
ICU/CCU	148	148	148	148	148	148	148	148
Pediatric	96	96	96	96	96	96	96	96
Physical Rehabilitation	47	47	47	47	47	47	47	47
Medical/Surgical	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>	<u>1,158</u>
Total Inpatient Acute Beds	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449
Observation Beds	44	44	44	44	44	44	44	44
Total Setup Beds Monroe County Hospitals	1,493	1,493	1,493	1,493	1,493	1,493	1,493	1,493
Bed Deficit/(Excess) compared to June 2007 Setup Beds								
ICU/CCU	40	40	44	47	42	41	43	46
Pediatric (ignore excess capacity)	--	--	--	--	--	--	--	--
Physical Rehabilitation (ignore excess capacity)	--	--	--	--	--	--	--	--
Medical/Surgical	<u>44</u>	<u>(31)</u>	<u>(6)</u>	<u>18</u>	<u>62</u>	<u>(23)</u>	<u>(13)</u>	<u>11</u>
Total Inpatient Acute Beds	84	9	38	65	104	18	30	57
Observation Beds	43	43	45	44	43	43	46	55
Total Bed Deficit (Excess)	127	52	83	109	147	61	76	112
Projected Hospital Beds 2010 and 2015								
ICU/CCU	188	188	192	195	190	189	191	194
Pediatric (at June 2007 level)	96	96	96	96	96	96	96	96
Physical Rehabilitation (at June 2007 level)	47	47	47	47	47	47	47	47
Medical / Surgical	<u>1,202</u>	<u>1,127</u>	<u>1,152</u>	<u>1,176</u>	<u>1,220</u>	<u>1,135</u>	<u>1,145</u>	<u>1,169</u>
Total Inpatient Acute Beds	1,533	1,458	1,487	1,514	1,553	1,467	1,479	1,506
Observation Beds	87	87	89	88	87	87	90	99
Total Med/Surg/Peds/Observation Beds	1,620	1,545	1,576	1,602	1,640	1,554	1,569	1,605

**Calculations of Bed Need – Monroe County
Option I – Constant Use Rates**

	2006	2010	2015	2006==>2015
Discharge Rate (Absent Aging)	79.3	79.3	79.3	0%
Discharge Rate (w/ Aging)	79.3	79.1	80.6	+1.6%
Discharges (Rate x Population)	57,918	58,017	59,174	+2.2%
Discharges to Monroe Hospitals from				
Monroe	57,308	57,406	58,558	+2.2%
CFL	11,004	11,547	12,054	+6.6%
Southern Tier	1,595	1,613	1,609	+0.6%
Border Cos	4,715	4,874	4,987	+5.8%
Other	3,945	4,772	4,896	+24.1%
Total	78,567	80,212	82,104	+3.1%
LOS (Absent Aging)	5.8	5.8	5.8	0%
LOS (w/ Aging)	5.8	5.7	5.7	-1.3%
Patient Days (Discharges x LOS)	453,430	459,680	467,494	+3.1%
Beds Needed Have				
M/S 1,158	1,181	1,202	1,222	+3.5%
ICU 148	193	188	190	-1.5%
Peds 96	90	92	94	+4.4%
Rehab 47	<u>45</u>	<u>49</u>	<u>50</u>	+11.1%
Sum 1,449	1,509	1,531	1,556	+3.1%
Unmet Need				
M/S	23	44	64	
ICU	45	40	42	
Peds	0	0	0	
Rehab	0	0	0	
Sum	68	83	106	
Observation Patients				
Bed Spaces Needed	69	88	85	
Existing Bed Spaces	44	44	44	
Unmet Need	25	44	41	
Total Unmet Need	93	127	147	

**Calculations of Bed Need – Monroe County
Option II – Trend in Use Rates**

	2006	2010	2015	2006==>2015
Discharge Rate (Absent Aging)	79.3	78.5	78.9	-0.5%
Discharge Rate (w/ Aging)	79.3	78.3	80.3	+1.3%
Discharges (Rate x Population)	57,918	57,392	58,752	+1.4%
Discharges to Monroe Hospitals from				
Monroe	57,308	56,850	58,197	+ 1.2%
CFL	11,004	12,037	13,061	+18.6%
Southern Tier	1,595	2,245	2,282	+43.0%
Other	8,660	9,872	11,007	+27.1%
Total	78,567	81,005	84,547	+ 7.6%
LOS (Absent Aging)	5.8	5.8	5.8	0%
LOS (w/ Aging)	5.8	5.4	5.2	-10.2%
Patient Days (Discharges x LOS)	453,430	434,501	437,653	-3.5%
Beds Needed Have				
M/S 1,158	1,181	1,127	1,135	-3.8%
ICU 148	193	188	188	-2.6%
Peds 96	90	87	88	-2.2%
Rehab <u>47</u>	<u>45</u>	<u>46</u>	<u>47</u>	<u>-0-</u>
Sum 1,449	1,509	1,448	1,458	-3.4%
Unmet Need				
M/S	23	(31)	(23)	
ICU	45	40	41	
Peds	0	0	0	
Rehab	0	0	0	
Sum	68	9	18	
Observation Patients				
Bed Spaces Needed	69	87	87	
Existing Bed Spaces	44	44	44	
Unmet Need	25	43	43	
Total Unmet Need	93	52	61	

Calculations of Bed Need – Monroe County
Option IIA – “Moderate” – Discharge Rates Increased 2.6%; Trended LOS

	2006	2010	2015	2006==>2015
Discharge Rate (Absent Aging)	79.3	80.5	80.9	+2.0%
Discharge Rate (w/ Aging)	79.3	80.3	82.4	+3.9%
Discharges (Rate x Population)	57,918	58,885	60,279	+4.1%
Discharges to Monroe Hospitals from				
Monroe	57,308	58,329	59,711	+4.2%
CFL	11,004	12,350	13,401	+21.8%
Southern Tier	1,595	2,304	2,341	+46.8%
Other	<u>8,660</u>	<u>9,871</u>	<u>9,871</u>	<u>+14.0%</u>
Total	<u>78,567</u>	<u>82,855</u>	<u>85,324</u>	<u>+8.6%</u>
LOS (Absent Aging)	5.8	5.8	5.8	0%
LOS (w/ Aging)	5.8	5.4	5.2	-10.2%
Patient Days (Discharges x LOS)	453,430	444,421	441,674	-2.6%
Beds Needed Have				
M/S 1,158	1,181	1,152	1,145	-3.0%
ICU 148	193	192	191	-1.0%
Peds 96	90	89	89	-1.1%
Rehab 47	<u>45</u>	<u>47</u>	<u>47</u>	<u>+4.4%</u>
Sum 1,449	<u>1,509</u>	<u>1,480</u>	<u>1,472</u>	<u>-2.5%</u>
Unmet Need				
M/S	23	(6)	(13)	
ICU	45	44	43	
Peds	0	0	0	
Rehab	0	0	0	
Sum	68	38	30	
Observation Patients				
Bed Spaces Needed	69	89	90	
Existing Bed Spaces	44	44	44	
Unmet Need	25	45	46	
Total Unmet Need	93	83	76	

Calculations of Bed Need – Monroe County
Option IIB – “High” – Discharge Rates Increased 5%; Trended LOS

	2006	2010	2015	2006==>2015
Discharge Rate (Absent Aging)	79.3	82.4	82.8	+4.4%
Discharge Rate (w/ Aging)	79.3	82.2	84.3	+6.3%
Discharges (Rate x Population)	57,918	60,262	61,690	+6.5%
Discharges to Monroe Hospitals from				
Monroe	57,308	59,693	61,107	+6.6%
CFL	11,004	12,639	13,714	+24.6%
Southern Tier	1,595	2,358	2,396	+50.2%
Other	<u>8,660</u>	<u>9,871</u>	<u>9,871</u>	<u>+14.0%</u>
Total	<u>78,567</u>	<u>85,562</u>	<u>87,089</u>	<u>+10.8%</u>
LOS (Absent Aging)	5.8	5.8	5.8	0%
LOS (w/ Aging)	5.8	5.4	5.2	-10.2%
Patient Days (Discharges x LOS)	453,430	453,578	450,811	-0.6%
Beds Needed Have				
M/S 1,158	1,181	1,176	1,169	-1.0%
ICU 148	193	195	194	+0.5%
Peds 96	90	91	91	+1.1%
Rehab 47	<u>45</u>	<u>48</u>	<u>48</u>	<u>+6.7%</u>
Sum 1,449	<u>1,509</u>	<u>1,510</u>	<u>1,502</u>	<u>-0.5%</u>
Unmet Need				
M/S	23	18	11	
ICU	45	47	46	
Peds	0	0	0	
Rehab	0	0	0	
Sum	68	65	57	
Observation Patients				
Bed Spaces Needed	69	88	99	
Existing Bed Spaces	44	44	44	
Unmet Need	25	44	55	
Total Unmet Need	93	109	112	

