

Hills, Bonnie

From: Ourth, Joe [JOurth@arnstein.com]
Sent: Wednesday, November 16, 2011 4:13 PM
To: Constantino, Mike
Cc: Hills, Bonnie; Avery, Courtney
Subject: Mercy Crystal Lake Hospital Project No. 10-0890Public Comment- "Assessment of Population Growth and Response to Applicant Arguments of Impact on Existing Providers" Report of Krentz Consulting [IWOV-ACTIVE.FID917959]
Attachments: SHE11002 Centegra Huntley Response FINAL 111111.pdf

Mr. Constantino,

Attached please find a Report entitled "Assessment of Population Growth and Response to Applicant Arguments of Impact on Existing Providers" prepared by Krentz Consulting. Although the report specifically addresses issues for the Centegra Hospital - Huntley Project (No. 10-089), a significant amount of that research relates to issues relevant to the Mercy Project. This report is also referenced in a separate letter providing a Summary of Arguments relative to the Mercy project. We ask that you include the attached report in the Mercy project file.

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Assessment of Utilization, Population Growth, and Applicant Arguments of Impact on Existing Providers

Proposed Centegra Hospital-Huntley (Project 10-090)

November 11, 2011



Krentz Consulting LLC is pleased to provide this independent *Assessment of Utilization, Population Growth, and Applicant Arguments of Impact on Existing Providers*. This study was commissioned by Advocate Good Shepherd Hospital, Sherman Health, and St. Alexius Medical Center in response to Centegra Health System's initial request for Certificate of Need approval (Project 10-090) to build a new hospital in Huntley in Illinois Health Planning Area A-10 (McHenry County) and their supplemental information submitted on July 28, 2011 in response to questions by the Illinois Health Facilities and Services Review Board (HFSRB).

A handwritten signature in black ink that reads "Krentz Consulting LLC". The signature is written in a cursive style and is positioned above a horizontal line.

Krentz Consulting LLC

November 11, 2011

Date



About Krentz Consulting LLC

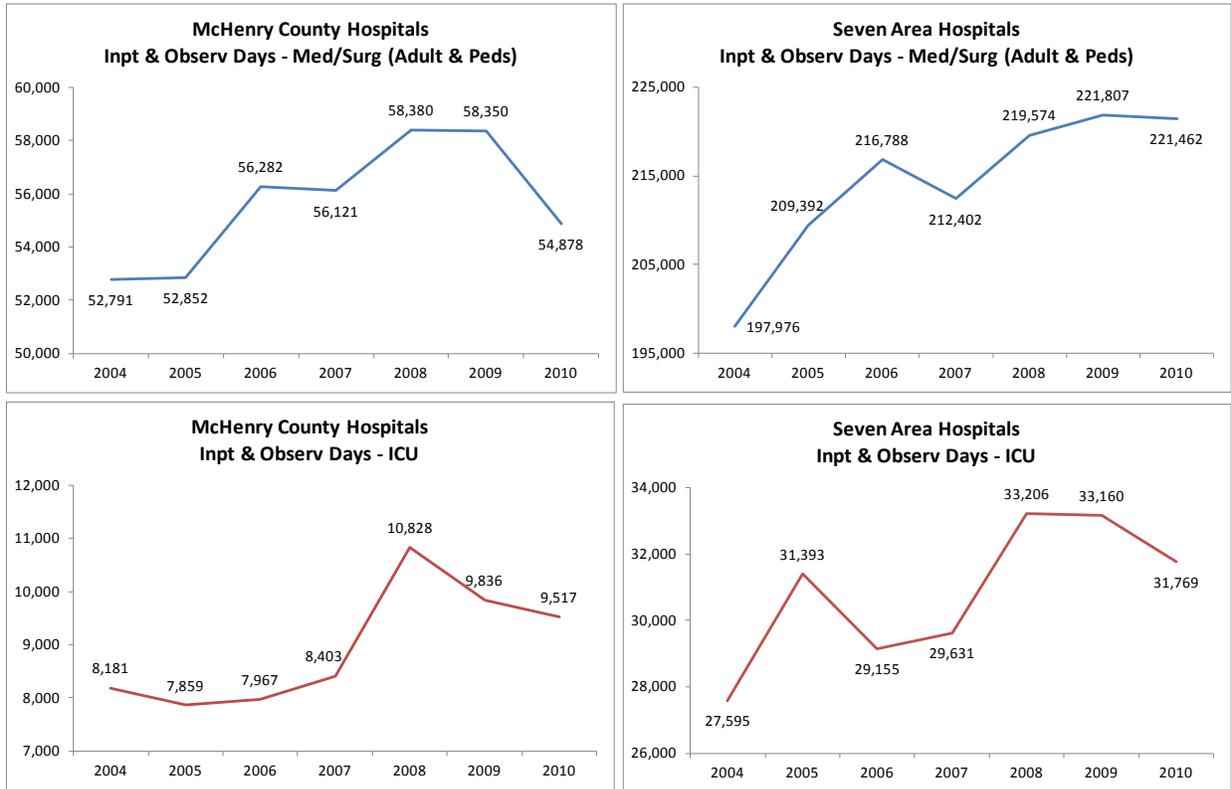
Krentz Consulting LLC is a management consulting firm providing strategic planning services to the health care industry, including community hospitals, health systems, academic medical centers and medical schools, children's hospitals, and industry and professional associations. Krentz Consulting is nationally recognized for its strategic planning expertise, frequently serving as faculty at educational programs and writing articles for national publications.

Susanna E. Krentz, President of Krentz Consulting, has over twenty-nine years experience as a health care consultant and oversaw the process and reviewed all analyses for this project. As a recognized leader in strategy development for health care organizations, she has worked with numerous hospitals and health care systems across the country in the development of strategic plans, physician strategy, growth plans, resource allocation, and competitive strategy. She has a Master of Business Administration from the Booth School of Business, University of Chicago and a Bachelor of Arts from Yale University.

Tracey L. Camp, Senior Consultant, has 25 years of experience in health care planning and strategy and provided the analytical support for this project. Her areas of expertise include strategic planning, service line planning and demand modeling, medical staff development studies, and market research. She is expert at converting data into meaningful information to support decision making. She has a Bachelor of Arts from Northwestern University.

Executive Summary

1. **Med/Surg and ICU patient days at McHenry County hospitals peaked in 2008 and also declined for the aggregate seven area hospitals in 2010.**



2. **On any given day, there are a total of 347 open beds that residents of McHenry County can access within 30 minutes from their homes.**

- Six of seven area hospitals are below targeted occupancy levels for med/surg beds. An average of 251 med/surg beds, 44 ICU beds, and 52 OB beds are unoccupied per day.

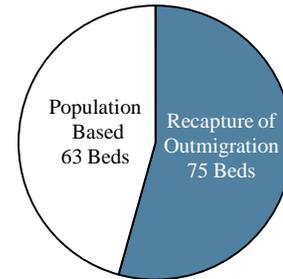
3. **Hospitals just beyond the McHenry County line already provide accessible care to many residents of McHenry County.**

- Advocate Good Shepherd Hospital is less than one mile from the McHenry County line.
- Sherman Health is less than 7 miles from the McHenry County line.
- 89 percent of the population in Centegra-Huntley's proposed service area is within 15 minutes driving time of an existing hospital and 100 percent of the population is within 30 minutes driving time.

4. More than half (54 percent) of the calculated bed need by the State for 2018 is based on the “recapture” of patients who currently seek care at hospitals outside of McHenry County.

- The state bed need calculation is based on utilization of current McHenry County hospitals and additional beds to accommodate patients who currently travel beyond the county line to other area hospitals (recapturing outmigration).
- McHenry County hospitals are not operating at full capacity, which shows that patients are being treated at hospitals outside the county because of choice, not overcrowding.

**2018 State Calculated Bed Need
McHenry County
138 Beds**



5. The impact on existing hospitals is understated by the Applicant.

- The 2018 bed need formula used by the State assumes that existing hospitals outside of McHenry County will lose patients through the recapture of outmigration by a potential new hospital.
- The Applicant assumes that the only patients existing hospitals will lose are a portion of the *new population* that will arrive in the market between now and 2018.
- Because of slowing rates of growth, the new population won't be as large as the Applicant assumes.
- To reach Centegra-Huntley's 2018 forecast discharges of 8,072 means it would need to achieve a 60 percent share of new discharges resulting from population growth, which may not be reasonable.
- It is more likely that Centegra-Huntley will achieve its forecast discharges by serving some patients who currently use existing providers, which will negatively affect the utilization levels and financial performance at those hospitals.

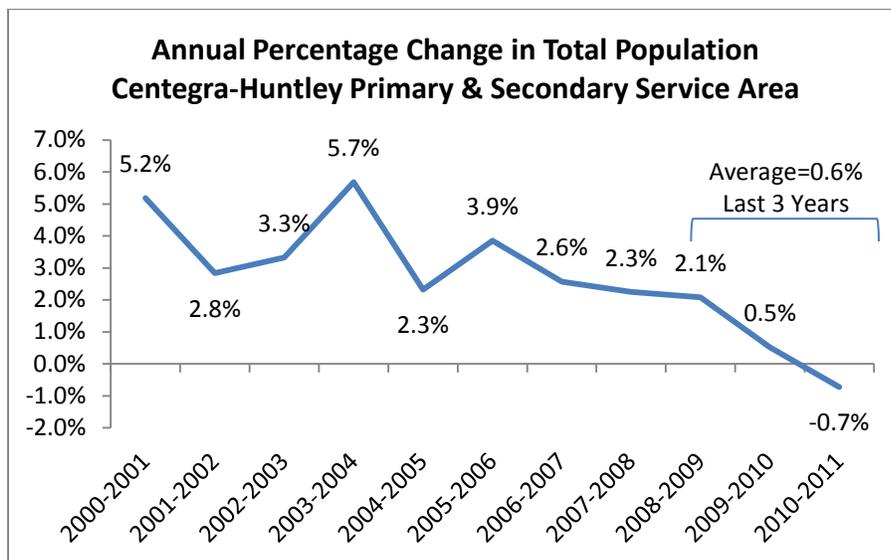
6. The proposed project does not meet the test for Rapid Population Growth as defined by the State.

- State rules for new hospitals require that an applicant base projected service demand on either projected physician referrals or *historical* “Rapid Population Growth.” Centegra based its application on the Rapid Population Growth test, but failed to document or apply the State’s definition of the “Rapid Population Growth Rate” in its application.
- The annual population growth in McHenry County and in the Applicant’s proposed service area has been *decelerating* as far back as 2004, well before the economic downturn. This is supported by data from the University of Illinois, College of Medicine, showing a declining population in McHenry County from 2009-2010.
- Recent declines in population among women of child-bearing age will likely depress occupancy levels further at obstetric units in Planning Area A-10, which at 46 percent occupancy in 2010 were already well below targeted levels.

77 IL Admin Code 1100.220
 The Rapid Population Growth Rate means an average of the three most recent annual growth rates of a defined geographic area’s population that has exceeded the average of three to seven immediately preceding annual growth rates by at least 100%.

Rapid Population Growth Rate Calculation

Average of Last 3 Years <u>2008-2011</u>	Must exceed average of immediately preceding 3-7 years by 100% (i.e., has to be at least twice as high)	Prior 3 Years <u>2005-2008</u>	Prior 4 Years <u>2004-2008</u>	Prior 5 Years <u>2003-2008</u>	Prior 6 Years <u>2002-2008</u>	Prior 7 Years <u>2001-2008</u>
0.6%		2.9%	2.8%	3.4%	3.4%	3.3%
Is 0.6% at least twice as high as prior average growth rates?		No	No	No	No	No



Sources: Nielsen Claritas, August 30, 2011 for population growth rate data.
 Information Service Letter, Health Systems Research, University of Illinois College of Medicine, August 2011.

7. The 2018 service area population projections are not based on the actual 2010 census and are overstated.

- The population projections used by the HFSRB overestimate population by more than 26,000 people in 2010 and 47,000 people in 2018. The projections used by HFSRB were developed in 2005, before the significant decline in population growth in McHenry County.
- The Claritas population projections used by Deloitte to forecast patient days in the application are *not* based on actual 2010 census counts. Claritas will not update population projections based on the actual 2010 census count until its 2012 release.

8. Population, use rates, market share/outmigration, and length of stay assumptions each affect forecast patient days and even small changes make a difference.

Population	Use Rates	Market Share/ Outmigration
2010 population does not match the actual census. The annual growth rate from 2010 to 2018 is too high. Total population in 2018 is overstated.	Use rates (per 1,000 population by age cohort) are not anticipated to increase. Many industry forecasters assume that use rates will decrease under value based purchasing and better population health management.	The county line is an artificial boundary and McHenry County residents already have ready access to area hospitals. Applicant assumes it will capture 60 percent of discharges related to population growth.

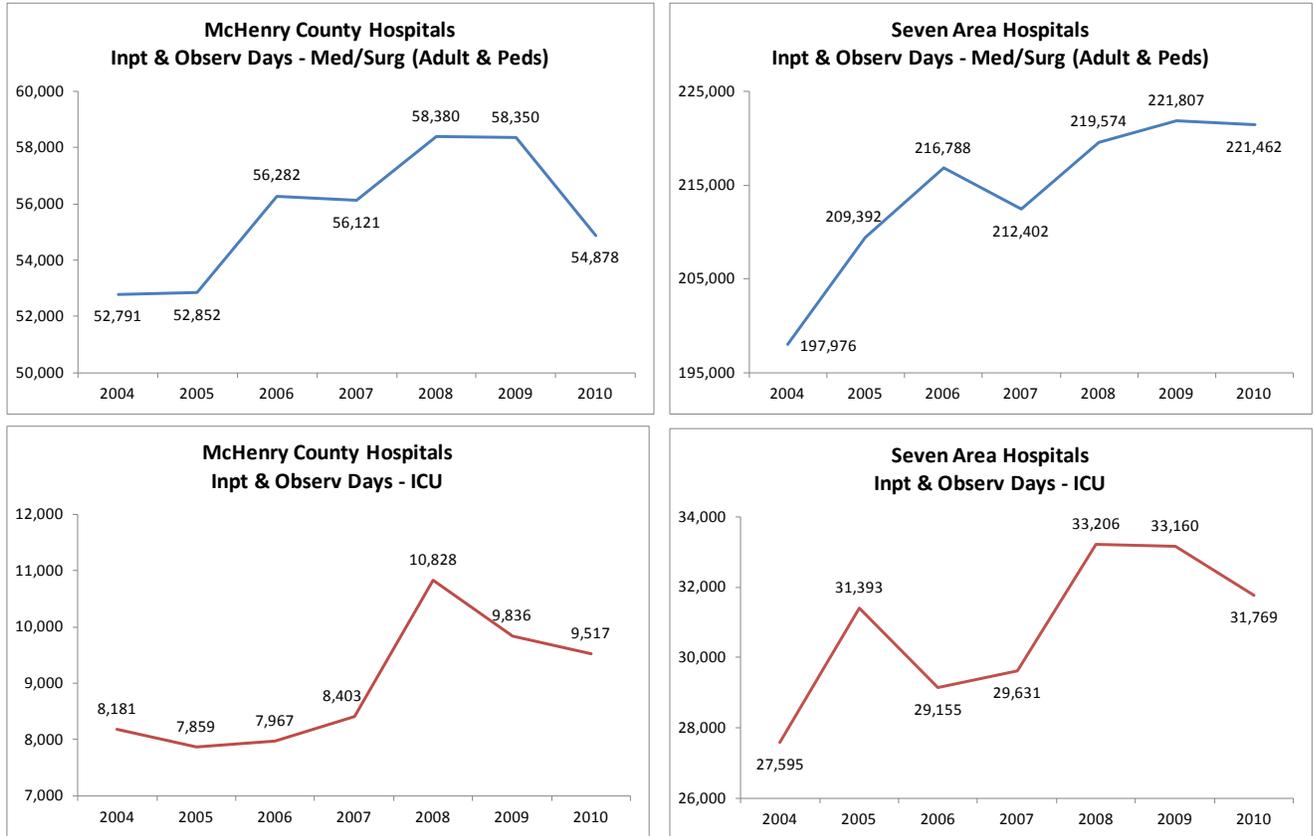
Supporting Information
Assessment of Utilization, Population Growth, and
Applicant Arguments of Impact on Existing Providers
Proposed Centegra-Huntley Hospital (Project 10-090)

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Utilization at McHenry County Hospitals Peaked in 2008 and Declined for the Aggregate Seven Area Hospitals in 2010

As shown in *Exhibit 1*, the peak year for Med/Surg and ICU utilization at McHenry County hospitals was 2008. Patient days for the aggregate seven area hospitals also declined in 2010.

Exhibit 1
Historical Utilization at Area Hospitals: 2004-2010



Source: Annual Hospital Questionnaires, HFSRB website. Seven area hospitals include Sherman Health, Provena St. Joseph, Advocate Good Shepherd, and St. Alexius Medical Center.

There is Existing Hospital Capacity to Meet the Current Health Care Needs of McHenry County Residents

Exhibit 2 shows that there is capacity at most nearby hospitals, with six of seven area hospitals falling below targeted occupancy levels for med/surg beds. An average of 251 med/surg beds, 44 ICU beds, and 52 OB beds are unoccupied per day even while currently serving patients from Centegra-Huntley's proposed service area. On any given day, there are a total of 347 open beds that residents of McHenry County can access within 30 minutes from their homes.

Exhibit 2 Capacity of Nearest Hospitals Serving Centegra-Huntley's Proposed Service Area

Falls below targeted
occupancy level

Nearest Hospitals	Adjusted Authorized CON Beds 12/31/10	Target Occupancy Based on Bed Size 77 Ill. Adm Code 1100	2010 Occupancy	Unoccupied Beds (on average per day)
Med/Surg (adult and pediatrics)				
Centegra-McHenry	129	85%	74.1%	33
Centegra-Woodstock	60	80%	83.5%	10
Mercy-Harvard	17	80%	27.5%	12
Planning Area A-10	206		73.0%	55
Sherman Health	197	85%	63.4%	72
Advocate Good Shepherd	127	85%	76.9%	29
St. Alexius	229	90%	71.4%	66
Provena St. Joseph	99	80%	71.1%	29
TOTAL Med/Surg	858		70.7%	251
ICU				
Centegra-McHenry	18	60%	91.8%	1
Centegra-Woodstock	12	60%	77.3%	3
Mercy-Harvard	3	60%	9.5%	3
Planning Area A-10	33		79.0%	7
Sherman Health	30	60%	55.8%	13
Advocate Good Shepherd	18	60%	84.7%	3
St. Alexius	35	60%	57.0%	15
Provena St. Joseph	15	60%	60.4%	6
TOTAL ICU	131		66.4%	44
OB				
Centegra-McHenry	19	75%	40.0%	11
Centegra-Woodstock	14	75%	53.4%	7
Mercy-Harvard	0	-	-	-
Planning Area A-10	33		45.7%	18
Sherman Health	28	78%	70.0%	8
Advocate Good Shepherd	24	75%	50.2%	12
St. Alexius	38	78%	62.1%	14
Provena St. Joseph	0	-	-	-
TOTAL OB	123		57.2%	52
TOTAL Unoccupied Beds (ALL SERVICES)				347

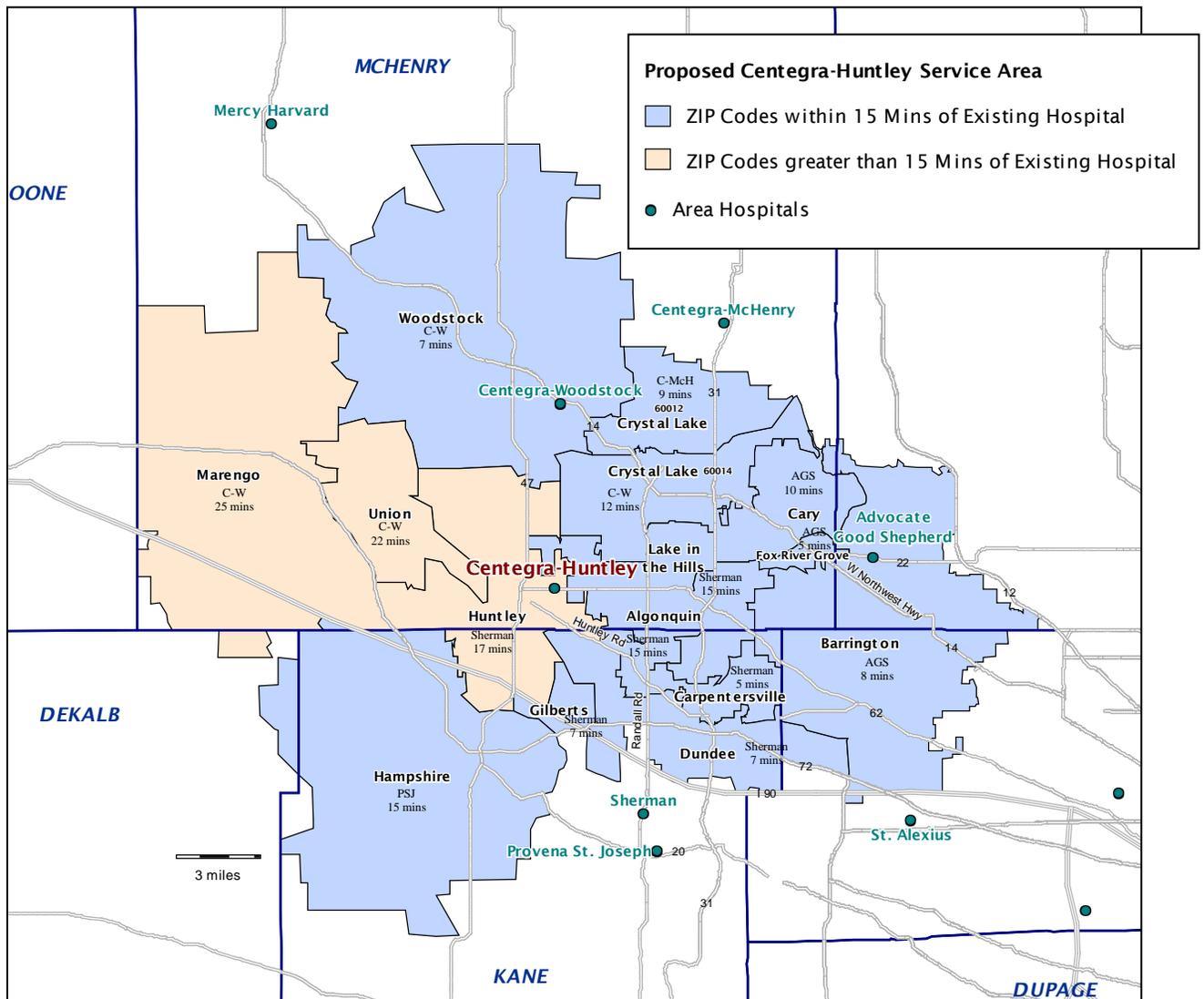
Source: 2010 Annual Hospital Questionnaires, HFSRB.

89 Percent of Current Residents of the Primary and Secondary Service Area are within 15 minutes of an Existing Hospital

- 322,033 of the 362,384 (89 percent) people who live in the service area are within 15 minutes of an existing hospital (ZIP codes represented in blue on the map).
- 43,381 people (11 percent) are within 30 minutes of an existing hospital (ZIP codes represented in tan on the map).

Exhibit 3 Time to Closest Existing Hospitals (From Center Point of ZIP code)

Drive times (from center point of ZIP code) to closest hospital are shown in map: AGS=Good Shepherd; C-McH=Centegra McHenry; C-W=Centegra Woodstock; Sherman; PSJ=Provena St. Joe's



The Applicant Assumes that Existing Hospitals will Lose only a Portion of New Population in the Market, Not Any of the Existing Patients who Live in the Market

In the Applicant's supplemental information provided to the Planning Board on July 28, 2011, they criticize the methodology used by Krentz Consulting in assessing the utilization and financial impact of a new Centegra Hospital-Huntley on existing providers. They suggest that the analysis of the utilization impact on existing providers is "fundamentally flawed and unreliable" because it only considered the impact on current utilization in the market and did not consider population growth between now and 2018. If we had calculated the impact in 2018 instead of 2010 as suggested by the Applicant, the impact would be even larger, not smaller.

We believe that the Applicant has underestimated the utilization impact on existing hospitals with their approach. They assume that the only patients existing hospitals will lose are a portion of the *new population* that will arrive in the market between now and 2018. They do not assume that existing hospitals will lose any volume from the population that currently resides in the market. Our methodology, on the other hand, estimated lost volume for patients that we know exist today. Contrary to the Applicant's assertion that our calculated potential loss of patients for existing hospitals was "pulled out of thin air," our methodology and assumptions are clearly described in Section V and Appendix 2 of our *Market Assessment and Impact Study* dated May 24, 2011, and filed on June 3, 2011. We applied a rigorous methodology by geographic sub-market, service line, and level of acuity.

Exhibit 4 provides an overview of the difference between Krentz Consulting's methodology and that employed by the Applicant using the example of the impact on Centegra Hospital-Woodstock. The Applicant did not explicitly identify how much market share Centegra Hospital-Woodstock could lose. By comparing our results with the Applicant's, it appears that the Applicant used very similar market share losses for Centegra Hospital-Woodstock as Krentz Consulting had modeled.

- Krentz Consulting assumed that Centegra Hospital-Woodstock could experience a med/surg loss of 37 percent from the proposed service area; the Applicant assumed a loss of 35 percent, but just from new population growth. Using the Applicant's methodology, they forecast that Centegra Hospital-Woodstock would only lose 400 patients.
- A more complete calculation of loss should be 2,100 including the base loss of 1,700 patients plus the loss of 400 new patients arising from population growth.
- The Applicant also inadvertently appears to have included psychiatry, substance abuse, and rehabilitation patients in its calculations, which are not services that are proposed to be offered by the Centegra Hospital-Huntley. Our *Impact Study*, therefore, shows a lower impact because we only included the medical/surgical services proposed to be served by the Applicant.

Because the Applicant did not clearly state how it calculated potential loss of volume at existing hospitals by identifying the assumed loss in market share, we derived those assumptions to generate a result that matches their calculations.

- Krentz Consulting’s assessment of the impact on current activity levels (base discharges) results in an estimated loss of 1,700 discharges at Centegra-Woodstock because of the new proposed hospital.
- The Applicant’s assessment of the impact using discharge activity only from new population growth results in an estimated loss of 400 “new” discharges.
- The combined impact assessment on Centegra-Woodstock reflecting both the impact on the current activity which would be lost to the new hospital AND the loss of potential future new patients resulting from population growth results in an estimated loss of 2,100 discharges in 2018 which is 35 percent lower than what their discharges would have been with no new facility.

Exhibit 4
Example of Impact on Centegra Hospital-Woodstock

	Krentz Consulting Methodology	+	Applicant Methodology	=	Combined Impact Assessment
	Centegra-Woodstock Base Discharges in Centegra-Huntley PSA/SSA in 2010*		Centegra-Woodstock New Discharges in PSA/SSA from Population Growth: 2010-2018		Future Centegra- Woodstock Discharges in Centegra-Huntley PSA/SSA in 2018
With No New Huntley Facility	4,798	+	1,126	=	5,924
Assumed Loss of Market Share with New Huntley Facility	-1,700 Base loss (Assumed 37%)	+	-400 Future loss (Assumed 35%)	=	-2,100 Total loss
Resulting Discharges After Market Share Loss	3,098	+	726	=	3,824

*Note: To be consistent with the numbers calculated by the Applicant, the number of discharges and potential loss includes medical/surgical, psychiatry, substance abuse, and rehab discharges (based on 9 months annualized 2010 data from COMPdata). Krentz Consulting’s actual methodology, however, excluded psychiatry, substance abuse, and rehab discharges, and we assumed a slightly higher market share loss of 37 percent.

The Applicant Could Not Reasonably Achieve its Forecast Volume if the Stated Impact on Existing Providers is as Low as the Applicant Portrays

Exhibit 5 presents the total volume that the Applicant has indicated existing hospitals could lose (from discharges from new population only) and compared it to the forecast volume for the new Centegra-Huntley facility. To achieve 8,072 med/surg discharges in 2018 (and only take 3,602 discharges from existing providers) the Applicant must assume that it achieves a 60 percent share of the 7,500 additional discharges arising from population growth in the service area. This share assumption may not be realistic.

**Exhibit 5
Comparison of Applicant’s Calculated Impact on Existing Providers
to Forecast Centegra-Huntley Volume**

Total Med/Surg Lost Cases from Existing Providers in 2018 (from Centegra-Huntley service area) ¹	
Centegra-Woodstock	400
Centegra-McHenry	219
Mercy Harvard	5
Advocate Good Shepherd	531
Sherman Health	1,248
St. Alexius	371
Provena St. Joseph	<u>828</u>
TOTAL from Existing Providers (A)	3,602
Additional Discharges in Service Area from Population Growth ¹	7,500
Obtain 60% of New Discharges (B)	4,470
Forecast 2018 Centegra-Huntley Med/Surg Discharges in Service Area (A+B)¹	8,072

¹As reported in Applicant’s original Certificate of Need application (pages 327 and 334) and in supplemental materials provided on July 28, 2011.

The Applicant Overstates their Ability to Draw Patients from Northern Kane County

At the same time the Applicant understates the impact on existing providers, we believe they have overstated their ability to draw patients from Northern Kane County as outlined in their original Certificate of Need application. On page 334 of the Applicant's CON, they forecast that a new Huntley facility would capture 29 percent of the medical/surgical market discharges in the four Kane County ZIP codes of its service area and 32 percent of the six McHenry County ZIP codes in their defined primary service area. While a Centegra-Huntley facility would attract some patients from Kane County, it is not reasonable to assume that it would capture a nearly equivalent market share from the Kane County ZIP codes as it would from the McHenry County ZIP codes when more than 80 percent of the population in those Kane County ZIP codes are between seven and 16 minutes drive time to Sherman Health, a regional medical center.

Annual Population Growth in the Applicant’s Proposed Service Area Has Been Decelerating as Far Back as 2004

State rules for new hospitals require that an applicant base projected service demand on either projected physician referrals or *historical* “Rapid Population Growth.” Centegra chose to base its application on the Rapid Population Growth test, but failed to document or apply the State’s definition of the “Rapid Population Growth Rate” in its application. The Applicant’s CON justifies its proposed bed complement by citing rapid *future* population growth but does not address the historical multi-year decline in McHenry County or its proposed service area as required by Illinois Administrative Code (defined below).

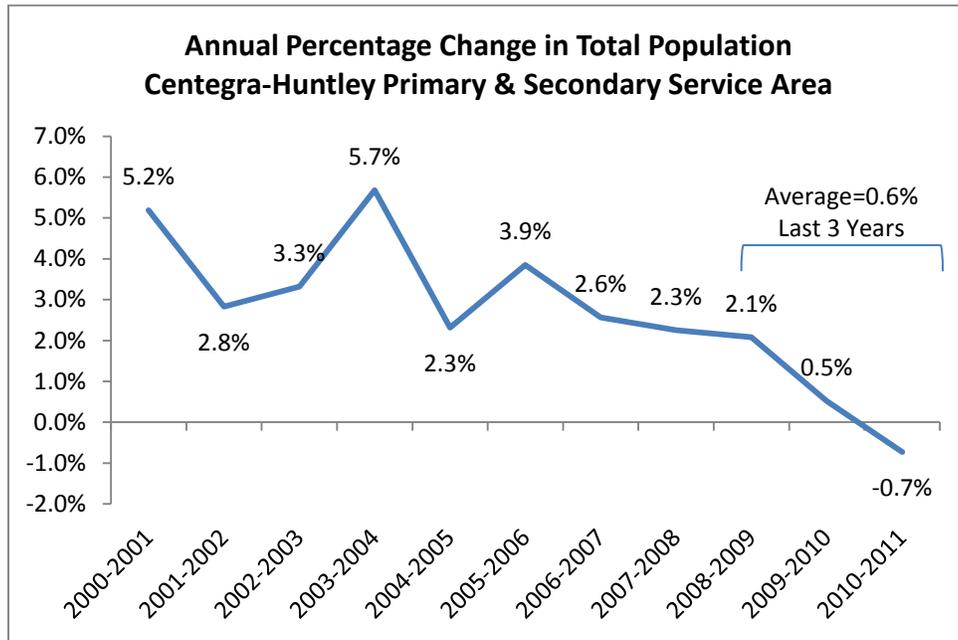
77 IL Admin Code 1100.220

The Rapid Population Growth Rate means an average of the three most recent annual growth rates of a defined geographic area’s population that has exceeded the average of three to seven immediately preceding annual growth rates by at least 100%.

The U.S. Census Bureau and Illinois state data sources do not provide annual population estimates by ZIP code. Proprietary demographic companies such as Nielsen Claritas develop annual small area population estimates for ZIP codes (see their small area population estimate methodology in the next section). In its projection of *future* service demand, Centegra used Nielsen Claritas population projections. As shown in *Exhibit 6*, however, the Applicant’s proposed project would not meet the requirements for *historical* Rapid Population Growth in its defined primary and secondary service area. Nor would the Applicant’s proposed project meet the requirements for Rapid Population Growth if one considers the Planning Area definition of McHenry County (see *Exhibit 7*). The annual population growth in the Applicant’s proposed service area and McHenry County has been decelerating as far back as 2004, well before the economic downturn.

- ▶ The average of the three most recent annual growth rates for the total population in Centegra-Huntley’s proposed primary and secondary service area was 0.6 percent, and population change was negative in the most recent year. This average does NOT exceed (and certainly is not twice) the growth rates of preceding annual growth rates.
- ▶ The average of the three most recent annual growth rates in McHenry County was only 0.7 percent. Therefore, the recent growth rate of the proposed service area (0.6 percent) does not even exceed the average growth rate for the county.

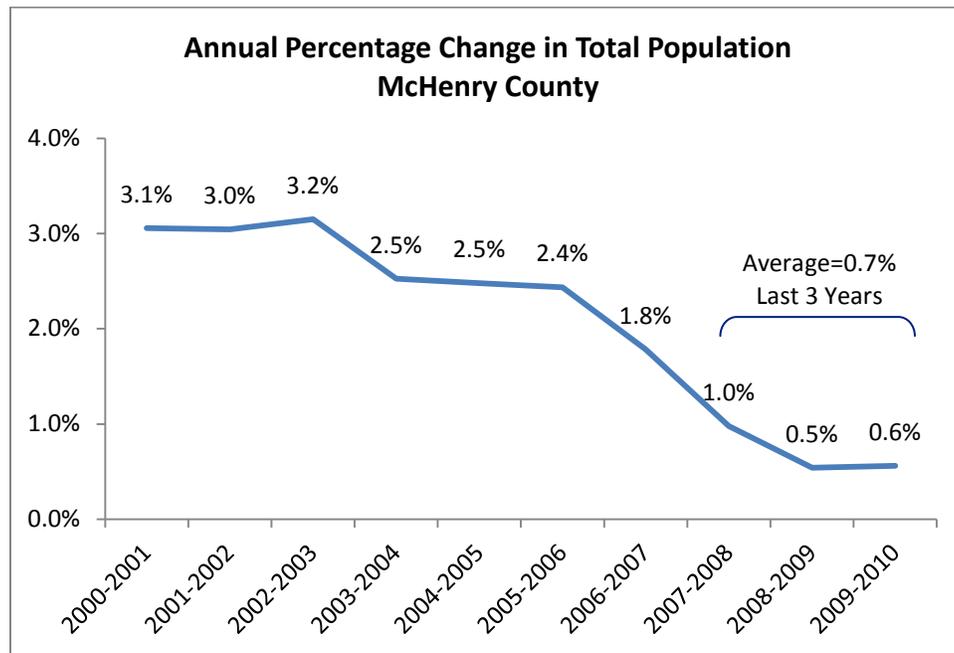
Exhibit 6



Source: Nielsen Claritas, August 30, 2011.

Note: These population estimates do not incorporate information from the 2010 decennial Census.

Exhibit 7

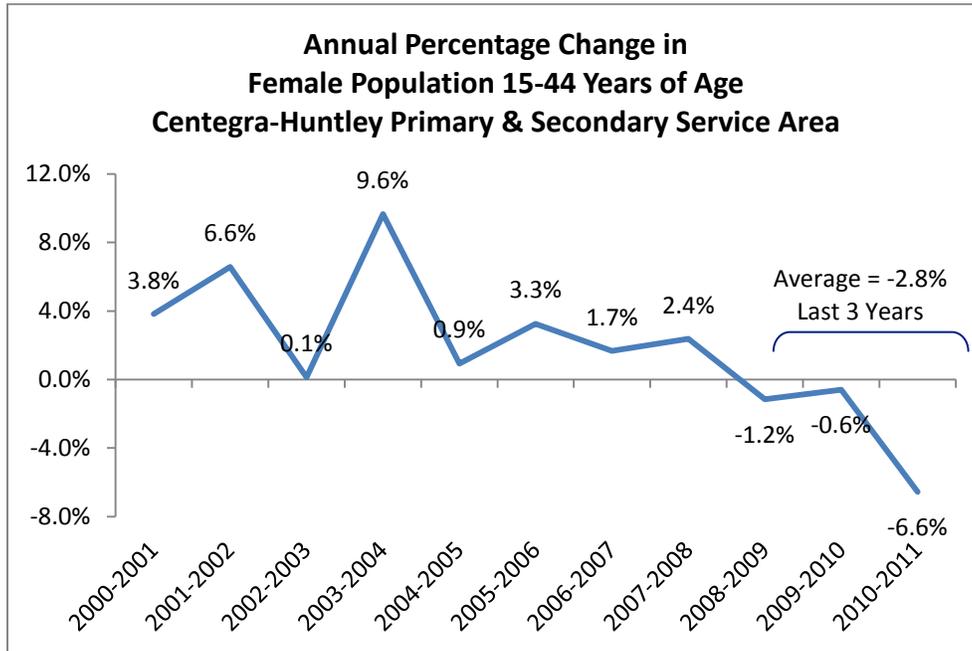


Source: CO-PEST2010-totals: Preliminary Annual Estimates of the Resident Population for Counties: April 1, 2000 to July 1, 2010; U.S. Census Bureau, Population Division; release date: March 2011.

Note: These population estimates were prepared by the Census Bureau prior to the 2010 decennial Census.

The deceleration in population growth in Centegra-Huntley’s primary and secondary service area (shown in *Exhibit 8*) is even more striking for females 15-44 years of age, the relevant cohort for obstetrics services. Recent declines in population among women of child-bearing age will likely depress occupancy levels further at obstetric units in Planning Area A-10, which at 49.7 percent occupancy in 2010 were already below targeted levels.

Exhibit 8



Source: Nielsen Claritas, August 30, 2011.

Revised Population Projections for McHenry County are Significantly Lower Than Those Used by the HFSRB in their 2018 Bed Need Projections

Krentz Consulting estimates that the population projections used by the HFSRB to calculate bed need in Planning Area A-10 overstate population by more than 26,000 people in 2010 and more than 47,000 people in 2018.

**Exhibit 9
Population Projections for McHenry County**

	2010 Population			2018 Population		
	HFSRB Projection	2010 Census	Difference	HFSRB Projection	Revised Using 2010 Census Base Year and Claritas Growth Rates ¹	Difference
TOTAL Population	334,804	308,760	-26,044 (8%)	395,700	348,264	-47,436 (12%)

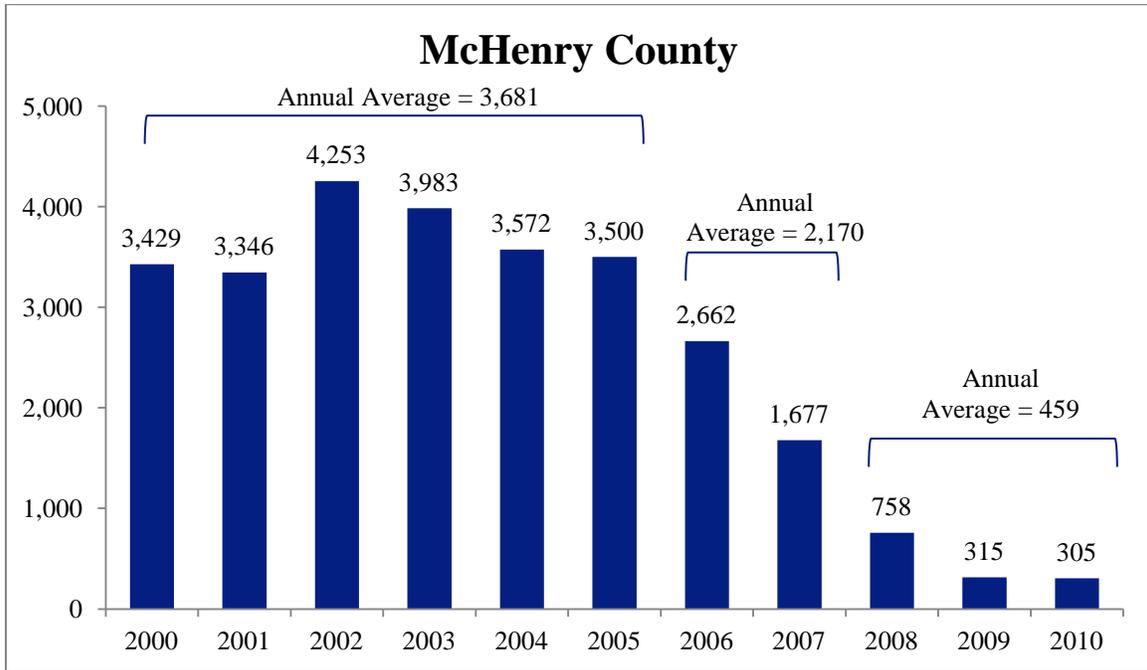
¹Claritas' annual growth rates for 2011-2016 were applied to actual 2010 Census figures to estimate 2018 population.

The Deceleration in Population is Commensurate with Historical Housing Starts

Not surprisingly, the decline in housing starts (see *Exhibit 10*) in McHenry County mirrors the deceleration in population growth.

- ▶ New housing starts in McHenry County reached their peak in 2002 and experienced deep declines well before the economic downturn.
- ▶ Six of the seven largest municipalities in McHenry County (which represent nearly 60 percent of McHenry County's 2010 population) had their peak building years in the first half of the decade, with four peaking between 2000 and 2003.
- ▶ The Village of Huntley reached its housing start peak in 2005.

Exhibit 10
New Privately-Owned Residential Building Permits (# of Units)
McHenry County and Major Municipalities



Source: US Census Bureau (<http://censtats.census.gov>).

	New Residential Building Permits (# of Units)			Peak Year Since 2000	Downturn % % Change between 2000- 2005 Avg and 2008-2010 Avg
	2000-2005 Annual Average	2006-2007 Annual Average	2008-2010 Annual Average		
McHenry County Total	3,681	2,170	459	2002	(88%)
Major Municipality					
Algonquin Village	375	80	8	2001	(98%)
Cary Village	222	41	2	2003	(99%)
Crystal Lake	228	131	32	2000	(86%)
Huntley Village	667	660	127	2005	(81%)
Lake in the Hills Village	295	57	9	2000	(97%)
McHenry	282	250	46	2005	(84%)
Woodstock	167	289	118	2007	(29%)

Source: US Census Bureau (<http://censtats.census.gov>).