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Regions Hospital®
HealthPartners®

February 28, 2018

State Health Economist
P.O. Box 64882
St. Paul, MN 55164-0882

Dear Mr. Gildemeister,

We appreciate your time and attention in reviewing Regions Hospital's application, submitted to MDH on 11/21/17, to add 100 licensed beds. In this letter, you will find responses to MDH's additional requests for information. MDH questions are shown in bold type.

Thank you for your consideration of this information. Please contact me at your earliest convenience if there are any questions or need for additional information. We look forward to hearing from you.

Best Regards,

James McClean, Director
Regions Hospital Government Relations

Request for Additional Data

Inquiry 1: From the forecast model created by Regions:

Methods used to define service areas

The following zip code summary is included on page 64 of the APPENDIX in Regions' proposal for increased licensed bed capacity. The service categories are defined as follows:

- **PSA:**(Primary Service Area): This is made up of primarily Ramsey County. This area accounts for an estimated 70% of admissions to Regions Hospital.
- **SSA** (Secondary Service Area): This includes parts of Anoka, Washington, St. Croix (MN only) and more of Dakota County. This accounts for 10% of the admissions to Regions Hospital.
- **TSA**(Tertiary Service Area): This includes St. Croix and Pierce counties in Wisconsin. It makes up over 5%of the Regions Service Area.

Regions Hospital Zip Code Summaries

APPENDIX - Regions Hospital PSA &SSA Zip Codes

ZIP Code	Service Area	ZIP Code	Service Area	ZIP Code	Service Area	ZIP Code	Service Area
55075	PSA	55117	PSA	55171	PSA	55077	SSA
55090	PSA	55118	PSA	55172	PSA	55082	SSA
55100	PSA	55119	PSA	55175	PSA	55083	SSA
55101	PSA	55120	PSA	55177	PSA	55121	SSA
55102	PSA	55126	PSA	55187	PSA	55122	SSA
55103	PSA	55127	PSA	55188	PSA	55123	SSA
55104	PSA	55130	PSA	55001	SSA	55124	SSA
55105	PSA	55133	PSA	55003	SSA	55125	SSA
55106	PSA	55144	PSA	55014	SSA	55128	SSA
55107	PSA	55145	PSA	55016	SSA	55129	SSA
55108	PSA	55146	PSA	55033	SSA	55306	SSA
55109	PSA	55150	PSA	55038	SSA	55337	SSA
55110	PSA	55155	PSA	55042	SSA	55449	SSA
55112	PSA	55164	PSA	55043	SSA	54016	TSA
55113	PSA	55165	PSA	55055	SSA	54017	TSA
55114	PSA	55166	PSA	55068	SSA	54023	TSA
55115	PSA	55168	PSA	55071	SSA	54025	TSA
55116	PSA	55170	PSA	55076	SSA	54082	TSA

Please note that service area market statistics are determined by zip code. Demographics by zip code are not readily available in either of the Minnesota or Wisconsin demographers' projections. These are only available for the entire county. Therefore, future projections of demand are made by county, not by zip code. The Regions service area as defined by PSAs, SSAs and TSAs. These are informative of the projection, but not the basis of the projection.

Any evidence that led Regions to determine the appropriate discount rate of hospitalization:

Our estimate is informed by the following facts:

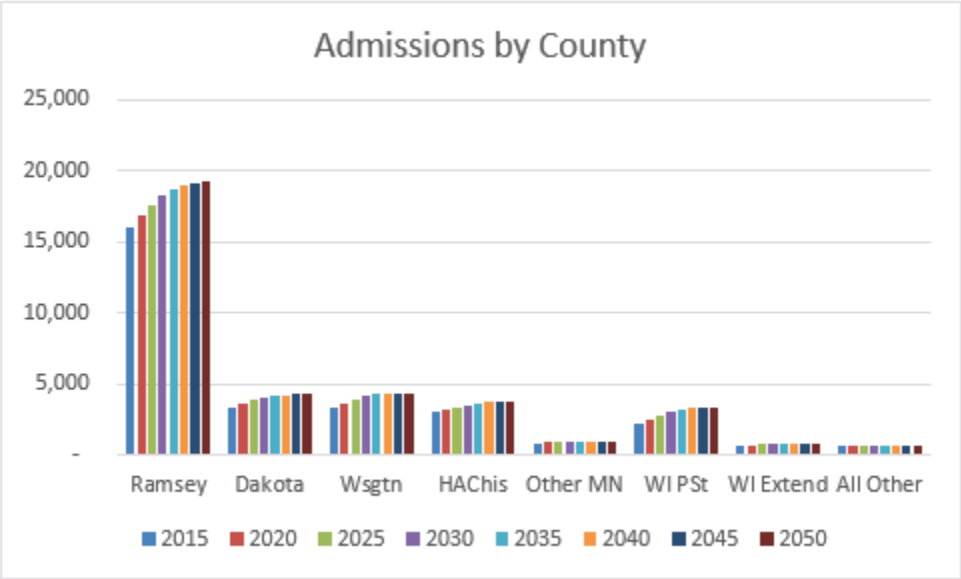
- Minnesota's Medicare admissions per 1000 are 12% lower than the national average[1], and
- Minnesota's patients days per 1000 are 8%lower than the national average[2]
- Minnesota's decrease in admissions per 1000 between 2006-2011 was the largest decline in the nation[3].
- According to Medpac's latest annual review, admissions per Medicare beneficiary increased slightly in 2015, after years of decline.[4]
- Medicare has moved a number of diagnoses from the "inpatient only" list in 2018 and will likely continue to do so.
- New technologies allow hospitals to save lives that we couldn't in the past. Because of this, we are seeing an increase in hospitalizations or multiple hospitalizations for some conditions. This is particularly true in cardiology and neuroscience specialties.

Minnesota has been a leader in reducing inpatient days, but those changes in admission rates are now slowing. Minnesota has fewer admissions that are still likely to move to outpatient since our rates are among the lowest in the country. Regions Hospital's facts speak to these very issues. For example, we have far fewer inpatient chest pain cases than we did only five years ago, as some of these are observation, and some have been treated more completely in the emergency room. New cases have arrived, such as continuous renal replacement therapy and cardiac Watchman devices that save lives that otherwise would be lost. Based on these facts, the analysis shows that inpatient use will decline, but not dramatically since Minnesota has less room to decline than most other states.

Estimates of bed need for Minnesota residents only, including potential shifts in patient flow from Wisconsin hospitals, such as Hudson Hospital and Westfields Hospital:

- There are no higher or lower utilization or transfer rates assumptions applied to Polk and St Croix counties than Ramsey, Washington, and Dakota counties.
- The five counties we identified: Ramsey, Washington, Dakota, St Croix and Polk, all have the same assumptions – small declines in inpatient utilization, flat market share, slight increase in observation utilization, and demographic changes as forecast by the respective state demographers.
- The graph at the bottom of page 22 of our application shows that most of the expected admission growth will occur in Ramsey, Dakota, and Washington counties.

[1] Dartmouth Atlas, Medicare admissions per 1000, Minnesota ratio to national average is .88
[2] Dartmouth Atlas, Medicare patient days per 1000, Minnesota ratio to national average is .92
[3] Health Affairs https://www.healthaffairs.org/do/10.1377/hblog20130308.029038/full/
[4] Medpac Report to Congress: Medicare payment policy March 2017 http://medpac.gov/docs/default-source/reports/mar17_medpac_ch3.pdf?sfvrsn=0



While all of the east metro hospitals primary service areas are in Minnesota, all of them serve patients from western Wisconsin. The discharge data for the last several years confirms patients from the far western portion of Wisconsin seek care at east metro hospitals. These services provide economic benefit to the State of Minnesota as patients with extended stays have visitors who access hotels, food and other services.

	% of Total Discharges from WI				
Hospital	2012	2013	2014	2015	2016
Regions	8%	9%	9%	10%	11%
United	6%	6%	6%	6%	6%
St. Joseph's	2%	2%	2%	2%	2%
St. John's	2%	2%	2%	2%	2%
Woodwinds	4%	5%	4%	4%	4%
Lakeview	26%	26%	25%	26%	27%
FV Ridges	0%	0%	0%	0%	0%

Source: *Minnesota Hospital Association; excludes observation patients*
Notes: *Percentage of total discharges for each hospital from patients that reside in Wisconsin*

Clarification about whether historical data for the modeling exercise was limited to five years (2012 through 2016) and the reasons that motivated this choice

- In 2012, Regions moved to a new billing system using Epic Systems based software. With this move, we expanded our patient data inputs. And since 2012, our patient and financial reporting systems are far more aligned and comprehensive compared to prior years. These years were chosen to ensure uniform reporting and the ability to provide greater detail.

Reasoning behind choosing a 35-year projection window (to 2050):

- The primary driver of the need for added patient beds at Regions Hospital is the growth in the population. Regions has unique and vital services that no other east metro hospital provides. Regions' mission is to serve the health care needs of our community now and far into the future.

- To understand the size of the need in future years, we used published data from the Minnesota Demographer's office. This data projection went through 2050. In addition, the Wisconsin demographer made projections through 2040. Regions then estimated some additional Wisconsin growth to match the end date of the Minnesota Demographer's data.

- In addition, many financing vehicles typically have a 30-year debt repayment window. Timing our request to 30-plus years seemed prudent, given the long range planning, campus construction, and financing necessary to add additional hospital beds.

- Although the bed-use plan is long term, the majority of beds requested (approximately 75 %) are needed in the first 10 years of the plan.

Results of any sensitivity analysis that might have been conducted to assess:

	2025	2030	2035	2040	2045	2050
Base Case Surplus (Shortage)	(17)	(41)	(57)	(67)	(72)	(76)
Reduce MedSurg IP Utilization:						
Base - by 0.5 per 5 year period, all periods to 2050	(17)	(41)	(57)	(67)	(72)	(76)
By 1.0% per 5 year period, all periods to 2050	(14)	(36)	(51)	(59)	(63)	(65)
By 1.5% per 5 year period, all periods to 2050	(12)	(32)	(45)	(52)	(54)	(55)
By 2.0% per 5 year period, all periods to 2050	(9)	(28)	(39)	(44)	(45)	(44)
Flat Utilization - current rollforward to 2050	(20)	(45)	(63)	(75)	(82)	(87)
Increase Utilization						
By 1.0% per 5 year period, all periods to 2050	(26)	(54)	(76)	(91)	(102)	(111)
By 1.5% per 5 year period, all periods to 2050	(28)	(59)	(83)	(100)	(112)	(123)
By 2.0% per 5 year period, all periods to 2050	(31)	(64)	(89)	(108)	(122)	(136)
Market Share - increase .5 per 5 year period 22.1 to 22.9	(20)	(46)	(64)	(75)	(82)	(88)
Increase OP Observation utilization:						
Base Case - by 1.0% per 5 year period, all periods to 205C	(17)	(41)	(57)	(67)	(72)	(76)
By 2.0% per 5 year period, all periods to 2050	(18)	(41)	(58)	(68)	(73)	(78)
By 3.0% per 5 year period, all periods to 2051	(18)	(42)	(59)	(69)	(75)	(79)
Flat Utilization - current rollforward to 2050	(17)	(40)	(56)	(66)	(71)	(75)
Decrease OP Observation utilization:						
Base Case - by 1.0% per 5 year period, all periods to 205C	(16)	(40)	(56)	(65)	(70)	(73)
By 2.0% per 5 year period, all periods to 2050	(16)	(39)	(55)	(64)	(69)	(72)
By 3.0% per 5 year period, all periods to 2051	(16)	(39)	(54)	(63)	(68)	(71)

These changes in assumptions are equally applied to all geographic areas of the model shown below.

How the current model predict today's rate using historical data and similar assumptions?

- Regions did not use the model retroactively, such as using 1990 assumptions to forecast 2015 admissions.

How stable is the model to variations in assumptions (e.g. changing growth rates, changing admissions assumptions)?

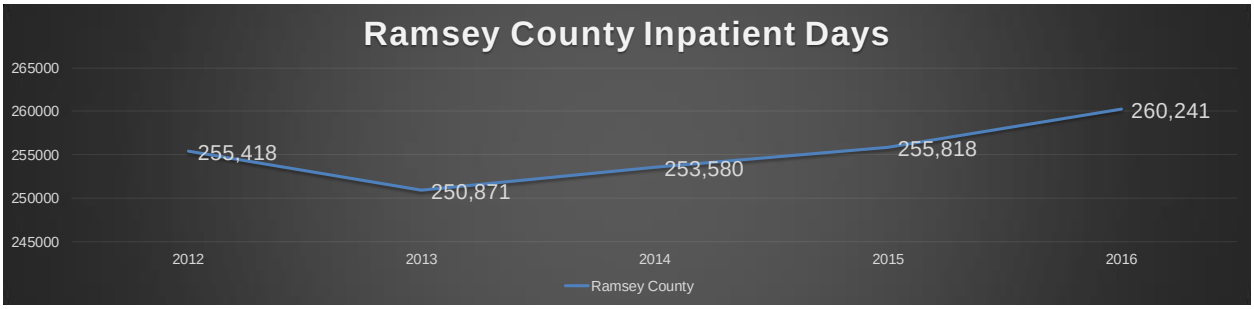
- These changes in assumptions are equally applied to all geographic areas of the model.

Inquiry 2: When we review data across all Minnesota hospitals, we've noticed that while the length of stay has increased, the number of admissions have fallen, leading to largely no change in the number of days. How have you considered this dynamic in your model? Is there a reason why Regions Hospital may experience a different trend?

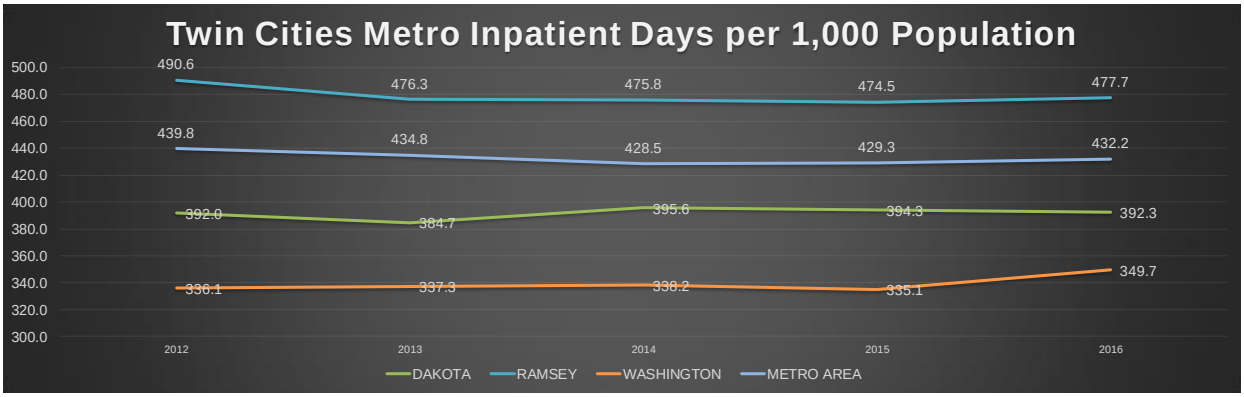
Patient data indicates that inpatient days in the Twin Cities metro area and Regions' service area have risen historically and will continue to rise into the future as the population continues to grow. See data below.

Historical Utilization Trends in the Metro Area

- A review of inpatient utilization for the Twin Cities metro area reveals that Ramsey County has experienced a steady rise in inpatient days since 2013. This trend is expected to continue, driven by population growth in Ramsey County and the metro area.



- A review of inpatient days utilization per a population of 1,000 in the Twin Cities metro area (Anoka, Chisago, Dakota, Hennepin, Ramsey, Washington County) reveals that the metro area has experienced a rise in days per 1,000 since 2014. This indicates that the fall in admission utilization is no longer offsetting the rise in average length of stay. When coupled with a rising population, the result is rising inpatient days.



- According to Minnesota and Wisconsin State Demographic Center data, the population in Regions Hospital's service area is expected to continue rising, with a steeper rise in the 65-plus age cohort.

Population for Ramsey, Washington, Dakota, Polk and St Croix Counties					
	0-19	20-44	45-64	65+	Total
2015	361,654	441,883	360,761	175,498	1,339,796
2050	467,215	556,512	364,706	297,170	1,685,603
Increase	29%	26%	1%	69%	26%

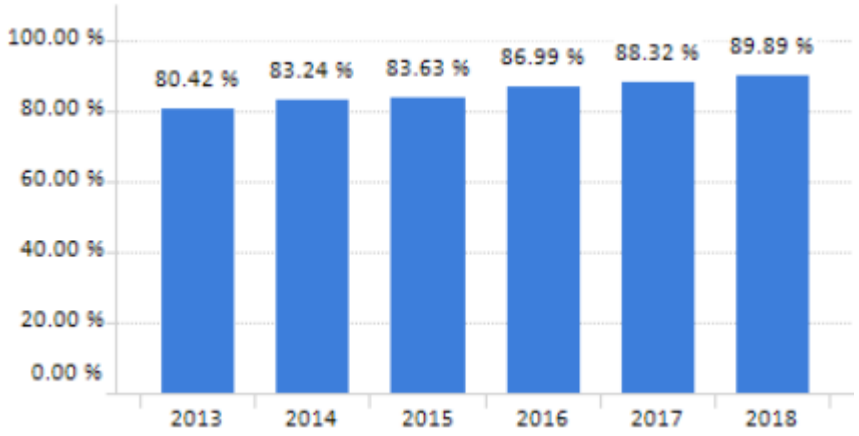
- Our model is largely based on the county demographic projections in our primary and secondary service areas. The 65+ population is estimated to grow by 69 percent, while the 45-64 segment will grow one percent. Although the 20-44 demographic will grow 26 percent, their inpatient

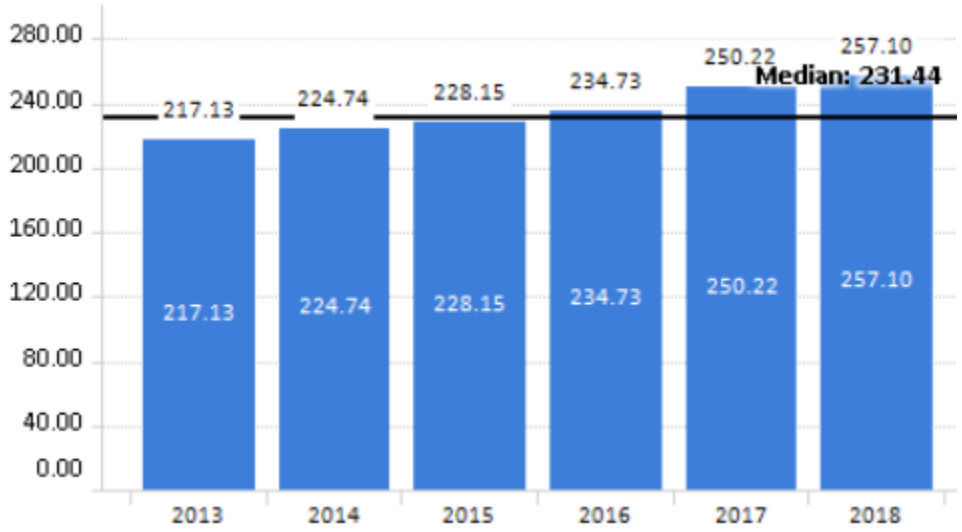
utilization rate per 1000 (excluding OB) is just 14 percent of the 65+ use rate. Including additional counties does not materially change these numbers.

Inquiry 3: More granular data on capacity constraints for medical/surgical, obstetrics, and mental health beds including:

Daily census numbers from 2013 through 2018, as calculated by Regions rather than derived from discharge data:

- Below are average daily census occupancy from 2013 to 2018, based on daily census numbers.





Data file that specifies the weekly (or monthly) volume patient transfers that could not be accepted with the reasons for this, if available (e.g. available beds, staffing levels, other factors).

- Regions has experienced increasing bed constraints for several years. As a result, we have had operational leaders working hard on every aspect of our clinical model to ensure the most efficient and effective care. This includes staffing "a bed ahead." In the past, Regions typically staffed occupied beds only. In the last five years with our growing demand, we have asked each unit to staff the next available bed. This way, we are confident we can accept requests for direct admissions or direct transfers. From 2016-2107 the decrease in Regions ability to accept transfers was as a result of lack of bed, not staff.

Inquiry 4: Regions Direct data (or similar) about diverted patients for the period 2013 through 2017, that includes:

The number of patients:

- Please see below the number of patients diverted in 2016 and 2017: Overall, Regions had97% growth in total Medical/Surgical patient diverts from 2016 to 2017. Over 300 more patients were diverted away from Regions Hospital primarily due to lack of available hospital beds.

Hospital Service	2016	2017	% Change
Med/Surg Total	310	613	97.7%
Medicine General	262	480	83.2%
Emergency Dept	22	50	127.3%
Medicine Critical Care	21	66	214.3%
Medicine Surgical	5	15	200.0%
All Other		2	
Mental Health	2,196	1,686	-23.2%

In which service lines these patients needed treatment?

- Since diverted patients are never admitted, Regions does not have a diverted service line summary. However, hospital service summaries based on the patients requested care are shown above. Medicine Critical Care saw a 214% increase in diverts in 2017, followed by Medicine Surgical patients at 200%, then Emergency Department diverts at 127% over the prior year.

Inquiry 5: Please provide the Wipfli, LLC forecast model, including all model inputs, assumptions, licensed bed need results excluding observation beds, and statistical methods.

- Wipfli used the logarithmic trend line analysis to estimate future inpatient discharge rates per 1,000 population and future inpatient days rates per 1,000 for each county.

- Wipfli developed inpatient discharge utilization rates per 1,000 population using historical inpatient discharges by County (Source: MHA data) and Population by County (Source: MN Demographic Center).

- The variables that were used in the logarithmic analysis include historical inpatient discharges per 1,000 population from 2012-2016 and historical inpatient days per 1,000 population from 2012-2016 as shown below:

Inpatient Discharges Per 1,000

Anoka	y = -4.656ln(x) + 109.47
Chisago	y = -8.92ln(x) + 110.72
Dakota	y = -2.33ln(x) + 97.204
Hennepin	y = -3.849ln(x) + 108.54
Ramsey	y = -6.487ln(x) + 120.84
Washington	y = -2.564ln(x) + 91.494
Grand Total	y = -4.186ln(x) + 107.83

Utilization per 1,000												
	2012	**2013**	**2014**	**2015**	**2016**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
ANOKA	**109.0**	**108.3**	**102.3**	**102.8**	**102.7**	**103.0**	**99.2**	**97.2**	**95.8**	**94.7**	**93.8**	**93.1**
CHISAGO	**110.7**	**104.9**	**100.6**	**97.6**	**97.1**	**98.4**	**91.1**	**87.2**	**84.5**	**82.4**	**80.7**	**79.3**
DAKOTA	**97.6**	**94.5**	**95.4**	**94.1**	**93.3**	**94.0**	**92.1**	**91.1**	**90.3**	**89.8**	**89.4**	**89.0**
HENNEPIN	**108.7**	**105.9**	**103.6**	**103.3**	**102.7**	**103.2**	**100.1**	**98.4**	**97.2**	**96.3**	**95.6**	**95.0**
RAMSEY	**121.0**	**115.9**	**114.2**	**111.2**	**110.8**	**111.8**	**106.6**	**103.7**	**101.7**	**100.2**	**99.0**	**98.0**
WASHINGTON	**91.9**	**89.3**	**88.6**	**86.8**	**88.6**	**87.9**	**85.9**	**84.7**	**83.9**	**83.3**	**82.9**	**82.5**
Grand Total	**108.0**	**104.9**	**102.9**	**101.8**	**101.5**	**102.0**	**98.6**	**96.8**	**95.5**	**94.5**	**93.7**	**93.1**

Inpatient Days Per 1,000

Anoka	y = -18.95ln(x) + 439.38
Chisago	y = -14.38ln(x) + 434.58
Dakota	y = 2.2262ln(x) + 389.67
Hennepin	y = -6.319ln(x) + 455.83
Ramsey	y = -8.428ln(x) + 487.05
Washington	y = 5.2142ln(x) + 334.29
Grand Total	y = -6.05ln(x) + 438.72

Days per 1,000												
	2012	**2013**	**2014**	**2015**	**2016**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
ANOKA	**435.3**	**435.8**	**415.1**	**410.8**	**409.1**	**413.1**	**397.7**	**389.4**	**383.6**	**379.2**	**375.6**	**372.6**
CHISAGO	**431.5**	**435.1**	**411.0**	**411.0**	**415.3**	**414.6**	**403.0**	**396.6**	**392.2**	**388.9**	**386.2**	**383.9**
DAKOTA	**392.0**	**384.7**	**395.6**	**394.3**	**392.3**	**392.8**	**394.6**	**395.5**	**396.2**	**396.7**	**397.2**	**397.5**
HENNEPIN	**456.9**	**453.4**	**442.1**	**446.7**	**449.8**	**447.1**	**441.9**	**439.2**	**437.2**	**435.7**	**434.6**	**433.5**
RAMSEY	**490.6**	**476.3**	**475.8**	**474.5**	**477.7**	**475.4**	**468.5**	**464.8**	**462.2**	**460.3**	**458.7**	**457.3**
WASHINGTON	**336.1**	**337.3**	**338.2**	**335.1**	**349.7**	**327.1**	**322.8**	**320.5**	**318.9**	**317.7**	**316.7**	**315.9**
Grand Total	**439.8**	**434.8**	**428.5**	**429.3**	**432.2**	**438.7**	**438.7**	**438.7**	**438.7**	**438.7**	**438.7**	**438.7**

To arrive at the total forecasted inpatient demand, these future estimated patient discharges and days per 1,000 were applied to future population figures for the service area.

Per MDH request, Wipfli has separated out Med/Surg and observation bed need below:

Year	2015	2020	2025	2030	2035	2040	2045	2050
Wipfli Estimated Beds Needed								
Med/Surg (85% Ideal Occ.)	269	294	305	315	324	332	340	348
Observation (85% Ideal Occ.)	26	28	29	30	31	32	32	33
Wipfli Estimated Beds Needed	295	322	334	345	355	364	372	381
Beds Available	294	321	321	321	321	321	321	321
Wipfli Model Net Overage/(Shortage)	(1)	(1)	(13)	(24)	(34)	(43)	(51)	(60)

Year	2015	2020	2025	2030	2035	2040	2045	2050
Wipfli Estimated Bed Shortages by Type								
Med/Surg + Observation (85% Occ.)	(1)	(1)	(13)	(24)	(34)	(43)	(51)	(60)
Rehab (90% Occ.)	4	5	4	4	3	3	3	2
Behavioral Health (95% Occ.)	(2)	(5)	(9)	(13)	(16)	(19)	(22)	(24)
OB (70% Occ.)	4	2	0	(1)	(2)	(2)	(3)	(4)
Total All Bed Types	**5**	**1**	**(17)**	**(33)**	**(48)**	**(61)**	**(74)**	**(86)**

It should be noted that Wipfli had originally combined inpatient Med/Surg and observation beds because these two patient types are difficult to isolate operationally. There are outpatients who become observation patients and observation patients who are ultimately admitted as inpatients.

The very nature of the "observation" status creates uncertainty about a patient's ultimate disposition. These patients are often treated in an inpatient bed today for quality and safety reasons. Thus, we cannot assume that all observation patients can be easily separated into a dedicated observation unit, that does not include licensed hospital beds.

Inquiry 5: Definitions for service categories (Diagnosis-related groups, or DRGs) for the services that the proposal identifies as unique to Regions hospital.
What is your estimate of the proportion of new beds dedicated to these services?

- Our projection is not built by DRG. For our projection, we used 3 categories: Inpatient Medical/Surgical, Mental Health, Obstetrics, and Outpatient Observation. Those DRGs are as follows: Mental Health (DRG 876, 880-887, 894-897),Obstetrics(DRG 765-770, 774-782), Medical Surgical(all other DRGS). Each of these areas is outlined in the application.

Are there any capacity constraints around these services in particular?

- As discussed in the application, there are great constraints currently in mental health. Population growth will create capacity constraints in Med/Surg.

Inquiry 6: Please provide additional detail on how the beds will be used.

Do you expect the number of observation beds at Regions to change with the increase in licensed beds?

- Despite the inpatient growth over the last five years, there has been little observation growth at Regions in the same time period, as illustrated below. Growth expectations, according to our 35-year forecast model, would add another two patients to the daily observation census.

Regions Observation	2013	2014	2015	2016
Census	22.08	18.78	22.31	20.18

- To clarify, an observation patient may occupy an inpatient bed, but an inpatient can never be admitted to an unlicensed observation bed. Most hospitals do not have additional unlicensed observation beds in service. They simply use their inpatient beds and place the patient on observation status. Regions built an unlicensed bed observation unit as a way to address our inpatient capacity constraints.

How many of the proposed new med/surg beds would be Intensive Care Unit (ICU) beds?

- With last year's reported ICU bed use at a rate of 11.7%as a base expectation, there would be minimally 6 of the 60 med/surg beds used for ICU coverage.

ICU as a % of MedSurg	2014	2015	2016	2017
ICU Bed Use	**30.9**	**30.7**	**35.8**	**38.3**
Med/Surg Bed Use	**303.0**	**308.0**	**317.0**	**328.0**
ICU as a %	10.2%	10.0%	11.3%	11.7%

- Given the advancements in science, this is a very conservative projection. For example, new stroke guidelines published in the New England Journal of Medicine show opportunity to provide interventions for patients previously thought to be beyond the timeline for effectiveness: "Previous studies had shown benefits for removing large-vessel blockages up to six hours after a stroke, but the Defuse 3 trial found that patients can benefit for up to 16 hours if imaging shows that blood flow can be adequately restored to large sections of the brain, and the brain isn't already too far gone. " (http://www.nejm.org/doi/pdf/10.1056/NEJMoa1706442)
- This advancement is rapidly changing stroke care and will introduce a whole new population of patients that previously may not have been inpatients, and most certainly not ICU patients, given the indication the patient was beyond the timeline for effective treatment. It's advancements like this that make the projection of exact bed types very challenging.

Will any of the additional 100 beds be for pediatric services?

- No. Regions does not provide general pediatric inpatient care. In partnership with Gillette Hospital we are a level 1 pediatric trauma hospital.

Beyond the broad categories of mental health, med/surg and obstetrics beds, can you identify specific service lines where you anticipate growth, and why?

- The top five service lines that are expected to drive growth for Medicare patients (by days calculated bed need) is illustrated below.The chart shows Regions needed over 23 more beds in these service lines from 2013 to 2017. With this historical growth and need from the Medicare population, we would expect similar long-term growth in these service lines. Additionally, the top DRG driving the need for hospital beds is shown for each service line.

Top 5 Medicare Patient Bed Need Growth by Service Line from 2013-2017		Top Medicare DRG of Bed Growth
Cardiovascular	5.24	291 Heart failure & shock w MCC
Pulmonology	4.13	189 Pulmonary edema & respiratory failure
Oncology	3.83	840 Lymphoma & non-acute leukemia w MCC
Neurology	3.53	065 Intracranial Hemorrhage or Cerebral Infarction W CC
General Surgery	3.22	853 Infectious & parasitic diseases w O.R. procedure w MCC

Your proposal identifies the goal to convert rooms from double to single occupancy. How many beds in which service lines do you expect will be affected?

- As of February 20, 2018, Regions Hospital will have 454 beds available and staffed. Of those, 92.1% are private rooms. Our intent would be to bring on almost all 100 bed licenses as private rooms—with the exception being OB, where the special care bed will be with the mother --. This will require refurbishment of outdated care units that are currently out of service. These rooms would convert from their double room configuration to single rooms.

Inquiry 7: Please provide additional data to complete the following tables:

Missing information in the data table on page 10 that permits adding up components, including, if available, data on ICU/non-ICU utilization.

- Included in the chart below. In addition, page 10 of the application shows 2017 case data and the ICU% by service line.

Regions Hospital Discharges: Service Line	2012	2013	2014	2015	2016	2017
Total Cases	**18,629**	**18,539**	**19,799**	**19,401**	**20,872**	**21,513**
Neurology	1,107	1,069	1,141	1,186	1,491	1,567
Orthopaedics	2,446	2,632	2,715	2,517	2,772	2,575
General Surgery	1,909	1,749	1,984	1,897	2,215	2,067
Neonatology	736	785	810	834	1,025	969
Cardiovascular	2,728	2,522	2,778	2,845	3,014	3,316
General Medicine	2,767	2,707	2,904	2,882	3,026	3,192
Pulmonology	1,172	1,064	1,251	1,251	1,426	1,578
Chemical Dependency	379	439	571	625	596	652
Oncology	641	614	676	787	822	950
Gastroenterology	1,446	1,362	1,434	1,364	1,543	1,678
Psychiatry	3,297	3,595	3,534	3,211	2,940	2,967
% ICU Cases	**13.1%**	**13.8%**	**13.6%**	**15.3%**	**17.8%**	**17.5%**
Neurology	22.0%	22.0%	23.0%	26.0%	28.0%	26.0%
Orthopaedics	5.0%	5.0%	4.0%	5.0%	5.0%	5.0%
General Surgery	23.0%	26.0%	25.0%	24.0%	26.0%	27.0%
Neonatology	3.0%	0.0%	0.0%	2.0%	20.0%	10.0%
Cardiovascular	30.0%	31.0%	29.0%	31.0%	32.0%	29.0%
General Medicine	18.0%	21.0%	22.0%	26.0%	30.0%	31.0%
Pulmonology	13.0%	20.0%	17.0%	19.0%	20.0%	19.0%
Chemical Dependency	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%
Oncology	6.0%	7.0%	7.0%	6.0%	9.0%	6.0%
Gastroenterology	7.0%	10.0%	8.0%	9.0%	10.0%	10.0%
Psychiatry	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%

Additional detail for displays on page 35 prior to 2025 (Average Length of Stay Change):

- While the Regions forecast model assumes a conservative 0.8% rise in length of stay every 5 years, the actual average rise in length of stay has been 1.7% every five years for Regions.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Average Length of Stay	4.6	4.53	4.61	4.57	4.5	4.42	4.62	4.77	4.74	4.66	4.76
5-Year Actual Average Change in Length of Stay											**1.7%**

Inquiry 8: A staffing plan for the phased addition of 100 hospital beds using one of these methods to classify types of employees:

Employee classifications from the Hospital Annual Report:

Regions Employee Classifications
Total FTEs (Rolling Add)
Registered Nurses
Nursing Assistants
Technicians (Surgery, Lab, Imaging and Other)
Professionals (CRNAs, Phys. Assist., Nurse Practitioner, Pharmacists)
Professional Other (Interpreters, Security)
Clerical and Administrative
Service Workers
Managerial
Contracted Physicians and Professionals

An approximate count of FTEs per bed for physicians, RNs, other nursing staff, and other staff, including Community Health Workers:

- Regions hospital does not employ physicians. We are a community hospital open to all who are granted privileges. The majority of clinical services are provided by HealthPartners Medical Group and key strategic partners. Regions contracts with HPMG and other groups for Medical Director services and various administrative services. The FTEs listed for Contracted Physicians and Professionals represents the equivalent staffing forecast for services to meet these operational and clinical leadership needs.

- Based on our current staffing model we project the need to add approximately 954 FTEs by 2040 to staff the beds requested in the application. The majority of FTEs would be clinical staff.

Regions Employee (FTE) Annual Growth Forecast	2018	2019	2020	2022	2025	2027	2030	2040
Total FTEs (Rolling Add)	104	219	296	410	597	711	825	940
Registered Nurses	31	65	89	123	177	211	245	279
Nursing Assistants	9	20	26	37	54	64	74	84
Technicians (Surgery, Lab, Imaging and Other)	22	47	63	87	127	152	176	200
Professionals (CRNAs, Phys. Assist., Nurse Practitioner, Pharmacists)	3	7	10	13	20	23	27	31
Professional Other (Interpreters, Security)	11	22	30	42	61	72	84	96
Clerical and Administrative	8	17	23	32	46	55	64	73
Service Workers	8	16	22	31	45	53	62	70
Managerial	5	11	15	21	31	37	43	49
Contracted Physicians and Professionals	6	13	18	25	36	43	50	57

The expected (approximate) added costs, as applicable, of personnel, physical space, and medical equipment for incremental bed increases over the next 20 to 30 years according to the timeline found on page 46 of the application;

- The additional beds proposed in the application can be accommodated by refurbishing space within Regions Hospital's existing footprint. By 2040, annual spending will grow by over $290 million with the largest component being employee salary and benefits. The $174M in salaries and benefits accounts for the 954 FTE.

Additional Annual Spending (Millions)	2018	2019	2020	2022	2025	2027	2030	2040
Salaries and Benefits	$11.3	$24.2	$33.6	$48.9	$76.6	$95.9	$119.9	$174.8
Supplies	$3.6	$7.6	$10.6	$15.4	$24.2	$30.3	$37.9	$55.2
Purchased Services and Other	$2.9	$6.2	$8.6	$12.5	$19.5	$24.4	$30.5	$44.5
Facilities and Medical Equip.	$1.0	$2.2	$3.1	$4.4	$7.0	$8.7	$10.9	$15.9
	$18.7	**$40.2**	**$55.9**	**$81.3**	**$127.3**	**$159.3**	**$199.2**	**$290.3**

- The potential construction costs associated with this growth cannot be estimated at this time, as the specific care unit layouts have not been designed.

Inquiry 9: Other Clarifying Questions

How do you calculate "bed use by payer" (page 12)?

- The payer is determined by the principal payer on the patient account. Commercially managed Medicare plans are identified as Medicare along with Medicare Fee-For-Service. In addition, Medicaid Fee-For-Service and commercially managed Medicaid plans are Medicaid.

How do you calculate the Case Mix Index (page 35)?

- Regions Hospital's CMI represents the average diagnosis-related group (DRG) relative weight (MSDRG CMI). We calculate it by summing the DRG weights for all discharges and dividing by the number of discharges.

In addition to pointing to expert opinions and operational experience, can you point us to empirical evidence that helps define optimal occupancy, specific to service lines or more generally?

See- *Queuing theory accurately models the need for critical care resources.* McManus ML1, Long MC, Cooper A, Litvak E.

https://www.ncbi.nlm.nih.gov/pubmed/15114227

…

Both in practice and in simulation, turn-away rates increased exponentially when utilization exceeded 80-85%. Sensitivity analysis using the model revealed rapid and severe degradation of system performance with even the small changes in bed

availability that might result from sudden staffing shortages or admission of patients with very long stays.

Questions related to need for additional mental health beds:

Among the reasons for declining transfers for mental health patients, how many are due to lack of physical space (beds) rather than reasons related to staff, outpatient capacity or other reasons?

- Regions Hospital's mental health beds are 100% staffed at all times. We have 100 beds, 98 of which are full. Two of the beds are reserved for correctional patients, so occupancy varies based on the needs of correctional health services. The correctional beds are designed so they are inaccessible to other patients.

Can you clarify how change in factors that drive need for inpatient mental health beds align with your decision to increase the number of mental health beds in 2025?

- Regions currently dedicates 100 of its 454 licensed beds to mental health services. Increasing that number will require significant investment in space and staff resources. With the anticipated growth described in the application, we anticipate having the capital and staff necessary to make that investment by 2025.
- In the meantime, Regions is making significant investments to help offset some of the current demand for inpatient beds by opening a new Intensive Residential Treatment (IRTS) facility in addition to the two already operated by Regions Hospital. IRTS facilities are an important discharge option for patients that no longer need acute level inpatient care, but would benefit from additional support prior to transitioning home. Minnesota does not have enough IRTS facilities to meet the current discharge demand from hospitals with inpatient mental health beds.[5]

Please provide additional detail on how decisions by other area hospitals concerning mental health bed capacity have affected use and occupancy at Regions.

- Our biggest challenge in this respect has been the change in law that gives the correctional system first priority for beds at the Anoka Metro Regional Treatment (AMRTC) facility. Sometimes referred to as the "48 hour rule", this policy change has had the unintended consequence of severely limiting the ability of community hospitals to discharge patients to AMRTC. We have patients that have been on the AMRTC waitlist for over 200 days. When we have patients that no longer need acute level hospital care, but have no other appropriate discharge options, we have discharge-ready patients occupying inpatient beds, which further limits our ability to accept new admissions of persons needing inpatient mental health treatment. When our inpatient beds are full, patients with acute mental health needs remain in

[5] *Reasons for Delays in Hospital Discharges of Behavioral Health Patients: Results from the Minnesota Hospital Association Mental and Behavioral Health Data Collection Pilot* - Prepared by: Kristin Dillon and Darcie Thomsen, Wilder Research- https://www.mnhospitals.org/Portals/0/Documents/policy-advocacy/mental-health/MHA%20Mental%20Health%20Avoidable%20Days%20Study%20Report%20July%202016.pdf

the emergency department longer, which contributes to longer wait times for everyone coming through the emergency department and more patients being diverted to other hospitals that are likely facing similar challenges.

- The chart below shows the increasing average length of stay for mental health patients since the 48 hour rule was passed in 2013.

Mental Health Patients	Cases				
Avg Length of Stay	2013	2014	2015	2016	2017
Over 100 days	6	7	23	20	21
Over 30 days	203	227	212	279	254

You indicate that the need for increased obstetrics beds relates to the goal of better routing of patients as well as expected greater demand.

Can you provide more detail on the couplet care model, and how this differs from the standard practice of "rooming in" (e.g. moveable bassinet in room with mother)?

- Babies who require a higher level of care receive this care separate from their mothers in the Special Care Nursery. With the couplet care rooms, babies can receive this care, with their mothers in the same room.
- Evidence suggests keeping mother and baby together improves bonding, attachment and improves health outcomes.
- *More information:* Regions' current birth center, built in 2000, was designed when babies stayed in the nursery and mothers recovered in their own room. Now mother and baby recover together in the same room. However, mother and baby separate if the baby needs a higher level of care and moves to the Special Care Nursery.
- The latest advancement is to allow the mother and baby to stay together in an "enhanced couplet" care room. Infants needing treatment for Neonatal Abstinence Syndrome (NAS), hypoglycemia, chorioamnionitis, or late pre-term infants and twins would stay in the enhanced couplet care room with mom. A specially trained nurse in pediatrics and postpartum cares for both patients (the couplet).

Aside from the couplet care, will there be any change in the services currently offered with the conversion of observation beds to licensed beds in the labor and delivery area.

- In our current facility, no. Given the space, our model is currently constrained by our facility. If we build a new birth center as planned, we envision a more culturally sensitive experience, enhancements to our midwifery program and a better overall family experience.

How many of the (approximately) 700 births that took place at St. Joseph's Hospital annually do you assume will come to Regions?

- We did not assume any specific growth as a result of the closure of St Joseph's. Growth is assumed as a result of the population growth projections and an assumed slight increase in the birth rate/1,000.

Previously, under an existing provision of the Minnesota Statutes (144.551, Subd 1(12)), Regions Hospital had the ability to expand its licensed bed capacity by 27 beds, including 12 dedicated to mental health patients, through a transfer of beds from Hennepin County Medical Center. Has Regions considered this approach as part of its approach to extend its licensed bed capacity at this time?

- Yes, we have considered this approach. The transfer of bed licenses from Hennepin County Medical Center came with significant, ongoing cost and also requires a law change. Given these factors, Regions chose to ask for an exemption to the moratorium rather than adding unnecessary costs to the health care system.

What, if any, current and anticipated shortages in staffing exist at Regions and how do you expect to be meeting the need for specialized staff?

- At this time, we are not experiencing or anticipating any staffing shortages beyond the normal activity in the market.
- We are committed to training future caregivers in all roles, and these partnerships create a great pipeline for new hires. Our Human Resources department has been building strong programs and partnerships to interest middle to high school-aged students and diverse communities, in a healthcare career. We believe through this commitment and the strong education system in Minnesota, we will continue to be able to recruit. See section 6.3 Educating Caregivers of the Future (pgs. 53-54) of our original application for more detail on Regions' efforts expand the health care workforce pipeline.
- With our employee engagement scores above 90%, we believe we can retain employees and provide a great place to work.

Will the new beds charge uninsured patients at the same rate as the private insurance company delivering the most revenue to the hospital (as stipulated in agreement with the Minnesota Attorney General)?

- Yes. Regions Hospital provides free or discounted care to all patients eligible under our Financial Assistance Policy, which includes all uninsured and insured patients who do not have the ability to pay the patient-responsible portion of their bill. In compliance with the Minnesota Attorney General Agreement and Internal Revenue Code (Section 501(r)), Regions Financial Assistance Policy incorporates both a "501(r)" discount and Minnesota Attorney General discount based on Regions' "most favored insurer."

- These discounts ensure that uninsured or otherwise eligible patients at Regions are charged at or below the rates generally charged to patients with commercial insurance for medically necessary care. For patients eligible for both discounts, Regions calculates and applies the more favorable discount. The new beds will assuredly be included under the hospital's Financial Assistance Policy. Regions recently renewed the Minnesota Attorney General Agreement for another five years, through July 1, 2022.

In the proposal, you note that certain services may have to be reduced if Regions is unable to expand its licensed bed capacity. In the spirit of understanding barriers to delivering timely care for key services, can you help us to understand which services Regions expects to be affected and to what magnitude?

- At this time, a detailed plan has not been developed. That said, without the ability to grow by adding additional beds, we will be extraordinarily challenged to continue to maintain financial viability and invest in technology, services and facilities to serve our patients. We would be forced to evaluate the services we provide where expenses exceed reimbursement or that create operational complexities that require additional investment.

As you have noted in your application, the hospitals closest to Regions (St. Josephs and United) both have licensed beds that are not being used. Can you articulate Regions' view of the benefit to the public from adding additional capacity to the East Metro area when some surge capacity already exists? Which areas of care delivery might this capacity be lacking?

- Putting a bed in use requires a clinical team, including nurses and physicians. Regions does not have data to determine the capacity of the physician practices for these hospitals to take on additional volume.

- What we do know: Regions provides some services to the community that cannot be provided by St. Josephs or United. Our trauma and burn programs are unique to this market. We have the only acute inpatient rehabilitation program on the east side. Our orthopedic program also serves post-acute trauma patients with surgical care to restore or improve functionality. This cannot be replicated easily.

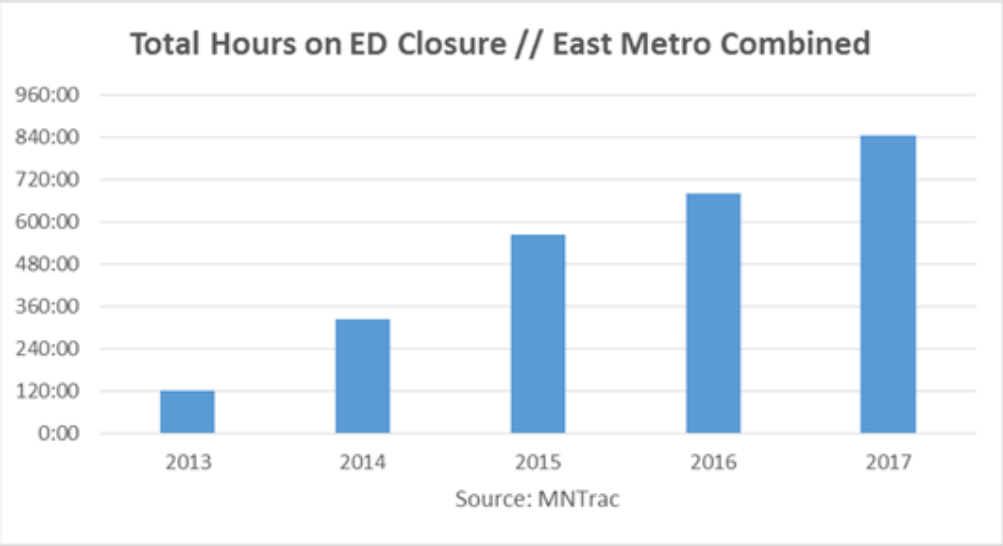
- Other East Metro health systems send patients to Regions. See pg. 38 of our original application for a chart showing the number of requests for patient admissions from other health systems that Regions had to decline due to lack of available beds.

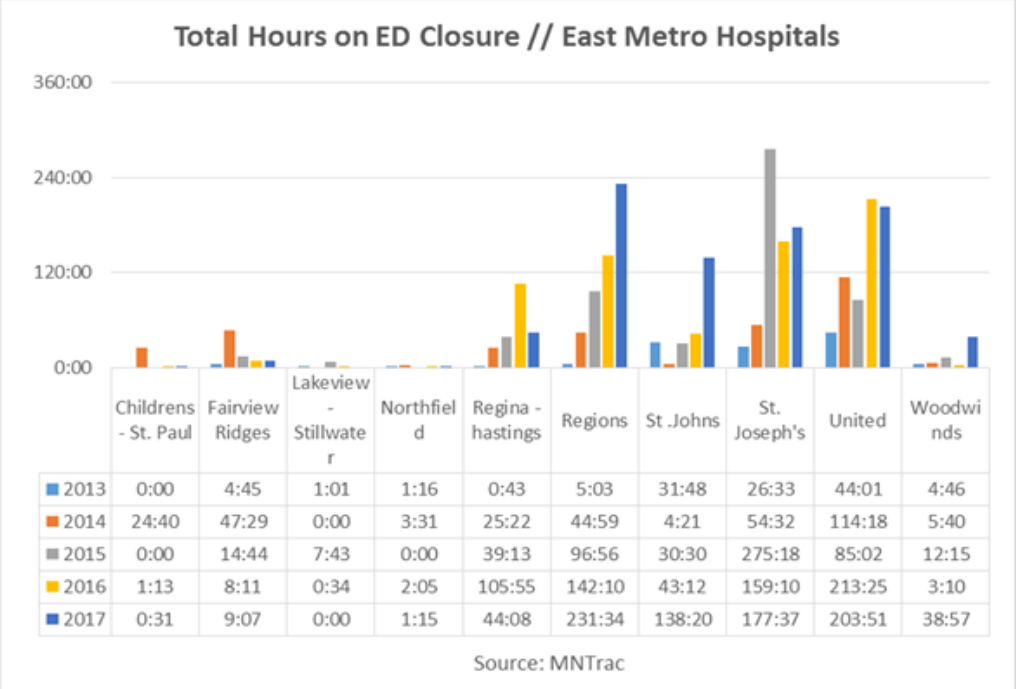
- Regions is also the largest provider of charity care in the East Metro.

- Finally, while Emergency Department diverts are not the complete story of a hospital's ability to serve additional patients, we do know that Emergency Department closures (i.e. time spent on divert status) in the east metro are on the rise. The data collected by MNTRAC shows the growing trend of capacity constraints in the east metro.

[Response continued on following page]

- The charts below show the total hours of all Emergency Department closures in the east metro combined and by entity:





	Childrens - St. Paul	Fairview Ridges	Lakeview - Stillwater	Northfield	Regina - hastings	Regions	St .Johns	St. Joseph's	United	Woodwinds
2013	0:00	4:45	1:01	1:16	0:43	5:03	31:48	26:33	44:01	4:46
2014	24:40	47:29	0:00	3:31	25:22	44:59	4:21	54:32	114:18	5:40
2015	0:00	14:44	7:43	0:00	39:13	96:56	30:30	275:18	85:02	12:15
2016	1:13	8:11	0:34	2:05	105:55	142:10	43:12	159:10	213:25	3:10
2017	0:31	9:07	0:00	1:15	44:08	231:34	138:20	177:37	203:51	38:57