



Carolinan HealthCare System

Petition to Revise the Acute Care Bed Need Methodology

Submitted by:

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Requested Adjustment

Carolinan HealthCare System (CHS) requests that the State Health Coordinating Council (SHCC) form an expert workgroup to review and update the acute care bed need methodology for the 2010 State Medical Facilities Plan (SMFP). CHS is filing this petition now rather than in early 2009 to allow adequate time for the expert workgroup to complete its review and develop any revisions prior to the publication of the *Proposed 2010 SMFP*.

Reasons for the Requested Adjustment

There are two primary reasons for the requested formation of the expert workgroup and the review and update of the methodology. These reasons are outlined below and are presented in this petition.

- The use of a single, statewide growth rate for projected patient days for all the hospitals in North Carolina is underestimating bed need in counties experiencing high population growth and higher rates of growth in acute care bed utilization.
- The current methodology is based on a hospital's patient days and does not consider a hospital's average length of stay. Hospitals that operate with higher than expected lengths of stay may cause bed need estimates to be overstated in a given year.

There are several additional methodology-related issues that need to be addressed by the expert workgroup. These issues are outlined following the presentation of the two primary reasons noted above.

History of Current Acute Care Bed Need Methodology

The current bed need methodology was developed for the 2004 SMFP. The major changes addressed by the new methodology in 2004 were a change in data source from license renewal application data to Thomson data (formerly Solucient), a change to county service areas and the use of a statewide patient day growth rate factor in the projection formula.

CHS believes the current bed need methodology and framework have served the state well and have resulted in a sound methodology over the last five years. In fact, during the five years since its inclusion in the 2004 SMFP the methodology has generated a need for 892 additional beds in North Carolina. Please see Attachment 1.¹

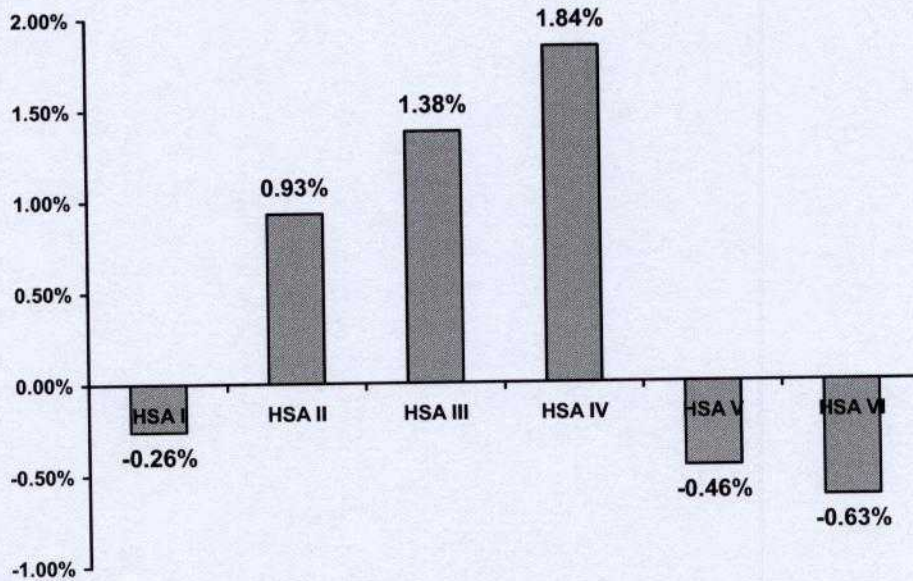
Single Statewide Growth Rate Factor

It appears the application of a single statewide growth rate factor no longer meets the needs for all counties and regions of the state. In particular, the growing urban areas of the state demonstrate a much higher patient day growth rate relative to the statewide growth rate factor. Since the creation of the current methodology the statewide growth rate factor has ranged from 1.58 percent in the 2006 SMFP to 0.47 percent in the 2008 SMFP. Notably, the *Proposed 2009 SMFP* reflects a growth rate factor of 0.01 percent.

CHS believes the proposed expert workgroup needs to evaluate alternatives to a statewide growth rate application. As an example, an HSA-growth rate factor may be more appropriately applied to the hospitals located in the HSA. This conclusion is based on an analysis of patient day growth rates by HSA as reflected in the bar graph below. Based on the average "three year look-back" as prescribed in the methodology, growth rates vary significantly by HSA and support the position to consider a more geographically targeted growth rate factor in the methodology.

¹ Excludes special bed need allocation and special needs petition.

**Patient Day Growth Rate Factor by HSA
Using Data from 2008 SMFP, Table 5A**



Source: 2008 SMFP.

Average Length of Stay

When the current bed need methodology was developed in 2003, use of patient days was determined to be the most efficient means to calculate bed need for the hospitals in the state. This may well be the case today; however, over the last five years hospitals have been very focused on length of stay management as a means to maximize existing facility capacity. Overall, the state's most efficient hospitals, as potentially measured by average length of stay (ALOS), will require fewer beds to operate relative to hospitals with higher than average lengths of stay. As such, the ALOS of hospitals should be considered by the expert workgroup and factored into any new bed need methodology discussions and deliberations. Clearly, hospitals that have higher than expected average lengths of stay can result in more beds allocated than would be needed if these hospitals were operated with lower average lengths of stay.

It should be noted the Thomson statewide discharge database (formerly Solucient) includes information that can be used to compare severity-adjusted observed ALOS to expected ALOS for each hospital in the state, thus normalizing ALOS data to account for the differences in patient acuity and complexity among the state's hospitals.

Additional Issues Recommended to the Expert Workgroup

CHS recommends that the following issues be considered by the expert workgroup as well.

- Attachment 2 contains the acute care bed need growth rate calculation which shows the derivation of the 0.01 percent growth rate factor being utilized in the *Proposed 2009 SMFP*. The *Proposed 2009 SMFP* growth rate is extremely low when compared to the growth rates since 1999. Attachment 2 shows a change in counting methodology beginning in 2006 whereby newborn patient days are excluded based on actual newborn bed placement instead of DRG. What is noteworthy here is 2006 marked the only decline in an annual growth rate since 1999. The expert workgroup should evaluate the most appropriate method for accounting for newborn utilization in future growth rate calculations. It is unclear the extent to which this change in counting methodology has impacted the growth rate calculation.

The potential impact of such a low growth rate (0.01 percent), combined with a statewide application, is highlighted in the table below. Based on data in the *Proposed 2009 SMFP*, 40 hospitals in the state are reporting higher patient day volumes for FFY ending 2007 than were projected in the *2008 SMFP* for FFY 2012 (whereby a growth rate of 0.47 was utilized). The data in the table below are arranged in descending order based on the percent of total reported 2007 patient days that exceed the 2012 projection contained in the *2008 SMFP* (top 20 hospitals only).

Comparison of 2007 Acute Care Days to Projected 2012 Acute Care Days

Facility	County	HSA	2008 SMFP		2009 SMFP	Percent 2007 Exceeds 2012
			2006 Acute Care Days	2012 Projected Acute Care Days	2007 Acute Care Days	
Davie County	Davie	II	1,486	1,528	2,725	78.3%
Hoots Memorial	Yadkin	II	679	698	1,002	43.6%
Person County Hospital	Person	IV	8,731	8,980	11,868	32.2%
Pender Memorial	Pender	V	4,279	4,401	5,746	30.6%
Angel Community	Macon	I	4,754	4,890	5,655	15.6%
Duplin General	Duplin	VI	9,776	10,055	11,459	14.0%
Presbyterian - Huntersville	Mecklenburg	III	13,808	14,202	15,993	12.6%
CMC-Union	Union	III	33,398	34,351	36,629	6.6%
UNC Hospitals	Orange	IV	176,345	181,377	193,172	6.5%
Harris Regional	Jackson	I	17,774	18,281	19,455	6.4%
Catawba Memorial	Catawba	I	35,928	36,953	39,223	6.1%
Chatham Hospital	Chatham	IV	2,638	2,713	2,855	5.2%
Alamance Regional	Alamance	II	40,888	42,055	43,733	4.0%
Presbyterian Matthews	Mecklenburg	III	25,644	26,376	27,408	3.9%
Bertie Memorial	Bertie	VI	1,470	1,512	1,566	3.6%
First Health Moore Regional	Moore	V	74,037	76,150	78,816	3.5%
Presbyterian Hospital	Mecklenburg	III	149,608	153,877	159,139	3.4%
CMC-NorthEast	Cabarrus	III	92,686	95,331	98,475	3.3%
Central Carolina Hospital	Lee	IV	19,468	20,023	20,645	3.1%
Hugh Chatham Mem. Hospital	Surry	II	15,613	16,058	16,475	2.6%

Source: 2008 SMFP, Proposed 2009 SMFP.

- Attachment 2 also makes note that the growth rate calculations exclude out-of-state residents cared for in North Carolina hospitals. The expert workgroup should also review the impact of out-of-state residents on the growth rate factor since many North Carolina hospitals care for a significant number of out-of-state residents.

Adverse Effects on the Population if the Petition is Not Approved

There are potential adverse effects on the population if this petition to convene an expert workgroup to review the acute care bed need methodology and address the highlighted issues is not approved. Patients in high growth areas will face overcrowded facilities as utilization increases faster than the SMFP projection of bed need. The resulting delay will force many hospitals to operate well above target occupancy rates until bed need is generated. The additional time required for the CON application review process and facility renovation or construction will result in even higher utilization before additional acute care bed capacity becomes operational. The impact on patients could be delayed treatment and care provided in sub-optimal conditions.

Alternatives Considered

One alternative considered was to do nothing to adjust the acute care bed need methodology. This alternative was not considered feasible because the use of a statewide growth rate creates a hardship for patients and facilities located in high growth areas where utilization is increasing faster than the statewide rate. Another alternative considered was to file a petition proposing a change in the acute care bed need methodology in early 2009. This alternative was also considered not feasible because the complexity of the issue requires input from multiple experts and organizations around the state which is best achieved through an expert workgroup.

Impact of Proposed Adjustment on Unnecessary Duplication

The approval of the petition will not result in the duplication of services. The petition is proposing a workgroup to review and update the acute care bed need methodology to better reflect actual utilization, to ensure needed beds are allocated in a timely manner and to prevent unneeded beds from being allocated.

Conclusion

In summary, CHS is asking the SHCC to convene an expert workgroup to evaluate the specific areas of the acute care bed need methodology highlighted in the petition and incorporate changes in the methodology for the 2010 SMFP.

We appreciate your careful consideration of this petition.

Thank you.

Attachment 1

NC SMFP Bed Need Results, 2004 to 2008 (Table 5B)

SMFP Year	2004 SMFP FFY 2002	2005 SMFP FFY 2003	2006 SMFP FFY 2004	2007 SMFP FFY 2005	2008 SMFP FFY 2006	TOTAL	% Total	Cum. % Total
Wake	102	45			41	188	19.5%	19.5%
Forsyth	40		90	26		156	16.1%	35.6%
Pitt	49	42	25			116	12.0%	47.6%
Orange	43		68			111	11.5%	59.1%
Cumberland	44		25	22		91	9.4%	68.5%
Harnett⁽¹⁾		50				50	5.2%	73.7%
Robeson	37					37	3.8%	77.5%
Craven			37			37	3.8%	81.4%
Guilford				34		34	3.5%	84.9%
Mecklenburg					27	27	2.8%	87.7%
Johnston⁽²⁾			24			24	2.5%	90.2%
Moore	23					23	2.4%	92.5%
Scotland			21			21	2.2%	94.7%
Carteret	18					18	1.9%	96.6%
Richmond		7		6		13	1.3%	97.9%
Henderson	11					11	1.1%	99.1%
Avery			7			7	0.7%	99.8%
Dare			2			2	0.2%	100.0%
TOTAL	367	144	299	88	68	966	100.0%	

Notes: (1) Special bed need allocation.
(2) Special needs petition.

Attachment 2

Acute Care Bed Need Growth Rate Calculation

Total In-state Days from North Carolina Acute Care Hospitals, 1996-2007

Year	Days	Annual Growth Rate	3-year Average Growth Rate
1996	4,373,602	-0.67%	
1997	4,344,434	-0.06%	
1998	4,342,032	-0.85%	
1999	4,305,125	2.74%	
2000	4,423,151	1.13%	
2001	4,472,918	0.18%	
2002	4,480,926	2.13%	
2003	4,576,550	2.25%	
2004	4,679,727	0.34%	
2005	4,695,848	-1.19%	
* 2006	4,639,819	0.87%	
* 2007	4,680,021		

Source: North Carolina Hospital Discharge Database, Thomson. Fiscal Years 1996-2007

Notes: Includes all days from NC residents in NC acute care hospitals.

Excludes all days from out-of-state residents in NC acute care hospitals.

Excludes DRG 391 (normal newborns).

Excludes days from psychiatric, substance abuse and rehabilitation hospitals.

Excludes outliers.

* For 2006 and 2007, newborns are excluded based on actual bed instead of DRG when bed data is available.