

**Acute Care Committee
Agency Report
Adjusted Need Petition for Two Operating Rooms in Brunswick County
in the 2020 State Medical Facilities Plan**

Petitioner:

Brunswick Community Hospital, LLC dba Novant Health Brunswick Medical Center
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Request:

Brunswick Community Hospital, LLC dba Novant Health Brunswick Medical Center (Novant Brunswick) requests that the *2020 State Medical Facilities Plan (2020 SMFP)* include a need determination for two operating rooms (ORs) in the Brunswick County OR service area.

Background Information:

Chapter Two of the *SMFP* provides that “[a]nyone who finds that the North Carolina State Medical Facilities Plan policies or methodologies, or the results of their application, are inappropriate may petition for changes or revisions. Such petitions are of two general types: those requesting changes in basic policies and methodologies, and those requesting adjustments to the need projections.” The annual planning process and timeline allow for submission of petitions requesting adjustments to need projections in the summer. It should be noted that any person might submit a certificate of need (CON) application for a need determination in the Plan. The CON review could be competitive and there is no guarantee that the petitioner would be the approved applicant.

The need methodology consists of several steps to determine the number of ORs needed in each service area. The methodology first calculates the number of surgical hours by multiplying the reported average case times by the reported number of cases. To obtain projected surgical hours, the calculated surgical hours are multiplied by the percent change in population between the data year and the projection year. The number of ORs needed are then obtained by dividing the projected surgical hours by the standard hours per OR per year. The final step calculates the number of additional ORs needed by subtracting the projected total number of needed ORs from the current OR inventory for each health system in the service area. Deficits for all health systems are summed to obtain the need for ORs in the service area.

Currently, Brunswick County has two facilities with ORs - Novant Brunswick, which has a deficit of 1.10 ORs, and J. Arthur Doshier Memorial Hospital, which has a deficit of 0.12 ORs. However, Brunswick Surgery Center (BSC) is developing one additional OR which is expected to become operational in March 2020. Therefore, according to the *Proposed 2020 SMFP*, the Brunswick County service area has a total deficit of only 0.22 ORs, resulting in no need for additional ORs.

Analysis/Implications:

As noted above, the OR standard need methodology uses surgical case times to determine the number of ORs needed by the projection year. Per Step 2 of the methodology, if a facility's reported average case time is more than 10 percent longer than its Final Case Time as shown in the previous *SMFP*, its case time is adjusted by replacing it with its previous year's Final Case Time plus 10 percent. This value is referred to as the Adjusted Case Time. The Petitioner asserts that the case times used to determine need for the *2019 SMFP* and the *Proposed 2020 SMFP* should have been the same as what was reported by the facility because those case times were not more than 10 percent different from the Final Case Times listed in the previous *SMFPs*. The Agency examined the data and found that the Petitioner's analyses of the determination of the Final Case Times are incorrect.

The methodology distinguishes between the Adjusted Case Times calculated in Step 2 of the methodology and Final Case Times determined in Step 4. Final Case Times are the times used in final calculations of need. These times are based on facility groupings by surgical hours as described in Step 3. According to Step 4 of the methodology, "[i]f the Adjusted Case Time exceeds one standard deviation above the mean case time for its group, substitute the value equivalent to the mean plus one standard deviation of the Adjusted Case Time to obtain the Final Inpatient Case Time and Final Ambulatory Case Time, as applicable. Otherwise use the Adjusted Case Time from Step 2 as the final case time." Novant Brunswick's number of total surgical hours places them in Group 4. Table 1 shows the reported case times, the previous *SMFPs*' Final Case Times, calculated Adjusted Case Times, mean case times and standard deviations for Group 4, and Final Case Times in the two relevant *SMFPs*. In both plan years, the average inpatient case times reported by Novant Brunswick exceeded the previous *SMFPs*' Final Case Times, but not by more than 10 percent. However, each year, the case times exceeded Group 4's mean case times by more than one standard deviation. Thus, the facility's Inpatient Final Case Times reflect the substituted values (i.e., the group mean plus one standard deviation). Also, for both *SMFPs*, the Ambulatory Final Case Times used were the same as the Adjusted Case Times because those numbers did not exceed the group's means plus one standard deviation. Therefore, a need determination for zero ORs in Brunswick County remains accurate for both *SMFPs*.

Table 1: Inpatient and Ambulatory Adjusted and Final Case Times

	Step 2			Step 4		
	Novant Brunswick's Reported Case Time	Previous SMFP's Final Case Time	Adjusted Case Time: Previous SMFP's Final Case Time Plus 10 Percent	Group 4 Mean Case Time in Minutes	Group 4 Standard Deviation	Group 4 Mean plus one Standard Deviation (Value for Possible Substitution as Final Case Time)
Inpatient, 2019 SMFP	142	135.3	148.8	112.5	27.4	139.9
Ambulatory, 2019 SMFP	94	73.7	81.1	71.7	18.7	90.4
Inpatient, Proposed 2020 SMFP	146	139.9	153.9	111.6	26.1	137.7
Ambulatory, Proposed 2020 SMFP	92	81.1	89.2	70.9	18.6	89.6

Source: 2018 and 2019 Hospital License Renewal Applications

The petitioners also assert a need for more ORs due to Brunswick County's large and fast-growing older population. Age is significant as the Petitioners report that individuals in the 65 and older age group account for over 50 percent of surgical cases at Novant Brunswick. According to the North Carolina Office of State Budget and Management, the County's percentage of the population aged 65 and older is almost twice as large as the State's. This trend is expected to continue over the next five years. Also, while this segment of the population is expected to grow 16.0% statewide between 2019 and 2024, growth in Brunswick County during that same time period is expected to be 20.5%.

The Petitioners also posit that an addition of two ORs will not duplicate services. As noted above, BSC plans to begin operating Spring 2020 as an orthopedic ambulatory surgery center. The Agency sought to estimate how much surgery volume BSC could reasonably be expected to acquire. Over the last three years, Novant Brunswick's ambulatory surgery case times have averaged 94 minutes. In its analysis, the Agency assumes the new facility's case times will be similar. Once added to the SMFP, and according to the standard need methodology, BSC's

capacity is expected to be 1,312 standard surgical hours per year. Accordingly, BSC would be expected to perform 837 outpatient surgeries annually¹.

As indicated in the *Proposed 2020 SMFP*, Novant Brunswick performed a total of 4,189 surgical cases (inpatient and outpatient) in 4 ORs. Of those, 623 cases were ambulatory orthopedic surgeries, which is equivalent to utilization of 0.59 ORs. This suggests that the new OR at BSC has the potential of absorbing all the annual ambulatory orthopedic volume occurring at Novant Brunswick. However, only 15 percent of the total ambulatory surgical cases at Novant Brunswick are orthopedic. Also, the Petitioner highlights the addition of surgeons with the following specialties - aside from Orthopedic and Orthopedic Spine/Neurological - that are relevant to aging populations: ENT, General Surgery, Oral & Maxillofacial Dentistry, and Urology. Therefore, while BSC might reduce some surgical volume, resources for other surgical specialties may need to be increased.

Indeed, the Petitioners report that surgical case times have increased by 15% for inpatient cases and 40% for ambulatory cases over the last three years. According to some of the Novant Brunswick's surgeons who authored several of the letters of support provided with the petition, increases in case time can be attributed, in part, to increases in surgical complexity and robot-assisted surgeries. This, coupled with other scheduling difficulties, is reported to cause delays in care and patients seeking surgery in other counties and in South Carolina. Based on 2017 data provided through Hospital License Renewal Applications, almost 90 percent of Novant Brunswick's inpatient and ambulatory surgery patients and almost 85 percent of J. Arthur Doshier Memorial Hospital's inpatient and ambulatory surgery patients are residents of Brunswick County. However, almost 60 percent of Brunswick County patients sought inpatient and ambulatory surgery services at New Hanover Regional Medical Center in New Hanover County. Patients who are residents of Brunswick County comprise about 20% of all surgical cases at New Hanover Regional Medical Center.

Agency Recommendation:

The Petitioner has requested an adjusted need determination for two ORs in Brunswick County. The Agency supports the standard methodology for determining OR need that resulted in no need for additional ORs in the County. However, the County's ageing population and high out-migration of residents to a near-by service area support the Petitioner's concern that Brunswick County's existing ORs cannot support case volumes. The Agency takes into account that there is an additional OR that soon will supplement existing surgical resources. Thus, given available information and comments submitted by the August 8, 2019 deadline date for comments on petitions and comments, and in consideration of factors discussed above, the Agency denies the petition for two ORs; rather it recommends that the *2020 SMFP* include a need determination for one OR in Brunswick County.

¹ The CON applicant Brunswick Surgery Center projected a volume of 1,642 orthopedic surgical cases by the end of its third year of operation.