

**Acute Care Services Committee  
Agency Report  
Adjusted Need Petition for  
One Operating Room in Cumberland County in the  
2018 State Medical Facilities Plan**

---

***Petitioner:***

Michael Nagowski  
Cape Fear Valley Medical Center  
PO Box 2000  
Fayetteville, NC 28203-2000

***Contact:***

Sandy Godwin  
Executive Director of Corporate Planning  
Cape Fear Valley Medical Center  
[stgodwin@capefearvalley.com](mailto:stgodwin@capefearvalley.com)

***Request:***

The petitioner requests an adjusted need determination for one additional surgical operating room (OR) in the Cumberland County service area in the *North Carolina 2018 State Medical Facilities Plan (SMFP)*.

***Background Information:***

Chapter Two of the *North Carolina Proposed 2018 State Medical Facilities Plan (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 planning process and time allow for submission of petitions requesting adjusted need determinations 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.

An OR Methodology Workgroup was convened by the State Health Coordinating Council (SHCC) in 2016-2017 to review and make recommended changes to the OR need methodology. The SHCC approved the recommendations of the Workgroup at the June 7, 2017 meeting. Therefore, the *Proposed 2018 SMFP* reflects the new methodology.

The new methodology consists of several steps to determine the number of ORs needed in each OR service area. The methodology projects the number of surgical hours by first multiplying the

average case times reported by each facility by the hours for inpatient and ambulatory cases for the previous year (data year). This result is then multiplied by the projected population change between the data year and four years beyond the data year (target year). The number of operating rooms required by the target year is the result of dividing the projected number of surgical hours for the target year by the number of hours per OR per year for each facility based on assumptions used in the SMFP, while accounting for outliers. The final step calculates the number of additional ORs needed by subtracting the projected total number of required 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.

The Cape Fear Valley Medical Center (CFVMC) health system includes CFVMC and Highsmith-Rainey Specialty Hospital. The standard methodology yields a surplus of 3.03 ORs for CFVMC and a deficit of 1.76 ORs for Highsmith-Rainey, for a net surplus of 1.27 ORs for the CFVMC health system. Fayetteville Ambulatory Surgery Center (the only other provider in Cumberland County) has a surplus of 2.51 ORs, so Cumberland County has no need for ORs in the *Proposed 2018 SMFP*.

CFVMC has a CON to transfer two ORs from the main hospital campus to a new satellite hospital campus under construction in Cumberland County that will be under the hospital's license. In turn, Highsmith-Rainey will transfer two of its three ORs to the main hospital campus. Highsmith-Rainey recently transferred one OR to CFVMC's hospital in Hoke County. This transfer removed one OR from the inventory of the CFVMC health system as a whole, but the number of ORs at the CFVMC main campus will remain constant upon completion of the new hospital campus.

CFVMC partners with the Jerry M. Wallace School of Osteopathic Medicine at Campbell University to train general surgical residents and OB/GYN residents. The first class of four residents entered the program in July 2017. By 2022, CFVMC expects to have 20 general surgery residents and 16 OB/GYN residents. An additional number of residents will come from the oral/maxillofacial surgery and podiatry programs at Womack Army Medical Center.

### ***Analysis/Implications:***

The literature and experience shows that surgical cases take longer when performed by a resident and when a resident assists an operating surgeon. For example, a recent study using data from the American College of Surgeons National Surgical Quality Improvement Program found that three surgical procedures commonly performed by residents required an average of 16.6 additional minutes when a resident assisted compared to when an attending operated alone.<sup>1</sup>

The Petition uses case times from New Hanover Regional Medical Center (NHRMC), which has 16 general surgical residents, to project the impact of the resident training program. Average reported case times on the 2017 License Renewal Application (LRA) were 162 minutes for inpatient and 115 minutes for ambulatory procedures. These case times represent a 24-minute increase over CFVMC's current average inpatient case time and a 4-minute increase in ambulatory case time. Table 1 presents an estimate of how the increased case times may affect CFVMC

---

<sup>1</sup> Papandria, D., et al. 2012. Assessing trainee impact on operative time for common general surgical procedures in ACS-NSQIP. *Journal of Surgical Education*. 69(2): 149-155. Procedures studied were laparoscopic appendectomy, laparoscopic cholecystectomy, and open inguinal hernia repair.

deficits for 2021 in the 2019 SMFP. This analysis makes three assumptions: (1) the number of cases will not increase in 2017; (2) the proposed change to the growth rate calculations were approved, which would cause Cumberland County's negative growth rate to become zero; and (3) the development of the two ORs at CFV-North is complete.<sup>2</sup> The table uses NHRMC case times for the main campus of CFVMC. It uses the case times in the 2018 SMFP for Highsmith-Rainey, because the Petition did not indicate that Highsmith-Rainey would be a training site for residents. These case times were adjusted from those reported on the LRA based on the new OR methodology. Table 1 shows that the main CFVMC hospital will have a deficit of 0.72 of an OR in the 2019 SMFP.

Another way to look at the increased need for ORs is in terms of the requirements for surgical residents. The American Board of Surgery requires a resident graduating in the 2017-2018 academic year to perform at least 850 procedures during a five-year residency as operating surgeon. Residents are required to perform 250 surgeries by the end of the second year of residency, either as operating surgeon or first assistant.<sup>3</sup> Using case times from NHRMC, CFVMC will require 1 additional OR for every approximately 5 surgical residents (assuming surgical volumes do not change significantly).

***Agency Recommendation:***

The agency supports the new methodology for ORs. The Petitioner seeks one additional OR in Cumberland County. Most of the arguments articulated in the Petition pertain exclusively to the need for an additional OR to train surgical residents. As such, the Petition demonstrates that a factor unique to Cumberland County not addressed in the methodology will affect the service area's projected OR utilization pattern. Specifically, the implementation of a new surgical residency program is likely to increase both the volume of surgical cases and surgical case times. As the number of surgical residents increases, the need for ORs for the training of those residents may increase accordingly.

Limiting the rationale for the adjusted need determination to the development of an OR specifically for the training of residents precludes the development of this OR in an ambulatory surgical facility. Given available information and comments submitted by the August 10, 2017 deadline date for comments on petitions and comments, and in consideration of factors discussed above, the agency recommends approval of an adjusted need determination for one OR in Cumberland County in the 2018 SMFP for the purpose of training surgical residents in inpatient and outpatient procedures.

---

<sup>2</sup> This assumption is made solely for clarity of presentation of the data. The project has a projected completion date of 12/1/2018.

<sup>3</sup> [http://www.absurgery.org/default.jsp?certgsqe\\_training](http://www.absurgery.org/default.jsp?certgsqe_training). The requirement is 750 hours for graduates prior to 2017-2018.

**Table 1. Projection of CFVMC OR Deficit for 2021 (2019 SMFP)**

<b>Facility</b>	<b>Inpatient Cases</b>	<b>Final Inpatient Case Time</b>	<b>Ambulatory Cases</b>	<b>Final Ambulatory Case Time</b>	<b>Total Adjusted Estimated Surgical Hours</b>	<b>Growth Factor</b>	<b>Projected Surgical Hours for 2021</b>	<b>Projected Surgical ORs Required in 2021</b>	<b>Adjusted Planning Inventory</b>	<b>Projected OR Deficit/ Surplus (Surplus shows as a "-")</b>
Cape Fear Valley Medical Center	6,380	162.0	5,402	115.0	27,580	0.00	27,580	15.72	15	0.72
Highsmith-Rainey Specialty Hospital	135	80.3	2,600	92.1	4,172	0.00	4,172	2.78	3	-0.22
<i>Cape Fear Valley Medical Center Total</i>								<i>18.74</i>	<i>18</i>	<i>0.50</i>