

**TO THE NORTH CAROLINA STATE HEALTH COORDINATING COUNCIL
PETITION REGARDING ADJUSTING THE OPERATING ROOM NEED
FOR THE PITT/GREENE/HYDE/TYRRELL SERVICE AREA
*2022 State Medical Facilities Plan***

July 20, 2021

Via Email: DHSR.SMFP.Petitions-Comments@dhhs.nc.gov

1. Name, address, email address and phone number of Petitioners:

Petitioner

Pitt County Memorial Hospital d/b/a Vidant Medical Center
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Pitt County

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2. Statement of the requested change, citing the need determination in the SMFP for which the change is proposed.

Petitioner Pitt County Memorial Hospital d/b/a Vidant Medical Center (“VMC”) requests that Table 6B: Projected Operating Room Need for the Pitt/Greene/Hyde/Tyrrell Service Area in the 2022 State Medical Facilities Plan (“SMFP”) be adjusted to reflect the need for 1 additional operating room (Column N). The requested change is based on correcting an error in the inpatient and outpatient case times as reported in VMC’s 2018 and 2019 Hospital License Renewal Application (“LRA”). The erroneous reporting, while corrected in the 2020 and 2021 LRA, is impacting Step 2: Determine Each Facility’s Adjusted Case Times of the Operating Room Need Methodology. Specifically, the erroneous data is causing **inpatient** case times used in the 2022 SMFP need methodology to be significantly below VMC’s actual inpatient case times. VMC is requesting a one-time corrective change to the “Final Inpatient Case Time” (Table 6B / Column E) to reflect VMC’s actual inpatient case time as reported in the 2021 LRA. Incorporating this one-time corrective change would generate a need for one additional operating room in the Pitt/Greene/Hyde/Tyrrell Service Area. Please see question 3 below for additional detail.

3. Reasons for the proposed change, including:

In 2017, VMC changed its operative services management system. While completing the 2018 LRA (based on FY17 data), it was noticed that the average case time report generated from the new system showed IP and OP case times that were significantly less than the

reports generated from the old system and reported in past LRAs (see Table 1 below). The discrepancy was addressed with the third party system vendor and internal data abstractors. After a review, there was full confidence the new system was reporting correctly. VMC subsequently reported the lower case times in in the 2018 and 2019 LRA.

Table 1
VMC Historical IP/OP Case Times Reported on LRAs

License Application	Based On Data From	Ave IP Case Time	Ave OP Case Time
2016	FY15	194.0	133.0
2017	FY16	192.0	134.0
2018	FY17	114.5	103.5
2019	FY18	124.0	109.0
2020	FY19	187.0	136.0
2021	FY20	188.0	130.0

Source: VMC's HLRA

In preparing the 2020 LRA, new data abstractors identified an error in the operative services management system regarding the way room set up and clean up times were being recorded. This error resulted in producing room set-up start to room clean up finish times that were significantly less than actual experience. The error was corrected and the actual IP/OP case times were reported in the 2020 LRA with a note explaining the difference (see attached). Subsequently, the correct case times were submitted for the 2021 LRA (Table 1). VMC believes the case times presented in the 2016, 2017, 2020, and 2021 LRA reflect the true IP/OP case times. The case times reported for those years is more in line with case times reported by other comparable AMCs (Table 2).

Table 2
Group 1 IP/OP Case Times Reported on 2021 LRA

Group 1: AMC	Ave IP Case Time	Ave OP Case Time
Duke University Hospital	267.1	140.1
North Carolina Baptist Hospital	234.3	131.3
Carolinas Medical Center	232.6	144.0
University of North Carolina Hospitals	237.0	141.0
Vidant Medical Center	188.0	130.0
AVERAGE GROUP 1	231.8	137.3

Source: Proposed 2022 State Medical Facilities Plan

Even though the error occurred in the 2018 and 2019 LRA (2019 & 2020 SMFP), Step 2 of the operating room need methodology is negatively impacting the calculation of need in the 2022 SMFP for the Pitt/Greene/Hyde/Tyrrell service area. Step 2 of the methodology states:

Step 2: Determine Each Facility's Adjusted Case Times

a. *For each facility, compare the Average Case Time in Minutes for inpatient and ambulatory cases on the annual LRA to its average case time used in the methodology in the previous year's SMFP.*

(1) If either the inpatient or ambulatory case time is more than 10 percent longer than the previous year's case time, then the Adjusted Case Time is the previous year's reported case time plus 10 percent.

(2) If either the inpatient or ambulatory case time is more than 20 percent shorter than the previous year's case time, then the Adjusted Case Time is the previous year's reported case time minus 20 percent.

(3) If neither of the above situations occurs, then the Adjusted Case Time is the average case time(s) reported on the LRA.

Step 2.a adjusts each facility's case times by comparing the average case time as reported in the most recent LRA to the average case time **used in the previous year's SMFP**. If the average case time reported in the LRA is not less than 80% or greater than 110% of the average case time used in the previous year's SMFP, no adjustments to the case times reported in the LRA are made (2.a.3). If the average case time reported in the LRA is less than 80% or greater than 110% of the average case time used in the previous year's SMFP, adjustments to the case times reported in the LRA are made based on the methodology in 2.a.1 and 2.a.2 cited above. In the current methodology, the adjustments are made to the previous year's average case time as reported in the SMFP and not to the previous year's average case times reported in the LRA.

The unintended consequence of comparing to, and adjusting from, the average case times reported in the previous year's SMFP is that a substantial error in reporting on a historical LRA can take years to correct itself, even if it is being correctly reported in current and future LRAs. In fact, assuming VMC's actual average case times remain constant, **it will take until the 2025 SMFP** for the erroneous data to no longer negatively impact the need methodology. Table 3 below shows VMC's historical and projected average case times as reported in the LRAs and the subsequent average case times used in the SMFP based on adjustments made for being inside or outside the 80-100% threshold.

Table 3
VMC's Historical & Projected IP/OP Case Times as Reported in LRAs & SMFPs

A	B	C	INPATIENT				OUTPATIENT			
			D	E	F	G	H	I	J	K
Based On Data From	For License Application	Used In SMFP	VMC Reported Time	% Change (Prev Year)	Time Used in SMFP	% of LRA vs Prev. SMFP	VMC Reported Time	% Change (Prev Year)	Time Used in SMFP	% of LRA vs Prev. SMFP
2015	2016	2017	194.0				133.0			
2016	2017	2018	192.0	-1.0%	192.0	99.0%	134.0	0.8%	134.0	100.8%
2017	2018	2019	114.5	-40.4%	153.6	59.6%	103.5	-22.8%	107.2	77.2%
2018	2019	2020	124.0	8.3%	124.0	80.7%	109.0	5.3%	109.0	101.7%
2019	2020	2021	187.0	50.8%	136.4	150.8%	136.0	24.8%	119.9	124.8%
2020	2021	2022	188.0	0.5%	150.0	137.8%	130.0	-4.4%	130.0	108.4%
2021	2022	2023	188.0	0.0%	165.0	125.3%	130.0	0.0%	130.0	100.0%
2022	2023	2024	188.0	0.0%	181.5	113.9%	130.0	0.0%	130.0	100.0%
2023	2024	2025	188.0	0.0%	188.0	103.6%	130.0	0.0%	130.0	100.0%
2024	2025	2026	188.0	0.0%	188.0	100.0%	130.0	0.0%	130.0	100.0%

Source: 2017-2022 (Draft) State Medical Facilities Plans

- † Inpatient case time substitution: Current year's reported case time is greater than 110% of previous year. Substituted previous year's average inpatient case time plus 10%.
- †† Inpatient case time substitution: Current year's reported case time is less than 80% of previous year. Substituted previous year's average inpatient case time minus 20%.
- ††† Ambulatory case time substitution: Current year's reported case time is greater than 110% of previous year. Substituted previous year's average ambulatory case time plus 10%.
- †††† Ambulatory case time substitution: Current year's reported case time is less than 80% of previous year. Substituted previous year's average ambulatory case time minus 20%.

Specifically, Table 3 shows:

- 2017 SMFP: This was the first year of the new methodology. The SMFP used VMC's LRA average case times of 194.0 and 133.0 for IP/OP respectively.
- 2018 SMFP: VMC reported 192.0 and 134.0 for IP/OP average case times respectively. Since these case times were within the 80-110% threshold (99%/101%), no adjustments were made.
- 2019 SMFP: VMC reported 114.5 and 103.5 for IP/OP average case times respectively. This was the first erroneously reported year. Since these case times were below the 80% threshold (60%/77%), the average case time was adjusted to be 80% of the previous year's case time as reported in the 2018 SMFP.
- 2020 SMFP: VMC reported 124.0 and 109.0 for IP/OP average case times respectively. This was the second erroneously reported year. Since these case times were within the 80-110% threshold (81%/102%), no adjustments were made.

- 2021 SMFP: VMC reported 187.0 and 136.0 for IP/OP average case times respectively. This was the first correctly reported year. Since these case times were above the 110% threshold (151%/125%), the average case time was adjusted to be 110% of the previous year's case time as reported in the 2020 SMFP. Therefore, the case times used were significantly below actual experience (136.4/119.9).
- 2022 SMFP: VMC reported 188.0 and 130.0 for IP/OP average case times respectively. This was the second correctly reported year. Since OP case times were within the 80-100% threshold (108%), no adjustments were made. However, since IP case times were still above the 110% threshold (139%), the average case time was adjusted to be 110% of the previous year's case time as reported in the 2021 SMFP. Therefore, the case time being proposed are significantly below actual experience (150.0).
- 2025 SMFP: Assuming VMC's average IP case times remain constant at 188.0 minutes, the 2025 SMFP will be the first year the methodology catches up with the error. Under the current methodology, the 2023 and 2024 SMFP will still calculate VMC's average case times to be greater than 110% of the previous year's reported case times (125% and 114% respectively). It won't be until the 2025 SMFP that the reported case times will be within the 100% threshold (104%).

As Table 4 below shows, using the adjusted inpatient case time of 150.0 minutes as it is currently being applied in the Proposed 2022 SMFP operating room need calculation results in a **surplus** of 2.56 operating rooms for the Pitt/Greene/Hyde/Tyrrell service area. If the historical error is corrected and the actual inpatient case time as reported in the 2020 and 2021 LRA, the operation room need calculation shows a **need** for 1.27 operating rooms, **a shift in need of almost 4 operating rooms**. Based on the rounding rules in Step 6, a need for 1.27 operating rooms is rounded down to 1.0 rooms.

The operating room methodology is unique in that it is the only methodology that relies on historical SMFP information in its methodology. Step 2 of the operating room methodology dictates adjustments to case times are made by comparing reported case times in the LRA to the previous year SMFP. Unlike other methodologies, simply correcting the error in the LRA (or Truven/HIDI data for acute beds) will not correct the error in the SMFP. Historical SMFPs that have been finalized and adopted by the Governor cannot be edited. The only option to correct the error going forward is to forego the Step 2 of the methodology for the current SMFP and insert the corrected case time. Therefore, in order to correct the error, VMC is requesting a one-time corrective change to the "Final Inpatient Case Time" (Table 6B / Column E) to reflect VMC's actual inpatient case time as reported in the 2021 LRA. Incorporating this one-time corrective change would generate a need for one additional operating room in the Pitt/Greene/Hyde/Tyrrell Service Area.

**Table 4
Operating Room Need Calculation: Adjusted Case Time vs Actual Reported Case Time**

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Operating Room Need Calculation Using Adjusted Average Case Time (Step 2)													
Service Area	License	Facility	Inpatient Cases	Final Inpatient Case Time	Ambulatory Cases	Final Ambulatory Case Time	Total Adjusted Surgical Hours	Growth Factor	Projected Surgical Hours for 2024	Projected Surgical ORs Required for 2024	Adjusted Planning Inventory	Projected OR Deficit/ Surplus (Surplus shows as a "-")	Service Area Need
Pitt	AS0012	Vidant SurgiCenter	-	-	9,994	79.3	13,209	3.84	13,716	10.45	10	0.45	
Pitt	H0104	Vidant Medical Center	11,356	138.0	8,549	130.0	46,920	3.84	48,721	24.99	28	-3.01	
Vidant Health Total										35.44	38	-2.56	
Pitt/Greene/Hyde/Tyrell													0

Operating Room Need Using Actual Case Time Reported in the 2021 LRA

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Operating Room Need Using Actual Case Time Reported in the 2021 LRA													
Service Area	License	Facility	Inpatient Cases	Final Inpatient Case Time	Ambulatory Cases	Final Ambulatory Case Time	Total Adjusted Surgical Hours	Growth Factor	Projected Surgical Hours for 2024	Projected Surgical ORs Required for 2024	Adjusted Planning Inventory	Projected OR Deficit/ Surplus (Surplus shows as a "-")	Service Area Need
Pitt	AS0012	Vidant SurgiCenter	-	-	9,994	79.3	13,209	3.84	13,716	10.45	10	0.45	
Pitt	H0104	Vidant Medical Center	11,356	138.0	8,549	130.0	54,105	3.84	56,182	28.81	28	0.81	
Pitt/Greene/Hyde/Tyrell										39.27	38	1.27	
Vidant Health Total													1

Source: 2022 State Medical Facilities Plan (Draft)

a. statement of the adverse effects on the providers or consumers of health services that are likely to ensue if the change is not made; and

As stated above, not making the change and using the significantly under reported average inpatient case time results in a need determination of a 2.65 surplus. The determination of a surplus greatly underestimates the need for ORs in the Pitt/Greene/Hyde/Tyrrell service area. This underestimate of need will cause capacity constraints for the residents of this area who rely on adequate capacity for their needed healthcare. The capacity constraints will limit access, delay care, and force medically underserved populations to go elsewhere for care. All of this leads to poorer outcomes, limits access, put patients' health and safety at risk, and traveling outside the service area causes an undo economic burden, especially for the medically and socioeconomically underserved residents of this service area.

b. a statement of alternatives to the proposed change that were considered and found not feasible.

Since Step 2 of the operating room need methodology dictates comparing average case times to the previous SMFP, and previous SMFPs cannot be edited, no other alternatives were considered. Maintaining the status quo and let the methodology correct the error by the 2025 SMFP was not considered a viable option for the reasons stated in 3.a above.

4. evidence that the proposed change would not result in unnecessary duplication of health resources in the area; and

At its core, the need methodologies and calculations in the SMFP are designed to ensure there is no unnecessary duplication of health resources. Making the correction to use the actual average case time ensures that the operating room need methodology is calculated correctly and reflects the true need for the Pitt/Greene/Hyde/Tyrrell service area without unnecessary duplication.

5. evidence that the requested change is consistent with the three Basic Principles governing the development of the SMFP: safety and quality, access, and value (see Chapter 1).

The major objective of the SMFP is to provide individuals, institutions, state and local government agencies, and community leadership with policies and projections of need to guide local planning for specific health care facilities and services. Development of the plan is governed by three basic principles:

1. Safety and Quality Basic Principle

"The State of North Carolina recognizes the importance of systematic and ongoing improvement in the quality of health services. Citizens of North Carolina rightfully expect health services to be safe and efficient. To warrant public trust in the regulation of health

services, monitoring of safety and quality using established and independently verifiable metrics will be an integral part of the formulation and application of the North Carolina State Medical Facilities Plan.”

2. Access Basic Principle

“Equitable access to timely, clinically appropriate and high-quality health care for all the people of North Carolina is a foundational principle for the formulation and application of the North Carolina State Medical Facilities Plan. Barriers to access include, but are not limited to: geography, low income, limited or no insurance coverage, disability, age, race, ethnicity, culture, language, education and health literacy. Individuals whose access to needed health services is impeded by any of these barriers are medically underserved. The formulation and implementation of the Plan seeks to reduce all of these types of barriers to timely and appropriate access.”

3. Value Basic Principle

“The SHCC defines health care value as the maximum health care benefit per dollar expended. Disparity between demand growth and funding constraints for health care services increases the need for affordability and value in health services. Maximizing the health benefit for the entire population of North Carolina that is achieved by expenditures for services regulated by the State Medical Facilities Plan will be a key principle in the formulation and implementation of SHCC recommendations for the Plan.”

As stated above 3.a, not making the change and using the significantly under reported average inpatient case time results in a need determination of a 2.65 surplus. The determination of a surplus greatly underestimates the need for operating rooms in the Pitt/Greene/Hyde/Tyrrell service area. This underestimate of need will cause capacity constraints for the residents of this area who rely on adequate capacity for their needed healthcare, and is therefore inconsistent with the three Basic Principles the SMFP is built upon. Specifically,

- **Safety and Quality:** The capacity constraints caused by not having the correct number of operating rooms needed to support demand negatively impacts safety and quality. As existing operating rooms reach maximum capacity, back logs and after hours scheduling will begin to increase. This will in turn begin to cause delays in care. Delayed care leads to poorer outcomes and put patients’ health and safety at risk. By approving this petition, the operating room need methodology in the 2022 SMFP will reflect the true need for ORs in the Pitt/Greene/Hyde/Tyrrell service area and ensure adequate capacity to maintain safe, reliable, high quality health care in the service area.
- **Access:** The capacity constraints caused by not having the correct number of operating rooms needed to support demand negatively impacts access. Having demand in the service area outweigh the available inventory of resources will limit

access. As a result, residents of the Pitt/Greene/Hyde/Tyrrell service area may have to leave the region for care. For the many medically underserved and socioeconomically challenged residents of this area, traveling outside the region for healthcare is difficult and burdensome. For many, where traveling is not an option, they choose to forego care. By approving this petition, the operating room need methodology in the 2022 SMFP will reflect the true need for ORs in the Pitt/Greene/Hyde/Tyrrell service area and ensure adequate, equitable access to timely, clinically appropriate and high-quality health care.

- Value: The capacity constraints caused by not having the correct number of operating rooms needed to support demand negatively impacts value. As stated above, as existing operating rooms reach maximum capacity, delays in care will increase. Delayed care leads to poorer outcomes. Poorer outcomes inherently increase the cost of health care and thus decreases value. In addition, patients that would have to travel outside the service area would incur an undue economic burden. This would be especially difficult for the medically and socioeconomically underserved. By approving this petition, the operating room need methodology in the 2022 SMFP will reflect the true need for ORs in the Pitt/Greene/Hyde/Tyrrell service area and promote affordability and value.

Note Regarding OR Case Times:

In 2017, Vidant Medical Center (VMC) switched out its “manual” operating room scheduling system with an more automated OR management system. Prior to 2017, VMC used manual logs to capture surgical case times and used those logs to report average caser times in the annual Hospital License Renewal Applications (HLRA). From 2017 on, the new system was used to provide average case times reported in the HRLA.

Case times in the 2018 application (2017 data) from the new system were noted to be significantly lower than prior years from the manual logs (see Table 1 below). When presented to the vendor, the vendor assured VMC that the data was correct and more reliable than the hospital’s old manual logs. Because of this assurance, lower than historical average case times were reported for the 2018 and 2019 license applications. A program error in the system was identified in late 2019. The error resulted in the system not accurately capturing the room set up and clean up times. The lower than average reported case times in the 2018 and 2019 applications is actually only reporting the procedure time (cut to close).

The case times presented in this application are reported to include the set-up, clean-up and procedure time. These average times are more in line with times reported pre-2018 application and are more in line with average case times at other academic medical centers in NC (see Table 2 below).

Table 1: VMC's Average OR Case Times

License Application	Based on Data From	Ave IP Case Time	Ave OP Case Time
2016	FY15	194.0	133.0
2017	FY16	192.0	134.0
2018	FY17	114.5	103.5
2019	FY18	124.0	109.0
2020	FY19	187.0	136.0

Table2 : Case Times From 2019 HLRA

AMC	Ave IP Case Time	Ave OP Case Time
VMC	124.0	109.0
Duke	257.4	138.3
UNC	237.0	144.0
CMC	254.6	146.9
NC Baptist	241.5	128.8