

PETITION

Petition for Adjusted Need Determination for One Linear Accelerator for Service Area 7

Petitioner

Atrium Health
1000 Blythe Boulevard
Charlotte, North Carolina 28203

Elizabeth Kirkman
Assistant Vice President
Elizabeth.Kirkman@atriumhealth.org
704-446-8475

Statement of Requested Adjustment

The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health (Atrium) respectfully petitions the State Health Coordinating Council (SHCC) to include an adjusted need determination in the 2021 State Medical Facilities Plan (SMFP) for an additional linear accelerator in Service Area 7 which includes Anson, Mecklenburg and Union Counties.

Executive Summary

Atrium Health linear accelerators in Service Area 7 are experiencing significant growth in radiation therapy treatment volumes and its existing linear accelerators are operating well above the 6,750 Equivalent Simple Treatment Visit (ESTV) threshold included in the SMFP. Based on the data for Federal Fiscal Year (FFY) 2019 as reported in the Proposed 2021 SMFP, the three busiest linear accelerators in the state are operated by Atrium Health and located in Service Area 7. Additional capacity is needed to allow patients who choose Atrium Health for their care to continue to seek their treatment at Atrium Health facilities.

Reasons for the Requested Change

1. Population growth in the service area.
2. Growth in the number of linear accelerator treatments.
3. High utilization of the existing Atrium Health linear accelerators in the service area.
4. Utilization fell just short of required volume to demonstrate need from the methodology.

Population Growth in the Service Area

The Charlotte metropolitan region has experienced a population explosion. According to county population data from North Carolina Office of State Budget and Management (NCOSBM), Mecklenburg County was the fastest growing county in the state from 2010 to 2019. In fact, the Charlotte metro area includes five of the top 15 fastest growing counties.

Linear Accelerator Service Area 7 consists of Anson, Mecklenburg, and Union Counties. According to the NCOSBM, the total population of the service area in 2019 was 1,399,288. The service area is the largest in the state, exceeding the second largest service area by over 200,000 people. In addition to having largest population, the service area is also rapidly growing. NCOSBM data shows the service area grew at a compound annual growth rate (CAGR) of 1.7 percent from 2015-2019. The future projections indicate an even higher CAGR of 2.4 percent from 2020 to 2025.

| County | Historical Population | | | | | CAGR 2015- 2019 |
|--------------|-----------------------|------------------|------------------|------------------|------------------|-----------------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 | |
| Anson | 26,035 | 25,644 | 25,490 | 25,288 | 25,290 | -0.7% |
| Mecklenburg | 1,033,682 | 1,054,613 | 1,073,159 | 1,088,350 | 1,108,107 | 1.8% |
| Union | 219,243 | 223,663 | 228,061 | 232,465 | 237,287 | 2.0% |
| Total | 1,278,960 | 1,303,920 | 1,326,710 | 1,346,103 | 1,370,684 | 1.7% |

Source: NC OSBM

| County | Projected Population | | CAGR 2020- 2025 |
|--------------|----------------------|------------------|-----------------------|
| | 2020 | 2025 | |
| Anson | 25,289 | 25,286 | 0.0% |
| Mecklenburg | 1,131,342 | 1,240,325 | 2.3% |
| Union | 242,657 | 272,641 | 3.0% |
| Total | 1,399,288 | 1,538,252 | 2.4% |

Source: NC OSBM

Growth in Linear Accelerator Treatments

The population growth also contributed to an associated increase in the pathologies relevant to radiation therapy with linear accelerators. Atrium’s cancer program, the Levine Cancer Institute (LCI), has expanded dramatically over the last several years. LCI sees more than 17,000 new patients annually and total patient volume has grown 80 percent over the last five years.

Service Area 7 has experienced significant growth in linear accelerator treatments over the last five years. The table below shows the service area total of ESTVs has increased by 24,739 treatments over the last five years for a CAGR of 4.2 percent. In two of the years the service area saw growth of over 10 percent.

| | ESTVs | | | | | 15-19 CAGR |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|---------------|
| | 2015 | 2016 | 2017 | 2018 | 2019 | |
| Service Area 7 Total | 139,424 | 138,487 | 142,244 | 144,657 | 164,163 | 4.2% |
| Annual % Change | 10.1% | -0.7% | 2.7% | 1.7% | 13.5% | |

Source: State Medical Facilities Plans, 2017-Proposed 2021.

The growth in the last five years is the equivalent of over 3.6 linear accelerators worth of procedures. During this time only one previously inoperable linear accelerator was placed into service in the service area. This level of growth will continue to challenge the ability of the existing linear accelerators to meet the demand and demonstrates the need for additional linear accelerator capacity in the service area.

High Volume at Atrium Health Linear Accelerator Locations

Atrium Health is experiencing extremely high treatment volumes at several of its locations in the service area. Atrium Health Pineville operates the highest volume linear accelerator in the state, performing 10,451 ESTVs last year. The table below shows the five busiest linear accelerators in the state. The top three highest volume linear accelerators in the state are all operated by Atrium Health in Service Area 7.

| Top 5 Busiest Single Linear accelerators in NC | ESTVs |
|---|--------------|
| AH Pineville | 10,451 |
| AH Union | 8,783 |
| AH University City | 8,428 |
| Novant Health Huntersville | 7,651 |
| Lake Norman Radiation Oncology | 6,535 |

Source: Proposed 2021 SMFP

Each of Atrium’s locations in the Service Area operates at a very high level of utilization. The table below shows all sites except CMC operate above the 6,750 ESTV / linear accelerator standard. CMC operates three linear accelerators and does a large volume of stereotactic procedures that impact its capacity, yet it is still within 8 percent of the target threshold.

| Facility | 2019 ESTVs | Linear Accelerators | ESTV / Linac |
|----------------------------|-------------------|----------------------------|---------------------|
| AH Pineville | 10,451 | 1 | 10,451 |
| AH University City | 8,406 | 1 | 8,406 |
| CMC | 18,602 | 3 | 6,201 |
| AH Union | 8,783 | 1 | 8,783 |
| Atrium Health Total | 46,242 | 6 | 7,707 |

Source: Proposed 2021 SMFP

Utilization very close to required volume to demonstrate need.

The initial draft of the linear accelerator methodology for the 2021 SMFP showed a need for an additional linear accelerator in Service Area 7. There was a recent CON approval to allow Novant Health Presbyterian to replace and relocate a linear accelerator to Matthews Radiation Oncology. The linear accelerator being relocated to Matthews Radiation Oncology has been in storage since it was purchased in 2005. With the addition of this linear accelerator to the inventory, the need in the Proposed 2021 SMFP was removed. This historically unused capacity

should not prevent Atrium from seeking additional capacity to serve its patients and all citizens of Service Area 7.

In fact, even with the addition of the linear accelerator mentioned above to the inventory, the service area utilization was very close to generating a need determination using the standard methodology. The methodology calculates the number of linear accelerators needed in a service area by dividing the total ESTVs by 6,750 and then subtracting the number linear accelerators in the service area. The result of the calculation must be greater than or equal to 0.25 to generate a need determination. The calculation for Service Area 7 from the Proposed 2021 SMFP is listed below.

$$75,342 \text{ ESTVs} / 6,750 = 11.16 - 11 = 0.16$$

If the total ESTVs for the service area had been only 597 higher, there would be a need determination for 2021 as shown below.

$$75,939 \text{ ESTVs} / 6,750 = 11.25 - 11 = 0.25$$

This difference of only 597 ESTVs is less than 0.8 percent of the service area total. The annual change in ESTVs for the service area in each of the last three years has exceeded 1,000.

Impact of Request/Implications if Petition is Not Approved

Adverse Effects on Population

The approval of this petition would not have any adverse effect on the population of Service Area 7.

If this petition is not approved there will be significant impacts on patients seeking linear accelerator treatments. The linear accelerators operated by Atrium Health are already operating above the threshold defined in the SMFP. Operating at significantly high volumes means there is less availability to accommodate new patients and less desirable treatment time options for patients as hours are extended to accommodate demand. Patients may be required to seek treatment in other locations farther from their homes. Travel for this patient population is often difficult due to the nature of radiation therapy, specifically daily treatments for multiple consecutive weeks. In addition, the lack of equipment availability may force patients to seek out new providers not affiliated with their current cancer care providers, potentially resulting in a reduction in coordination of care.

Alternatives Considered

The only alternative to the proposed request is to maintain the status quo and wait for the procedure volume to rise to a level such that the methodology will indicate a need for an additional linear accelerator in the service area.

Impact of Proposed Changes on Unnecessary Duplication

The approval of this petition would not result in unnecessary duplication. The service area is on the verge of demonstrating a need determination based on the methodology included in the SMFP. This petition makes additional capacity available faster than the normal methodology.

Proposal's Consistency with the Basic Principles of the SMFP

Safety and Quality

Without additional linear accelerator capacity available for Atrium Health, our patients may be forced to access care at another facility outside our system of care. This may create gaps in care and disrupt the continuity of care. Atrium physicians and staff work continuously to improve the systems of care which leverage information technology, multidisciplinary teams, and processes of care to deliver the best outcomes. Capacity at a facility in a different system cannot provide that same system of care for the patient. As a result, safety and quality will be enhanced with the proposed adjusted need determination.

Access

Additional linear accelerator capacity is needed to provide sufficient access for Atrium's patients and the continual growth of new patients moving to the service area. Atrium is the leading provider of linear accelerator treatments to the residents of the service area and to the broader geographic region. Atrium has a long history of providing care to minority and underserved populations regardless of their ability to pay. Minority populations typically lack sufficient access to healthcare services. Further, minority populations also face socioeconomic challenges that contribute to health disparities and lower access to care. For this reason, linear accelerator services must be available to patients of all demographics and socioeconomic status offering them access to safe and effective treatment. Approval of this petition will offer an opportunity for Atrium to continue to serve these patient population and increase their access to this vital service.

Value

This petition promotes value by the additional linear accelerator capacity ensuring patients have a higher probability of uninterrupted treatments by receiving care in a timely manner thus, reducing delays in needed treatment. Delays in treatment can have detrimental effects to the patient's survival and disease progression, resulting in unanticipated admissions and adding to healthcare expenditures. The proposed petition will provide citizens of Service Area 7 with additional linear accelerator capacity to meet the needs of area cancer patients.

Summary

Based on the evidence presented above, Atrium Health believes that granting this request to add a need determination for an additional linear accelerator in the Proposed 2021 SMFP is in the best interest of the citizens of Service Area 7. The service area was very close to generating need based on the most recent reported utilization. Granting this request will allow for capacity to be added to the service area more quickly than the standard methodology and meet the needs of patients seeking this important treatment option.