

**Technology and Equipment Committee
Agency Report
Adjusted Need Determination for One Fixed MRI Machine
in Brunswick County
Proposed 2016 State Medical Facilities Plan**

Petitioner:

J. Arthur Doshier Memorial Hospital
924 North Howe Street
Southport, North Carolina 28461

Contact:

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Request:

J. Arthur Doshier Memorial Hospital (Doshier), requests the following modification to the MRI need determination in the *North Carolina 2016 State Medical Facilities Plan (SMFP)* to address a special need for Fixed Magnetic Resonance Imaging equipment (MRI) in Brunswick County:

In response to a petition from J. Arthur Doshier Memorial Hospital, an adjusted need determination for one fixed MRI replacement scanner in Brunswick County was approved. The applicant for the Brunswick Fixed MRI must be a licensed North Carolina acute care hospital with 24/7 emergency coverage that does not have current ownership of an MRI at the time the certificate of need application is filed. For purposes of the Special Need in Brunswick County, the Tiered Planning Threshold for a hospital replacement scanner is 1,716.

Background Information:

As background, it is important to understand the current MRI methodology which uses the total number of adjusted procedures in an MRI service area, equivalent values for fixed and mobile MRI scanners and graduated need determination thresholds based on the number of fixed scanners in a service area. Procedures are weighted according to complexity and then combined to determine a total number of weighted procedures. The fixed equivalent value is 1.00 for approved and existing fixed MRI scanners, including need determinations from previous SMFPs for a MRI scanner. For mobile sites, the fixed equivalent is the number of MRI adjusted procedures performed at the site divided by the threshold for the MRI service area. The fixed equivalent for a mobile site can be no greater than 1.00. The sum of the weighted MRI procedures is divided by the number of fixed equivalent scanners to get the average adjusted procedures per scanner for each service area. A need determination for additional MRI scanners

occurs when the average adjusted procedures per scanner for the service area exceeds the threshold established for the service area.

Chapter Two of the *Proposed 2016 SMFP* allows persons to petition for an adjusted need determination in consideration of “unique or special attributes of a particular geographic area or institution...,” if they believe their needs are not addressed by the standard methodology. The fixed MRI located at Doshier is owned by a vendor who contracts with the hospital to provide MRI services. The petitioner states, “There is no mechanism in the *SMFP* by which a hospital can successfully replace a full-time contracted MRI service with a full-time owned fixed MRI service.”

Doshier submitted a petition in the spring to add a policy to the *2016 State Medical Facilities Plan*. This petition was denied by the State Health Coordinating Council. The Technology and Equipment Committee meeting included discussion amongst the members indicating the petitioner should consider submitting a summer petition for an adjusted need determination, rather than a policy change.

In Brunswick County the *Proposed 2016 SMFP* demonstrates there were two fixed MRI machines and one mobile machine in the MRI inventory. Table 1 below shows the specific procedure totals for each location as well as the totals for the county.

Table 1: Brunswick County Proposed 2016 SMFP MRI Fixed and Mobile Procedures					
Site	Number of Machines	Total Scans	Adjusted Procedure Totals	Area Average Procedures	Threshold
J. Arthur Doshier Memorial Hospital	1	1,104	1,267	2,637	4,118
Novant Health Brunswick Medical Center	1	3,361	3,847		
NHRMC Health and Diagnostics – Brunswick Forest	0.10	422	424		
Totals	2.10	4,887	5,538		

Source: *Proposed 2016 SMFP*

Analysis/Implications:

In the *Proposed 2016 SMFP*, the unit providing services to Doshier is categorized as fixed.¹ The petitioner states it is fairer to classify this machine as a mobile rather than a fixed machine. The justification for this request is that fixed machines are considered full time, but the Doshier machine only operates part-time. This change has important implications for the calculation of the need determination, as shown in Table 2 below.

Table 2: Brunswick County Need Determination with J. Arthur Doshier Memorial Hospital MRI Calculated as Mobile					
Site	Number of Machines	Total Scans	Adjusted Procedure Totals	Area Average Procedures	Threshold
J. Arthur Doshier Memorial Hospital	0.34	1,104	1,267	3,819	3,775
Novant Health Brunswick Medical Center	1	3361	3847		
NHRMC Health and Diagnostics – Brunswick Forest	0.11	422	424		
Totals	1.45	4,907	5,538		

Source: Proposed 2016 SMFP

The threshold for a need determination is 3,775. If the machine at Doshier were classified as a mobile, the average number of procedures is calculated as 3,819, enough to trigger a need determination in Brunswick County.

The Doshier MRI machine became a fixed machine as a result of a Declaratory Ruling on 2/21/09. In the request, Alliance Healthcare Services and its subsidiary, SMT Health Service, Inc., asked for a replacement unit and, "...because of the age of the Removed Unit, they intend to replace it with a new fixed MRI Scanner..." In considering whether the machine should be classified as a mobile or a fixed machine, the number of hours it is in operation is important. Based on the data reported by Alliance Healthcare Services on the *2015 Registration and Inventory Form for Medical Equipment* for the Doshier unit, the average number of hours the machine was in operation, as shown in Table 3 below, is 21.2 per week.

Table 3: Operational Hours for the J. Arthur Doshier Memorial Hospital MRI Machine	
Number of Hours Machine was in Operation	Average Number of Hours Per Week
1,104	21.2

Source: 2015 Registration and Inventory Form

The Doshier unit is a grandfathered MRI scanner that was in service prior to the current certificate of need law regulating MRI scanners. Applicants receiving a certificate of need for MRI scanners currently have to demonstrate a minimum number of operating hours. To paraphrase the applicable rules, 10A NCAC 14C .2702 (c)(1) and 10A NCAC 14C .2702 (c)(2), an applicant proposing to acquire an MRI scanner, either fixed or mobile, shall provide documentation the scanner will be available and staffed weekly for either 66 (fixed) or 40 hours (mobile). As shown in Table 3, the current machine, based on the data provided to the Agency, is available for less than either threshold in the regulatory requirements.

Another factor to consider is the distance inpatients must be transported for a scan. This machine is located 4 miles from the hospital in an outpatient setting. The transport costs borne by the

hospital, and as reported in the petition, are \$650 roundtrip. Based on the 41 inpatient scans reported in 2016, the transport costs for the hospital during 2013-2014 FFY were approximately \$26,650. In addition, the necessity of transporting patients outside of the physical plant of the hospital creates a number of complex logistical and costly processes.

Furthermore, information in Table 4 suggests the ratio of the outpatient scans to the inpatient scans is higher at Doshier as compared to their counterparts in contiguous counties and significantly higher than the statewide calculation. The data suggests the number of inpatient scans are lower than would be expected and could be a result of the lack of access to the scanner.

Table 4: Ratio of Outpatient Scans to Inpatient Scans in Contiguous Counties and Statewide				
County	Facility	Outpatient Scan Totals	Inpatient Scan Totals	Ratio
Brunswick	J. Arthur Doshier Memorial Hospital	1063	41	25.9
	Novant Health Brunswick Medical Center	2888	473	6.1
Columbus	Columbus Regional Healthcare System	1573	352	4.5
New Hanover	New Hanover Regional Medical Center	8472	4199	2.0
Pender	Pender Memorial Hospital	212	16	13.3
Statewide		369,362	127,798	2.9

Source: Proposed 2016 SMFP

Access and value are two of the three basic principles governing the SMFP. Chapter Two in the SMFP states, “Access barriers of time and distance are especially critical to rural areas and small communities” (pg 3). In considering the aforementioned issues, it is uncertain whether patients in the community are receiving the highest level of available care, timely, and at the lowest cost.

Agency Recommendation:

The Agency supports the standard methodology for MRI scanners, but as discussed above, the Brunswick County health service area does have special circumstances. These include classification of the scanner at Doshier, distance to treatment for patients, and cost to transport hospitalized patients for scans. The Agency weighed all available information submitted by the August 14, 2015 deadline date for comments on petitions and comments. In consideration of the factors discussed above, the Agency recommends that the petition for an adjusted need determination be approved with the following qualifying language for *Table 9R: Fixed MRI Scanner Need*:

In response to a petition, the State Health Coordinating Council approved the adjusted need determination for one additional fixed MRI scanner for Brunswick

County. Applicants must be a licensed North Carolina acute care hospital with emergency care coverage twenty-four hours a day, seven days a week. Due to the unique factors that impact access and value, the MRI scanner shall have a threshold capacity of 1,716 annual MRI procedures.

¹The Doshier MRI unit's Service Type in the Proposed 2016 SMFP, Table 9P is classified as a Mobile, but the number of Fixed Magnets and Fixed Equivalency are 1 and 1.00 respectively; these are the standard counts that are applied to a machine that has a Service Type as Hospital Fixed or Freestanding Fixed. Since the Declaratory Ruling in 2009, the SMFPs have listed Doshier as a fixed machine. Therefore, the Service Type as currently listed in the Proposed 2016 SMFP is in error.