

Technology & Equipment Committee
Magnetic Resonance Imaging Petition
Regarding the Proposed 2009 SMFP
For the Final 2009 SMFP

Agency Analysis:

Petitioner:

Greensboro Orthopaedics, P.A.

Greensboro, NC 27408-4518

Request

This petition requests an adjusted need determination to include one fixed MRI scanner in Guilford County in the 2009 State Medical Facilities Plan (SMFP). The petitioner notes that the printed Proposed 2009 SMFP shows a need determination for one additional fixed MRI scanner in Guilford County. However, after discussions with staff in the Medical Facilities Planning Section, the petitioner learned that corrections and updates had been made to the Guilford County data included in the draft SMFP that would have eliminated the need determination for one additional fixed MRI scanner in Guilford County shown in the Proposed 2009 SMFP.

Background Information

The current methodology for MRI scanners includes need thresholds arranged in tiers based on the number of fixed scanners, weighting of procedures based on complexity, and a component addressing MRI service areas that have no fixed MRI scanners, but have mobile MRI scanners serving the area. The methodology for determining need is based on fixed and mobile MRI procedures performed by all providers in the service area. In addition, equivalent values for the mobile MRI scanners operated in the service areas are included in the SMFP MRI table.

Analysis/Implications

The petitioner summarizes reasons for an adjusted need determination for Guilford County as follows:

- MRI utilization in Guilford County is well above the State's average MRI use rate.
- Guilford County's fixed and mobile MRI scanners are currently operating above capacity.
- Guilford County has an unreasonably low ratio of fixed MRI scanners to population compared to other similar large North Carolina counties.
- During FY2007 Guilford County had the second highest mobile utilization of all North Carolina counties, and its proportion of mobile MRI scans to total MRI scans is increasing and higher than other similar counties.
- Of the six counties with fixed MRI need determinations in the proposed 2009 SMFP, five have a lower population to fixed MRI ratio than does Guilford County.
- The percentage of Guilford County residents who obtain MRI scans in other counties has been steadily increasing the past four years.

- Because of the high level of mobile MRI utilization in Guilford County, the lack of a need determination for an additional fixed MRI scanner in Guilford County has negative cost implications for patients and providers, and thus adversely affects this population.
- Mobile MRI services are not the most effective option from either an operational or patient comfort or convenience perspective.

The Agency notes that the methodology for need determination for a fixed MRI scanner takes into consideration all the scans being performed on both fixed and mobile MRI scanner in a service area, while the need threshold is based only on the number of fixed scanners. This calculation supports a service area getting a need determination for a fixed MRI scanner in response to increased numbers of total scans performed, regardless of the type of MRI scanner performing the scans.

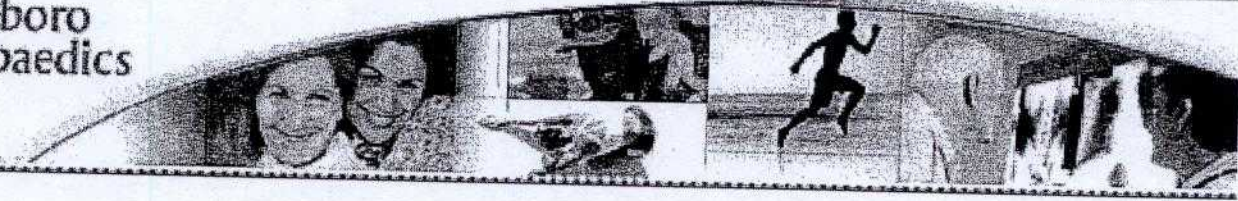
The Agency further notes that additional recent corrections to Table 9J have resulted in reinstating the need determination for a fixed MRI scanner in Guilford County.

Agency Recommendation

Because of recent additional corrections to Table 9J, there is a need determination for a fixed MRI scanner in Guilford County based on the standard need methodology. Consequently, the need for an adjusted need determination for a MRI scanner in Guilford County is moot, and the petition should be denied.



**Greensboro
Orthopaedics**



**PETITION FOR AN ADJUSTED NEED DETERMINATION FOR
ONE FIXED MRI SCANNER FOR GUILFORD COUNTY**

Petitioner:

Greensboro Orthopaedics, P.A.
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Greensboro, NC 27408-4518

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DFS Health Planning
RECEIVED

JUL 31 2008

Medical Facilities
PLANNING SECTION

To:

Medical Facilities Planning Section
Division of Health Service Regulation
2714 Mail Service Center
Raleigh, NC 27699-2714

Requested Change

Greensboro Orthopaedics, P.A. (GO) seeks an adjusted MRI need determination, specifically to include one fixed MRI scanner in Guilford County in the 2009 State Medical Facilities Plan (SMFP).

A number of reasons that justify an adjusted need determination for Guilford County.

- MRI utilization in Guilford County is well above the State's average MRI use rate.
- Guilford County's fixed and mobile MRI scanners are currently operating above capacity.
- Guilford County has an unreasonably low ratio of fixed MRI scanners to population compared to other similar large North Carolina counties.
- During FY2007 Guilford County had the second highest mobile utilization of all North Carolina counties, and its proportion of mobile MRI scans to total MRI scans is increasing and higher than other similar counties.
- Of the six counties with fixed MRI need determinations in the proposed 2009 SMFP, five have a lower population to fixed MRI ratio than does Guilford County.
- The percentage of Guilford County residents who obtain MRI scans in other counties has been steadily increasing the past four years.
- Because of the high level of mobile MRI utilization in Guilford County, the lack of a need determination for an additional fixed MRI scanner in Guilford County has negative cost implications for patients and providers, and thus adversely affects this population.
- Mobile MRI services are not the most effective option from either an operational or patient comfort or convenience perspective.

Approval of this petition will enable any eligible applicant the opportunity to submit a competitive Certificate of Need application proposing the best plan for addition of one fixed MRI scanner in Guilford County.

The detailed rationale for this adjusted need determination is described below.

Update Regarding the Draft 2009 SMFP

The petitioner is aware that the printed Proposed 2009 SMFP shows a need for one additional fixed MRI scanner in Guilford County. Greensboro Orthopaedics generally supports the State's methodology. However, after recent discussions with the State Medical Facilities Planning Section, the petitioner has learned that revisions have been made to the Guilford County data included in the draft SMFP. As a result, the methodology concludes there is no longer a need determination for one additional fixed MRI scanner in Guilford County; hence, the rationale for submitting this petition. However, the county's mobile and fixed MRI scanners are currently operating above capacity. An additional fixed scanner would offer the increased capacity to accommodate the growing demand for MRI services in Guilford County.

Mobile MRI Utilization

Currently, Guilford County has four healthcare providers that offer exclusively mobile MRI sites: Greensboro Orthopaedics, Vanguard Brain & Spine, High Point Orthopaedics and Southeastern Orthopaedic Specialists. In FY2007, these four providers performed 10,642 mobile MRI procedures. Three other mobile MRI host sites accounted for 5,416 scans, for a total of 16,058 mobile MRI procedures performed in Guilford County. This is the second highest utilization of mobile MRI services in North Carolina, behind only Mecklenburg County. Yet Mecklenburg County has a population nearly twice as large as that of Guilford County. The table below provides information regarding mobile MRI utilization for the ten counties with the highest mobile MRI utilization in FY2007.

**FY2007 Mobile MRI Utilization
Top 10 Counties**

County	Number of Procedures		Scans per MRI
	Mobile MRI (Fixed Equivalent Total)	Weighted Totals	
Mecklenburg	6.35	24,522	3,861.7
Guilford	3.82	17,297	4,528.0
Wake	4.52	13,735	3,038.7
New Hanover	3.90	10,736	2,752.8
Forsyth	3.10	8,308	2,680.0
Moore	3.00	6,692	2,230.7
Catawba	1.82	6,990	3,840.7
Onslow	1.00	4,996	4,996.0
Hertford	1.01	4,417	4,373.3
Rutherford	0.88	3,974	4,515.9

Source: Proposed 2009 SMFP

As shown in the table, Guilford County has a very high utilization rate for mobile MRI services. Guilford County mobile scanners average more scans per magnet than 9 of the 10 counties. In fact, Guilford County mobile MRI scanners average 4,528 weighted scans per magnet, which is 36% *above* the 3,328 State-defined capacity threshold. This demonstrates that mobile MRI scanners in Guilford County are operating well above capacity. This is further evidenced by the fact that mobile MRI scanners in Guilford County perform 65% more scans

per mobile scanner than New Hanover County, which has the same number of fixed equivalent MRI scanners.

Some MRI providers with mobile sites may be limited by contract as to the amount of days per week that they may offer services, which puts an added constrain on capacity. Operating extra hours to satisfy the high demand for MRI services is not usually an option, as it is on a fixed scanner, since many mobile MRI scanners have other sites on their service routes and schedules.

Of the 10 counties in North Carolina performing the most MRI scans (fixed and mobile), Guilford County has the lowest proportion of scans being performed on a fixed scanner. This is due to the lack of availability of fixed MRI scanners, and the resulting high utilization of mobile MRI scanners. As evidenced below, only 71% of MRI scans performed in Guilford County were performed on a fixed MRI scanner.

**Mobile MRI Utilization
Top Five Most Populous Counties**

County	# of Mobiles	Mobile Utilization	Total Utilization*	% Mobile of Total
Mecklenburg	17	22,690	92,962	24.4%
Wake	13	12,829	55,685	23.0%
Guilford	7	16,058	55,693	28.9%
Forsyth	7	8,011	66,646	12.0%
Cumberland	3	3,224	33,733	9.6%

*Unweighted

Source: Proposed 2009 SMFP

Mobile MRI utilization in Guilford County experienced an average annual increase of 147% from 2000 to 2007. This is a direct indication of the need for increased access to fixed MRI services. Clearly, special circumstances exist in Guilford County with regard to utilization of mobile MRI services that necessitate the need for improved fixed MRI access. GO believes that the adjusted need determination for one additional fixed MRI scanner in Guilford County would provide the much needed local services, and will be highly utilized.

Fixed MRI Scanners in Guilford County

In addition to having high utilization of mobile MRI services, demographic data also demonstrates a clear need for increased access to fixed MRI services in Guilford County.

Currently, there are 10 operational fixed MRI scanners in Guilford County. This is disproportionate to the growing utilization of MRI scanners in the county. Comparatively, of the 10 counties performing the most fixed MRI scans in North Carolina, Guilford County has the second highest procedure to scanner ratio. Please refer to the table below.

**MRI Scan to Fixed Scanner Ratio
 Top 10 North Carolina Counties**

County	Fixed MRIs	Fixed Procedures	Procedure/Scanner
Cumberland	7	30,509	4,358
Guilford	10	39,545	3,955
Pitt	7	27,475	3,925
Forsyth	15	58,635	3,909
Mecklenburg	18	70,272	3,904
Wake	11	42,856	3,896
Durham	12	44,564	3,714
Buncombe	10	35,918	3,592
Orange	8	27,594	3,449
New Hanover	5	16,660	3,332

Source: Proposed 2009 SMFP

Notably, Buncombe County, which has the same number of fixed MRI scanners as Guilford County, has a 10% lower procedure to scanner ratio than Guilford County. Also, Buncombe County's population is less than half that of Guilford County. According to the Proposed 2009 SMFP, Cumberland, Durham, Orange and Pitt Counties all have a need for one additional MRI scanner. However, of these counties, only Cumberland has a higher procedure to scanner ratio than Guilford County, which does not have a determined need for an additional fixed MRI scanner. This exhibits that Guilford County's fixed MRI scanners are more highly utilized than the fixed MRI scanners located in most of the other counties where a need has been determined for an additional fixed MRI scanner.

In addition, the total weighted scans performed on fixed scanners in Guilford County, when divided by the total number of fixed MRIs, is higher than the State designated threshold total of 4,805, as shown in the table below. This further demonstrates that the fixed MRI scanners in Guilford County are currently operating above capacity.

**Weighted Procedures per Fixed Scanner
Guilford County**

North Carolina	Fixed MRI Scanners	Fixed Procedures	Weighted Fixed Procedures	Weighted/Scanner
Guilford	10	39,545	48,798	4,880

Source: Proposed 2009 SMFP

As the population continues to increase and the medical community continues to grow, there is no indication that the trending increase of MRI services in Guilford County will abate in the near future. Since both mobile MRI scanners and fixed MRI scanners in Guilford County are currently operating above capacity, there is an immediate need for another fixed MRI scanner to aid in alleviating this demand.

Guilford County MRI Use Rate

Improved MRI technology and capabilities have enhanced the clinical diagnostic approaches to many illnesses and disease states. As a result, MRI is often the imaging modality of choice for an increasing number of conditions that local physicians seek to diagnose each day. As a result, MRI utilization rates have greatly increased. The North Carolina MRI utilization rate was 89.8 procedures per 1,000 population in 2007. In the last five years (2002-2007) the North Carolina MRI use rate increased by 50%.

MRI utilization rates for individual counties in North Carolina are trending upward as well. Residents of Guilford County and their physicians recognize the valuable benefits of MRI services. As a result, MRI services are highly utilized in Guilford County. Guilford County hosted the 4th largest number of MRI scans of all 100 North Carolina counties. This is a clear indication that MRI is an important and highly utilized service for Guilford County. The Proposed

2009 SMFP shows Guilford County has a higher MRI use rate than the North Carolina average.

2007 MRI Use Rate per 1,000 Population

	MRI Procedures	Population	MRI Use Rate
Guilford County	55,603	460,990	120.6
North Carolina	786,150	9,073,031	89.8

Source: Proposed 2009 SMFP, Claritas

As shown above, Guilford County provides MRI services over 32% above the State average. In fact, Guilford County has the 14th highest MRI use rate per 1,000 population of the 100 counties in North Carolina.

In addition to being North Carolina's 3rd most populous county, Guilford County is also one of the State's primary health care centers. Guilford County hosts large medical centers, and is home to a large number of physicians and other professional providers (such as Greensboro Orthopaedics), representing practically every medical specialty and sub-specialty. These providers serve not only residents of Guilford County but also those of neighboring counties and throughout North Carolina and adjacent states. As a result, it is important that the county's resources have the capacity to accommodate this current and growing demand.

Further, compared to the six North Carolina counties for which the Proposed 2009 SMFP indicates a need determination for an additional fixed MRI scanner, Guilford County has a higher population, performs more MRI scans, and has the second highest fixed MRI scanner to population ratio. Please see the following table.

**Guilford County versus
Proposed 2009 SMFP Fixed MRI Need Determination Counties**

County	2008 Population	2013 Population	Growth	Total Fixed Scanners	Total Scans	Ratio of Fixed Scanner to Population
Orange	121,600	125,640	3.32%	8	27,594	17,371
Durham	252,480	270,725	7.23%	12	46,086	21,040
Pitt	149,222	159,594	6.95%	7	28,559	21,317
Cumberland	297,236	303,665	2.16%	7	33,733	42,462
Rowan	137,728	142,275	3.30%	3	13,083	45,909
Guilford	460,990	487,353	5.72%	10	55,603	46,099
Randolph	143,104	151,248	5.69%	1	4,483	143,104

Source: Proposed 2009 SMFP, Claritas

As previously discussed in this petition, Guilford County's fixed and mobile MRI scanners are currently operating above capacity, and given the current upward trend in MRI utilization, these scanners will be unable to meet the demand of patients. As seen in the table above, Guilford County already has a high ratio of population to MRI scanner. Since this is expected to increase, there is a demonstrated need in Guilford County right now for one additional fixed MRI scanner.

Significantly, the percentage of Guilford County residents who obtain MRI scans in other counties has been steadily increasing the past three years. As shown on the table below, during FY2007 almost 15% of Guilford County residents had to obtain an MRI scan outside the county. This represents an increase of over 61% from FY2003.

**Out-of-County MRI Scans
Guilford County Residents
FY2003 – FY2007**

Year	% of Total Scans
2003	9.1%
2004	9.7%
2005	13.1%
2006	13.2%
2007	14.7%

Source: MRI Patient Origin Data, Medical Facilities Planning Section

These data are a strong indication of the limited access to MRI services within Guilford County. In order to provide quality and timely care, it is essential that Guilford County providers have an inventory of fixed MRI scanners that is proportionate to the need of the population seeking such services.

Adverse Effects of No Adjustment to the Need Determination

Without an additional fixed MRI scanner, Guilford County would be forced to continue with the status quo. The existing fixed and mobile providers would continue to attempt to provide the existing MRI services with their present inadequate capacity. However, given the steady increase of MRI utilization in Guilford County, this is not a viable alternative. The following table provides historical MRI utilization in Guilford County.

**Guilford County Historical MRI Utilization
 FY2001 – FY2007**

	MRI Procedures	% Increase
2001	40,489	21.1%
2002	42,251	4.4%
2003	46,244	9.5%
2004	50,912	10.1%
2005	53,569	5.2%
2006	52,235	-2.5%
2007	55,603	6.4%

Source: 2003 – 2008 SMFP, Proposed 2009 SMFP

In the past six years, Guilford County has experienced a total increase in MRI procedures of over 37%. As stated previously in this petition, the mobile MRI utilization has increased at a much more rapid rate of 147% during the same time period. As a result, the proportion of mobile MRI scans performed in Guilford County has risen from 18% of total MRI scans in 2001 to nearly 29% of total MRI scans in 2007. Please refer to the table below.

Guilford County Mobile MRI Utilization Ratio

	Mobile Utilization	Total Utilization	% Mobile of Total
2000	6,217	33,428	18.6%
2001	8,905	40,489	22.0%
2002	11,058	42,251	26.2%
2003	13,194	46,244	28.5%
2004	14,680	50,912	28.8%
2005	15,307	53,569	28.6%
2006	17,673	52,235	33.8%
2007	16,058	55,603	28.9%

Source: 2003 – 2008 SMFP, Proposed 2009 SMFP

This is the highest ratio compared to the most populous counties in North Carolina, as demonstrated in the table below.

**Mobile MRI Utilization
Top Five Most Populous Counties**

County	# of Mobiles	Mobile Utilization	Total Utilization	% Mobile of Total
Mecklenburg	17	22,690	92,962	24.4%
Wake	13	12,829	55,685	23.0%
Guilford	7	16,058	55,693	28.9%
Forsyth	7	8,011	66,646	12.0%
Cumberland	3	3,224	33,733	9.6%

Source: Proposed 2009 SMFP

As previously discussed, the ratio of fixed MRI providers to population is already less favorable than comparative and surrounding counties, and Guilford County currently has the second largest mobile MRI volume in the State. These factors combined to make the status quo unacceptable from a planning and patient access perspective.

Greensboro Orthopaedics has provided mobile MRI services in Guilford County since 1997. Currently, a mobile MRI scanner is on-site and operational only five days each week. While Greensboro Orthopaedics values the services a mobile MRI scanner provides to the community, it is not the most effective option from an operational, patient, or cost perspective. First, reliability is not equivalent to that of fixed scanners. Each year, GO experiences several days when its mobile MRI scanner is down due to factors associated with travel of the mobile unit. This results in an unnecessary delay of patient access to MRI services. Second, physical access to mobile services is less than ideal, because mobile MRI scanners are physically located outside a facility on a concrete pad. Access to mobile MRI scanners can be especially problematic in inclement weather, or during days of extreme hot or cold temperatures. This creates an unnecessary burden for patients, especially the elderly or patients already in pain.

As previously discussed, existing providers of mobile MRI services in Guilford County are operating above practical capacity. For example, Greensboro Orthopaedics's mobile MRI utilization is the highest in the county.

As stated previously, GO has operational access to a mobile MRI scanner five days a week. In order to better accommodate the growing demand for MRI

services, GO would need to increase its operational offering. However, due to the constraints of leasing a mobile MRI scanner, increasing the available capacity is not an option. Patients who are unwilling to wait for time to become available on GO's mobile scanner are instead going elsewhere for MRI services. GO's experience is not unusual, as mobile MRI capacity is limited throughout the state.

Finally, there are negative cost implications associated with maintaining the status quo in Guilford County. As described previously, Guilford County performed the second greatest number of mobile MRI procedures in North Carolina in 2007 (170,297 mobile MRI procedures). Hospitals and freestanding facilities that host mobile MRI scanners experience higher costs due to the fee that must be paid to the mobile provider for each MRI scan. Unfortunately these higher costs are often transmitted to the patients. As a current provider of mobile MRI services, GO estimates that, on average in Guilford County, approximately \$300 per scan is paid to the mobile MRI provider. Thus, in FY2007, this equates to approximately \$4.8 million in fees that were paid to mobile providers in Guilford County. These costs are, of necessity, passed along to consumers.

Mobile MRI scanners provide a valuable service to Guilford County; however, this option is not the most cost effective or convenient alternative for patients. If an adjusted need determination is not granted for Guilford County, patients and providers will continue to experience increased charges and costs, respectively.

Conclusion:

In summary, Greensboro Orthopaedics, P.A. seeks an adjusted need determination to include one fixed MRI scanner in Guilford County in the 2009 SMFP, based on the follow reasons:

- MRI utilization in Guilford County is well above the State's average MRI use rate.
- Guilford County's fixed and mobile MRI scanners are currently operating above capacity.
- Guilford County has an unreasonably low ratio of fixed MRI scanners to population compared to other similar counties.
- Guilford County had the second highest mobile utilization in FY2007 of all North Carolina Counties, and its proportion of mobile scans to total MRI scans is increasing.

- Of the six counties with fixed MRI need determinations in the Proposed 2009 SMFP, five have a lower population to fixed MRI ratio than does Guilford County.
- The percentage of Guilford County residents who obtain MRI scans in other counties has been steadily increasing the past three years.
- Because of the high level of mobile MRI utilization in Guilford County, the lack of a need determination for an additional fixed MRI scanner in Guilford County has negative cost implications for patients and providers, and thus adversely affects this population.
- Mobile MRI services are not the most effective option from an operational or patient comfort and convenience perspective.

We feel there is a clear need for an additional fixed MRI scanner in Guilford County and hope that you will support us in this effort by approving this petition for an adjusted need determination. Thank you for providing us with the opportunity to present this important community issue.