Technology and Equipment Committee Report

Radiation Oncology Services - Linear Accelerators Material

For the Proposed 2009 SMFP

For the N.C. State Health Coordinating Council Meeting

On

May 28, 2008

Need Determination
Related to Linear Accelerators
Using the Present Methodology

The methodology incorporates a geographic accessibility criterion (population base of 120,000), a criterion aimed at assuring efficient use of megavoltage radiation facilities (when ESTV Procedures divided by 6,750 minus the number of present linear accelerators equals .25+), and a criterion that when a service area has 45% or more of the patients coming from outside the service area. A need determination is generated when two of the three criteria are met within a service area.

In addition, it was suggested by some radiation oncologists last year that we do not count CPT Code 77427, weekly radiation therapy management, in the totals of freestanding radiation oncology centers. We removed the totals for CPT Code 77427 from the totals. We have removed the totals for CPT Code 77427 from table 9G dated 4/16/2008.

As Table 9H indicates, there are two service areas where the threshold equals .25+; however, there is no need determination for Service Areas 17 and 19 because the service areas do not meet the criterion of a population base of 120,000 per linear accelerator.

Through the regular need determination methodology, it is determined that there is no need determination for additional linear accelerators anywhere in the State.

Table 9G: Hospital and Free-Standing Linear Accelerators and Radiation Oncology Procedures (see note at bottom of table) Proposed 2009 State Medical Facilities Plan

Facility Name	Service Area #	County	LIN ACC	PROCEDURES (ESTVs) 2006-2007	Average per Unit
Harris Regional Hospital, Inc.-Mtn Trace	1	Jackson	1	4,315	4,315
NC Radiation Therapy - Franklin	1	Macon	1	2,266	2,266
Mission Hospitals (S) (b)	2	Buncombe	3	19,884	6,628
NC Radiation Therapy - Asheville	2	Buncombe	2	9,647	4,824
NC Radiation Therapy - Clyde	2	Haywood	1	4,136	4,136
NC Radiation Therapy - Marion	2	McDowell	1	2,412	2,412
Watauga Hospital	3	Watauga	1	6,161	6,161
Margaret Pardee Mem. Hospital	4	Henderson	1	8,712	8,712
NC Radiation Therapy - Brevard	4	Transylvania	1	1,668	1,668
NC Rad.Therapy - Hendersonville	4	Henderson	1	332	332
Catawba Valley Medical Center	5	Catawba	2	15,703	7,852
Frye Regional Medical Center	5	Catawba	1	NA	NA
Grace Hospital, Inc.	5	Burke	1	NR	NR
Valdese General	5	Burke	1	5,615	5,615
Caldwell Memorial Hospital, Inc.	5	Caldwell	1	2,559	2,559
Cleveland Regional	6	Cleveland	1	6,496	6,496
Gaston Memorial Hospital (h)	6	Gaston	3	14,484	4,828
NC Radiation Therapy - Forest City	6	Rutherford	1	4,196	4,196
Pineville Radiation Therapy Center (n)	7	Mecklenburg	1	NA	NA
Carolinas Medical Center (S)	7	Mecklenburg	3	17,280	5,760
CMC-Union Reg. Medical Center (i)	7	Union	1	8,395	8,395
Matthews Radiation Oncology	7	Mecklenburg	1	10,482	10,482
Presbyterian Hospital	7	Mecklenburg	4	15,722	3,931
University Radiation Oncology	7	Mecklenburg	1	7,335	7,335
Iredell Memorial	8	Iredell	2	8,309	4,155
Lake Norman Radiation Oncology Ct	8	Iredell	1	8,688	8,688
Rowan Regional Medical Center	8	Rowan	1	6,697	6,697
NorthEast Medical Center	9	Cabarrus	2	12,839	6,420
Stanly Regional Medical Center	9	Stanly	1	4,981	4,981
Forsyth Memorial Hospital	10	Forsyth	4	26,633	6,658
Hugh Chatham Memorial Hospital (d)	10	Surry	1	3,802	3,802
N. C. Baptist Hospitals (S)	10	Forsyth	4	19,359	4,840
Cancer Center of Davidson County (o)	11	Davidson	1	NA	NA
High Point Regional Health System	12	Guilford	2	9,011	4,506
Morehead Memorial Hospital	12	Rockingham	1	5,845	5,845
Moses Cone Health System	12	Guilford	4	28,589	7,147
Randolph Cancer Center (m)	13	Randolph	1	NA	NA
UNC Hospitals (S)	14	Orange	4	24,569	6,142

Table 9G: Hospital and Free-Standing Linear Accelerators and Radiation Oncology Procedures (see note at bottom of table) Proposed 2009 State Medical Facilities Plan

Facility Name	Service Area #	County	LIN ACC	PROCEDURES (ESTVs) 2006-2007	Average per Unit
Alamance Regional Medical Center (j)	15	Alamance	2	11,005	5,503
Duke University Hospital (S)	16	Durham	5	37,067	7,413
Durham Regional Hospital	16	Durham	1	5,335	5,335
Maria Parham Hospital (e)	16	Vance	1	3,045	3,045
FirstHealth Moore Regional	17	Moore	2	24,577	12,289
Scotland Memorial Hospital (1)	17	Scotland	1	5,333	5,333
Cape Fear Valley Medical Center (a)	18	Cumberland	4	27,572	6,893
Southeastern Regional Medical Center	18	Robeson	1	8,390	8,390
Sampson Regional Medical Center	18	Sampson	1	1,710	1,710
New Hanover Radiation Oncology	19	New Hanover	2	24,737	12,369
New Hanover Regional Med Ctr	19	New Hanover	1	8,388	8,388
South Atlantic Radiation Oncology, LLC (c)	19	Brunswick	1	NA	0
2007 SMFP Need Determination	20		1		
Cancer Ctrs of NC - Raleigh Hematology	20	Wake	1	10,062	10,062
Duke Raleigh Hospital	20	Wake	1	6,923	6,923
Rex Hospital	20	Wake	4	18,838	4,710
Wake Radiology / Oncology Services	20	Wake	1	5,597	5,597
Smithfield Radiation Oncology LLC	21	Johnston	1	3,053	3,053
2006 SMFP Need Determination	21	Johnston	1		
Lenoir Memorial	22	Lenoir	1	7,267	7,267
Wayne Radiation Oncology Center	22	Wayne	1	5,535	5,535
Carteret General (g)	23	Carteret	1	3,750	3,750
Craven Regional Med Ctr	23	Craven	2	13,590	6,795
2006 SMFP Need Determination	24	Onslow	1		
Nash Day Hospital	25	Nash	2	8,194	4,097
Roanoke Valley Cancer Center	25	Halifax	1	3,578	3,578
Wilson Memorial Hospital	25	Wilson	1	5,525	5,525
Ahoskie Cancer Center	26	Hertford	1	2,679	2,679
Carolina Radiation Medicine, P.A. (f) (S)	26	Pitt	1	8,711	8,711
Pitt County Memorial Hospital (S)	26	Pitt	3	18,097	6,032
Albemarle Hospital	27	Pasquotank	1	3,666	3,666
Outer Banks Cancer Center	27	Dare	1	3,643	3,643
TOTALS (67 Facilities)			**113**	**612,989**	**5,425**

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Table 9G Footnotes for linear accelerators:

(a) Cape Fear Valley Health System received a CON in May 2004 for one additional linac bringing their total to 4 linacs.

(b) Mission Hospitals received a CON in September 2004 to initiate CyberKnife linac service; to be operational in October 2005.

(c) South Atlantic Radiation Oncology received a CON in August 2005 to initiate linac service; operation effective May 2007.

(d) Hugh Chatham Memorial Hospital became operational in March 2000 with a leased linac from NC Baptist Hospitals.

(e) Maria Parham Hospital received a CON in July 2001 to lease and install one linac.

(f) Carolina Radiation Medicine, P.A. became operational in July 1998.

(g) Carteret General Hospital received a no review in June 1999 to replace a linear accelerator and purchase a simulator.

(h) Gaston Memorial Hospital received a CON in August 1999 to add one linac; operation projected for April 2001.

(i) Union Regional Medical Center received a CON in April 2000 to acquire one linac; operation projected for September 2001.

(j) Alamance Regional Medical Center received a CON in August 2002 to add one linac; operation projected for July 2003.

(k) Forsyth Medical Center received a CON in August 2002 to add one linac; operational in October 2004.

(l) Scotland Memorial Hospital became operational in August 2003.

(m) Randolph Cancer Center received a CON in June 2006 to initiate linac service.

(n) Pineville Radiation Therapy Center received a CON in June 2007 to initiate linac service.

(o) Cancer Center of Davidson County, LLC received a CON in July 2007 to initiate linac service.

(p) East Carolina University Brody School of Medicine (Pitt Memorial) received a CON in December 2007 to replace an existing linear accelerator with a CyberKnife linear accelerator; to be operational June 2008.

(q) UNC Hospitals received a CON in October 2006 to replace an existing linear accelerator with a CyberKnife linear accelerator; to be operational in April 2007.

(r) Carolinas Medical Center - NorthEast received a CON in February 2006 to acquire a CyberKnife linear accelerator; to be operational in October 2007.

CPT Code 77427 - Weekly radiation therapy management. These procedure numbers from Freestanding (fixed non-hospital) Centers were removed from the count for purposes to determine need.

NA - Not Applicable, not in operation for appropriate time frame.

NR - No report

S - Has at least one Linear Accelerator configured for Stereotactic Radiosurgery

Table 9H: 2009 Proposed SMFP
LINEAR ACCELERATOR SERVICE AREAS and CALCULATIONS

Service Area	2007 Civilian Population	Accelerators	Population within Service Area Per Accelerator	Percentage of Patients from Outside the Service Area	2006-2007 ESTV Procedures	Procedures Per Accelerator	ESTV Procedures Divided by 6750 Minus # of Accelerators	NEED Determ-ination	
Area 1	129,510	2	64,755	7.14%	6,581	3,291	-1.03		*
Area 2	378,179	7	54,026	20.29%	36,079	5,154	-1.65		*
Area 3	87,469	1	87,469	26.47%	6,161	6,161	-0.09		*
Area 4	151,110	3	50,370	10.60%	10,712	3,571	-1.41		*
Area 5	357,995	6	59,666	10.20%	23,877	3,980	-2.46		*
Area 6	430,542	5	86,108	7.50%	25,176	5,035	-1.27		*
Area 7	1,043,447	11	94,859	21.76%	59,214	5,383	-2.23		*
Area 8	281,981	4	70,495	10.24%	23,694	5,924	-0.49		*
Area 9	217,483	3	72,494	25.33%	17,820	5,940	-0.36		*
Area 10	614,782	9	68,309	16.59%	49,794	5,533	-1.62		*
Area 11	157,450	1							
Area 12	547,202	7	78,172	14.14%	43,445	6,206	-0.56		*
Area 13	141,054	1							
Area 14**	183,745	4	45,936	49.86%	24,569	6,142	-0.36		*
Area 15	166,305	2	83,153	8.73%	11,005	5,503	-0.37		*
Area 16**	405,732	7	57,962	54.70%	45,447	6,492	-0.27		*
Area 17*	295,396	3	98,465	13.28%	29,910	9,970	1.43		*
Area 18	537,003	6	89,501	12.68%	37,672	6,279	-0.42		*
Area 19	389,616	4	97,404	11.69%	33,125	8,281	0.91		*
Area 20	970,558	8	121,320	14.62%	41,420	5,178	-1.86		
Area 21	155,874	2	77,937		3,053	1,527	-1.55		
Area 22	228,888	2	114,444	21.75%	12,802	6,401	-0.10		*
Area 23	181,417	3	60,472	6.86%	17,340	5,780	-0.43		*
Area 24	159,097	1							
Area 25	301,606	4	75,402	12.36%	17,297	4,324	-1.44		*
Area 26	301,751	5	60,350	34.64%	29,487	5,897	-0.63		*
Area 27	153,608	2	76,804	0.96%	7,309	3,655	-0.92		*
Totals	8,968,800	113	79,370		612,989	5,425	-22.19	0	

* Service Area does not have 120,000 base population per accelerator

** Areas 14 and 16 have more than 45% of its patients coming from outside its service area