

**Technology and Equipment
Committee Meeting**

**Gamma Knife
Material**

April 29, 2009

Gamma Knife

Definition

"Gamma Knife," as defined in General Statute § 131E-176(7c), means "equipment which emits photon beams from a stationary radioactive cobalt source to treat lesions deep within the brain and is one type of stereotactic radiosurgery."

Two types of equipment, both using photon beams, are available for performing this kind of radiosurgery. In one type, LINAC, beams from a linear accelerator are focused from a device that rotates around the patient. The other type of equipment, gamma knife, emits 201 beams from stationary radioactive cobalt sources.

Facility Inventory-Service Volume

Gamma knife fixed and movable equipment capital costs exceed \$3,500,000. There is one gamma knife that was approved for acquisition pursuant to Policy AC-3 of the North Carolina 1998 State Medical Facilities Plan. The approved unit is located at Wake Forest University Baptist Medical Center, and became operational effective September 1, 1999. During 2007-08, as reported in the 2009 Hospital Licensure Renewal Application, which reflects 2007 data, 286 gamma knife procedures were reported. Pitt County Memorial Hospital received a Certificate of Need pursuant to a need determination in the North Carolina 2003 State Medical Facilities Plan for one gamma knife to serve the eastern portion of the state (HSAs IV, V and VI). Pitt began offering service as of October 2005. During 2007-08, 115 gamma knife procedures were reported.

Gamma Knife Need Determination Methodology

A gamma knife's service area is the gamma knife planning region in which the gamma knife is located. There are two gamma knife planning regions, the west region (HSAs I, II, and III as described in Appendix A) and the east region (HSAs IV, V, and VI as described in Appendix A). The gamma knife located at Wake Forest University Baptist Medical Center in HSA II serves the western portion of the state (HSAs I, II, and III). The gamma knife located at Pitt County Memorial Hospital in HSA VI serves the eastern portion of the state (HSAs IV, V and VI). The two gamma knives assure that the western and eastern portions of the state have equal access to gamma knife services.

There is adequate capacity and geographical accessibility for gamma knife services in the State.

Need Determination

It is determined that there is no need for an additional gamma knife anywhere in the state.