

**Division of Health Planning and  
Resource Development  
February 2004**

**CON REVIEW HG-NIS-1203-029  
Washington Hospital Corporation  
d/b/a The King's Daughters Hospital  
Establishment of Diagnostic Cardiac Catheterization Services  
Capital Expenditure: \$1,365,002  
Location: Greenville, Mississippi**

**STAFF ANALYSIS**

**I. PROJECT SUMMARY**

**A. Applicant Information**

The King's Daughters Hospital is a Mississippi for-profit, acute care, general hospital owned by Washington Hospital Corporation. The facility is accredited by the Joint Commission on Accreditation of Health Care Organizations (JCAHO). The hospital is also certified as a participant in the Medicare/Medicaid programs and as a Training Center by the American Heart Association for Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS). The King's Daughters Hospital is governed by a 10-member Board of Trustees.

The existing Board of Directors appoints business leaders and/or physicians who are residents of Washington County, who are involved with the community and have an active interest in the provision of quality health care. Other board members are associated with Community Health Systems, which owns stock in Washington Hospital Corporation.

The King's Daughters Hospital- Greenville has 137 acute care beds, of which 101 are set up and staffed. The occupancy rates, average lengths of stay (ALOS), and the Medicaid utilization rates for the past three fiscal years are as follows:

**The King's Daughter Hospital - Greenville  
Utilization Data**

<b>Year</b>	<b>Occupancy Rate (%)</b>	<b>ALOS (Days)</b>	<b>Medicaid* Utilization Rate (%)</b>
2000	24.21	3.92	27.94
2001	26.12	3.09	20.73
2002	25.46	3.56	23.26

**Source:** Division of Health Facilities Licensure and Certification, MSDH.

**B. Project Description**

The King's Daughters Hospital-Greenville (King's Daughters) requests CON authority to establish diagnostic cardiac catheterization services at its facility. The proposed services will be located within space on the northeast corner of the first floor of the hospital which was previously dedicated to the treatment room. Conveniently located adjacent to the ancillary

services of imaging, pharmacy, and the emergency department, applicant submits that the area also provides convenient family access for both inpatient and outpatient, as the need requires. The space will be renovated to include appropriate patient imaging, recovery, necessary treatment space, and staff support areas.

The applicant proposes to purchase a Philips Allura Monoplane diagnostic cardiac catheterization imaging system, at an estimated price of \$855,164. The equipment is dual function, allowing both cardiovascular and peripheral vascular imaging studies.

The applicant does not expect a significant increase in the use of ancillary or support services due to the project. However, the project will require the addition of 2.5 FTE personnel at an estimated annual cost of \$150,200.

The total proposed capital expenditure is \$1,365,002, and of that amount, approximately 18 percent is associated with the proposed renovation, 78 percent with fixed and non-fixed equipment, and the remaining 4 percent includes site preparation, fees, and contingency reserves. Applicant expects to obligate the capital expenditure within 90 days of the issuance of the CON, and the project is expected to be completed within 180 days thereafter.

The Division of Licensure and Certification has approved the site for provision of diagnostic cardiac catheterization services.

## II. TYPE OF REVIEW REQUIRED

Projects which propose the establishment of cardiac catheterization services are reviewed in accordance with Section 41-7-191, subparagraphs (1)(d)(ii) and (f), Mississippi Code 1972, Annotated, as amended.

In accordance with Section 41-7-197(2) of the Mississippi Code of 1972 Annotated, as amended, any affected person may request a public hearing on this project within 20 days of publication of the staff analysis. The opportunity to request a hearing expires on March 4, 2004.

## III. CONFORMANCE WITH THE STATE HEALTH PLAN AND OTHER ADOPTED CRITERIA AND STANDARDS

### A. State Health Plan (SHP)

The *FY 2004 State Health Plan* addresses policy statements, criteria and standards which an applicant is required to meet before receiving CON authority to provide diagnostic cardiac catheterization services. The application submitted by The King's Daughters Hospital is not in substantial compliance with these criteria.

#### **SHP Criterion 1 - Need**

The *FY 2004 State Health Plan* states that the applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed diagnostic cardiac catheterization equipment/service is to be located.

The King's Daughters Hospital is located in CC/OHSPA 2, which is made up of the following 13 counties: Bolivar, Carroll, Coahoma, DeSoto, Holmes, Humphreys, Leflore, Montgomery, Quitman, Sunflower, Tallahatchie, Tunica, and Washington. These 13 counties had a total 2005 projected population of 420,937.\*

**Source:** Mississippi Population Projections for 2005, 2010, and 2015, Center for Policy Research and Planning, Mississippi Institutions of Higher Learning, March, 2002, herein after referred to as "2005 Population Projections".

The applicant submits that it serves an area that primarily includes four counties in northwestern central Mississippi and southeastern Arkansas. The Mississippi portion of the service area, consisting of Washington, Bolivar, and Sunflower counties, was estimated by the 2000 U. S. Census to have a total population of 137,979. The 2005 total population projection for these counties is stated to be 134,602, or a decrease of 2.4 percent from 2000. In addition, the 2000 Census reported that Chicot County in Arkansas had a total population of 14,117. Based on the slight decline in population forecast for area Mississippi counties for the period, the applicant projects that Chicot County will have a 2005 population of 13,771. Applicant further states that its total service area population for the four counties is projected to decrease slightly from 152,096 in 2000 to 148,373 in 2005. The applicant states that the coronary heart disease and cardiovascular disease mortality rates are significantly higher in KDH's service area than the statewide and regional averages. King's Daughters believes that the mortality statistics for the service area demonstrate that need is particularly strong in the region surrounding Greenville.

There are currently four existing providers of cardiac catheterization services in CC/OHSPA 2. The providers and their utilization for the past three Fiscal Years are as follows:

Providers	Number of Cardiac Catheterization Procedures*		
	FY 2000	FY 2001	FY 2002
Baptist Memorial Hospital-DeSoto	36	1,129*	2,353*
Delta Regional Medical Center	662	1,823	2,661*
Greenwood Leflore Hospital	142	194	106
Northwest MS Regional Medical Ctr.	156	1,379	1,527

\*Includes Diagnostics Procedures and PTCAs.

\*\*Includes pediatric procedures.

The *State Health Plan* provides that "At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of cardiac catheterization equipment and/or the offering of cardiac catheterization services." Market share analysis is a methodology utilized by the MSDH to determine the population base of an applicant when more than one provider of a service exists in a General Hospital Planning Area. Patient origin data, submitted to the Department by all hospitals for four two-week periods annually, are relied upon to determine the specific service area of a given hospital. A hospital's service area would be the counties in which 95 percent or more of the hospital's patients reside. Based upon the market share analysis conducted by the Department for CC/OHSPA 2, the majority of the applicant's patients came from Washington County for the period of October 2002 to July 2003. The remainder of its patients came from Bolivar, Humphreys, Leflore, Sunflower, and Tallahatchie counties. The market share analysis

revealed that The King's Daughters Hospital had a population base of only 19,396 for the given period (See Attachment 1). This population base falls far short of the minimum required population base of 100,000.

**SHP Criterion 2 - Minimum Procedures**

The State Health Plan reports a total of 36,572 cardiac catheterization procedures for fiscal year 2001 and 42,704 procedures for fiscal year 2002. These cardiac catheterization procedures were performed in 28 facilities throughout the state. Using a population base of 2,203,615 (ages 15 and over), applicant estimates the rate at which Mississippi residents utilized cardiac catheterization services was 16.4 procedures per 1,000 adult population in 2001 and 18.8 in 2002. Assuming that utilization remains constant at the 2002 use rate, applicant estimates that the number of cardiac catheterization procedures will increase from 42,704 in 2002 to 44,516 in 2005, a 4.3 percent increase.

The applicant projects the following utilization for the cardiac services at King's Daughters for the first three years:

<u>Year</u>	<u>Catheterization</u>
One	255
Two	305
Three	350

**SHP Criterion 3 - Impact on Existing Providers**

King's Daughters submits that there is only one other provider within 45 miles of the proposed services in the CC/OHSPA which offers cardiac catheterization services. Delta Regional Medical Center in Greenville performed 2,301 diagnostic and 360 therapeutic cardiac catheterization procedures in FY 2002, for a combined total of 2,611 procedures.

There are three other existing programs in CC/OHSPA 2, located in DeSoto, Coahoma, and Leflore counties. Greenwood Leflore Hospital, Leflore County, located approximately 53 miles from the applicant, performed 194 procedures in FY 2001 and 106 procedures in FY 2002.

**SHP Criterion 4 - Staffing Standards**

The applicant certified that all personnel utilized in the cardiac cath lab will be trained according to the guidelines presented in the Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities, published by the Inter-Society Commission for Heart Disease Resources. Applicant further submits that it has historically administered all its services at an exemplary level, provided sufficiently trained and experienced professional staff, and evaluated the performance of its programs, and will continue to do so.

**SHP Criterion 5 - Staff Residency**

King's Daughters certified that the medical staff performing cardiac catheterization procedures will reside within 45 minutes driving time of the hospital.

**SHP Criterion 6 - Recording and Maintenance of Data**

King's Daughters affirmed that it will maintain the data required by this criterion and make it available to the Mississippi State Department of Health annually.

**SHP Criterion 7 - Referral Agreement**

The applicant has an existing referral agreement with Delta Regional Medical Center for emergency services.

**SHP Criterion 8 - Patient Selection**

The applicant submits that each patient will be reviewed to ensure that he or she meets the inclusion/exclusion criteria which are established by the hospital. The inclusion/exclusion criteria will be developed within the standards and criteria of the American College of Cardiology, and the patient selection criteria will be approved by the Medical Executive Committee of the applicant. Applicant certified that therapeutic cardiac catheterization procedures will not be performed at the hospital unless and until it has received CON approval for the provision of such therapeutic cardiac catheterization services.

**SHP Criterion 9 - Regulatory Approval**

By this application, King's Daughters requests the approval for the addition of a diagnostic cardiac catheterization laboratory.

B. General Review (GR) Criteria

Chapter 8, *Mississippi Certificate of Need Review Manual, revised 2000*, contains general criteria by which all applications for Certificate of Need are reviewed. This project is not in substantial compliance with applicable criteria.

**GR Criterion 2 - Long Range Plan**

King's Daughters states that as a community hospital located in a highly diverse region of the state, its long range plan recognizes and embraces the hospital's duty to the entire population of its patient base as the maintenance of wellness, the prevention of illness, and the management of disease among many people who are disproportionately susceptible to poor health. Applicant believes that diagnostic cardiac catheterization services sought in this application will better equip it to realize the goals of its long range plan.

**GR Criterion 3 - Availability of Alternatives**

King's Daughters states that it is not aware of less costly or more effective alternative methods of providing the proposed services. Applicant submits that there are many patients receiving treatment at King's Daughters who need diagnostic cardiac catheterization services who currently have to be uprooted and transported via ambulance across town to have these tests completed.

#### **GR Criterion 4 - Economic Viability**

King's Daughters Hospital projects net incomes of \$38,400, \$116,900, and \$159,500 for the first three years of operation, respectively. Therefore, the project appears to be economically viable.

Costs and charges appear to be comparable to the charges established by other facilities in the planning area and the state.

#### **GR Criterion 5 - Need for Project**

The applicant submits that the proposed service area – Washington, Bolivar, and Sunflower counties in Mississippi and Chicot County in Arkansas — is comprised of significant under-served populations of low income and minority individuals who have great need for cardiac care. Applicant believes that the proposed project will increase access to cardiac services for these populations.

However, as stated earlier in this staff analysis, the applicant's facility is located within CC/OHSPA 2, which is comprised of 13 counties with a total projected population of 420,937. The CC/OHSPA currently has four cardiac catheterization programs (both diagnostic and therapeutic). In order to show need for additional cardiac catheterization programs, the *State Health Plan* requires that an applicant document a minimum population base of 100,000 in the CC/OHSPA where the proposed diagnostic cardiac catheterization equipment/service is to be located.

When more than one provider of a service exists in a General Hospital Planning Area, the Department utilizes a market share analysis to determine the population base of an applicant. A market share analysis prepared by the MSDH revealed that The King's Daughters Hospital had a market share population of 19,396 in CC/OHSPA 2 during the period of October 2002 through July 2003. Furthermore, CC/OHSPA 2 currently has one program per 100,000 population (420,937 divided by four cardiac cath programs). Therefore, staff contends that an additional program in this area will create an unnecessary duplication of health services and is not needed.

This application included 13 affidavits from physicians indicating the number of patients they will refer, and 3 letters of support from the City of Greenville and local banks.

Delta Regional Medical Center submitted a detailed letter of opposition to the project, which maintains that the project will have an adverse impact on services at Delta Regional. In addition, Greenwood Leflore Hospital and Northwest Mississippi Regional Medical Center submitted letters opposing King's Daughters' application for diagnostic cardiac catheterization services.

#### **GR Criterion 6 - Access to the Facility or Service**

Applicant anticipates that the poor, the elderly, minorities, and other historically under-served citizens will have the same ready access to its new services as they have had to general acute care services that have always been available from the applicant as a community hospital. King's Daughters states that it provides care to all patients without regard to ability to pay.

**GR Criterion 7 - Information Requirement**

The applicant affirmed that it will record and maintain the information required by this criterion and make it available to the Mississippi State Department of Health within 15 business days of request.

**GR Criterion 8 - Relationship to Existing Health Care Systems**

Applicant submits that Washington County is served by one other acute care hospital, Delta Regional Medical Center, which offers diagnostic and therapeutic cardiac catheterization services, as well as, open-heart surgery. King's Daughters believes that initiation of a new program at The King's Daughters Hospital would enhance the overall delivery of health care services to the region, and would specifically better serve the goal of the Department in increasing the availability of cardiac catheterization services around the state.

As stated earlier, Delta Regional Medical Center, Greenwood Leflore Hospital, and Northwest Mississippi Regional Medical Center submitted letters opposing the project.

**GR Criterion 9 - Availability of Resources**

Applicant relies on its record of consistently providing the services of high quality health professionals in the treatment of its patients, and states it will continue to ensure that quality in the offering of the new services sought by this application.

**GR Criterion 16 - Quality of Care**

King's Daughters Hospital is in compliance with the *Minimum Standards of Operation for Mississippi Hospitals*. The hospital is accredited by the Joint Commission on Accreditation of Health Care Organizations.

**IV. FINANCIAL FEASIBILITY**

A. Expenditure Summary

Construction Cost (Renov.)	\$ 237,600
Fixed Equipment Cost	1,049,982
Non-fixed Equipment	19,320
Site Preparation Cost	3,000
Fees (Architectural, Attorney, etc.)	36,500
Contingency	18,600
<b>Total Proposed Capital Expenditure</b>	<b>\$1,365,002</b>

The above expenditure is proposed for the renovation of approximately 2,544 square feet of space at King's Daughters for the provision of diagnostic cardiac catheterization services. The cost of renovation, including fees and contingency, is estimated to be \$116 per square foot.

B. Method of Financing

Applicant proposes to finance the capital expenditure for this project with cash from operations.

C. Effect on Operating Cost

The applicant projects the following expenses, utilization, and results from operation for the first three years following completion of this project:

<u>Expenses</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Sal. & Benefits	\$ 150,200	\$ 152,000	\$ 181,900
Supplies/	76,500	91,500	105,000
Purchased Services	60,000	60,000	60,000
Other Operating Expenses	102,000	122,000	140,000
Maintenance	6,100	7,300	8,300
Bad Debt	135,000	161,400	185,000
Depreciation	<u>160,700</u>	<u>160,700</u>	<u>160,700</u>
<b>Total Expenses</b>	<b>\$ 690,500</b>	<b>\$ 754,900</b>	<b>\$ 840,900</b>
<b>Net Revenue</b>	<b>\$ 728,900</b>	<b>\$ 871,800</b>	<b>\$1,000,400</b>
<b>Net Income</b>	<b>\$ 38,400</b>	<b>\$ 116,900</b>	<b>\$ 159,500</b>
CC Procedures	255	305	350
Cost/Procedure	\$ 2,707	\$ 2,475	\$ 2,403
Charge/Procedure	\$ 2,858	\$ 2,858	\$ 2,858

**Note:** Applicant projects to serve 82 inpatients and 173 outpatients in the first year of operation. Applicant projects the average charge per patient to be \$7,057 for cardiac catheterization services (not including the cost of the hospital stay for inpatients).

D. Cost to Medicaid/Medicare

The impact of the project on third party payors is as follows:

Payor	Utilization Percentage	Increased Cost First Year
Medicaid	27	\$ 186,435
Medicare	44	303,820
Other Payors	29	200,245
<b>Total</b>		<b>\$ 690,500</b>

                    **Note:** Applicant projects 7.5 percent care for medically indigent and bad debt patients and 1.0 percent charity care.



**V. RECOMMENDATIONS OF OTHER AFFECTED AGENCIES**

The Division of Medicaid was provided a copy of this application for comment. The Division of Medicaid estimates the increased annual cost to Medicaid for the capital expenditure to be \$59,683 for inpatient hospital services. Outpatient services will be paid as outlined in the State Plan.

**VI. CONCLUSION AND RECOMMENDATION**

This project is not in substantial compliance with criteria and standards for establishment of diagnostic cardiac catheterization services, as contained in the *2004 State Health Plan* and the *Mississippi Certificate of Need Review Manual*, revised 2000. Specifically, the application does not meet the minimum population base of 100,000 in the CC/OHSPA where it is to be located. Furthermore, CC/OHSPA 2, wherein the applicant facility is located, currently has one provider per 100,000 population. Therefore, the application submitted by The King's Daughters Hospital is an unnecessary duplication of health services and is not needed.

Consequently, the Division of Health Planning and Resource Development recommends disapproval of this application submitted by The King's Daughters Hospital for the establishment of diagnostic cardiac catheterization services.

**Attachment 1  
Market Share of Hospitals in CC/OHSPA 2 with Existing or Proposed Cath Labs**

CC/OHSPA 2		BMH-DeSoto		Bolivar MC		Delta RMC		Greenwood LH		KDH-Greenville		NWMS RMC	
County	Pop	%	#	%	#	%	#	%	#	%	#	%	#
Bolivar	39,945	0.34	136	77.39	30,913	11.36	4,538	3.71	1,482	0.67	267	6.52	2,604
Carroll	11,385	-	-	-	-	-	-	100.00	11,385	-	-	-	-
Coahoma	30,491	0.90	274	0.39	119	1.16	354	0.90	274	-	-	96.66	29,473
DeSoto	127,388	99.78	127,108	-	-	-	-	-	-	-	-	0.22	280
Holmes	21,936	-	-	-	-	-	-	100.00	21,936	-	-	-	-
Humphreys	10,798	-	-	-	-	16.39	1,770	81.97	8,851	1.64	177	-	-
Leflore	37,883	-	-	0.39	148	1.03	390	98.33	37,250	0.26	98	-	-
Montgomery	12,381	-	-	-	-	-	-	100.00	12,381	-	-	-	-
Quitman	9,721	2.94	286	-	-	0.98	95	0.98	95	-	-	95.10	9,245
Sunflower	33,792	0.54	182	50.67	17,122	23.06	7,792	19.03	6,431	3.49	1,179	3.22	1,088
Tallahatchie	14,657	2.90	425	3.49	512	1.74	255	30.23	4,431	0.58	85	61.05	8,948
Tunica	9,695	70.39	6,824	-	-	-	-	-	-	-	-	29.60	2,870
Washington	60,865	-	-	0.67	408	69.85	42,514	0.53	323	28.90	17,590	0.07	43
<b>TOTALS</b>	<b>420,937</b>		<b>135,235</b>		<b>49,222</b>		<b>57,708</b>		<b>104,839</b>		<b>19,396</b>		<b>54,551</b>

Source: October 2002 - July 2003 Aggregate Patient Origin Studies, MSDH.

Note: Market share analysis is a methodology utilized by the Mississippi State Department of Health to determine the population base of an applicant when more than one provider of a service exists in a General Hospital Planning Area. Patient origin data, submitted to the Department by all hospitals for four two-week periods annually, are relied upon to determine the specific service area of a given hospital. This can be done by county and zip codes. A hospital's service area would be the counties in which 95 percent or more of the hospital's patients reside. Once the hospital's specific service area is identified, additional analysis is necessary to determine what other hospital may offer the same service. Then, the patient origin information is used to determine the percentage of patients who utilize potentially competing facilities. These percentages are then applied to the county population to allocate market share of the population for each hospital offering or proposing the same service.