Department of Health and Human Services

OFFICE OF INSPECTOR GENERAL

Medicare Payment for Nonphysician Clinical Staff in Cardiothoracic Surgery

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EXECUTIVE SUMMARY

PURPOSE

This inspection assesses (1) the frequency, payment, and reasons cardiothoracic surgeons use their own nonphysician clinical staff to perform surgery-related hospital duties and (2) the manner and extent to which Medicare pays for these services.

BACKGROUND

In 1992, the Centers for Medicare & Medicaid Services (CMS) dramatically changed the way it reimburses physician services under Medicare Part B by adopting a fee schedule for physicians' services and establishing relative value units for physician work, practice expense, and malpractice insurance. In 1999, CMS specifically excluded the cost of physician's clinical staff used in the hospital setting from the calculation of practice expense for all services, including cardiothoracic surgery. The Agency decided that the practice of bringing staff to the hospital was infrequent, and that it already paid the hospital for the cost of nonphysician clinical staff either through Part A, the Ambulatory Payment Classification system, or directly to the physician through the physician fee schedule work relative value units. The Society of Thoracic Surgeons objected to CMS' decision. They believe that hospitals have reduced the number and skill levels of their staff and that advances in technology and the need for quality control are reasons why surgeons bring their own nonphysician clinical staff to the hospital. The American Hospital Association disputes the Society's assertions about the extent to which surgeons bring their staff to the hospital. As a result, CMS asked the Office of Inspector General to assess staffing arrangements between hospitals and cardiothoracic surgeons.

From the universe of cardiothoracic surgeries that were billed to Medicare in the first 6 months of calendar year 2000, we used a stratified cluster sampling technique to select a sample of hospitals and surgeons for mail surveys. We received 322 valid responses to the surgeon survey (51.7 percent response rate) and 177 responses to the hospital survey (89.4 percent response rate). We also reviewed the hospital licensing requirements of seven States with large Medicare populations.

FINDINGS

Medicare pays surgeons or hospitals for nonphysician clinical staff involved in cardiothoracic surgery

Medicare pays hospitals and surgeons for nonphysician clinical staff either through the inpatient hospital prospective payment system (Part A), the Ambulatory Payment

Classification system for hospital outpatient services, or the physician fee schedule (Part B). Almost three-quarters of cardiothoracic surgeons report that they use one or more of their own nonphysician clinical staff to perform surgery-related functions at the hospital. This was confirmed by approximately 70 percent of the hospitals.

Surgeons can bill and Medicare pays for medical services provided by certain mid-level practitioners (physician assistants, nurse practitioners, and clinical nurse specialists) in the hospital. However, surgeons cannot bill separately for other staff, such as pump perfusionists, registered nurse-first assistants, and operating room technicians. Reimbursement for these staff are paid to hospitals under Part A or the Ambulatory Payment Classification for hospital outpatient services.

Some compensation agreements exist between hospitals and surgeons

While most hospitals do not pay surgeons for the use of their nonphysician clinical staff, approximately 19 percent of the hospitals do provide either partial or full compensation to surgeons.

CONCLUSION

Medicare pays for nonphysician clinical staff even though surgeons do not receive additional payments for some of the staff they bring to the hospital. Instead, services of these staff are paid either to physicians through the work relative value units, to the mid-level practitioners directly, or to the hospital through Part A or the Ambulatory Payment Classification system for outpatient services. Recognizing this, some hospitals and cardiothoracic surgeons have entered into arrangements whereby hospitals provide some compensation to surgeons who bring their own nonphysician clinical staff.

AGENCY RESPONSE

We received comments on the draft report from CMS. The Agency concurred with our conclusion and said that the report's findings affirmed its decision to exclude the costs of physicians' clinical staff used in the facility setting from Medicare's practice cost calculations. The full text of the Agency's comments appears in appendix D.

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INTRODUCTION

PURPOSE

This inspection assesses (1) the frequency, payment, and reasons cardiothoracic surgeons use their own nonphysician clinical staff to perform surgery-related hospital duties and (2) the manner and extent to which Medicare pays for these services.

BACKGROUND

Implementation of a Medicare Fee Schedule for Physicians' Services

In 1992, the Centers for Medicare & Medicaid Services (CMS) dramatically changed the way it reimburses services under Medicare Part B. Section 1848 of *The Social Security Act* required CMS to adopt a fee schedule for physicians' services and establish relative value units (RVUs) for physician work, practice expense, and malpractice insurance. The payment amount for each service paid under the physician fee schedule is the product of three factors: (1) a nationally uniform relative value for the service, (2) a geographic adjustment factor for each physician fee schedule area, and (3) a nationally uniform conversion factor for the service. The conversion factors translate the relative values into payment amounts.

Medicare Reimbursement for Cardiothoracic Surgery

Medicare reimburses both hospitals and surgeons for inpatient, outpatient, and professional care for cardiothoracic surgery. The inpatient component is reimbursed through the prospective payment system (Part A) or the Ambulatory Payment Classification (APC) system for outpatient services, while the professional component is reimbursed under the physician fee schedule (Part B).

Part A Reimbursement. Medicare reimburses hospitals for all necessary, covered inpatient care.[1] Services include, but are not limited to: bed and board; nursing services; certain diagnostic or therapeutic services; and drugs, biologicals, supplies, appliances, and equipment.[2] Reimbursement is based on several factors, including the use of hospital resources (e.g., staff), treatment patterns, and technology.[3] Part A reimbursement traditionally does not include physician services and the physician's clinical staff used in the hospital. The *Social Security*

[1] 42CFR412.50.

[2] 42CFR409.10.

[3] 42CFR412.60.

Act requires CMS to adjust the prospective payment system annually based on changes in technology, inflation, hospital resources, and other factors.[4]

Hospital Outpatient Reimbursement. Section 1833(t) of *The Social Security Act* authorized the implementation of the outpatient prospective payment system for hospitals.[5] This system replaced the cost-based payment system which operated since Medicare was enacted in 1965. The outpatient prospective payment system, implemented August 1, 2000, classifies services according to a list of ambulatory payment classifications or APCs. Medicare reimbursement under APCs is prohibited for nonphysician services furnished to the hospital outpatient by a provider or supplier other than a hospital unless the services are furnished under arrangement. Therefore, the APCs include reimbursement for hospital-employed nonphysician clinical staff only.

Part B Reimbursement. Surgeons receive reimbursement under the Medicare physician fee schedule for professional services, such as diagnosis, surgery, and consultation.[6] Physician Part B services are covered when provided in the office or an institution, such as a hospital. The physician's reimbursement includes overhead costs for the wages of typical nonphysician clinical staff, such as nurses. However, Medicare Part B does not pay for physicians' clinical staff used in the hospital. Exceptions include some mid-level practitioners, such as physician assistants, nurse practitioners, and clinical nurse specialists. These mid-level practitioners may be licensed or certified under State law to perform special medical procedures, and the office and hospital services are covered and paid by Medicare.[7] When these nonphysician clinical staff are employees of the surgeon, the surgeon can bill on their behalf, and Medicare reimburses the surgeon for their services.

Determining Practice Expenses

The *Social Security Act Amendments of 1994* required CMS to develop a methodology for a resource-based system for determining practice expense RVUs for each physician service. The legislation also required that any adjustments to these RVUs be budget neutral. The *Balanced Budget Act of 1997* required CMS to implement the new payment methodology over a 4-year period, effective for services furnished in 1999, with resource-based RVUs as the sole basis for reimbursement in calendar year 2002. During the transition period, payment is based on a blend of charge-based practice expense

[4]42CFR412.60(e).

[5]Mandated in the *Balanced Budget Act of 1997* and modified through the *Balanced Budget Refinement Act of 1999* and the *Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000*.

[6]Health Care Financing Administration, *Carriers Manual, Part 3--Coverage and Limitations*, Section 2020A.

[7]*Ibid*., Sections 2050.1B and 2390.

RVUs and resource-based practice expense RVUs. The *Balanced Budget Refinement Act of 1999* required CMS to establish a process for accepting and using data that non-government organizations either collect or develop. These data would supplement the data CMS normally collects to develop the practice expense component of the physician fee schedule for calendar years 2001 and 2002. Refinement of practice expenses will be an ongoing process, because Congress requires CMS to review and adjust the RVUs 5 years after the end of the transition period, no later than 2007.

The CMS has relied primarily on two sources of data on practice expenses. The first source is data from 15 Clinical Practice Expert Panels (comprised of physicians, administrators, and nonphysician clinicians), and the second is the American Medical Association's Socioeconomic Monitoring System. The Agency also used data from a survey submitted by the Society of Thoracic Surgeons, which represents 3,000 cardiothoracic surgeons in the United States, to compute the practice expense for cardiothoracic surgery starting with the calendar year 2000 physician fee schedule.

The Debate Over Practice Expense for Cardiothoracic Surgery

In 1999, CMS excluded the cost assigned to all clinical staff in the hospital from the Clinical Practice Expert Panel data that are used in the calculation of practice expense. The Agency decided that the practice of bringing clinical staff to the hospital was infrequent, and that it already paid the hospital for the cost of nonphysician practitioners through Part A and the APCs, the physicians for the work of their physician extenders through the work RVUs, or to their mid-level practitioners directly. The Society of Thoracic Surgeons objected strongly to CMS' decision. The Society claims that, during the last 10 years, hospitals have reduced the number and skill levels of their staff. Also, advances in technology and the need for quality control explain why cardiothoracic surgeons bring their own nonphysician clinical staff to the hospital.

The American Hospital Association disputes the Society of Thoracic Surgeons' assertions about the extent to which surgeons bring their staff to the hospital. The organization surveyed its members in 1997 and found that some hospitals that responded reported that at least one physician had brought their own clinical staff to the hospital during a six-month period that year. (The survey did not ask hospitals which specialists typically brought nonphysician clinical staff to the hospital.) Some respondents said it was not a regular practice among surgeons. The American Hospital Association sent a follow-up survey to hospitals that had reported that physicians brought their own clinical staff and found that the use of physicians' staff in the hospital did not reduce hospitals' staffing costs.

The CMS asked the Office of Inspector General to assess staffing arrangements between hospitals and cardiothoracic surgeons.

METHODOLOGY

We mailed separate surveys to physicians and hospitals. We used a stratified cluster sampling technique to create both samples.

Selection of Hospital and Cardiothoracic Surgeon Samples

We first defined a universe of hospitals consisting of those facilities with at least 10 inpatient admissions from the CMS national claims history file in diagnostic-related groups (DRG) 104, 105, 106, 107, and 109 in the first 6 months of calendar year 2000. (See appendix A for brief descriptions of cardiothoracic surgeries.) We stratified this universe into three strata: non-teaching hospitals, teaching hospitals with training programs in cardiovascular surgery, and teaching hospitals without training programs in cardiovascular surgery. We randomly selected and mailed surveys to 66 hospitals from each of these strata for a total of 198 hospitals.

We chose 6 inpatient claims from each of the sample hospitals, for a total of 1188 claims. We identified 635 unique physicians listed as the operating physician on these claims and 711 unique physician-hospital combinations. The unit of analysis is the physician-hospital combination; responses from physicians with claims at multiple hospitals were entered separately for each hospital. The responses are weighted by each physician's chance of selection, which is not based on the number of hospitals at which the physician practices.

Universe Stratification

Hospital Stratum	Total Claims	Hospital Universe	Hospitals Selected	Claims from Hospitals Selected	Claims Selected	Physician-Hospital Combinations
Non-teaching	42235	430	66	5330	396	215
Teaching with cardiovascular programs	26221	154	66	8228	396	248
Teaching without cardiovascular programs	52270	362	66	6741	396	248
Total	**120726**	**946**	**198**	**20299**	**1188**	**711**

We initially obtained the physicians' names and addresses through CMS' Unique Physician Identification Number (UPIN) file. Whenever the address in the UPIN file was incorrect, we searched the Society of Thoracic Surgery website and then the Internet to identify the correct address for the physician. We then mailed the cardiothoracic surgeon's survey to 623 physicians who had current addresses.

We received 322 valid responses to the surgeons' survey and 177 valid responses to the hospital survey for response rates of 51.7 percent and 89.4 percent, respectively.

Nonrespondent Analysis

We analyzed the characteristics of nonrespondent surgeons to determine whether they differed from respondents. We found that surgeons who were listed as the operating physician on more claims were more likely to respond to the survey. We compared the characteristics by the type of hospital (non-teaching/teaching and by type of teaching program), geographic location (urban/rural), hospital bed size, and type of ownership (profit/nonprofit/government). None of these comparisons, however, was significant at the 95 percent confidence level.

To determine the effect of the relationship between responses and the number of claims, we conducted additional analysis of the statistics in the report. We assumed that non-respondents would have answered identically to respondents within the same claims volume categories. We then recalculated the statistics. All recalculations were within the 95 percent confidence intervals of the original estimates. Therefore, we did not find any evidence of bias related to claims volume due to non-response.

Review of State Hospital Licensing Requirements for Cardiothoracic Surgery

We reviewed State hospital licensing and other regulations for seven States with large Medicare populations--California, New York, Florida, Illinois, Pennsylvania, Ohio, and Iowa. The purpose was to identify State hospital regulations that specifically cover cardiothoracic surgery.[8]

Our review was conducted in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.

[8]We excluded both Texas and Michigan, even though they have large Medicare populations. Neither State has any hospital code or licensing provisions related specifically to cardiothoracic surgery. The Texas general hospital code covers surgery, anesthesia, and post-operative recovery. The Michigan hospital code is very brief and does not contain any provisions specifically for cardiothoracic surgery.

FINDINGS

Medicare pays surgeons or hospitals for nonphysician clinical staff involved in cardiothoracic surgery

Almost Three-Quarters of Cardiothoracic Surgeons Bring Their Own Staff to the Hospital

Most cardiothoracic surgeons bring their own nonphysician clinical staff to the hospital to perform preoperative, intraoperative, and postoperative patient care. Approximately 74 percent of surgeons reported that they bring one or more of their own staff to perform hospital services. As one surgeon wrote, "We do 800+ heart surgeries a year and could not do this without our surgical assistant staff." We found a positive correlation between the total number of surgeries that a surgeon performed and the probability that he brings his own staff to the hospital. The following table shows the frequency with which the 74 percent of surgeons bring particular types of nonphysician clinical staff to work in the hospital and the operating room.

Staff Who Assist at Hospitals

Nonphysician Clinical Staff	Perform Hospital Services	Work in Operating Room
Physician Assistant	69.8%	69.2%
Pump Perfusionist	47.6%	47.0%
Clinical Nurse Specialist	27.5%	8.3%
Nurse Practitioner	26.1%	14.6%
Operating Room or Scrub Technician	20.1%	20.1%
Registered Nurse (including registered nurse-first assistant)	12.7%	9.0%

Hospitals also reported that many surgeons bring their own nonphysician clinical staff. Overall, approximately 69 percent of hospitals reported that surgeons bring their own staff to perform hospital services. Hospitals with training programs in cardiovascular surgery were least likely to report that surgeons bring their own staff (42.6 percent) versus non-teaching hospitals (71.0 percent) or even teaching hospitals without training programs in cardiovascular surgery (77.1 percent).

Staff Responsibilities Vary Greatly

Nonphysician clinical staff perform many functions while at the hospital and in the operating room. Responsibilities range from performing history and physical examinations upon the patient's admission to harvesting veins that the surgeon uses for the bypass surgery. The chart below includes the hospital responsibilities mentioned most often by surgeons.

Top Hospital Responsibilities of Nonphysician Clinical Staff

Surgeon's Staff	Responsibilities	Percent
Physician Assistant	assists: first assistant during surgery	95.6%
	completes discharge summaries	68.4%
	provides postoperative care in the intensive care unit and/or patient room	65.4%
	completes history and physical examinations and/or preoperative consultations	58.8%
Pump Perfusionist	operates perfusion pump in operating room	98.2%
	other functions in the operating room	16.3%
Clinical Nurse Specialist	provides preoperative care and/or patient instructions	84.1%
	completes discharge summaries	48.5%
	completes other postoperative functions (e.g., wound checks)	44.5%
Nurse Practitioner	completes preoperative care and/or patient instructions	75.2%
	provides postoperative care in the intensive care unit and/or patient room	39.6%
	completes discharge summaries	39.1%
	assists: second assistant during surgery	35.8%

Surgeons mentioned responsibilities of other nonphysician clinical staff who work at the hospital. Registered nurses most often provide preoperative care (63.1 percent) and, for some surgeons, also act as surgical first assistant (called registered nurse-first assistant or RNFA) in the operating room (48.1 percent). Technicians work primarily in the operating room.

We compared responses of surgeons who bring their own staff to the number of procedures they performed at the hospital, the type of hospital (non-teaching/teaching,

and by type of teaching program), geographic location (urban/rural), hospital bed size, and profit/nonprofit/government ownership. None of these comparisons was significant at the 95 percent confidence level.

Surgeons Cite Lack of Appropriate Hospital Staff and Specialized Training as Major Reasons to Bring their Own Staff

Cardiothoracic surgeons gave many reasons as to why they use their own nonphysician clinical staff rather than hospital staff to provide preoperative, intraoperative, and postoperative care to their patients. The major reasons are, but are not limited to:

	Reason	Percent[9]
1.	The hospital does not have staff to assist during surgery	75.1%
2.	Surgeon's staff is efficient and has appropriate training in surgical techniques	73.0%
3.	Hospital staff does not have the right skills	57.0%
4.	Hospital does not have staff for preoperative and postoperative care	34.6%
5.	Personal preference	30.4%

Other reasons (8.3 percent) include (1) the lack of enough physician assistants to assist at all surgeries performed by the surgeons daily, (2) the availability of the surgeon's staff after regular office hours and in emergency situations, and (3) the majority of the hospital's nursing staff is transient.

Many surgeons expanded their reasons for bringing their own nonphysician clinical staff to the hospital. One surgeon noted, "The technical skills and degree of knowledge for cardiovascular surgery personnel is not available unless my group provides it. The hospital simply will not or cannot." A second surgeon commented, " ...the number of staff required to support cardiovascular care of good to excellent quality is enormous." And yet a third surgeon said, "My partners and I rely heavily on the assistance of our nurses with so many aspects of patient care. We would not be able to provide the same standard of care without their professional expertise. . . . the elderly (Medicare) patient especially requires an experienced and astute individual to assess his or her past medical history, present condition, and postoperative recovery."

Surgeons Can Bill for Physician Assistants, Nurse Practitioners, and Clinical Nurse Specialists

Surgeons can bill and Medicare Part B does pay separately for mid-level practitioners (such as physician assistants, nurse practitioners, and clinical nurse specialists) who

[9]Surgeons may have included more than one reason.

provide services to patients in the surgeon's office or the hospital.[10] In our sample, approximately 53 percent of surgeons brought at least one physician assistant, nurse practitioner, or certified nurse specialist to the hospital to work in the operating room. Approximately half of these surgeons billed Medicare and received payment for those staff.

Nearly 70 percent of surgeons who bring their own staff said that physician assistants perform hospital services, particularly in the operating room. Medicare will pay for the services of physician assistants " . . . who are legally authorized to furnish services in the State and who render the services under the supervision of a physician in a hospital, . . . or when the physician assistant performs the services of an assistant at surgery."[11] Surgeons use a modifier on Medicare claims to identify services provided by physician assistants during surgery. Reimbursement for physician assistants as assistant surgeons generally is limited to approximately 10 percent of the surgeon's fee schedule amount.

Hospitals, Not Surgeons, Receive Reimbursement for Nurses and Pump Perfusionists

Nurses who perform hospital duties are typically employed by hospitals, not surgeons. We asked hospitals to specify the hospital employees who are available to assist cardiothoracic surgeons during surgery and found that registered nurses (89.5 percent) and operating room technicians (86.8 percent) are the most commonly employed nonphysician hospital staff. Since the hospital payment includes reimbursement for wages, surgeons cannot bill and receive reimbursement for some of their own staff, such as registered nurse-first assistants, pump perfusionists, and operating room technicians.

Almost half of the surgeons (47.6 percent) who bring their own nonphysician clinical staff reported that they employ pump perfusionists, the staff who operate the heart pump during surgery. When the American Hospital Association surveyed its members in 1997, it asked about the types and functions of staff who were employed by surgeons. Although the association did not ask specifically whether or not surgeons employed pump perfusionists (they were considered "other personnel types"), hospitals reported that 10 percent of the surgeon's nonphysician clinical staff operate the perfusion pump. In our survey, approximately 65 percent of the hospitals reported that they provide perfusionists, usually under contractual arrangements rather than as hospital employees.

Hospitals Rarely Reduce Staffing When Surgeons Bring Their Own Staff

All States regulate hospitals through licensing, and those requirements usually set minimum staffing levels and staff qualifications. Our limited review of State licensing regulations showed that hospitals may be required to provide certain staff to be licensed

[10]Health Care Financing Administration, *Carriers Manual*, Part 3, Chapter XVI (NonPhysician Practitioner Services), Sections 16000-16003.

[11]*Ibid*, Section 16001.

in their State for cardiothoracic surgery. Therefore, hospitals cannot reduce their staffing when surgeons bring their own staff to the hospital.[12] Of the 70 percent of hospitals that responded that surgeons bring their own staff, only six hospitals reduce their staffing levels in response to surgeons' use of their own staff.

Some compensation agreements exist between hospitals and surgeons

Surgeons typically are responsible for the costs of their nonphysician clinical staff. While most hospitals do not compensate surgeons for the staff that they bring to the hospital, approximately 19 percent of hospitals said that they provide either partial or full compensation. Likewise, approximately 19 percent of the surgeons responded that they receive compensation from the hospital. Since the reimbursement for pump perfusionists is typically included in the Medicare hospital payment, some hospitals reimburse the surgeons for this staff.

[12]Appendix D summarizes regulations for cardiothoracic surgery and post-operative staffing requirements for the seven States we reviewed, each of which has a large proportion of Medicare beneficiaries.

CONCLUSION

Medicare pays for nonphysician clinical staff even though surgeons do not receive additional payments for some of the staff they bring to the hospital. Instead, services of these staff are paid either to physicians through the work relative value units, to the mid-level practitioners directly, or to the hospital through Part A or the Ambulatory Payment Classification system for outpatient services. Recognizing this, some hospitals and cardiothoracic surgeons have entered into arrangements whereby hospitals provide some compensation to surgeons who bring their own nonphysician clinical staff.

AGENCY RESPONSE

We received comments on the draft report from CMS. The Agency concurred with our conclusion and said that the report's findings affirmed its decision to exclude the costs of physicians' clinical staff used in the facility setting from Medicare's practice cost calculations. The full text of the Agency's comments appears in appendix D.

APPENDIX A

Description of Selected Cardiothoracic Surgery Procedures

Coronary Bypass Graft Surgery

Coronary bypass procedures use either a vein harvested from the leg, or the vein and an artery (usually the internal mammary artery from the chest) to bypass an atherosclerotic narrowing of the coronary artery. Although the procedures involve substantial risks (e.g., death, stroke, and other neurologic complications), the outcomes are proven and longer lasting than other procedures.[13] Bypass surgeries are included in the diagnostic-related groups (DRG) 106, 107, and 109.

Valve Procedures With or Without Coronary Bypass Graft Surgery

Valve disorders are the second most common form of heart disease in adults, and they most frequently involve the aortic valve. The most common forms of aortic valve disease are stenosis (a pressure overload which occurs as blood flows across a narrowed valve) and insufficience (an improperly-closing valve which causes a blood volume overload on the heart and the blood then flows back into the heart). Although patients with valve disease can be asymptomatic, untreated valve disorders eventually cause symptoms such as chest pain, shortness of breath, fainting, as well as serious damage to the heart.[14] In patients with clear-cut symptoms of coronary artery disease, a combined surgery of valve replacement and bypass might be necessary.[15] The valve procedures, with and without simultaneous bypass surgery, are in DRGs 104 and 105.

[13]The Center for the Evaluative Clinical Sciences/Dartmouth Medical School and The Center for Outcomes Research and Evaluation /Maine Medical Center, *The Dartmouth Atlas of Cardiovascular Health Care*, 1999, p. 72.

[14]*Ibid*, p. 192.

[15]*Ibid*, p. 198.

APPENDIX B

Confidence Intervals for Selected Statistics

The following table shows the point estimates and 95 percent confidence intervals for selected statistics, in the order that they appear in the report. These calculations account for all levels of clustering and stratification as described in the methodology.

Statistic	N	Point Estimate	95 Percent Confidence Interval
Percent of *cardiothoracic surgeons who bring their own staff* to the hospital	353	74.11%	62.21% - 86.01%
Percent of *hospitals that reported surgeons bring their own staff* to the hospital	177	69.19%	62.85% - 75.52%
Surgeons' Clinical Staff Who Assist at Hospitals			
Percent of *physician assistants* from surgeons' staffs who perform hospital services	248	69.84%	53.07% - 86.61%
Percent of physician assistants from surgeons' staffs who perform services in the operating room	248	69.23%	52.43% - 86.03%
Percent of *nurse practitioners* from surgeons' staffs who provide hospital services	248	26.14%	15.96% - 36.33%
Percent of nurse practitioners from surgeons' staff who perform services in the operating room	248	14.59%	5.74% - 23.44%
Percent of *clinical nurse specialists* from surgeons' staffs who provide hospital services	248	27.50%	17.34% - 37.66%
Percent of clinical nurse specialists from surgeons' staff who perform services in the operating room	248	8.30%	2.59% - 14.01%
Percent of *pump perfusionists* from surgeons' staffs who provide hospital services	248	47.60%	29.24% - 65.96%
Percent of pump perfusionists from surgeons' staff who perform services in the operating room	248	47.00%	28.62% - 65.37%
Percent of *registered nurses (including registered nurse-first assistants)* from surgeons' staff who provide hospital services	248	12.68%	6.46% - 18.90%
Percent of registered nurses (including registered nurse-first assistants) from surgeons' staffs who perform services in the operating room	248	9.00%	3.83% - 14.17%

APPENDIX B

Statistic	N	Point Estimate	95 Percent Confidence Interval
Surgeons' Clinical Staff Who Assist at Hospitals (continued)			
Percent of *operating room or scrub technicians* from surgeons' staffs who provide hospital services	248	20.05%	7.90% - 32.21%
Percent of operating room or scrub technicians from surgeons' staff who perform services in the operating room	248	20.05%	7.90% - 32.21%
Reasons Why Surgeons Bring Own Staff to Hospital			
Percent of cardiothoracic surgeons who bring their staff because of *personal preference*	244	30.36%	25.25% - 40.47%
Percent of cardiothoracic surgeons who bring their own staff because the *hospital does not have staff to assist during surgery*	244	75.14%	65.14% - 85.14%
Percent of cardiothoracic surgeons who bring their own staff because the *hospital staff does not have the right skills*	244	56.96%	41.69% - 72.22%
Percent of cardiothoracic surgeons who bring their own staff because the *hospital does not have staff for preoperative and postoperative care*	244	34.56%	24.17% - 44.94%
Percent of cardiothoracic surgeons who bring their own staff because the *surgeon's staff is efficient and trained by surgeon*	244	73.04%	59.90% - 86.18%
Percent of cardiothoracic surgeons who bring their own staff for *other reasons*	244	8.30%	3.89% - 12.73%
Hospitals Pay Surgeons for Their Nonphysician Clinical Staff			
Percent of *hospitals that pay any cost of cardiothoracic surgeons' staff* who assist at the hospital	114	18.52%	11.72% - 25.33%
Percent of *hospitals that pay entire cost of cardiothoracic surgeons' staff* who assist at the hospital	21	34.59%	15.13% - 54.05%
Percent of *hospitals that share the cost of cardiothoracic surgeons' staff* who assist at the hospital	21	44.68%	24.55% - 64.82%

APPENDIX B

Statistic	N	Point Estimate	95 Percent Confidence Interval
Staff Provided by Hospitals			
During surgery, percent of hospitals that provide *residents*	177	16.70%	12.94% - 20.45%
During surgery, percent of hospitals that provide *other physicians*	177	25.50%	19.99% - 31.50%
During surgery, percent of hospitals that provide *physician assistants*	177	28.55%	22.42% - 34.68%
During surgery, percent of hospitals that provide *nurse practitioners*	177	6.32%	3.14% - 9.51%
During surgery, percent of hospitals that provide *clinical nurse specialists*	177	6.26%	3.41% - 9.11%
During surgery, percent of hospitals that provide *registered nurses*	177	89.99%	85.27% - 93.71%
During surgery, percent of hospitals that provide *licensed vocational nurses*	177	9.46%	5.40% - 13.53%
During surgery, percent of hospitals that provide *pump perfusionists*	177	64.93%	58.14% - 71.72%
During surgery, percent of hospitals that provide *nurse anesthetists*	177	32.22%	25.70% - 38.74%
During surgery, percent of hospitals that provide *operating room surgical technicians*	177	86.83%	82.10% - 91.56%
During surgery, percent of hospitals that provide *other staff*	177	12.04%	7.41% - 16.77%

APPENDIX C

Regulation of Cardiothoracic Surgery for Selected States

Our limited review of State regulations showed that hospitals may be required to provide certain staff to receive State licensure for cardiothoracic surgery and cannot reduce their staffing when physicians bring their nonphysician staff to the hospital. The chart summarizes regulations for cardiothoracic surgery and post-operative staffing requirements for the seven States. A State may have other, general regulations covering surgery, anesthesia, acute care services, and post-operative recovery. Nursing personnel, in particular, are required to be present during and after surgery.

State Code or Regulations	CA	NY	FL	IL	PA	OH	IA
Staffing for Cardiothoracic Surgery							
Chief surgeon qualified in cardiothoracic surgery present	X	X	X	X	X	X	X
Other qualified cardiovascular surgeons present	X	X	X		X	X	X
Qualified cardiovascular radiologist present		X		X	X		X
Qualified radiologic technologists present		X			X		
Anesthesiologist qualified for cardiovascular surgery		X	X	X	X	X	
Pathologist qualified for cardiac abnormalities		X		X	X		X
Cardiologist present		X		X	X		X
Nurse personnel qualified in cardiovascular surgery		X	X				X
Perfusionists qualified to operate extracorporeal pump	X	X	X				X

Header Coding:

CA = California
NY = New York
FL = Florida
IL = Illinois
PA = Pennsylvania
OH = Ohio
IA = Iowa

APPENDIX C

State Code or Regulations	CA	NY	FL	IL	PA	OH	IA
Staffing for Post-Operative Recovery							
Physician responsible for conduct of recovery room				X	X		
Qualified supervisory nurse always in recovery room		X	X	X	X	X	
Registered recovery room nurse always in attendance			X	X	X	X	
Sufficient nursing personnel to provide specialized care			X	X	X	X	
Nurse to patient ratio for intensive care unit				X			
Staff to constantly attend anesthetized patients		X		X	X	X	
Supervisor of non-medical anesthesia personnel		X		X	X		
Staff to supervise and assist family/recovery room visitors		X			X	X	
Mandatory Services/Facilities[16]							
Surgical and cardiology team			X	X	X	X	
Cardiopulmonary resuscitation team or capability			X		X	X	
Cardiac surgical intensive care unit				X	X		
Emergency room staffed for cardiac emergencies			X	X	X	X	
Catheterization-angiography laboratory services			X	X	X		X
Nuclear medicine laboratory				X			
Cardiographics laboratory and electrocardiography			X	X	X	X	X
Echocardiography service				X	X	X	
Blood bank/Hematology/Coagulation laboratory			X	X	X	X	X
Pulmonary function unit			X	X	X	X	
Renal dialysis				X	X		
Infectious disease control			X		X		X

[16]These services must be available 24 hours a day if the hospital offers cardiothoracic surgery.

APPENDIX D

Agency Comments

APPENDIX D

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

Administrator
Washington, DC 20201

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OFFICE OF INSPECTOR GENERAL

DATE: FEB 26 2002

TO: Janet Rehnquist
Inspector General
Office of Inspector General

FROM: Thomas A. Scully
Administrator
Centers for Medicare & Medicaid Services

SUBJECT: Office of Inspector General (OIG) Draft Report: *Medicare Payment for Nonphysician Staff in Cardiothoracic Surgery* (OEI-09-01-00130)

Thank you for the opportunity to review and comment on the above-referenced draft report. The OIG concluded that Medicare pays hospitals or surgeons for nonphysician staff either through the prospective payment system or the physician fee schedule. We appreciate the work that was done on this issue and have found the report's findings useful in assessing our decision to exclude the costs of physicians' clinical staff used in the facility setting from our practice expense calculations.

We are pleased that the report supports our contention that Medicare already pays for these nonphysician clinical staff services through some means other than our practice expense relative value units (RVUs). For example, we pay the hospital for nursing staff through Medicare Part A or the outpatient prospective payment system, and we pay for midlevel practitioners (i.e., physician assistants, nurse practitioners, and clinical nurse specialists) either through a direct payment or through the physician fee schedule work RVUs.

There are two issues that we believe could possibly be worth a follow-up by OIG. First, though OIG's analysis of non-responsive physicians showed no bias based on non-respondents' characteristics, it is possible that the subject of the survey itself could create a selection bias, particularly if the physicians surveyed understood the payment implications of the issue. Physicians who bring staff to the hospital could have been more interested in responding than those who do not. A telephone survey of a sample of the non-respondents could determine whether they bring staff to the hospital in the same proportion as do the respondents. Second, we note that 75 percent of those responding stated that the hospital does not have the staff to assist during surgery, 72 percent stated that the hospital staff does not have the right skills, and nearly 35 percent stated that the hospital does not have staff for preoperative and postoperative care. It would be

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interesting to determine how the hospitals in question would comment on these alarming contentions.

Attachment

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This report was prepared under the direction of Paul A. Gottlober, Regional Inspector General for Evaluation and Inspections in San Francisco. Other principal Office of Evaluation and Inspections staff who contributed include:

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