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# A Study of Hospital Charge Setting Practices

*A study conducted by the Lewin Group for the  
Medicare Payment Advisory Commission*



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**Medicare Payment Advisory Commission**

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## **I. EXECUTIVE SUMMARY**

The Medicare Payment Advisory Commission (MedPAC) has expressed concerns about the accuracy and fairness of the current Medicare hospital in- and out-patient prospective payment systems (PPSs). Payment rates for these systems are based, to varying degrees, on hospital charges. However, little is known about how hospitals set their charges. In addition, charges have become less relevant to hospitals over time, given the advent of PPS and various other flat payment arrangements. As a result, the measurement of charges that is currently used by Medicare to reflect relative resource consumption across services in determining acute care hospital prospective payments may be becoming less accurate over time. For instance, as productivity increases in a given service area, if charges are not reduced to reflect corresponding lower expenses, the end result could be charges drifting up against relative costs over time. Under PPS, this could lead to favorable payments to hospitals for such services.

In order to better understand hospital charge setting practices and the nature of hospital mark-ups across service lines, MedPAC engaged The Lewin Group to conduct a nationwide study of hospital charge practices.

The protocol for the charge interviews (developed in consultation with MedPAC staff) covered four general topics: (1) charge setting goals and processes at each facility; (2) actual changes made to the charge master (why, when, how, and based on what information); (3) charge setting processes for cardiology and cardiac services; and (4) the development and maintenance of pharmaceutical charges.

This report reviews the charge practices of a purposive sample of hospitals and hospital systems around the U.S. Our sample of 57 participating hospitals and/or systems represents 238 hospitals and included proportionately more hospitals in large urban areas and major teaching facilities than there currently are nationwide. Responding hospitals were primarily not-for-profit, with for-profits demonstrating a reluctance to participate. We found that hospitals in large urban areas, and usually teaching hospitals, are more likely to consider cost information in their charge setting than their rural and non-teaching counterparts. Decisions about how and when to apply mark-ups to services vary widely, even within individual systems, primarily because hospitals use a complex set of rules to set their charges. Furthermore, the emphasis placed on different objectives varies from one hospital to the next.

While our survey responses were highly consistent, our sample is biased toward hospitals in large urban areas and teaching facilities. These institutions are more likely to have the resources to more carefully examine their costs.

### **A. The Charge Master Structure and Process**

The hospital charge description master (CDM), or “charge master”, is extensive, usually containing between 12,000 and 45,000 individual charge items and procedures across hospital departments providing patient services. Every chargeable item in the hospital must be part of the charge master in order for a hospital to bill a patient, payer, or health care provider. Hospitals place great importance on the charge setting process and generally coordinate the process through their finance departments, with what we have called a “Charge Master Team”. This Charge Master Team is typically composed of a senior level finance person, a charge

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description analyst and/or coder, and others, depending on the size of the hospital or hospital system. These individuals review any changes made to the charge master throughout the year, and work with the Chief Financial Officer (CFO) to determine how aggregate annual charge updates will be made. In addition, the Charge Master Team works with individuals from all relevant departments depending on the nature of the charge item in question. While coding corrections and changes are made regularly for compliance purposes, there are also a number of other reasons charges may be changed throughout the year.

Hospital charges have been set over several decades, long before facilities had a good sense of the costs of providing services. A complete overhaul of the charge master is rare. The charge survey instrument protocol was divided into two sections for examining charge master changes: 1) those increases in charges which are global, (across all services and charge items) and often made to adjust for inflation, and 2) those that are specific to individual services or procedures. With inflationary increases over time being applied to thousands of revenue codes and with varied methods applied to charge setting over time, it has become difficult for many hospitals to explain or rationalize the basis of their charges.

While almost all respondents indicated making an annual increase in charges, less than a third of the respondents indicated this increase was applied uniformly across their charge master, suggesting that it varies by department. The most recent average annual increase among hospitals reporting this information was about seven percent. Variations in charge increases were made for reasons unique to each individual hospital or system, but took into consideration a hospital's current financial and competitive position within its market.

Respondents reported varied approaches to updating their charge master for existing services. Most respondents mentioned the importance of coding and compliance checks and other strategic objectives, but in terms of assessing the validity and accuracy of existing charges, respondent attitudes differed. For example, less than fifteen percent of the hospitals set a strategic objective to review all charges in their charge master over a particular period of time (usually several years) to ensure that they were updated to reflect recent costs and changes in market conditions. However, many other hospitals focus on compliance, and only scrutinize charges being developed for new procedures and services or those where problems in pricing are brought to their attention.

The vast majority of respondents indicated that their process for developing charges for new procedures and/or charge items is similar to that for existing services, with one notable exception. Respondents reported examining costs (e.g., labor, time, or equipment) much more closely for new services. This was particularly true for large urban and teaching facilities. The development of charges for new services is thus more resource-intensive than the global updates or updates for existing services.

In cooperation with the Charge Master Team, the individual clinical department closely examines the time, labor, equipment and room costs associated with a particular service. These costs may then be compared to other similar services provided by the hospital. In addition, the team and the individual clinical department may analyze anticipated payments (from existing fee schedules and contracts) and use available market or competitor information to develop a reasonable charge. Hospitals without cost accounting systems often reported simply looking at

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payer fee schedules for new procedures and sometimes considering the fees that competing hospitals charged.

## **B. Goals of the Charge Master**

Each respondent was also asked to identify charge master process goals. Most respondents either mentioned or reported thinking we would presume compliance was their primary goal in managing the charge master. For almost all respondents, charge practices were being driven at least partly by financial and competitive pressures. For those more attentive to charge master details, ensuring that all possible chargeable items and all potential revenue sources were captured was a key part of the process. Hospitals were usually cognizant of aligning their charges with those of their competitors, positioning their charges between the 50<sup>th</sup> and 75<sup>th</sup> percentile of their local market.

Key influencing factors reviewed during interviews included: overall cost inflation, changes in specific costs of services or procedures, hospital missions, competitive forces, influence of specific payers, community perception, managed care contract terms, and indirect cost allocation. It became clear through these discussions that the goals and factors under consideration were sometimes conflicted. For instance, a hospital might want to remain competitive but recognize that its costs for a particular service were more than the market could bear. Then the question of cross-subsidization would arise. Different hospitals, depending on their mission and resources, often made entirely different decisions based on the same information.

The sensitivity of charges to utilization, the market and payer mix, while being different for each facility, affected each hospital's approach to charge master updates. Of all the influencing factors discussed, those having to do with reimbursement, the influence of specific payers, and managed care contracts were most frequently identified as factors that have recently changed in importance. Respondents mentioning this change reported that these payer influences have become more important in the charge master process in recent years. The process for setting charges is often challenging given the competing goals of maintaining a strong bottom line and remaining competitive.

### **Use of Cost and Other Information in Charge Master Process**

In an open-ended question about the information that is used in setting charges for existing services, hospitals in large urban areas mentioned using cost information half of the time, while rural hospitals mentioned it only a quarter of the time. Similarly, two-thirds of the major teaching hospitals reported using cost data in the charge setting process compared to one-half of the non-teaching hospitals. A number of respondents indicated that hospital charges do not systematically reflect costs, with some exceptions. Generally charges for new items and procedures are those that are most likely to correlate in some way with hospitals' actual costs. Hospitals also reported basing charges for supplies and pharmaceuticals on their costs. Methods for identifying costs varied widely for respondents due to different cost accounting systems and different assumptions for allocating costs across multiple departments.

Slightly more than half of respondents reported that they used publicly available charge data, such as information hospitals are required to report to state agencies, to compare their charges

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with their competitors. Some states publish hospital charges and require that hospitals submit pricing changes in advance for approval. Almost two-thirds of respondents reported using market information in the decision making process. Many respondents referenced Medicare's fee schedules and the schedules of other payers being used as a floor and point of reference for setting charges. Market information often included any information hospitals could collect about competitor prices and services. Over 40 percent of all respondents indicated that they conduct sensitivity analyses to determine the impact of contemplated increases on their reimbursement given current utilization, payer arrangements, and market trends.

### **C. Mark-ups in the Charge Master**

The charge master generally reflects some amount above costs, otherwise known as a "mark-up". Mark-ups, like the charge master, are changed over time and may vary by department, type of service or other unique issues facing an individual facility. Most hospitals reported that higher cost procedures and items generally are assigned a lower mark-up. Few respondents reported using standard mark-up schedules outside of those for pharmacy and supplies. Central supply (materials management) and pharmacy departments generally have separate pricing policies that are based on distinct formulas or tables. Many respondents remarked that these two areas are those where charges are most commonly related to costs.

Hospitals reported charges for supplies being based on a flat percentage or a sliding scale table based on ranges of the costs for each item. For instance, any supply costing less than \$100 might be marked up by a certain percentage, while supplies costing over \$5,000 would be marked up at a lower percentage as provided in the supply cost table. All but one hospital indicated it marked up lower cost supplies at a higher rate than more expensive supplies. Pharmacy charges are generally handled separate and apart from all other charges and are discussed separately below.

Almost a third of the hospitals reported that they often have had a higher mark-up for outpatient services than for other services. Other facilities reported that they no longer increased outpatient charges more than inpatient since the ratios of charges were likely to become skewed. There were no clear trends in the examples given by respondents of areas in which they reported higher or lower mark-ups being given to specific services.

### **D. Cardiology Services**

The study protocol included a special focus on cardiology at MedPAC's request.<sup>1</sup> The vast majority of respondents indicated treating cardiology services the same way as other service areas providing care of similar intensity in setting charges. However, they also indicated that more attention is generally paid to specific items and procedures in departments such as cardiology and orthopedics where more expensive and new technologies are added at a greater frequency. They added that this approach of building new charges by looking at costs and market conditions to the extent possible is no different than for any other department.

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<sup>1</sup> Anecdotally, cardiology services are thought to be more profitable than other service lines. One reason for that, if true, could be differences in mark-ups across service lines.

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Of those hospitals offering catheter suites, most reported a key difference in charges for services in these areas. While charges are set for hospital operating rooms based on the time required for a surgical procedure, charges in the catheter labs are typically based upon the procedure itself, which is a fixed price regardless of the time taken to perform the procedure. Other differences in charges across suites would be due to any unique catheters and other devices that might be used in one suite and not the other.

A few respondents reported having designated cardiac surgery rooms with higher time charges than for other surgery rooms. These facilities explained that charges are higher for these suites to reflect the increased labor and equipment costs associated with complex heart surgeries, such as open heart and transplant. Several respondents indicated that cardiac surgery was considered to be a “major surgery” at their facility, as are other complicated implant procedures and services, such as neurosurgery, and are charged at a higher rate per time increment.

## **E. Pharmacy Charge Masters**

In addition to pharmacy charges being set differently and generally being under the purview of the Director of Pharmacy rather than finance staff, the charge masters for these items tend to be updated with greater frequency and to be tied more closely to actual costs. Some hospitals reported basing charges on the average wholesale price (AWP) plus a standard mark-up, but many indicated they now work from more sophisticated, internally developed pharmacy mark-up tables. These tables generally were developed by prescription drug category, and were often complex enough to vary costs by drug type, means of administration, involvement of pharmacist, etc. Overhead costs were generally incorporated into the formula or table used by each facility. Many respondents reported using separate software specially developed for pharmacy cost management.

## **F. Conclusions**

Hospital charge setting practices are complex and varied. Hospitals are generally faced with competing objectives of balancing budgets, remaining competitive, complying with health care and regulatory standards, and continuing to offer needed services to the community. They tend to base charges for new procedures, devices, and drugs more on actual costs than they do charges for existing services. Mark-ups tend to vary by service line, with high cost items receiving a lower mark-up than low cost items.

Disparities between charges and costs has been growing over time as many existing charges were set before hospitals had a good idea of their costs and/or were set in response to budgetary and competitive considerations rather than resource consumption. Hospital charges are set within the context of hospitals’ broader communities, including their competitors, payers, regulators, and customers. These factors vary significantly depending on an individual hospital’s market position, mission, ability to estimate costs, and overall financial circumstances. These competing influences and hospitals’ efforts to address them often produce charges which may not relate systematically to costs. For instance, outside of supplies and pharmacy, hospitals did not seem to have a system for tracking or adjusting for falling costs of equipment and technology as they became more widely used. Thus, when charges are initially set high for a new technology, they may not be lowered later when the equipment or procedure is no longer as expensive, unless there are market pressures to do so.



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The fact that charges are often not closely tied to costs implies that the current Medicare payment systems may not be closely tied to resource utilization. The findings from this study suggest that in certain instances, relative charges may not accurately proxy relative costs. Therefore, the impact of using charges to set payment rates in Medicare should be investigated more closely.

## II. BACKGROUND AND PURPOSE

The purpose of this report is to present the findings from the qualitative interviews with hospital administration staff regarding their charge setting practices. We first provide the background and purpose for the study. Then, we present the study methodology. Finally, we present the major findings from the charge interviews.

Medicare's relative payment weights for diagnosis-related groups (DRGs) are calculated to reflect the intensity of resources, on average, that are required to treat each type of case.<sup>2</sup> The Centers for Medicare & Medicaid Services (CMS) recalibrate the DRG relative payment weights annually in an attempt to ensure that these weights reflect the current value of input resources. The current system uses charge-based weights. Medicare also sets payments for outpatient services prospectively by grouping procedure codes (CPTs) into ambulatory payment classification groups, or APCs.

Over the last several years, policymakers have become concerned that hospital charge structures may not be reflective of costs (or resource consumption) and that the Medicare Cost Reports may not be measuring Medicare-specific costs accurately. These problems may be leading to biases in both the relative weights and the calculation of overall and inpatient and outpatient hospital margins. For example, the Medicare Payment Advisory Commission, or MedPAC, cited "systematic differences in mark-ups across services that are built into the hospitals' charge structures" in its June 2003 report to Congress.<sup>3</sup> Those problems are also reflected in attempts to calculate service area margins (e.g., outpatient vs. inpatient).

Historically, hospitals have focused on gross charge levels because patients with indemnity insurance generated reimbursement based on those charges. With the advent of managed care in the early 1980s, payers began scrutinizing a greater number of individual hospital charges or items. Hospitals often found the basis for some of their charges difficult to justify. Concurrently, medical inflation was on the rise, resulting in hospitals sometimes increasing their charges across the board to maintain their margins. For years, these gross annual increases were applied to charge masters, which had not necessarily been developed in a systematic or standardized way, but instead formed over decades with varying degrees of attention and resource commitment.

Rather than focusing on altering their charge systems to be more rational, a number of hospitals focused on responding to increased market pressures by agreeing to flat per diem payment arrangements with only two or three service categories (e.g., medical/surgical, ICU, birthing), or other fixed payment arrangements. This, in combination with the advent of DRGs, resulted in most hospital services being paid under fixed payment arrangements so that hospital charge structures became less and less relevant to hospital operations and actual payments.

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<sup>2</sup> Centers for Medicare & Medicaid Services, "Federal Register" pp. 49985, August 1, 2002; Medicare Payment Advisory Commission. (2003). Accounting for variation in hospital financial performance under prospective payment. *Report to the Congress: Variation and Innovation in Medicare*. June 2003: 41-57.

<sup>3</sup> Medicare Payment Advisory Commission. (2003). Accounting for variation in hospital financial performance under prospective payment. *Report to the Congress: Variation and Innovation in Medicare*. June 2003: 56.

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Today, reimbursement for the majority of patients is no longer tied directly to hospital gross charges.<sup>4</sup> To the extent that hospital mark-ups for certain types of products or services are consistently out of line with mark-ups for other products and services, the Medicare payment levels based on relative charges will not accurately represent the relative costliness of the resources required across services.

The purpose of this study is to help policymakers better understand the processes hospitals use to set charges and the effect that allocations based on charges may be having on the measurement of costs. Specifically, the study will provide information that will enable MedPAC to: (1) understand hospital charge setting practices as they relate to high and low cost items, and/or different departments or service lines; and (2) assess the extent to which hospital charge setting practices exert bias both on the measurement of relative resources and on the calculation of hospital Medicare inpatient and outpatient margins.

### **III. STUDY METHODOLOGY**

Given the concerns referenced above, MedPAC engaged The Lewin Group to conduct a series of structured telephone interviews to better understand hospitals' charge setting practices. This report summarizes our findings.

#### **A. Recruitment Approaches**

The Lewin Group conducted a nationwide recruitment process. The process was developed in conjunction with MedPAC staff. To encourage participation, a letter introducing the study, signed by the Executive Director of MedPAC, was developed. In addition, The Lewin Group offered to sign non-disclosure agreements with those hospitals reticent to participate as an additional measure of confidentiality. Hospitals were assured that if they chose to participate, MedPAC would obtain only aggregate information, with limited anecdotal individual hospital and system information being blinded.

The initial contact list was developed by MedPAC and Lewin staff by merging the 2001 "Impact File" of 4,059 hospitals with a list supplied by MedPAC of the approximately 700 hospitals that used either HBOC-McKesson Information Solutions, Eclipsys Corporation, or Transition System, Inc. (TSI) cost accounting software. Following a discussion with MedPAC, The Lewin Group expanded the initial list of hospitals to obtain representation from a few hospitals with cost accounting systems in place that would not have been contacted based only on the list.

The approaches described below were used to recruit participants:

- telephoning current and former Lewin clients/colleagues;
- obtaining referrals from state hospital associations where Lewin had contacts;
- contacting systems for support and/or referrals to individual hospital Chief Financial Officers (CFOs);

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<sup>4</sup> Some indemnity patients continue to generate reimbursement in relation to charges (i.e. percentage discount off charges) throughout the country. The payment liability for uninsured consumers and out of contract payers frequently is based on gross charges, unless hospitals have charity care programs that provide discounts. Hospitals in Maryland are reimbursed by all payers based on their gross charges, and charges are established by regulation.

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- calling teaching hospitals with American Association of Medical College’s “informed consent”;
  - ‘cold calling’ hospitals listed as having purchased cost accounting systems; and,
  - ‘blast faxing’ target hospitals and then making follow-up calls.

We contacted over 500 hospitals and systems in the recruitment effort. Those contacted included hospitals from all regions, of various sizes, teaching status and affiliations. Appendix A contains the screener protocol.

Basic information collected on hospitals included: geographic location, teaching status, ownership status, bed and system size, as well as hospital payer mix.

## **B. Charge Interview Methodology**

Individuals who agreed to participate in a charge interview were asked to commit approximately 45 minutes to discuss their charge master update process. Less than a quarter asked to review the charge interview protocol in advance of the interview. More often than not, these respondents invited more than one individual from their hospital or system to participate in the charge interview.

### Charge Interview Protocol

A protocol for the charge interview was developed in conjunction with MedPAC staff (see Appendix B). During the charge interviews, four general topics were covered:

- General charge setting goals and processes at each facility, such as (1) which staff members are involved, (2) to what extent, and (3) with what purposes.
- Actual changes made to the charge master, such as (1) how decisions are made for existing and new service charges, (2) how mark-ups are determined, and (3) to what extent indirect costs figure into the charge setting process.
- Charge setting processes for cardiology and cardiac surgery services (to determine if charges for these areas were set any differently and, if so, how).
- Pharmaceutical charges (and how their development relates to costs of such services).

### Conduct of Charge Interviews

The Lewin Group initially contacted the administrative office of the hospital’s CFO to help identify the relevant individual(s) to interview by telephone. Many hospital CFOs also expressed interest in participating in the interview. All respondents were or had been personally involved in developing updates to their charge master.

While conducting the interviews, each researcher employed a worksheet to record hand-written notes. To further assist the project team in analyzing the findings, The Lewin Group created a customized relational database to capture the interview results. At the end of each charge

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practices interview, researchers entered their interview notes into the database, which included fields for specific subsections of the interview protocol. Once the data were entered, the project team culled the database to create a report that included all of the respondents' answers on each particular topic. This allowed the project team to organize the extensive amounts of information collected during the interviews, to identify relevant quotes, to support observations, and to conduct highly structured content analyses.

### **C. Study Challenges and Limitations**

This section of the report discusses the main challenges and limitations we encountered while conducting this study.

#### Recruitment

Recruitment was extremely difficult, in that most hospitals and systems contacted were not willing to participate in the study despite numerous assurances of confidentiality and the availability of a non-disclosure agreement. The first barrier was a reticence about participating in any study involving proprietary information, especially information that would be provided to Federal officials in any form. Others expressed a fear of potential retribution (a 'witch hunt') should the information provided not reflect favorably on their facilities. As one CFO expressed, "Whenever I participate in studies like this, bad things happen". Many hospitals and systems required discussion, review by senior management, and a completed non-disclosure agreement before they would participate.

#### Hospital Systems

Establishing system status for specific hospitals was sometimes difficult. We found many different affiliations and organizational structures associated with systems making it difficult to categorize system responses. Some hospitals were so loosely affiliated with a system that they represented themselves as an 'individual' hospital rather than as a 'system' hospital. Further complications arose with hospital systems that were organized into smaller group entities for pricing purposes. For example, three charge interviews conducted were with subsets of larger systems, representing only two or three within-system hospitals having common charge setting practices.

In other organizational structures, a system might have an integrated cost accounting system across all its facilities, but little integration or influence in terms of charge master policies. Other systems had a system-wide pricing policy, but no system-wide standards for cost accounting. We tracked interviews differently for system-affiliated hospitals that were not tied to a standard system charge policy. These interviews were considered 'individual' for purposes of reporting in this study.

### **D. Study Sample**

Our approach to recruitment produced a study sample reflecting a broad spectrum of organizational characteristics (See **Table 1** below). The sample includes 57 charge interviews representing 238 hospitals.

**Table 1. Characteristics of Hospitals Participating Compared to National Distribution**

	<b>Charge Interview (n=57)</b>	<b>Charge Interview Sample</b>	<b>National<sup>b/</sup></b>
<b>LOCATION</b>			
Large Urban	18	41%	40%
Other Urban	21	48%	30%
Rural	5	11%	30%
Not Applicable <sup>a/</sup>	13		
<b>TEACHING STATUS</b>			
Major Teaching	13	30%	6%
Other Teaching	11	26%	17%
Non-Teaching	19	44%	77%
Not Applicable <sup>a/</sup>	14		
<b>REGION</b>			
Northeast	15	27%	30%
Midwest	14	26%	28%
South	15	27%	23%
West	11	20%	19%
Not Applicable <sup>a/</sup>	2		
<b>OWNERSHIP STATUS</b>			
For-Profit	3	5%	15%
Non-Profit	50	86%	58%
Government	4	9%	27%

<sup>a/</sup> Counts include both hospitals and systems. We were unable to categorize some charge interviews since they were conducted at the hospital system level. Those systems with varying sized hospitals or with multiple characteristics were labeled as “not applicable”.

<sup>b/</sup> Medicare Payment Advisory Commission (2002). Report to the Congress: Medicare Payment Policy.

At least one-quarter of the time more than one person participated in the charge interview, usually a supervisor in the finance department such as the director of finance and/or the controller, and the individual identified as the charge master analyst or auditor. The majority of respondents had been involved in developing charge policies for over three years, with only three having been at their jobs for less than a year.

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The 19 systems participating in charge interviews represented charge setting practices for over 200 hospitals. Hospitals indicating that they were part of systems primarily represented smaller systems, with over half having between one and ten affiliated hospitals. The study sample also contains four large hospital systems with more than 25 facilities each. A number of the systems interviewed could not be categorized by location, region or teaching status since the hospitals they represented came with varying affiliations and from different regions and communities.

An additional 14 hospitals (beyond those in the 19 systems listed above) mentioned a system affiliation, but their systems did not have centralized charge practices. In sum, 38 of the 57 total interviews conducted represented individual hospitals' charge practices rather than those of any system.

With respect to the location of hospitals participating in the charge interviews, almost half of the hospitals were located in "other urban" areas. Two-fifths were located in large urban areas compared to just over one-tenth in rural surroundings.<sup>5</sup> Rural facilities were underrepresented.

Fewer than average for-profit and government hospitals chose to participate in the program. Many for-profit hospitals that were part of systems indicated it was against corporate policy to share proprietary information and/or participate in such studies. It is unclear why government facilities participation was lower than that of other groups.

The study sample (for those which we could categorize) includes a roughly even distribution of hospitals across the country. A little more than one-quarter of the hospitals, respectively, were located in the Northeast, Midwest, and South and one-fifth were in the West.

Payer mix varied within the sample. Most of the hospitals in the sample reported between 26 percent and 75 percent of their business with Medicare, averaging 45 percent. Hospitals reported less than 25 percent of their business with Medicaid, averaging 14 percent. Several of the hospitals interviewed, however, were sole community providers of primarily Medicare and Medicaid services.

Non-system participating hospitals varied in terms of teaching affiliation. Forty-four percent of the individual hospitals were non-teaching facilities. The remaining sample was divided among major teaching (30 percent) and other teaching (24 percent) facilities.

While our survey responses were highly consistent, our sample is biased toward major teaching facilities. These institutions are more likely to have the resources to more carefully examine their costs.

#### **IV. MAJOR FINDINGS FROM CHARGE INTERVIEWS**

The following section highlights the major findings from the charge interviews. When there are apparent differences among respondents, these are highlighted within the specific subsections of the report.

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<sup>5</sup> "Large urban" is defined as a metropolitan area with population more than one million.

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While half of the facilities in large urban areas volunteered that they use cost information in developing their charges when asked about the information they used, only one-quarter of the rural hospitals mentioned looking at costs. This pattern was similar but less striking for major teaching hospitals, two-thirds of which mentioned using cost data compared to one-half of non-teaching hospitals.

Several other apparent differences among reporting facilities are worth noting. Fewer hospitals in urban areas were part of hospital systems than those in rural areas. In addition, non-teaching facilities were also more likely to be in systems when compared to major teaching facilities.

## A. Challenges of the Charge Master

Hospitals manage extensive charge description masters (CDM), or charge masters, listing as many as 45,000 or more separate line items. These masters are designed to include the total chargeable items in any given hospital and have at least one charge and charge code associated with each item (see **Table 2**). Each charge code is then associated with a revenue code which links to revenue categories used in a hospital's accounting and billing systems.<sup>6</sup> Charge and revenue codes are not directly linked to a specific APC or DRG code, and the particular charges incurred within an APC or DRG may vary by patient.

Respondents expressed a general concern about the difficult nature of the charge description 'animal'. In addition, it was noted that the relationship between charges and costs is tenuous at best. Respondent comments are summarized below:

*"With over 45,000 items in the charge master, the vast majority of items have no relation to anything, and certainly not to cost."*

*"There is no rationality to the charge master and costs still do not have much relevance."*

*"Charges have less and less meaning each year. Policymakers need to realize the charge master does not mean as much as it used to – we are getting only 10 to 15 cents for each dollar we increase our charges. Focusing on managed care contracts is far more important to us than charge master adjustments."*

Given the difficulties with managing charge masters, hospitals sometimes resort to ensuring that their charges are at least higher than (or a certain multiple of) the prices paid by Medicare. In addition, many provide the majority of their services under fixed price contracts that have little, if any, relationship to the charge master. Hospital administrators seemed to be of different minds in terms of dealing with this challenge. Because the charge master is not often as relevant to hospitals in markets with extensive fixed payment arrangements, several administrators argued that time and resources should not be devoted to it. More often than not, however, administrators viewed improving the logic and accuracy of the charge master as a long-term administrative goal, especially when new charges are added and other problems are identified. Most facilities carefully examine new procedure(s) to ensure that whenever possible these new

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<sup>6</sup> Some respondents have different charges for the same code depending on the department in which the charge is incurred. Most indicated they are trying to eliminate this type of discrepancy as they work to make the charge master more systematic.



charges are both reasonable and consistent with costs and market prices as well as the amount insurers are paying for other similar services.

**Table 2. Illustration of Hospital Charge Master<sup>7</sup>**

<b>Code</b>	<b>Description</b>	<b>Price</b>
00002-0351-02	Darvocet-50 Tablet Ta 50-325	\$0.59
00002-0363-02	Darvocet-100 Tablet Ta 100-650	\$1.11
00002-0604-40	Seromycin (Cycloserine) Capsule Ca 250mg	\$3.54
00002-0803-33	Darvon Capsule Ca 65mg	\$0.71
00002-1052-02	Diethylstilbestrol Tablet Ta 1mg	\$0.10
00002-1054-02	Diethylstilbestrol Tablet Ta 5mg	\$0.26
00002-1094-02	Tapazole 5mg (Methimazole)	\$0.25
00002-1444-01	Vancocin Hcl (Vancomycin) Vial 500mg	\$7.80
00002-1450-01	Glucagon Vial 1mg	\$48.00
00002-1452-01	Velban 10mg Vial (Vinblastine Sulfate)	\$40.54

## **B. Charge Master Review Process**

In general, hospital charge practices originate in the hospital's finance department. Depending on the size and organizational structure of each facility, the CFO may or may not be involved in changes to the charge master outside of annual global increases. (The overall amount of the annual increase is generally reviewed at the highest levels within a hospital or system, to include the CFO, and sometimes the hospital CEO, COO and Board of Directors).

A "Charge Master Team" handles day-to-day changes to the charge master. This coordinated team is usually managed by a director of finance, a controller, or a charge master director, and supporting roles are performed by charge master analysts, nurse auditors, or other finance staff. In hospital systems, the duties of the Charge Master Team may either be housed at the corporate level where charge master changes occur, or be delegated to individual facilities (or groups of facilities) with only broad guidelines from the system on how to establish charges.

<sup>7</sup> This illustration of a hospital's charge master is taken from a hospital in California. Beginning July 1, 2004, each hospital in California is required to make one written or electronic copy of its charge description master (charge master) available at the hospital's location or on its Internet Web site.

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As outlined in the flowchart in **Figure 1**, requests for price changes are submitted to the Charge Master Team, either electronically or in print form. The submitting department (normally a clinical department director or manager) must indicate whether the change requested is an addition, deletion or revision, and indicate the reason for the change.

Change requests from departments come to the Charge Master Team for many different reasons. A department may want to decrease certain charges because they realize they are no longer in line with their competitors. Other changes may be requested because of incorrect coding or for some other reason payment is consistently denied for a particular charge. Certain changes are requested when supply cost increases have occurred. Others are made to address problems where multiple codes have been used which are too similar in nature. Many changes are made to address changes in regulations and to remain in compliance.

Typically, each request is reviewed by the finance department (and/or a committee), including those in the Charge Master Team, to ensure that it is reasonable and compliant with charge master policies. An open dialogue generally occurs between the requesting department and the Charge Master Team, where questions or concerns are identified and discussed.

We found that hospitals in large urban areas tended to involve more groups, such as the hospital's Board of Directors or charge master committees, in the charge setting process. With regard to the oversight provided by hospital systems, our interviews found that rural hospitals and non-teaching hospitals participating in a hospital system tended to have more autonomy in their charge practices than their counterparts in large urban areas and major teaching hospitals.

A sampling of hospital descriptions of their charge master review processes is provided below. While fewer than one in five hospitals interviewed had a charge master committee in place, a number mentioned that committees reviewed major changes:

*"A form can be completed by department managers or business office. This form goes to the charge master coordinator. The coordinator reviews the CPT codes and checks the accuracy of the cost (in terms of labor, nursing time, supplies and equipment). Then, it is reviewed by the director, the Compliance Office, and the CFO. If approved, the charge is added to the charge master. We do not have a charge master committee, because [this function] is part of other committees."*

*"We have a process and forms for each type of charge master change. The Director of Finance oversees the process. All major changes and non-compliance issues are reviewed by the Revenue Cycle Committee, which includes the CFO and COO. Less significant changes are made following discussions with individual department managers. We conduct two educational sessions a year for department managers to keep them abreast of charge master changes and trends in compliance, etc. Departments are expected to review their charges against the compliance reports at least twice a year. Patient Accounting produces a soft denial report every two weeks, which flags problem codes for different payers. We often have problems with major payers that will not bill according to Medicare codes, and must determine each time how we can ensure we are paid correctly with code discrepancies."*

Most hospitals mentioned working with some type of form which must be completed to initiate any change requests for charges. This form, along with appropriate explanations and, if required, cost data, would be reviewed by key players.

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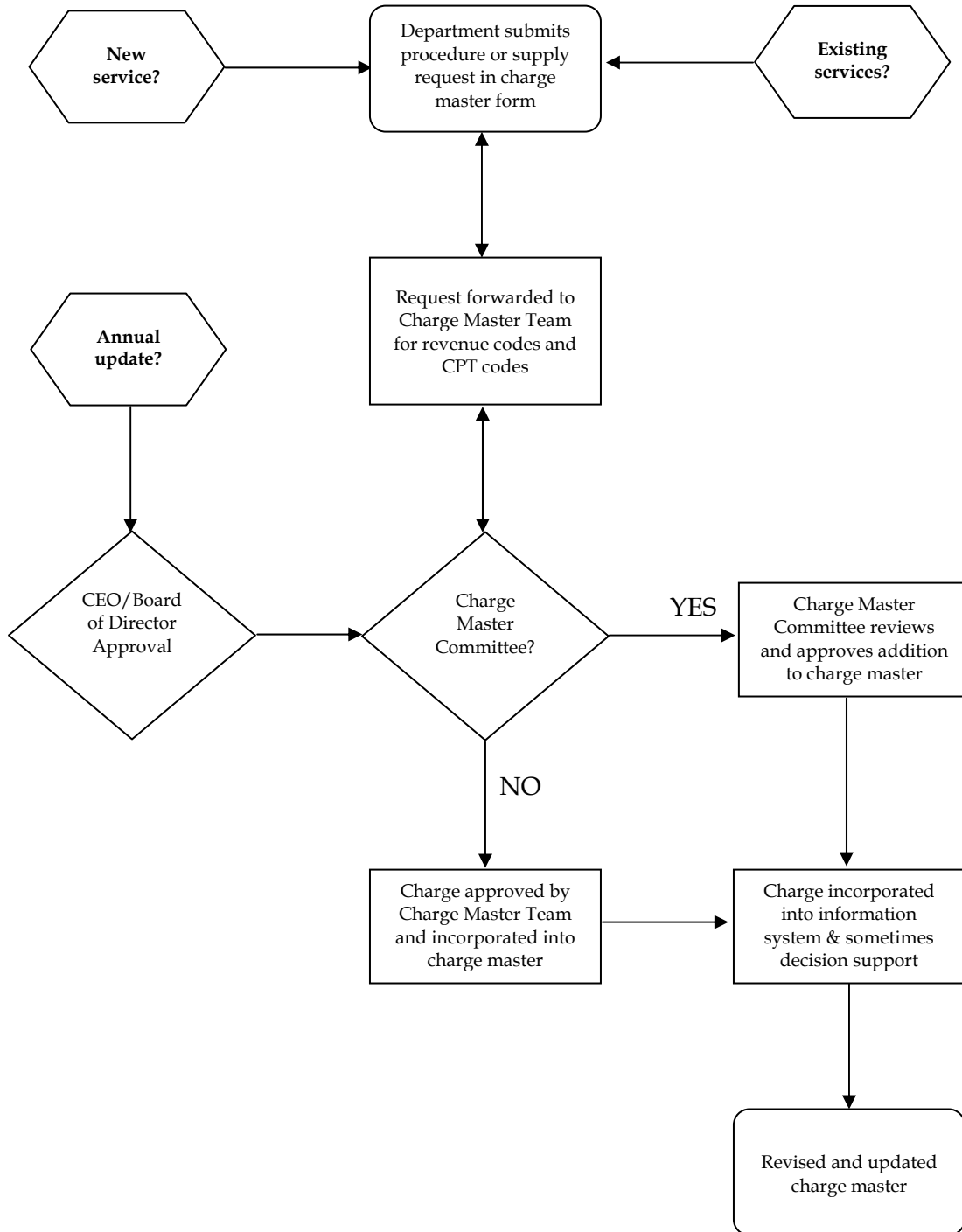
*“Our process for modifying and adding the charge master is driven by a form, starting at the department level. Each department is expected to have ownership of its charge master and drive the process. We make the form available on internet, the department completes it -- chooses to add, change, or inactivate a code, then sends it on to health records department -- [medical] records checks for charge description matches and correct HCPCS code, then the form goes to managed care, to check the contracts. If the change is not impacted by contracts, then it is reviewed by patient accounting, to apply revenue code and to check that all payer conventions are met. Then the form goes to accounting, and we calculate correct price based on a mark-up formula. Finally, the change is input [into the system]. We are working on streamlining this process to make it more efficient and take less time.”*

Oftentimes the annual aggregate changes in the charge master require a higher level of review than individual, mid-year changes. One in five respondents indicated these changes were reviewed by the board of directors.

*“The Finance Department solicits information from all departments to gain their input on detailed charge codes. Formal approval is provided by the Director of Finance and COO. For the annual updates data is presented to the CEO and COO at the macro level on the impact that pricing has for individual departments. If the Hospital Board approves the overall [undisclosed] percent rate increase, the CEO and COO will decide which departments will be above or below the average increase.”*

There are two key exceptions to the process described above and they are for supplies and pharmacy. Pharmacy charges are usually handled by an entirely different system, most often managed by the Pharmacy Director with little if any day-to day involvement from the Finance Department. Supply charges are most often determined based on a formula approved by Finance, either a standard mark-up across the board for all supplies or based on a sliding scale, where typically higher cost items get a lower mark-up.

**Figure 1: Charge Master Review Process**



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## C. Goals in Charge Setting

Each respondent was first asked to describe the goals of their charge master update process. A majority of respondents mentioned compliance with federal regulators as a primary goal. A number of other hospitals did not explicitly list compliance as a goal, but indicated that ‘it was simply a given’ when probed. In order to receive appropriate payment, hospitals must comply with CMS laws and regulations by following the appropriate coding and charging procedure(s). Inaccuracies in the charge master can lead to fines, penalties, and imprisonment. Representative comments include:

*“Another goal is to ‘stay out of prison’– the charge master is used as a basis for our ability to comply with billing and regulations.”*

*“Our number one goal is to stay in compliance. We have a multi-disciplinary group that monitors coding or charge changes.”*

*“The main goal is that we are compliant from a coding perspective.”*

For almost all respondents, charge practices are at least partly driven by financial pressures. Examples of respondent comments are presented below:

*“Our price updates focus on the areas that give us the ‘biggest bang for the buck’.”*

*“Our key goal with the charge master is to help the hospital meet its profitability and cash flow needs. We try to take advantage of those payers on a percent of charge arrangement, so we capture all the revenue codes.”*

*“Our first priority is making sure we can meet the bottom line.”*

*“We want a competitive charge structure – we are a small hospital and have a very small margin.”*

Hospitals in large urban areas and major teaching hospitals tended to place greater importance on the relationship between costs and charges and were concerned about their hospital’s ability to cover operating costs. This variation is likely due to the greater resources of these larger facilities, which often have cost accounting systems and specified procedures to track costs. About a third of all hospitals volunteered that covering hospital costs was a goal of their charge master system and process.

## D. Influencing Factors in Charge Setting

Respondents were then asked to score the importance of the following influencing factors on a scale of one to five, with five being “highly important,” and one being “not important”:

1. Overall cost inflation;
2. Changes in costs of specific services/procedures/devices;
3. Hospital mission;
4. Competitive forces;

5. Influence of specific payers;
6. Community perception;
7. Managed care contract terms;
8. Indirect cost allocation; and
9. Other factors

**Table 3** presents the average rating of the importance of each factor in the charge setting process. Most respondents maintained that all of the listed factors were important, and rated each factor as a “3” or above, outside of indirect cost allocation. Respondents ranked overall cost inflation as the most important influencing factor, with hospital mission, competitive forces, and the influence of specific payers ranked almost as highly. Responses concerning influencing factors are discussed below.

**Table 3. Average Rating for Factors Influencing Charge Master**

Charge Master Influencing Factor	Mean (n=57)
Overall Cost Inflation	3.89
Changes in Costs of Specific Services/Procedures/Devices	3.75
Hospital Mission	3.74
Competitive Forces	3.67
Influence of Specific Payers	3.65
Community Perception	3.44
Managed Care Contract Terms	3.31
Indirect Cost Allocation	2.43

### 1) Overall Cost Inflation

Overall cost inflation is a constant concern among respondents, as this factor is ranked the highest of all influencing factors. Sixty-three percent considered overall cost inflation as very important, assigning it either a “4” or “5”. Many mentioned concerns about malpractice issues, nursing shortages, and the costs of labor and new technologies as adding pressure to an already “low margin” business:

*“Cost increases have become more of a challenge with the nursing shortage and malpractice issues.”*

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*“Increasing costs are a bigger and bigger concern.”*

*“This drives my charges more than anything else.”*

## 2) Changes in Costs of Specific Services/Procedures/Devices

The influencing factor of costs for specific devices or items was often ranked as “highly important”, however respondents attributed the highest rating only to specific high cost items or procedures. Generally, these items or procedures represent a small portion of the overall charge master. Furthermore, many respondents asserted that, for the rest of the charge master, this influencing factor was not important at all. Price increases in pharmacy and advanced technology were also often mentioned as a concern, as reported in the following comments:

*“New technology influences pricing more now. A new piece of equipment that costs a lot of money requires the hospital to adjust prices to recover its costs.”*

*“Drugs and devices are so costly now.”*

*“The hospital is more sensitive to new technology, such as high cost implants, than we were before.”*

Facilities in large urban areas reported greater concerns about the changes in costs of specific items and procedures, and ensuring that those costs were covered in the charge master than their rural counterparts.

## 3) Hospital Mission

The hospital’s mission as an influencing factor in charge updates was, for the most part, considered a given. Many respondents emphasized that, in order to continue meeting their mission of providing high quality care, they needed to stay fiscally sound. Respondents mentioned the following:

*“Our ability to meet our mission and provide services is dependent on having some margin.”*

*“We want to make sure our charges are reasonable and we are making enough money to be able to continue providing quality care – that is our goal.”*

Others suggested that while mission does not play much of a role in pricing, the ability to cross-subsidize unprofitable but vital community services is key to one’s mission. This cross-subsidization is often only possible by choosing to price certain well-reimbursed services at a higher mark-up over costs (market permitting) than other services.

## 4) Competitive Forces

Competitive forces were continually mentioned in the context of charge setting, especially by non-teaching hospitals, which were more likely to report competitive forces as an influencing factor when establishing charges. These forces include pressures to set charges so that they are not too much more than other hospitals in the same market area, except for the charges for

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which there is little or no competition. Some respondents defined competitive forces more broadly than did the interview protocol to include competing free-standing outpatient facilities providing a wide variety of services, from rehabilitation therapies to laboratory, interventional radiology, and ambulatory surgery. The influence of competition seems to be “especially important on the outpatient side where patients are price shopping” and different types of competitors are emerging.

#### 5) Influence of Specific Payers

Many hospitals mentioned Medicare specifically as having a significant effect on establishing and reviewing charges. Large urban hospitals tended to be more sensitive to the influence of specific payers than rural and other urban hospitals. Some respondents noted the significant impact of the recent changes in Medicare’s outpatient reimbursement (the advent of APCs) on their outpatient services and pricing. One respondent went so far as to say, “With recent changes, Medicare outpatient reimbursement has become very important to us.”

#### 6) Community Perception

Hospitals reported becoming increasingly sensitive to community perceptions in recent years as they contend with negative press reports about hospital charges not being in line with costs and the resulting public pressure. In addition to facing these pressures, many hospitals have negotiated contract rates. This further lessens the importance of charges. The charge master is primarily relevant then for (1) individuals who are insured but pay a portion of the hospital bill directly; (2) those payers without a contract; (3) uninsured and/or self-paying patients; and, (4) those contracts based on discounted charges. A sampling of comments regarding the importance of community perception is provided below:

*“Community perception has become far more important over time. We work hard to stay at least comparable to other facilities.”*

*“We try real hard to show the community that we are not gouging them. The hard part of that argument is explaining that full costs include overhead, and covering all costs is necessary to provide hospital services.”*

*“We are very careful about the public’s perception related to hospital charges being so high.”*

The above notwithstanding, hospitals reported that community perception varies greatly depending on the amount of competition in the local health care community, the degree of information available to patients, and the type of service. Some facilities experiencing no competition for particular services reported pricing them at higher rates than those services patients could easily obtain elsewhere. Competitors are not only other hospitals, but also ambulatory surgery centers, radiology, and rehabilitation centers. Because patients are tending to pay greater portions of their hospital bill over time, there appears to be a growing focus on “shopping” for elective procedures based on price. For most Medicare beneficiaries, this concern about out-of-pocket expenses is generally limited to the outpatient services where they must pay a portion of the hospital’s charge. For example, a hospital in Florida reported that “the



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aging population has lots of time to shop hospital prices, and do research. This comes as their co-pays and out-of-pocket expenses are increasing and makes for more price competition.”

### 7) Managed Care Contract Terms

Nearly half of the sample ranked managed care contract terms as very important to their pricing policy. Typically, these respondents were in markets where managed care payers had the market power to demand complex contract terms. These terms often affect reimbursement differently across the charge master depending on both utilization and pricing terms. While some respondents still had a portion of their contract, most often outpatient services, paid at a percentage of charges, many had far more complex terms including specific outlier provisions and multiple flat payment arrangements. This increases the likelihood of varied approaches to charge increases across a given charge master depending on the amount and nature of contract reimbursement anticipated for each charge code.

*“Changes in managed care contract payment terms make adjustments to the charge master more difficult.”*

*“We may need to limit our charge master increases [in response to] a specific payer since that payer contract restricts increases in charges.”*

*“Managed care contracts are highly important, but we need to couple those with Medicare information. We don't want to cause outlier problems, and want to keep charges at the market median. We do not want to be the price leader or the lowest.”*

Respondents in some markets could afford to pay less attention to specific contract terms since their contract reimbursement was generally based on a percentage of charges. They could simply increase charges across the board (the entire charge master) by a set percentage to maintain or improve their margins, rather than conduct complex sensitivity analyses to determine the impact of specific charge master changes. Hospitals with far more complex contract terms recognized that aggregate increases to a charge master will not result in a corresponding increase in contract payments and had to be more attentive to contract terms in order to remain financially sound.<sup>8</sup>

### 8) Indirect Cost Allocation

Indirect cost allocation was ranked the lowest of all the factors listed. Many respondents explained that when examining their charge master, hospitals do not generally focus on indirect costs. They typically are looking at their budget, and trying to guarantee that the anticipated revenue will cover overall anticipated costs. This is evidenced by the following comments:

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<sup>8</sup> These hospitals are generally in more competitive markets and often pay outside consultants to analyze the impact of any potential aggregate changes to the charge master on actual reimbursement. These sensitivity analyses involve plugging in the contract terms for every payer, anticipated volume by payer, and extrapolating expected reimbursement before and after proposed charge increases. Increasing certain charges, such as room charges or basic nursing services, will not increase reimbursement for hospitals with many flat rate or per diem contracts. For some hospitals responding where inpatient contract rates were often fixed but outpatient rates were based on percentages of charges, they avoided inpatient charge increases and only increased outpatient charges which were not subject to fixed payment arrangements.

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*"[Indirect cost allocation] bears very little on how to approach rate increases."*

*"It is not important from a charge master perspective but in the cost accounting system, it is important."*

## 9) Other Factors

Respondents were asked if there were additional factors that were important in the charge setting process. Factors that were reported included: charity care, bad debt, uncompensated care, the impact of new technology, the new Medicare outpatient APC reimbursement, and financial "margin implications."

In summary, many hospitals and systems reported using both market and reimbursement information in setting their charges. Competitive forces and specific payers have a major influence on most hospitals' charge setting process. Respondents reported that the influencing factors that have most changed in recent years were: (1) the influence of specific payers; (2) managed care contracts; and, (3) general competitive forces. The most frequently mentioned changes in terms of increasing importance were those influencing factors related to reimbursement and payer contracting.

### **E. Charge Master Update Process**

Many different departments are involved in the charge master update process depending on the nature of the update. Global updates are often tied to the budgeting process to ensure that the facility can maintain its bottom line. The amount of a targeted aggregate increase is often set by the CFO/CEO in conjunction with the hospital's Board of Directors.

Individual hospitals may determine that some department charge codes need to be excluded or treated differently in the annual update process. Examples given by respondents included departments where the charges were already on the high end in their market and they wanted to remain competitive, or where they anticipated potential problems in terms of community perception (for example by increasing room rates or for items which can commonly be purchased at a drug store for significantly lower prices). Departments usually have appeal rights if they believe the proposed charges are inappropriate.

Respondents mentioned verifying that appropriate charges and codes are in place to stay in compliance with regulations. These updates occur on a regular basis and require less interdepartmental collaboration. Updates may also originate from the patient billing office after repeated denials or problems occur with certain codes (e.g., denials). Some Charge Master Teams provide their staff with regular in-service training surrounding compliance and coding, as updates are implemented.

The changes in existing charges are normally initiated by individual clinical departments, the finance department, or the patient billing office, which identifies problem codes through the billing and denial process. Clinical departments have varying knowledge and responsibility as related to charges. Although some hospitals reported using cost information if available and considered to be reliable, less than half of the hospitals mentioned using cost information in their charge setting process.

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New charges are often initiated at the department level in conjunction with new programs and services or advances in technology. Prior to setting these charges, most respondents reported that the Charge Master Team works closely with the individual departments to identify costs as best they can, often comparing cost accounting data to information submitted by individual departments. Respondents consistently reiterated the importance of working in close collaboration with individual departments for both review and feedback, especially related to the development of charges for new services.

A little more than one in five of the respondents indicated that a committee oversees the charge master update process. Committee work varies with different facilities, some focusing on broad pricing policies and aggregate increases, and others meeting as frequently as once a week to review changes in the charge master. Typical committee members include staff from the following departments:

- Comptroller;
- Revenue cycle<sup>9</sup>;
- Reimbursement;
- Medical records;
- Audit and compliance;
- Managed care;
- Decision support and information systems;
- Patient accounts and billing; and
- Other departments such as laboratory, radiology and pharmacy, on an ad hoc basis.

## **F. General Inflation Updates**

This section of the report reviews the (1) frequency of general inflation updates, (2) uniformity of the updates, (3) considerations when making updates, and (4) areas that experience the largest and smallest percentage increases. In addition, we summarize the types of information hospitals use in making inflation updates to their charges.

### Frequency of Updates

The vast majority of respondents reported that their hospital and/or system updates charges on an annual basis. A few hospitals mentioned updating their charges twice during the course of a year, for example, due to financial pressures. When respondents were asked about their hospital's average annual increase for the previous year, the percentage given by respondents ranged from zero percent to 18 percent, with an average of seven percent.<sup>10</sup>

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<sup>9</sup> Some hospitals have begun to put the key departments having to do with revenue cycle under one director or manager, who might oversee registration, admissions, billing and collections, medical records and coding. These areas are traditionally associated with hospital business office functions.

<sup>10</sup> Forty-eight of the respondents provided data on their average annual increase. Some were unwilling to share this information, and several systems indicated the average increase varied significantly depending on the system hospital in question.

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## Uniformity of Updates

Less than one-third of respondents reported making annual changes that were uniform across their entire charge master. Hospitals in large urban areas and major teaching hospitals more often reported making uniform increases in their charge masters than rural and non-teaching hospitals. While generally employing uniform increases, some hospitals cited that it was necessary to make slight variations in percentage increases due to competitive pressures or to sudden increases in costs for certain services. Hospitals, including those that generally apply uniform percentages, often give special consideration to areas sensitive to public scrutiny, such as room and board rates and charges for medicines which could otherwise be purchased over-the-counter.

## Considerations When Making Updates

Charge masters have evolved over the decades with the input of different people under different circumstances. The hospital's charge master may need adjustments in unique areas when specific issues come to the Charge Master Team's attention. While actual variations in across-the-board rate increases differed among respondents, the reasons for differential mark-ups were consistent: cost increases, market conditions, or the hospital's financial circumstances.

Charges for supplies are the best example of areas where increases are predictable for hospitals that are careful to monitor cost increases. Advances in technology have resulted and will continue to result in new supplies being added to the charge master, which have significantly higher acquisition costs (e.g., specialized catheters and orthopedic devices).

Changes in market conditions also result in focus being placed on specific charge items. For example, hospitals deciding to compete with reference labs keep their lab prices low, while several other hospitals mentioned this area as one that typically sees higher charge increases. A hospital facing the opening of a competing ambulatory surgery center may look more closely at its outpatient surgery charge structure and consider changes to remain competitive. Or, a specific department may bring information to the Charge Master Team about what its competitors are charging and indicate that if it does not do better in terms of pricing the department will lose patients. This type of market influence will often result in a hospital choosing to limit the rate of increase for certain charges, or in very limited instances, reducing charges for certain services.

Respondents also emphasized the impact of community perception on price increases. A number of respondents indicated their hospitals or systems no longer have any charges below a set dollar amount (e.g., \$2 or \$10), or simply do not charge for typical over-the-counter drugs (e.g., Tylenol). One hospital does not charge for blood, arguing that it is donated and the community should not have to pay for it.

Ultimately, each individual hospital and system makes decisions about charge increases and pricing to address the unique circumstances they face in a given market for the population they serve and the services they are able to offer to that community. When specific items or areas are brought to the Charge Master Team's attention, charge increases may be made separate and apart from any aggregate hospital charge increases. This variety of approaches to charge master

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adjustments and the basic and historically different flaws inherent in each charge master make it unlikely that charges provide an accurate surrogate for relative resource utilization.

### Examples of Highest and Lowest Percentage Increases

Respondents were also asked to provide examples of areas that experience the largest and smallest increases in charges. No consistent trends emerged, with the exception that the examples provided were driven by the hospital's circumstance and local market forces.

Over a third of respondents offering examples of areas where higher charge increases occurred listed outpatient services as falling into this category. This was generally explained to be because it was the main area where hospital contracts were not on a fixed payment arrangement, and charge increases would result in corresponding increases in revenue. Hospitals in large urban areas were twice as likely to report outpatient services as an example of an area that received the highest percentage increase in charges.

Room and board charges, on the other hand, were often mentioned as receiving limited or no increases. More rural and non-teaching hospitals reported making no or limited increases in room charges than did large urban and teaching hospitals. With pharmacy and supply charges, some respondents gave them as examples of areas where charges were increased proportionally more, while others specifically mentioned pharmacy and supplies as examples of where charges were increased proportionally less.

### Assistance or Information Used to Update Charges

Over 40 percent of hospitals or systems reported receiving outside assistance from consulting firms and/or special software companies. Half of rural hospitals reported using consultants while only a third of large urban facilities reported doing so. The pattern was similar for sensitivity analyses, with two-thirds of rural hospitals indicating they conducted these analyses, compared to one-third of hospitals in large urban areas. These consulting firms help hospitals identify where increases are likely to bring the most revenue without increasing uncompensated care or bad debt, while taking into account both utilization and payer contract arrangements.<sup>11</sup> They also offer software packages and online services to help facilities stay in compliance with coding changes and be alerted to charges that have become out of line with the hospital or system's own established parameters.<sup>12</sup> Some hospitals choose to perform a similar analysis internally.

When asked an open-ended question about the information they used in making decisions in setting charges, about half of respondents indicated that they use cost information. Slightly more than half reported that they used publicly available data, with hospitals in large urban areas being three times more likely to use these type of data compared to rural facilities.

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<sup>11</sup> The consulting firms that were mentioned by respondents varied in size. The firm and software most frequently used and referenced was OSI Systems. This software and company was recently renamed by the parent company MedAssets and is now known as MedAssets Net Revenue Systems. Other hospitals mentioned working with one of the large accounting firms' consulting practices for sensitivity analyses.

<sup>12</sup> The coding compliance software, service and on-line capacity most frequently mentioned and regularly used by respondents was Craneware. Craneware offers many different services in the area of charge master management.

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Publicly available data might include data hospitals are required to file in certain states about pricing, MedPAR data, and information a hospital might collect with the help of its own employees about other area hospitals' bills and charges and other materials produced by competitors. One state, for instance, identifies and publicizes the top 25 charges for each hospital doing business in that state. Another requires that all hospitals file any proposed price changes with the state at least 60 days before they are implemented.

Sixty percent of respondents said they used market information in the decision making process. This might include any information they could get on competitor pricing, the complexity of cases going to other facilities, reviewing bills for similar services, or any other intelligence that could be gathered as a Charge Master Team considers changes to charges for certain services. Close to 40 percent of all respondents indicated that they conduct sensitivity analyses to determine the potential effect contemplated increases might have on their reimbursement given current utilization. Our study results suggest that hospitals place more emphasis on using market information and responding to competitive forces than they do on using cost information.

## **G. Adjustments to Charges for Existing Services**

Respondents reported varied approaches to updating their charge master for specific existing services. Most respondents mentioned coding and compliance checks, but in terms of assessing the accuracy of existing charges, respondent attitudes differed. Four facilities and one system specifically reported conducting a detailed review of each department's charge master codes at least once annually, often on a revolving basis. Several others mentioned doing this every two or three years, usually with the help of outside consultants and while performing a sensitivity analysis. (These facilities represented in total less than fifteen percent of the sample.) Most facilities instead reported using the time of the annual review to give departments the opportunity to raise any concerns, suggest increases or decreases in charges, or additions and deletions to the charge master. The great majority of facilities did not review each and every charge in their master on a regular basis.

As with inflation increases, departmental concerns are typically brought to the Charge Master Team and/or the designated committee in order to be reviewed, discussed and addressed. The amount of time and resources dedicated to making improvements to existing charges by taking a comprehensive look at their charge masters varied greatly. The majority of respondents agreed that charges having the greatest impact on net revenue or public perception tend to receive the most attention.<sup>13</sup> The impact charges have on revenue varies by hospital and is dependent not only on their utilization of certain services and items, but also the contract reimbursement rates, such as which items are paid for on a percentage of charge basis.

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<sup>13</sup> The public perception of charges seems to be limited to those which a consumer can easily compare - either to a similar item they could purchase at a drug store, or to what they perceive the cost to be of receiving the service elsewhere. More attention to total bills is paid as patients need to pay higher portions of hospitals bills out-of-pocket. One respondent in Florida indicated that elderly "shop around" to determine how much certain surgeries, like hip replacements, might cost at different hospitals.

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## H. Developing Charges for New Procedures and Services

A vast majority of respondents indicated that their process for developing charges for new procedures and/or charge items is similar to that for existing services, with one notable exception. Most respondents reported examining costs much more closely for new services. Representative comments from cost-conscious hospitals are provided below:

*"With new procedures, cost is key."*

*"We actively use our decision support [cost accounting] system whenever we can for cost information. New charge codes are always based on cost information."*

*"Generally, costing out a new procedure requires examining equipment and labor time, and reviewing the Medicare and managed care rates to make sure that 'we are in the ballpark'."*

Generally, costs are determined with close cooperation between the Charge Master Team, individual clinical departments, and when available, decision support and cost accounting staff.

The development of new charges is generally more resource-intensive than the global updates or updates for existing services. Most hospitals reported similar processes for determining the charge for a new service. In cooperation with the Charge Master Team, the individual clinical department closely examines the time, labor, equipment and room costs associated with a particular service. These costs may then be compared to other similar services provided by the hospital. In addition, the Charge Master Team and the individual clinical department may analyze anticipated payments (from existing fee schedules and contracts) and may use available market or competitor information to develop a reasonable charge. One respondent summarized the process succinctly:

*"In developing the charge for angioplasty, our finance/decision support team sits down with the Cardiology Department and develops the cost of the procedure (e.g., length of stay, tests performed, drugs, implants, all ancillary services) to get a mock-up of the charge. We also estimate payer mix, look at the physician care involved in the procedure (e.g., examine old procedures) to develop the cost and then determine what charges are associated with it. Then, we add an appropriate mark-up and perform a return on investment analysis. Once approved, we sit down with the department and determine the CPT codes."*

Furthermore, some hospitals, especially in instances where an entirely new service is being established, expect the clinical department to develop a feasibility study before new charges are developed for that service.

## I. Mark-Ups

### General Approaches to Mark-Ups

Mark-ups, like the charge master, are changed over time and may vary by department, type of service or other unique issues facing an individual facility. Very few respondents reported using standard mark-up schedules outside of those for pharmacy and supplies. Central supply

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(materials management) and pharmacy departments generally have separate pricing policies that are based on distinct formulas or tables. Many respondents remarked that these two areas are those where charges are most commonly related to costs. Over half of the respondents assign higher mark-ups to lower cost items, through the use of supply mark-up tables. Even facilities that set a floor on mark-ups still vary them for both subjective and practical reasons. One hospital explained their mark-up strategy for various services:

*“Currently, we set our charges at a floor of two times Medicare unless there is a reason not to, for example, certain blood product charges for hemophiliacs. Implants are generally marked up at two times cost. In pharmacy, we generally charge three times the average wholesale price (AWP).”*

Different factors affect mark-ups including payer mix, utilization, and market forces. In addition, some respondents stated that sensitivity analyses are used to help determine the level of mark-up of specific services. While some hospitals reported charging different rates for laboratory for inpatient and outpatient services, other hospitals work toward standardization of charges across departments and across inpatient and outpatient services. Respondents indicated that when charge masters were not carefully reviewed, several departments charged a different amount for the same revenue code, which caused integrity problems they later had to correct. The following comment reflects the complexity involved for many facilities when making decisions regarding mark-ups:

*“We do have different mark-ups for routine versus ancillary services. Normally, routine services are more sensitive to the market because it is easier for patients to understand these hospital bills. Thus, the hospital tries to be in line with the market and our competitors. What drives net revenues is key. Generally, outpatient and diagnostics have larger [increases in charges] -12 percent - than room rates - 3 percent. But this also depends on budget. We assess how much net revenues need to go up. In addition, it is important to examine the type of contract (e.g., per case basis, fixed amount or percent of charges).”*

Only two of the respondents thought differential mark-ups flow through to individual DRGs. The majority of respondents indicated they did not look at DRGs at all when making mark-up decisions. Several others speculated which services were most impacted:

*“Our supply algorithm on an expensive implant, for example, has a mark-up of 150 percent, but on a less expensive supply, the mark-up is 300 percent. Thus, DRGs with high cost supplies may be under-costed.”*

*“We don't really look at DRGs and mark-up. However, surgical DRGs probably come out higher given higher mark-ups on supplies.”*

### Central Supply Tables and Formulas

Over half the respondents reported using a supply mark-up table, and all but one indicated that the formula marks up higher cost items less than lower cost items. The tables function on a graduated scale, with between four and nine categories or dollar levels for costs. Those with more dollar categories work with more detailed cost ranges. For instance, the first category



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might be for items costing less than two dollars and an eighth or ninth category might be for items costing \$5000 or more. A single mark-up percent is assigned to each dollar category. The cost of the item in question is simply multiplied by the mark-up percentage to determine the actual charge.

Many respondents remarked that these formulas generally result in charges for supplies being more closely related to costs than other types of charges. Only a few items are occasionally excluded from such tables by some facilities due to contractual and other arrangements. These items are often implants, which can be exceptionally expensive, or other items that have frequently changing costs.

## **J. Cardiology and Cardiac Surgery Services**

The vast majority of respondents indicated they treat cardiology services the same way they do any others in setting charges. Higher cost procedures get a lower mark-up, but often more attention is paid to specific items in cardiology (and orthopedics) since they involve higher dollar values. Several respondents indicated that cardiac surgery is considered as “major surgery” at their facility, as are other complicated implant procedures and services, such as neurosurgery. These “major surgeries” are then charged at a higher rate per unit of time. This charge structure is not unique to cardiac services.

Most respondents reported having an interventional cardiac suite and /or catheter lab. They noted that charges are determined in the operating room based on the time required for the surgery, whereas charges in the catheter lab are based upon the procedure. Other differences in charges would be due to any unique catheters and other devices used in one suite, but not the other.

A few respondents specified some special considerations given to cardiology and cardiac services in terms of pricing. These facilities had designated cardiac surgery rooms with higher charges. They explained that charges are higher for these suites to reflect the increased labor and equipment costs associated with complex heart surgeries, such as open heart and transplant.

## **K. Pharmaceuticals and Pharmacy Tables**

Most respondents reported that pharmacy charges were handled in a different and separate way than any other charges. In fact, the Charge Master Team often has little involvement in pharmacy pricing. Pharmacy directors often have full responsibility for setting pharmacy charges and operate their own charge master with an entirely separate system tailored specifically to meet pharmacy department needs. Most respondents could only speak in very general terms about their hospitals’ pharmacy charge policies. Pharmacy tables and formulas are common, used by nearly three-quarters of the responding hospitals and systems.

In general, overhead and acquisition costs are worked into the formulas in the form of a standard mark-up over acquisition costs, without any other uniform charges being added. The more sophisticated pharmacy formulas not only take into account the cost of individual drugs, but also will vary the mark-up by the type of drug or biologic, and the route of administration

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and preparation time. Only one respondent reported excluding any biologic or drug from its established formula.

Hospitals not using formulas typically set prices based on the average wholesale price (AWP) with a standard mark-up. Several of the hospitals using this method expressed their dissatisfaction with the AWP reference guide and felt that it did not reflect their costs. Most respondents noted that they intended to shift away from AWP and move to an internal formula in determining pharmacy charges.

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## APPENDIX A - SCREENER PROTOCOL

### MedPAC Analysis of Medicare Hospital Costs and Charging Practices

Good \_\_\_\_\_ (morning/afternoon/evening), my name is \_\_\_\_\_ and I am calling on behalf of the Medicare Payment Advisory Commission, or MedPAC, which advises Congress on Medicare payment policy and other issues. As our letter dated January 30, 2004 indicates, MedPAC has engaged The Lewin Group to study the relative costs of different services, and how hospitals set their charges. Your participation is very important to policymakers' understanding the accuracy of Medicare's payments.

The Lewin Group is compiling data collected from hospitals' cost accounting systems and conducting a series of telephone interviews. To protect the confidentiality of sensitive, hospital-specific data, we will not provide MedPAC with individual hospital data; participating hospitals will not even be identified. The Lewin Group will only provide MedPAC with measures of relative costs by DRG, CPT, and type of service, as well as interview responses, aggregated across hospitals.

#### Q1. May I ask you several preliminary questions?

[IF YES:] GO TO QUESTION 2.

[IF NO:] "THANK YOU FOR YOUR TIME. GOOD-BYE."

#### Q2. How does your hospital develop its cost estimates for specific services?

- By building up specific direct cost estimates and applying indirect cost ratios?
- As a percentage of charges?
- Some combination of these approaches? If combination, which process predominates?

[IF BUILD-UP OR BOTTOM-UP:] GO TO QUESTION 3.

[IF CHARGE-BASED:] "THANK YOU FOR YOUR TIME. GOOD-BYE."

[RECORD VERBATIM]

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#### Q3. Which cost accounting system does your hospital use?

[DATABASE SHOWS \_\_\_\_\_]

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{PROBE:} McKesson (includes HBOC)? Eclipsys (includes TSI)? Other?

[IF MCKESSON OR ECLIPSYS:] GO TO QUESTION 4.

[IF OTHER:] "THANK YOU FOR YOUR TIME. GOOD-BYE."

[RECORD VERBATIM]

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**Q4. How does your hospital use cost accounting data?**

[PROBE] For management decisions? Payer contracting? Anything else?

[IF USED] GO TO QUESTION 5.

[IF "NOT USED"] "THANK YOU FOR YOUR TIME. GOOD-BYE."

[RECORD VERBATIM]

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**Q5. Do you use flexible budgeting?**

[RECORD VERBATIM]

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**Q6. Do you create data by product line?**

[RECORD VERBATIM]

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**Q7. We're hoping you'll consider participating in the survey. I'd like to send you additional information about the study today, as well as the survey instrument. I have your address as \_\_\_\_\_ and your email address as \_\_\_\_\_. Are these correct?**

[IF YES:] GO TO CLOSE

[IF NO:] CORRECT INFORMATION AND THEN GO TO CLOSE.

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**CLOSE. Thank you for taking the time with me today. I'll send you a more detailed project description and the survey. Included will be my contact information so please call or email me if you have any questions.**

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**Appendix B - Charge Interview Protocol**

**MedPAC Analysis of Hospital Charging Practices**

**Q.1 [FOR NEW HOSPITALS] Good \_\_\_\_\_ (morning/afternoon/evening), my name is \_\_\_\_\_ and I am calling on behalf of the Medicare Payment Advisory Commission, or MedPAC, which advises Congress on Medicare payment policy and other issues. MedPAC has engaged The Lewin Group to study how hospitals set and update charges. The goal of this telephone survey is to better understand how hospitals accomplish this. First I would like to thank you for participating in this study of hospital charges. Your participation in the telephone survey is very important to policymakers' understanding the accuracy of Medicare's payments. Your answers will be treated as confidential and your hospital will not be identified to MedPAC or anyone else. Are you available now, or would you prefer that I call at another time? [SCHEDULE TIME FOR CALLBACK]**

OR

**Q.1 [FOR SURVEYED HOSPITALS] Good \_\_\_\_\_ (morning/afternoon/evening), my name is \_\_\_\_\_ and I am calling on behalf of the Medicare Payment Advisory Commission, or MedPAC, which advises Congress on Medicare payment policy and other issues. First I would like to thank you for participating in this study of hospital charges. Your participation in the telephone survey is very important to policymakers understanding the accuracy of Medicare's payments. Your answers will be treated as confidential and your hospital will not be identified to MedPAC or anyone else. Are you available now, or would you prefer that I call at another time? [SCHEDULE TIME FOR CALLBACK]**

**Are you personally involved in the hospital's charge setting activities?**

[IF YES:] SKIP TO QUESTION 2.

[IF NO:] **Who should we talk with?** [OBTAIN NAME OF INDIVIDUAL AND PHONE NUMBER IF POSSIBLE AND END INTERVIEW]

q1 Yes [SKIP TO QUESTION 2]

q2 No

---

**Q.2 Is the hospital part of a larger health care system?**

[IF YES:] GO TO QUESTION 3

[IF NO:] GO TO QUESTION 5

q1 Yes [GO TO QUESTION 3]

q2 No [GO TO QUESTION 5]

**Q.3 Does your hospital have discretion in setting or updating its charge structure or are these activities conducted at the system level?**

[IF YES:] GO TO QUESTION 5

[IF NO, AT SYSTEM LEVEL:] GO TO QUESTION 4

q1 Yes [GO TO QUESTION 5]

q2 No [GO TO QUESTION 4]

**Q.4 Are you familiar with the details of the system's policies concerning charge setting or updating?**

[IF YES:] GO TO QUESTION 5

[IF NO:] END INTERVIEW

q1 Yes [GO TO QUESTION 5]

q2 No ("Thank you for your time. This is all the information I need today.")

**Q.5 How long have you been involved with the hospital's charge setting activities?**

[RECORD VERBATIM]

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**Q.6 Are you working with charge setting approaches that were developed by your predecessors or are they ones you developed (or modified)?**

[RECORD VERBATIM]

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We would like to understand the processes and information used to make three different kinds of changes to the charge master: (1) inflation updates, (2) reviews and changes to charges for existing codes, and (3) establishing charges for new services. We will ask a series of questions about each type of change. First, however, we would like to ask a couple of general questions about the chargemaster.

**Q.7 Would you mind telling us, briefly, about the goals of your charge master update processes?**

[RECORD VERBATIM]

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**Q.8 Please score the influence that each of the following factors (benchmarks) has on setting or updating charges, where 1 is "not important" and 5 is "highly important."**

[READ LIST AND RECORD SCORE]

	1	2	3	4	5
Q.8a Community perception					
Q.8b Hospital mission					
Q.8c Overall cost inflation					
Q.8d Changes in costs of specific services/procedures/devices					
Q.8e Indirect cost allocation					
Q.8f Competitive forces (e.g., benchmarked to other facilities in your area)					
Q.8g Influence of specific payers					
Q.8h Managed care contract terms					
Q.8i Other (Please describe)					



---

**Q. 9 Has the importance of any of these factors changed in recent years?**

[RECORD VERBATIM]

---

**Q.10 What is the formal review and approval process for charge master changes?**

[RECORD VERBATIM]

---

**Q.11 Which departments are involved in the process?**

[RECORD VERBATIM]

---

## **INFLATION**

**Q.12 The next series of questions is about general inflation updates. How often do you update the charge master? Have updates been more frequent in recent years?**

[RECORD VERBATIM]

---

**Q.13 Are these updates typically uniform across the charge master or do the updates vary by department, type of service, or specific item?**

[IF UNIFORM:] GO TO QUESTION 14, THEN SKIP TO QUESTION 18

[IF BY PROGRAM OR PROCEDURE:] GO TO QUESTION 14

---

**Q.14 Do you mind telling us the overall average rate of increase in your charges for your last update?**

[RECORD VERBATIM]

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**Q.15 Please give us examples of the department, type of service, or specific items that received the highest percentage increases.**

[RECORD VERBATIM]

---

**Q.16 Please give us examples of the department, type of service, or specific item that received the lowest percentage increases.**

[RECORD VERBATIM]

---

**Q.17 What accounts for the variation in charge increases by service/procedure type?**

[PROBE:] **Can you tell us how “different” charge increases are determined?**

[RECORD VERBATIM]

---

**EXISTING SERVICES**

**Q.18 Now, I would like to ask you to walk me through how you review charges for existing services. How often do you review charges for specific, existing services? For what kinds of reasons?**

[RECORD VERBATIM]

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**Q.19 Who is involved in the process?**

[RECORD VERBATIM]

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---

**Q.20 What information is used to revise charges?**

[RECORD VERBATIM]

---

#### **NEW SERVICES**

**Q.21 Is the same process used to establish charges for new departments, types of service, or specific items, such as a drug eluting stents or new outpatient surgery procedures? If not, please elaborate?**

q1 Yes

q2 No

[RECORD VERBATIM]

---

#### **MARK-UPS**

**Q.22 If we looked at the mark-up of charges over cost for new and existing departments, types of service, or specific items, would we find significant differences by:**

- **routine vs. ancillary**
- **high vs. low cost**
- **department**
- **operating room**

[RECORD VERBATIM]

[IF SIGNIFICANT DIFFERENCES:] GO TO QUESTION 23

[IF NOT SIGNIFICANT DIFFERENCES:] GO TO QUESTION 27

---

**Q.23** What is the basis for differential mark-ups?

- routine vs. ancillary
- high vs. low cost
- department
- operating room

[RECORD VERBATIM]

---

**Q.24** Which particular departments, types of service, or specific items have larger mark-ups? Why?

[RECORD VERBATIM]

---

**Q.25** Which particular departments, types of service, or specific items have smaller mark-ups? Why?

[RECORD VERBATIM]

---

**Q.26** (OPTIONAL QUESTION) Do you think these differentials flow through to particular types of DRGs? If so, which types?

[PROBE:] Please give examples.

[RECORD VERBATIM]

---

**Q.27** One reason for differentials in mark-up might be that some departments, types of service, or specific items are allocated more indirect costs than others. Do you think that happens in your hospital? If so, do you think differences in indirect cost allocations contribute to differential mark-ups? If so, please give examples.

---

[PROBE:] To what extent does this affect mark-up differentials across departments, types of service, or specific items or, ultimately, types of DRGs? Please give examples.

[RECORD VERBATIM]

---

## CARDIOLOGY SERVICES

**Q.28** Now I would like to explore the charge setting process for cardiology services. Are charges for all cardiology services determined using a standard mark-up?

[RECORD VERBATIM]

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During a hospital stay or outpatient visit, a cardiac patient can receive and generate charges for multiple services, including procedures, ancillaries, drugs, devices, and supplies. Some of these services are unique to cardiac patients (e.g., cardiac catheterization and perfusionist services) while others draw from other departments (e.g., imaging services, drugs, medical devices).

**Q.29** To what extent do services unique to cardiac patients have a differential mark-up than services from other departments?

[RECORD VERBATIM]

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**Q.30a** If you have a cardiology operating room, is its time charge differentially marked-up compared to other operating rooms?

[RECORD VERBATIM]

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**Q.30b** Do you have a cath/procedure suite for interventional cardiology? (Y/N)

If so, how do you develop charges for services provided in that suite? Do charges differ from those for cardiology procedures performed in the OR? How?

---

[RECORD VERBATIM] \_\_\_\_\_

**Q.31 Are the charges for services in other departments that are used primarily for cardiac patients set differently than the charges for other items in those departments?**

[RECORD VERBATIM]

\_\_\_\_\_

**Q.32 What is the role of the manager of cardiac services in establishing charges for services and items coming from other departments (e.g., drugs or cardiac devices)?**

[RECORD VERBATIM]

\_\_\_\_\_

**Q.33 Do charges for high cost cardiology procedures/items reflect a lower mark-up than for lower cost procedures/items?**

q1 Yes

q2 No

**Q.34 Are there any other special issues related to setting charges for cardiology services?**

[RECORD VERBATIM]

\_\_\_\_\_

## PHARMACEUTICALS

**Q.35 Now, I would like to ask about charges for pharmaceuticals, including both drugs and biological products. Do you use a table or formula to determine pharmacy charges?**

q1 Yes

q2 No

[IF YES, ASK THE FOLLOWING]

---

**What factors do you consider in building each charge in your table/formula?**

[RECORD VERBATIM] \_\_\_\_\_

**What portion of drugs/biologics, if any, are excluded from your pharmacy table/formula? Why?**

\_\_\_\_\_ %

\_\_\_\_\_ *other* \_\_\_\_\_

[RECORD ANSWER TO WHY VERBATIM] \_\_\_\_\_

\_\_\_\_\_

**Do mark-ups vary with drug acquisition costs? By class of drug? With overhead costs?**

[RECORD VERBATIM]

\_\_\_\_\_

**Q.36 How do you factor pharmacy department overhead into charges for specific drugs? Is there a separate charge? Do you add a uniform charge to each drug?**

[RECORD VERBATIM]

\_\_\_\_\_

**Q.37 Do overhead allocations vary with drug acquisition costs?**

[RECORD VERBATIM]

\_\_\_\_\_

---

**Q.38 Do overhead allocations vary by class of drug?**

[RECORD VERBATIM]

---

**Q.39 Are there special issues related to setting charges for pharmaceuticals?**

[RECORD VERBATIM]

---

**Q.40 Thank you for taking the time to speak with us. Do you have any questions for us about the study?**

[RECORD VERBATIM]

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