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Charge Masters and the Effects on Hospitals

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CHARGE DESCRIPTION MASTER'S FINANCIAL AND QUALITATIVE IMPACT ON HEALTHCARE FACILITIES

ABSTRACT

In the United States (U.S.), states negotiate individually with payers and providers on hospital costs. In U.S. healthcare overall, prices were referred to as being opaque and leaving not only providers but patients seeking care unknowing to the prices they were paying. The hospital's charge description master (CDM) has been the heart of the healthcare revenue cycle, as it has served as the hospitals' starting point for billing patients and payers. The methodology for this study utilized a literature review. It consisted of academic sources, electronic databases, academic journals, and government websites. Forty sources were referenced for this literature review. The literature review illustrated examples of CDMs in hospitals and how the correct coding of a visit or procedure can mean the difference in payment for a patient. It was found that the transparency of a CDM is a definite asset to the patient and facility as well. Participation with CDM throughout hospitals showed an increase in billing consistency with hospital facilities. This literature review suggested that CDMs increased transparency for prices and created a positive increase in quality of care.

Key Words: CDM, Effectiveness, ICD-10-CM, Implementation, Price, Transparency

Word Count: 181

INTRODUCTION

Charge Description Masters (CDM) was created as a list of billable items in a hospital for the hospital, patient, or the patient's health insurance provider. The CDM was made as an extensive breakdown of the cost of the care provided and in order for a hospital to correctly bill a patient for care received as every chargeable item in the hospital must be included in the master [1]. According to LaPointe [2], the hospital chargemaster has been the heart of the healthcare revenue cycle, as it served the hospitals' starting point for billing patients and payers. The chargemaster provided "gross charges" for each service, and then payers negotiated discounts with individual providers which resulted in net charges [3]. Charge Masters have been labeled as "hospital-specific," meaning that each hospital had its own chargemaster, which made patients unable to decipher hospital bills [4]. If a CDM was improperly set up or not maintained correctly, it could cost an organization up to millions of dollars, either in loss of revenue or compliance penalties [5]. An absent code or error code has led to missed reimbursement, incorrect bills, and compliance risks [6].

The purpose of the International Classification of Diseases, Tenth Revision (ICD-10) was to allow for more detailed documentation on the treatment provided to patients but had a significant effect on the healthcare industry, beginning with the quality of care and cost-effectiveness for providers [7]. Billing consistency began with the use of Electronic Health Records (EHRs); properly-being utilized alongside the ICD-10, which allowed the provider to save time not having to enter every service provided to the patient and focus on needs that still need to be met [8]. It was costly to implement ICD-10; however, the more detailed clinical conditions and services delivered allowed policymakers and providers to overall enhance the final quality of care provided [9].

The CDM was connected to the Electronic Health Record (EHR) in where it supported fundamental changes in payer requirements [10]. The CDM left a financial impact on pharmacy departments as well when it came time to implement [11]. Hospitals do not typically have the full list price in the CDM, but the uninsured and out-of-network patients are most generally charged the full amount [12]. Hospital pricing and quality of care gained increased attention due to the patients' increased out of pocket exposure and the lack of transparency [13].

In countries such as Switzerland and Germany that rely on multiple competing health insurers, prices for healthcare products and services were set by the government or negotiated on a regional basis with accountable organizations; whereas, in the U.S., states negotiated individually with payers and providers [14]. In U.S. healthcare overall, prices were referred to as being opaque and leaving not only providers but patients seeking care unknowing to the prices they were paying [15]. When a hospital was forced to shut down, no matter their location, the patient welfare for the area decreased, but studies found that following closure, the cost of competing hospitals was more likely to decrease [16]. Rural hospitals tended to receive more political attention due to the simple fact that people related those areas to lack of availability of healthcare and choice of providers [17]. Breaking down the cost information by geographic location, large urban areas were more likely to consider the cost information than the hospital that was a rural counterpart [18]. According to the CDC, if a hospital was covered by the Health Insurance Portability and Accountability Act (HIPPA), then it was mandatory for them to transition to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) code sets [19].

With no standard practice or guidelines in place for the update of costs, some hospitals raised their price by the same percentage once a year [20]. Pricing, price transparency, and quality of care have been relevant to consumers and have continued to be because to be able to set the groundwork for payment that represented preventative care; quality must be included into the price equation [21].

In 2006, the American Health Association (AHA) Board of Trustees approved a policy regarding hospital pricing transparency, and also included data across the board of standards. The policy called for information to be presented where it would be easy to access, understand and use; why and how the price of patient care could vary, and inform and direct patients about financial assistance with their hospital care [22].

The purpose of this research was to review the implementation process and the lasting effect the CDM has had on a hospital to determine the price increase and the quality of care.

METHODOLOGY

The hypothesis for this research was that charge masters in hospitals would bill higher prices, even with listed CDM prices due to the inability of patients to understand the CDM. The methodology for this research analysis was a qualitative study with mixed methodologies including a literature review following a systematic approach, academic sources, and a semi-structured interview with an employee in the billing department at Cabell Huntington Hospital, Huntington, West Virginia. The interview was conducted on March 29, 2019; furthermore, a semi-structured interview with the employee of the billing department supplemented the information to the data collected. The employee of

the department was referred to as Expert throughout the research study. The interview was face to face, and IRB approval was obtained before execution.

The literature categorization was conducted in three individual stages involving: (1) developing a search strategy and gathering data for the case study; (2) determining and analyzing the relevant literature; (3) delegating literature to appropriate categories (see Figure 1)

The concentration for this research study followed the steps of a systematic approach. The conceptual framework of this research explained the use of CDM in hospitals in an abundance of studies of different quality. The research method, illustrated by Figure 2, is an adaption of the framework by Yao et al. [23] showing the benefits and barriers to use of CDM with hospitals. The use of this framework was appropriate because it portrayed the importance of CDM in a hospital setting. Similar to any project development, this billing process has been circular as it began with the identification and definition of the problems and included developing solutions to possible questions. In this case, the solution has been implementing CDM in the hospital is more comfortable when the information is more accessible and transparent. Through process assessment, the use of CDM in the hospital setting was researched, and the payments rise once it is implemented. Once hospitals have adopted the applications of a more accessible CDM, barriers and benefits can be addressed (see Figure 2).

Step 1: Literature Identification and Collection

The electronic databases used include ScienceDirect, Taylor Francis Online, PubMed, Medline, and Google Scholar. When conducting this research, critical terms included were: "CDM" AND "Price" OR "Transparency" OR "Effectiveness" OR

"Charges" AND "ICD-10-CM" OR "Billing" OR "Hospitals" OR "Implementation" OR "Cost" AND "Prices" OR "Quality." Journals cited included but were not limited to: JAMIA, The Journal of the Medical Library Association, Journal of American Health Information Management Association, AMA Journal of Ethics, and other reliable medical and government websites. The search identified 169 relevant citations and articles were excluded (N= 129) if they did not meet inclusion principles. Articles were included (N=40) if they described the effect of CDM pricing within hospitals and were subject to full-text review, and 26 citations were included in the introduction, methods and discussion while 14 references were used in the results section (see Figure 3).

Step 2: Literature Analysis

The ChargeMaster in a hospital facility has become essential to know because of its impact on the hospital's quality of care and how patients are billed for services. Therefore, the literature analyzed focused on the following key areas: Hospital chargemasters, inpatients and outpatients, billing, providers, charges, ICD-10, and chargemaster codes. In an attempt to collect the most recent data, only sources from 2005-2019 that were written in English were used. Primary and secondary data from articles, literature reviews, research studies, and reports written in the U.S. were included in this research.

W.L., K.L. conducted the literature search and validated by A.C., who acted as the second reader and also doubled checked if references met the research study inclusion criteria.

Step 3: Literature Categorization

The following subheadings were included in the research: *Overall Price Effect from CDMs, Billing Consistency of Hospitals, and Price Transparency with CDM in Hospitals.*

RESULTS

Overall Price Effect from Charge Description Masters on Hospitals and Patients:

Hospitals charge description master (CDMs) has been something that required updating quarterly and annually at the minimum, which has meant the price effect was regularly changing [24].

A study conducted in California in 2008 found that patients were paying more than Medicare or Medicaid patients; 20% more in 2004-2005 [25]. Because hospitals were diverse in their mix of payers, the portions of total services that were reimbursed according to fixed prices versus charge-based amounts have widely varied and have placed pressure on hospitals as to how much they increased their prices [26]. In 2004, if hospitals actually collected the amount of their charge-to-cost ratio the profit margin per hospital would have exceeded more than 200%; however, according to AHA data the U.S. had a 5.2% profit margin that year [27].

The charge-to-cost ratio was calculated by using a hospital's total gross charges and dividing them by its total Medicare-allowable cost (the ratio can vary based on inpatient and outpatient) and allowed a breakdown of the CDM markup [28]. The balance of market power between hospitals and health care insurers have also influenced the increase of rates found in CDMs, which significantly have affected the private prices [29].

One hospital reported in 2007, an estimated $50 million net revenue change in one year because of lost charges due to a reimbursement change; while another hospital discovered duplicative and inappropriate charges and refunded $500,000 to CMS [30].

Ledlow, Stephens, and Fowler [31] noted that in 10 different hospitals around the Midwestern and southeastern United States, a hospitals supply charge could determine if the hospital would be able to break even. With the chance to not break even, a charge code would be essential to these facilities, which could result in false coding.

Billing Consistency of Hospitals with Charge Description Masters:

The CDMs has allowed healthcare providers to replace paper documentation and charge sheets with technology, giving revenue cycle elements to pass directly from clinical to patient billing [32]. With the implementation of ICD-10-CM on October 1, 2015, providers billing was able to become more precise with what they were billing for meaning there was less room for error [33].

It was critical that a hospital or provider has a team in place that could operate ICD-10 and knew how to make the CDM, EHR, and ICD-10 coexist, one of the highest expenses of the implementation was the installation and upkeep [34]. Many physicians cited the high startup fee as their reason for not implementing a CDM, even though once implemented could have kept the physicians practice from submitting incorrect billing statements or not receiving the potential full payment amount [35]. The Expert from Cabell Huntington Hospital's Billing Department stated that the hospital employed a full-time employee to work with the departments within the hospital to review and manage the chargemaster. It was considered an integral component of the hospital billing process

to maintain an accurate chargemaster because it was the key to revenue integrity, compliance, and charge capture.

In a retrospective study, it was discovered that of $60,814, $11,979 should not have been charged. This study viewed 17,727 patients that underwent elective inpatient surgical procedures [36].

Insert Table 1

Price Transparency with CDM in Hospitals:

At the University of California-San Francisco's hospital, there were two chargemaster line items for vaginal childbirth: one was $5,497, and the other was $12,632, but there was no indication how these were different. Consumers might have turned to the "bundled" cost based on those DRGs, where the ancillary costs were included. That lists the total charge for an uncomplicated childbirth at an astounding $53,184 [37].

Another study showed that only 21% of hospitals could provide a complete hospital price estimated for a standard procedure, and that percentage dropped from 48% of hospitals in a 2012 study [38].

Insert Table 2

The Expert from Cabell Huntington Hospital's Billing Department stated that the chargemaster was easily accessible on the hospital's website as mandated by CMS.

DISCUSSION

Charge Masters were found to be something that has been needed to be updated annually, which included a changing of prices [24]. The changes in prices affected hospitals due to the mix of payers, the portions of total services that were reimbursed, and pressure put on the hospitals as to how to increase their prices [26]. Anderson [27] noted that if hospitals would have collected the amount of their charge-to-cost ratio per hospital would have been more than 200%. The charge-to-cost ratio has been calculated by using a hospitals total gross charge and dividing it by its total Medicare-allowable cost; this also allowed a breakdown of the CDM markup [28]. Frakt [29] discovered that the balance of market power between hospitals and health care insurers have also influenced the increase of rates found in CDMs, which significantly affected the private prices.

Bieker & Bailey [32] discussed the improvements made by allowing the providers to replace paper documentation and charge sheets with technology, allowing revenue cycle elements to pass directly from clinical to patient billing. With the implementation of ICD-10-CM on October 1, 2015, providers billing was able to have less room for error [33]. Less room for error has meant a less amount of funds lost for the facility.

It has been considered critical that a hospital or provider has a team in place that could operate ICD-10 and know how to make the CDM, EHR, and ICD-10 [34]. Many physicians have cited the high startup fee as their reason for not implementing, even though once implemented could have kept the physician's practice from submitting incorrect billing statements or not receiving the potential full payment amount [35].

Charge masters' next issue has become the transparency with customers. At the University of California-San Francisco's hospital, there were two chargemaster line items for vaginal childbirth: One was $5,497, and the other was $12,632. However, there was no indication of how these were different [36]. By confusing codes in the CDM, patients are unable to find their correct billable amount, which has created more confusion the customer. On the other hand, it was found that some customers did not care about the price listed under the CDM due to the fact they were going to the hospital for the procedure regardless, and the list of charges was not going to make the difference.

The quality and transparency of correctly coding with the CDM has brought light to the fact of hospitals needing to correctly bill their patients. Without correctly using the CDM; the codes that are missed or miscounted for provides backlash in the revenue department. With proper coding and use of the CDM, hospital has become more organized in their billing and revenue departments.

Limitations

This research study was conducted with limitations. The research of the study conducted CDM had a decrease in accessibility and clarity with patients, but throughout the interview with the Expert, they reported that the CDM with CHH had saved more money with correct billing and documents than ever before. This literature review was restricted due to search strategy such as distinguishing differences between keywords, the number of databases accessed, or the sources used. Also, research and publication bias was a limitation during this study.

Practical Implications

Innovation in the revenue cycle in hospitals and testing of new and more efficient procedures are critical and needed to change, adapt, and survive in an evolving financial environment. The increase in payment for physician office visits has given providers the incentive to see more Medicare patients [37]. Innovation in the revenue cycle in hospitals and testing of new and more procedures are essential and needed to change, adapt, and survive in a developing financial environment [38].

Further research is needed for CDM billable codes and also for accessibility of the codes.

CONCLUSION

Participation with CDM throughout hospitals has shown an increase in billing consistency with hospital facilities. This study suggested that CDMs has increased transparency for prices and a positive increase in quality of care.

SEMI- STRUCTURED INTERVIEW

Alyssa Stark. Cabell Huntington Hospital Billing Department. Date: April 5, 2019.

Word Count: 4,336

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Literature Categorization

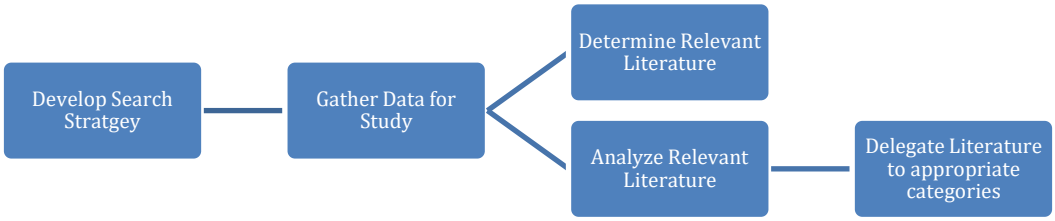
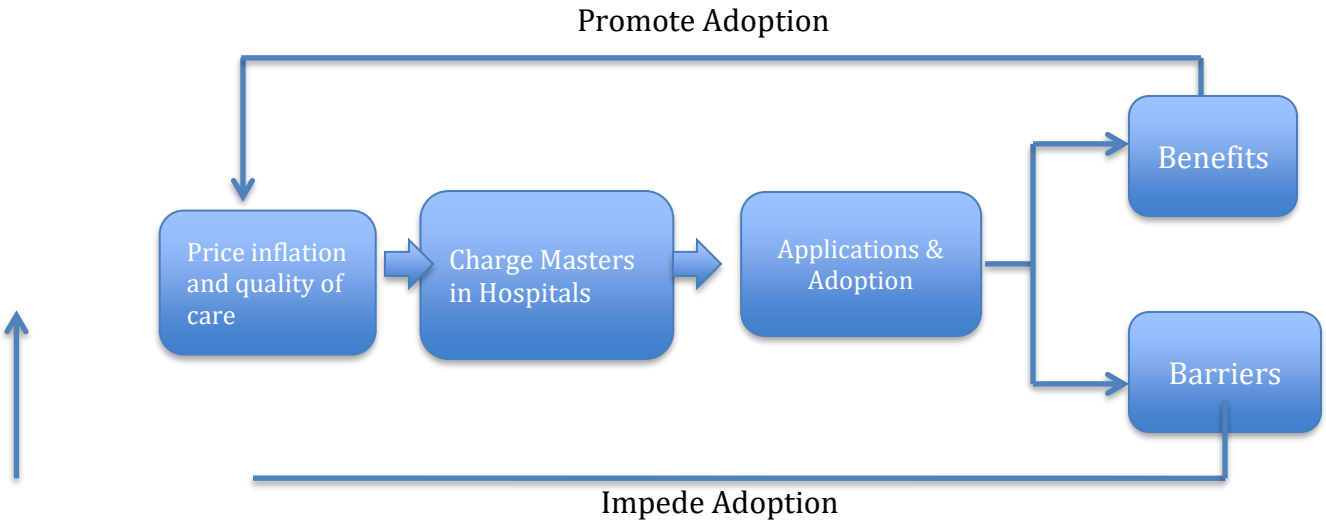


Figure 1: Literature

Source: Created by Layton, Lemmon, & Coustasse; adapted from Boston College Libraries, [39].



Source: Created by Layton, Lemmon, & Coustasse; adapted from Yao et al., [23].
Figure 2: Conceptual Research Framework

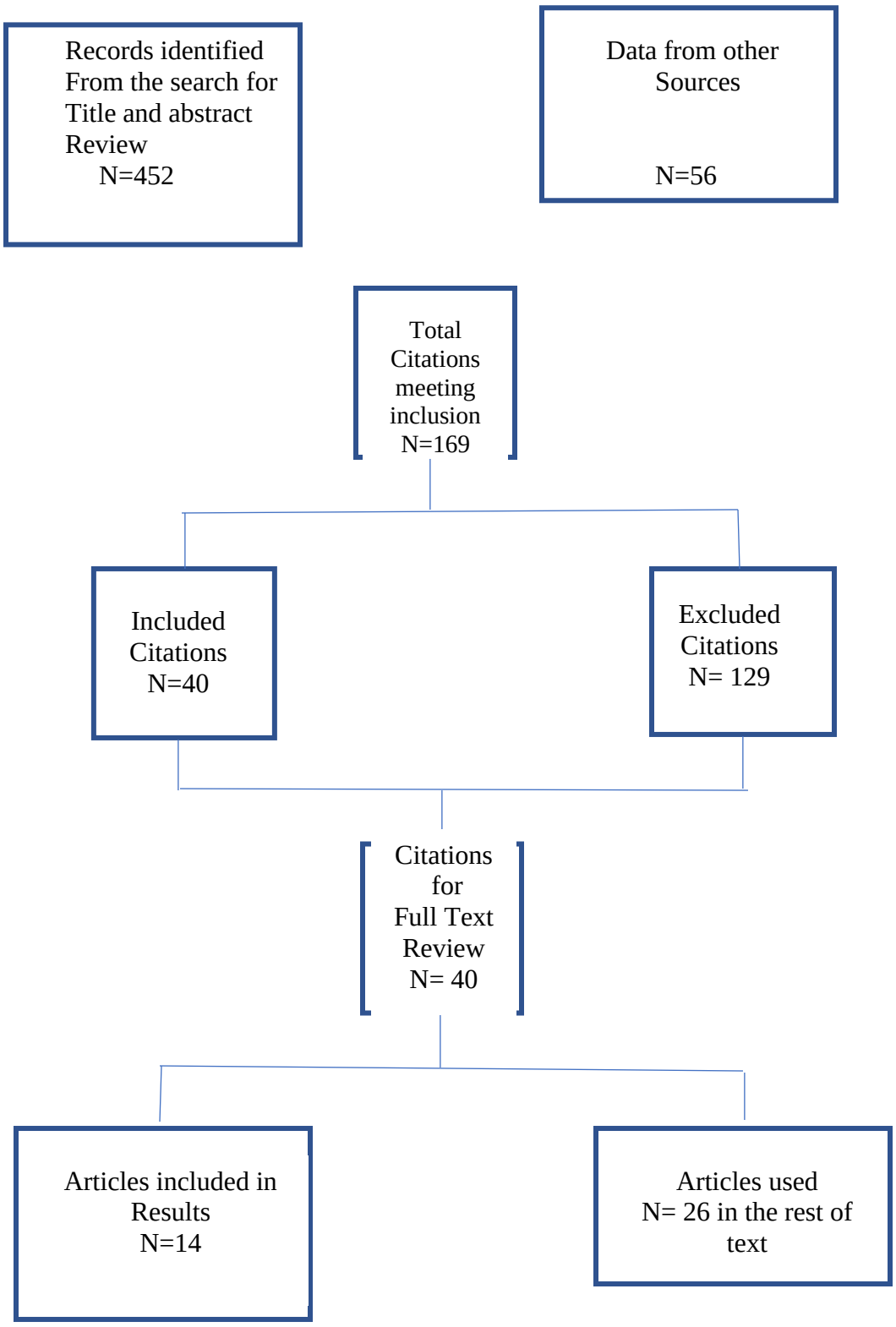

Records identified
From the search for
Title and abstract
Review
N=452
Data from other
Sources
N=56
Total
Citations
meeting
inclusion
N=169
Included
Citations
N=40
Excluded
Citations
N= 129
Citations
for
Full Text
Review
N= 40
Articles included in
Results
N=14
Articles used
N= 26 in the rest of
text

Figure 3

Overview of Literature Evaluation

Charge Description Master Example:

Code	Description	Price
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 250 mg	$3.54
00002-0803-33	Darvon Capsule Ca 65 mg	$0.71
00002-1052-02	Diethylstilbestrol Tablet Ta 1 mg	$0.10
00002-1054-02	Diethylstillbestrol Tablet Ta 5 mg	$0.26
00002-1094-02	Tapazole 5 mg (Methimazole)	$0.25
00002-1444-01	Vancocin Hcl (Vancomycin) Vial 500 mg	$7.80
00002-1450-01	Glucagon Vial 1 mg	$48.00
00002-1452-01	Velban 10 mg Vial (Vinblasine Sulfate)	$40.54

Table 1.

Source: Created by Layton, Lemmon, & Coustasse; adapted from Pilato, [33].

THE COST OF A CESAREAN SECTION	ACROSS THE UNITED STATES	IN 2016
Location	**Population**	**Cost of C-Section**
San Francisco, CA	860,000	$20,721
Denver, CO	682,545	$13,658
Boston, MA	667,137	$11,827
Nashville, TN	659,042	$10,429
Chicago, IL	9,554,598	$9,810
Columbus, OH	2,508,498	$9,054
San Antonio, TX	1,488,512	$7,949
Baltimore, MD	615, 849	$7,396
Knoxville, TN	1,117,758	$4,556

Table 2. The cost of a cesarean section across the U.S 2016

Source: Created by Layton, Lemmon, & Coustasse; adapted from Gee, [40].

Appendix A

Questions Asked in Semi-Structured Interview of a Billing Employee

1. Are you aware of how many codes are submitted in your facility's ChargeMaster? Why or why not?
2. Do you know if your facility hires a consulting firm to assist in working with the ChargeMaster? Why or why not
3. Do you have a full-time employee working on it? Why or why not?
4. Do you think that the chargemasters in hospitals are positively correlated to the quality of care? Why or why not?
5. Has the ChargeMaster in your facility increased throughout the years in numbers (prices) or decreased? Why or why not?
6. Is the chargemaster easily accessible in your facility? Why or why not?
7. How often is your Charge Master updated? Why or why not?
8. Do you believe certain Charge Master Codes should be negotiable? Why or why not?
9. Are chargemaster codes increased depending on the area? Why or why not
10. Do you personally believe in the coding charges that are in place now? Why or why not?
11. What is your viewpoint of the ChargeMaster in your facility? Why?