Office of Internal Audit

UT Southwestern Medical Center

Neurological Surgery Charge Capture Audit

Internal Audit Report 17:02

June 13, 2017

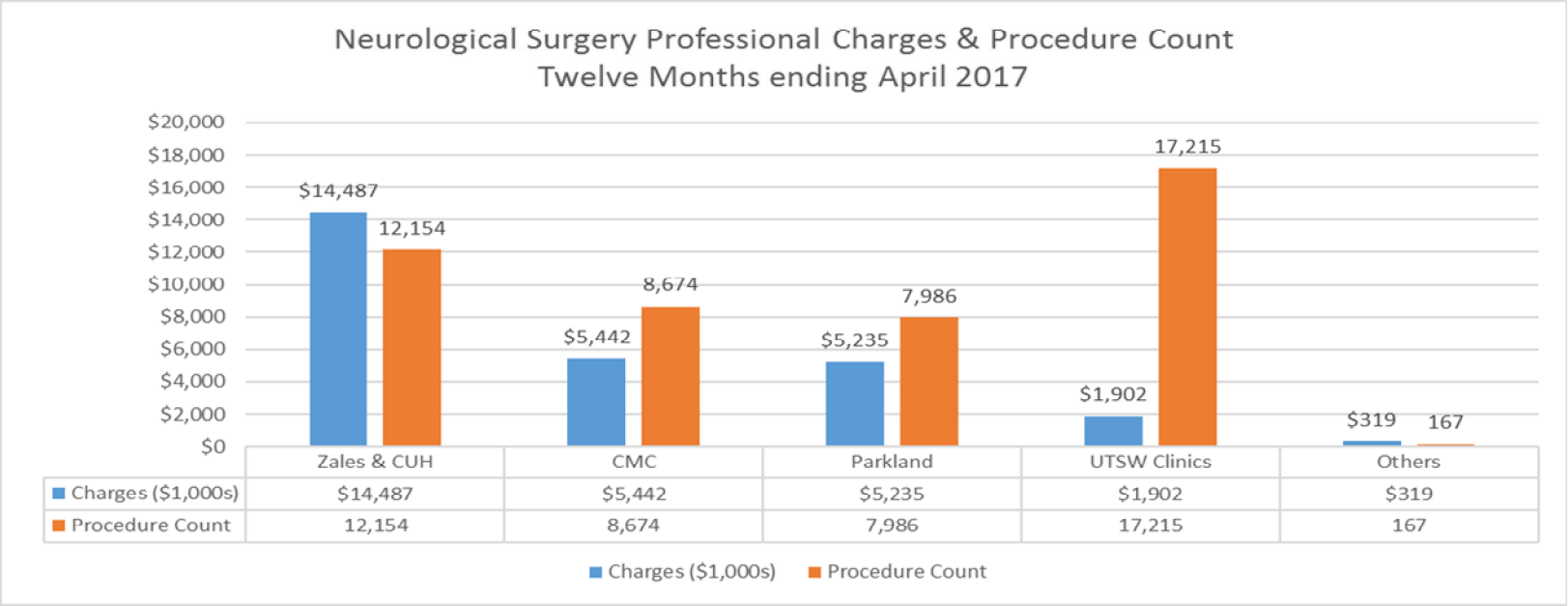
Table of Contents

Executive Summary

Background

The University of Texas Southwestern Medical Center (UT Southwestern) Neurological Surgery Department (Department) includes twenty practicing faculty members who perform medical services through several programs including neuro-oncology and treatment of brain tumors**,** cerebrovascular specializing in treating stroke and arteriovenous malformations, neurosurgery, neuro-trauma treating severe head injury or sustained trauma to the spine and spinal cord, stereotactic and functional neurosurgery.

Neurological Surgery physicians see patients and perform surgical procedures at the Aston Clinic, University Hospitals, Parkland Hospital, Children's Medical Center, Medical City, Texas Health Dallas, and other area hospitals. These physicians generate over $2 million in monthly professional charges. The following chart depicts Neurological Surgery professional service revenues by location:



Hospital technical charges associated with neurological surgeries are summarized in Appendix B of this report.

Executive Summary

The Neurological Surgery Department Administrator is responsible for overseeing the patient scheduling, referral services, charge capture, billing/coding staff and nurse coordinator/social work functions operating at the Aston Adult Clinic and other clinics. Providers access the Epic system to document procedures and charges for regular office visits. Neurological Surgery billing/coding staff comprised of a Manager, three certified coders, one billing coordinator and two reimbursement specialists is responsible for manual processing of professional charges associated with in/out patient visits including surgical cases, posting and reconciliation of charges in the Epic billing system.

The Neurological Surgery Department currently manages its front end billing function which is decentralized from the UT Southwestern Revenue Cycle Management Department. Revenue Cycle members support key back end processes for all clinical and hospital departments including Neurological Surgery.

Scope and Objectives

The Office of Internal Audit has completed its Neurological Surgery Charge Capture audit. This is a risk based audit and part of the fiscal year 2017 Audit Plan. The audit scope period included charges from January 2016 to February 2017. The audit focused on the Department's professional charges and account billing processed by the Department billing support staff. The Department bills for professional surgery charges and the hospital bills for technical charges and supplies. No technical charges are billed by the department.

In addition, data analytics were also performed to determine completeness of Neurological Surgery professional and technical charges associated with in/outpatient procedures performed. Patient account collections and adjustments were not part of the review scope. Audit procedures included interviews with stakeholders, review of policies and procedures, testing of selected records and documentation in Epic, and performing data analytics to determine completeness of charges.

We conducted our examination according to guidelines set forth by the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing. Fieldwork was initiated, performed, and completed during April and May 2017 and consisted of the following primary objectives:

- Timeliness and accuracy of professional and hospital charge processing.
- Timely reconciliation and resolution of exceptions.
- Completeness of charges including surgery charges and supplies.
- Compliance with institutional policies and regulations.

Executive Summary

Conclusion

The charge capture process is manually performed by the Department certified coders. The manual processes are more labor intensive, inefficient and prevents the department from meeting the current charge capture and billing goals of three and seven days, respectively. Because of the labor involved, the billing team is not able to focus on other key revenue cycle functions such as reviewing and resolving transactions in work queues. Implementation of an Epic Charge Entry Module specific to Neurological Surgery could improve charge capture and resolution of work queues processing controls and timelines.

In addition, Neurological Surgery Department management is coordinating with the UT Southwestern Revenue Cycle Operations team to develop a transition plan for centralizing billing operations. This will ensure processes are consistently followed, key metrics are met and there are adequately trained resources to sufficiently support the department's revenue cycle functions. All management action plans will be completed by December 31, 2017.

Included in the table below is a summary of the observations noted, along with the respective disposition of these observations within the Medical Center internal audit risk definition and classification process. See Appendix A for Risk Rating Classifications and Definitions.

Priority (0)	High (1)	Medium (1)	Low (1)	Total (3)

The key improvement opportunities risk-ranked as High and Medium are summarized below.

- **#1 Improve Timeliness of the Charge Capture Process –** The charge capture process is manual, resulting in an extended time to post charges and increasing the risk of errors. The use of an Epic Charge Entry Module would allocate more resources and staff's time to exceptions review and monitoring.

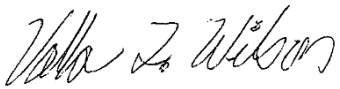
- **#2 Improve Monitoring of Key Metrics –** Charges on hold in work queues for review by Billing staff were not consistently resolved within the stated goal of six days. Items aged greater than 120 days totaled $118,000 as of April 2017. Aged pending transactions in work queues can result in loss of revenue and cash collections as they carry a higher risk of write-off.

Management has plans to address the issues identified in the report and in some cases have already implemented corrective actions. These responses, along with additional details for the key improvement opportunity listed above and other lower risk observations are listed in the Detailed Observations and Action Plans Matrix (Matrix) section of this report.

Executive Summary

We would like to take the opportunity to thank the departments and individuals included in this audit for the courtesies extended to us and for their cooperation during our review.

Sincerely,



Valla Wilson, Associate Vice President for Internal Audit, Chief Audit Executive

Audit Team:
Elias Dib, Senior Internal Auditor
Lori Muncy, Senior Internal Auditor
Gabriel Samuel, Senior IT Auditor
Van Nguyen, Internal Audit Supervisor
Jeff Kromer, Director, IT & Specialty Audits
Melinda Lokey, Director of Internal Audit

cc:
Candace Baer, Associate Vice President, Ambulatory Operations, Office of EVP Health System Affairs
Carlos Bagley, M.D., Associate Professor and Vice Chair, Department of Neurological Surgery
Hunt Batjer, M.D., Professor and Chairman, Department of Neurological Surgery
Marisa Calder, Director, Front End Medical/Surgical Billing, MSRDP Billing Operations Administration
Stacey Clark, Assistant Vice President, Ambulatory Clinical Operations and Training
Arnim Dontes, M.B.A., Executive Vice President, Business Affairs
Deanna Heard, Manager, Department of Neurological Surgery
Kelly Kloeckler, Associate Vice President for Revenue Cycle Operations, MSRDP Billing Operations Administration
Sherri Medina, Zale Hospital Operating Room Director
Bruce Meyer, M.D., Executive Vice President, Health System Affairs
Bruce Mickey, M.D., Professor and Vice Chair, Department of Neurological Surgery
Vinod Nair, Director, Revenue Cycle & Business Systems, IR Hospital Business Systems
Terry Neal, Director, Decision Support
Carrie Pritchard, Zale Hospital Operating Room Nurse Manager
Brent Townsend, Director, Front End Medical/Surgical Billing, MSRDP Billing Operations Administration
Mary Lou Walker, Manager, Surgical Materials
John Warner, M.D., Chief Executive Officer, University Hospitals & Clinics

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: High ● **1. Improve Timeliness of the Charge Capture Process** The Neurological Surgery Department charge capture process is manual and requires billing personnel to manually enter charges based on daily patient encounter forms. The average charge entry time lag is seven days from date of service, in excess of the three day standard established by the Medical Group. A manual charge entry process increases the risk of errors and missing charges and delays the overall process. Implementing an automated charge capture process, will assist in reducing the current charge entry time lag of over 7 days from date of service. This lag also results in guarantor account billings in excess of 10 days. The billing goal is seven days from date of service. A team of three certified coders currently process an average of $2 million in monthly charge volume. Their time is spent primarily on charge capture (80%), leaving only 20% for researching work queue transactions. Coders are required to review completed encounter forms with their assigned providers weekly and obtain the provider's signature. (Refer to Appendix C for a depiction of the current process).	1. Develop plan for implementation of the Epic Charge Entry module. 2. Provide training to billing team and providers on new Epic Charge Entry module. 3. Ensure daily charge reconciliation procedures are updated for the automated charge entry process.	**Management Action Plans:** 1. The Department is working with the Epic IR Support Team to set up templates for both surgery scheduling and charge entry for each provider in the department. The information to set up the vascular schedule templates were given to Epic IR Support in May. a. The vascular template draft should be available to test by the end of June. b. Vascular will go live on August 1st. c. Tumor and Functional templates will be developed in July and will go live in September. The goal is to have this whole process finished by October 31, 2017. By putting these processes in place, this will cut down on our charge entry time for surgical procedures which has historically been manual charge entry and help bring our charge entry time down to three days which is the goal that UT Southwestern Administration has set for this process. 2. In September and October 2017, the Department will provide training to billing team and providers as part of the new Epic template implementation.

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Many UT Southwestern clinical departments are using an Epic Charge Entry Module to facilitate electronic charge entry posting with department's overseeing the charge reconciliation process. The Neurological Surgery Department has explored this option and is working with the Information Resources team to develop an implementation plan for early FY2018.		3. The Department will ensure daily charge reconciliation procedures are incorporated into the automated charge entry process. **Action Plan Owners:** Neurological Surgery Department Administrator **Target Completion Date:** October 31, 2017

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Medium 🟡 **2. Improve Monitoring of Key Metrics** In addition to the charge capture and billing metrics described above, the Neurosurgery work queues are not consistently resolved within the stated goal of six days. While the work queues related to charge capture were within the goal range, the Claim Edit and Denial work queues (WQ) contained charges of $118,000 that were more than 120 days old (65% of open items). The average number of days in WQs ranged from 30 days to 55 days. Items in these WQs were related to missing authorization, no preauthorization, additional documentation required, claim not accepted for adjudication, past appeal deadline, provider ID not part of group billing and out-of-state plan requiring additional review. Several of these items have been corrected and resubmitted, or tagged for adjustment or to be written off. The root cause was identified as billing personnel turnover and training of new staff. Aged pending transactions in work queues can result in loss of revenue and cash collections as they carry a higher risk of write-off.	1. Allocate additional time to focus on resolution of items in the charge capture, claim edit and denial work queues. Implementation of the Epic Charge Entry module will allow billing personnel additional time to resolve items in the work queues. 2. Reemphasize timely resolution of work queue transactions with billing personnel/coders. 3. Implement monitoring procedures to ensure items in work queues are resolved in a timely manner.	**Management Action Plans:** 1. Action Plan outlined under Observation #1 will help bring down the time of working items out of the Epic work queues. 2. Timely resolution of work queue transactions will be reemphasized. We will further evaluate options to enhance staff's skillsets. 3. The Department will implement monitoring procedures for work queue aging reports. **Action Plan Owner:** Neurological Surgery Department Administrator **Target Completion Date:** October 31, 2017

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response

Risk Rating: Low ●

3. Evaluate Use of Advanced Practice Providers (APPs)

Advanced Practice Providers (APPs) within the Neurosurgery department perform a variety of services resulting in no charge generation for the APP, including documentation of services for physician review and approval. Specifically, two APPs had responsibilities that included hospital floor post-surgery and follow up care that was part of the global billing for the surgery and did not result in professional charges.

The following summarizes professional charges generated by APPs for twelve months ending February 2017:

Job Tittle & Professional Certification	Location/ Specialty	Transaction Count	Charges
Physician's Assistant (PA)	Zale Hospital (Spine)	391	$501,901
Acute Care Professional (ACRN 1)	Aston Ambulatory (Cranial)	2,126	$231,210
Acute Care Professional (ACRN 2)	Aston Ambulatory (Cranial)	1,909	$220,392
Advanced Practice Nurse (APN 1)	Zale Hospital (Spine)	319	$31,308
Advanced Practice Nurse (APN 2)	Zale Hospital (Cranial)	0	$0

The Department's goal is to have APPs provide patient care consistent with their job title, professional certification and duties assigned relative to the subspecialty area they support.

An oversight function has been established in the Brain Institute to assist departments in appropriate use of APPs and monitor activities and responsibilities of APPs in the Neuropsychology, Neurology, Pain Management and Rehabilitation, and Neurosurgery specialties.

Management should develop and monitor implementation plan to utilize APPs to meet department goals.

Management Action Plans:

The Department will monitor assigned duties and charge entry for APPs relative to both inpatient and outpatient areas they are working. Specifically in the Neurosurgery Spine operation, a plan will be developed to utilize APPs to have same or next day appointments for patients in the Spine Center.

Action Plan Owner:

Neurological Surgery Department Administrator

Target Completion Date:

October 31, 2017

Appendix A – Risk Classifications and Definitions

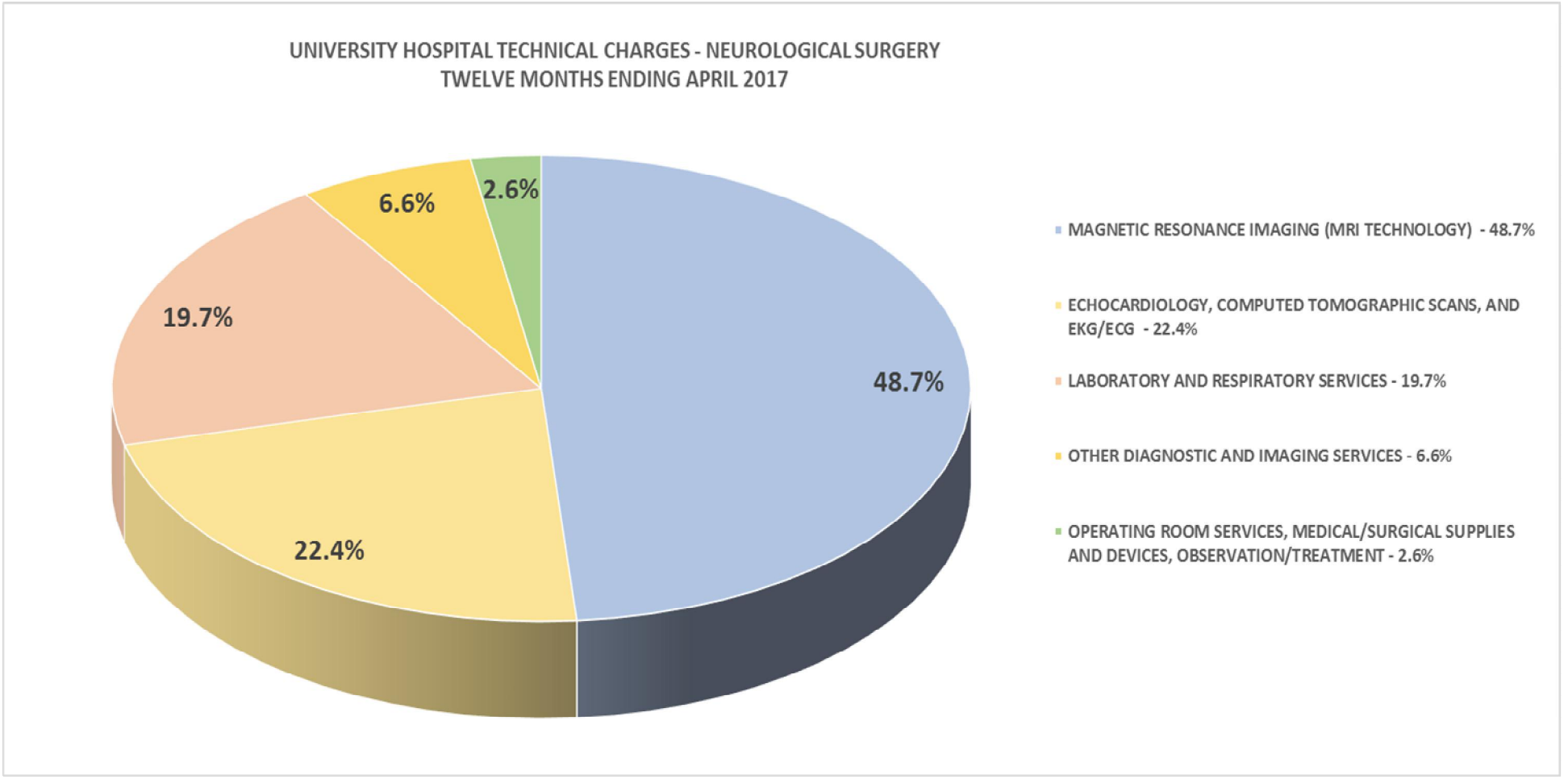
As you review each observation within the Detailed Observations and Action Plans Matrix of this report, please note that we have included a color-coded depiction as to the perceived degree of risk represented by each of the observations identified during our review. The following chart is intended to provide information with respect to the applicable definitions and terms utilized as part of our risk ranking process:

	Degree of Risk and Priority of Action	
Risk Definition - The degree of risk that exists based upon the identified deficiency combined with the subsequent priority of action to be undertaken by management.	**Priority**	An issue identified by internal audit that, if not addressed immediately, has a high probability to directly impact achievement of a strategic or important operational objective of a UT institution or the UT System as a whole.
	High	A finding identified by internal audit that is considered to have a high probability of adverse effects to the UT institution either as a whole or to a significant college/school/unit level. As such, immediate action is required by management in order to address the noted concern and reduce risks to the organization.
	Medium	A finding identified by internal audit that is considered to have a medium probability of adverse effects to the UT institution either as a whole or to a college/ school/unit level. As such, action is needed by management in order to address the noted concern and reduce risk to a more desirable level.
	Low	A finding identified by internal audit that is considered to have minimal probability of adverse effects to the UT institution either as a whole or to a college/ school/unit level. As such, action should be taken by management to address the noted concern and reduce risks to the organization.

It is important to note that considerable professional judgment is required in determining the overall ratings presented on the subsequent pages of this report. Accordingly, others could evaluate the results differently and draw different conclusions.

It is also important to note that this report provides management with information about the condition of risks and internal controls at one point in time. Future changes in environmental factors and actions by personnel may significantly and adversely impact these risks and controls in ways that this report did not and cannot anticipate.

Appendix B – University Hospital Technical Charges – Neurological Surgery



TOTAL TECHNICAL CHARGES = $19 Million

Appendix C – Neurological Surgery Professional Charge Entry Process Flow Chart