Office of Internal Audit

UT Southwestern Medical Center

Graduate Medical Education Audit

Internal Audit Report 20-54

April 14, 2020

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Executive Summary

Background

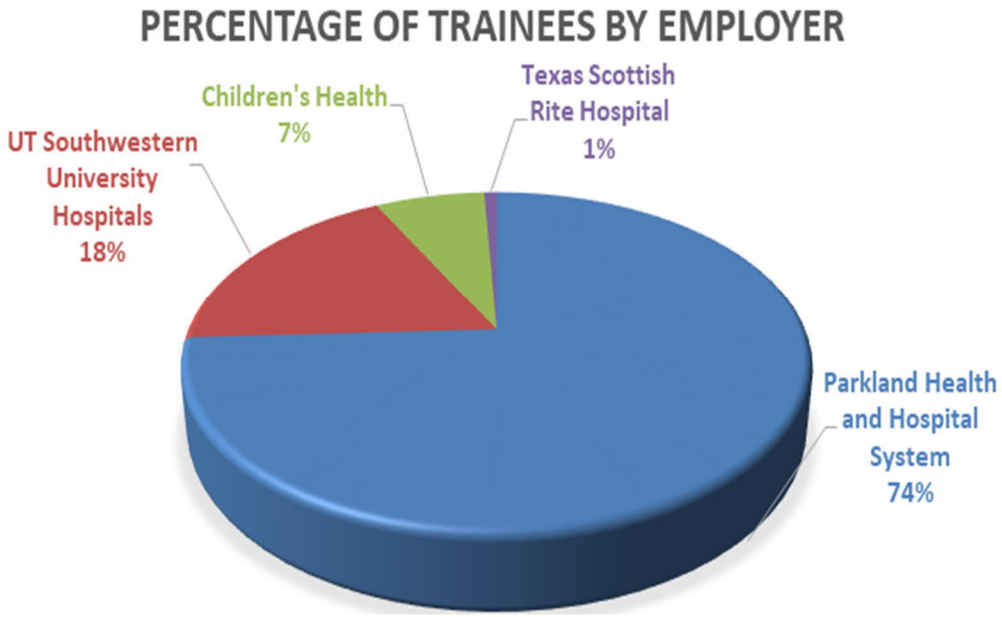
The University of Texas Southwestern Medical Center (UT Southwestern) Graduate Medical Education (GME) provides training for more than 100 Accreditation Council for Graduate Medical Education (ACGME) accredited residency and fellowship programs, 65 additional fellowship programs approved by the Texas Medical Board, and more than 1,400 residents and fellows, which is one of the largest programs in the country. In addition, UT Southwestern's faculty and residents annually provide care to more than 105,000 hospitalized patients, approximately 370,000 emergency room cases, and oversee 3 million outpatient visits.

The UT Southwestern GME Office, under the Vice Provost and Senior Associate Dean for Education leadership, is responsible for the residency and fellowship programs, which includes overseeing all GME programs, establishing GME program policies and procedures, and ensuring compliance with applicable accreditation guidelines. The clinical departments have designated GME Program Directors who recruit, train, evaluate, and manage the programs. Program Coordinators are responsible for the day-to-day management of the GME programs, e.g., scheduling, billing and other administrative duties. UT Southwestern's GME programs are provided at UT Southwestern University Hospitals, Parkland Health & Hospital System, Children's Health, Dallas Veteran Affairs Medical Center, and Texas Health Presbyterian Hospital Dallas. UT Southwestern's GME program residents train at Baylor University Medical Center, Texas Scottish Rite Hospital, and Cook Children's Medical Center area hospitals.

Parkland Health employs the majority of the residents. UT Southwestern employs fellows and some residents, and Children's employs mostly pediatric residents. The individual departments with GME programs are responsible for scheduling and tracking the residents and fellows hours in clinical services and training across the hospitals. GME program billing and collection activities are currently decentralized among the affiliates and UT Southwestern departments, University Hospitals, Medical Group and GME Office.

UT Southwestern and the affiliated hospitals have contractual agreements to schedule rotations and process payroll reimbursement.

The pie chart to the right shows the percentage of trainees by employer.



Executive Summary

MedHub, a web-based residency management system, is used to store GME program information, maintain trainee schedules, evaluations and all aspects of trainee record management. Certain departments use additional ancillary systems for scheduling trainees. Some interface with MedHub, while other systems may be independent requiring schedule tracking in dual systems.

Scope and Objectives

The Office of Internal Audit has completed its Graduate Medical Education audit. This was a requested audit by leadership in fiscal year (FY) 2020 and as a result, included as part of the FY2020 Institutional Internal Audit Plan. The audit scope was September 2019 through current. Audit procedures included: process reviews and interviews with employees within the GME office, Hospital Administration and individual GME program personnel; review of GME policies, procedures and other documentation; analysis of MedHub user access, evaluation and testing of MedHub data, monthly payments and invoices and other records.

The overall audit objectives were to assess the effectiveness of processes and controls for GME rotation scheduling and billing processes, and MedHub system access controls. Specifically, to provide reasonable assurance that the following are in place:

- GME Office oversight and financial management
- Accurate and complete affiliate and other related hospital GME program billing and collecting in accordance with contract terms
- Ongoing management and monitoring of physician trainee schedules
- MedHub user access and interfaces

We conducted our examination according to guidelines set forth by the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.

Conclusion

Opportunities exist to strengthen trainee scheduling and billing processes and controls and overall GME financial management. The current structure involving multiple employers for GME program trainees with multiple reimbursement arrangements and accreditation monitoring by UT Southwestern, results in complex billing and reimbursement processes with disjointed manual recordkeeping. Specifically, departments, University Hospitals, Medical Group and affiliates are all involved with multiple handoffs increasing the time spent and an increased risk for inadequate reimbursement collection, billing errors and reporting inaccuracy.

Resources and structure should be evaluated for adequacy and for increased oversight and accountability, in addition to increased GME Office monitoring to ensure program compliance with established GME office policies and procedures, improve billing processes and thereby, reducing the risks for billing and reporting errors. Management should also consider exploring various models for enhanced management of the GME program.

Executive Summary

In addition, the MedHub system has been managed solely by the GME office with no assistance from information Resources. Departments have purchased and used ancillary applications with limited or no interface capability and without assistance from IR, resulting in an increased risk of mapping issues, and untimely and inaccurate information input into the MedHub system. MedHub is also not linked to the UTSW active directory and as a result, the system lacks automated controls for removing system access for terminated employees. Because of reliance on manual removal of system access, there were terminated employees with active system access to MedHub. These observations and recommendations are described in detail on pages 7 through 11 of the report.

Included in the table below is a summary of the observations, along with the respective disposition of these observations within the UT Southwestern internal audit risk definition and classification process. See Appendix A for Risk Rating Classifications and Definitions. There were no priority issues identified in the audit.

Priority (0)	High (3)	Medium (1)	Low (0)	Total (4)

Key improvement opportunities risk-ranked as high and medium are summarized below.

1. **Assign Accountability for Tracking and Monitoring UT Southwestern's GME Trainee Billing and Reimbursement to Affiliates** Billing and reimbursement activities are decentralized and there is a lack of accountability or central control due to the current billing system structure established under the multiple employer model, increasing risk of incomplete and inaccurate reporting and missing revenue.
2. **Strengthen Data Integrity for GME Trainee Schedules** – Validation processes or controls for ensuring affiliate payment and billing reporting accuracy do not exist, resulting in an increased risk of data inconsistencies and errors.
3. **Establish MedHub System Support with Information Resources** – The GME Office manages the MedHub system, security, access management, change management, and upgrades with no assistance from Information Resources, which increases the risk for vulnerabilities and application errors to go undetected resulting in potential data integrity issues.
4. **Strengthen System Access Controls** – Automated controls do not exist for removal of MedHub system access when employees are terminated.

Management has implemented some of the corrective actions during the course of the audit. Management action plans to address the opportunities identified can be found in the Detailed Observations and Action Plans Matrix section of this report.

Executive Summary

We would like to thank the Graduate Medical Education Office, UT Southwestern Hospital Administration, Provost Office, Sponsored Programs Administration and the individual GME programs for their assistance and cooperation during this audit.

Sincerely,

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Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: High 🟡 **1. Assign Accountability for Tracking and Monitoring UT Southwestern's GME Trainee Billing and Reimbursement to Affiliates** Accountability is not established for tracking and monitoring UT Southwestern's GME affiliate billing and training reimbursement. Parkland employs approximately 74% residents and fellows and has a dedicated billing resource assigned with primary control over the billing system. The UT Southwestern billing and reimbursement activities are decentralized. Without centralized in-house control established to oversee the billing and reimbursement processes, an increased risk of missing revenue or incomplete and inaccurate billing and reporting could occur. In addition, the following were identified: • GME programs may be responsible for a portion of the billing and financial processes for trainee rotations. In addition, they may not have a Program Level Agreement (PLA) with the affiliates to specify billing terms. • Medical Group (MG) has responsibility to bill Children's Health for pediatric trainee rotations and Parkland for Non-ACGME fellow rotations.	1. Establish accountability for tracking and monitoring UT Southwestern's GME affiliate trainee billing and reimbursement processes. 2. Coordinate with the Provost Office to evaluate GME Office oversight and financial management staffing, responsibilities and processes and controls. 3. Perform a full inventory of the GME programs to identify responsible parties for billing affiliates and the billing method. a. Reevaluate GME contracts and perform a risk/benefit assessment for determining billing ownership and responsibilities. b. Finalize agreements and communicate to all key stakeholders. 4. Evaluate implementing a centralized trainee reimbursement process as a method for ensuring appropriate processes and controls are in place for providing accurate data. 5. Evaluate and update the Official Procedure: MedHub Payroll and Billing Process for Parkland Remunerative Program to update the procedures to help ensure process sustainability.	**Management Action Plans:** 1. The GME Office and the Provost Office will review and establish accountability and assign roles and responsibilities for trainee billing and reimbursement processes including establishing internal UT Southwestern. 2. We will coordinate with the Provost Office to evaluate GME Office oversight and financial management staffing. 3. We will perform a full inventory of GME programs and re-evaluate the contracting process. 4. We will evaluate implementing a centralized trainee reimbursement process. 5. We will evaluate and update the Official Procedure: MedHub Payroll and Billing Process for Parkland Remunerative Program. 6. In coordination with the Provost Office, we will develop tracking and monitoring reports. 7. We will reinforce department program accountability and establish enhanced program metrics reporting and escalation procedures. 8. We will formulate a task force to evaluate GME program model options to determine the best long-term solution.

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
	6. Develop tracking and monitoring reports to validate accuracy of program billing in accordance with established contract terms. 7. Reinforce department program accountability. a. Build upon the reporting structure by communicating the GME office role and responsibilities including the oversight and established GME program expectations. b. Establish or enhance GME program metrics, provide departments' visibility to GME dashboard reporting, and determine escalation measures. 8. Consider exploring and evaluating various models to determine long-term solution for GME program/financial management.	**Action Plan Owners:** Vice Provost and Senior Associate Dean for Education, Academic Administration (#1) Associate Dean for Graduate Medical Education (#1–7) Vice President and Chief Operating Officer, Academic Affairs (#1,#2, #6) **Target Completion Dates:** 1. August 31, 2020 - Task force assigned December 31, 2020 - Assessment completed April 1, 2021 - Overall billing responsibilities determined April 1, 2021 - Accountability established 2. August 31, 2020 3. August 31, 2020 4. December 31, 2020 5. July 31, 2020 6. April 1, 2021 7. a. August 31, 2020 b. April 1, 2021 8. September 1, 2021

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: High **2. Strengthen Data Integrity for GME Trainee Schedules** Validation processes for ensuring affiliate payment and billing reporting accuracy are not established. Departments may not have necessary processes and controls to ensure scheduling data is up to date and accurate before the MedHub system is closed for the month. MedHub schedule data accuracy is critical, as the information is the source for billing and external reporting. The following examples based on data as of January 2020 indicate the following recurring data integrity issues: • Over 300 scheduling errors were outstanding in MedHub. MedHub scheduling errors reports are available for review. However, departments are not required to use the error reports and therefore, errors may go uncorrected. • Programs made 214 requests specifically to unlock schedules with change request up to a year ago. Programs had: o 47 requests for schedule changes from 100 to 579 days of rotations. o 35 requests for schedule changes from 31 to 99 days of rotations o 132 requests less than 30 days of rotations • The programs are inconsistently adding the initial schedules. As a result, an increased likelihood for data integrity issues, inconsistencies, and external reporting errors may occur.	1. Establish a validation process to review schedules to ensure they are up to date and accurate. 2. Establish monitoring procedures to identify deviations from program requirements. 3. Develop reporting and escalation measures for holding departments accountable for schedule timeliness and completeness. Consider implementing program coordinator dashboards. 4. Enforce policy on scheduling and MedHub data to ensure departments understand requirements and retrain on the requirements.	**Management Action Plans:** 1. We will establish a validation process. 2. We will establish monitoring procedures. 3. We will develop reporting and escalation measures and create performance dashboards for departments to use. 4. We will identify methods to effectively enforce policy for ensuring the integrity of scheduling and MedHub data. **Action Plan Owners:** Associate Dean for Graduate Medical Education (#1, #2, #3, #4) Vice President and Chief Operating Officer, Academic Affairs (#3) **Target Completion Dates:** 1. October 31, 2020 2. October 31, 2020 3. December 31, 2020 4. August 31, 2020

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: High 🟡 **3. Establish MedHub System Support with Information Resources** The GME Office manages the MedHub system, security, access management, change management, and upgrades with no assistance from Information Resources, which increases the risk for vulnerabilities and application errors to go undetected. • MedHub is the primary application used for trainee activities. Departments may be using additional system that have critical GME data. To date, GME program departments worked directly with vendors, and outside of the GME Office, to establish MedHub interfaces (e.g., Amion and OpenTempo). The integration is one way into MedHub and components are not fully integrated based on discussions with users. • Other scheduling systems that do not interface are also in use by departments, which creates duplication of efforts for the same trainee schedules. • One GME employee supports the MedHub system for 116 GME programs and thousands of users increasing the risk of inadequate support.	1. Coordinate with Information Resources Academic Information System (AIS) to establish MedHub system support activities. The GME Office will serve as the system business owner. 2. Review all scheduling systems and existing MedHub vendor interfaces to ensure the mapping of schedule details is complete and accurate. Then evaluate and determine whether expanding the interfaces would improve the scheduling interfaces. 3. Evaluate MedHub system support model such as access management for MedHub and resources for providing adequate support.	**Management Action Plans:** 1. We will coordinate with Information Resources Academic Information System (AIS) to establish MedHub system support activities and serve as the central hub for system enhancements and business requirements, etc. 2. We will review all scheduling systems and existing MedHub vendor interfaces. Will then evaluate and determine if expanding the interfaces is necessary including an alignment with action plan #1 in observation #2. 3. We will evaluate MedHub system support model. **Action Plan Owners:** Associate Dean for Graduate Medical Education (#1) Assistant Vice President, Academic Information Systems (#1, #2, #3) **Target Completion Dates:** 1. July 31, 2020 2. August 31, 2020 3. June 30, 2020

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Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Medium **4. Strengthen System Access Controls** MedHub, a third party system, does not currently have user access linked to the active directory to ensure access removal when employees terminate or no longer have GME program responsibilities. GME procedures require user access deactivation after employee resignations or with more than 90 days inactivity; however, controls do not exist to ensure access is removed when there are resignations/transfers. The following MedHub GME security issues were identified: • Seventy-two terminated employees still have active user accounts. • Three GME users, who no longer have GME responsibilities, have security roles. A gap in controls for ensuring appropriate system access and/or system security roles may result in inappropriate access.	1. Integrate MedHub to active directory to minimize reliance on manual deactivation of users and increase greater controls for ensuring terminated employees user access removals. 2. Evaluate security access and terminate MedHub user accounts for employees who are no longer working at the institution or who no longer have GME related responsibilities. 3. Update GME MedHub User Access procedure to identify user access management. 4. Establish user access monitoring process for periodic verification and evaluation of user access.	**Management Action Plans:** 1. We will coordinate with Information Resources Academic Information System (AIS) to evaluate and integrate MedHub access to active directory. 2. We will remove access for the inactive employees and for those who no longer have GME responsibilities. 3. We will update the MedHub User Access policy to identify user access management. 4. We will periodically review MedHub access for the different users and update or remove access as needed. The periodic review procedures will be included in the MedHub User Access policy. **Action Plan Owners:** Associate Dean for Graduate Medical Education (#1) Assistant Vice President, Academic Information Systems (#1) Assistant Dean for Graduate Medical Education (#2 –4) **Target Completion Dates:** 1. September 30, 2020 2. April 30, 2020 3. June 30, 2020 4. July 31, 2020

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 preceding 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.