utmb Health

The University of Texas Medical Branch
Audit Services

Audit Report

Revenue Cycle Operations Scorecard Data Integrity Audit

Engagement Number 2018-009

December 2018

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Background
In UTMB Health's approved fiscal year (FY) 2018 budget, total net patient care revenue represented approximately 82% of the institution's $1.757 billion budgeted operating revenue. It is, therefore, incumbent upon institutional leadership to closely monitor actual patient revenue performance against budgeted expectations to effectively respond to unanticipated variances. Executive and senior leadership use a monthly Key Performance Indicator Scorecard (Scorecard) to assist in their monitoring activities.

The Revenue Cycle Operations department (RCO), utilizing source data from Epic and PeopleSoft, produces the monthly Scorecard measuring and tracking the performance of 24 patient revenue related metrics across the Health System Enterprise, Academic Enterprise, and Revenue Cycle Operations. The Scorecard includes both internally and externally identified performance targets and/or goals.

Management's reliance on the RCO Scorecard for decision support necessitates reasonable assurance that the reported metrics are accurate and complete, thus, the inclusion of this risk-based audit in Audit Services' FY 2018 plan.

Audit Objectives
The objective of this audit was to assess the internal controls in place to ensure the integrity of the Revenue Cycle Operations scorecard.

Scope of Work and Methodology
The audit scope covered current processes to produce the RCO Scorecard (Scorecard) for July 2018. Our methodology included interviews with key personnel, review of relevant documentation, and testing of tools and processes to ensure the accuracy, completeness and integrity of scorecard data.

The audit was conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing* as promulgated by the Institute of Internal Auditors.

Audit Results
Scorecard Generation Process
Several years ago, RCO created approximately 20 Excel templates to extract patient revenue related data directly from Epic's Clarity application and the "Olap" cubes to create the monthly Scorecard. On the 1st of each month, these Excel templates are refreshed and the applicable data copied into a workbook to create the images used to generate the draft Scorecard in a "read only" PowerPoint presentation. Various levels of RCO management review the draft Scorecard to provide commentary/explanations for those metrics applicable to their area of responsibility. Upon return of these responses, this additional information is incorporated into the final Scorecard and distributed to UTMB Health's executive leadership around the 15th of each month.

Audit Services obtained and reviewed the July 2018 draft Scorecard communications process, noting appropriate levels of leadership are reviewing the draft Scorecard and providing timely and sufficient explanations to RCO leadership for the metrics and any variances. Additionally, it

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appears that the explanations/changes are incorporated into the final scorecard and it is distributed timely to applicable institutional leadership.

Data Extraction
As part of the monthly extraction process, source code written into the background of the templates overwrites the previous month's data in the template with the new month's data for the Scorecard. Revenue Cycle Solutions leadership indicated they maintain copies of the original source code; however, subsequent changes to the Excel templates are not documented or tracked to show the "what, when, who, where, and how" of each change(s) made, nor are Scorecard recipients notified of any changes made.

Revenue Cycle Solutions personnel indicated they have had informal discussions with RCO senior leadership about the need for a documented change control process.

> **Recommendation 2018-009-01-RH:**
> The Vice President, RCO, should ensure an appropriate change control process is developed, documented, and implemented to monitor and track changes made to the Excel templates.
>
> **Management's Response:**
> Changes are requested by Revenue Cycle Directors and the Revenue Cycle VP based on conversations in Leadership meetings. The VP and Directors are always made aware of changes prior to implementation. Going forward, these changes will be documented and tracked within the workbook.
>
> **Implementation Date:**   12/1/18

Detailed procedures provide guidance to help ensure consistent execution of the scorecard processes. Audit Services review of the scorecard instructions indicated that while they limitedly describe the data extraction and data generation processes they do not fully describe the current practices. With only one person performing the extraction and generation process, lack of a detailed documented process presents a continuity risk to the process should a change in responsible party occur.

> **Recommendation 2018-009-02-RM:**
> The Vice President, RCO, should ensure the scorecard instructions are reviewed, in alignment with expected internal control activities, and appropriately documented and updated. All updated procedures/instructions should be reviewed with appropriate individuals.
>
> **Management's Response:**
> Procedures have been updated and have been reviewed with the appropriate individuals.
>
> **Implementation Date:**   12/1/18

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Data Integrity

Industry best practices to ensure the integrity of reported data include periodic reviews of the report compilation tools such as the RCO Scorecard templates and workbook to verify they are functioning as intended. Audit Services interviews with RCO personnel indicated such reviews do not occur. Alternatively, they rely on their knowledge and experience with the templates and workbook to identify potential problems, noting no issues have occurred to date.

Recommendation 2018-009-03-RM:
The Vice President, RCO, should ensure the Scorecard templates and workbook are periodically reviewed to ensure continued functionality. This review should include validating the accuracy of formulas and completeness of data capture.

Management's Response:
Quarterly reviews will be scheduled to ensure continued functionality.

Implementation Date: 12/1/18

Audit Services noted the templates do not maintain historical data. However, the associated workbook retains historical data for a six month period and other Epic reports are available that maintain historical data supporting the Scorecard metrics.

Access Management

Access management is a process that helps ensure the security and integrity of data, software applications, reports, etc. by restricting access to authorized users. Audit Services review and assessment of access management for the Scorecard templates and workbook indicated they are both stored on an RCO shared network drive. Revenue Cycle Solutions management controls access to this shared network drive. The templates are further restricted to individuals with Epic Clarity access; however, the workbook is not similarly restricted.

Recommendation 2018-009-04-RH:
The Vice President, RCO, should ensure access to the Scorecard workbook is password protected to protect workbook data from potential manipulation or loss.

Management's Response:
Scorecard workbook has been password protected and password has only been shared with the appropriate individuals.

Implementation Date: 12/1/18

Data Analysis/Testing

Audit Services judgmentally and randomly selected 9 Hospital/Health System Billing (HB) key metrics and 7 Academic Enterprise/Physician Billing (PB) key metrics (16 total) reported on the July 2018 RCO KPI Scorecard to determine if the data used in the creation of the final scorecard were accurate and complete.

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Audit Services used the established parameters within the templates and reports to generate the data independent from the templates and reports. Additionally, Audit Services independently ran applicable Epic reports for 3 of the metrics selected. Our data analysis/testing indicated all 16 key metrics tested appear to be accurate and complete. Additionally, the templates and reports used appear to be working as intended and can be re-created when/if needed.
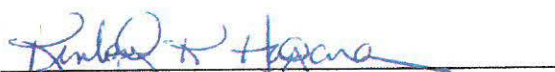
Benchmarking
Audit Services noted 10 of the key metrics tested had associated targets/benchmarks for the fiscal year. We reviewed the established processes for updating the benchmarks noting they appear to be adequate to ensure that current benchmarking data is being used.
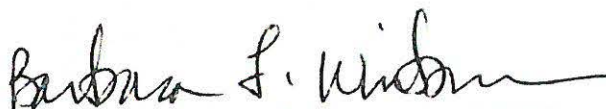
Conclusion
Overall, Audit Services review of the processes in place to produce the Revenue Cycle Operations Scorecard indicated sufficient controls are in place to assure data integrity. Opportunities to further strengthen or enhance the processes were noted for data extraction, data integrity, access controls, and scorecard instructions to ensure compliance with established guidance.

We greatly appreciate the assistance provided by Revenue Cycle Solutions, Revenue Cycle Operations, and other staff and hope that the information presented in our report is beneficial.

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