Category: Clinical Research Operations – Completed Project

Data Analytics on Data Reporting: Building on Current Tools to Transform Available Data into Useful Tools

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1. Background

In 2016, a data reporting tool was created and implemented at the Helen Diller Family Comprehensive Cancer Center (HDFCCC). The tool tracks data entry completion rates by CRC, by study, and by type of event (e.g. study visit, query, SAE, etc.). The tool has been used to identify and focus study team efforts on specific areas with deficiencies, inform on staffing needs, help with workload assessments, and provide data for report-outs to senior leadership. Data completion (defined as outstanding data entered into the electronic data capture system) has improved year after year since implementing the tool (currently at 85% overall in 2018) and the report has allowed us to be proactive in taking the appropriate actions when goals are not met.

However, since the implementation, the tool had not undergone optimization; furthermore, there was no standardized method of transforming the raw data collected into a simple report to display key performance indicators and data trends in order to inform future strategies and prioritization.

2. Goals

1. Refine Elements: Scrutinize all data points from established data reporting tool for relevance in order to remove any non-value added elements
2. Automate process: Develop an automated process of data manipulation to prevent errors and to reduce effort
3. Develop Dashboard: Use data visualization tools to transform data into a simplified report for use by study teams

3. Solutions and Methods

1. Engaged study teams for feedback on areas of improvement for data report tool
2. Used Microsoft Excel as platform of choice for data analytics and visualization
3. Developed metrics and visualizations to highlight deficiencies

4. Outcomes and Future Directions

The data reporting tool was updated to become more streamlined, with elements both added and deleted.

- Staffing information was included in order to trend data completion vs staffing changes
- Tool was re-formatted to reduce file size and prevent breaks in Excel formulas
- Added in a calculation of total volume of study visits to help give additional context for each program's monthly data completion

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- Automated the process of creating a monthly report through the use of pivot tables and formulas

An interactive data dashboard was created in Excel for report-outs to study teams, in addition to senior leadership.

- Monthly reports that can be customized by program and month
- Data benchmarks against previous month as well as the Cancer Center average
- Includes tables, graphs, and tables

As of April 2019, Clinical Research Managers are now required to present monthly summaries from the data dashboard to their study teams and Program Leadership. This dashboard has helped in visualizing trends over time, becoming proactive in hiring, distributing workload, and troubleshooting specific areas of need, such as reducing the number of days to enter data.

Address lessons learned and future directions:

- Do not collect or request information beyond what is required; on the flip-side, present rationale and justification for the data points that are being requested
- Data dashboard can provide an efficient means of providing information to aid in business decisions
- Do not need expensive programs, Microsoft Excel allows for simple data analytics