

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

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## Background

In 2016, a data reporting tool was created and implemented at the UCSF Helen Diller Family Comprehensive Cancer Center (UCSF HDFCCC). The tool tracks data entry completion rates by Clinical Research Coordinator (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 86% overall as of May 2019) and the report has allowed us to be proactive in taking the appropriate actions when goals are not met.

In 2019, the tool underwent optimization in order to standardize the 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.

## Goals to be achieved

The following goals were used to establish the scope of work

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; and
3. Develop Dashboard: Use data visualization tools to transform data into a simplified report for use by study teams

## Methods Implemented

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

The implementation of new changes spanned across 3 months, from initial feedback to official roll-out of updated tool. The feedback was received from daily users of the tool (CRCs) as well as the Clinical Research Managers (CRMs) from the cancer center.

## Outcome

The data reporting tool was streamlined, with elements added and deleted.

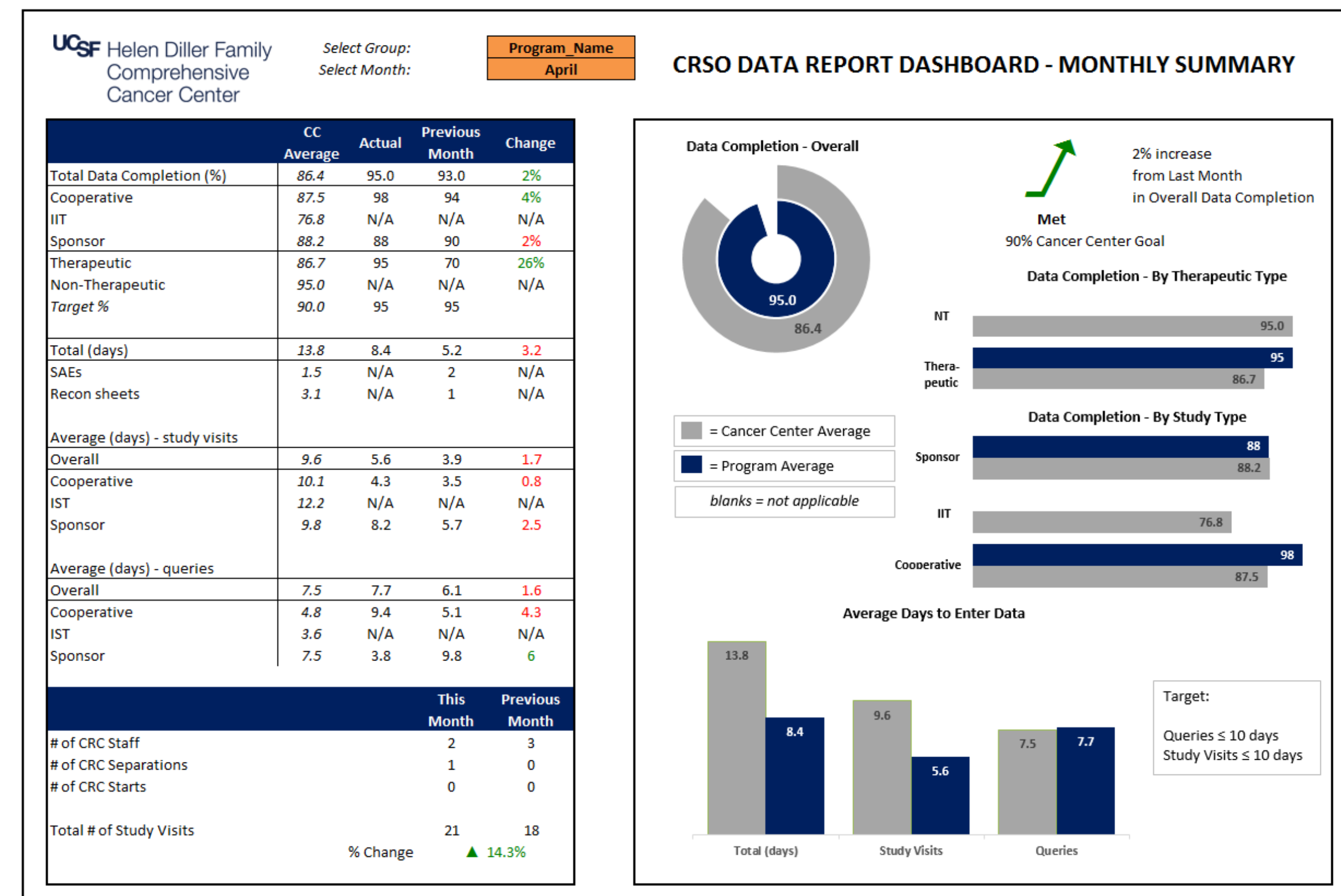
- Staffing information was included in order to trend data completion vs staffing changes
- Tool was re-formatted to reduce file size and prevent breaks in Excel formulas
- Added in a calculation of total volume of study visits to help give additional context for each program's monthly data completion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

As of April 2019, CRMs are required to present monthly summaries from 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.

## Program Specific Data Dashboard - Demo



## Lessons Learned

- 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

## Future Direction

- Integration with OnCore and ability to run reports
- Calculation of % data completed within x days (i.e. within 5, 10, and 30 days)