ontada

Implementing a Pilot Chart Abstraction Period Improves the **Overall Accuracy Rate in Chart Abstraction**

Spark S, Reinwald S, DiLullo S, Fonseca L, Haydon W, Kubisiak E, Patton G, Paulus J, Sykes C, O'Brien M. Ontada, Boston, MA, USA

Background

- Manual chart abstraction is a vital component of real-world research (RWR), and associated processes to ensure accuracy are pivotal.
- We developed a novel process that would help improve overall accuracy called the Pilot Chart Abstraction Period.
- The accuracy of data capture is determined through source data verification and accuracy rates are calculated to assess quality.
- Associated thresholds for these quality benchmarks can direct timely corrective action.
- Additionally, identifying variables that may be challenging for abstractors at the start of a study is an opportunity to mitigate potential issues and offer increased overall data accuracy and quality.

Objectives

Implementation of a pilot chart abstraction process with a goal of addressing errors

early in the chart abstraction process to improve overall accuracy.

Methods

- The pilot chart abstraction workflow (Figure 1) was implemented during fifteen retrospective observational chart abstraction studies within The US Oncology Network.
- The number of charts per study ranged from approximately 200-600 with an average of 8 abstractors per study.
- The overall accuracy rate the number of correctly abstracted variables divided by the total number of variables observed during chart abstraction data validation – was calculated for all Pilot charts.
- The Full Study charts accuracy rate was calculated based on a percentage of randomly selected completed charts.

Figure 1. Pilot and Full Study Chart Abstraction Workflow

Educational session provided to abstractors prior to study

Pilot period begins for 2 weeks with 2 charts per abstractor

After pilot chart abstraction is completed, all pilot charts are checked for quality and accuracy

Pilot Accuracy Rate is calculated

Pilot debrief is conducted with reeducation focused on variables lower than 80% accuracy rate Pilot Period is completed

Full Study begins

At the completion of Full study, the overall accuracy rate is calculated

Results Figure 2. Pilot Accuracy Rate vs Full Study Accuracy Rate per Study accuracy Final

The mean pilot accuracy rate for the fifteen studies was 94.5% (Figure 2). After execution of the re-education program, the mean full study accuracy rate was 97.1%, reflecting a statistically significant increase from the mean pilot accuracy rate (p=0.046, from Wilcoxon rank-sum test)



Study 1 was found to have 4 variables that were below the 80% accuracy rate within the pilot chart abstraction period. Reeducation was provided after the pilot for these specific variables.

Figure 3. Study 1 Individual Variable Accuracy

- High complex variables (Table 1) were more likely to be challenging for abstractors and required re-education after pilot.
- For example, biomarkers, including somatic and germline, were a common variable for many of the studies re-education plan.
- When reviewing Study 1 on a variable level (Figure 3), re-education was required on 3 highly complex variables and 1 medium complex variable.
- difficultly in abstracting out-of-network documents and incomplete treatment histories in the charts.
- One of the variables (treatment) had a decrease in accuracy most likely due to the

Table 1. Complexity level for chart abstracted variables

- Educational sessions after the 2-week pilot chart abstraction period proved to be beneficial in improving the overall accuracy rate in these studies.
- Providing additional education upfront for the higher complexity variables would be beneficial.
- Any opportunity to improve quality and the overall accuracy rate for chart abstraction is beneficial to RWR and can continue to supplement other methods of data abstraction.
- More ways to provide support for manual chart abstractors may be necessary as EHR become more complex and variable complexities increase.
- Enhancing training for data abstractors is a vital function to generate fit-for-purpose research data.



RWD111

Discussion

• Re-education is a key component to the success of a Pilot Chart Abstraction Period.

• We found that 3 of the variables increased their accuracy after Full study.

Low Complexity Medium Complexity High Complexity Clinical Outcomes •Clinical Characteristics •Systematic Treatments Initial Diagnosis •Response Assessment-•HCRU (Healthcare Resource Utilization) •Recurrence Imaging •Metastatic Disease •Biomarkers •ED Visits Hospitalizations •Customized variable •Surgery •Radiation

Conclusions

• Implementing a pilot chart abstraction period and addressing potential errors increased the overall accuracy rate, ensuring higher quality data.