New Quality Improvement Plan for CIBMTR Data

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Conflicts of Interest

There are no conflicts of interest to disclose.
Learning Objectives

We aimed to:

Understand how promoting continuous process improvement around data management on a regular basis assists in maintaining data accuracy.

Understand Performance Improvement techniques, such as the “5 Whys” approach and focused audits.

Recognize and understand how promoting an action plan for follow-up and loop closure when an error trend is identified.
The University of Maryland Medical Center’s Blood and Marrow Transplant (BMT) program is committed to continuous quality improvement.

Performance Improvement techniques and Lean philosophies are used as tools to assess procedures and evaluate work efficiency and data accuracy.

Specific areas of improvement are discussed and evaluated based on monthly internal assessment audit results.
UMGCC CIBMTR Audit 2014

(Passing score was ≥97%)

- Critical data field rate = 1.6%
- Overall data field rate = 1.7%
The program’s target accuracy rate is 100%. During routine assessment of internal audit results, it was noted that the program’s accuracy fell below 97%.
What to Do?

As a result, the BMT Program Manager along with the data managers enlisted support from the Senior Quality Manager, to perform a root cause analysis, using the “5 Why’s” approach. In the past, error trends were identified but root cause analysis was not utilized and consistent follow-up did not occur; the loop was not closed.
Closing the Loop

The Senior Quality Manager, BMT Program Manager, and data managers developed a plan to close the loop which includes:

- Retraining of Data Managers with competency demonstrations;

- If error trends are identified, perform focused audits bi-weekly for 90 days with a goal of 97-100% accuracy.
Result

- Error trends were identified, re-auditing occurred bi-weekly with a goal of 100% accuracy within a designated time frame of 90 days.

- The error trend identified was date of Latest Disease Assessment.
## 5 Why’s Approach

<table>
<thead>
<tr>
<th>Identified Error</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest Disease Assessment</td>
<td>Needs Re-Training on Latest Dis. Assess. indicated</td>
</tr>
<tr>
<td></td>
<td>Inexperienced New Personnel</td>
</tr>
<tr>
<td></td>
<td>Lack of Retention of Learned Material</td>
</tr>
<tr>
<td></td>
<td>Error in data entry transcription</td>
</tr>
<tr>
<td></td>
<td>Date entered was not with/in 30 days of f/u date (for hematological assessment).</td>
</tr>
</tbody>
</table>

### Root Cause Analysis

- Root Cause: Lack of utilizing "CIBMTR Manual" when in question.
<table>
<thead>
<tr>
<th>Date</th>
<th>Interval</th>
<th>Code</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
<th>Phase 6</th>
<th>Phase 7</th>
<th>Phase 8</th>
<th>Phase 9</th>
<th>Phase 10</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/1/2016</td>
<td>2 wks.</td>
<td>8/15/2016</td>
<td>4747764</td>
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<td>0</td>
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<td>0</td>
<td></td>
</tr>
<tr>
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<td>8/15/2016</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
<td>0</td>
<td>Disease detected should have been checked</td>
</tr>
<tr>
<td>8/31/2016</td>
<td>4 wks.</td>
<td>8/31/2016</td>
<td>4517795</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Typo on date of f/u</td>
</tr>
<tr>
<td>8/31/2016</td>
<td>4 wks.</td>
<td>8/31/2016</td>
<td>4747749</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>Patient relapsed</td>
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<tr>
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<td>9/15/2016</td>
<td>4619229</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Prot-Electro was done on date of contact but previous test was reported.</td>
</tr>
<tr>
<td>9/15/2016</td>
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<td>9/15/2016</td>
<td>4619302</td>
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<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
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</tr>
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</tr>
</tbody>
</table>
Continuous Process Improvement

If re-auditing demonstrate no improvement, the hospital’s data scientist team will conduct an internal examination and share recommendations with the Program Director and Senior Quality Manager.
Routine Audit detects >3% error rate

QM: RCA

Follow-up audit detects ≤ 3% error rate

Monitoring confirms acceptable error rate

Continuous Monitoring

Follow-Up audit detects >3% error rate

Monitoring confirms acceptable error rate

Internal Data Scientist: RCA

CAPA

Follow-up audit detects ≤ 3% error rate

Revise CAPA

Follow-up audit identifies ≤ 3% error rate

Revise CAPA

External Data Scientist: RCA

RCA: Root Cause Analysis
CAPA: Corrective Action/Preventive Action

8/23/2016

BMT Data Monitoring Plan
Implement Solution!

- Retraining provided and ongoing.
- Utilization of the CIBMTR training manual and other resources has been enhanced.
- Evaluation and Redistribution of workload when needed.
The BMT program purchased a high quality BMT informatics software program to enhance quality and efficiency of clinical data capture and analysis for CIBMTR.
Bravo!

- Monthly internal audits have shown at least a 97% overall accuracy rate over recent months and the critical field error rate has consistently been no greater than 2-3%.

- Since the process on loop closure has been enhanced internally, if a problem is identified the BMT program is better equipped to manage it.
Internal Audit Results

2016 Internal Assessment Results

- Q1: 94.3%
- Q2: 96%
- Q3: 97.3%
- Q4: 97%

Quarter
Conclusion

- Accuracy of data abstraction is critical for a BMT program. Convening a multidisciplinary team to perform a root cause analysis and develop a comprehensive action plan was successful to achieve and maintain an overall accuracy rate of greater than 97%.

- Since this action plan, with an emphasis on follow up and loop closure has been set into place, data accuracy has drastically improved and higher accuracy rates have been sustained.

- This new quality improvement plan has and will continue to positively impact the transplant center’s CIBMTR data accuracy now and in the future.