A Dedicated Transplant Informatics Team Enhances Quality, Safety and Compliance Outcomes

LeAnn Batterson  
Database Coordinator  
Mayo Clinic Rochester  

2012 BMT Tandem Meeting  
Wednesday, February 1, 2012  
1:30 pm – 2:30 pm
Disclosures

• None
Objectives

• Describe the issues that lead to the development of an improvement process in data management and reporting.
• Discuss the methodologies used to implement the changes.
• Review the improvement in quality of data management throughout the transplant continuum of care.
Identified Issues

- Issues that dictated need for Improvement
  - Noncompliant with form completion
  - Submission of forms below registry goal
  - Amount of overtime
Process Improvement Method

Plan-Do-Study-Act (PDSA) Method

- **PLAN**
- **DO**
- **STUDY**
- **ACT**

Current Process

Project Completion
Process Improvement Method

Plan-Do-Study-Act (PDSA) Method

Project Completion

ACT: Outcomes & processes

Study: Monitoring & revise

Do: Updates, training, validation & sources

Plan: Identify key elements & processes

Current Process
Plan

• Identified key data elements of each form
• Identified data source of information
  – Database (Patient management, data management and research repository)
  – Manual versus electronic retrieval of data
• Time completion of each form
• Validation process
• Personnel to complete forms and training
Plan-Do-Study-Act (PDSA) Method

**Study:** Monitoring & revise

**Do:** Updates, training, validation & sources

**Plan:** Identify key elements & processes

**ACT:** Outcomes & processes

Current Process

Project Completion
Do

• Training references/manuals
  – Improved efficiency and standardization
  – Training of staff (nurses, physicians, referral coordinators) to enter data

• Validation process for data integrity
  – Team validation of data information

• Identified key areas of data source
**Process Improvement Method**

Plan-Do-Study-Act (PDSA) Method

- **Plan**: Identify key elements & processes
- **Do**: Updates, training, validation & sources
- **Study**: Monitoring & revise
- **ACT**: Outcomes & processes

Current Process

Project Completion
Study

• Routine monitoring of process
• Reviewed processes
  – Completion rate
  – Submission rate
**Process Improvement Method**

**Plan-Do-Study-Act (PDSA) Method**

- **Plan**: Identify key elements & processes
- **Do**: Updates, training, validation & sources
- **Study**: Monitoring & revise
- **ACT**: Outcomes & processes

**Current Process**

**Project Completion**
Act

- Increase or Realigned FTE
- Improved accuracy of data submitted
- Identified specific specialty (allo vs auto) to be experts on those forms
- Team Effect: Open discussion on processes and review of new guidelines and issues
- Improved outcomes
FTE Assessment & Implementation

<table>
<thead>
<tr>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
</tr>
</tbody>
</table>

Database Coordinator FTE

Graph showing FTE levels from 2005 to 2010.
BMT Volumes
Patient Survival

BMT Volume and Patient Survival 2005 - 2010

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Survival @ 100 Days</td>
<td>94.6%</td>
<td>94.3%</td>
<td>93.8%</td>
<td>95.4%</td>
<td>96.0%</td>
</tr>
<tr>
<td>Patient Survival @ 1 Year</td>
<td>83.6%</td>
<td>86.7%</td>
<td>82.5%</td>
<td>83.1%</td>
<td>86.0%</td>
</tr>
<tr>
<td># BMT Transplants</td>
<td>354</td>
<td>332</td>
<td>320</td>
<td>349</td>
<td>373</td>
</tr>
<tr>
<td># BMT Appointments</td>
<td>3639</td>
<td>3638</td>
<td>3172</td>
<td>3072</td>
<td>3743</td>
</tr>
</tbody>
</table>
Results

- Outstanding rankings for patient survival outcomes.
- Exceptional quality metrics on 100% form submission.
- Timely protocol updates.
Compliance: Form Submission

Mayo Clinic BMT Program Form Submission and Compliance
2005-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>TOTAL # BMT Forms</th>
<th>% Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1867</td>
<td>5.8%</td>
</tr>
<tr>
<td>2006</td>
<td>3475</td>
<td>5.0%</td>
</tr>
<tr>
<td>2007</td>
<td>2755</td>
<td>5.0%</td>
</tr>
<tr>
<td>2009</td>
<td>4317</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>4860</td>
<td>100%</td>
</tr>
</tbody>
</table>
Conclusion

– Increased efficiency of data management
  • Achieved 100% regulatory forms submission
– Achieving greater than expected patient outcomes for one year post transplant survival.
– Successful completion Bronze Quality Fellows Program certification by all members of the transplant informatics team.
"Coming together is a beginning. Keeping together is progress. Working together is success."  Henry Ford