A DEDICATED TRANSPLANT INFORMATICS TEAM ENHANCES QUALITY, SAFETY, AND COMPLIANCE OUTCOMES
Batterson, L.K., Geerdes, P.A. Mayo Clinic - Rochester, Rochester, MN

Purpose: The success of the Transplant Center Informatics Team will position the Blood and Marrow Transplant (BMT) Program to provide the best care to each patient every day and advance the practice of transplantation.

Annually approximately 400 patients are transplanted. The expected outcomes for the Transplant Informatics BMT Program are:

- Improvement in quality of data management throughout the transplant continuum of care.
- Enhanced communication flow through the various entities to enable achievement of transplant patient outcomes.
- Ability to achieve outstanding rankings for regulatory compliance and exceptional quality metrics.

Methods: PDSA methodology began with reviewing the key data elements of each form, the data source of the information, the time needed to complete each form, and the validation process prior to submission. Crucial areas identified were the number of manual data points, the information and ongoing assessment of our current database repository of information. The team developed training references to ensure an understanding of each of the key data elements and the importance of verifying and validating the data. The team created a streamlined process to ensure data integrity in order to ensure we meet regulatory compliance for accurate form submission.

Results: The process improvement projects allowed the Transplant Informatics Team to receive outstanding rankings for regulatory compliance and exceptional quality metrics on 100% form submission. The process assisted with timely protocol updates and successful management of patient outcomes. Continuous validation and audits of our process have ensured our meeting the expectations of value and safety for our patients.

Table. BMT Volume and Patient Survival 2005-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Patient Survival @ 100 Days</th>
<th>Patient Survival @ 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>94.6%</td>
<td>83.6%</td>
</tr>
<tr>
<td>2006</td>
<td>94.3%</td>
<td>86.7%</td>
</tr>
<tr>
<td>2007</td>
<td>93.8%</td>
<td>82.5%</td>
</tr>
<tr>
<td>2008</td>
<td>95.4%</td>
<td>83.1%</td>
</tr>
<tr>
<td>2009</td>
<td>96%</td>
<td>81.1%</td>
</tr>
<tr>
<td>2010</td>
<td>96%</td>
<td>86%</td>
</tr>
</tbody>
</table>

Conclusion: This process improvement initiative has increased efficiency of data management. The Transplant Database Team achieved 100% submission of regulatory forms. It has also achieved greater than expected patient outcomes for one year post transplant survival.

THE INCIDENCE OF NEW MALIGNANCY IN PATIENTS WITH ACUTE LEUKAEMIA TREATED WITH ALLOGENEIC HAPLOIDIC STEM CELL TRANSPLANTATION (HSCT) 1971 – 2006. A RETROSPECTIVE NATIONAL COHORT STUDY
Larsen, H.B.1, Petersen, H.2, Roepstorff, C.2, Berthelsen, A.-M.2, Sønegaard, H.1, Heilmann, C.1, Roepstorff, C.2, Rigshospitalet Copenhagen, Copenhagen; 1Rigshospitalet Copenhagen, Denmark

Background: Patients treated with allogeneic HSCT have an increased risk of later acquiring new malignancy. The risk is linked to treatment with chemotherapy, irradiation and immunosuppressive drugs. The increased risk of new malignancy has been estimated to four to eleven fold.

Purpose: The purpose was to describe the incidence of new malignancy among Danish patients treated for acute leukemia by allogeneic HSCT. Post-Transplant Lymphoproliferative Disease was not included in the analysis.

Methods: This retrospective study covers all Danish patients (adults and children) diagnosed with acute leukaemia and treated with myeloablative HSCT in the period April 14th 1971 – Jan 1st 2006. According to the Danish Act on the Civil Registration System (CPR) all Danes are assigned a personal identification number by birth allowing for centralized nationwide registration of personal data. The CPR provides centralized access to all hospital admission, pathology reports and limited access to medical files and death. Accordingly, data collection is based to pathology and death reports for all patients treated with HSCT.

Results: A total of 460 patients with acute leukemia were treated with allogeneic HSCT. Of these, 27 (5.9%) were diagnosed with a new malignancy. Of the 27 patients 2 (7%) were diagnosed with a hematologic cancer (leukemia/MDS), 25 (93%) with solid tumors. The site of the tumors were CNS (n=6), skin (n=4), lung (n=3), pancreas (n=2), oral (n=2), thyroid (n=1), cervix (n=2), uterus (n=1), oesophagus (n=1), prostate (n=1), unknown (n=1). In fourteen (52%) of the 27 patients, the new malignancy was the primary cause of death.

The median time from HSCT to diagnosis of a new malignancy was 3707 days (10.16 years) (range 32 days –7684 days). The incidence of a new malignancy was 2% (n=7) at 5 year, 2.8% (n=13) at 10 years, 4.8% (n=22) at 15 years, 5.7% (n=26) at 20 years and 5.9 (n=27) at 25 years. Of the 27 patients diagnosed with a new malignancy, 23 (85%) were conditioned with TBI and 8 (30%) were also diagnosed with ChGvHD.

Conclusion: In this Danish cohort of acute leukemia patients treated with HSCT the incidence of a new malignancy was 6% and 3% of the total population (n=460) died as a result of this new malignancy. The advantage of this study is a centralized access to pathology and death information for all patients treated and living in Denmark. The centralized access to information allows high quality and minimizes problems with incomplete data.

CIBMTR MONTHLY INTERNAL ASSESSMENT IMPROVES QUALITY OF REGISTRY DATA
Minas, N.M., Kneble, K. University of Maryland Medical Center, Baltimore, MD

Background: Important health decisions about oncology are often based on data, therefore the accuracy of data used in decision-making is of utmost importance. Further, inaccurate data can affect the results of studies and eventually lead to invalid results. To ensure the highest degree of accuracy of CIBMTR (Center for International Blood and Marrow Transplant Research) data, the University of Maryland Blood and Marrow Transplant team implemented an additional internal monthly assessment to ensure the validity and quality of registry data collected.

Methods: The Blood and Marrow Transplant Program Manager and data managers developed an internal assessment tool to assess for discrepancies in the following data points collected about patients: 1) date of engraftment of absolute neutrophil count, 2) date of engraftment of platelets, 3) onset of acute graft versus host disease (GVHD), 4) onset of chronic GVHD, 5) diagnosis date, 6) conditioning regimen, 7) disease status, 8) Karnofsky performance status, 9) transplant date, and 10) latest follow-up date. From February to July of 2011 the CIBMTR forms of four subjects per month (40%) were randomly selected for audit. These forms were then audited using an original internal assessment form by the data managers.

Results: The percentage of data accuracy for each data point measured ranged from 60% to 100%, with engraftment of platelets scoring the lowest. The accuracy of diagnosis date, Karnofsky performance status and latest follow-up date ranged from 67% to 77%. The accuracy of the remaining data points were greater than 90%. Corrective action was taken by reviewing all CIBMTR forms with “engraftment of platelets” responses and correcting the data in the electronic database. This was repeated for all data points with less than 100% accuracy rate. Common causes of inaccurate data included the recording of transfusion dates other than platelet infusions, incorrect timing of follow-up dates and difficulty obtaining pathology reports from referring physicians.

Conclusions: The internal audit process demonstrated that despite following standard CIBMTR processes for data entry, some data was inaccurate. Utilization of an additional monthly internal assessment resulted in a higher degree of accuracy. The CIBMTR monthly internal assessment of data is now routinely performed in our organization. Organizations that do not currently perform regular internal auditing for accuracy of CIBMTR data may want to consider this.