Center for International Blood and Marrow Transplant Research

Sharing Knowledge. Sharing Hope.
Center for International Blood and Marrow Transplant Research

- A research affiliation between the Medical College of Wisconsin’s International Bone Marrow Transplant Registry (1970) and the National Marrow Donor Program (1987) to support clinical research in BMT & related fields

- Established July 2004 in recognition of the common mission and complementary strengths of the two organizations
What do we do?

- CIBMTR administers an Outcomes Registry to advance science of HCT through:
  - Research supported by the NIH and HRSA (via SCTOD)
  - Clinical Trials through BMT CTN supported by NIH, and RCI BMT
  - Administration of the SCTOD as part of the CW Bill Young Cell Transplantation Program (the “Program”)
What do we do?

What are you a part of:
- You are an essential part of this outcomes registry
- Tremendous value derives from your contributions
More than 338 centers used FN2/3 to enter data in 2012

~90% of all forms received were submitted through FN2

Most of the other 10% are forms that must be sent on paper

Supporting documents
## Forms Submitted 2012

<table>
<thead>
<tr>
<th>Form</th>
<th>Number submitted 2012</th>
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<tbody>
<tr>
<td><strong>Total Forms</strong></td>
<td><strong>183,919</strong></td>
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<tr>
<td>CRID forms</td>
<td>23,665</td>
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<tr>
<td>Pre-TED</td>
<td>22,984</td>
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<tr>
<td>Post-TED</td>
<td>86,503</td>
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<tr>
<td>Select TED</td>
<td>2,200</td>
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<tr>
<td>Baseline CRF (2000)</td>
<td>2,829</td>
</tr>
<tr>
<td>100 day CRF (2100)</td>
<td>2,681</td>
</tr>
<tr>
<td>6 mo. to 2 year CRF (2200)</td>
<td>6,360</td>
</tr>
<tr>
<td>3+ year CRF (2300)</td>
<td>13,633</td>
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</table>
Geographic Distribution of All Registered Patients 2012

Allogeneic transplants
N=182,793

Autologous transplants
N=166,632

(Source: Zw11_2) Assembly12_11.ppt
<table>
<thead>
<tr>
<th></th>
<th>TED Data</th>
<th>CRF Data</th>
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<tbody>
<tr>
<td>Total</td>
<td>349,425</td>
<td>123,329</td>
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<tr>
<td>2011</td>
<td>18,969</td>
<td>2,015</td>
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<td>2012</td>
<td>14,889 (incomplete)</td>
<td>1,401 (incomplete)</td>
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CIBMTR Observational Database
How are we using the data to deliver value?

- Research
- Clinical Trials planning and support
- Government reporting
- Inform policy making
- Providing data for centers
Research Oversight

- Advisory Committee: 18 elected, 7 appointed members, 14 ex officio members; represent
  - Geographically diverse transplant centers
  - Donor and collection centers
  - Bioethics
  - Cord Blood Banks
  - Business
  - Patients and families
  - Government
- 19 Working Committees
  - Formulate the scientific agenda
2012 American Society of Hematology Meetings

- Abstracts
  - 3 BMT CTN
  - 3 Chronic Leukemia WC
  - 3 Immunobiology WC
  - 2 Lymphoma WC
  - 2 Pediatric Cancer WC
  - 4 Plasma Cell Disorders WC
  - 3 Regimen-Related Toxicity WC
  - 2 Statistical Center

22 Total (18 Oral / 4 Posters)
2013 BMT Tandem Meeting

- Abstracts
  - 2 Acute Leukemia WC (1 poster/1 oral)
  - 1 Graft Sources and Manipulation (oral)
  - 1 Infection and Immune Reconstitution WC (oral)
  - 1 Lymphoma WC (oral)
  - 1 Regimen-Related Toxicity and Supportive Care (oral)
  - 3 BMT CTN (oral)
  - 2 RCI BMT (oral)
  - 1 HSR (poster)

12 Total (10 oral and 2 poster)
54 Peer-reviewed Publications 2012

- 33 Working Committees
- 7 Health Services Research Program
- 8 BMT CTN
- 3 Statistical Center
- 3 Other

- 20 BBMT
- 10 Blood
- 5 BMT
- 4 NEJM
- 2 Haematologica
- 13 other (single publication per journal: JCO, Lancet Oncology, Hematology, Statistics in Medicine etc.)
Current CIBMTR
Observational Studies

- 54 studies with manuscripts in preparation
- 137 other approved studies in various stages of development
- 62 (97 submitted) new study proposals to be discussed at this year’s Working Committee meetings
<table>
<thead>
<tr>
<th>Year</th>
<th>Completed</th>
<th>New</th>
<th>Continuing</th>
<th>Total</th>
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<tr>
<td>2005</td>
<td>22</td>
<td>39</td>
<td>113</td>
<td>174</td>
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<td>2006</td>
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<td>2007</td>
<td>41</td>
<td>33</td>
<td>162</td>
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<td>2008</td>
<td>38</td>
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<td>2009</td>
<td>52</td>
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<td>2010</td>
<td>62</td>
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<td>166</td>
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<tr>
<td>2011</td>
<td>37</td>
<td>40</td>
<td>199</td>
<td>276</td>
</tr>
<tr>
<td>2012</td>
<td>65</td>
<td>29</td>
<td>191</td>
<td>285</td>
</tr>
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Health Services Research

- Aligns activities of CIBMTR and NMDP Office of Patient Advocacy (OPA)
- Focus on:
  - Disparities in access and outcomes
  - Costs, cost-effectiveness
  - Center and physician practice patterns
  - Quality of care
  - 5 manuscripts, 14 abstr/presentations
Clinical Trials Support

- Blood and Marrow Transplant Clinical Trials Network - BMT CTN
- Resources for Clinical Investigations in BMT - RCI BMT
BMTCTN
Data and Coordinating Center

CIBMTR

- Overall Coordination
- Scientific Leadership
- Medical Monitoring
- Patient Advocacy
- Contracting

EMMES

- Statistical Design/Analysis
- Protocol Development/Implementation
- Lab/Repository Management
- Electronic Communications
- Data Management
- Trial Oversight/Monitoring

NMDP

(Source: Assembly 10_21) Assembly12_25.ppt
BMT CTN Centers, 2012
>115 centers have enrolled >4,900 patients since 2003

- Core Centers
- PBMTC Centers
- Affiliate Centers
## BMT CTN TRIALS - SUMMARY

<table>
<thead>
<tr>
<th>Category</th>
<th>All Trials</th>
<th>Phase II</th>
<th>Phase III</th>
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</thead>
<tbody>
<tr>
<td>Donor/Graft Source</td>
<td>12</td>
<td>6</td>
<td>6</td>
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<tr>
<td>GVHD</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Infection</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Disease Control</td>
<td>12</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Regimen Toxicity</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>QOL</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>28</strong></td>
<td><strong>14</strong></td>
<td><strong>14</strong></td>
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</tbody>
</table>
RCI BMT

- Study infrastructure in place for multicenter prospective Phase I/II trials and other studies requiring statistical and/or logistical support
- Offers statistical, study and data management, and regulatory expertise
- Not a funding mechanism
  - Cost-effective means for multicenter trials
  - Will assist PI seeking 3rd party funding
2012 RCI BMT Protocols

- 15 total protocols/studies
  - 11 open to accrual
  - 2 fully accrued, now in analysis
  - 2 protocols in development
Other Research
CIBMTR Immunobiology Research Program – 2012

- Oversees Research Repository
- Supports GVHD, Graft Sources, Immunobiology Working Committees
- Supports BMT CTN and RCI BMT trials
- Supports Histocompatibility, Cord Blood & Bioinformatics Research Advisory Groups
- Represents CIBMTR in International Histocompatibility Working Group
- 6 manuscripts; 7 Abstracts (2 Tandem, 2 EFI/IHIW, 3 ASH)
Donor-Recipient Specimen Repository 2012

- **Unrelated Donor Repository**
  - 26,136 Recipient/Donor pairs
  - 2,322 Recipient/Cord pairs
  - 13,968 samples distributed to investigators during 2012

- **Related Donor Repository**
  - 36 centers participated in 2012; 11 additional centers committed for 2013
  - 1,817 Recipient/Donor pairs

- More than 1.4 million aliquots stored
QOL Plans

- Pilot project within SCTOD to collect QOL data from recipients
  - Goal is CIBMTR patient contact with minimal center burden
- 8 centers participating
- Accrual Goal: 400 (300 adult/100 peds)
  - 316 patients
    - 249 Adult/67 Pediatric
Government Reporting
Center Volumes Report

- Data reflecting centers’ HCT volumes for 2008 - 2011 from FN
- Anticipate posting Feb 2013
- One utility/publication of data from SCTOD to the .gov website
Center Outcomes Report
Final study population - 2012

- Centers must have >90% overall f/u at 1 year
  - No centers excluded in 2012
  - Previously excluded: 4 in 2011, 11 in 2010
- 169 centers; 18,947 patients first allo HCT
- Primary outcome: One year survival
  - Overall: 64.6% (69% REL, 61% UNR)
- Center outcomes report 2012 includes 3 full years of data:
  - Unrelated HCT 2008 – 2010
  - Related HCT 2008 - 2010
Center Outcomes Report 2012

- 3 year rolling time window
- Outcome remains 1 year survival
- Multivariate analysis adjusts for ‘risk factors’
- Full data on HCT Comorbidity Index (Sorror, et al)
- Reports for 2012 sent to centers Jan 2013
  - Additional univariate descriptive reports for centers accompany report
- Reports available on web Jan 2013
Center Outcomes Cycle and Timeline

Continuous Data Collection, CPI, Data confirmation by centers

- **Data File preparation** • January - April
- **Analysis and Review** • May - August
- **Draft Report Submitted** • September 1
- **HRSA review and approval** • November
- **Publication – Centers and Website** • Dec - January
Center Outcomes Forum 2012

Topics

- HCT-CI
  - Validation studies confirm value in multivariate adjustment
  - Suggestions to improve reliability and data collection at centers
  - Endorsed value of collecting HCT-CI
- TED revision – Changes to data collection to improve risk adjustment models?
  - Patient
  - Disease
  - HCT factors
Center Outcomes Forum 2012
Topics

• Current and future research
  • Modifiable center factors associated with outcome
  • How well can we predict future performance?
• What reports or data can CIBMTR provide centers to assist with performance improvement?
• How to display the results on public websites to increase understanding and avoid misuse?
Inform Policy
Financing HCT for MDS in the US: Coverage with Evidence Development I

- Most patients with MDS are older than 65
  - Most US patient > 65 have health insurance through the US Medicare system, administered by Centers for Medicare and Medicaid Services (CMS)
  - Medicare has not routinely covered costs of HCT for MDS
- CMS issued decision August 2010 allowing “coverage with evidence development”
  - Covers costs of HCT if patients enrolled in a study that will provide CMS with data (“evidence”) to determine the value of the procedure in the Medicare population
Financing HCT for MDS in the US: Coverage with Evidence Development II

- CIBMTR leveraged infrastructure – proposed 2-part study
  - Part I compares HCT < 65 with > 65
    - Study opened December 2010
    - Leverages usual data collection of CIBMTR
    - Part I extended accrual to answer important collections regarding prognostic factors
  - Part II – to compare HCT to no HCT – conducted by the BMT CTN
    - Target to open for accrual Fall 2013
Part I Status Update  
January, 2013

<table>
<thead>
<tr>
<th>Patient Age Group</th>
<th>No. Enrolled</th>
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<tr>
<td>&gt; 65 years</td>
<td>367</td>
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<td>55-64</td>
<td>365</td>
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## Information Services: 2009 - 2012

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<tbody>
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<td>Physician</td>
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<td>573</td>
<td>410</td>
<td>429</td>
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<tr>
<td>Pharmaceutical Company</td>
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<tr>
<td>Patient or Relative</td>
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<td>9</td>
<td>12</td>
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<tr>
<td>Patient Advocacy Org</td>
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<td>Market Research Firm</td>
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<td>Government Agency</td>
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<td>Insurance Company</td>
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<td>Medical Society</td>
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<td>Student</td>
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<td>News Media</td>
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<td>Law Firm</td>
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<tr>
<td>Cord Blood Bank</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>855</strong></td>
<td><strong>853</strong></td>
<td><strong>627</strong></td>
<td><strong>583</strong></td>
</tr>
</tbody>
</table>
SCTOD Informational Materials

- CIBMTR Website: www.cibmtr.org
- ASBMT Website: www.asbmt.org
- NMDP website: www.marrow.org
- AGNIS website: www.agnis.net
Major FN Revision Delivered 2012

- New Site features
  - Flexibility, site search, more browser support
- Forms Entry improvements
  - Faster pages, layout, and navigation
  - Auto-population, field (rather than form) level saving
- Validation improvements
  - Display validation rules, over-ride improvements, validation across forms
AGNIS 2012

- EBMT-CIBMTR AGNIS connection in progress – EBMT has successfully submitted >2,400 sets of new form data on six forms (for 46 centers)
- Data elements for CIBMTR forms are in NCI caDSR library
- Supports submission of 15 forms (next page):
  - One vendor supports a product that submits data; 3 centers use this product
  - Other vendors finalizing packages
  - Two additional centers submit data without vendor, several are developing applications
- Form retrieval for all forms:
  - One vendor supports a product which retrieves forms using AGNIS; 21 centers use this product
Data Back to Centers

- Return of data to centers whenever possible is an essential goal
- Mechanism to provide “processed” data to centers from CIBMTR observational database
  - Encompasses Pre-TED and Post-TED data (or equivalents from CRF forms)
  - All TED level data ever submitted to CIBMTR (no longer restricted to Dec 2007 to present)
- US and international available
- Updated quarterly
- Updated data dictionary
US and International Collaborations

- Exchange data with Primary Immune Deficiency consortium and USIDNet
- EBMT and Eurocord data exchange
  - Receive data from EBMT for EBMT Centers
  - Provide Cord blood data essential for regulatory purposes to EuroCord
- Diverse input on forms revision and data harmonization
  - Transplant centers – MD, data staff, etc
  - External subject matter – immune defc
  - International collaborators – EBMT, others
Highlights for 2013

- More data for centers
  - Data Back to Centers
  - Data on CIBMTR website
  - Expand data on .gov website
  - One year survival calculator based on center outcomes analysis
Questions