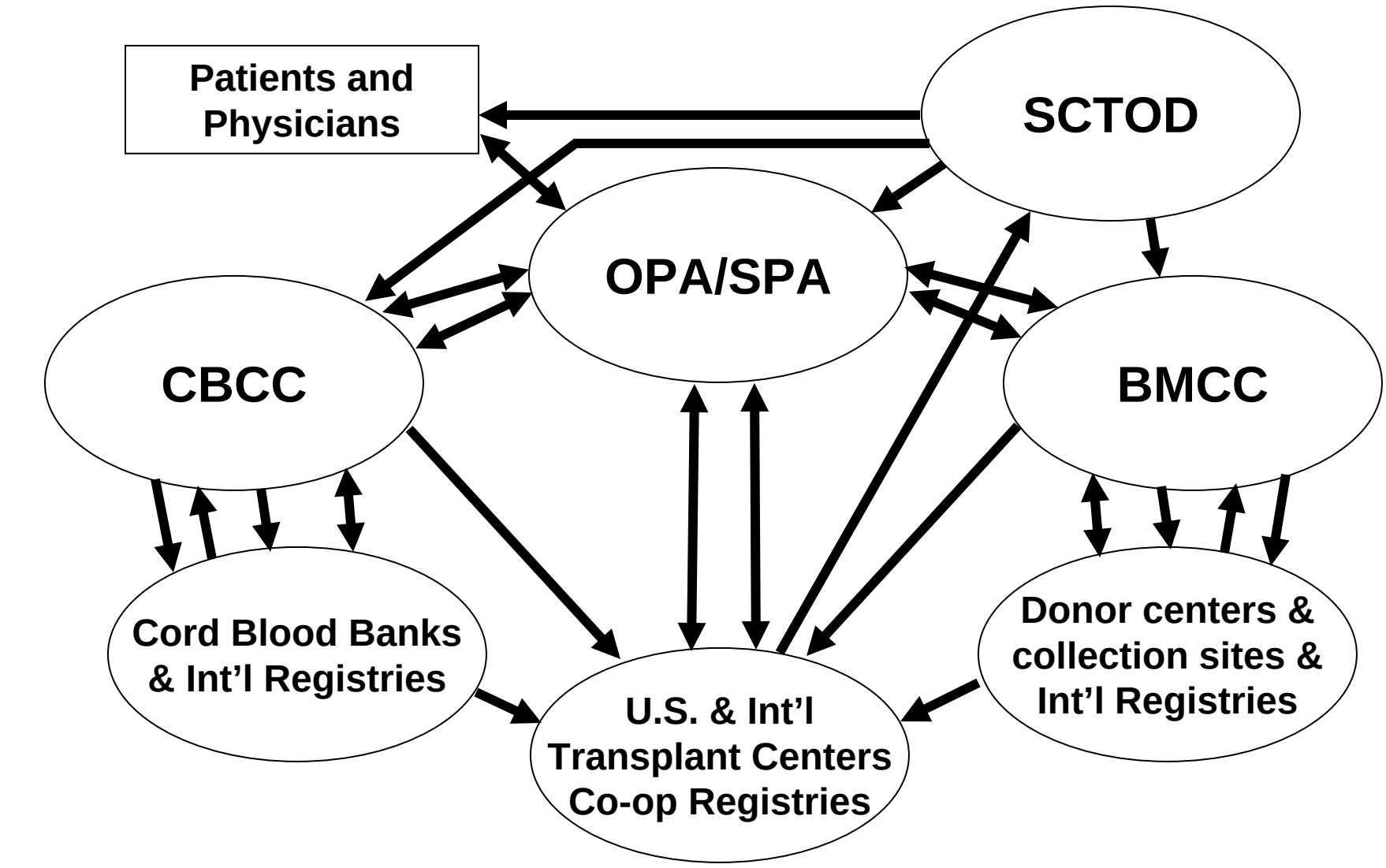
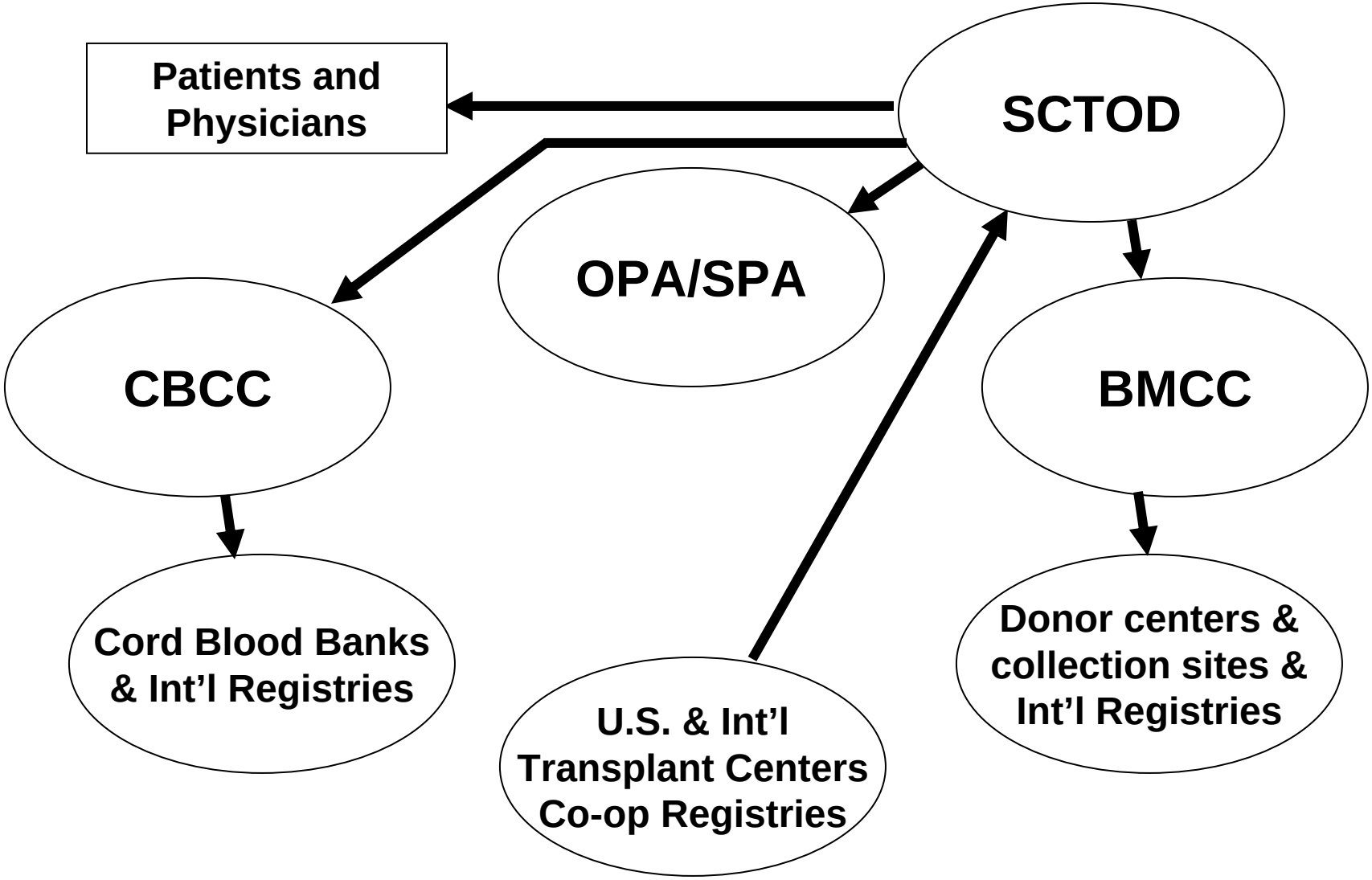
Stem Cell Therapeutic Outcomes Database

UPDATE NOV 2007

CIBMTR™
CENTER FOR INTERNATIONAL BLOOD & MARROW TRANSPLANT RESEARCH

What Have We Done !?!


Patients and Physicians
SCTOD
OPA/SPA
CBCC
BMCC
Cord Blood Banks & Int'l Registries
Donor centers & collection sites & Int'l Registries
U.S. & Int'l Transplant Centers Co-op Registries
Membership Agreements
Listing Data
Search Initiation Request
Further Search Testing
Distribution of HSC
Outcomes Data


Patients and Physicians
SCTOD
OPA/SPA
CBCC
BMCC
Cord Blood Banks & Int'l Registries
U.S. & Int'l Transplant Centers Co-op Registries
Donor centers & collection sites & Int'l Registries
Outcomes Data

Under the Contract, SCTOD will-

- Collect data on *ALL* allogeneic hematopoietic cell transplants with a recipient or donor from the U.S.
- Collect data on other cellular therapies, too
- Establish related donor-recipient repository
- Establish electronic data capture systems
- Disseminate data within the Program
- Make data publicly available
- Perform and publish center-specific outcomes for U.S. transplant centers
- Perform analyses of optimal size for the adult donor registry and cord blood unit inventory
- Conduct and support other research using the data collected under the contract

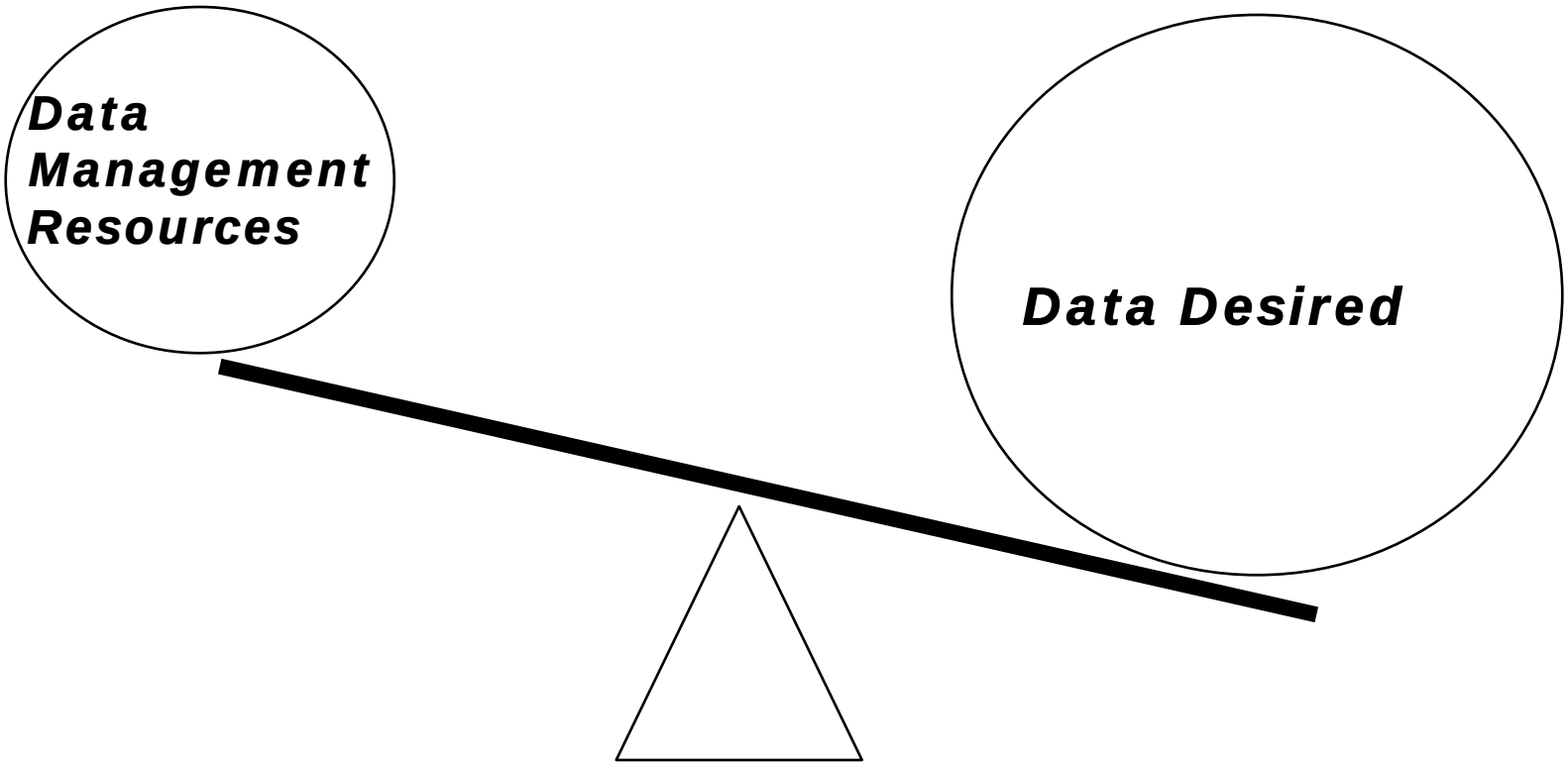
CIBMTR™

CHALLENGE

Accommodate the many demands for data in a way that meets the needs of SCTOD and all other users, ensures quality, is maximally efficient and minimizes demands on transplant centers

CIBMTR™

Need to Balance….



Is it really gonna happen?

Standard Dataset/Common Data Elements

- SCTOD has developed standard dataset for collection of outcomes data
  - Incorporated broad range of experts/stakeholders
  - Included data relevant to center-specific outcomes reporting
  - Comply with federal database standards
- To extent possible, defining the data elements in manner consistent with NCI electronic data standards

Existing TED / MED-A not sufficient to meet needs of the SCTOD

- Center-specific analyses mandated
  - Assess quality of transplant centers
  - Essential to have sufficient data to adjust for patient mix
    - Measures of clinical status and co-morbidities
- Product information essential for C.W. Bill Young Program to assess quality of operations (graft procurement, processing, storage, transport)

NEW DATASET & DATA ELEMENTS

- **TED series revised**
  - **Accomodates the needs of SCTOD**
  - **Simplified Process (one system)**
  - **Clarified disease outcome reporting**
  - **Uses SAME data as research forms***
  - **Near identity with EBMT MED-A Forms**

Proposed Data Collection

- Augmented TED/MED-A will be required
  - Addition of Data elements incorporated in NMDP center-specific outcomes analyses
  - Addition of Sorror comorbidity index, as recommended by ASBMT Quality Outcomes Committee
  - Addition of product information

Comorbidity Index

This section is optional for non-U.S. Centers

COMORBID CONDITIONS

Is there a history of mechanical ventilation? ❑ Yes ❑ No

Is there a history of proven invasive fungal infection? ❑ Yes ❑ No

Were there ***clinically significant*** co-existing disease or organ impairment at time of patient assessment prior to preparative regimen?

❑ Yes ❑ No ('Allo' continue with ***Box A*** below, 'auto' continue with ***Box B*** below)

Yes	No	NotDone	Comorbidity	Definitions
❑	❑	❑	Arrhythmia	Atrial fibrillation or flutter, sick sinus syndrome, or ventricular arrhythmias
❑	❑	❑	Cardiac	Coronary artery disease §, congestive heart failure, myocardial infarction, or EF ≤ 50%
❑	❑	❑	Cerebrovascular disease	Transient ischemic attack or cerebrovascular accident
❑	❑	❑	Diabetes	Requiring treatment with insulin or oral hypoglycemics but not diet alone
❑	❑	❑	Heart valve disease	Except mitral valve prolapse
❑	❑	❑	Hepatic, mild	Chronic hepatitis, bilirubin > ULN to 1.5 × ULN, or AST/ALT > ULN to 2.5 × ULN
❑	❑	❑	Hepatic, moderate/severe	Liver cirrhosis, bilirubin > 1.5 × ULN, or AST/ALT > 2.5 × ULN
❑	❑	❑	Infection	Requiring continuation of antimicrobial treatment after day 0
❑	❑	❑	Inflammatory bowel disease	Crohn's disease or ulcerative colitis
❑	❑	❑	Obesity	Patients with a body mass index > 35 kg/m²
❑	❑	❑	Peptic ulcer	Requiring treatment
❑	❑	❑	Psychiatric disturbance	Depression or anxiety requiring psychiatric consult or treatment
❑	❑	❑	Pulmonary, moderate	DLco and/or FEV_1 66-80% or dyspnea on slight activity
❑	❑	❑	Pulmonary, severe	DLco and/or FEV_1 ≤ 65% or dyspnea at rest or requiring oxygen
❑	❑	❑	Renal, moderate/severe	Serum creatinine > 2 mg/dL or >177 µmol/L, on dialysis, or prior renal transplantation
❑	❑	❑	Rheumatologic	SLE, RA, polymyositis, mixed CTD, or polymyalgia rheumatica
❑	❑	❑	Solid tumor, prior	Treated at any time point in the patient's past history, excluding nonmelanoma skin cancer
❑	❑	❑	Other	Specify:_____

§ One or more vessel-coronary artery stenosis requiring medical treatment, stent, or bypass graft.

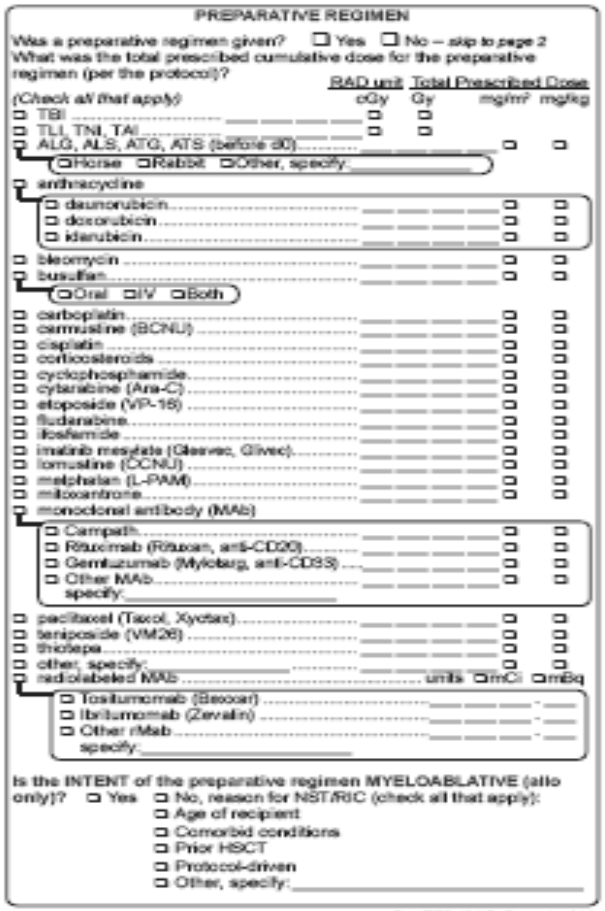
EF indicates ejection fraction; ULN, upper limit of normal; SLE, systemic lupus erythmatosis; RA, rheumatoid arthritis; CTD, connective tissue disease; DLco, diffusion capacity of carbon monoxide.

Source: Blood, 2005 Oct 15;106(8):2912-2919

CIBMTR™

New Slide 12

New Fields on TED



PREPARATIVE REGIMEN

Was a preparative regimen given? ☐ Yes ☐ No – *skip to page 2*

What was the total prescribed cumulative dose for the preparative regimen (per the protocol)?

(Check *all* that apply)

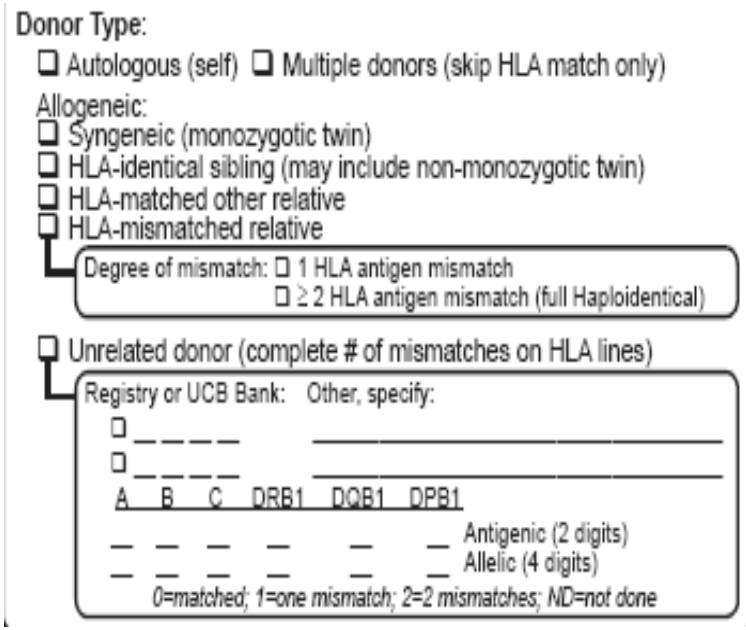
	RAD unit cGy	Total Prescribed Dose Gy	mg/m²	mg/kg
☐ TBI	☐	☐		
☐ TLI, TNI, TAI	☐	☐		
☐ ALG, ALS, ATG, ATS (before d0)			☐	☐
☐ Horse ☐ Rabbit ☐ Other, specify:				
☐ anthracycline				
☐ daunorubicin			☐	☐
☐ doxorubicin			☐	☐
☐ idarubicin			☐	☐
☐ bleomycin			☐	☐
☐ busulfan			☐	☐
☐ Oral ☐ IV ☐ Both				
☐ carboplatin			☐	☐
☐ carmustine (BCNU)			☐	☐
☐ cisplatin			☐	☐
☐ corticosteroids			☐	☐
☐ cyclophosphamide			☐	☐
☐ cytarabine (Ara-C)			☐	☐
☐ etoposide (VP-16)			☐	☐
☐ fludarabine			☐	☐
☐ ifosfamide			☐	☐
☐ imatinib mesylate (Gleevec, Glivec)			☐	☐
☐ lomustine (CCNU)			☐	☐
☐ melphalan (L-PAM)			☐	☐
☐ mitoxantrone			☐	☐
☐ monoclonal antibody (MAb)				
☐ Campath			☐	☐
☐ Rituximab (Rituxan, anti-CD20)			☐	☐
☐ Gemtuzumib (Mylotarg, anti-CD33)			☐	☐
☐ Other MAb specify:			☐	☐
☐ paclitaxel (Taxol, Xyotax)			☐	☐
☐ teniposide (VM26)			☐	☐
☐ thiotepa			☐	☐
☐ other, specify:			☐	☐
☐ radiolabeled MAb			units ☐ mCi	☐ mBq
☐ Tositumomab (Bexxar)				
☐ Ibritumomab (Zevalin)				
☐ Other rMab specify:				

Is the INTENT of the preparative regimen MYELOABLATIVE (allo only)? ☐ Yes ☐ No, reason for NST/RIC (check all that apply):

- ☐ Age of recipient
- ☐ Comorbid conditions
- ☐ Prior HSCT
- ☐ Protocol-driven
- ☐ Other, specify: _____

CIBMTR™

New Fields on TED



Updated Data Collection

- **ALL Program Transplants:**
  - **Pre-TED will be required between 14 days prior to prep to day 0**
  - **Post-TED will be required at follow-up intervals**
  - **Product Information will be required for some transplants**
    - **INF, HLA, IDM**
  - **Research forms selected from Pre-TED**

CIBMTR REPORT FORM NOT APPROPRIATE FOR MANDATORY SCTOD REPORTING

- Detailed patient, disease, transplant outcomes
  - Up to 70 pages
  - 6-10 hours to complete
- SCTOD forms require approval from US Office of Management and Budget
  - Data collection burden must be justified

NEW DATASET & DATA ELEMENTS

- Harmonized forms
  - Achieved IDENTITY with NMDP
    - ONE RESEARCH FORM achieves needs of CIBMTR and NMDP
  - Revisions extensive:
    - Some deletions, some additions
    - More clear instructions
  - Calendar-driven 100, 6, 12, 24, etc
  - Adopts format of reduced follow-up 2 years and beyond

What about OMB?

- **TED series forms and information about product infused approved by the Office of Management and Budget October 2007**

CHANGE IS FUN

- Well, not always
- However, over long run we think this structure is better
- More flexible architecture for change
  - Already aware of some
  - Plans are for periodic releases
- Manual is updated
- Marie, Diane, others for help

CHANGE IS FUN

- Reimbursement
  - Substantially improved for research forms for CIBMTR
- Fewer total research forms will be requested across program

Establish Electronic Data Systems

- SCTOD must establish standardized electronic system to collect and receive outcomes data from transplant centers and other Program components
- Scope of data collection and procedures for data submission must not be overly burdensome to those submitting it.

Meeting the Challenge – Electronic Data Collection (EDC) Systems

- **Goal: support systems that are already operating well; replace inefficient paper systems to enhance speed and accuracy**

FormsNET

- Developed new web-based data entry system to collect all data from TED and Research forms
- Web-based data entry
- Multiple features for data staff
  - Real-time forms due reports
  - Error and range checking on entry
  - Printable forms for centers
  - Downloadable data (gradually)

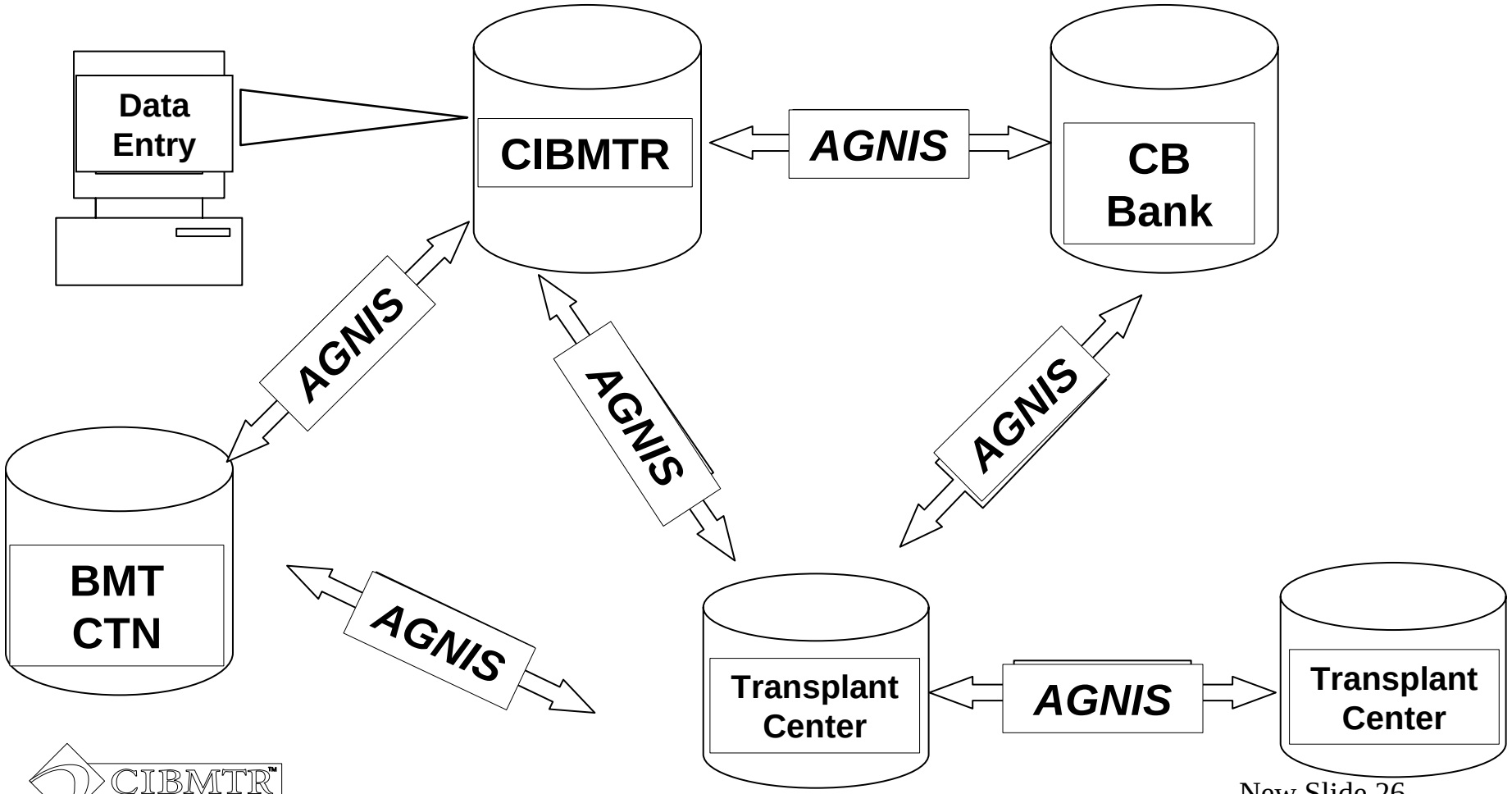
FormsNET

- HIGH level of security to protect data integrity
  - Including unique ID (more later)
- Centers receive SecureID cards, designated staff
- Training important
- Coming soon !

Electronic Alternatives

- Home-grown databases
  - Establish connection via AGNIS
- Stem Soft
  - Client directs to FormsNet
  - Data entry in FN
  - Data back to center via StemSoft and installed into updated database at center
  - NO immediate data recording in StemSoft database at center

AGNIS: A Growable Network Information System



WHO is AGNIS, really?

- Sophisticated tool used to communicate data between and among centers, registries, other providers and users of the data
- Based upon secure communication protocols
- Based upon data standards established by NCI caDSR
- High level data exchange tool

Quality Control

- Establish Quality control program where data collection is:
  - Complete
  - Timely
  - Accurate
- Establish system to monitor performance
- Provide Training

CPI and Audit

- CIBMTR ready to implement cross-progam unified system
- CPI for unrelated HCT – NO CHANGE
- CPI for autologous and related HCT – will roll in to meet unrelated standards within 15 months
- Auditing will change to SINGLE audit executed every 4 years

What is still to be done?

- Data changes at both NMDP and CIBMTR
- Ongoing releases of FormsNet tools
- Completion of AGNIS – long-term project
- Bug and data fixes
- Completion of data transmission agreements and IRB approvals
- System to deliver standard RFI

Conduct and Support Research

- **Publicly Available Data**
  - **Relevant data collected by SCTOD must be made available for legitimate scientific purposes**
    - **Summary Reports**
    - **Datasets**
- **Provide data for presentation to the public via a public Website**
  - **http://bloodcell.transplant.hrsa.gov**

Perform Center-Specific Outcomes

- SCTOD must prepare annual report of survival rates at each US transplant center covering 5 year period.
  - Risk adjusted survival for centers
  - National/aggregate survival
  - Plain language principles to facilitate public comprehension

Future Plans re Comorbidity

- **CIBMTR plans to re-assess Comorbidity Index**
  - **Validate utility across broad range of centers/transplants**
  - **Discrimination of outcomes**
  - **Consider item reduction based on impact on center-specific outcomes**

MAJOR QUESTIONS

- What is the minimum my center must do?
- Do I really have to provide PHI for unique ID and why?
- Explain the difference between the data for SCTOD and research
  - How to explain to IRB
- What about all those patients that I cannot keep up with?

What's the minimum?

- TED data (includes product information) for all ALLO in US
- IF NMDP participating center
  - MUST provide selected RESEARCH data on unrelated HCT
- IF CTN center, must provide full RESEARCH data all patients on CTN protocol, ongoing

What's the minimun?

- If research team
  - Research data on selected patients
- If registration team
  - TED data on all sequential patients

UNIQUE ID system

- Goal is to uniquely identify patients across systems and programs
  - Research and SCTOD
- HELPS centers so that links data between sequential HCT
- Benefits centers for center-specific outcomes reporting
- Leverages SCTOD database for govt uses
  - Solid organ program as example

UNIQUE ID system

- CIBMTR and NMDP designated Public Health Authority
  - HIPAA
  - Privacy Act
- New systems VERY secure
- Unique ID information is one-time only per patient
  - Most centers have, need processes

UNIQUE ID system

- Required Elements
  - DOB
  - Gender
  - Tentative HCT date
  - Previous HCT – if yes, few details
  - SSN or name and mother's maiden

SCTOD vs Research

- Data for the SCTOD DOES NOT require consent in the US
  - All TED data (includes product info) on ALL related and unrelated recipients in US REQUIRED by Program for govt reporting
- However, if no consent for research, will NOT be used for research purposes

SCTOD vs Research

- **RESEARCH data for related and unrelated only possible WITH consent**
- **TED or Research data for autologous recipients ONLY possible WITH consent**
  - **No consent – very limited "data" used to verify an HCT occurred**
  - **See SOP**

BACKLOG

- Some CIBMTR teams have substantial unfulfilled data requests
- CIBMTR interested in proceeding with a forward-looking focus to start the new Program positively
- Work individually with teams to develop plans addressing “old” cases

QUESTIONS ?