Request for Proposals
BMT CTN 1202 Allogeneic HCT Correlative Laboratory Study Proposals

Proteomic, Genomic and Transcriptomic Research using Biospecimens and Associated Clinical Data from the Blood and Marrow Transplant Clinical Trials Network (BMT CTN) 1202 Resource

First Release to BMT CTN Network Investigators

February 13, 2020

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Request for Allogeneic HCT Correlative Laboratory Study Proposals

Proteomic, Genomic and Transcriptomic Research using Biospecimens and Associated Clinical Data from the Blood and Marrow Transplant Clinical Trials Network (BMT CTN) 1202 Resource

While hematopoietic stem cell transplantation (HCT) offers the only cure for many patients with malignant and non-malignant hematologic diseases, this treatment is associated with significant risks, leading to high rates of morbidity and mortality. There is a critical need for more effective prevention and treatment strategies for HCT-associated complications. The most serious of the latter include graft-versus-host disease (GVHD), cancer recurrence, organ toxicity and opportunistic infection. Although some clinical variables (e.g., recipient age, donor-recipient HLA mismatch) predict higher risk of some events (e.g., GVHD, infection), no diagnostic tests exist that reliably predict occurrence, severity or response to therapy of any of these complications. Recent compelling results from single center studies suggest that biomarkers can be identified that stratify patients into discrete risk groups for some outcomes and for overall mortality. However, these relatively small studies generally lack the statistical power or validation necessary to allow their results to be incorporated into practice.

The BMT CTN 1202 biospecimen and associated clinical outcome data resource was created to support future allogeneic HCT correlative laboratory studies by providing longitudinally collected samples integrated with the longitudinal collection of comprehensive, standardized, high quality clinical data regarding complications, from onset to resolution, and regarding other clinical variables affecting risk of post-HCT outcomes. This national resource was designed to allow genomic, proteomic and transcriptional data to be integrated with high quality clinical phenotype and outcomes data to identify risk factors for development and severity of acute GVHD, chronic GVHD, organ toxicity, relapse, mortality, infection and other clinically significant complications occurring after allogeneic HCT. It is expected that future laboratory studies will establish the utility of specific biomarkers for risk assessment, diagnosis and monitoring to allow more rational treatment strategies. These studies are also likely to provide mechanistic insights and to identify new therapeutic targets leading to development of more targeted and effective therapies.

In this initial BMT CTN Network release, the BMT CTN is calling for meritorious laboratory study proposals from investigators who wish to perform exploratory and/or biomarker validation studies.

Proposed studies may include, but should not be limited to:

- Biomarkers that are diagnostic, and may identify patients at the onset of early or late transplant-specific outcomes
- Biomarkers that are prognostic that may categorize patients by degree of risk for disease or post-HCT complication occurrence or progression
- Biomarkers that are predictive, which may categorize patients by their likelihood of response to a particular treatment when measured prior to the treatment
- Biomarkers of treatment response that may substitute for a clinical efficacy endpoint
- Biomarkers that are predictive of future transplant specific outcomes when measured early in the transplant process
- Genetic modifiers of response to HSC transplant including HLA and non-HLA genetic studies of patients and donors

- Perform candidate gene sequence polymorphism discovery and validation studies in recipient and/or donor that may be associated with early or late HCT outcomes
- Detailed correlative analyses of transcription patterns that may facilitate development of predictive transcriptional biomarker panels to support focused assessment of a subset of transcripts in patients with key early or late HCT complications
- Whole-transcriptome, systems biology approaches that may predict pathways and mechanisms controlling HCT-related outcomes

Proposal Submission Instructions

IMPORTANT DATES AND DEADLINES

Proposal Submission

Release of BMT Network Request for Proposals	February 13, 2020
Written Questions can be submitted via E-Mail through:	April 22, 2020

(Questions will be promptly reviewed by the BMT CTN DCC and a response returned directly to the investigator submitting the question.)

Proposals Due at 4:00 p.m. Central Time	**May 6, 2020**

Proposal Review/Approval Milestone Schedule

Preliminary DCC Proposal Review Completed	May 25, 2020
Biomarker Committee Review Completed	June 22, 2020
BMT CTN Executive Committee Review Completed	July 1, 2020
Notification of Study Proposal Decision	July 10, 2020
Letters of Support/BMT CTN DCC Budgets Provided	By August 7, 2020
Funded Studies - RMDA/BMT CTN DCC Budgets Provided	By August 14, 2020

Proposals must be submitted via Email to:

Alan Howard – BMT CTN DCC Representative
National Marrow Donor Program
500 N 5th Street
Minneapolis, MN 55401-1206
Telephone: 763.406.8232
Email: ahoward@nmdp.org

Study Proposal Submission Guidelines

Investigators are asked to complete the BMT CTN 1202-specific laboratory proposal form associated with this study proposal request. Investigators are requested to provide a thorough response to each section of the proposal. A complete, well-developed proposal will greatly facilitate the timeliness of your proposal's review by BMT CTN Biomarker Committee, BMT CTN

DCC and BMT CTN Executive Committee members. Please be mindful of important submission procedures and deadlines provided in this announcement.

The following information has been provided to assist investigators in the planning of their studies.

- **BMT CTN Public Website:**
  - BMT CTN 1202 Protocol (https://web.emmes.com/study/bmt2/protocol/1202_protocol/1202_protocol.html)
  - BMT CTN 1202 AdvantageEDC Case Report Forms (https://web.emmes.com/study/bmt2/casereportformspublic.html)
- **CIBMTR Website:**
  - CIBMTR Data Collection Forms (Refine list to ***Comprehensive Reporting Forms***) (https://www.cibmtr.org/DataManagement/DataCollectionForms/pages/index.aspx)
- **Appendix 1:** BMT CTN 1202 pre- and post-transplant patient biospecimen availability summary and CIBMTR pre-transplant patient and donor biospecimen availability summaries
- **Appendix 2:** Baseline Characteristics of Patients Enrolled in BMTCTN 1202
- **Appendix 3:** Baseline Characteristics of Gene Expression Cohort Patients
- **Appendix 4:** CIBMTR Reported Transplant Related Events: 2 - Year Frequency Summary of Patients Enrolled in BMTCTN 1202
- **Appendix 5:** CIBMTR Reported Transplant Related Events: 2 - Year Frequency Summary for Gene Expression Cohort Patients

For questions that arise while completing and submitting the study proposal submission form, please contact BMT CTN DCC point-person Alan Howard at ahoward@nmdp.org.

Study Proposal Review Process Summary

- Following BMT CTN Steering Committee approved 1202 study-specific procedures, study proposals will first be reviewed by the BMT CTN DCC; checking for proposal completeness and performing a preliminary review of the biospecimens and associated clinical data being requested.
- Proposals will then be submitted to the BMT CTN Biomarker Committee for a thorough review by a minimum of three reviewers. Any questions, or request for additional information that the committee might have will be communicated back to the investigator by the DCC and prompt responses relayed back to the committee for further consideration. A summary of the final Biomarker Committee proposal scoring, comments, and recommendations will be prepared and submitted, together with the proposal, for continued review by the BMT CTN Executive Committee.
- Final review, prioritization and approval of all study proposals received in response to this announcement, will be performed by the BMT CTN Executive Committee.
- Final BMT CTN Executive Committee study approval decisions will be communicated to investigators by July 10, 2020.

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Appendix 1

BMT CTN 1202 Patient Biospecimen Availability Summary

Patient Sample Totals
(1,710 Patients with Available Stored Samples)

Sample Type	Time Point							
	Day -1/0	Day 7	Day 14	Day 21	Day 28	Day 42	Day 56	Day 90
Serum	1698	1680	1675	1637	1643	1612	1551	1465
Plasma (EDTA)	1676	1665	1663	1629	1643	1608	1554	1461
PAXgene Lysates				336			316	307
Buffy Coat Cells		1293	1306	1286	1302	1298	1285	1259

CIBMTR-NMDP Research Sample Repository
Pre-Transplant Sample Inventory Associated with Patients Enrolled on BMT CTN 1202

PATIENT Count/Sample Aliquot Totals
(1,686 Patients with Available Stored Samples; 28,711 sample aliquots)

Sample Type	Patient
Whole Blood	1,686 (25,407 samples)
Plasma (ACD)	1,642 (3,285 samples)
Plasma (EDTA)	2 (9 samples)

DONOR Count/Sample Aliquot Totals
(1,567 Donors with Available Stored Samples; 33,538 sample aliquots)

Sample Type	Donor Type			
	Related Adult Donor	Unrelated Adult Donor	Related Cords	Unrelated Cords*
Serum	521 (2,828 samples)	292 (1,330 samples)	N/A	N/A
Plasma (EDTA)	518 (2,865 samples)	292 (1,407 samples)	N/A	N/A
Whole Blood	647 (10,307 samples)	812 (12,745 samples)	1 (2 samples)	105 (205 samples)
Plasma (ACD)	333 (676 samples)	582 (1,173 samples)	N/A	N/A

*Unrelated cords may be associated with either a single or double cord transplant. We may not have inventory for both cords associated with a double cord transplant.

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Appendix 2

Baseline Characteristics of Patients Enrolled in BMTCTN 1202

Variable	Total (N=1709) N (%)
Age (years)	
Mean (SD)	46.8 (19.6)
Median (Range)	52.8 (1.2, 77.1)
0-9	110 (6.4%)
10-19	137 (8.0%)
20-29	130 (7.6%)
30-39	140 (8.2%)
40-49	253 (14.8%)
50-59	380 (22.2%)
60-69	466 (27.3%)
70+	93 (5.4%)
Gender	
Female	700 (41.0%)
Male	1009 (59.0%)
Race	
American Indian/Alaska Native	9 (0.5%)
Asian	59 (3.5%)
Hawaiian/Pacific Islander	5 (0.3%)
Black or African American	203 (11.9%)
White	1372 (80.3%)
More than One Race	12 (0.7%)
Other, Specify	3 (0.2%)
Unknown	32 (1.9%)
Not Answered	14 (0.8%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

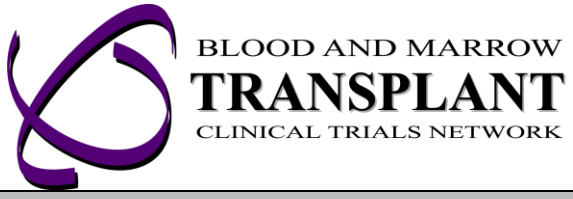
Variable	Total (N=1709) N (%)
Ethnicity	
Hispanic or Latino	128 (7.5%)
Not Hispanic or Latino	1553 (90.9%)
Unknown	20 (1.2%)
Not Answered	8 (0.5%)
Primary Disease	
AML	647 (37.9%)
ALL	232 (13.6%)
CLL	32 (1.9%)
CML	68 (4.0%)
MDS	294 (17.2%)
MPS	70 (4.1%)
Essential or primary thrombocythemia	3 (0.2%)
Polycythemia Vera	3 (0.2%)
Other acute leukemia	16 (0.9%)
NHL	133 (7.8%)
HD	23 (1.3%)
PCD	44 (2.6%)
SAA-severe aplastic anemia	52 (3.0%)
Inherited abnormality of erythrocyte differentiation function	57 (3.3%)
SCID & other immune system disorders	17 (1.0%)
Inherited abnormality of platelets	2 (0.1%)
Inherited metabolism disorder	10 (0.6%)
Histiocytic disorders	5 (0.3%)
Other, specify	1 (0.1%)
Karnofsky / Lansky Score	
90-100	992 (58.0%)

Variable	Total (N=1709) N (%)
70-80	686 (40.1%)
< 70	8 (0.5%)
Unknown/Not documented	23 (1.3%)
HCT-CI	
0	393 (23.0%)
1	236 (13.8%)
2	299 (17.5%)
3	316 (18.5%)
4+	465 (27.2%)
Patient CMV Status	
Negative	641 (37.5%)
Positive	1058 (61.9%)
Inconclusive	4 (0.2%)
Not tested/NA	6 (0.4%)
Donor Type	
HLA matched sibling	523 (30.6%)
Identical twin	4 (0.2%)
Other relative	148 (8.7%)
Unrelated donor	1034 (60.5%)
8/8 BM/PB	783 (45.8%)
7/8 BM/PB	158 (9.2%)
<= 6/8 BM/PB	5 (0.3%)
6/6 CB	6 (0.4%)
5/6 CB	33 (1.9%)
<= 4/6 CB	43 (2.5%)
Not Reported	6 (0.4%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

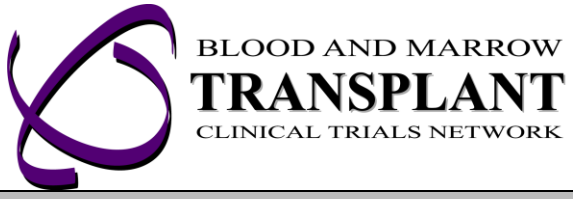
Variable	Total (N=1709) N (%)
Donor CMV Status	
Negative	920 (53.8%)
Positive	755 (44.2%)
Not reported	34 (2.0%)
Donor Gender	
Male	1066 (62.4%)
Female	636 (37.2%)
Not reported	7 (0.4%)
Donor Age (years)	
Mean (SD)	35.2 (16.3)
Median (Range)	31.9 (0.2, 76.2)
0-9	111 (6.5%)
10-19	93 (5.4%)
20-29	567 (33.2%)
30-39	311 (18.2%)
40-49	247 (14.5%)
50-59	218 (12.8%)
60-69	141 (8.3%)
70+	12 (0.7%)
Missing	9 (0.5%)
Graft Type	
BM	410 (24.0%)
PB	1213 (71.0%)
UCB	86 (5.0%)
Conditioning Regimen	
Myeloablative	986 (57.7%)
Cy/TBI: TBI>500(unfractionated) or >800cGy	147 (8.6%)

Variable		Total (N=1709) N (%)
	Cy/TBI/Thio: TBI>500(unfractionated) or >800cGy	29 (1.7%)
	Cy/TBI/VP16: TBI>500(unfractionated) or >800cGy	10 (0.6%)
	Cy/TBI/others (not thio or VP16): TBI>500(unfractionated) or >800cGy	32 (1.9%)
	TBI/other: TBI>500(unfractionated) or >800cGy	73 (4.3%)
	Bu/Flu+others: bu>=9mg/kg oral or bu>=7.2 mg/kg iv	63 (3.7%)
	Cy+thio+others: thio >=10 mg/kg	5 (0.3%)
	Bu/cy	242 (14.2%)
	Bu/cy+others	39 (2.3%)
	Bu/flu	284 (16.6%)
	Mel+thio+others	32 (1.9%)
	Bu/Mel: mel>=150 mg/m2	2 (0.1%)
	Flu/Mel: mel>=150 mg/m2	2 (0.1%)
	Bu+Clofarabine	21 (1.2%)
	Bu+Gemcitabine	4 (0.2%)
	Bu+Cytarabine	1 (0.1%)
RIC		557 (32.6%)
	TBI +/- others	54 (3.2%)
	BEAM/BEAM like/CBV	4 (0.2%)
	Bu/Flu +/-others: bu<9mg/kg oral or bu<7.2 mg/kg iv	169 (9.9%)
	Flu/mel +/- others: mel<150 mg/m2	298 (17.4%)
	Treosulfan	25 (1.5%)
	Others	7 (0.4%)
NMA		166 (9.7%)
	Flu/cy/TBI	98 (5.7%)
	TBI+others	31 (1.8%)
	Flu/cy	11 (0.6%)
	Others	26 (1.5%)



Variable	Total (N=1709) N (%)
Prior Autologous Transplant (months)	
Mean (SD)	35.9 (42.8)
Median (Range)	18.9 (1.4, 263.2)
Yes	133 (7.8%)
No	1576 (92.2%)
AML	
CR1	384 (59.4%)
CR2	93 (14.4%)
CR3+	6 (0.9%)
PIF/Relapse	161 (24.9%)
No treatment	1 (0.2%)
Missing	2 (0.3%)
ALL	
CR1	148 (63.8%)
CR2	57 (24.6%)
CR3+	9 (3.9%)
PIF/Relapse	18 (7.8%)
CLL	
CR	9 (28.1%)
PR/Nodal PR	17 (53.1%)
SD	4 (12.5%)
Progressive	2 (6.3%)
CML	
Hemat CR	18 (26.5%)
CP1	22 (32.4%)
CP2+	13 (19.1%)
AP	9 (13.2%)

Variable	Total (N=1709) N (%)
BP	6 (8.8%)
MDS	
Missing	7 (2.4%)
Early	105 (35.7%)
Advanced	182 (61.9%)
NHL	
CR1	20 (15.0%)
CR2+	47 (35.3%)
< CR, chemosensitive	41 (30.8%)
< CR, chemoresistive	20 (15.0%)
Missing	5 (3.8%)
HD	
CR1	1 (4.3%)
CR2+	10 (43.5%)
< CR, chemosensitive	7 (30.4%)
< CR, chemoresistive	5 (21.7%)
Multiple Myeloma	
CR	9 (20.5%)
Very good partial response	14 (31.8%)
Partial response	14 (31.8%)
Stable disease	4 (9.1%)
Progressive disease/Relapse	2 (4.5%)
Missing	1 (2.3%)
GVHD prophylaxis	
Ex - vivo T cell depletion	14 (0.8%)
CSA + other(s) (except MMF, MTX, post-CY)	5 (0.3%)
CSA alone	2 (0.1%)



Variable	Total (N=1709) N (%)
CD34 selection	58 (3.4%)
Other(s)	25 (1.5%)
Post-CY + other(s)	123 (7.2%)
TAC + MMF +- other(s) (except post-CY)	282 (16.5%)
TAC + MTX +- other(s) (except MMF, post-CY)	867 (50.7%)
TAC + other(s) (except MMF, MTX, post-CY)	82 (4.8%)
TAC alone	43 (2.5%)
CSA + MMF +- other(s) (except post-CY)	124 (7.3%)
CSA + MTX +- other(s) (except MMF, post-CY)	81 (4.7%)
Missing	3 (0.2%)
ATG/Campath	
ATG alone	433 (25.3%)
Campath alone	98 (5.7%)
No ATG/Campath	1176 (68.8%)
Missing	2 (0.1%)
Time from Diagnosis to Transplant (months)	
Mean (SD)	27.1 (47.7)
Median (Range)	8.5 (1.0, 432.7)
< 6 months	616 (36.0%)
6-12 months	402 (23.5%)
12-24 months	256 (15.0%)
24-36 months	121 (7.1%)
> 36 months	313 (18.3%)
Missing	1 (0.1%)
Follow-up of survivors (months)	
Mean (SD)	31.6 (8.5)
Median (Range)	34.7 (3.2, 53.4)

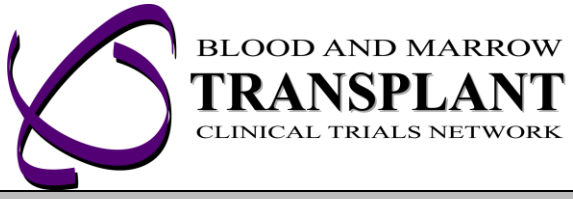
BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Variable	Total (N=1709) N (%)
Year of Transplant	
2013	217 (12.7%)
2014	1002 (58.6%)
2015	451 (26.4%)
2016	39 (2.3%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Appendix 3
Baseline Characteristics of BMT CTN 1202 Gene Expression Cohort Patients

Variable	Total (N=340) N (%)
Age (years)	
Mean (SD)	49.2 (15.8)
Median (Range)	52.3 (8.2, 74.2)
0-9	2 (0.6%)
10-19	16 (4.7%)
20-29	35 (10.3%)
30-39	33 (9.7%)
40-49	71 (20.9%)
50-59	77 (22.6%)
60-69	85 (25.0%)
70+	21 (6.2%)
Gender	
Female	156 (45.9%)
Male	184 (54.1%)
Race	
American Indian/Alaska Native	3 (0.9%)
Asian	8 (2.4%)
Hawaiian/Pacific Islander	0 (0.0%)
Black or African American	14 (4.1%)
White	305 (89.7%)
More than One Race	2 (0.6%)
Unknown	5 (1.5%)
Not Answered	3 (0.9%)
Ethnicity	
Hispanic or Latino	22 (6.5%)



Variable	Total (N=340) N (%)
Not Hispanic or Latino	316 (92.9%)
Unknown	2 (0.6%)
Primary Disease	
AML	245 (72.1%)
ALL	87 (25.6%)
CML	1 (0.3%)
Other acute leukemia	7 (2.1%)
Karnofsky / Lansky Score	
90-100	187 (55.0%)
70-80	150 (44.1%)
Unknown/Not documented	3 (0.9%)
HCT-CI	
0	67 (19.7%)
1	50 (14.7%)
2	61 (17.9%)
3	65 (19.1%)
4+	97 (28.5%)
Patient CMV Status	
Negative	125 (36.8%)
Positive	214 (62.9%)
Inconclusive	1 (0.3%)
Donor Type	
HLA matched sibling	108 (31.8%)
Other relative	21 (6.2%)
Unrelated donor	211 (62.1%)
8/8 BM/PB	165 (48.5%)
7/8 BM/PB	36 (10.6%)

Variable	Total (N=340) N (%)
<= 6/8 BM/PB	1 (0.3%)
5/6 CB	5 (1.5%)
<= 4/6 CB	4 (1.2%)
Donor CMV Status	
Negative	187 (55.0%)
Positive	151 (44.4%)
Not reported	2 (0.6%)
Donor Gender	
Male	218 (64.1%)
Female	120 (35.3%)
Not reported	2 (0.6%)
Donor Age (years)	
Mean (SD)	36.5 (15.2)
Median (Range)	32.6 (1.0, 72.3)
0-9	10 (2.9%)
10-19	18 (5.3%)
20-29	111 (32.6%)
30-39	75 (22.1%)
40-49	47 (13.8%)
50-59	45 (13.2%)
60-69	30 (8.8%)
70+	2 (0.6%)
Missing	2 (0.6%)
Graft Type	
BM	56 (16.5%)
PB	275 (80.9%)
UCB	9 (2.6%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Variable	Total (N=340) N (%)
Conditioning Regimen	
Myeloablative	234 (68.8%)
Cy/TBI: TBI>500(unfractionated) or >800cGy	46 (13.5%)
Cy/TBI/Thio: TBI>500(unfractionated) or >800cGy	11 (3.2%)
Cy/TBI/others (not thio or VP16): TBI>500(unfractionated) or >800cGy	4 (1.2%)
TBI/other: TBI>500(unfractionated) or >800cGy	25 (7.4%)
Bu/Flu+others: bu>=9mg/kg oral or bu>=7.2 mg/kg iv	12 (3.5%)
Cy+thio+others: thio >=10 mg/kg	2 (0.6%)
Bu/cy	59 (17.4%)
Bu/cy+others	2 (0.6%)
Bu/flu	65 (19.1%)
Mel+thio+others	1 (0.3%)
Bu+Clofarabine	6 (1.8%)
Bu+Cytarabine	1 (0.3%)
RIC	90 (26.5%)
TBI +/- others	6 (1.8%)
Bu/Flu +/-others: bu<9mg/kg oral or bu<7.2 mg/kg iv	28 (8.2%)
Flu/mel +/- others: mel<150 mg/m2	53 (15.6%)
Treosulfan	3 (0.9%)
NMA	16 (4.7%)
Flu/cy/TBI	8 (2.4%)
TBI+others	7 (2.1%)
Flu/cy	1 (0.3%)
Prior Autologous Transplant (months)	
Mean (SD)	62.2 (17.1)
Median (Range)	68.5 (42.9, 75.3)
Yes	3 (0.9%)

Variable	Total (N=340) N (%)
No	337 (99.1%)
AML	
CR1	178 (72.7%)
CR2	42 (17.1%)
PIF/Relapse	25 (10.2%)
ALL	
CR1	59 (67.8%)
CR2	22 (25.3%)
PIF/Relapse	6 (6.9%)
CML	
Hemat CR	1 (100.0%)
GVHD prophylaxis	
Ex - vivo T cell depletion	5 (1.5%)
CD34 selection	16 (4.7%)
Other(s)	4 (1.2%)
Post-CY + other(s)	15 (4.4%)
TAC + MMF +- other(s) (except post-CY)	47 (13.8%)
TAC + MTX +- other(s) (except MMF, post-CY)	190 (55.9%)
TAC + other(s) (except MMF, MTX, post-CY)	20 (5.9%)
TAC alone	12 (3.5%)
CSA + MMF +- other(s) (except post-CY)	18 (5.3%)
CSA + MTX +- other(s) (except MMF, post-CY)	13 (3.8%)
ATG/Campath	
ATG alone	81 (23.8%)
Campath alone	15 (4.4%)
No ATG/Campath	244 (71.8%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Variable	Total (N=340) N (%)
Time from Diagnosis to Transplant (months)	
Mean (SD)	13.3 (30.5)
Median (Range)	5.5 (2.1, 409.0)
< 6 months	193 (56.8%)
6-12 months	72 (21.2%)
12-24 months	40 (11.8%)
24-36 months	13 (3.8%)
> 36 months	22 (6.5%)
Follow-up of survivors (months)	
Mean (SD)	34.9 (7.9)
Median (Range)	36.0 (3.3, 50.4)
Year of Transplant	
2013	82 (24.1%)
2014	185 (54.4%)
2015	73 (21.5%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

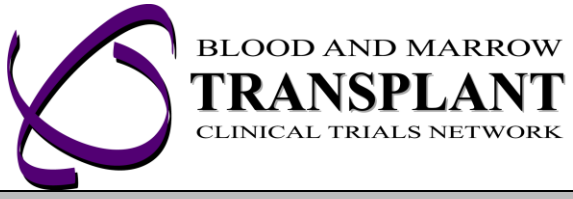
Appendix 4

CIBMTR Reported Transplant Related Events
2 - Year Frequency Summary of Patients Enrolled in BMTCTN 1202

Variable	Total (N=1709) N (%)
Neutrophil Engraftment	
Yes	1674 (98.0%)
No	35 (2.0%)
Platelet Engraftment	
Yes	1593 (93.2%)
No	116 (6.8%)
Acute GVHD grade II-IV	
No	968 (56.6%)
Yes	735 (43.0%)
Missing	6 (0.4%)
Acute GVHD grade III-IV	
No	1453 (85.0%)
Yes	248 (14.5%)
Missing	8 (0.5%)
Chronic GVHD	
No	962 (56.3%)
Yes	737 (43.1%)
Missing	10 (0.6%)
Engraftment Syndrome	
Yes	104 (6.1%)
Capillary leak	4 (0.2%)
Capillary leak + Fever	2 (0.1%)
Capillary leak + Fever + skin rash	3 (0.2%)
Fever	28 (1.6%)

Variable	Total (N=1709) N (%)
Fever + skin rash	40 (2.3%)
Skin rash	27 (1.6%)
No	1601 (93.8%)
Missing	4 (0.2%)
Lung Injury / Pulmonary Function	
No	1552 (90.9%)
Yes	156 (9.1%)
Missing	1 (0.1%)
Non-infectious Pulmonary Abnormalities	
Yes	252 (14.7%)
Bronchiolitis Obliterans	42 (2.5%)
Bronchiolitis Obliterans COP	2 (0.1%)
Bronchiolitis Obliterans Other	9 (0.5%)
Bronchiolitis Obliterans Pulmonary Hemorrhage	1 (0.1%)
Bronchiolitis Obliterans Pulmonary Hemorrhage COP	1 (0.1%)
Bronchiolitis Obliterans Pulmonary Hemorrhage Other	1 (0.1%)
COP	7 (0.4%)
COP Other	5 (0.3%)
Pulmonary Hemorrhage	24 (1.4%)
Pulmonary Hemorrhage COP Other	1 (0.1%)
Pulmonary Hemorrhage Other	7 (0.4%)
Other specified (reviewed by Study Protocol Officer)	152 (8.9%)
No	1457 (85.3%)
Renal failure Requiring Dialysis	
No	1611 (94.3%)
Yes	97 (5.7%)
Veno-Occlusive Disease	

Variable	Total (N=1709) N (%)
No	1671 (97.8%)
Yes	38 (2.2%)
TTP/HUS	
No	1645 (96.4%)
Yes	62 (3.6%)
Hepatitis B prior to HCT	
Negative	1638 (95.8%)
Positive	59 (3.5%)
Unknown	12 (0.7%)
Hepatitis C prior to HCT	
Negative	1649 (96.5%)
Positive	14 (0.8%)
Unknown	46 (2.7%)
Sirolimus given as part of GVHD prophylaxis	
No	1556 (91.0%)
Yes	153 (9.0%)
Relapse	
No	1095 (70.0%)
Yes	470 (30.0%)
Chimerism Report	
Chimerism study done, no report attached	1252 (73.3%)
Chimerism study done, report attached	363 (21.2%)
Chimerism study not done	94 (5.5%)
Cause of Death (N=631 deceased)	
Bleeding	2 (0.3%)
Graft rejection	1 (0.2%)
GvHD	107 (17.0%)



Variable	Total (N=1709) N (%)
Infection	84 (13.3%)
Organ failure	92 (14.6%)
Other	25 (4.0%)
Primary disease	291 (46.1%)
Prior malignancy	4 (0.6%)
Secondary malignancy	4 (0.6%)
Unknown	19 (3.0%)
Vascular	2 (0.3%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Appendix 5

CIBMTR Reported Transplant Related Events
2 - Year Frequency Summary for Gene Expression Cohort Patients

Variable	Total (N=340) N (%)
Neutrophil Engraftment	
Yes	339 (99.7%)
No	1 (0.3%)
Platelet Engraftment	
Yes	330 (97.1%)
No	10 (2.9%)
Acute GVHD grade II-IV	
No	197 (57.9%)
Yes	143 (42.1%)
Acute GVHD grade III-IV	
No	302 (88.8%)
Yes	38 (11.2%)
Chronic GVHD	
No	171 (50.3%)
Yes	165 (48.5%)
Missing	4 (1.2%)
Engraftment Syndrome	
Yes	11 (3.2%)
Fever	2 (0.6%)
Fever + skin rash	4 (1.2%)
Skin rash	5 (1.5%)
No	328 (96.8%)
Missing	1 (0.3%)

Variable	Total (N=340) N (%)
Lung Injury / Pulmonary Function	
No	306 (90.0%)
Yes	33 (9.7%)
Missing	1 (0.3%)
Non-infectious Pulmonary Abnormalities	
Yes	42 (12.4%)
Bronchiolitis Obliterans	12 (3.5%)
Bronchiolitis Obliterans Pulmonary Hemorrhage COP	1 (0.3%)
COP	2 (0.6%)
COP Other	2 (0.6%)
Other	18 (5.3%)
Pulmonary Hemorrhage	5 (1.5%)
Pulmonary Hemorrhage Other	2 (0.6%)
No	298 (87.6%)
Renal failure Requiring Dialysis	
No	324 (95.3%)
Yes	16 (4.7%)
Veno-Occlusive Disease	
No	333 (97.9%)
Yes	7 (2.1%)
TTP/HUS	
No	321 (94.4%)
Yes	19 (5.6%)
Hepatitis B prior to HCT	
Negative	326 (95.9%)
Positive	10 (2.9%)
Unknown	4 (1.2%)

BLOOD AND MARROW TRANSPLANT CLINICAL TRIALS NETWORK

Variable	Total (N=340) N (%)
Hepatitis C prior to HCT	
Negative	324 (95.3%)
Positive	4 (1.2%)
Unknown	12 (3.5%)
Sirolimus given as part of GVHD prophylaxis	
No	310 (91.2%)
Yes	30 (8.8%)
Relapse	
No	250 (73.5%)
Yes	90 (26.5%)
Chimerism Report	
Chimerism study done, no report attached	239 (70.3%)
Chimerism study done, report attached	81 (23.8%)
Chimerism study not done	20 (5.9%)
Cause of Death (N=124 deceased)	
GvHD	16 (12.9%)
Infection	20 (16.1%)
Organ failure	20 (16.1%)
Other	4 (3.2%)
Primary disease	58 (46.8%)
Secondary malignancy	1 (0.8%)
Unknown	5 (4.0%)