BMT CTN #0402 GVHD Prophylaxis Data Submission - Documentation for Outcomes Dataset

Outcomes dataset has 78 variables for 304 patients on BMT protocol #0402 GVHD Prophylaxis and each patient has one record. This is the most important dataset in this data submission.

Notes in the last column of below table are provided by BMT CTN DCC to facilitate better understanding of the submitted datasets:

- **CRF** indicates this variable is from EMMES Case Report Form, as reported by the transplant center. The name of the CRF is shown in the column for easy reference.
- **EMMES** indicates this variable is from EMMES Enrollment System, as study implemented per protocol.
- **RECODE** indicates this variable is from computation for analysis purpose based on other data source. Algorithm and computation method are provided for reference.
- **ERC** indicates this variable is from the BMT #0402 Endpoint Review Committee adjudication. ERC adjudicated the data in a blinded manner based on the site-reported data in CRFs as well as some clinical notes from the sites. ERC –adjudicated outcomes should supersede the site-reported data if there would be any discrepancy.
- **CIBMTR** indicates this variable is data retrieval from the CIBTMR data system. CIBMTR data were reviewed by the CIBMTR physicians prior to the data transfer to Emmes DCC.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
1	PROT	Char	5	$5.	$5.	Protocol	EMMES – this indicated BMT CTN Protocol #
2	PROJID	Char	5	$5.	$5.	Project ID	EMMES - this is the blinded identifier that should be used for any data merge between this dataset and other datasets. This is unique for each patient in BMT CTN.
3	TXDTTXP	Num	8	MMDDYY8.	DATETIME22.3	Transplant Date	CRF - TXP
4	ANC1DT	Num	8	MMDDYY8.	DATETIME22.3	Date to Neutrophil Engraftment	CRF - HEM
5	voddate	Num	8	MMDDYY8.		Date of VOD	RECODE - This is the date of toxicity evaluation on CRF-TX7 to confirm VOD (*TX7EVLDT, TX7VODET='1'*).
6	husdate	Num	8	MMDDYY8.		Date of Grade 3-5 HUS/TTP	RECODE - This is the date of toxicity evaluation on CRF-TX7 to report grades 3-5 HUS/TTP/TMA (*TX7EVLDT, TX7DIC*).

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
7	toxmax	Num	8			Maximum Toxicity Grade	RECODE - this is the maximum grade of Grades 3-5 toxicity that patient experienced, computed based on CRF-TX7 data. If null, it indicates that patient's maximum toxicity grade was 0-2.
8	toxmaxdate	Num	8	MMDDYY8.		Date of Maximum Toxicity	RECODE - this is the toxicity evaluation date for the computed maximum toxicity grade, based on variable *TX7EVLDT* on CRF-TX7
9	MAX	Num	8	4.2		Maximum Mucositis Score by Day 21	RECODE - This calculation is based on CRF-MUC data that collected twice weekly for the first three weeks post-transplant. The mucositis score is the sum of average ulceration score and average erythema score. This variable is the maximum of all computed mucositis scores by Day 21 post-transplant.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
10	AVG	Num	8	4.2		Average Mucositis Score by Day 21	RECODE – There can be up to six computed mucositis scores for each patient based on CRF-MUC data. This is the average of derived mucostis scores.
11	SITE	Char	5	5.	5.	Site Code	EMMES – this is the identifier of site
12	PATID	Char	18	18.	18.	Patient ID	EMMES - this is the blinded identifier that should be used for any data merge between this dataset and other datasets. This is unique for each patient in BMT CTN.
13	TRTTRUE	Char	30	30.	30.	Treatment Assignment	EMMES - this is based on randomization and indicates the assignment upon enrollment.
14	ENRLDATE	Num	8	MMDDYY8.	8.	Date of Randomization	EMMES - this is the start date of the patient on this study.
15	CENTERNAME	Char	100	100.	100.	Center Name	EMMES– this is the name of the transplant center where the recipient was enrolled from

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
16	GENDER	Char	1	$GENDERF.	1.	Recipient Gender	CRF - DEM
17	DOB	Num	8	MMDDYY8.	8.	Patient Date of Birth	CRF - DEM
18	ETHNIC	Char	3	$ETHNICF.	3.	Patient Ethnicity	CRF - DEM
19	RACEA	Char	1	$RACEF.		Patient Race (recoded)	RECODE - this is based on race and secondary race reported on DEM form and combine into several big race categories.
20	STAGE	Char	100			Disease Stage	RECODE - this is computed based on the collected disease stage reported on ENRA form (*AML402SG, ALL402SG, CML402SG, MDS402SG, ABL402SG, PRIMDX*)
21	CONDREG	Char	1	$CONREG.	1.	Proposed Condition Regimen	CRF - ENRA
22	PRIMDX	Char	1	$PRIMDZF.	1.	Primary Disease at Enrollment	CRF - ENRA
23	PTKLSCR	Char	2	$PFS.	2.	Karnofsky Lansky Score at Enrollment	CRF - ENRA

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
24	CMVSTAT	Char	1	$CMVSTAT.	1.	Recipient CMV Status	CRF - TXP
25	DTHDT	Num	8	MMDDYY8.	8.	Death Date	RECODE - this is based on death date from all available data sources including CRF-DTH, CIBMTR follow-up data
26	FUDATE	Num	8	MMDDYY8.		Last Follow-up Date	RECODE - this is based on the last follow- up date from all available data sources including CRF, CIBMTR follow-up data and ERC adjudication
27	AGE	Num	8			Age at Enrollment(yrs)	RECODE - this is the computed age of years at enrollment based on *DOB* on CRF-DEM form
28	REVCOD	Char	4	$CAUSEF.	4.	Primary Cause Of Death	ERC - this is based on primary cause of death reported on CRF-DTH form and adjudicated by ERC

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
29	MAXAGVHD	Char	1	$GRDAGV.	1.	Acute GVHD Max Grade	ERC – This is the ERC adjudicated maximum overall grade of acute GVHD, including all acute GVHD (before day 100, after day 100). ERC adjudicated the maximum grade based on the weekly acute GVHD assessment and some clinical notes as needed.
30	AGVH24DT	Num	8	MMDDYY8.	8.	AGVHD Grade II-IV Date	ERC – This is the ERC adjudicated onset date of grades 2-4 acute GVHD. If acute GVHD grade less than 2, this is blank.
31	AGVH34DT	Num	8	MMDDYY8.	8.	AGVHD Grade III-IV Date	ERC - This is the ERC adjudicated onset date of grades 3-4 acute GVHD. If acute GVHD grade less than 3, this is blank.
32	ELIGIBLE	Char	1	$ELIGIBLE.	1.	Patient eligibility adjudicated by ERC	ERC - this is the ERC adjudication if patient is eligible for study
33	PL20KDT	Num	8	MMDDYY8.	8.	Platelet Recover 20K Date	CIBMTR - This is the date to platelet recovery to 20k.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
34	PL50KDT	Num	8	MMDDYY8.	8.	Platelet Recover 50K Date	CIBMTR - This is the date to platelet recovery to 50k.
35	DonorAge	Num	8			Age of Donor	CIBMTR
36	DonorGender	Char	6	$6.	$6.	Gender of Donor	CIBMTR
37	dcmvpr	Num	8			Donor CMV status	CIBMTR
38	donor_recip_CMV	Char	3			Donor-recipient CMV status	RECODE - this is computed based on donor's CMV status from CRF-TXP (*CMVSTAT*) and recipient's CMV status from CIBMTR (*DCMVPR*)
39	donor_recip_gender	Char	3			Donor-recipient gender match	RECODE - this is computed based on donor's gender from CRF-DEM and recipient's gender from CIBMTR (*DONORGENDER*)
40	MAXCGVHD	Char	1	$CGVGRD.	$1.	Chronic GVHD Max Grade	ERC - This is the ERC adjudicated maximum grade of chronic GVHD. 0 indicates no chronic GVHD.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
41	CGVHDT	Num	8	MMDDYY8.	DATETIME22.3	Chronic GVHD Onset Date	ERC - This is the ERC adjudicated onset date of chronic GVHD.
42	MAXCGVDT	Num	8	MMDDYY8.	DATETIME22.3	Chronic GVHD Max Date	ERC - This is the ERC adjudicated onset date of maximum chronic GVHD. If the maximum grade is limited, it is the date to limited chronic GVHD. If the maximum grade is extensive, it is the date to extensive chronic GVHD.
43	PRGRLP	Char	1	$YESNOF.	$1.	Experienced relapse or not adjudicated by ERC	ERC - This is the ERC adjudication if patient had disease progression or relapse.
44	PRGRLPDT	Num	8	MMDDYY8.	DATETIME22.3	Progression Relapse Date	ERC - This is the ERC adjudicated relapse date.
45	DSCHG1DT	Num	8	MMDDYY8.	DATETIME22.3	First Hospital Discharge Date	ERC - This is the hospital discharge date for initial transplant verified by ERC.
46	ancday	Num	8			Days of Neutrophil Recovery from Transplant	RECODE, this is the days from date of transplant to date of neutrophil recovery *(=ANCDT1 - TXDTTXP*)

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
47	ancoutcome	Char	9			Neutrophil Recovery Outcome	RECODE - this is the outcome for neutrophil recovery endpoint
48	anc_CI	Num	8			Neutrophil Recovery Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the indicator for cumulative incidence of neutrophil recovery (0=End Study, 1=Engraft, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for neutrophil recovery.
49	relapseday	Num	8			Days of Relapse from Transplant	RECODE - this is the days from transplant date to date of relapse *(=PRGRLPDT - TXDTTXP)*
50	relapsemon	Num	8			Months of Relapse from Transplant	RECODE - this is the months from transplant date to date of relapse (=*relapseday/30.4*)
51	relapseoutcome	Char	9			Relapse Outcome	RECODE - this is the outcome for relapse post transplant

Variables in Creation Order							
#	Variable	Type	Len	Format	Informat	Label	Data Source / Notes
52	relapse_CI	Num	8			Relapse Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the indicator for cumulative incidence of relapse (0=End Study, 1=Relapse, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for relapse.
53	gvh234day	Num	8			Days of Grade 2-4 Acute GVHD from Transplant	RECODE - this is days from transplant to date of Grade 2-4 acute GVHD (=*agvh24dt-TXDTTXP*).
54	gvh234outcome	Char	9			Grade 2-4 Acute GVHD Outcome	RECODE - this is the outcome of Grades 2-4 acute GVHD Post Transplant endpoint
55	gvh234_CI	Num	8			Grade 2-4 Acute GVHD Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for Grades 2-4 acute GVHD post transplant endpoint. (0=End Study, 1=GVH234, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for acute GVHD.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
56	gvh34day	Num	8			Days of Grade 3-4 Acute GVHD from Transplant	RECODE - this is days from transplant to date of Grade 3-4 acute GVHD (=*agvh34dt-TXDTTXP*).
57	gvh34outcome	Char	9			Grade 3-4 Acute GVHD Outcome	RECODE - this is the outcome of Grades 3-4 acute GVHD post transplant endpoint
58	gvh34_CI	Num	8			Grade 3-4 Acute GVHD Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for Grades 3-4 acute GVHD post transplant endpoint. (0=End Study, 1=GVH34, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for acute GVHD.
59	cgvhdday	Num	8			Days of Chronic GVHD from Transplant	RECODE - this is the days from date of transplant to date of maximum chronic GVHD *(=cgvhdt –TXDTTXP*).
60	cgvhdmon	Num	8			Months of Chronic GVHD from Transplant	RECODE - this is the months from date of transplant to date of maximum chronic GVHD *(=cgvhdday/30.4*).

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
61	cgvhdoutcome	Char	9			Chronic GVHD Outcome	RECODE - this is the outcome of chronic GVHD post transplant endpoint
62	cgvhd_CI	Num	8			Chronic GVHD Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for chronic GVHD post transplant endpoint. (0=End Study, 1=cGVHD, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for chronic GVHD.
63	vodday	Num	8			Days of VOD from Transplant	RECODE - this is the days from date of transplant to the date of toxicity evaluation that confirmed VOD. *(=VODDATE –TXDTTXP*).
64	VODoutcome	Char	9			VOD Outcome	RECODE - this is the outcome of confirming VOD based on toxicity evaluation

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
65	VOD_CI	Num	8			VOD Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for VOD confirmation. (0=End Study, 1=VOD, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for VOD.
66	husday	Num	8			Days of Grade 3-5 HUS/TTP from Transplant	RECODE - this is the days from date of transplant to the date of toxicity evaluation that reported grades 3-5 HUS/TTP/TMA. *(=HUSDATE –TXDTTXP*).
67	HUSoutcome	Char	9			Grade 3-5 HUS/TTP Outcome	RECODE - this is the outcome of reporting grades 3-5 HUS/TTP/TMA.
68	HUS_CI	Num	8			Grade 3-5 HUS/TTP Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for reporting grades 3-5 HUS/TTP/TMA. (0=End Study, 1=HUS, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for HUS.

Variables in Creation Order							
#	**Variable**	**Type**	**Len**	**Format**	**Informat**	**Label**	**Data Source / Notes**
69	disday	Num	8			Days of 1st Hospital Discharge from Transplant	RECODE - this is the days from date of transplant to the date of hospital discharge for initial transplant. *(=DSCHG1DT – TXDTTXP*).
70	DISoutcome	Char	9			1st Hospital Discharge Outcome	RECODE - this is the outcome of hospital discharge for initial transplant
71	DIS_CI	Num	8			1st Hospital Discharge Indicator for competing risk (1=event, 2=death, 0=end study)	RECODE - this is the cumulative incidence indicator for hospital discharge for initial transplant. (0=End Study, 1=HUS, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for first hospital discharge.
72	osday	Num	8			Overall Survival Days post Transplant	RECODE - this is the days from date of transplant to the death or last follow up, computed for overall survival
73	ossrvcens	Num	8			Overall Survival post Transplant Censor Indicator (1=event)	RECODE - this is the censor indicator for overall survival endpoint

Variables in Creation Order							
#	Variable	Type	Len	Format	Informat	Label	Data Source / Notes
74	rosgvh234day	Num	8			Grade 2-4 Acute GVHD-free Survival Days post Randomization	RECODE - this is the days from date of transplant to the death or last follow up or date of grade 2-4 acute GVHD
75	rgvh234outcome	Char	9			Grade 2-4 Acute GVHD-free Survival post Randomization Outcome	RECODE - this is the outcome for grade 2-4 acute GVHD free survival post randomization endpoint
76	rosgvh234	Num	8			Grade 2-4 Acute GVHD-free Survival post Randomization Censor Indicator (1=event)	RECODE - this is the censor indicator for grade 2-4 acute GVHD free survival post randomization endpoint
77	rfsday	Num	8			Relapse-Free Survival Days post Transplant	RECODE - this is the days from transplant date to the death or last follow up or date of relapse
78	rfssrvcens	Num	8			Relapse-Free Survival post Transplant Censor Indicator (1=event)	RECODE - this is the censor indicator for relapse-free survival endpoint. (0=End Study, 1=Relapse/Death)

Algorithm used for the Recode and ERC Adjudications

Algorithm for Acute GVHD Grade:

- The acute GVHD algorithm calculates the grade based on the organ (skin, GI and liver) stage and etiology/biopsy reported on the weekly GVHD form.
- If none of the etiologies for skin, upper GI, lower GI, or liver are reported as GVHD, then the overall grade is 0
- If multiple etiologies are specified for lower GI or liver, the organ system will be down-staged by 1.
- If an upper GI biopsy is negative, upper GI symptoms are down-staged.
- If GVHD is not listed as an etiology for upper GI then upper GI symptoms are down-staged.
- Each organ contributes to the overall grade; while to get an overall grade, it does not necessarily need all organ symptoms. Different organ/stage determine different grade. Details below:

Grade 0: No skin rash and No protracted nausea and vomiting and No diarrhea or diarrhea < 500 and Bilirubin < 2.0	**Grade III:** Skin-No rash to Rash > 50% with Diarrhea > 1000 or severe abdominal pain or Bilirubin 3.1 - 15
Grade I: Skin rash 25-50 % and No diarrhea or diarrhea < 500 and Bilirubin < 2.0	**Grade IV:** Skin-Generalized Erythroderma with Bullus Formation and Desquamation or Bilirubin > 15
Grade II: Skin rash >50% or Diarrhea >500 or Bilirubin 2.0 - 3.0 or Persistent nausea/vomiting	

Algorithm for Chronic GVHD: Limited vs Extensive (Definition from CIBMTR forms)

- Limited – localized skin involvement and/or hepatic dysfunction due to chronic GVHD
- Extensive – one or more of the following:

1. generalized skin involvement; or,
2. liver histology showing chronic aggressive hepatitis, bridging necrosis or cirrhosis; or,
3. involvement of eye: Schirmer's test with < 5 mm wetting; or
4. involvement of minor salivary glands or oral mucosa demonstrated on labial biopsy; or
5. involvement of any other target organ

Note on the sample size:
The BMT CTN 0402 study enrolled 314 participants in total. There were 10 participants who received Bu/Cy conditioning regimen on the study and results were published as an early cohort prior to the completion of the study. These 10 participants were excluded from the primary manuscript per protocol team decision. Three participants did not receive study transplant. This OUTCOMES dataset includes 304 patients as above mentioned. Some other datasets (e.g enrollment dataset ENRA) are keeping data for all the enrolled patients for completeness.