

BMT CTN #0603 Haplo with RIC Data Submission - Documentation for Outcomes Dataset

Outcomes dataset has 81 variables* for 50 patients on BMT protocol #0603 Haplo with RIC 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 #0603 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.

*Note: The OUTCOMES dataset for the primary publication set has 78 variables. This is because donor chimerism (Marrow, Blood, T-cell) at Day 365 were not included in the primary manuscript and only included for the final data lock, recall that the primary endpoint was 6-month overall survival.

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|---|----------|------|-----|--------|----------|--------------------|--|
| 1 | site | Char | 5 | 5. | 5. | Site Code | EMMES – this is the site code of the transplant center |
| 2 | SITENAME | Char | 200 | 200. | 200. | center name | EMMES– this is the name of the transplant center where the recipient was enrolled from |
| 3 | PROT | Char | 5 | 5. | 5. | BMT CTN Protocol # | EMMES – this indicated BMT CTN Protocol # |
| 4 | PATID | Char | 15 | 15. | 15. | 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. |
| 5 | 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. |
| 6 | DONRAGHP | Num | 8 | 4. | 4. | Donor's Age | CRF - ENRA |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|----------|------|-----|------------|----------|--------------------------------|---|
| 7 | PRIMDIHP | Char | 2 | \$DIS. | 2. | Primary Disease at Baseline | CRF - ENRA |
| 8 | CHEMREHP | Char | 1 | \$PRGM. | 1. | Prior Regimens of Chemotherapy | CRF - ENRA |
| 9 | PRFSCOHP | Char | 10 | \$PSA. | 10. | Performance Status at Baseline | CRF - ENRA |
| 10 | PRIORHP | Char | 1 | \$YESNO. | 1. | Prior Autologous Transplant | CRF - ENRA |
| 11 | DOB | Num | 8 | MMDDYY8. | 8. | Date of Birth | CRF - DEM |
| 12 | dsstage | Char | 50 | | | Disease Stage at Baseline | RECODE - this is computed based on the collected disease stage reported on ENRA form |
| 13 | ENRLDATE | Num | 8 | MMDDYY8. | 8. | Enrollment Date | EMMES - this is the start date of the patient on this study. |
| 14 | ETHNIC | Char | 3 | \$ETHNICF. | 3. | Ethnicity | CRF - DEM |
| 15 | GENDER | Char | 1 | \$GENDERF. | 1. | Gender | CRF - DEM |
| 16 | raceA | Char | 1 | \$RACEF. | | Race | RECODE - this is based on race and secondary race reported on DEM form and combine into |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|-------------|------|-----|----------|----------|-----------------------------------|--|
| | | | | | | | several big race categories. |
| 17 | TXDTPXP | Num | 8 | MMDDYY8. | 8. | Transplant Date | CRF - TXP |
| 18 | fudate | Num | 8 | MMDDYY8. | | Last followup date | RECODE - this is based on the last follow- up date from all available data sources including CRF, CIBMTR long term data and ERC adjudication |
| 19 | DTHDT | Num | 8 | MMDDYY8. | 8. | Date of Death | RECODE - this is based on death date from all available data sources including CRF-DTH and CIBMTR long-time data |
| 20 | PRPLDATE | Num | 8 | MMDDYY8. | 8. | Date of Relapse | RECODE - this is based on disease progression/relapse date from all available data sources including CRF-PRP, CIBMTR long-term data and ERC adjudicated data |
| 21 | cGVHDdate_f | Num | 8 | MMDDYY8. | 8. | Date of Diagnosis of Chronic GVHD | ERC - this is based on CIBMTR long term follow-up data and ERC adjudication on date of cGVHD |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|-----------|------|-----|--------|----------|--|--|
| 22 | toxmax | Num | 8 | | | Maximum CTCAE Toxicity grade | RECODE - this is the maximum grade of Grades 3-5 toxicity that patient experienced, computed based on CRF-T12 data. If null, it indicates that patient's maximum toxicity grade was 0-2. |
| 23 | HLAGVH_r | Char | 4 | \$4. | \$4. | HLA Typing Match Score (GVH direction) | ERC - this is based on CRF-HT1, HT2 collected variables and adjudicated by ERC |
| 24 | HLAHVG_r | Char | 5 | \$5. | \$5. | HLA Typing Match Score (HVG direction) | ERC - this is based on CRF-HT1, HT2 collected variables and adjudicated by ERC |
| 25 | COD_f | Char | 21 | \$21. | \$21. | Primary Cause of Death | ERC - this is based on primary cause of death reported on CRF-DTH form and adjudicated by ERC |
| 26 | primarygf | Char | 12 | \$12. | \$12. | Primary Graft Failure | ERC - this is based on donor cell engraftment and chimerism assay data on CRF-NHM form and adjudicated by ERC |
| 27 | secondgf | Char | 3 | \$3. | \$3. | Second Graft Failure | ERC - this is based on variables |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|----------|------|-----|----------|----------|----------------------------------|---|
| | | | | | | | reported on CRF-SGR form and adjudicated by ERC |
| 28 | ANCDT1 | Num | 8 | MMDDYY8. | 8. | Date of Neutrophil Recovery | CRF - NHM |
| 29 | maxgrade | Num | 8 | | | Maximum Grade of Acute GVHD | ERC – This is the ERC adjudicated maximum overall grade of acute GVHD. ERC adjudicated the maximum grade based on the weekly acute GVHD assessment and some clinical notes as needed. |
| 30 | maxdate | Num | 8 | MMDDYY8. | | Date of Maximum Acute GVHD | ERC – This is the ERC adjudicated date of maximum acute GVHD. ERC adjudicated the maximum grade based on the weekly acute GVHD assessment and some clinical notes as needed. |
| 31 | PLT201DT | Num | 8 | MMDDYY8. | 8. | Date of Platelet Recovery to 20K | CRF - NHM |
| 32 | PLT501DT | Num | 8 | MMDDYY8. | 8. | Date of Platelet Recovery to 50K | CRF - NHM |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|----------------|------|-----|--------|----------|------------------------------------|---|
| 33 | Donor_relation | Char | 16 | \$16. | \$16. | Donor Relationship | CIBMTR |
| 34 | age | Num | 8 | 4.1 | | Age of patient (yrs) at enrollment | RECODE - this is the computed age of years at enrollment based on DOB on CRF-DEM form |
| 35 | marrowpct28 | Num | 8 | | | Donor Chimerism in Marrow at Day28 | RECODE - this is computed based on marrow samples from CRF-NHM form for Day 28. If chimerism assay was not performed on marrow samples, used blood sample instead |
| 36 | bloodpct28 | Num | 8 | | | Donor Chimerism in Blood at Day28 | RECODE - this is computed based on blood samples from CRF-NHM form for Day 28 |
| 37 | tcellpct28 | Num | 8 | | | Donor Chimerism in T-Cell at Day28 | RECODE - this is computed based on T-cell samples from CRF-NHM form for Day 28 |
| 38 | marrowpct56 | Num | 8 | | | Donor Chimerism in Marrow at Day56 | RECODE - this is computed based on marrow samples from CRF-NHM form for Day 56. If chimerism assay was not performed on marrow samples, |

Variables in Creation Order

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|----|--------------|------|-----|--------|----------|-------------------------------------|--|
| | | | | | | | used blood sample instead |
| 39 | bloodpct56 | Num | 8 | | | Donor Chimerism in Blood at Day56 | RECODE - this is computed based on blood samples from CRF-NHM form for Day 56 |
| 40 | tcellpct56 | Num | 8 | | | Donor Chimerism in T-Cell at Day56 | RECODE - this is computed based on T-cell samples from CRF-NHM form for Day 56 |
| 41 | marrowpct180 | Num | 8 | | | Donor Chimerism in Marrow at Day180 | RECODE - this is computed based on marrow samples from CRF-NHM form for Day 180. If chimerism assay was not performed on marrow samples, used blood sample instead |
| 42 | bloodpct180 | Num | 8 | | | Donor Chimerism in Blood at Day180 | RECODE - this is computed based on blood samples from CRF-NHM form for Day 180 |
| 43 | tcellpct180 | Num | 8 | | | Donor Chimerism in T-Cell at Day180 | RECODE - this is computed based on T-cell samples from CRF-NHM form for Day 180 |
| 44 | marrowpct365 | Num | 8 | | | Donor Chimerism in Marrow | RECODE - this is computed |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|-------------|------|-----|----------|----------|-------------------------------------|--|
| | | | | | | at Day365 | based on marrow samples from CRF-NHM form for Day 365. If chimerism assay was not performed on marrow samples, used blood sample instead |
| 45 | bloodpct365 | Num | 8 | | | Donor Chimerism in Blood at Day365 | RECODE - this is computed based on blood samples from CRF-NHM form for Day 365 |
| 46 | tcellpct365 | Num | 8 | | | Donor Chimerism in T-Cell at Day365 | RECODE - this is computed based on T-cell samples from CRF-NHM form for Day 365 |
| 47 | maxcgvhd_f | Char | 9 | | | Maximum Grade of Chronic GVHD | RECODE - this is based on CRF-CGV form, CIBMTR long term follow-up data and ERC adjudicated maximum cGVHD grade |
| 48 | ag24date | Num | 8 | MMDDYY8. | | Date of Grades 2 to 4 Acute GVHD | RECODE - this is based on date of maximum aGVHD and maximum 2 to 4 aGVHD grades |
| 49 | ag34date | Num | 8 | MMDDYY8. | | Date of Grades 3 to 4 Acute GVHD | RECODE - this is based on date of maximum aGVHD and |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|-------------|------|-----|--------|----------|--|---|
| | | | | | | | maximum 3 to 4 aGVHD grades |
| 50 | ost_srvtm | Num | 8 | | | Overall Survival Post Transplant (days) | RECODE - this is the days from date of transplant to the death or last follow up, computed for overall survival |
| 51 | ost_mon | Num | 8 | | | Overall Survival Post Transplant (months) | RECODE - this is the months from date of transplant to the death or last follow up, computed for overall survival |
| 52 | ost_outcome | Char | 9 | | | Overall Survival Post Transplant Outcome | RECODE - this is the outcome for overall survival endpoint |
| 53 | ost_srvcens | Num | 8 | | | Overall Survival Post Transplant Censor Indicator | RECODE - this is the censor indicator for overall survival |
| 54 | dfs_srvtm | Num | 8 | | | Progression-Free Survival Post Transplant (days) | RECODE - this is the days from date of transplant to the death, relapse, or last follow up, computed for disease progression-free |
| 55 | dfs_mon | Num | 8 | | | Progression-Free Survival Post Transplant (months) | RECODE - this is the months from date of transplant to the |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|-------------|------|-----|--------|----------|---|--|
| | | | | | | | death, relapse or last follow up, computed for disease progression-free |
| 56 | dfs_outcome | Char | 9 | | | Progression-Free Survival Post Transplant Outcome | RECODE - this is the outcome for disease progression-free endpoint |
| 57 | dfs_srvcens | Num | 8 | | | Progression-Free Survival Post Transplant Censor Indicator | RECODE - this is the censor indicator for disease progression-free |
| 58 | TRMday | Num | 8 | | | Treatment-related Mortality Post Transplant(days) | RECODE - this is the months from date of transplant to date of treatment-related mortality |
| 59 | TRMoutcome | Char | 9 | | | Treatment-related Mortality Post Transplant Outcome | RECODE - this is the outcome for treatment-related mortality endpoint |
| 60 | TRM_CI | Num | 8 | | | Treatment-related Mortality Post Transplant Indicator for Cumulative Incidence(event=1) | RECODE - this is the indicator for cumulative incidence of treatment-related mortality (0=End Study, 1=Death, 2=Relapse) Relapse is considered as a competing risk |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|----------------|------|-----|--------|----------|---|---|
| | | | | | | | in the cumulative incidence analysis for TRM. |
| 61 | relapseday | Num | 8 | | | Relapse Post Transplant(days) | RECODE - this is the days from transplant date to date of relapse (=PRPLDATE - TXDITXP) |
| 62 | relapseoutcome | Char | 9 | | | Relapse Post Transplant Outcome | RECODE - this is the outcome for relapse post transplant |
| 63 | relapse_CI | Num | 8 | | | Relapse Post Transplant Indicator for Cumulative Incidence(event=1) | 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. |
| 64 | ancday | Num | 8 | | | Neutrophil Recovery Post Transplant(days) | RECODE, this is the days from date of transplant to date of neutrophil recovery (=ANCDT1 - TXDITXP) |
| 65 | ancoutcome | Char | 9 | | | Neutrophil Recovery Post Transplant Outcome | RECODE - this is the outcome for neutrophil recovery endpoint |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|--------------|------|-----|--------|----------|--|---|
| 66 | anc_CI | Num | 8 | | | Neutrophil Recovery Post Transplant Indicator for Cumulative Incidence(event=1) | 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. |
| 67 | plt20day | Num | 8 | | | Platelet Recovery to 20K Post Transplant(days) | RECODE, this is the days from date of transplant to date of platelet recovery to 20K (=plt201dt - TXDTTXP). |
| 68 | plt20outcome | Char | 9 | | | Platelet Recovery to 20K Post Transplant Outcome | RECODE - this is the outcome of platelet recovery to 20K. |
| 69 | plt20_CI | Num | 8 | | | Platelet Recovery to 20K Post Transplant Indicator for Cumulative Incidence(event=1) | RECODE - this is the cumulative incidence indicator of platelet recovery to 20K (0=End Study, 1=Engraft, 2=Death). Death is considered as a competing risk. |
| 70 | plt50day | Num | 8 | | | Platelet Recovery to 50K Post Transplant(days) | RECODE - this is days from date of transplant to date of platelet recovery to 50K (=plt501dt - TXDTTXP). |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----|--------------|------|-----|--------|----------|---|--|
| 71 | plt50outcome | Char | 9 | | | Platelet Recovery to 50K Post Transplant Outcome | RECODE - this is the outcome of platelet recovery to 50K. |
| 72 | plt50_CI | Num | 8 | | | Platelet Recovery to 50K Post Transplant Indicator for Cumulative Incidence(event=1) | RECODE - this is the cumulative incidence indicator for platelet recovery to 50K (0=End Study, 1=Engraft, 2=Death). Death is considered as a competing risk. |
| 73 | cgvhdday | Num | 8 | | | Chronic GVHD Post Transplant(days) | RECODE - this is the days from date of transplant to date of maximum chronic GVHD (=DTDGNCGV -TXDITXP). |
| 74 | cgvhdoutcome | Char | 9 | | | Chronic GVHD Post Transplant Outcome | RECODE - this is the outcome indicator for chronic GVHD Post Transplant endpoint. |
| 75 | cgvhd_CI | Num | 8 | | | Chronic GVHD Post Transplant Indicator for Cumulative Incidence(event=1) | 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. |

Variables in Creation Order

| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
|----------|-----------------|-------------|------------|---------------|-----------------|---|--|
| 76 | agvhd24day | Num | 8 | | | Grades 2-4 Acute GVHD Post Transplant(days) | RECODE - this is days from transplant to date of Grade 2-4 acute GVHD (=ag24date-TXD TTXP). |
| 77 | agvhd24outcome | Char | 9 | | | Grades 2-4 Acute GVHD Post Transplant Outcome | RECODE - this is the outcome of Grades 2-4 acute GVHD Post Transplant endpoint |
| 78 | aGVHD24_CI | Num | 8 | | | Grades 2-4 Acute GVHD Post Transplant Indicator for Cumulative Incidence(event=1) | RECODE - this is the cumulative incidence indicator for Grades 2-4 acute GVHD post transplant endpoint. (0=End Study, 1=g24aGVHD, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for acute GVHD. |
| 79 | agvhd34day | Num | 8 | | | Grades 3-4 Acute GVHD Post Transplant(days) | RECODE - this is days from date of transplant to date of Grade 3-4 acute GVHD (=ag34date-TXD TTXP). |
| 80 | agvhd34outcome | Char | 9 | | | Grades 3-4 Acute GVHD Post Transplant Outcome | RECODE - this is the outcome of Grades 3-4 acute GVHD Post Transplant endpoint |

| Variables in Creation Order | | | | | | | |
|-----------------------------|------------|------|-----|--------|----------|---|--|
| # | Variable | Type | Len | Format | Informat | Label | Data Source / Notes |
| 81 | aGVHD34_CI | Num | 8 | | | Grades 3-4 Acute GVHD Post Transplant Indicator for Cumulative Incidence(event=1) | RECODE - this is the cumulative incidence indicator for Grades 3-4 acute GVHD post transplant endpoint. (0=End Study, 1=g34aGVHD, 2=Death) Death is considered a competing risk in the cumulative incidence analysis for acute GVHD. |

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:

| | |
|---|--|
| <p>Grade 0:</p> <p>No skin rash and No protracted nausea and vomiting and No diarrhea or diarrhea < 500 and</p> | <p>Grade III:</p> <p>Skin-No rash to Rash > 50% with Diarrhea > 1000 or severe abdominal pain or Bilirubin 3.1 - 15</p> |
|---|--|

| | |
|---|--|
| Bilirubin < 2.0 | |
| 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:

There were fifty-five patients enrolled to BMT CTN 0603. The endpoint review committee adjudicated 50 of them to be eligible for the study. The OUTCOMES dataset only include data for the 50 patients.

Per protocol the study patients are followed for one year after transplantation. The median survival post-transplant for primary publication dataset is 356 days with range [103, 441]. After incorporating CIBMTR long-term follow-up data, the median survival in the final data lock set is 1081 days with range [738, 1461].