Supplement 1 – Data points

Baseline data
- birth date
- gender
- transplantation clinic
- clinical course (RRMS, SPMS or PPMS)
- disease onset
- diagnosis date
- previous DMT(s)
- number and dates of relapses prior to aHSCT
- results and dates of MRI investigations prior to aHSCT
- results and dates of EDSS scoring prior to aHSCT
- wash-out period prior to aHSCT
- comorbidities

aHSCT data
- date of mobilisation
- date of stem cell harvest
- date of admission and discharge for aHSCT
- date of aHSCT
- drugs used in mobilisation and conditioning including dosage
- G-CSF given post aHSCT
- days to engraftment
- intensive care (yes/no) including reason
- body weight at admission and discharge
- plasma-albumin at admission and discharge
- specific days with fever
- clinical diagnosis of infection
- reactivation of CMV, EBV or other herpes viruses
- bacteremia (species)
- culture negative fever
- hemorrhagic cystitis (yes/no)
- days with intravenous antibiotics including substance
- fungal infection (culture or clinical diagnosis)
- serious adverse events grade three or higher according to the CTCAE.

Follow-up data
- number and dates of relapses after aHSCT,
- results and dates of MRI investigations after aHSCT
- results and dates of EDSS and MSIS-29 scoring after aHSCT
- serious adverse events grade three or higher according to CTCAE until day +100
- subsequent DMT
- date of last follow-up.
**Supplement 2 - Definitions**

**Annualised relapse rate**
The number of relapses occurring during a time period divided by the number of years in that time period. E.g. 5 relapses occurring in a time period of 2.5 years equals an ARR of 2 (5/2.5=2).

**Confirmed disability improvement**
If baseline EDSS ≤ 5.5: A decrease in EDSS score with at least 1 point from baseline that is sustained between two follow-up visits separated in time by no less than six months.
If baseline EDSS ≥ 6: A decrease in EDSS score with at least 0.5 points from baseline that is sustained between two follow-up visits separated in time by no less than six months.

**Clinically isolated syndrome**
According to the Lublin et al criteria from 2014.

**Confirmed disability worsening**
If baseline EDSS ≤ 5: An increase in EDSS score with at least 1 point from baseline that is sustained between two follow-up visits separated in time by no less than six months.
If baseline EDSS ≥ 5.5: An increase in EDSS score with at least 0.5 points from baseline that is sustained between two follow-up visits separated in time by no less than six months.

**Clinical relapse**
A period of acute worsening of neurological function lasting ≥ 24 hours not attributable to an external cause such as increased body temperature or acute infection.

**EDSS**
The Kurtske Expanded Disability Status Scale (EDSS) is a method of quantifying disability in multiple sclerosis. The EDSS is a composite of disability in eight functional systems.

**Engraftment**
ANC 0.5 or higher and TPK >20 and rising, without transfusion of thrombocytes.

**MRI event**
The appearance of any T2 lesion > 3 mm or gadolinium enhancing lesion in the brain or spinal cord not present on the baseline scan.

**Multiple sclerosis, diagnosis**
Diagnosis according to the revised McDonald Criteria from 2017.

**No evidence of disease activity (NEDA)**
The absence of clinical relapses in addition to absence of confirmed disability worsening and MRI events.

**Primary Progressive multiple sclerosis (PPMS)**
According to the Lublin et al criteria from 2014.

**Progressive disease**
According to the Lublin et al criteria from 2014.

**Relapsing/remitting multiple sclerosis**
According to the Lublin et al criteria from 2014.

**Treatment related mortality (TRM)**
Death due to any transplantation-related cause other than disease progression.