Using HL7-FHIR to Automate Mandatory Reporting of Bone Marrow Transplant Data Decreases Staff Effort and Improves Data Quality

Authors: Cenia Thomas, BS; Renata Panchal, M.S.; John Konecny, BS; Timothy Casali, BS; Michael Buckley; Elizabeth Klein, MPH; Joseph Lengfellner

BACKGROUND
Transplant centers are required to submit outcomes data on every transplant performed to the Center for International Blood and Marrow Transplant Research (CIBMTR).

Data is manually abstracted from the Electronic Health Record (EHR) entered by data managers (DM) into an online data capture system, called FormsNet3 (FN3).

PROBLEM
Data staff spend on average 16.5 hours per patient on data entry for CIBMTR form completion per year.

Manual data entry is inefficient, time consuming and error prone.

METHODS
Data automation planning began in June 2021 and the BMTverse App went into production in December 2021.

Our rollout was conducted in 3 phases:
1) Automation of demographics submissions in December 2021
2) Automation of select pre-transplant labs in March 2022
3) Automation of complete blood count with differential labs at post-transplant in November 2022.

We monitored time and effort savings as our main key performance indicator (KPI).

GOAL
Eliminate, manual data entry via automation of data submission to CIBMTR.

RESULTS
• Phase 1: Automation of demographics data submission to CIBMTR to register a patient saved 5 minutes/patient1.
• Phase 2: Automation of certain pre-transplant and post-transplant lab results data to CIBMTR saved 3-20 minutes/patient1.

CONCLUSIONS
Digital tools like BMTVerse powered by HL-7-FHIR can:
• Decrease the time burden associated with mandatory data reporting requirements
• Improve data management operational efficiencies
• Increase data accuracy
• Reduce data submission latency

FUTURE DIRECTIONS
Partner with CIBMTR to automate other high-value data fields in 2023.

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