Five Innovations in BMT Clinical Research Process

Learning Objectives:
- To identify key process improvement areas for BMT Clinical research and data management.
- To encourage BMT centers to challenge the status quo by implementing innovative processes leading to error reduction and increased data validity.
- To facilitate discussion around new ideas in data management to ensure accuracy, validity, reliability, error rate, and outcomes.

Background: Reporting to the Center for International Blood and Marrow Transplant Research (CIBMTR) and internal databases requires process management to ensure accurate data, validity, reliability, error rate, and outcomes. Status quo processes that go unchallenged remain inefficient and costly. Updating our process and targeting best practices has reduced our critical field error rate from 4.2% to 1.7% (CIBMTR audit, 2008 – 2012). We recommend five innovative process areas BMT research centers can begin implementing today with the goal of continuous process improvement.

Five Areas for Innovation: We are targeting innovation in the following areas: (a.) Technology, (b.) Communication (c.) Work flow, (d.) Staffing, and (e.) Data Reliability.

Technology:
- Implementing AGNIS to allow automatic form completion via our internal database.
- Converting traditionally paper processes into electronic data files and scanning documents into our electronic medical record.
- Rethinking data storage has increased data security and saved the department an estimated $934.00 per year.

Communication:
- Establishing standardized internal data collection forms and information sharing encouraged transparency throughout the clinical team.
- Targeting processes including: lost to follow-up, CIBMTR research consent, comorbidities and infections, and Physician sign-off.

Work Flow:
- Identifying both low cost and efficient solutions to workflow barriers.
- Redefining Data Coordinator (DC) tasks for better time tracking, project management, and training.
- Using student interns to address long term data storage projects.

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Staffing:
- Avoiding costly bad hires and reducing turnover by selecting DC’s with strong research backgrounds.
- Conducting peer interviews to gauge personality fit with the current research team.
- Consistently improving our quarterly internal audits by selecting the best people.

Data Reliability:
- Preventing errors with a multi-level checks and balances procedure for DC feedback.
- Developing internal training manuals with mutually exclusive and exhaustive categories to eliminate disagreements in data coding and entry.
- Future reliability testing to streamline DC training and increase validity. An intercoder reliability above 80% will be considered acceptable (Hayes & Krippendorff, 2007).

Future: These good clinical practices are leading to error reduction and increased data validity. Our objective for the 2016 audit is to demonstrate below a 1% critical field error rate and attain reciprocal data between electronic medical records, internal databases, and CIBMTR by implementing one innovative process per quarter.

Recommended Sources

AGNIS software
- Angis.net
- To get started with AGNIS, contact the AGNIS team at agnis@nmdp.org

Professional Communication and Team Collaboration


Reliability


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