The Ottawa Hospital Data Warehouse

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Ottawa Hospital

- Teaching hospital in Ottawa, Ontario, Canada
- Approximately 1,100 beds and 1,100 physicians
- 4 campuses that provide inpatient care
  - Civic
  - General
  - Heart Institute
  - Rehabilitation Center
- 1 campus that provides outpatient care only
Ottawa Hospital Data Warehouse (DW)

- The DW is a relational database containing information from TOH’s most important operational information systems
  - patient registration system
  - clinical data repository
    - labs, pharmacy, radiology, clinical notes
  - patient abstracts (DAD, NACRS)
  - personnel scheduling system
- Includes data from 1996 to present over multiple campuses
Areas of data warehouse projects

• REB-approved research
  • Adverse event detection
  • Evaluation of MRSA screening program
  • Identification of unrecognized DM patients and evaluation of outcomes
• Facilitating mandated hospital reporting (MOH, CIHI)
• Hospital performance management
  • Dashboards for senior mgmt
  • Clinical performance atlases for physician services
• Data quality improvement initiatives
Foray into assisting senior management

- Hospital performance management pilot (HPMP)
- Develop 4 dashboards to deploy to senior stakeholders within hospital
  - Operational / Quality
  - Infection Control
  - General internal medicine clinical atlas
  - Vascular surgery clinical atlas
- Timeline: 3 months to deployment
- Engaged outside company for Cognos tool development
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HPMP framework

- 30 different indicators/metrics across 4 dashboards
  - Majority coming from DW
  - Rest from OR system, hand hygiene
- 11 data marts, 6 from DW
  - Defined minimum number of datasets from which to derive indicators
  - Kept very granular (e.g. encounter level) for data validation
- Master data mart dictionary
  - Standardization, organization, documentation
Communication tools

1. Master data mart dictionary ([link](#))
2. Indicator technical notes ([link](#))
3. Data mart usability guides ([link](#))
4. Issue tracking spreadsheet

• How do we communicate across project teams?
  • Definition of indicators
  • Providing data and indicator definitions to Cognos team
• How do we validate the data?
• How can end users trust what they are seeing?
Where are we now?

- Dashboards automated with daily, weekly, monthly loads
- Established framework for future tool development and communication across hospital teams
- DW data marts being utilized heavily for other DW projects. Want to expand and automate within ETL.
- Stakeholders haven’t embraced product into their routine
- Just presented dashboards to hospital SMT who loved it
  - Will they use it?
  - Can we redevelop a dashboard with better stakeholder engagement now that we’ve ironed out kinks?