The CHADx+ Portal: timely, local, comparative data on inpatient complications

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CHADx+

- Classification of Hospital Acquired Diagnoses (CHADx)
  - 17 major groups (MCHADx; e.g., infection, cardiovascular)
  - 159 CHADx (e.g., sepsis, major arrhythmia)
  - Identified through not-POA flag
  - RR-CHADx - same grouping where patient is readmitted with a POA CHADx within 30 days

- Classification of Hospital Additional Procedures (CHAPx)
  - 7 groups (e.g., transfusion)
  - 25 CHAPx (e.g., packed cells)

- Mortality outcomes
• Time limited opportunity to change practice
• Aim is a translatable improvement strategy
• CHADx+ e-portal development is key to the CHADx+ pilots
• e-portal provides data targeted to quality improvement
• VS2015 (SSRS build) deployed for limited intranet and internet availability
• Queries pre-processed summary tables
• Frontend hard coded statistics

Purpose designed to avoid the counter-productivity of governance / monitoring / metrics reports
Based on Victorian Admitted Episodes Dataset (VAED)
Stratified by
• DRG family
• Emergency/elective/maternity/neonatal admission status
• For every campus of every health service

Presents MCHADx+ and CHADx+ as separate linked screens
• 1 July 2015 – 30 June 2017 data
• Reflect longitudinal (2 year) performance
• Every campus meeting the selection filters (DRG + EMNL) is displayed
• Identifies exemplary performers

Comparative within episode and 30 day readmission data

Outcome rate, all Victorian hospitals (scroll over for details).

Your hospital’s within admission rate

State-wide within admission rate

State-wide 30 day readmission rate

Your hospital’s readmission rate

Positive deviant for readmission

Dark green markers: CHADx arising within the admission
Light green markers: CHADx arising as a readmission within 30 days of discharge
Hospitals are depicted with large diamonds
Low outlier hospitals have a red border
• Counts number of cases since last THA with inpatient sepsis
• Counts number of cases since last THA that resulted in a readmission within 30 days for sepsis
• Provides a relative performance indicator based on the number of cases and the state-wide rate
• Pointer changes colour as performance improves
• Workplace injury type approach
• Makes every case count
• Becomes important once an intervention is in place

CHADx+ Report:
CHADX_04_01_Sepsis in DRG 103 - Hip Replacement

Your hospital’s relative performance

Cases since last within admission sepsis Dx

Cases since last 30 day readmission for sepsis
- Compares outcome rates
- Each dot is a hospital
- Hospitals where the expected number of either outcomes is < 2 are excluded
- Provides evidence of association but not temporality

R2 = 20.0%
Data is only the first step to improvement (change).

The elephant metaphor

- Rider = rational mind
- Elephant = emotional mind
- Path = environmental factors

Recognise possibilities - change direction
Create an environment for change (Comfortable with current system etc.)
Visible and easy to adopt (systems & processes)
- Where the case for change needs to be made
- Driven by data – comparison plot
- Question is usually where we fall in relation to average?
- Governance/metrics committee activities usually end here

Questions should be why are we better than average?
- How do we get to exemplary performance?
- For clinicians, publication / evidence / guidelines appeal to the rational mind
- Data and evidence rarely, if ever, change practice
The pathway

- Identified
  - Sometimes guideline adherence is enough
  - Where variation exists, distil the ‘secret sauce’ from positive deviants
- Visible and available when a clinical decision needs to be made
- Explicit – explains exactly what is expected in most cases
- Simple – unambiguous message
- Embedded within routine processes
- Pick the easy wins

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**Interventions identified previously**

- Pre-admission Iron loading
- Restrictive transfusion protocol
- Paediatric blood draws
- Harmonic scalpel
Emotional content – happiness is belonging

• Examples of previous successes
  • 50 elec. TKA/year
  • Transfusion nurse 1 day/fortnight
  • Started PBM 4 years ago
  • Started broadly → focused TKA/THA

• Interventions
  • Anaesthetic Audit Committee
  • Restrictive transfusion protocol aimed at anaesthetists
  • 2 years ago – preadmission anaemia correction via GP

• Peer coaches, mentors

• Appeal to authority

Echuca TKR PRBC comparison 2012/16
Pilot progress

• Aimed for 3 specialties x 3 hospitals x 3 months
• Intervention progress at one organisation
• Translating tools / learnings to a second organisation

Challenge
• Tools that can be embedded within an e-portal
• Not a technical challenge to integrate the reports into a portal, but
• A knowledge management challenge to educate hospital campus administrators/clinical quality managers on how to assign individual clinicians access to the CHADx reports
Acknowledgements

- A/Prof Terri Jackson
- Alex Thomas (CHIA)
- Denise Ferrier