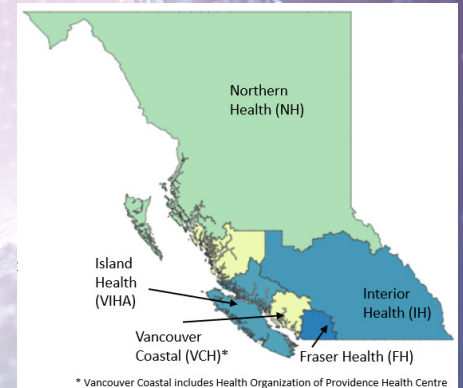# Beamtree®

Data quality in different ICD-10 systems:

Comparison of a block contract funded system and an activity based funded system

Where are we coming from, and where we hope to go

Intros - The Team

- **Beamtree:**
  - Jodi McMullin- HIM / Coding auditor
  - Jennifer Connolley – Senior Data scientist
  - Rebecca Ziffer – HIS Engagement Lead

- **Provincial Health Services Authority:**
 - Monique Rasmussen – Regional Director, Coding & Informatics HIM

Northern Health (NH)

Island Health (VIHA)

Vancouver Coastal (VCH)*

Interior Health (IH)

Fraser Health (FH)

* Vancouver Coastal includes Health Organization of Providence Health Centre

---

Clinical coding data quality review for PHSA (Canada)

| Deliverables	Method
Review, audit & benchmark data quality from clinically coded data	•Deep dive chart audits •Indicator-based audits (coding standard based)
Analyse clinical complexity & coder competency	•Complexity analysis •Coder Survey: education / experience •Time to code & KPIs
Hospital harm indicator review (vs HACs)	•Audit & benchmarking
Indigenous data	•Identification and review

Similar studies have been done for Australian hospitals / health services

The findings: high level comparisons
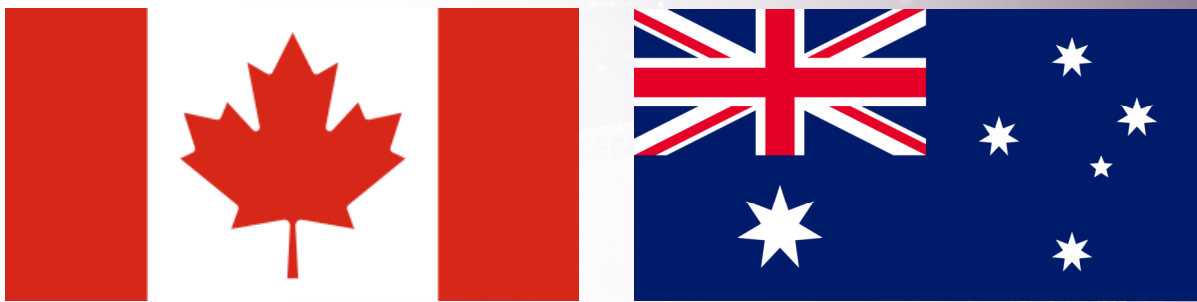
On the surface:
- Commonwealth countries with a public-funded health service
- First Nation populations with lower than average health outcomes
- Geographic challenges to delivering accessible, equitable healthcare
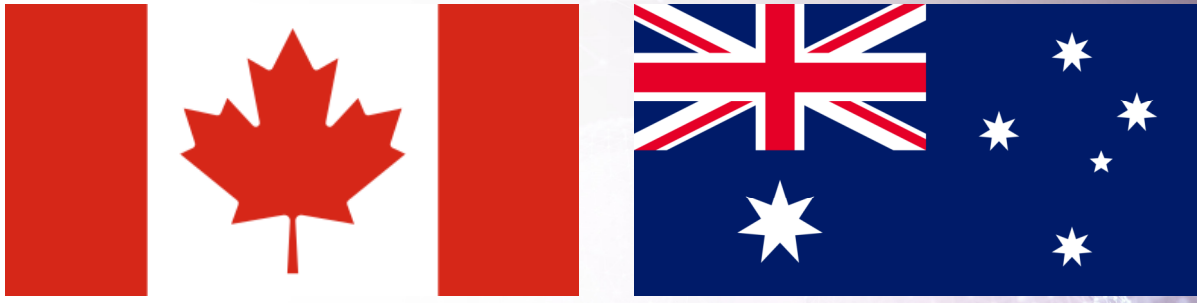
More similar than different:

- ICD-10 based classifications with centralised bodies determining coding standards & HIM qualifications, accreditation and education
- EMRs for clinical documentation (some regional and private services in paper)
- Variation between Provinces / States on coding standards and data collection
- **Scarce coding resources across the board**

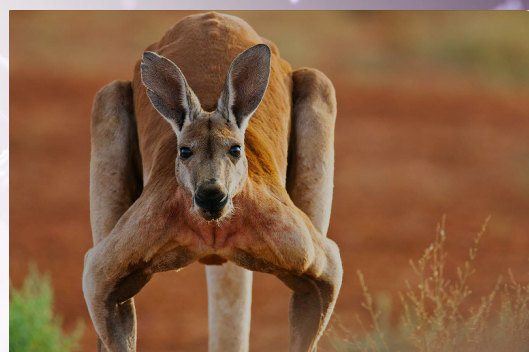The results: bearing in mind the context

- Deep-dive chart audit:
  - 8%-23% (outlier 44%)
  - 12 hospitals
  - 1200 patient charts
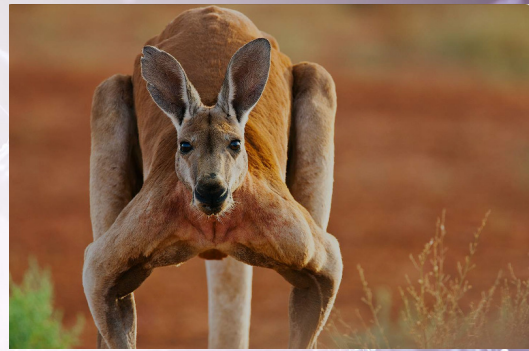
- Deep-dive chart audit*:
  - 10% - 17%
  - 10 hospitals
  - 900 patient charts

- PICQ audit: 0.8%
  - FY22/23
  - 140 indicators
  - 380,000 episodes

- PICQ audit: 0.3%* (0.02%)
  - FY21/22
  - 900 indicators
  - 200,000 episodes

- Coder Satisfaction: 9/10
  - 130 respondents
- KPI (Charts per day): 18-30

- Coder Satisfaction: 6.3-8.9/10*
  - 90 respondents
- KPI (Charts per day): 30-70

Within the results, themes emerged (~70% of results):

1. Type 3 coding: comorbidities (e.g. Diabetes)
2. Criteria of Significance (e.g. if the diagnoses was treated or increased the LOS)
3. Issues due to lack of specificity

Coders cannot "assume" anything – so are there gaps in clinical documentation, or is it not specific enough, or are Coder's missing the information?

Why is the % of data quality different?

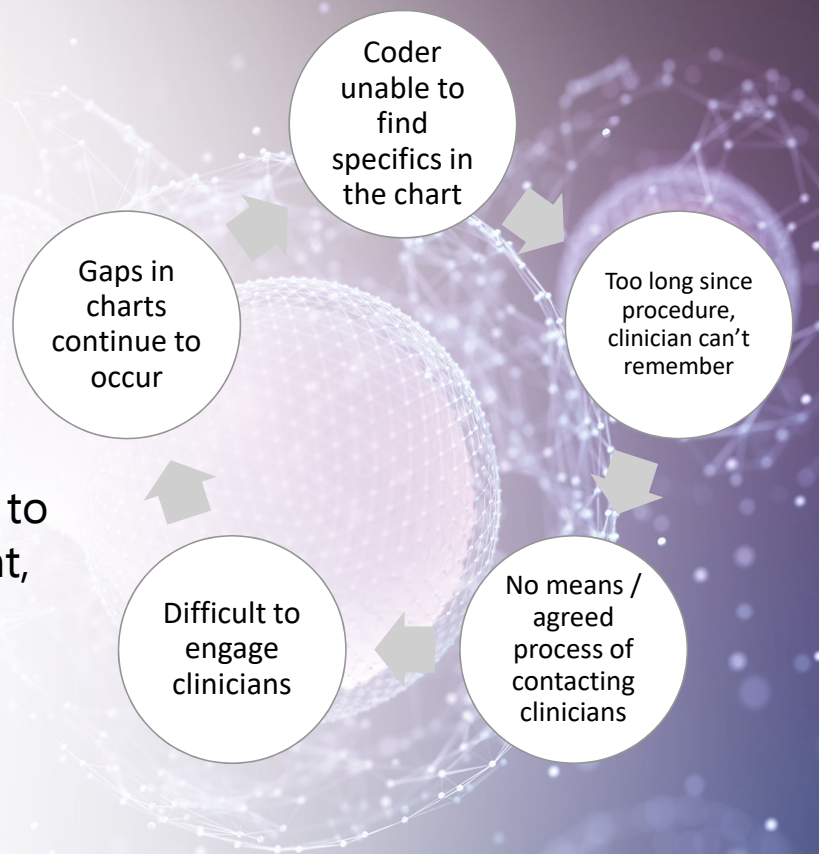**Another factor: Time to Code**

KPIs for Time to Code
Australian private: 5 days
Australian public: 30 days
Canadian public: 45 days

Interestingly, time to code seems to also influence clinical engagement, the value of the data & coder satisfaction

Coder unable to find specifics in the chart

Gaps in charts continue to occur

Too long since procedure, clinician can't remember

Difficult to engage clinicians

No means / agreed process of contacting clinicians

So, what are the <u>drivers</u> for better coded data quality?

1. Ability to provide a complete patient record at time of coding:
   - Ready for coding flags
   - Missing documentation processes
2. Providing coders with tools to educate and support
   - Formal and informal
   - Clinical engagement
3. Enabling technology to identify and fix issues
4. Provide insights to each process step from discharge to data submission

---
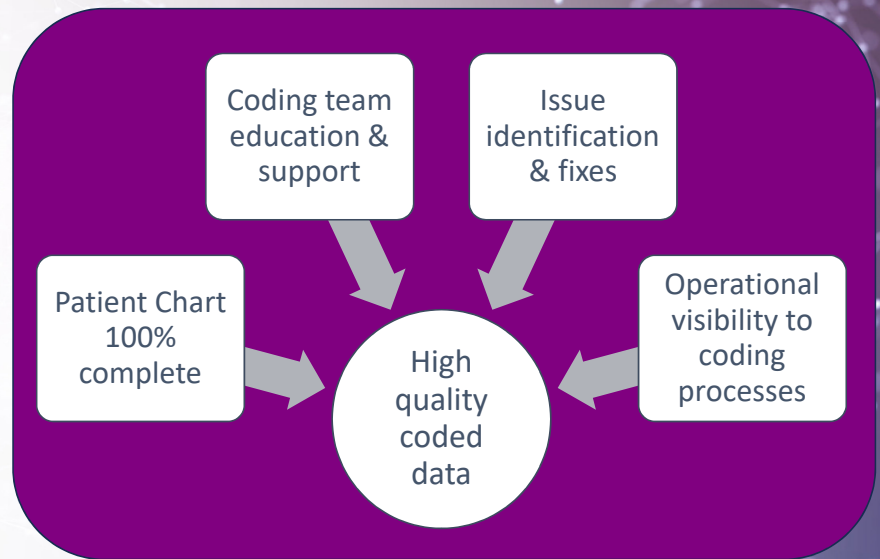
What does this comparison of clinical coding tell us about data quality?

Coded data needs to have a defined purpose and value (as do Coders)

Thank you! (And thanks to PHSA for allowing us to share)

Conclusion - What does this comparison of clinical coding tell us about data quality?

Coded data needs a defined purpose and value (as do Coders)

Qualitative observations: what helps?
- Engaged workforce: education, training and support. Career pathways, working as a team (even if remote), clinical engagement;
- Enabling technology: 'ready for coding' flags, dashboards, allocation tools, data validations and error handling;
- Operational support: understanding of coding (and the quality of it due to coding standards), CDI support, EMRs developed to support coding

Example: Challenges with coding Diabetes accurately

- Clinical variations of the comorbidity
- Clinical documentation specificity: "due to" vs "background of"
- Coding standard documentation: complex and difficult to interpret
- Location of clinical documentation & who documents it (EMR or paper)

Systemic impacts on coded data quality:

Level of coding / HIM qualifications & experience similar. As with use of CDI resources and processes.

- Differentiators – Federal level:
  - Quantity of coding education within qualifications
  - Enabling technology to support coder education
  - Quality of reference material and supports

- Differentiators – Hospital level:
  - Training and education (informal / formal)
  - Clinical engagement (queries /
  - Quality of reference material and supports