



Indigenous
Data Network



Centre for Outcome and Resource Evaluation



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Potential Analyses

You have been put together into a multidisciplinary group that includes individuals with expertise in clinical care, data analytics, visualisation, and data governance. Not everyone will be familiar with every analytic or presentation method mentioned in this document, and THAT IS OK! Your team's diversity is a strength. Others may bring skills and perspectives you haven't encountered before, and this Datathon is an excellent opportunity to broaden your exposure to new methods and approaches you may wish to explore in the future.

This event invites you to ask bold questions and uncover insights that could meaningfully improve renal care, in alignment with the FAIR and CARE principles. This is a safe, collaborative space where you're encouraged to be curious, experiment, test your skills, build new ones, take risks, and learn from one another.

Below are example questions suggested by Datathon participants, mentors, and organisers to help inspire your project or get you started. These are only prompts. Your team may use them as a foundation or choose to pursue an entirely different question. The aim is to identify a topic that sparks your group's interest and explore it deeply, usefully, and meaningfully using the provided datasets. Follow the ideas that excite you, and make the most of your team's unique blend of skills!

1) Data Quality, Governance & Indigenous Identification

Purpose: Strengthen trust in the data and make it safer, FAIR/CARE-aligned, and more useful.

Possible questions to tackle:

- Indigenous Data Governance framework, current permission structures, who accesses data, and future access needs (FAIR & CARE).
- Over/under-reporting of Indigenous status by ICU catchment; build a validity-check tool.
- Agreement of Indigenous identification across datasets (APD, ANZDATA, others) and contributors (jurisdiction, metro/tertiary, etc.).

Presentation ideas:

- Data quality profiles & [bias heatmaps](#); agreement matrix.
- Indigenous data governance permission quick-reference guide.
- Analysis of gaps in reporting of Indigenous status.



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2) Access, Remoteness & Service Planning

Purpose: Quantify demand–access gaps and inform planning for culturally safe kidney care.

Possible questions to tackle:

- Spatial distribution/ geographic location of patients; remoteness and distance travelled for haemodialysis treatments.
- Demand vs access for satellite kidney centres; where to add capacity.
- Inter-hospital transfers (regional → tertiary) within community catchment areas and outcomes.
- Potential other linkages or ideas that could generate useful local insights for ACCHOs.

Presentation ideas:

- Illustrate patient journeys across the continuum of kidney disease following ICU admission
- Create simple, plain language information sheets for patients and families about areas where they can receive kidney care.
- Graphs of patient locations
- [Heat maps](#)
- [Geospatial dashboards \(isochrones, catchment overlays\), flow Sankeys.](#)

3) Outcomes & Equity Over Time (Cohorts & Conditions)

Purpose: Describe outcome differences and trends, focusing on equity.

Possible questions to tackle:

- Differences in outcomes across key demographics (age, gender, region): define specific cohorts.
- Changes in outcomes and case presentations over time.
- Condition-focused cohorts: sepsis-induced acute kidney injury (AKI) vs non-AKI sepsis; chronic kidney disease (CKD) stage 5D (receiving dialysis)/transplant recipients in ICU (subgroups: COVID, sepsis, kidney replacement therapy (KRT)).



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- Transplantation in the renal dataset: rates and trajectories.

Presentation ideas:

- Case presentation of journeys through ICU care.
- Create a culturally safe, plain-language summaries for patients and families to explain kidney treatments in ICU and possible outcomes.
- Equity scorecards, time-series reports, cohort comparators, small-area outcome atlases, transplant pathway funnels, [GIS heatmaps](#).

4) Predictive Tools, Monitoring & Patient-First Communication

Purpose: Build practical tools that improve care and understanding.

Possible questions to tackle:

- Mortality prediction using day-1 kidney function.
- Progression from sepsis-AKI to dialysis dependence (linked datasets).
- What service features/practices are associated with positive outcomes (continuous dialysis, fewer unplanned ICU touchpoints, timely transplant steps)?

Presentation ideas:

- Create a culturally safe, plain-language after-visit summary translating renal plans into practical self-care for Indigenous patients and families.
- Risk models with fairness checks; monitoring/alerts; clinician dashboards; patient-facing summaries co-designed for cultural safety.



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