



# Bendigo Health Datathon

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## 'Critical Care Recovery'

8 & 9 September 2018

## Bendigo Invention and Innovation Festival (BIIF)

3 – 9 September 2018



Excellent Care. Every Person. Every Time.

# Benefits in attending

- Opportunity to work on BIG MEANING FUL DATA
- Find solutions to real life problems
- Work on an existing project or become part of one
- Gain a greater understanding of the research process
- Be mentored by subject matter experts
- Network, form teams and work with new people

# Who can come?

Those who are interested in critical care recovery that can include any of the following:

- Researchers
- Data Scientists
- Statisticians
- Administrators
- Data analysts
- Clinicians

# What is a Datathon?

# Data

10 years' of Victorian data

All data is de-identified



# What data sets are coming to play?

- Australia New Zealand Intensive Care Society (ANZICS) Adult Patient Database (APD)
- Victorian Admitted Episodes Dataset (VAED)
- Victorian Emergency Minimum Dataset (VEMD)
- Home and Community Care Program (HACC)
- Victorian Cancer Registry (VCR)
- Victorian Death Index (VDI)
- Victorian Integrated Non-Admitted Health (VINAH)
- Australasian Rehabilitation Outcomes Register (AROC)

# Australia New Zealand Intensive Care Society (ANZICS) Adult Patient Database (APD)

The APD contains data from over **1,300,000 patient episodes** and is one of the largest single datasets on intensive care in the world. The database collects episodes from over **140 intensive care** units from Australia and New Zealand on a quarterly basis.



# Victorian Admitted Episodes Dataset (VAED)

A comprehensive dataset of the causes, effects and nature of illness, and the use of health services in Victoria. All Victorian public and private hospitals, including rehabilitation centres, extended care facilities and day procedure centres, report a minimum set of data for each admitted patient episode.

# Victorian Emergency Minimum Dataset (VEMD)

Contains de-identified demographic, administrative and clinical data detailing Emergency Department presentations at Victorian public hospitals, and others as directed by the DHHS.

# Home and Community Care Program (HACC)

Provides a comprehensive range of basic maintenance and support services for frail aged people, people with a disability and their carers.

## Victorian Cancer Registry (VCR)

A population-based cancer registry aiming to provide comprehensive, accurate and timely information for cancer control and prevention. Currently, about 240 hospitals and 30 pathology laboratories notify the VCR of cancer cases. Cancer screening registers are also required to notify the VCR of all cancers.

# Victorian Death Index (VDI)

Provides information collected from the death of patients within Victoria such as place of death, cause of death and date of death.

# Victorian Integrated Non-Admitted Health (VINAH)

Comprises data from the following programs:

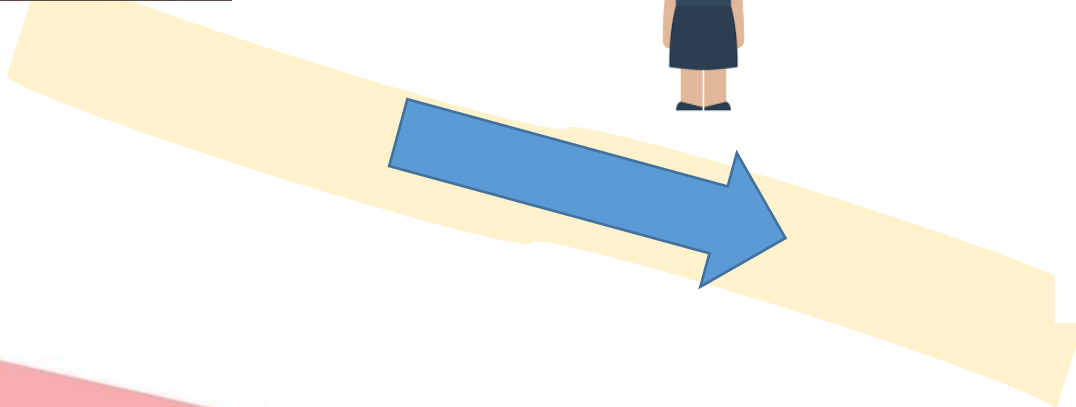
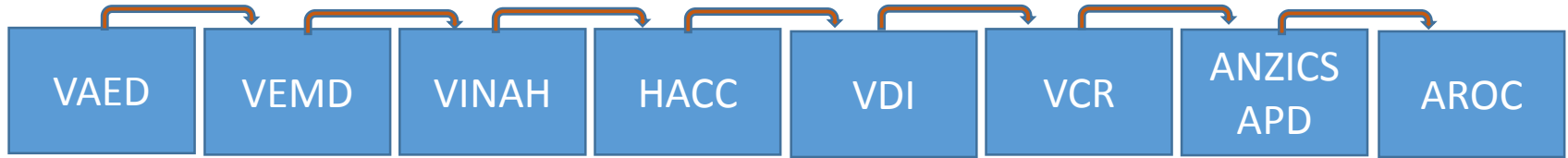
- Family Choice Program
- Hospital Admission Risk Program
- Hospital Based Palliative Care Consultancy Team
- Palliative Care
- Post Acute Care
- Residential In-Reach
- Specialist Clinics (Outpatients)
- Sub-acute Ambulatory Care Services
- Transition Care Program
- Victorian HIV Service and the Victorian Respiratory Support Service

# Australasian Rehabilitation Outcomes Register (AROC)

The national rehabilitation medicine clinical registry of Australia and New Zealand. AROC collects and reports on data from the specialist medical rehabilitation sector.

# How does it work?

## 1. Data Linking





# How does it work?

## 2. Data access

- Data will be stored on the DHHS Microsoft Azure Data Science Virtual Machine
- Each team will be given a login to access the virtual machine
- The Virtual Machine has many popular data science and deep learning tools. For the full list see here [Microsoft Azure Data Science VM](#)

# How big is the linked Dataset?

- ~ 1200 fields
- ~ 4M patients
- ~ 120M patient records
- Complexity of querying across datasets

# How are the results presented?

At the conclusion of the event each team will present their findings in short sharp presentations.

# What supports are in place during the Datathon?

Mentors are available throughout the event and include:

- Data Scientists
- Researchers
- Data visualisation experts
- Statistician
- Senior Clinicians
- Experienced Datathon enthusiasts
- HREC support
- Librarian

# How do I get involved

We will shortly send out an Expression of interest (EOI). To get involved you can:

1. Pass this information onto your colleagues
2. Register your EOI
3. Pitch your question - attend the pre-datathon pitch event
4. Keep in contact with Bendigo Health at
  - [RandD@bendigohealth.org.au](mailto:RandD@bendigohealth.org.au)
  - Setina Rockliff - +613 5454 6397

# Pre-Datathon 'Pitch' event

The event is designed to:

- Support participants to form teams around research questions
- Support teams to refine their research question
- Educate on the limitations and strengths of each data set
- Resource participants to ensure that they are able to commence the Datathon hitting the ground running

# How do I keep my work from the day?

- Intra-Datathon work will be preserved for 6 months on the Virtual Machine
- Post-event permission will be required from the data custodians to access for further research
- Governance rules of independent data custodians determine how much access can be retained

# Come and be part of something BIG

- Be a part of something that has never occurred on such as scale
- Gain experience working as a team on BIG DATA
- Be supported throughout the process
- Be a part of a project that can evolve to positively impact on the health of our community