

# NCRIS

National Research  
Infrastructure for Australia

An Australian Government Initiative



**PHRN** Population  
Health  
Research  
Network

## Healthcare variation in oncology

*A Snapshot of Linked Data Research in Australia*

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**Wennberg International Collaborative**  
**Oxford, 12 September 2017**

# Overview



- ❖ Background
  - ❖ Overview of the PHRN
  - ❖ Health care variation and oncology research
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# Background



Consumers  
expect the  
health care  
they receive is  
evidence based

Evidence tells  
us there is  
widespread  
health care  
variation in  
clinical practice

How can the  
PHRN help?

# What is the PHRN?



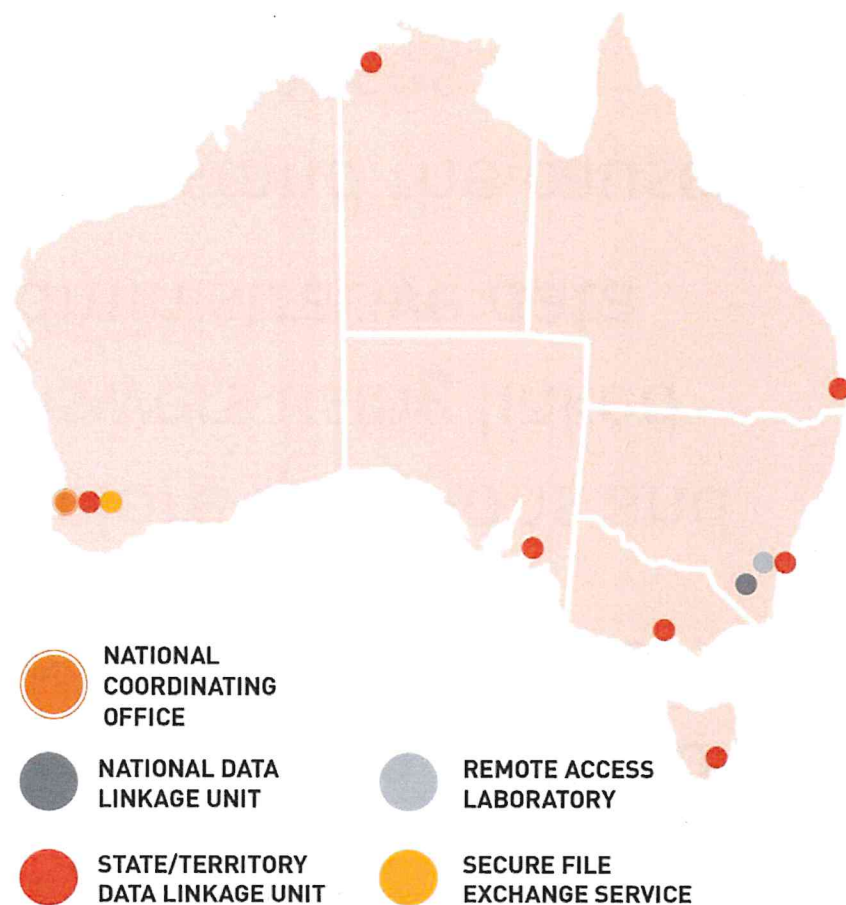
*PHRN is a national network supporting:*

- ❖ Five state data linkage units
- ❖ A federal/national data linkage unit
- ❖ A secure remote access data laboratory
- ❖ A secure file transfer system
- ❖ An online application system





# Location of facilities



*All states/  
territories now  
have enduring  
linkage keys.*

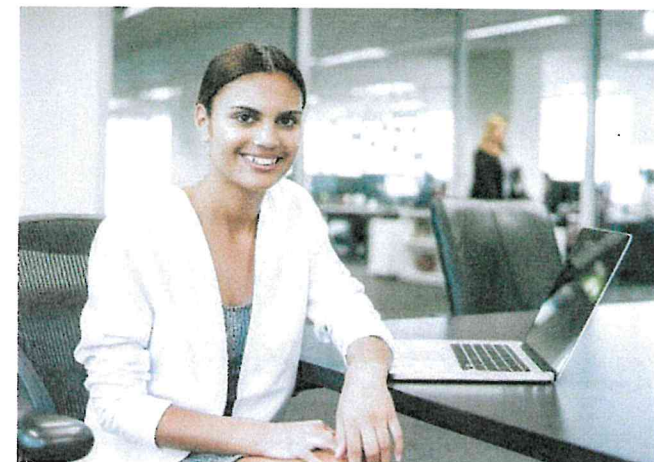
*PHRN is  
supporting  
development of  
enduring cross-  
jurisdiction  
linkage keys*

# What can the PHRN offer?



Researchers can apply to access national data linkage infrastructure to:

- ❖ explore questions and answers using linked administrative data
- ❖ understand the causes and consequences of unwarranted health care variation



# Focus: oncology



Is the linkage infrastructure being used to study healthcare variation in oncology?

***Yes!***

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- ☑ Estimated 30 peer-reviewed publications on care variation in cancer (2010-16)
  
  - ☑ Majority of publications reported on:
    - Linked data from a single jurisdiction
    - NSW most common jurisdiction
    - Colorectal cancer
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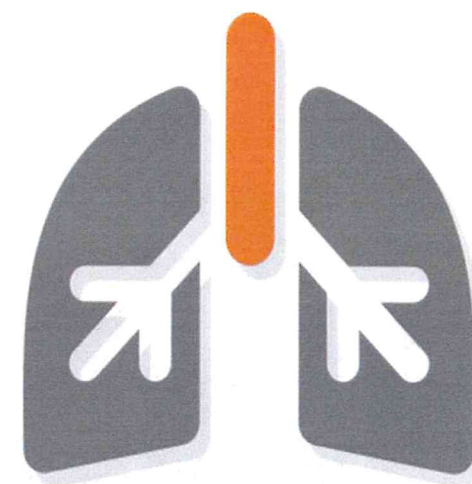
# Variation and lung cancer



**Aim:** To determine whether increasing distance to the nearest available specialist hospital increases a patient's likelihood of missing out on curative surgery for localized non-small cell lung cancer (NSCLC).

**Method:** CHeReL linked cancer registry records for 27,033 people with lung cancer diagnosed in NSW (2000 – 2008) to hospital admission records. Analysis focused on 3,240 patients.

**Results:** Patients with localized NSCLC are most likely to have no potentially curative surgery if they live distant from a specialist hospital and attend a general hospital for their care.



*Tracey, E., et al. (2015). "Patients with localized non-small cell lung cancer miss out on curative surgery with distance from specialist care." ANZ J Surg 85(9): 658-663.*

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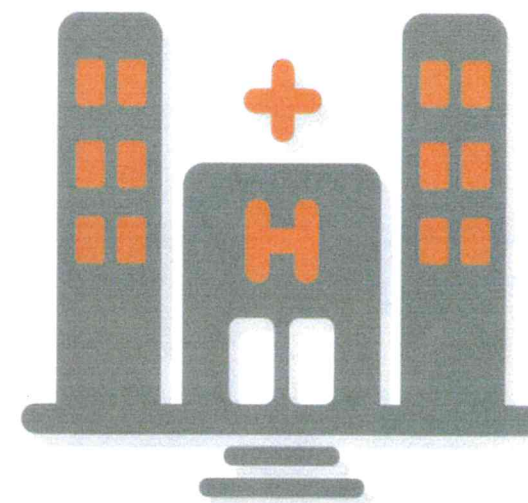
# Variation and colorectal cancer



**Aim:** To assess patterns of care and adherence to the guidelines for colorectal cancer management. Disparities in treatment was explored.

**Method:** SANT DataLink linked records from South Australian Cancer Registry, hospital data, radiotherapy data and hospital-based cancer registry systems.

**Results:** About 83% of colon and 56% of rectal cancer patients received recommended treatment. Provision of neo-adjuvant/adjuvant therapies may be less than optimal.



*Beckmann, K. R., et al. (2014). "Treatment patterns among colorectal cancer patients in South Australia: a demonstration of the utility of population-based data linkage." Journal of Evaluation in Clinical Practice 20: 467–477.*



# Variation and prostate cancer



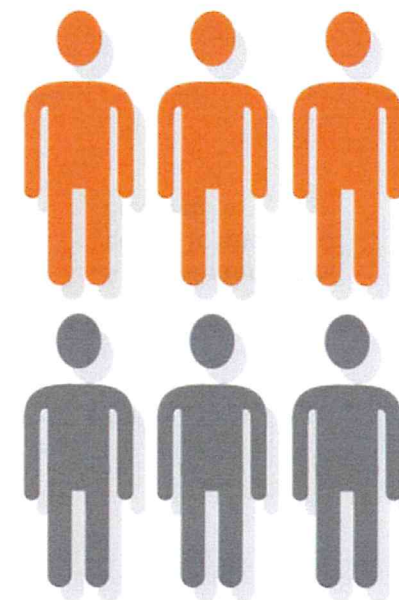
**PHRN**  
Population  
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**Aim:** To explore differences and similarities in mortality and treatment for men diagnosed with prostate cancer in New South Wales (NSW).

**Method:** CHeReL linked cancer registry records for all men diagnosed with prostate cancer in NSW (2001–2007 ) to hospital and death data.

**Results:** Age and spread of disease at diagnosis were similar for Aboriginal and non-Aboriginal men. Post-diagnosis Aboriginal men were:

- Less likely to have had a prostatectomy
- Nearly 50% more likely to die from prostate cancer



*Rodger, J. C., et al. (2015). "Prostate cancer mortality outcomes and patterns of primary treatment for Aboriginal men in New South Wales, Australia." BJU Int 115 Suppl 5: 16-23.*

# Looking ahead



Encourage researchers to use PHRN infrastructure  
to conduct cross-jurisdictional health care  
variation research in Australia

## *PHRN strategic objectives*

Pursue innovative  
solutions to improve  
the efficiency of the  
application, data  
linkage, extraction  
and access processes

Build and support the  
development of  
capacity to analyse  
and interpret linked  
population data

Work with  
researchers and  
others to identify  
national priorities for  
research using linked  
data

Develop new  
collaborations and  
partnerships for  
development and use  
of linked data

Advocate for better  
access to and use of  
linked data

*PHRN Strategic Plan 2017-2026*



# Summary



- ❖ PHRN infrastructure enables researchers to access linked administrative data to investigate health care variation in Australia
  - ❖ Causes of variation in cancer care include service location, patient age and indigenous status
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**More information**



For more information  
about the PHRN

**[www.phrn.org.au](http://www.phrn.org.au)**

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# Acknowledgements



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    - Australian Government Department of Education and Training
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  - ❖ **PHRN**
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  - ❖ **Researchers**
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