

Record Linkage



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Overview/content

- History
- Status
- Uses of linked data
- Advantages/limitations
- Other jurisdictions
- Future directions
- A little data

Why?

- Patients increasingly move between service types and providers, increasing the need to monitor care across settings and time:
 - Tracking outcomes
 - Understand demand patterns between care settings
 - Investigate trends such as multiple registrations
- Research is an important use and increasingly so

Mechanics of it all

- SAS macros
- Probabilistic linkage
- Can be based on variables including dob, sex, UR no, campus code, medicare number, postcode, country of birth
- Proprietary tools

Current Status

- Where we are now
- Ninety-five per cent 'hit rate'
- VAED, VEMD, VDI, ESIS, ACAS, ODS, Pall. Care, HARP
- Early childhood development
- Drugs and Alcohol
- BI vision 'proofs of concept'
 - Client journey
 - Chronic Disease Data linkage

Uses of linked data

- Chronic Disease
- Elimination of unnecessary reporting burden
- Research
 - Outcomes following AMI for arthritis sufferers
 - Quality measures for hospital performance
 - Patient Safety Indicators
 - Elective surgery performance
 - Cardiac Rehab attendance
 - Burden of Disease

Advantages/Limitations

- Reduces reporting burden
- Tracks clients/patients through time and care settings
- Total picture of care
- More effective outcome measurement
- Can't support clinical care (error in linkages)
- Difficult to assess false positives/false negatives
- Enhances privacy
- Creates/supports collaboration between custodians and researchers
- Custodians retain control

Other Jurisdictions

- WA
- NSW
- CSIRO Qld

Privacy

- Data are solely for statistical and analytical purposes (and are not suitable for clinical purposes, anyway)
- Data must not be re-identified
- Data are provided solely for the use of nominated individuals
- Staff are required to acknowledge the conditions of use
- Researchers are required to sign conditions of use
- Ethics committees

Future Directions/opportunities

- NCRIS/VIS
- Central Data Linkage unit at DHS
 - Part of PHRN
 - Technical (Linkage and analysis)
 - Governance/Privacy/Comms/Perf.
 - Data Services
 - Visiting researchers
- MBS/PBS data
- BioGrid

Example

**Number of re-attendances per person for asthma within 28 days,
July 2000 to June 2003**

Number of reattendances	Victoria	NSW	Total (%)
0 (1 attendance only)	31,948 (91.6)	56,343 (93.7)	88,291 (92.9)
1	2,226 (6.4)	3,055 (5.1)	5,281 (5.6)
2	431 (1.2)	445 (0.7)	876 (0.9)
>2	287 (0.8)	307 (0.5)	594 (0.6)
Any reattendance	2,944 (8.4)	3,807 (6.3)	6,751 (7.1)
Number of people	34,892	60,150	95,042

Hospital re-attendance for asthma in two Australian states, 2000–2003

Linkage results, VAED

Year	Separations	Individuals
1996-1998	2,844,068	1,342,051
1996-1999	4,347,345	1,788,714
1996-2000	5,909,018	2,173,967
1996-2001	7,555,010	2,523,299
1996-2002	9,261,696	2,840,902
1996-2003	11,096,912	3,141,607
1996-2004	13,001,622	3,418,602
1996-2005	14,966,018	3,680,834

Linkage

Questions