

Existing Data, Program and Policy Evaluation

Approaches

- Applied econometric techniques to measure the effectiveness or cost-effectiveness of:
 - ▣ Health system performance
 - ▣ Health programs
 - ▣ Policy reforms
- Real world data
 - ▣ Prospective evaluations
 - ▣ Survey and administrative data

Large Data Sets

- Population surveys:
 - ▣ Ongoing surveys that capture health care service use, outcomes and attitudes
 - ▣ Allow analysis of policy change
 - ▣ E.g. HILDA or MABEL

Administrative data-sets

- Medicare data:
 - ▣ Medical and pharmaceutical services (MBS and PBS)
- Hospital record utilisation
- Mortality data
- Linkage is possible:
 - ▣ Observe multiple health care use per individual
 - ▣ Potential to link with other outcomes of interest (e.g. self rated health)

Administrative health data

- Data collected for another purpose
 - ▣ Health system management, claims processing
- Record utilisation but not non-utilisation
 - ▣ State/territory datasets record events within jurisdiction so cross-border utilisation can produce gaps
 - ▣ PBS records prescriptions purchased for which there was a PBS claim by a pharmacy and so omits use of:
 - drugs not listed on the PBS
 - drugs which accessible without prescription (OTC)
 - drugs costing below the co-payment prior to 2012, usually an issue for general patients (except for periods covered by safety net) rather than concessional patients

Data linkage studies

- Linkage of records across and within databases
 - CHeReL (NSW MoH), AIHW
 - Probabilistic linkage methods
- Linkage project types
 - Recruit participants and obtain consent
 - Population surveys where participants consent to data linkage
 - Link administrative datasets with consent waiver

45 and Up study

- Cohort study on ageing and health
 - ▣ Self reported data collection
 - ▣ Linkage to routinely collected data
 - ▣ Sub-studies - detailed measures in sub-sample
- Managed by Sax Institute
- Commenced 2006
- Sample
 - Adults aged 45 and over living in NSW at recruitment
 - Random sample from Medicare database
 - Over sampled rural and aged 80+
 - Response rate 18%, n=267,153
 - Some volunteers (1,333)

45 and Up: The Survey

- Surveys every 5 years
 - ▣ Baseline survey completed Feb 2006 - Dec 2009
 - ▣ Follow-up survey 2012 - 2015
 - ▣ Questionnaire content
 - Socio-demographic and social support
 - Health status, functioning
 - Diseases, age of diagnosis, treatment, family history,
 - Lifestyle and health risk
 - QoL questions but no complete standard questionnaire
 - Overall QoL question, SF-36 physical functioning, Kessler -10
 - No link to other household members

45 and Up: Data linkage

□ Commonwealth

□ Medicare

- MBS and PBS records (currently 2004-05 to Dec 2012)
 - First 100,000 respondents from July 2004
 - All respondents from September 2005
- PBS capture limitations – below co-payment drugs for general patients
- MBS dataset is large - data row for every item claimed

□ NSW

□ Centre for Health Record Linkage (CHeReL) MLK

- NSW admitted patient data collection (2001-2014)
 - All NSW Hospitals – state/territory borders limitation
 - Different DRG versions and conversion issues
 - Private hospital care – MBS services
- NSW Emergency Department Data Collection (2005-2014)
 - Disease coding limitation and SNOMED vs ICD
 - Double counting of cost if admitted
- Death Registry and Cause of Death Unit Record File
 - Deaths in NSW
- Other data sets (including cancer registry, notifiable conditions and mental health ambulatory care) see www.cherel.org.au

e.g. Bleeding Hearts

- Johar et al (2016): use 45 and Up data to consider price discrimination by specialists.

Specialty	High-income patients	Low-income patients	Average fee gap	Frequency	Percentage
Neurosurgery	\$206.14	\$153.12	\$53.01	24	1.13%
Dermatology	\$145.18	\$107.84	\$37.34	181	8.52%
Otorhinolaryngology	\$144.13	\$112.81	\$31.33	148	6.96%
General-surgery	\$136.29	\$105.57	\$30.72	383	18.03%
Urology	\$153.40	\$125.01	\$28.39	114	5.36%
Ophthalmology	\$134.24	\$107.12	\$27.12	371	17.46%
Vascular-surgery	\$140.02	\$113.94	\$26.08	27	1.27%
Obstetrics & Gynaecology	\$149.25	\$125.41	\$23.84	267	12.56%
In vitro fertilisation (IVF)	\$136.57	\$113.85	\$22.72	15	0.71%
Radiology oncology	\$128.08	\$105.66	\$22.41	91	4.28%
Cardio-thoracic surgery	\$139.50	\$117.77	\$21.73	33	1.55%
Orthopaedic surgery	\$149.72	\$132.25	\$17.47	334	15.72%
Plastic surgery	\$143.11	\$126.16	\$16.95	104	4.89%
Oral surgery	\$121.08	\$106.39	\$14.69	16	0.75%
Other specialties ^a	\$116.52	\$98.26	\$18.26	16	0.75%
Total				2,124	100%

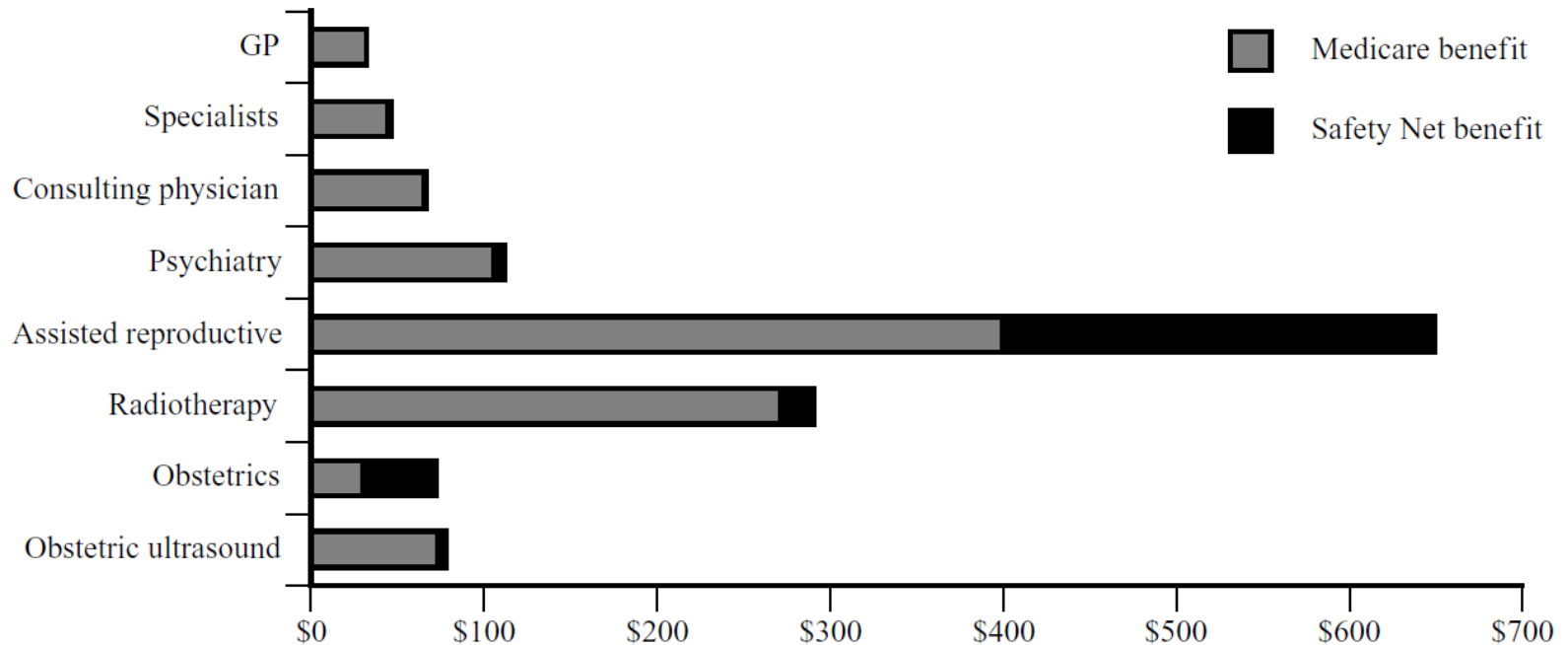
e.g. Bleeding hearts

- Value of large dataset in understanding who is paying what, from whom:
 - ▣ What does this say about access?
- Provide large amount of information, reflecting ongoing decision making.
- Gives insights into how changes to specialist fee and reimbursement would impact on different patient groups.

MBS Safety Net: Policy Analysis

- Van Gool et al (2009)
 - ▣ Data from a number of sources to define:
 - Who is reaching the MBS safety net
 - Why they are reaching those caps
 - Assess underlying factors

MBS Safety Net: Policy Analysis



MBS Safety Net: Policy Analysis

- Some specialties charging higher prices to reach safety net.
- Discriminatory pricing across income groups.
- Resulted in changes to MBS Safety Net levels: policy impact.