

**Incorporating Health Economics into Grant Proposals**

**Health Economics Short Course**

For more information and course dates, please visit our website: <http://go.unimelb.edu.au/i8ba>  
Or email us: [health-economics@unimelb.edu.au](mailto:health-economics@unimelb.edu.au)

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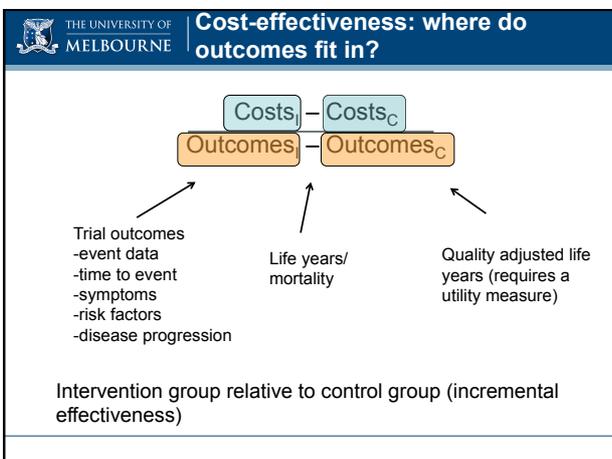
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**Economic evaluation**  
Outcome and cost data for grant applications

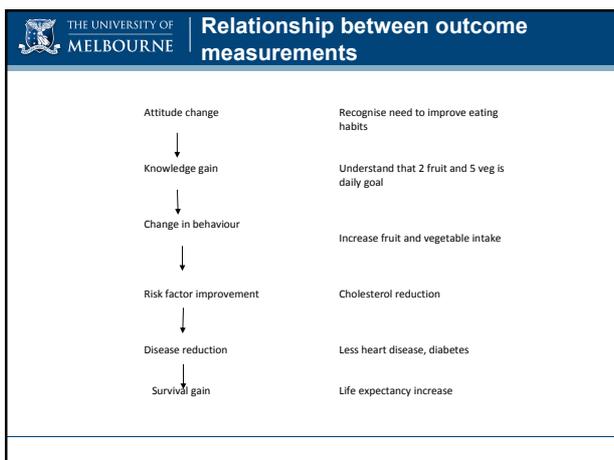
Centre for Health Policy  
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**Types of economic evaluation analysis – A closer look**

TYPE	COSTS	OUTCOMES	DECISION
Cost Minimisation	Dollars	Not compared, assumed <i>identical in all aspects</i>	Least cost alternative
Cost Effectiveness/ Cost Consequences	Dollars	Comparison based on a <b>common measure on health</b> , eg LY's gained, blood pressure reduction	Cost per (natural) unit of consequence, eg cost per LY gained
Cost Utility	Dollars	A <b>summarised measure</b> of impacts <b>on health related quality of life</b> , Valued as "utility", eg QALY	Cost per (preference adjusted) unit of consequence, eg per QALY
Cost Benefit	Dollars	A <b>summarised measure</b> of impacts on <b>health and non health benefits</b> valued in monetary term (i.e., Dollars)	Net \$ Cost/benefit ratio

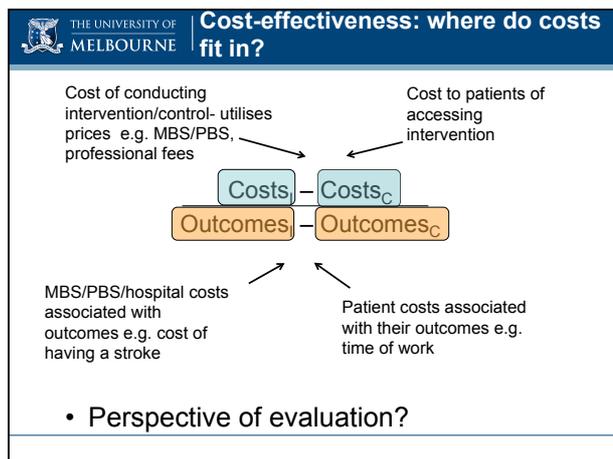


- Identify and determine outcomes (cont'd)**
- **Intermediate outcome**
    - Viral load (HIV)
    - Glucose control (HbA1c)
    - Diastolic blood pressure
    - Vaccine uptake, attack rate
  - **Semi-Final outcome**
    - Schizophrenia relapse
    - Adverse event averted
    - Disease/cases averted or detected
    - Symptom-free days
    - Episode-free days
  - **Final Outcome (mortality and mobility)**
    - Survival (change in life expectancy) expressed as life years (LYs) gained
    - Disability days avoided
    - Disability adjusted life years (DALYs) avoided
    - Quality adjusted life years (QALY) gained



- Measuring utility**
- Intervention and control
  - Baseline and final follow up
  - In between?
    - Need methodological research: trade-offs
    - Depends on natural disease progression
    - Also depends on pattern of expected improvement from intervention
  - Want utility to capture difference between groups and to broadly represent a patients wellbeing rather than capturing all acute fluctuations (e.g. not so interested in how they are doing the day after major surgery)

- Examples of Multi-Attributes Utility (MAU) Instrument**
- EQ-5D (European utility weights)
  - HUI II/III (Canadian)
  - SF-36; SF-12; SF-6D (measuring health status, mapping to utility)
  - AQoL (Australian)
  - 15-D (Finland)
  - Quality of Wellbeing scale (US)
  - Others: CHU-9D-child instrument
    - <http://www.sheffield.ac.uk/scharr/sections/heds/mvh>
  - Choice between instruments should be based upon their **suitability** for and **sensitivity** to the characteristics of particular population and intervention
  - Some have costs and require registering



- Costs associated with outcomes**
- Usually come from
    - Hospital data AR- DRG codes
      - Locally collected for a particular hospital or
      - Nationally aggregated data- cost weights for AR-DRG
    - MBS and PBS data
      - Could ask in survey (GP use, medications)
      - Can obtain from Australian Government Department of Human Services

**Hospital AR-DRG cost weight data**

**Appendix B**  
**Cost Weights (Actual) for AR-DRG version 6.0x, Round 17 (2012-13)**

DRG	DRG Description	Cost Weight	Number of Seps	Number of Days	ALOG (Days)	Average Cost per DRG (\$)		
						Total	Direct	Overid
A01Z	LIVER TRANSPLANT	26.55	237	6,313	27	129,494	107,555	21,938
A03Z	LUNG OR HEART/LUNG TRANSPLANT	27.58	153	4,872	31	135,820	118,988	16,833
A05Z	HEART TRANSPLANT	39.55	72	2,888	40	194,351	169,290	25,061

NHDC Australian Public Hospitals Cost Report 2012-2013, Round 17

**Source:**  
[https://www.ihsa.gov.au/sites/g/files/net636/ff/publications/nhdc\\_cost\\_report\\_2012-2013\\_round\\_17\\_0.pdf](https://www.ihsa.gov.au/sites/g/files/net636/ff/publications/nhdc_cost_report_2012-2013_round_17_0.pdf)

**What MBS schedule prices look like**

**80000**  
 Professional attendance for the purpose of providing psychological assessment and therapy for a mental disorder by a **clinical psychologist** registered with Medicare Australia as meeting the credentialing requirements for provision of this service, lasting more than 30 minutes but less than 50 minutes, where the patient is referred by a medical practitioner, as part of a GP Mental Health Treatment Plan; or referred by a medical practitioner (including a general practitioner, but not a specialist or consultant physician) who is managing the patient under a referred psychiatrist assessment and management plan; or referred by a specialist or consultant physician in the practice of his or her field of psychiatry or paediatrics.  
 These therapies are time limited, being deliverable in up to ten planned sessions in a calendar year (including services to which items 2721 to 2727; 80000 to 80015; 80100 to 80115; 80125 to 80140; 80150 to 80165 apply).

Claims for this service may exceed this maximum session limit, however, where exceptional circumstances apply (to a maximum total of 16 individual services per patient from 1 March 2012 to 31 December 2012).

(Professional attendance at consulting rooms)

**Fee: \$99.75** **Benefit: 85% = \$84.80**  
 (See para M6.1 of explanatory notes to this Category)

**Source:**  
<http://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=80000&qt=item&criteria=80000>

**What PBS price data looks like**

**Authority Required**

Code & Prescriber	Medicinal Product Pack (Name, form & strength and pack size)	Max qty packs	Max qty units	No. of repeats	DPMQ	Max Safety Net	Max price to consumer
5443L	IMATINIB imatinib 100 mg tablet, 60 (P, CMI)	1	60	5	\$1966.60	\$37.70	\$37.70
<b>Available brands</b>							
Glivec							

\*Dispensed price for maximum quantity (DPMQ)

**Source:**  
<http://www.pbs.gov.au/medicine/item/5443L-9111M-9113P-9115R-9123E-9172R-9174W-9176Y-9178C>

**On MBS/PBS outcomes cost data collection**

- Think about data collection early, have a logic behind its relevance and how you will use data
- Make sure you include budget to cover data charge (\$5,000 to \$10,000)
- Become familiar with the process:
  - Consented study form (include consent form and ethics approval)
  - Likely to go through Dept. of Health Ethics
  - Patients individually need to consent, think where to build into process
  - Need to present finalised consent forms in order to get data
  - Think about relevant data capture time point, can have 4 years and 6 months of data total, and you pay for each data capture

**Program Costs: Bottom up approach**

- Start by thinking about who does what to whom?
- Usually a trial can provide utilisation patterns
  - e.g. dose given how frequently over how long by whom using what equipment
  - or e.g. level of qualification of staff, number and length of consults received, over what period of time
- Other sources give unit prices to attach to patterns of utilisation

**Examples of unit prices**

- Professional groups recommended fees
  - Royal college of GPs
  - Australian Psychological Society
- Medical Benefits Schedule
  - Prices for tests and consultations
- Pharmaceutical Benefits Schedule
  - Prices for pharmaceuticals
- Private sector costs
  - e.g. for equipment

**Direct patient cost methods**

- Patient surveys/diaries
  - Costs associated with accessing intervention
    - Travel time and cost to get to appointments
    - Out of pocket payments
  - Costs related to outcomes experienced
    - Time off work/usual duties
    - Carer time off work/usual duties
    - Out of pocket payments
    - Use of a range of services

**THE UNIVERSITY OF MELBOURNE** | **How patient diaries may look**

① **Medicines and health care products and equipment: purchased today**

What was the item you purchased?	Was it a prescription?	What was it for?	How much did you pay?
Example: <i>Coversyl</i>	Yes	<i>High blood pressure</i>	<i>\$3.20</i>
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...
...	...	...	...

② **Health and community services: used today**

What type of service was it?	Where did it take place?	Who provided the service?	How much did you pay?
Example: <i>Meals on wheels</i>	<i>My home</i>	<i>Council</i>	<i>\$2.50</i>
...	...	...	...
...	...	...	...
...	...	...	...
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**THE UNIVERSITY OF MELBOURNE** | **Example: Patient cost questions**

How far you have to travel to attend medical appointments or hospital visits over the last 3 months.

Please indicate the distance you travel to your usual hospital each way \_\_\_\_\_ kms

Please estimate the distance you travel to your usual doctors (GP) each way \_\_\_\_\_ kms

Do you currently have private health insurance?(Please circle) Y/N

Please tell us how your illness affects your ability to undertake your normal duties whether that be paid or unpaid work. Please indicate how many days you have taken off in the last 3 months below?

Reason for taking day off	Days off usual <u>unpaid</u> work?	Days off <u>paid</u> work?
Because you have been too unwell		
To attend medical appointments or hospital		

**THE UNIVERSITY OF MELBOURNE** | **More patient cost questions**

Please indicate if any of the following have applied to you over the last 3 months.

Work situation	Yes/No	If yes, how many days per week have you dropped on average?	Number of days
I have had to reduce the number of days paid work I do per week due to my illness			
I have dropped working altogether due to my illness		If yes, how many days per week were you working prior?	

Are there others (such as family and friends) who have taken time away from their usual duties (paid or unpaid) to escort or transport you to your appointments?

Yes No Please circle

If yes, on average how many whole days in the last 3 months have they taken? \_\_\_\_\_

**THE UNIVERSITY OF MELBOURNE** | **Pragmatic evidence**

- Economic evaluation typically tries to align to the policy/ real world decision context
- Requires indication of what intervention would cost and achieve in real world application
  - Example: a study medication is provided free of charge as part of trial but if rolled out in real world would incur a charge
  - A strictly controlled RCT in a younger healthier population may be quite different to population intervention is applied to in real world

**THE UNIVERSITY OF MELBOURNE** | **Costing- top down approach**

- Less rigorous and detailed, but – less budget required to achieve
- Often used for population health programs
- Involves calculating total budget for program administration and dividing by number of participants/target group to get a cost/person for a program

**THE UNIVERSITY OF MELBOURNE** | **Final thoughts on costs**

- Sample size/power
  - not so important for costs as they have intuitive meaning and application, wont always have power
- Costs usually discounted at 5% per annum in Australia
- Think about currency
  - Is this a multi-centre/country trial, how will you deal with the different costs in each centre?
  - Where are you planning to publish?
  - Can either use subsets in local currency, convert or
  - Rework costs from bottom up in a new currency e.g. what does the drug and the hospital stay actually cost in the US/other country?