Health outcomes: an overview

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Health outcomes: an overview

Abstract
Powerpoint presentation presented at Menzies School of Health Research, Darwin

Keywords
overview, outcomes, health

Publication Details

This conference paper is available at Research Online: https://ro.uow.edu.au/ahsri/117
Health Outcomes: An Overview
Session 1

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Director
Australian Health Outcomes Collaboration
The Health Outcomes Jigsaw

Integrating the elements for health improvement
Health outcomes, health gain, population health, evidence based medicine and health care, clinical practice improvement, practice guidelines, benchmarking, continuous quality improvement, quality of life, consumer focus, cost effectiveness...
Health Outcomes: 6 Reasons

- increasing expenditure/ cost containment
- limited information on effects of treatments/ services
- practice variations across regions/ physicians
- whether new technologies improve patient well-being
- concerns re quality of care
- increasing empowerment of consumers
A health outcome is a change in the health of an individual, or a group of people or a population, which is wholly or partially attributable to an intervention or series of interventions (AHMAC 1993, Modified NHIMG 1996).
An outcome-related performance indicator in the health and welfare field is a statistic or other unit of information which reflects, directly or indirectly, the performance of a health or welfare intervention, facility, service or system in maintaining or increasing the wellbeing of its target population (Armstrong, 1994).

CRS example
Health Outcomes Framework

Population Health

Determinants of Health
Fixed and modifiable risk factors

Dimensions of Health
physical
mental
social
pain
HRQOL
Disease
impairment
life expectancy

Intermediate Outcomes

Direct Outcomes

Interventions programs services

Outputs

Process

Inputs

Health outcome related performance indicators
Health Status Monitoring versus Health Outcomes Monitoring & Research

Reduction in Death Rate

Health Gain

Number of deaths

Lives saved - in what quality?
- due to what factors?

1985 1995

Time period
### EFFICACY and EFFECTIVENESS

Converting inputs to outcomes

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measure</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>science</td>
<td>efficacy</td>
<td>RCT</td>
</tr>
<tr>
<td>practice</td>
<td>effectiveness</td>
<td>evaluation</td>
</tr>
<tr>
<td>process</td>
<td>quality of care</td>
<td>QA</td>
</tr>
<tr>
<td>personal</td>
<td>competence</td>
<td>audit</td>
</tr>
</tbody>
</table>
Research Designs & Levels of Evidence

**Pretest-Posttest Designs** (before and after, with and without)
- Randomized control trial
- Non equivalent comparison group designs - no random allocation (field experiments)
- One group designs - no comparison/control

**Other Designs**
- Posttest only designs, time series designs, surveys, correlation and factor analytic studies, data mining, naturalistic observations and 1 shot case studies, qualitative research designs - including focus groups
What is the Level of Evidence?

- **Level I:** systematic review of all RCTs
- **Level II:** at least one properly designed RCT
- **Level III:**
  - well designed pseudo-RCT, (1)
  - comparative studies with concurrent controls and allocation not randomised (cohort studies) (2)
  - case-control studies or interrupted time series with a parallel control group (3)
  - comparative studies with historical control, two or more single arm studies or interrupted time series without a parallel control group (3)
- **Level IV:** evidence obtained from case studies, either post-test or pre-test and post-test
The Service Evaluation Cycle

- **Structure**  Context, organization/ model, inputs, e.g. adequacy of $, staff training etc

- **Process**  How service delivered, procedural endpoints, process outcomes, e.g. standards, QA, care paths, timeliness

- **Outputs**  Efficiency, throughputs - often tied to costs data, e.g. alos, $ per episode

- **Outcome**  Change in health status due to intervention, e.g. dead/ alive/ hrqol/ disability

- **Impact**  Effect on the broader health and economic context
Q.A. & Health Outcomes Related Performance Indicators

- Structure/ Inputs: Organizational Structures, Standards, Resources.
- Process/ ‘Quality’ Accreditation Indicators.
- Patterns of Practice: Guidelines, Pathways, Standards & Variations, Adverse Events
- Throughput Issues & Waiting Lists: Efficiency & Effectiveness
- Consumer Information & Satisfaction
- Monitoring and Benchmarking Outcomes
Guideline Issues

- Stakeholder Involvement in Development?
- Credibility - Commercial /Colleges
- Evidence or Consensus Based?
- Outcomes Monitoring?
- Recency of Evidence
- Local Adaptation and Organizational Implementation
- Dissemination and Compliance
Guidelines Development, Implementation and Evaluation

Knowledge Base
- effects of interventions
- indicators for use
- benefits, adverse outcomes, risks
- costs

Formal Clinical & Service Research

GUIDELINES

Local Protocols/ Clinical Pathways

Benchmarking

Q.A. Processes

Coordination across sectors

Longer term outcomes - patient assessment & clinical review
GUIDELINES

Useful for guiding practice

BUT NEED TO

- continually update these guidelines based on evidence
- assess whether clinicians are using the guidelines
- assess whether the use of guidelines is leading to better patient outcomes

note National Guideline Clearinghouse (USA) can be found at www.guidelines.gov
Q.A. and Health Outcomes Monitoring Throughout the Clinical Pathway

- Patient Health Status/Outcomes
- Clinical Care & Complications
- Costs
- Patient Satisfaction
HEART VALVE REPLACEMENT

pre-op
1 month post
6 month post
norm

PF
RP
BP
GH
VT
SF
RE
MH
Mean Pain Scores (SF-36) for Surgical and Medical Patients

![Graph showing pain scores over duration post-discharge](image)

- Day only Surgical (n=1167)
- Other Surgical (n=1611)
- ACT Population
- Medical (n=4163)
Mean Pain Scores (SF-36) for Hip Replacement Patients by Age Group

- < 65yrs (n=23)
- 65-74yrs (n=16)
- 75+yrs (n=19)
SF-36 Mean Profile Scores for Patients with a Mental Disorder

26 weeks post discharge
6 weeks post discharge
Baseline

SF-36 Mean Profile Scores for Patients with a Physical Condition

26 weeks post discharge
6 weeks post discharge
SF-36 Scores: Gynecological Cancer Surgery

Aust. Women

- Before Int.
- 3 months post
- 6 months post
Benchmarking for Costs and Quality

- Regional and Inter-hospital Practice Variations
- Interim Standards or Excellence?
- Anonymity or in the Public Domain
- Statistical/ Data Issues - indicators, aggregation, adjustments, time frames, analysis
- Meaningless Benchmarking
- Clinical Audit of Outcomes Data - AROC, MH, Orthopedics
CCHOP to PHT and Discoverquick.com

- Protocol Hypothesis Testing (PHT) is a web enabled intelligent knowledge management system for outcomes management - providing real time feedback to clinicians
- Allows recruitment to RCTs and HSR studies while providing support for patient care
- Integrates EBM knowledge bases, guidelines, in developing decision support algorithms
- Includes HRQOL data with settings which can be linked to instrument review repositories and provide feedback to these
**Clinical Assessment**

**Risk Assessments and Diagnoses**
- Breast Cancer
- Early unilateral single primary invasive BC

**Severity**
- In Patient

**Status**
- Follow up phase

**Patient progress**
- Vitality by time

**Average Vitality Levels (+/- SD) over time comparing Patient against Group**

**A. Tumour size (invasive)**
- 21-50 mm

**B. Tumour margin**
- 0 mm

**C. Nipple involvement**
- Yes

**D. Widespread disease**
- No

**E. Nodal categories**
- No regional lymph node metastasis
## Types of Outcome Indicators

<table>
<thead>
<tr>
<th>Types of Indicators</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Indicators</strong></td>
<td>mortality, period of survival, morbidity as measured by generic, disease specific and clinical indicators over time</td>
</tr>
<tr>
<td><strong>Predictors</strong></td>
<td>accident/ risk factors and injury, Glasgow Coma Scale score, co-morbidity, severity</td>
</tr>
<tr>
<td><strong>Indicators of Process</strong></td>
<td>adverse events, compliance with guidelines, time in critical care, readmissions, complications, level of patient functioning, time to treatment</td>
</tr>
</tbody>
</table>
Types of Outcomes Indicators

Well-being Indicators
- accommodation, employment, transport, wellbeing

Relative Costs
- alos, costs of treatments and services, economic impact on the individual - days of work, compensation and pension costs
Consumer Issues & Health Outcomes

- Access to care (and affordable medicine!)
- User satisfaction with, and participation in, care processes and services
- Informed consent and informed choice
- Accountability and quality of care
- Costs and value for money issues
WHOSE OUTCOMES?

Road Trauma: Antonia’s Desired Outcomes (post injury)

• to survive
• regain the capacity to communicate
• regain as much functioning as impairments/ disabilities may permit
• come to terms with loss and future disability
• manage disability and minimize handicap
• to remain healthy albeit with a chronic disability
• to become less of a burden to carers
• to regain confidence and a sense of self control/ direction
• to obtain employment or income support
• regain and maintain independent living skills
• to live independently in the community
WHOSE OUTCOMES?

Desired outcomes

- Patient
- Parent/ Family
- A&E Director
- Director of Rehabilitation
- Commonwealth Health Administrator
- State Health Administrator
- Public Health Officer/ Epidemiologist
- General Practitioner

Indicators
Maximal and Optimal Outcomes

*Optimal* health outcomes are the best that can be achieved under the prevailing, practical circumstances of the health system.

*Maximal* health outcomes cannot be achieved because of the practical ‘conflict’ at the system level, between the two immediate objectives of the health system:

- Optimization of equity in the delivery of health interventions
- Optimization of the cost effectiveness of health interventions delivered
Primary Prevention

• might include indicators around intersectoral activities such as legislation concerning seat belts, licensing, car and road design, effectiveness of education campaigns - alcohol

Screening

• drivers license testing including eye sight and epilepsy screening
INDICATORS: ROAD TRAUMA

Early Diagnosis or Intervention

• ‘golden hour’ - time to road trauma treatment centre, period of survival, appropriateness of care, accuracy of diagnosis

Treatment

• adverse events, complications, compliance with treatment guidelines, injury type and severity in relation to period of survival, hrqol ....
INDICATORS: ROAD TRAUMA

Rehabilitation

• time to rehabilitation, wellbeing, health related quality of life during rehabilitation, proportion of patients with persisting disability who have received appropriate rehabilitation

Outpatient Rehabilitation/Ambulatory Care

• proportion of patients returning to and retaining independent community residence, return to work or gaining of employment or training
INDICATORS: PALLIATION

- Proportion of patients dying in their preferred surroundings
- Proportion of patients dying free of pain and physical discomfort
- Proportion of patients dying at peace with themselves
- Prevalence of healthy grieving in close family and friends
- Patterns of practice, e.g. drug use, unnecessary surgical procedures
Desired Outcomes: Care Co-ordination

- Improved patient health and wellbeing outcomes
- Improved patient management and monitoring
- Reduction in lifestyle risk behaviours of client group
- Prevention of the onset of associated diseases and complications
- Reduction in acute episodes and unplanned hospital admissions
- Patient satisfaction with care management
- Patient compliance with medications and treatment plans, increased patient knowledge
- Reduction in the proportion of patients requiring medication for condition management, appropriateness of prescribing patterns
Indicators Exercise
Indicators Exercise

• Read the case study
• Choose a player – e.g. Mother, Emily, Health Administrator etc
• Consider the desired outcomes of your chosen player
• Discuss your ideas with your group
• Report back
Emily: Asthma

**Desired outcome**
- minimize effect lifestyle & sport

**Areas for Indicators or Measures**
- Asthma symptoms, HRQol, pulmonary function, effective self-management

- Patient
- Parent/Family
- A&E Director
- Government Health Administrator
- Public Health Officer
- Epidemiologist
- General Practitioner
- Community Services
Discussion
Some Questions to Ask

- What is the intervention being evaluated?
- What are the goals of the intervention?
- What is the hypothesis?
- Are we examining group or individual outcomes?
- How do you define the intervention?
- What are the desired outcomes of this intervention - if this treatment or service works what would you expect to happen?
- What information does the organization collect routinely - does any of this reflect on outcome?
- Is there any baseline information?
## Allied Health Example: The Footpath Project (refer paper)

<table>
<thead>
<tr>
<th>Outcome Type</th>
<th>Foot Health Indicators</th>
<th>Effectiveness Goal</th>
<th>Quality Action Point</th>
<th>Data Source</th>
<th>Frequency of Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease Specific Outcome</td>
<td></td>
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<tr>
<td>General Health Outcome</td>
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<tr>
<td>Patient Performance Outcome</td>
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<tr>
<td>Patient Satisfaction Outcome</td>
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</tr>
</tbody>
</table>
Allied Health Example (Cont.)

- The **indicator** is based on what the intervention is trying to achieve within the scope of the service. A number of indicators may be identified, and these should be prioritized into those aspects of care which are most important for the service.

- The **effectiveness goal** is the level to which the organization is going to aim to achieve the chosen indicator. The **effectiveness goals** and **quality action points** are arbitrary and ideally, should be based on the evidence of the effectiveness of interventions as shown by research.

- The **quality action point** is a predetermined threshold that is used to flag the need to introduce quality improvement activity to improve performance on the indicators.

- The **data source** requires careful consideration to provide the level of information required in the most effective way. Consideration must be given to the availability of the data, the method of data collection, how much data is required to provide meaningful results and, the value of the data in terms of providing useful information.
Allied Health Example (Cont.)

- The outcome type may be ‘General Health Outcome’
- The foot health indicator could be Foot Health Status Questionnaire (FHSQ)
- The effectiveness goal might be: 90% of patients report that their foot status is excellent or very good
- The quality action point may be 70%
- The data source may be giving the FHSQ to 33% of patients who receive foot health care
- The frequency of review might be 6 monthly
....Population Group Approaches
Primary Prevention

Might include indicators concerning modifiable risk factors for women’s health. The effectiveness of primary prevention/education campaigns and appropriate targeting of prevention campaigns, e.g. smoking prevalence and incidence, nutrition/obesity, domestic violence etc.

Screening and Ambulatory Care

Breast and cervical cancer screening; proportion of women at risk receiving routine monitoring for hypertension, cholesterol, BMI, depression, and appropriate referral to health promoting activities, presence of care plans, care satisfaction
INDICATORS: WOMEN’S HEALTH

Early Diagnosis or Intervention
Gender differentials concerning timeliness of diagnosis and treatment, stage of condition at diagnosis, appropriateness of care, accuracy of diagnosis, prescribing patterns

Treatment
Adverse events, complications, compliance with treatment guidelines, patient compliance with treatment protocols, practice variations in relation to gender, prescribing patterns, severity of condition in relation to survival, hrqol
INDICATORS: WOMEN’S HEALTH

Rehabilitation

Time to receive rehabilitation, wellbeing, health related quality of life during rehabilitation, proportion of women with persisting disability who have received appropriate rehabilitation

Outpatient Rehabilitation

Proportion of women returning to and retaining independent community residence, return to work/ care roles or gaining/ returning to employment or training
Indicator: High Cesarean section/ hysterectomy rate compared with other states (and therefore higher costs)

How do we know whether the rates are reflecting avoidable/ inappropriate surgical intervention or conservative practice?

Why is this occurring and are there regional/ hospital variations that beg questions concerning appropriate practice?

Is the average for Australia the appropriate benchmark? What might best practice guidelines and available evidence indicate the rate should be?
**Indicator Issues: Strategic Plans**

**Objective:** Increase support for women with disabilities affected by violence and reduce their isolation

**Initiative:** Establish peer support groups for women...

**Performance Indicator:** 4 peer support groups to be established by xxxx

**Outcome Issue:** Did the presence of peer support groups improve these women’s hrqol, self esteem, or reduce their isolation? Did the participants judge these groups and this strategy to be of value?
Indicator Issues: Strategic Plans

**Objective:** Lower incidence of ongoing depression in older women in residential care settings...

**Initiative:** Develop guidelines for appropriate assessment services on identification, and provide support for older women when moving into residential care.

**Performance Indicator:** Develop guidelines for assessment services by XXXX.

**Outcome Issue:** Are the guidelines being used, what support are the women receiving following identification, and to what extent are these activities contributing to better patient outcomes. (Note with better identification strategies your incidence might increase!)
Exercise: Kate

- What are some key issues for indigenous health across the continuum of care (brainstorm)

- Using the example from women’s health provided, brainstorm some indicators across the continuum of care for indigenous health
INDICATORS FOR POPULATION GROUPS: INDIGENOUS HEALTH

Primary Prevention

Might include indicators concerning modifiable risk factors for indigenous health and the effectiveness and targeting of primary prevention/education campaigns, e.g. smoking prevalence and incidence, alcohol use, petrol sniffing/OPAL, road safety, nutrition, domestic violence, mental health and suicide risk.

Screening and Ambulatory Care

Diabetes screening; proportion of indigenous people at risk receiving routine monitoring for hypertension, cholesterol, BMI, depression and mental health, kidney failure, hearing and vision problems, low birth weight etc. Appropriate referral to health promoting activities, presence of care plans, care satisfaction.
INDICATORS: INDIGENOUS HEALTH

Early Diagnosis or Intervention
Health differentials concerning timeliness of diagnosis and treatment, access to services, stage of condition at diagnosis, appropriateness of care, accuracy of diagnosis, prescribing patterns (adult and child health check processes in community).

Treatment
Adverse events, complications, compliance with treatment guidelines, patient compliance with treatment protocols, practice variations in relation to ethnicity, prescribing patterns, severity of condition in relation to survival, hrqol
INDICATORS: INDIGENOUS HEALTH

Rehabilitation

Time to receive rehabilitation, wellbeing, health related quality of life during rehabilitation, proportion of indigenous people with persisting disability who have received appropriate rehabilitation, access to rehab services. In situ model for rehab?

Outpatient Rehabilitation

Proportion of indigenous peoples returning to and retaining independent community residence, return to work/ care roles or gaining/ returning to employment or training. In situ model for rehab?
Population Approaches: National Health Priority Areas

NG&Ts, Better Health Outcomes for all Australians…and now NHPAs

• Leading causes of death and disability, the burden of illness for the community
• Areas of increasing prevalence, or high rates of prevalence
• Areas of concern for our indigenous peoples (diabetes)
• Areas where it is thought gains can be made (ebhc)

• High social and financial cost……but

• Disease based - priority populations? Differentials and equity issues? Political knee jerks?
# Health Status and Outcomes

How healthy are Australians? Is it the same for everyone? Where is the most opportunity for improvement?

<table>
<thead>
<tr>
<th>Health Conditions</th>
<th>Human Function</th>
<th>Life Expectancy &amp; Wellbeing</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of disease, disorder, injury or trauma or other health related states</td>
<td>Alterations to body, structure or function (impairment) activities (activity limitation) and participation (restrictions in participation)</td>
<td>Broad measures of physical, mental and social wellbeing of individuals (QOL/HRQOL) and derived indicators such as Disability Adjusted Life Expectancy (DALE)</td>
<td>Age and/ or condition specific mortality rates</td>
</tr>
</tbody>
</table>

National Health Performance Framework
Determinants of Health

Are the factors determining good health changing for the better? Is it the same for everyone? Where and for whom are these factors changing.

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Socio-economic Factors</th>
<th>Community Capacity Factors</th>
<th>Health Behaviours</th>
<th>Person-related Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical, chemical &amp; biological factors e.g. air, water &amp; food quality resulting from chemical pollution &amp; waste disposal</td>
<td>Factors such as education, employment, per capita expenditure on health, &amp; average weekly earnings</td>
<td>Factors such as population density, age distribution, health literacy, housing, community support services &amp; transport</td>
<td>Attitudes, beliefs, knowledge &amp; behaviours e.g. patterns of eating, physical activity, alcohol consumption and smoking</td>
<td>Genetic related susceptibility to disease &amp; other factors such as blood pressure, cholesterol levels &amp; body weight</td>
</tr>
</tbody>
</table>

National Health Performance Framework
Health System Performance

How well is the health system performing in delivering quality health actions to improve the health of all Australians? Is it the same for everyone?

**Effective**
Care, intervention or action achieves outcome

**Appropriate**
Care/intervention/ action is relevant to client needs and based on established standards

**Responsive**
Service provides respect for persons and is client oriented

**Accessible**
People can obtain health care at the right place and irrespective of income, geography & cultural background

**Continuous**
Ability to provide uninterrupted, coordinated care or integrated service across settings & time

**Capable**
Individual/ service’s capacity to provide a health service based on skills and knowledge

**Efficient**
Achieving desired results with most cost effective use of resources

**Safe**
The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered

**Sustainable**
Capacity to provide necessary infrastructure and respond to emerging needs

National Health Performance Framework
Exercise

- Let us examine the 3 domains of the National Health Performance Framework (NHPF, 2001) with regard to indigenous health issues and services
# Health Status and Outcomes

How healthy are Australians? Is it the same for everyone? Where is the most opportunity for improvement?

<table>
<thead>
<tr>
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<th>Life Expectancy &amp; Wellbeing</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare prevalence of diseases of indigenous peoples with other groups</td>
<td>Impairment, activity limitation and participation</td>
<td>Life expectancy at birth compared to other pop groups</td>
<td>Mortality rates</td>
</tr>
</tbody>
</table>
Determinants of Health

Are the factors determining good health changing for the better? Is it the same for everyone? Where and for whom are these factors changing?

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Socio-economic</th>
<th>Community Capacity</th>
<th>Health Behaviours, Beliefs, Attitudes</th>
<th>Person-related Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.g. Clean water supply</td>
<td>E.g. Education, employment</td>
<td>E.g. Age distribution</td>
<td>E.g. Beliefs about causation</td>
<td>E.g. Genetic related susceptibility to disease &amp; other factors such as blood pressure, cholesterol levels and body weight</td>
</tr>
</tbody>
</table>

National Health Performance Framework
# Health System Performance

How well is the health system performing in delivering quality health actions to improve the health of all Australians? Is it the same for everyone. Service/program level

<table>
<thead>
<tr>
<th>Effective</th>
<th>Appropriate</th>
<th>Efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care, intervention or action achieves outcome</td>
<td>Care, intervention or action is relevant to client needs and based on established standards</td>
<td>Achieving desired results with most cost effective use of resources</td>
</tr>
<tr>
<td>Responsive</td>
<td>Accessible</td>
<td>Safe</td>
</tr>
<tr>
<td>Service provides respect for persons and is client oriented</td>
<td>People can obtain health care at the right place and irrespective of income, geography &amp; cultural background</td>
<td>The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered</td>
</tr>
<tr>
<td>Continuous</td>
<td>Capable</td>
<td>Sustainable</td>
</tr>
<tr>
<td>Ability to provide uninterrupted, coordinated care or integrated service across settings &amp; time</td>
<td>Individual/service’s capacity to provide a health service based on skills and knowledge</td>
<td>Capacity to provide necessary infrastructure and respond to emerging needs</td>
</tr>
</tbody>
</table>

National Health Performance Framework
### Health Status

**How healthy are Australians? Is it the same for everyone?**

**Where are the best opportunities for improvement?**

<table>
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<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of disease, disorder, injury or trauma or other health related states</td>
<td>Alterations to body, structure or function (impairment), activity limitations and restrictions in participation</td>
<td>Measures of physical, mental, and social wellbeing of individuals</td>
<td>Mortality rates and life expectancy measures</td>
</tr>
</tbody>
</table>

### Determinants of Health

**Are the factors determining good health changing for the better? Where and for whom are these factors changing? Is it the same for everyone?**

<table>
<thead>
<tr>
<th>Environmental factors</th>
<th>Community and socioeconomic factors</th>
<th>Health behaviours</th>
<th>Bio-medical factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical, chemical and biological factors such as air, water, food and soil quality</td>
<td>Community factors such as social capital, support services, and socioeconomic factors such as housing, education, employment and income</td>
<td>Attitudes, beliefs, knowledge and behaviours such as patterns of eating, physical activity, smoking and alcohol consumption</td>
<td>Genetic-related susceptibility to disease and other factors such as blood pressure, cholesterol levels and body weight</td>
</tr>
</tbody>
</table>

### Health System Performance

**How does the health system perform? What is the level of quality of care across the range of patient care needs? Is it the same for everyone?**

**Does the system deliver value for money and is it sustainable?**

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Safety</th>
<th>Responsiveness</th>
<th>Efficiency &amp; Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care/intervention/action provided is relevant to the client’s needs and based on established standards. Care, intervention or action achieves desired outcome.</td>
<td>The avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered.</td>
<td>Service is client orientated, clients are treated with dignity, confidentiality, and encouraged to participate in choices related to their care.</td>
<td>Achieving desired results with most cost effective use of resources. Capacity of system to sustain workforce and infrastructure, to innovate and respond to emerging needs.</td>
</tr>
</tbody>
</table>

### Community and Health System Characteristics
Outcomes 2000

Population Health Indicators

- Healthy Population
- People at risk
- Onset of disease
- Complications
- Consequences

Outcomes focussed interventions and indicators

- Health Advancement and risk avoidance
- Identify and reduce risk
- Diagnose & treat to avoid complications
- Minimize consequences of late interventions

System efficiency indicators

- Costs
- Relative cost effectiveness
- Cost and quality benchmarking
- Throughput and activity indicators

Enabling Factors

Structures

Processes
Australian Health Outcomes Collaboration
Centre for Health Service Development
University of Wollongong
but located at The Canberra Hospital
WEB SITE

currently http://chsd.edu.au/ahoc

- General Information
- Research Activities Proforma
- Current and Forthcoming Educational Activities
- Health Outcomes Education and Research Personnel
- Instrument Reviews
- Instrument Order Forms
- Related Sites
- Contact Details
Some Australian Organisations

- Australian Bureau of Statistics
- Australasian Cochrane Collaboration – databases and linked organisations
- Australian Council for Healthcare Standards
- Australian Institute of Health and Welfare
- Centre for Advances in Epidemiology and IT -& discoverquick.com
- Centre for Program Health Evaluation
- Centre for Health Economics and Research Evaluation
- Centre for Health Service Development
- Centre for Research in Evidence Based Medicine (Bond Uni)
- Department of Health and Ageing -useful web site!
- State and Territory Health Departments - web sites
- OZQOL Network
Some International Agencies

- Agency for Healthcare Research and Quality (USA)
- Qmetric, USA
- National Centre for Health Outcomes Development UK
- Cochrane Database of Systematic Reviews; Cochrane Controlled Trials Register; Cochrane Review Methodology Database
- York Database of Abstracts of Reviews of Effectiveness (DARE)
- Centre for EBM at University of Oxford
- Centre for EBM Practice Australia (with a network of about 10 related agencies including the Australasian Cochrane Centre)
- FACTT, USA
- RAND (MOS-RAND SF-36)
- Sheffield Centre for Health and Related Research
- MAPI Group (France)…QOLID database
- WHO and OECD and there are many others.

See our web links and refer to the health outcomes reading and resources list provided
Emily Exercise
<table>
<thead>
<tr>
<th>Emily: Asthma</th>
<th>Desired outcome</th>
<th>Areas for Indicators or Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient</strong></td>
<td>Minimize disruption</td>
<td>Asthma symptoms,</td>
</tr>
<tr>
<td></td>
<td>HRQOL, reduction acute</td>
<td>HRQOL, pulmonary</td>
</tr>
<tr>
<td></td>
<td>episodes, self</td>
<td>function, effective self-</td>
</tr>
<tr>
<td></td>
<td>management</td>
<td>management-reduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>acute episodes &amp; admits</td>
</tr>
<tr>
<td><strong>Parent/Family</strong></td>
<td>Manage condition</td>
<td>Presence of management</td>
</tr>
<tr>
<td></td>
<td>Avoid acute episodes</td>
<td>plan, parent knowledge,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reduced admits</td>
</tr>
<tr>
<td><strong>A&amp;E Director</strong></td>
<td>Minimize avoidable</td>
<td>Effective discharge</td>
</tr>
<tr>
<td></td>
<td>admissions</td>
<td>planning, avoidable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>presentations/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>readmissions to ED</td>
</tr>
<tr>
<td>Emily: Asthma</td>
<td>Desirable outcome</td>
<td>Areas for Indicators or Measures</td>
</tr>
<tr>
<td>--------------</td>
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<td>----------------------------------</td>
</tr>
<tr>
<td><strong>•Government Health</strong></td>
<td>Reduce $ associated with condition through better management by providers - ensure $ spent leading to better management</td>
<td>Compliance with guidelines, costs data, PBS data, performance indicators concerning effectiveness $ spent</td>
</tr>
<tr>
<td><strong>•Administrator</strong></td>
<td>Identify risk, incidence &amp; distribution factors to assist in planning</td>
<td>Pop &amp; regional data concerning spread &amp; incidence, asthma surveys</td>
</tr>
<tr>
<td><strong>•PHO/ Epidemiologist</strong></td>
<td>Early detection and better patient management</td>
<td>Screening for risk, presence of management plan, routine monitoring systems</td>
</tr>
<tr>
<td><strong>•General Practitioner</strong></td>
<td>Provide appropriate community education programs, appropriate management and co-ord across services</td>
<td>Parents and teachers in education programs, identification/screening practices, appropriate referral practices, compliance with guidelines</td>
</tr>
<tr>
<td><strong>•Community Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desired outcome</td>
<td>Areas for Indicators or Measures</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Patient</strong></td>
<td>Relieve symptoms &amp; cope HRQOL, manage baby, reduce isolation</td>
<td>Reduction in symptoms – Qol/Mental Health scale over time………</td>
</tr>
<tr>
<td><strong>Husband</strong></td>
<td>Understand condition, Better family relationships</td>
<td>Accessing counseling, relationship advice, DV reports?</td>
</tr>
<tr>
<td><strong>Baby</strong></td>
<td>Minimize avoidable admissions</td>
<td>Achieve normal developmental milestones</td>
</tr>
</tbody>
</table>
### Sameena: Depression

<table>
<thead>
<tr>
<th><strong>GPs</strong></th>
<th><strong>Desired outcome</strong></th>
<th><strong>Areas for Indicators or Measures</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in symptoms, appropriate med. Management, referrals.....</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health</td>
<td>Appropriate management plan &amp; co-ord. of services</td>
<td>Presence of care plan, use of support services, baby achieving developmental milestones</td>
</tr>
<tr>
<td>Turkish Support Group</td>
<td>Provide effective support</td>
<td>Time from referral to follow up, attendance at support group (proxy)</td>
</tr>
<tr>
<td>A&amp;E Director</td>
<td>Avoid emergency admits</td>
<td>Number of ED admissions</td>
</tr>
<tr>
<td>Govt. Health Administrator</td>
<td>Avoid hospitalization or institutionalization</td>
<td>Compliance with care plans/guidelines for people from CALD backgrounds</td>
</tr>
</tbody>
</table>
Materials

- Paper, Case-Study Kit, Reading Lists
INDICATORS FOR POPULATION GROUPS: INDIGENOUS HEALTH

Primary Prevention

Screening and Ambulatory Care
INDICATORS: INDIGENOUS HEALTH

Early Diagnosis or Intervention

Treatment
INDICATORS: INDIGENOUS HEALTH

Rehabilitation

Outpatient Rehabilitation
# Health Status and Outcomes

How healthy are Australians? Is it the same for everyone? Where is the most opportunity for improvement?

<table>
<thead>
<tr>
<th>Health Conditions</th>
<th>Human Function</th>
<th>Life Expectancy &amp; Wellbeing</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare prevalence of diseases of indigenous peoples with other groups</td>
<td>Impairment, activity limitation and participation</td>
<td>Life expectancy at birth compared to other pop groups</td>
<td>Mortality rates</td>
</tr>
</tbody>
</table>

National Health Performance Framework
**Determinants of Health**

Are the factors determining good health changing for the better? Is it the same for everyone? Where and for whom are these factors changing?

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Socio-economic</th>
<th>Community Capacity</th>
<th>Health Behaviours, Beliefs, Attitudes</th>
<th>Person-related Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.g. Clean water supply</td>
<td>E.g. Education, employment</td>
<td>E.g. Age distribution</td>
<td>E.g. Beliefs about causation</td>
<td>E.g. Genetic related susceptibility to disease &amp; other factors such as blood pressure, cholesterol levels and body weight</td>
</tr>
</tbody>
</table>

National Health Performance Framework
# Health System Performance

How well is the health system performing in delivering quality health actions to improve the health of all Australians? Is it the same for everyone. Service/program level

<table>
<thead>
<tr>
<th>Effective</th>
<th>Appropriate</th>
<th>Efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsive</td>
<td>Accessible</td>
<td>Safe</td>
</tr>
<tr>
<td>Continuous</td>
<td>Capable</td>
<td>Sustainable</td>
</tr>
</tbody>
</table>