A FRAMEWORK FOR APPLYING A HEALTH OUTCOMES APPROACH

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Traditionally the performance of the health system has been assessed by measuring the number, type, length and cost of interactions with patients. With the focus on outcomes, attention is turning to measuring the impact of health services on the health of people. Health outcomes initiatives in NSW have concentrated on the development of indicators to monitor services and their effect on health, and on the use of indicator data to improve the quality and outcomes of health services.

As described on page 99 of the *NSW Public Health Bulletin*, the NSW Health Department has developed and applied a planning framework designed to improve the outcomes of care for people with diabetes mellitus. The planning framework is being adapted for application to the national priority areas of cardiovascular disease, cancer, injury and mental health. This article describes the planning framework and outlines the steps in its application to improve the quality and outcomes of health services.

WHAT IS MEANT BY 'HEALTH OUTCOMES APPROACH'?

The objective of the health outcomes approach is to ensure that the structures and processes of health care and prevention have a positive impact on people's health. Although the emphasis is on improving health and health status, the approach is also concerned with the quality, delivery and organisation of services, the examination and evaluation of evidence for existing and proposed interventions, consumer acceptability, resource management, and equity of access and outcomes. It depends on the availability of systems to monitor these factors as well as changes in the health of individuals and populations. By linking information on process and outcomes with information on costs, the health outcomes approach can assist in setting priorities for the planning and delivery of health services at a local level, across the spectrum from prevention through early diagnosis, treatment and management to continuing care, rehabilitation and palliation.

The emphasis on equity of access to services and equity of outcomes is especially important for disadvantaged groups, such as rural communities, Aboriginal and Torres Strait Island people, and people from non-English speaking backgrounds.

WHAT IS NEW ABOUT THE HEALTH OUTCOMES APPROACH?

Health professionals have for many years applied a similar approach, using evidence-based practice in health care and meticulously monitoring patient outcomes. Many health services and organisations have incorporated programs to improve the quality of their services and to meet the needs of their patients. The reorientation of ambulance and emergency department services to improve outcomes for trauma patients is an example of how a health outcomes approach has been applied to improve patient care in NSW.

The health outcomes approach is innovative in that it relies on the systematic application of a cycle of defining outcomes and indicators, developing systems to provide indicator information, monitoring processes and outcomes, linking outcome information to cost information, and using this information in decision making.

HOW IS THE HEALTH OUTCOMES APPROACH APPLIED?

The health outcome approach is essentially problem-based, and can be posed in relation to a specific health problem. The following list of nine questions encompasses the practical application of the health outcomes approach. They represent the components of a reiterative process.

- What is the problem?
- What do we aim to achieve?
- What is the best thing to do?
- How can we measure what we achieve?
- Are we doing the best thing now?

Improving diabetes outcomes

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identifying the processes and service configurations which lead to the best outcomes.

LESSONS TO DATE

There have been two important lessons from the diabetes outcomes project.

The first has been the importance of wide consultation from an early stage. The contribution from people with a consumer or professional interest in diabetes is remarkable and their collaboration has generated a wide ownership of the process.

The second lesson has been the value of moving the debate on health outcomes from a conceptual level to one of practical implementation. The focus on diabetes as a model for implementation has enabled the health system to define objectives and to identify opportunities for attaining clearcut, quantifiable improvements in health.

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- How can we improve it?
- How much will it cost?
- How well did it work?
- How do we generalise and sustain it?

Underlying these questions is a series of actions which identify broad tasks to assist in answering them. Figure 1 summarises the relationship between the questions and actions. A more detailed summary of the actions is presented in Table 1.

Question 1: What is the problem?
Initial development of the project involves determining the scope of what is to be achieved, the target population or group for which it is to be achieved and why it needs to be achieved. Background information is obtained from data sources on the condition, service or program and through consultation with consumers, service providers and other stakeholders. This information forms the basis of a preliminary action plan.

Consultation is central to the health outcomes approach. It is imperative to develop a plan for wide consultation with stakeholders and opportunities for their input throughout the process.

Question 2: What do we aim to achieve?
The action plan provides a basis for *setting preliminary goals and targets*. These may be refined subsequently in the light of possible strategies and interventions.

Question 3: What is the best thing to do?
The next step relies on the *identification of effective strategies and interventions, including any research needs*. Identifying effective strategies and interventions to improve the health of, and access to, health services of the target population will require the systematic examination of the evidence for their effectiveness through literature reviews and consultation with experts. This information can be used to estimate the extent of health gain expected and assess the feasibility of implementing the strategies.

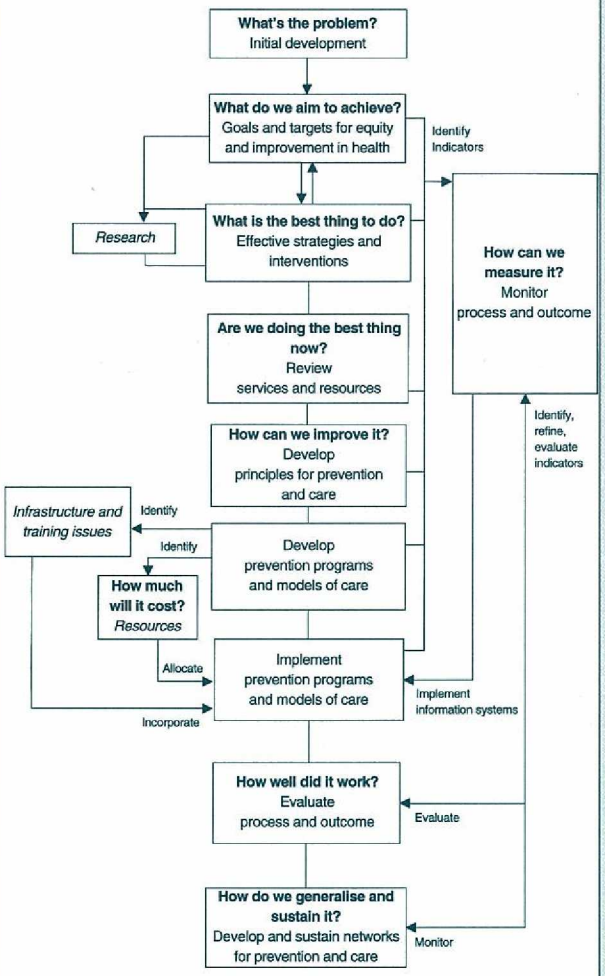
Where possible, the adoption of specific interventions should be based on high quality scientific evidence for effectiveness. In practice, high quality evidence may not be available and different levels of evidence can be used. For example, a randomised trial to define the best thing to do for major trauma may be inappropriate. It is possible, however, to extrapolate from studies of components of trauma care, such as the value of reaching definitive care within a certain period, to define best practice at different stages of care. If no strategies or interventions of proven effectiveness exist, policy and service provision can be based on expert advice. Where further research is needed, priorities can be set in consultation with experts and consumers.

Depending on what achievements are possible, the goals and targets set in Question 2 may need to be revised.

Question 4: How can we measure what we achieve?
Even at this early stage it is important to identify or develop methods for *monitoring process and outcome*. This begins with the identification of potential process and outcome indicators, followed by an assessment of their validity and reliability and the feasibility of collecting data on them in various clinical and population settings. There is a need to consider whether ongoing information on these indicators can be incorporated into available information systems or whether new systems will be required.

FIGURE 1

A FRAMEWORK FOR APPLYING A HEALTH OUTCOMES APPROACH



Question 5: Are we doing the best thing now?
Once effective strategies and interventions have been identified, it is necessary to determine whether we are doing the best thing *by reviewing current services and resources.* This involves collecting information on services and documenting the status of service organisation and delivery. In specific situations the processes of care or prevention may be as crucial as the specific treatment or intervention. For example, the timeliness of administration of thrombolysis for acute myocardial infarction is as important as the fact of administering a thrombolytic.

The review should help to identify service gaps and problems. It should encompass considerations of effectiveness, appropriateness, cost, performance, outcome, equity of access and outcomes, and consumer perspectives.

Question 6: How can we improve services?
The answer to Question 5 should help to identify possible avenues for improvements. This may involve *developing*

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TABLE 1

DETAILED ACTIONS TO APPLY A HEALTH OUTCOMES APPROACH

Question	What's involved	How do you do it?
What is the problem?	Initial development	• Identify and document what needs to be achieved and why • Initiate consultation with consumers, service providers and other stakeholders • Examine available information on the condition/service (eg prevalence, incidence, hospitalisations, mortality, costs and other outcome information) • Develop a preliminary action plan
What do we aim to achieve?	Identify goals and targets for improvement and equity in health	• Identify interim goals and targets • After evaluating strategies and interventions and identifying indicators, reassess goals and targets
What is the best thing to do?	Identify effective strategies and interventions	• Identify potential strategies and interventions from the literature and through consultation – Examine the natural history of the disease/condition and identify known modifiable and non-modifiable risk factors for the development and progression of the disease/condition/injury – Identify the possible intervention points which might alter the course of the disease/condition/injury – Identify strategies and interventions to improve prevention, early diagnosis, management and on-going care • Assess and rate evidence for the effectiveness of strategies and interventions • Estimate benefit in terms of health gain attained from implementation of the strategies and interventions • Assess the feasibility (including cost) of the implementation of these strategies and interventions • Recommend effective strategies and interventions
	Identify and prioritise research needs	• Identify research needs through discussion with experts and consumers and by examining the strategies, interventions, guidelines and the quality of evidence supporting them • Prioritise research needs of the disease/condition • Incorporate research needs into the NSW Health Department's research agenda • Develop processes to review and implement significant research findings
How can we measure what we achieve?	Monitor process and outcome	• Identify potential process and outcome indicators • Assess the feasibility of their collection in various clinical settings • Assess the validity and reliability of the indicators • Develop and implement information systems to collect and manage indicator data
Are we doing the best thing now?	Review services and resources	• Identify what and how services are being delivered – Identify and implement methods to collect information about services – Document how services are provided and identify service gaps and problems • Review services according to their effectiveness, appropriateness, cost, performance, outcome, equity of access and outcomes and consumer concerns

TABLE 1 continued

DETAILED ACTIONS TO APPLY A HEALTH OUTCOMES APPROACH

Question	What's involved	How do you do it?
How can we improve it?	Develop principles for prevention and care	• Develop a clear set of principles for preventing and caring for people with disease/condition/injury in collaboration with experts and consumers and based on evidence • Promote development of guidelines based on principles for prevention and care based on these principles, the evidence and consensus – Identify where guidelines for prevention and care are needed – Prepare preliminary guidelines – Identify and assess the evidence for interventions outlined in the guideline (where available) – Finalise guidelines following distribution for comment • Incorporate guidelines for prevention and care into current practice – Ensure the guidelines are clear and unambiguous – Develop guideline implementation process – Evaluate implementation of guidelines
	Develop prevention programs and models of care	• Develop systems to implement models of care and prevention programs to ensure access, quality and effectiveness of care • Develop systems to monitor and improve quality of care. These are based on defined objectives and use indicators of quality defined by their impact on health outcome
	Identify and incorporate infrastructure and training needs	• Identify infrastructure needs to develop and implement prevention programs and models of care including – organisational structure – conceptual framework – data provision – intersectoral links – integration of prevention and treatment initiatives • Identify, develop and implement professional training and support to ensure providers are able to supply quality services – Identify areas where training, accreditation and support are needed – Work with professional bodies and health professionals to identify strategies for the development of an infrastructure to support appropriate training and support – Develop an implementation plan • Identify and incorporate required changes to policy and service configuration – Identify policy issues to improve the delivery and access to quality services – Develop a strategic plan for the implementation of these policy issues – Work with stakeholders to implement the plan
	Implement prevention programs and models of care	• Implement models of care and prevention programs – Investigate methods for implementation of programs and models eg training, consultation, structural change, incentives and disincentives – Incorporate these methods into the implementation process
How much will it cost?	Identify resource implications	• Consider issues to ensure the best use of resources. – Estimate cost-effectiveness of interventions at an Area and District level – Identify available resources – Recommend appropriate resource allocation
How well did it work?	Evaluate process and outcome using previously defined indicators	• Develop evaluation plans for these prevention programs and models of care based on process and outcome indicators • Evaluate prevention programs and models of care in operation based on appropriateness, effectiveness, efficiency, patient and provider acceptability and satisfaction and resultant health outcomes • Implement recommendations following the evaluation
How do we generalise and sustain it?	Develop and sustain networks for prevention and care	• Develop a plan to ensure an integrated approach to prevention and care across the Area/District/State • Incorporate into business plans • Ensure ongoing monitoring of quality and outcomes for prevention and care

Health outcomes approach

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principles for prevention and care, developing prevention programs and models of care based on these principles, *identifying infrastructure and training needs*, and building these changes into policy and service configuration.

The development of principles depends on published evidence or, if published evidence is not available, a consensus of expert opinion. The principles form a basis for guidelines, policies or protocols designed to improve services, access to services and health status. Consultation with stakeholders is an essential component.

Prevention programs and models of care can be developed based on these principles and the guidelines, policies or protocols, and partners identified to collaborate in the process.

Infrastructural and training issues need to be addressed if effective service models and programs are to be implemented. These include resource allocation, local, state or federal policy, service configuration and links to other sectors. Systems to monitor quality of care and prevention, based on defined indicators and incorporating processes for review, are essential.

In addition, requirements for intersectoral links to address issues outside the health sector should be assessed.

Question 7: How much will it cost?
An integral component of the processes outlined under Questions 5 and 6 is the need to *identify the resource implications* of the changes. It is placed under a separate question to highlight its importance.

To ensure the best use of resources, the cost-effectiveness of interventions at an Area and District level and at a statewide level must be assessed in conjunction with a determination of available resources. This should be used to inform resource allocation. While in the longer term proposed changes may reduce the cost of the health service, in the shorter term additional resources may be required to effect changes.

Question 8: How well did it work?
An evaluation plan must be developed and the *prevention programs and models of care evaluated* using the agreed process and outcome indicators. Based on the evaluation, recommendations may be made to improve prevention and care. The evaluation process should determine the appropriateness, effectiveness, efficiency of the service, satisfaction of consumers with the service and the resultant health outcomes.

Question 9: How do we generalise and sustain it?
Finally, there is a need to arrive at methods for institutionalising changes in service arrangements by *developing and sustaining the networks for prevention and care*. This may be achieved by wider implementation of the changes or by developing mechanisms to ensure their continued support. This may involve incorporating aspects of the changes into business plans and using the systems already developed to ensure ongoing monitoring of quality and outcomes.

WAITING LIST REDUCTION PROGRAM: INITIAL RESULTS

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The May 1995 issue of the *NSW Public Health Bulletin* contained an introductory article on some concepts and definitions relating to waiting lists in NSW public hospitals[1], encompassing both medical and surgical elective admissions. This article examines the impact of the NSW Government's Waiting List Reduction Program for elective surgery from its inception in May 1995 until the end of September 1995.

The aim of the program is to reduce the March 31, 1995 elective surgery waiting lists by 50 per cent within 12 months, concentrating on people who have been waiting more than six months for surgery.

A key element of the program is to improve hospital practices through the introduction of best practice models. These include better operating theatre scheduling, planned bed management and streamlined admission and discharge practices to ensure more efficient and effective management and better patient care.

Some Area and District Health Services are implementing initiatives such as pre-admission clinics and day-of-surgery admissions, weekend and after-hours surgery, extension of existing theatre sessions and more effective utilisation of existing theatre time.

Waiting list data must be accurate to be a useful management tool. One means of achieving this is through what is known as clerical auditing. This integral part of waiting list management has been Health Department policy for some years. Regular and routine auditing of lists ensures that good quality information is available to managers and administrators and facilitates better patient communication and care. Patients waiting longer than six months are contacted every three months to ascertain whether they still require admission. This enables them to discuss options with the hospital and at the same time provides up-to-date information for theatre scheduling, discharge planning and bed management.

DEFINITIONS

Elective surgery

Elective surgery is surgery which, although deemed necessary by the treating clinician, can be delayed, in the clinician's opinion, for at least 24 hours.

NSW has adopted the nationally agreed definition of elective surgery, as specified by the Australian Institute of Health and Welfare. This essentially includes all surgical operations from the Medicare Benefits Schedule[2] **except** for certain procedures[3]. The exclusions cover specific procedures frequently done by clinicians without special qualifications in surgery, and some other procedures for which the waiting time is strongly influenced by factors other than the supply of services.

Waiting times

The **expected waiting time** (or "clearance time") is the time required to clear the waiting list for specified