

15. Fostering continuous learning in our health system

Key messages

- Australia has an excellent tradition and track record of achievement in health and medical research. This is arguably our nation’s strongest area of research.
- Research is often not considered part of the core business of operating health services and/or is squeezed out by immediate service demands, resulting in a lack of alignment and integration of research into clinical practice.
- In particular, research focused on the way health services improve health outcomes – health services research – is under-resourced; it constitutes less than three per cent of the budget of the National Health and Medical Research Council (NHMRC), the Commonwealth Government’s principal health and medical research funding body.
- The biggest failure in health care is to implement what we know already. We need better means of translating research findings into a ‘system’ of clinical practice in a timely way.
- We need to redesign the health system to encourage and reward ‘good’ care (for example, via knowledge-based protocols), while continuously learning from ‘bad’ care (for example, medical incidents, adverse events, complaints).
- Comparative information on outcomes of health care processes is critical to improving the safety and quality of health care.
- Effective communication between a patient’s multiple health care professionals, and a relationship of cooperation and trust, are equally important to ensuring a safe outcome and a positive patient experience.
- Strengthened clinical and managerial leadership, governance and resourcing across the health and aged care system is required to promote and embed a culture of safe, high quality and effective health care.

Our reform directions

15.1 The Commonwealth Government should increase the priority of health services research to facilitate the uptake of research findings into practice. Increasing the availability of part-time clinical research fellowships across all health sectors to ensure protected time for research may contribute to this endeavour.

15.2 We further propose that infrastructure funding (indirect costs) follow direct grants, whether in universities, independent research institutes, or health service settings.

15.3 We believe that the National Health and Medical Research Council should consult widely with consumers, clinicians and health professionals to set priorities for collaborative research centres and supportive grants which:

- integrate multidisciplinary research across care settings in a 'hub and spoke' model; and
- have designated resources to regularly disseminate research outcomes to health services.

15.4 To enhance the spread of innovation across public and private health services, it is proposed that:

- the National Institute of Clinical Studies broaden its remit to include a 'clearinghouse' function to collate and disseminate innovation in the delivery of safe and high quality health care;
- health services and health professionals share best practice lessons by participating in forums such as breakthrough collaboratives, clinical forums, health roundtables, and the like; and
- a national health care quality innovation awards program is established.

15.5 To help embed a culture of continuous improvement, we propose that a standard national curriculum for safety and quality is built into education and training programs as a requirement of course accreditation for all registrable health professionals.

15.6 A permanent, independent national body should be established to lead the way on safety and quality. Its role should include: design and definition, by the end of 2009, of indicators that can be used to monitor the safety and quality of care; and the development of a national patient experience questionnaire, and patient-reported outcome measures.

15.7 To drive improvement and innovation across all areas of health care, we believe that a nationally consistent approach is essential to the collection and comparative reporting of indicators which monitor the safety and quality of care delivery across all sectors. This process should incorporate:

- local systems of supportive feedback, including to clinicians, teams and organisations in primary health services and private and public hospitals; and
- incentive payments that reward safe and timely access, continuity of care (effective planning and communication between providers) and the quantum of improvement (compared to an evidence base, best practice target or measured outcome) to complement activity-based funding of all health services.

15.8 We also propose that a national approach is taken to the synthesis and subsequent dissemination of clinical evidence/research which can be accessed via an electronic portal and adapted locally to expedite the use of evidence, knowledge and guidelines in clinical practice.

15.9 We believe that all hospitals, residential aged care services and Comprehensive Primary Health Care Centres should be required to produce an annual public report on their quality improvement and research activities, including reporting on actions arising from investigation of adverse events.

15.1 Defining and scoping a continuous learning system

Every Australian has a vested interest in the safety and quality of health services. That interest is intensified as we, or our family and friends, require help with a health problem. However, there is no easy way for us to be sure that the care we receive will be based on the current best evidence combined with individual clinical expertise, which is then judiciously applied to our personal circumstances.

■ Every Australian has a vested interest in the safety and quality of health services

The quantum increase in the capacity of health consumers and professionals to access the rapidly growing array of health and medical information available on the World Wide Web and elsewhere is both a boon and a risk. It has dramatically increased knowledge about potential conditions and treatments but it has also created uncertainty. How can clinicians possibly manage to absorb and utilise the swathes of rapidly emerging evidence in their day to day practice? As consumers of health care services, how do we know whether to put trust in our health care practitioner, or the latest advice from a self-help book, the internet or the latest medical television drama?

There is no easy way to find our way through this avalanche of information, but there are certain characteristics of health care systems which can reassure health care consumers that they are receiving the right care, at the right time, delivered by the right person, in the right setting.

First, we need to be assured that sufficient resources are being applied to areas of health and medical research to promote:

- health and wellbeing, and prevent ill health;
- delivery of more effective health care based on evidence of what works; and
- development of new therapies and cures.¹

Without research, health care would not improve. Research is therefore an enabler of progress, which needs to be recognised, valued and integrated with the health system.

Next, the health system must be ready and capable of applying emerging research findings into clinical practice. Currently it may take lengthy periods – typically, an astonishing 17 years² – for evidence to be incorporated into practice. To hasten implementation of evidence-based practice, health services require strong clinical leadership, easy access to guidance which incorporates contemporary knowledge, a system of checks and balances, and a workplace culture which values and rewards innovation and clinical excellence.

Finally, information is critical to all participants in the healthcare system – consumers, clinicians, managers, policymakers and planners. Without the capacity to measure the time taken to receive care, the outcome of care processes, the patient's experience of care, or to evaluate variation or deviation from a norm or a target, we cannot continuously learn and improve the care we deliver.

Between 15 and 20 per cent of hospital overnight episodes result in an adverse event. Such events and mistakes potentially cost the Australian health system a cautious estimate of \$2 billion a year.³ This estimate does not even consider the potential waste of resources involved in repeated testing, providing unnecessary care, or undertaking interventions which have no evidence base or deviate from best practice.

A concentrated effort to minimise harm and to 'systematise' evidence-based care will have a positive impact on community trust as well as the efficiency and effectiveness of our health system.

1 National Health and Medical Research Council (2007), Strategic Plan, 2007–2009, at: <http://www.nhmrc.gov.au/publications/synopses/nh80syn.htm>

2 Australian Commission on Safety and Quality in Health Care (2008), Submission 428 to the National Health and Hospitals Reform Commission.

3 J Ehsani, J Jackson and colleagues (2006), 'The incidence and cost of adverse events in Victorian hospitals 2003–04', *Medical Journal of Australia* 184 (11): 551–555.

15.2 Building on our strengths

15.2.1 The strengths of Australia's research effort

Australia has an excellent tradition in health and medical research, which is one of the nation's strongest areas of research

Australia has an excellent tradition in health and medical research, which is one of the nation's strongest areas of research. Several Australians have won Nobel Prizes for their medical research – most recently Barry Marshall and Robin Warren in 2005 for their work on the bacterium *Helicobacter pylori*, and Peter Doherty in 1996 for his work on how the immune system recognises virus-infected cells. Another key indicator of Australia's success in this area is performance against the international benchmark of citation. This relates to how often research academics refer to each other's formal published work. Australia greatly exceeds the expected number of citations.⁴

Health and medical research is performed in all parts of the health system – by the public, private, and not-for-profit sectors. Many different organisations are involved, including universities, hospitals, medical research institutes, primary health care and community-based organisations, government agencies and private firms. Funding comes from a variety of sources – from all levels of government, local and international firms and the philanthropic sector. The Commonwealth Government is the largest funder – in 2005–06, providing 67 per cent (or two-thirds) of recurrent funding, with the private sector and state and local governments respectively providing 21 per cent and 12 per cent (see Figure 15.1).

Figure 15.1: The Commonwealth Government provides about two-thirds of research funding and its funding is growing rapidly

Source	2003–04 (\$ million)	2004–05 (\$ million)	2005–06 (\$ million)
Australian Government	1023	1133 (up 10.8%)	1221 (up 7.8%)
State/local governments	180	208 (up 15.5%)	219 (up 5.2%)
Non-government/private sector	340	374 (up 10%)	394 (up 5.3%)
Total	1543	1715 (up 11.1%)	1834 (up 6.9%)

Source: Australian Institute of Health and Welfare (2007), *Health Expenditure Australia 2005–06* (Australian Institute of Health and Welfare: Canberra)

The Commonwealth Government funds health and medical research in two primary ways: through direct grants by two funding bodies and through indirect support. The bulk of the direct health and medical research funding is administered by the National Health and Medical Research Council (NHMRC), which is part of the Commonwealth Health and Ageing portfolio of agencies. The NHMRC seeks to fund the best and most relevant research to improve the health of all Australians, and to influence and support the translation of research outcomes, here and internationally, into improved health and health care practices.⁵ The Australian Research Council (ARC) also administers Commonwealth Government funding. The NHMRC is specifically focused on health and medical research and the ARC is responsible for supporting research in the sciences and humanities. The ARC explicitly does not fund some kinds of health research, principally in clinical medicine and dentistry. Both organisations sponsor research through grants. Funding is awarded on a competitive basis, through peer review of proposals.

4 P Bourke and L Butler (1997), 'Mapping Australia's basic research in the medical and health sciences', *Medical Journal of Australia* (167): 610–613.

5 National Health and Medical Research Council (2007), *Strategic Plan, 2007–2009*, at: <http://www.nhmrc.gov.au/publications/synopses/nh80syn.htm>

The Commonwealth Government also supports research through 'infrastructure' grants to universities and medical research institutes and through its support for the salaries of academic staff in universities who conduct research alongside their teaching duties.

The benefits of research greatly exceed the costs. A recent study by Access Economics stated that:

*Australian health research and development expenditure between 1992–93 and 2004–05 is estimated to return a net benefit of approximately \$29.5 billion. For the average dollar invested in Australian health research and development, \$2.17 in health benefits is returned, with a minimum of \$0.57 and a maximum of \$6.01.*⁶

15.2.2 The strengths of Australia's efforts to improve the quality and safety of health care

The safety and quality 'movement' in health care is relatively new but has gained momentum over the last two decades from⁷:

- research illustrating the large volume of potentially preventable harm occurring in hospitals;
- high profile public inquiries where health systems were revealed as unsafe that increased the awareness of the public, professions and government; and
- the idea that medicine should be evidence based and the knowledge that it frequently was not.

Action has been called for by many sources. Particularly influential were the reports published in the United States by the Institute of Medicine (IOM), especially *To Err is Human*.⁸ Similarly, in Australia a landmark study, the *Australian Quality in Healthcare Study*, revealed that 17 per cent of all hospital admissions were associated with adverse events, the majority considered preventable.⁹

One of the major policy responses to this in Australia was the formation, in 2000, of the Australian Council on Safety and Quality in Health Care, the predecessor body to the current Australian Commission for Safety and Quality in Health Care.

During this period, there has been a shift in both the awareness of, and investment in, safety and quality throughout Australia. It is now regularly reviewed at executive levels and is a component of many service and performance agreements. This has been supported by investment in units of staff dedicated to safety and quality and bodies such as the Australian Commission for Safety and Quality in Health Care, the National Institute of Clinical Studies, similar state based bodies as well as complaints commissions. These bodies have developed and implemented: policy; educational materials; and processes and measures for improvement (e.g. credentialing, open disclosure, patients' rights, standardising charting, mortality reviews, incident monitoring, and root cause analysis teams). These reforms over the last decade have made significant headway in improving the safety and quality of health care for patients.

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■ Australia's credible international ranking on a range of measures of health care performance shows that the Australian health system isn't 'broken'

6 Access Economics (2008), Exceptional returns: the value of investing in health R&D in Australia II, at: <http://www.asmr.org.au/ExcepII08.pdf>

7 Australian Commission on Safety and Quality in Health Care (2008), Submission 428 to the National Health and Hospitals Reform Commission.

8 Institute of Medicine (1999), *To err is human: building a safer health system*, at: <http://www.iom.edu/Object.File/Master/4/117/ToErr-8pager.pdf>

9 W Runciman, R Gibberd and colleagues (1995), 'The quality in Australian health care study', *Medical Journal of Australia* (163): 458–471.

adverse events continue to occur.¹⁰ While there are no firm measures of either the extent of the problem or the baseline from which we are working to improve, it is likely that the work that has been done to improve quality and safety has helped the health system meet increasing demands over the last 10 years.

However, despite significant investment in Australia, the reach of change into the practices of clinicians has been variable, and many initiatives have not proved sustainable. Difficulties in measuring the effect of improvement efforts have frustrated attempts to clearly identify strategies that 'make a difference'. This means that patients and their families may be uncertain as to whether they can rely on care to be safe or even effective. Nonetheless, in Australia there are now networks of individuals who understand the issues, who are motivated to implement improvement and generally willing to implement reforms. The potential for implementing change in this environment is high.

15.3 Identifying the case for change

15.3.1 Valuing research as core business

While the health and medical research culture and clinical culture can be understood as different things, the two co-exist in the health system. However, the way that research is organised and funded in the context of all health services, public and private, does not readily encourage or reward health service providers for engaging in research, or for adapting the way they deliver health care in line with research outcomes. This situation exists because research is often not considered part of the core business of operating health services. In the context of significant day-to-day pressures on public hospitals, research tends to be treated as a supporting activity, disconnected from, and a lower priority than, patient care. As a consequence there has been little attention given to the potential offered by a closer alignment of research with clinical practice along with the mechanisms and support systems required to promote integration.

This concern was raised in many submissions. A number of research bodies are concerned about the demise of the research culture within Australia's major public hospitals:

The research culture in our major hospitals has been severely eroded by health care agreements that are focussed almost exclusively on short-term outcomes and numbers of clinical transactions. There is no recognition, measurement or reward for research activities ... and clinician time is only valued if it is directed to clinical service delivery.¹¹

A worrying trend is that for some public hospitals, teaching and research are now seen as somewhat discretionary.¹²

The limited recognition and separate treatment of research in the health system has real, although not immediately obvious, consequences. First, it means that many opportunities to perform meaningful research that can improve clinical practices and standards are lost. Second, there is a lack of connection, or knowledge transfer, between research and clinical practice. This means that there is not optimal use of the available knowledge to improve standards of health care and make the most efficient and effective use of health expenditures. Third, the drive to develop the high quality researchers that will be our future clinical research leaders is not supported.¹³ Fourth, there are no incentives to build collaborative partnerships across health services (hospital and community), universities and research institutes. There is constant competition among research organisations for limited resources that leads to inefficiencies and wasted opportunities for improving the health of our communities.

10 Australian Commission on Safety and Quality in Health Care (2008), *Windows into safety and quality in health care* (Australian Commission on Safety and Quality in Health Care: Sydney).

11 Walter and Eliza Hall Institute of Medical Research (2008), Submission 192 to the National Health and Hospitals Reform Commission.

12 Universities Australia (2008), Submission 461 to the National Health and Hospitals Reform Commission.

13 T Cutler (2008), Report on the review of the national innovation system: *Venturous Australia – building strength in innovation*, at: <http://www.innovation.gov.au/innovationreview/Documents/NIS-review-web.pdf>

In the United Kingdom, the government has recently reinvigorated the research culture within the National Health System with the establishment of the National Institute of Health Research in 2004 and with the specific agenda of strengthening the interaction between research and clinical practice. A more recent review under Lord Darzi has reaffirmed this important strategic direction.¹⁴

Our health system is under pressure and in need of reform to meet long-term challenges related to unequal access to services, the growing burden of chronic disease and an ageing population. We believe that meeting these challenges requires that we change the culture of the health system so that research and knowledge transfer are recognised as essential prerequisites to improving patient outcomes.

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15.3.2 A piecemeal approach to safety and quality

The overwhelming view expressed about improving the quality and safety of health care was that there is a growing understanding of what needs to be done and enormously good intentions to do it. Despite this, there are too many barriers and frustrations to achieve more than marginal, piecemeal improvement. Is it the safety of care provided which is paramount or is it more about caring enough to continuously improve the quality of care we provide? How do we do this when many staff feel there are too few staff, too little time and too many patients to manage safely with personalised care? Is a top-down approach to quality involving credentialing, accreditation and performance benchmarking more important, or the capacity to innovate locally and share results nationally?

The Australian Commission on Safety and Quality in Health Care recommends the following design principle (see Figure 15.2) be used when considering the reform of the safety and quality agenda:

Figure 15.2: A safety and quality design principle

Safety and quality design principle: There should be effective systems of clinical governance at all levels of the health system to ensure continuous improvement in the safety and quality of health care. Good clinical governance makes certain that there is accountability and creates a 'just' culture that is able to embrace reporting and support improvement. Consumers are central to identifying safety and quality issues and the solutions that need to be implemented.

For improvement to occur, information is critical: of the gaps between care recommended and care received and of the occurrence of adverse events and complications. In addition to ensuring safe practices and that consumers receive effective and appropriate health care, attention to both access and efficiency of service provision is also essential for good quality care.

Source: Australian Commission on Safety and Quality in Health Care

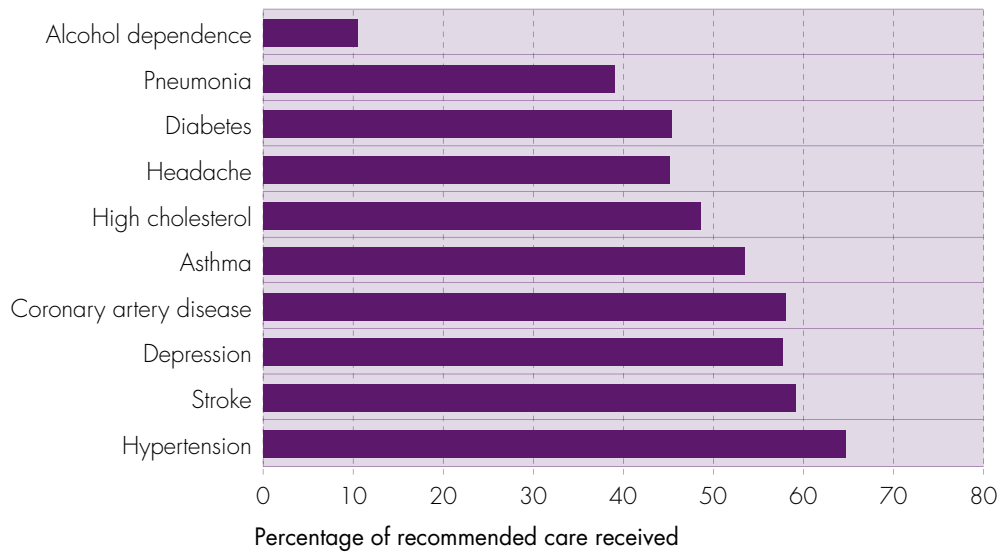
Quality encompasses the errors of over-use and under-use of recommended care, as well as misuse (or errors in care).¹⁵ The Australian Quality in Healthcare Study revealed that 17 per cent of all hospital admissions were associated with adverse events, the majority considered preventable.¹⁶ In a ground breaking study conducted in the USA by Rand Corporation, adults were found to receive a little over half of recommended care (see Figure 15.3).

14 Darzi (2008), High quality care for all: NHS next stage review final report, at: http://www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/DH_085825

15 T Lee (2002), 'A broader concept of medical errors', *New England Journal of Medicine* (347): 1965–1967.

16 W Runciman, R Gibberd and colleagues (1995), 'The quality in Australian health care study', *Medical Journal of Australia* (163): 458–471.

Figure 15.3: Many American patients do not receive the recommended care for common health problems



Source: E McGlynn, S Asche, J Adams and colleagues (2003), 'The quality of care delivered to adults in the United States', *New England Journal of Medicine* 348 (26):2635–45.

Many think that the care delivered by their doctor is better than the care generally provided in the community. However, the American study shown in Figure 15.3 found that

... everyone is at risk of receiving poor care, no matter what their condition, where they live, from whom they seek care, or what their gender, race or financial status is.¹⁷

The researchers concluded that system-wide investments in health information technology, such as electronic medical records, automated order entry, decision support tools, and performance tracking and incentives for improvement were all required to improve the quality of care delivered. Whilst a similarly comprehensive study has not been conducted in Australia there is considerable proof that gaps between evidence and practice are commonplace.¹⁸

Over half of 670 hospitals recently reviewed by the Australian Council on Healthcare Standards for accreditation purposes had inadequate quality control systems for patient safety

Over half of 670 hospitals recently reviewed by the Australian Council on Healthcare Standards for accreditation purposes had inadequate quality control systems for patient safety.¹⁹ Accreditation is an important process to safeguard the safety and quality of care, one that has already been recognised by the Australian Commission for Safety and Quality in Health Care as requiring reform based on a clear set of Australian Health Standards.

While accreditation processes around quality and safety will become more stringent, the Internal Medicine Society of Australia and New Zealand note that accreditation processes do not of themselves:

17 E McGlynn, S Asche, J Adams and colleagues (2003), 'The quality of care delivered to adults in the United States', *New England Journal of Medicine* 348 (26):2635–45.

18 National Institute for Clinical Studies (2003), Evidence-practice gaps report, Volume 1, at: Melbourne).<http://www.nicsl.com.au/data/portal/00000005/content/37226001153806799371.pdf>

19 Australian Council on Healthcare Standards (2005), National report on health services accreditation performance: 2003 and 2004, at: www.achs.org.au/

... mandate hospitals to implement proven safety practices, or mandate payers (state health departments or private health funds) to withhold funding to hospitals that consistently fail to implement such practices.²⁰

They suggest that too much attention has been devoted to risk managing rare catastrophic events at the expense of common, preventable safety problems such as hospital acquired infection and pressure ulcers. This view was also supported by NSW Health's Quality and Safety Branch²¹ who argued for mandatory venous thromboembolism (or blood clot) risk assessment.

The Improvement Foundation believes that it is entirely possible to transform the Australian health system over the next five years, using a systematic, multi-level quality improvement approach which is supported by appropriate government policy.²² They advocate a bottom-up rather than a top-down approach focusing on rapid change at the implementation level such as their Australian Primary Care Collaboratives (APCC) Program which has increased the capacity of GPs to manage chronic disease. They cite that 560 practices have participated in this program to date with measurable improvements (range: 26–132 per cent) across the whole general practice system for access and health outcomes in diabetes and chronic heart disease. They advocate an expansion of this program and support an 'act locally, measure nationally' approach which provides incentives to encourage collaborative action at the local level whilst monitoring improvement against nationally agreed indicators.

Despite the ultimate success of this program, the Improvement Foundation cautions that, until the participants were able to see for themselves the benefit of measuring and comparing, their initial experience in general practice was that:

Data quality is poor and principally driven by low awareness of the benefits of good data capture.

The Improvement Foundation advocates the need for national policy and investment in national infrastructure to collect and report performance across the health system. While their focus is principally on primary health care, the same message was heard from the acute care sector. A senior quality manager at the Royal Women's Hospital, Melbourne, urges that:

a national report of performance reporting should be available at hospital level, rather than only at aggregated state level ...

and,

we should think more nationally about the organisations set up to support and resource quality and safety improvement and innovation.²³

The Australian Council on Healthcare Standards also argues for a national, but independent, approach to performance assessment. They note that:

... having an independent organisation that is both responsive and accountable to the broader industry is important in gaining the confidence and commitment of the health industry and consumers.

However, they caution that despite their efforts to collect, collate and report on health systems performance over the last decade, little use of trended analyses has been made at either a jurisdictional or corporate level. They cite concerns regarding misuse of data and advocate a more mature approach to public disclosure of performance data.

20 Internal Medicine Society of Australia and New Zealand (2008), Submission 103 to the National Health and Hospitals Reform Commission.

21 NSW Health Quality and Safety Branch (2008), Submission 444 to the National Health and Hospitals Reform Commission.

22 Improvement Foundation (Australia) Ltd (2008), Submission 101 to the National Health and Hospitals Reform Commission.

23 M Draper (2008), Submission 265 to the National Health and Hospitals Reform Commission.

Another suggestion received was that investment in data infrastructure and linked data on individual patients will better enable sensible decisions to be made about quality of care and the outcome of that care as a patient 'transitions' through the health system. New research could be locally run and, through linkages, utilise large population data sets to quickly generate data on the quality of care.

A fundamental concern raised about transforming 'intention' into 'action' has been the lack of time and capacity for staff to focus on improvement when they are under siege with workforce shortages and too many patients waiting too long for care (and there may also be financial barriers to the timely translation of research). When hospitals get busy, the immediate need to 'prioritise, hydrate, medicate', with no personal care beyond essential need, leads to burn-out, exhaustion and low intrinsic job satisfaction. The Australian Nursing Federation noted that failing to provide a sufficient, and appropriately skilled, nursing workforce with a manageable workload has:

*... significant impacts on the safety and quality of care and are key factors in the unacceptably high risks of errors and adverse events that occur in Australian hospitals and health care settings.*²⁴

The Royal College of Nursing²⁵ also suggests that, while levels of nurse staffing and skill mix are strongly linked to high-quality patient outcomes, organisational reform programs that 'free nurses to care' also play a key role. They note that ineffective work patterns lead to a 'disconnect' between patients and nurses with nurses spending less than 40 per cent of their time with their patients. They quote the leadership shown by Flinders Medical Centre in implementing their Redesigning Care Program (based on lean-thinking methodology) and Nursing Works Program as resulting in positive safety, quality, and workforce and cost outcomes.

A national approach is required to guide and drive action across the whole health sector, and commit those accountable for the safety and quality of the health system to align action and reform

■ There is a significant strategic gap in leadership and vision around what both safety and quality look like across the whole health sector and how safety and quality can be integrated and actioned across all care settings including general practice, community care, private specialists' rooms, public hospitals, and private hospitals. A national approach is required to guide and drive action across the whole health sector, and commit those accountable for the safety and quality of the health system to align action and reform. However, we believe that existing approaches to safety and quality are too peripheral to guide the systematic reform that is required to improve the safety and quality of health care in the stressed system of the future. Major issues such as approaches to access, service delivery and funding models require reform.

The lack of capacity and expert leadership to establish a culture of quality in safety amongst health services is considered to be a major barrier to continuous improvement. It was argued in one of our submissions that if we want quality in hospitals, then the key change agents – such as the senior management team and the CEO – need to be focused on quality. This might involve basing senior executive remuneration in part on quality improvement performance and identifying the Chief Executive Officer as the person with the greatest impact on quality improvement.²⁶

Others who provided their views to us suggest that, while more attention needs to be placed on measuring the quality and safety of care, there is also a need to reward incremental improvements made by health services in better coordinating care. The chronic and complex health needs special interest forum held in Sydney expressed concern about the lack of a system-wide approach to connecting care for patients with chronic disease such as cancer:

*The cancer journey is fragmented between professions, sectors and levels of government and this impairs quality, increases costs and saps patient and carer morale.*²⁷

24 F Armstrong (in press), Ensuring quality, safety and positive patient outcomes: why investing in nursing makes \$EN\$E, Australian Nursing Federation Issues Paper.

25 Royal College of Nursing Australia (2008), Submission 164 to the National Health and Hospitals Reform Commission.

26 P Gross (2008) Submission 448 to the National Health and Hospitals Reform Commission.

27 Participant (5 June 2008), National Health and Hospitals Reform Commission special interest forum on chronic and complex needs in Sydney.

They concluded that incentive payments or a bonus pool could be used to reward demonstrable improvements in patient outcomes, access, quality or efficiency. The concept of a primary care 'medical home' is gaining currency in the United States as a means of better coordinating the multiplicity of care required by patients with chronic and complex illness, with other component parts (hospitals, specialists).²⁸ However, it is likely that payment reform, such as financial incentives, would still be required to encourage both hospitals and specialists to reduce over use, by rewarding communication and collaborative decision-making with a patient's primary care medical home. The same policy directions are probably relevant in Australia and mechanisms to better connect multiple providers to improve and strengthen the management of chronic disease in primary health care are addressed in Chapter 3.

It is clearly acknowledged that moving from 'good to great'²⁹ involves understanding of the problems that lie within. The health system has to engage frontline staff more fully than has previously occurred and support them through education and development to bring about real improvement in care for patients. A greater emphasis needs to be put on measuring and comparing performance and developing leadership skills and capabilities in the use of performance data, linked to incentives that can drive quality improvements.

A recent report from the UK's NHS Institute for Innovation and Improvement³⁰ comments on the capacity within the UK health system to implement Lord Darzi's recommendations on High Quality Health for All. This report counsels patience and persistence if the benefits of change are to be realised! They propose that four infrastructure elements need to be in place over a sustained period of time (greater than 10 years) to lead to better outcomes. These include: building leadership will and commitment; freeing-up resources for clinical quality improvement; training staff; and establishing indicators and data collection systems.

Realistically they advise that this investment may initially result in a deterioration in performance before it gets better – more efficient data collection systems collect more data but more problems – before the real improvements kick in.

15.4 Creating a better future

15.4.1 Unlocking our research potential – invigoration and collaboration

We believe that there are four crucial elements to integrating and embedding a sustainable clinical research framework into the Australian health system:

1. establishing clinical research networks across a wide range of health services;
2. creating a cohort of clinical research fellows;
3. dedicated funding for health policy, clinical and health services research; and
4. increasing the accountability for all health services to foster clinical and health services research by developing specific reportable indicators.

There are different ways to pursue these objectives. It is not necessarily about choosing one option over another or all options, but about determining the optimum mix.

Teaching and training make research possible, yet these functions are not always appropriately supported by the existing arrangements, and particularly in public hospitals.

28 J Wennberg and colleagues (2008), Tracking the care of patients with severe chronic illness: The Dartmouth Atlas of Health Care, at: http://www.dartmouthatlas.org/atlas/2008_Chronic_Care_Atlas.pdf

29 J Collins (2001), Good to great: why some companies make the leap ... and others don't (Harper Collins: New York).

30 NHS Institute for Innovation and Improvement (2008), The next leg of the journey: How do we make high quality care for all a reality?, at: http://www.institute.nhs.uk/news/quality_and_value/how_to_make_'high_quality_care_for_all'_a_reality.html

The 2003–2008 Australian Health Care Agreements (AHCAs) only make cursory references to teaching, training and research and there is no dedicated funding for this purpose. There is support for changing the way research is treated under the AHCAs and for research funding to be quarantined from service delivery. There is also support for recruiting research-trained clinicians across all disciplines within major teaching hospitals.

Research grants, including those administered by the National Health and Medical Research Council and the Australian Research Council, do not provide 100 per cent funding for the indirect costs of research such as library access, human research ethics processes, information technology, licenses and support to participate in international collaborations. Technology transfer costs and those relating to intellectual property can also be considered legitimate research costs. Health services also struggle to provide administrative support for research functions and capacity to release clinicians from 'service' in order to conduct 'research'. The tension between 'teaching' roles and 'research' roles in universities is similarly fraught.

Research funding should cover both the direct and indirect costs. The Walter and Eliza Hall Institute of Medical Research notes that it is generally accepted that the indirect costs of performing research in Australia amount to about 30 per cent of the total cost (or 50 per cent of the direct costs).³¹ While there are various views on the exact quantum of the relationship between indirect and direct research costs, there is complete agreement that the lack of funding of indirect research costs has led to deterioration in basic research infrastructure and research training.³² Funding the full cost of research will require significant additional funding over time and should not be leveraged by reducing the range or depth of research projects funded.³³

More health services research is needed to shed light on what interventions work best from a patient's perspective and to explore health outcomes and system improvements

■ The infrastructure required to perform quality research (research administration, physical infrastructure, and equipment and technology platforms) needs new and ongoing investment. Universities Australia's submission notes that research infrastructure support is not keeping pace with project funding provided by the ARC and the NHMRC (25 per cent growth from 2001–06, compared to 200 per cent over the same period).³⁴

There is a relative underinvestment in some areas of research, namely health services research and research related to ageing and age-related health issues. Health services research is a multi-disciplinary field that involves systematic investigation of health services and the way in which they are provided to help improve health outcomes.³⁵ It currently constitutes less than three per cent of the NHMRC's budget. More health services research is needed to shed light on what interventions work best from a patient's perspective and to explore health outcomes and system improvements. Research Australia has called for increased health services research funding through the NHMRC, particularly for studies into integrated disease management involving allied health professionals.³⁶

We support increasing the number of clinical research fellowships in all health professional groups in order to establish a new cohort of committed researchers who can lead the research momentum across Australian health services. These fellowships should be distributed fairly across hospital and primary health care. Consideration should also be given to alternative models of fostering research careers with combined models of service and research funding for the early years of training.

31 Walter and Eliza Hall Institute of Medical Research (2008), Submission 192 to the National Health and Hospitals Research Commission.

32 Australian Vice Chancellors' Committee (1996), University research: Some issues, at: <http://www.universitiesaustralia.edu.au/documents/publications/policy/statements/urissues.pdf>

33 T Cutler (2008), Report on the review of the national innovation system: Venturous Australia – building strength in innovation, at: <http://www.innovation.gov.au/innovationreview/Documents/NIS-review-web.pdf>

34 Universities Australia (2008), Submission 461 to the National Health and Hospitals Reform Commission.

35 Health Research Services Association of Australia and New Zealand (2008), Submission 93 to the National Health and Hospitals Reform Commission.

36 Research Australia (2008), Submission 158 to the National Health and Hospitals Reform Commission.

Reform direction 15.1

The Commonwealth Government should increase the priority of health services research to facilitate the uptake of research findings into practice. Increasing the availability of part-time clinical research fellowships across all health sectors to ensure protected time for research may contribute to this endeavour.

Reform direction 15.2

We further propose that infrastructure funding (indirect costs) follow direct grants whether in universities, independent research institutes or health service settings.

Improving knowledge transfer from research to clinical practice is a simple idea. It is about doing what works. Various strategies have been adopted over time to help bridge the gap between the research and health cultures.

Historically, the university hospitals model was the dominant strategy. This model has a long tradition. The prominent Johns Hopkins Hospital in the US was founded in 1889 and Imperial College, London, was established in 1907. University hospitals have a strong interface between research and health services delivery and have made many significant developments in partnerships with research institutes and pharmaceutical companies. It is argued that Australian teaching hospitals are in danger of falling behind those of other countries in their capacity to monitor quality, innovate and develop new strategic partnerships.

Some researchers, including those that have worked with this model³⁷ strongly support revamping this model. However, others support rejuvenation of the National Institute of Clinical Studies (NICS) in its role to promote and help clinicians implement the non-binding guidelines developed separately by the NHMRC and others. Researchers consider that the institute has made significant progress in translating knowledge relating to some disease areas.³⁸

In April 2007, NICS became an institute of the NHMRC to integrate better the two organisation's functions. While its funding was not cut, it is considered by researchers to be limited (\$3.8 million in 2008–09, or approximately 0.7 per cent of the NHMRC's administered funds). The Australian Association of Medical Research Institutes supports designating NICS as the central agency to promote knowledge transfer and giving it an expanded funding base to achieve this – up to one per cent of the health budget by 2020.

Another reform direction proposed by those we consulted with was to strengthen and embed the NHMRC's plans to stimulate collaborative research efforts. The NHMRC recently announced it will fund 50 virtual research centres that function as a highway between research and clinical practice. This collaborative model is popular beyond the health sector for its capacity to inspire innovation. These research centres could focus on the development of collaborative research projects that address preventive health and health services design and delivery issues.

We support building on the NHMRC Centres for Clinical Research Excellence across Australia in a 'hub and spoke' model integrating hospitals, community (including general practice and primary care) and regional hospitals. These new centres should be directed to focus on research programs that look to translate new research findings into interventions that improve the care of patients and their families, or which improve access to, safety in, or efficiency of, health services. Where possible, networks of clinical and health services researchers in hospitals, universities, communities and research institutes should be supported to work in collaborations to develop strengths in particular clinical areas.

■ Improving knowledge transfer from research to clinical practice is a simple idea. It is about doing what works

37 D Penington (2008), 'Rediscovering university teaching hospitals for Australia', *Medical Journal of Australia* 189 (6):332–5.

38 Association of Australian Medical Research Institutes (2008), Submission 11 to the National Health and Hospitals Reform Commission.

Reform direction 15.3

We believe that the National Health and Medical Research Council should consult widely with consumers, clinicians and health care professionals to set priorities for collaborative research centres and supportive grants which:

- integrate multi-disciplinary research across care settings in a 'hub and spoke' model; and
- have designated resources to regularly disseminate research outcomes to health services.

More and better data is needed to facilitate health services research. Further investments in health informatics (benchmarking and monitoring), including data linkage systems, are needed to better understand what services are being delivered and the effect on health outcomes. Researchers note that Australia lags behind comparable countries when it comes to electronic health information (e-health). Integration of clinical databases across the nation is seen as critical to tracking patient outcomes and to assessing the impact of changes to clinical practice. Western Australia has made significant headway in the area of linked data. The WA Data Linkage Unit has enabled epidemiological and evaluation studies on heart disease, cancer, birth defects and other health problems.³⁹

The plea to 'get going' with electronic, patient-centred information records was heard loud and long

■ The call for better data linkages would of course be unnecessary if all patients had an electronic information record which could be readily 'mined' for information on diagnoses, care pathways, treatment and health outcomes. The plea to 'get going' with electronic, patient-centred information records, as a rich source of research information and as a pivot for better coordination of safe and high quality care, was heard loud and long:

And my completely earth shattering idea is not very surprisingly the speedy and effective deployment of electronic health records into the community. So that we can start reaping the benefits of the measurement of health outcomes and the efficiencies the workforce would enjoy from being able to message each other instead of having to send pieces of paper round and download x-rays instead of having patients sitting around and all that sort of stuff.⁴⁰

Our health system really is centred not on patients or individuals, it's centred around the practitioners and the providers, and that's just the way it's evolved historically. So we really don't have a patient-centred system. So it's a huge change to get a system to turn around to be focused on the consumer. I think that means that, for instance, a patient-centred system would mean that we should have a patient-centred information record, so that each person can know that there is a record that contains all of the things that are related to their health, and they're all brought together electronically in the one place, so every person with an interest in their health can access it. So a GP's interventions, a speech therapist's work, a medical specialist of one kind or another, a home care worker, could all see the whole story of what's going on in the person's life. And we just don't have that. At the moment, every practitioner keeps their own records in their own filing cabinet, and no-one else can see them. No collaboration can take place – hopeless.⁴¹

The complex and controversial subject of e-health, personal health records and information management is one which we have chosen to defer for further exploration in our final report. The vast number of options suggested to expedite a patient-centred electronic record, and leverage the investment required to roll-out and sustain it in practice, require further deliberation.

15.4.2 Bringing evidence into practice and monitoring outcomes

The Australian health system predominantly involves human activity which introduces issues of politics and group or individual self-interest as well as plain old human error. Any large-scale reform

39 Baker IDI Heart and Diabetes Institute (2008), Submission 47 to the National Health and Hospitals Reform Commission.

40 Health information manager (4 June 2008), National Health and Hospitals Reform Commission consultation meeting with frontline health professionals in Sydney.

41 Consumer (24 June 2008), National Health and Hospitals Reform Commission consultation meeting with community in Melbourne.

has to be cognisant of these realities and complexities. The Australian Commission on Safety and Quality in Health Care recommends the following framework be used to organise a sustained, system-wide reform effort:

Figure 15.4: A national framework for reform in safety and quality

<p>Patient centred health care</p> <ul style="list-style-type: none"> • Consumers know their healthcare rights • Data collection supports comprehensive patient care • Funding models support continuity of care • There is case management for complex care • Electronic health records are available • Patients have access to trusted information • Patients are routinely involved in system improvement 	<p>Performance measurement for safety and quality</p> <ul style="list-style-type: none"> • Data collection provides a return on investment through improved safety and quality • Performance indicators support safety and quality • Public reporting is used where it has benefits
<p>Build a culture so 'safety is how we do business'</p> <ul style="list-style-type: none"> • Clinicians engaged in organisational safety and quality are supported • Doctors are actively engaged in organisational safety and quality • Legal processes facilitate both incident investigation and open disclosure • There is a clear pathway for public accountability for adverse events • Health facility design incorporates safety and quality input • Safety and quality training is embedded in the work of health care • Providers are able to speak up to keep patients safe 	<p>Systematisation of evidence based health practice</p> <ul style="list-style-type: none"> • Evidence is based on the outcomes of Australian patients • Clinical guidelines are reliable and current • Information systems support safety and quality • Primary care data are available and support safety and quality • Economic information is available to measure the cost of unsafe or poor quality care

Source: Australian Commission on Safety and Quality in Health Care

We also need to be aware that initial investment in change goes onto the balance sheet, not the operating results, and therefore requires constancy of leadership and sustained investment. Tampering with organisational structures and constantly introducing new policies, initiatives and pilots involves changing direction before the old direction has time to deliver. During our consultation we heard that 'projectitis' and 'pilotitis' were endemic in the health system and that 'change fatigue' was a common complaint.⁴² We also heard that health workers were tired of putting effort into pilots which were either not properly evaluated or where funding was discontinued despite showing improved outcomes. There is a need to broker and share innovation and excellence at the national level to reduce duplication of effort and well-meaning attempts to re-invent the wheel.

The particular issue I think needs to be noted is that often systems try to encourage innovation and change through funding projects and in the area that I work in we have devised a new term called 'projectitis' – the way of disguising support for innovation by not supporting it because it always comes to an end and is never fully implemented, despite what the evidence

42 P Kuipers (2008), Collaborative review of pilot projects to inform policy: a methodological remedy for pilotitis?, at: <http://www.anzhealthpolicy.com/content/5/1/17>

*shows in the project. ... So it's, I think, a waste of money to fund projects without a continued commitment to implementing their findings properly.*⁴³

*One of the things I'd really like to see is proper evaluation of new schemes, pilot services. You have to have a proper evaluation of anything new that gets put into the system. It has to be evaluated properly and, if the evaluation shows it works and is effective and has good outcomes, there's gotta be guaranteed funding before that goes into place; because there's nothing worse than wasting everybody's time doing a great pilot, showing great outcomes and then no ongoing funding which is what happens all the time. Even worse is ridiculous schemes that achieve nothing, cost millions and millions of dollars and then for some reason 'cause they're politically nice get funded on an ongoing basis. So I'd really like to sort of see people make sure that everything's done to make our systems evaluated properly before we spend money on them.*⁴⁴

While maintaining and cultivating the capacity of individual health services to innovate is critical, government also has a responsibility to have a facilitating and disseminating role. In the words of Terry Cutler in his Review of the National Innovation System, titled *Venturous Australia*:

*In the age of the internet, and indeed of Web 2.0, there is less excuse than ever for governments not to do all in their power to cultivate innovation from the 'bottom up'.*⁴⁵

In keeping with our principle on quality and safety, we believe that government should play a part in promoting a culture of excellence and continuous improvement by facilitating the dissemination and uptake of innovation across the health system.

Reform direction 15.4

To enhance the spread of innovation across public and private health services, it is proposed that:

- the National Institute of Clinical Studies broaden their remit to include a 'clearinghouse' function to collate and disseminate innovation in the delivery of safe and high quality health care;
- health services and health professionals are supported to share best practice lessons by participating in forums such as break-through collaboratives, clinical forums, health roundtables, and the like; and
- a national health care quality innovation awards program is established.

The Australian Commission on Safety and Quality in Health Care has already taken carriage of a large body of work focused on achieving national coordination and local uptake of improvements in health care safety and quality. Accreditation, open disclosure, patient rights, health care associated infection, clinical handover, and standardisation of medication charts are amongst the many projects that have received their attention and evaluation. However, they advocate for a continued national framework for safety and quality reform, and caution patience as reforms have long lead times.⁴⁶

There is clearly no single reform direction that will continuously improve the quality and safety of health care throughout our complex health system. But change has to happen – nationally led, locally managed with the patient at its centre. We believe that a capably led, systematic and well resourced effort which builds capability amongst frontline health personnel – promoting 'inside out' change – will lead to sustainable improvements for every patient. We also need national responsibility for supporting the whole health system to integrate evidence into daily clinical

43 Social worker (25 June 2008), National Health and Hospitals Reform Commission consultation meeting with frontline health professionals in Melbourne.

44 Emergency Physician (8 July 2008), National Health and Hospitals Reform Commission consultation meeting with frontline health professionals in Perth.

45 T Cutler (2008), Report on the review of the national innovation system: *Venturous Australia – building strength in innovation*, at: <http://www.innovation.gov.au/innovationreview/Documents/NIS-review-web.pdf>

46 Australian Commission on Safety and Quality in Health Care (2008), Submission 428 to the National Health and Hospitals Reform Commission.

practice and to enable health professionals to better understand how well they are doing in relation to targets or their peers. In combination, these changes will allow health professionals and managers to have the time and capacity to continuously reflect, learn and improve.

We considered the key 'infrastructure' elements required to create the conditions that lead to better and safer outcomes in Australia:

- stimulating collaborative health services research;
- training staff and building capacity to innovate;
- building leadership will and commitment;
- freeing-up resources for clinical quality improvement;
- systematising access to the evidence base and capture of variation; and
- establishing indicators and data collection systems.

Stimulating collaborative health services research is an essential building block which is discussed in section 15.4.2. We believe that educating and training the existing, and new, health workforce in all aspects of safety and continuous quality improvement techniques will build capacity across all professions to foster improvement in care for patients.

Reform direction 15.5

To help embed a culture of continuous improvement, we propose that a standard national curriculum for safety and quality is built into education and training programs as a requirement of course accreditation for all registrable health professionals.

However, the evidence suggests that training alone will not deliver the results we need. To embed quality and safety into the day-to-day practice of our staff, they will also require protected time away from service obligations to reflect on results and initiate improvement. This will require expert and pro-active leadership both at the local and national level to create and foster a culture of continuous improvement.

National efforts should be focused on relieving health professionals of the administrative burden associated with systems to collect, report and analyse patients' experience and outcomes, whilst allowing them time to complete Plan, Do, Study, Act quality-improvement cycles.

■ To embed quality and safety into the day-to-day practice of our staff, they will also require protected time away from service obligations to reflect on results and initiate improvement

Reform direction 15.6

A permanent, independent national body should be established to lead the way on safety and quality. Its role should include: design and definition, by the end of 2009, of indicators that can be used to monitor the safety and quality of care; and the development of a national patient experience questionnaire and patient-reported outcome measures.

Consistent with our thinking, the Australian Healthcare and Hospitals Association has strongly advocated for a nationally mandated 'balanced scorecard' of key performance indicators for the health of the entire nation. They emphasise the importance of timely feedback to the place of service delivery as well as to higher levels within the system – national, state/territory, area/region.⁴⁷ Women's Hospitals Australasia⁴⁸ and Children's Hospitals Australasia⁴⁹ also advocate for the national collection and analysis of key performance indicators to allow the handful of speciality

47 Australian Healthcare and Hospitals Association (2008), Data and Benchmarking, at: http://www.aushealthcare.com.au/publications/publication_details.asp?pid=153

48 Women's Hospitals Australasia (2008), Submission 436 to the National Health and Hospitals Reform Commission.

49 Children's Hospitals Australasia (2008), Submission 435 to the National Health and Hospitals Reform Commission.

hospitals in each state to compare results on patient outcomes and care processes. They note that peer pressure has been shown to be one of the most effective levers in changing practice and improving outcomes. This type of peer group benchmarking also encourages sharing of knowledge and best practice and reduces duplication of effort.

Building a quality performance dimension into local service and employment agreements will also help concentrate the attention of both health professionals and managers. Indeed, there is a growing realisation of the importance of using government funding levers to hasten the reform agenda in safety and quality. We believe that as a starting point financial incentives to reward continuity and quality of care should be adopted.

Further consideration may need to be given to how we reduce serious reportable events – these are extremely rare medical errors that should never happen to a patient ('never' events). The USA-based Leapfrog Group's Position Statement on Never Events⁵⁰ advocates for a transparent and supportive approach to 'never events'. This involves giving hospitals the opportunity to receive public recognition for agreeing to: disclose and apologise to the patient and family; reporting of the event to a national or state body responsible for quality and safety; performing a root-cause analysis; and waiving all costs directly related to the event. This links back to our earlier discussion in Chapter 13 about the possible use of 'pay for performance', including the use of incentives and penalties linked to the outcomes of care received by patients.

Reform direction 15.7

To drive improvement and innovation across all areas of health care, we believe that a nationally consistent approach is essential to the collection and comparative reporting of indicators which monitor the safety and quality of care delivery across all sectors. This process should incorporate:

- local systems of supportive feedback, including to clinicians, teams and organisations in primary health care services and private and public hospitals; and
- incentive payments that reward safe and timely access, continuity of care (effective planning and communication between providers) and the quantum of improvement (compared to an evidence base, best practice target or measured outcome) to complement activity-based funding of all health services.

Systemisation
of the evidence
base is not
a clinical
straitjacket

■ Another task that would arguably be more efficiently placed at a national level is the development of a system of evidence-based guidelines which are dynamic and incorporate the latest health care evidence on the majority of health conditions. Whilst there is good reason to allow for local adaptation of this evidence base to fit the health service environment in which care is delivered, there is little justification for the wild variance that exists in treating similar patients across Australia. Systematisation of the evidence base is not a clinical straitjacket and, as explicitly acknowledged by Archie Cochrane, it provides clinicians with the capacity to integrate 'individual clinical expertise with the best available clinical evidence from systematic research'.⁵¹

50 The Leapfrog Group (2007), The Leapfrog Group Position Statement on Never Events, at: http://www.leapfroggroup.org/for_hospitals/leapfrog_hospital_survey_copy

51 D Sackett, W Rosenberg, J Gray and colleagues (1996), 'Evidence based medicine: what it is and what it isn't', *British Medical Journal* (312): 71–2.

Many countries have already accepted the need for a properly resourced national body to synthesise emerging evidence and translate it into usable clinical practice guidelines. The National Institute for Clinical Excellence in the UK is one example; closer to home the New Zealand Government pioneered the way with the New Zealand Guidelines Group. The UK has recently housed a very innovative web based initiative – the Map of Medicine™ – which combines access to international clinical evidence in an on-line format with wiki functionality and links with diagnostic request forms, search tools and personalised clinician-patient notations (see Figure 15.5). The Map of Medicine™ has already been adopted and implemented by the UK National Health System and is being closely looked at by a number of states in Australia.

Figure 15.5: The Map of Medicine is a tool to encourage evidence-based medicine

The Map of Medicine website describes this endeavour as follows:

The Map of Medicine is a web based visual representation of 400 evidence-based patient care pathways. It covers 28 medical specialties and is designed to present the most up to date synthesised evidence in the form of the pathway of care for specific conditions.

The Map is ideal for the dissemination of national guidelines and for providing pathways across clinical networks. It also enables local pathways to be tailored to meet local service needs.

The Map is especially useful for multidisciplinary teams in primary and secondary care, locum staff and students. It can also be used for service redesign and service planning.

The Map of Medicine is a distillation of recognised international sources of clinical evidence and guidance that are systematically searched and reviewed by information specialists working with experienced clinicians.

Clinical experience is also incorporated through expert review by a large network of external clinicians employed by public sector healthcare organisations.

Source: Map of Medicine <http://www.mapofmedicine.com> 2 December 2008

Reform direction 15.8

We also propose that a national approach is taken to the synthesis and subsequent dissemination of clinical evidence/research which can be accessed via an electronic portal and adapted locally to expedite the use of evidence, knowledge and guidelines in clinical practice.

Providing easy, timely access for clinicians to the rapidly emerging evidence base is an essential first step, but how do we know whether deviation from the scientific evidence in their practice is justified on the basis of a patient's illness or personal preferences? It is likely that there are substantial gaps between what clinicians know works and the care actually provided. The Dartmouth study⁵² divided clinical care into three categories:

- Effective care, which consists of evidence-based interventions where the benefits substantially exceed the harms;
- Preference-sensitive care, which encompasses treatment decisions where different choices carry quite different benefits and risks and where patients' preferences are given more weight towards these decisions; and
- Supply-sensitive care, which refers to clinical services where the supply of a specific resource (such as specialists) has a major influence on care utilisation rates.

52 J Wennberg and colleagues (2008), Tracking the care of patients with severe chronic illness: The Dartmouth Atlas of Health Care, at: http://www.dartmouthatlas.org/atlas/2008_Chronic_Care_Atlas.pdf

The study concludes that measuring unwarranted variation in each category is crucial to improving the likelihood of a patient receiving the recommended care. They postulate that there is significant over-use of acute care hospital facilities in the USA and significant savings to be gained if a national 'crash program' is commenced which is based primarily on illness severity, medical evidence and the patient's wishes and where resource allocation and health spending are guided more by knowledge about what is needed to produce cost-effective, high quality care. Capturing unwarranted variation in practice will require a system to capture variance and will be the subject of further discussion in our final report.

In the spirit of closing the feedback loop, we believe that all health services, whether public or private, should publicly report on their research and quality improvement activities. Such reporting would be linked to ongoing accreditation and the longer-term use of payments for quality. This will provide transparency to the public and accountability at the health service level for sustaining a continuous learning system.

Reform direction 15.9

We believe that all hospitals, residential aged care services and Comprehensive Primary Health Care Centres should be required to produce an annual public report on their quality improvement and research activities including reporting on actions arising from investigation of adverse events.