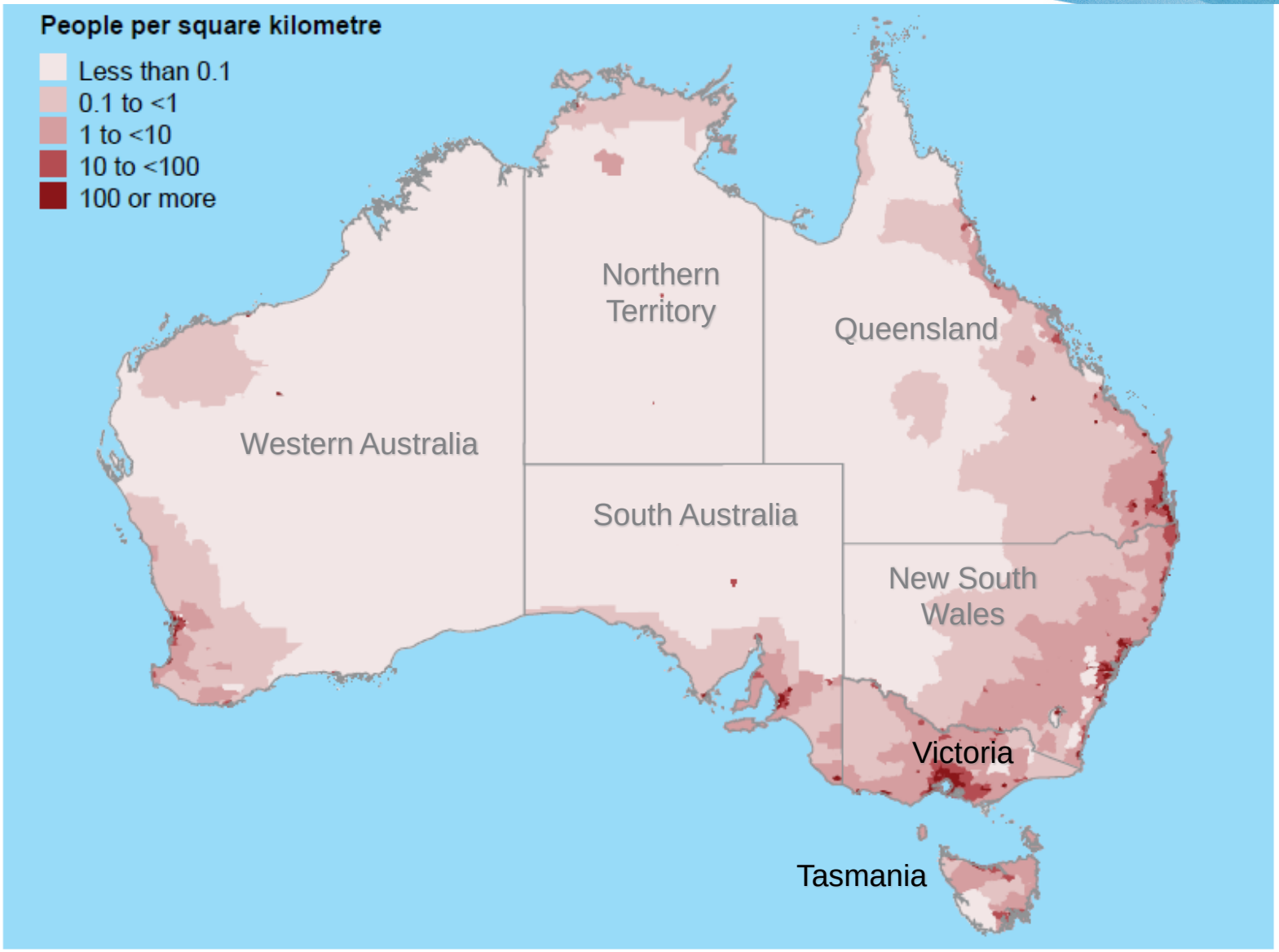
My Health Record clinical safety program (Australia)

Neville Board RN, BA, MPH
Director, eHealth & Medication safety

October 6, 2015

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

NSQHS STANDARDS

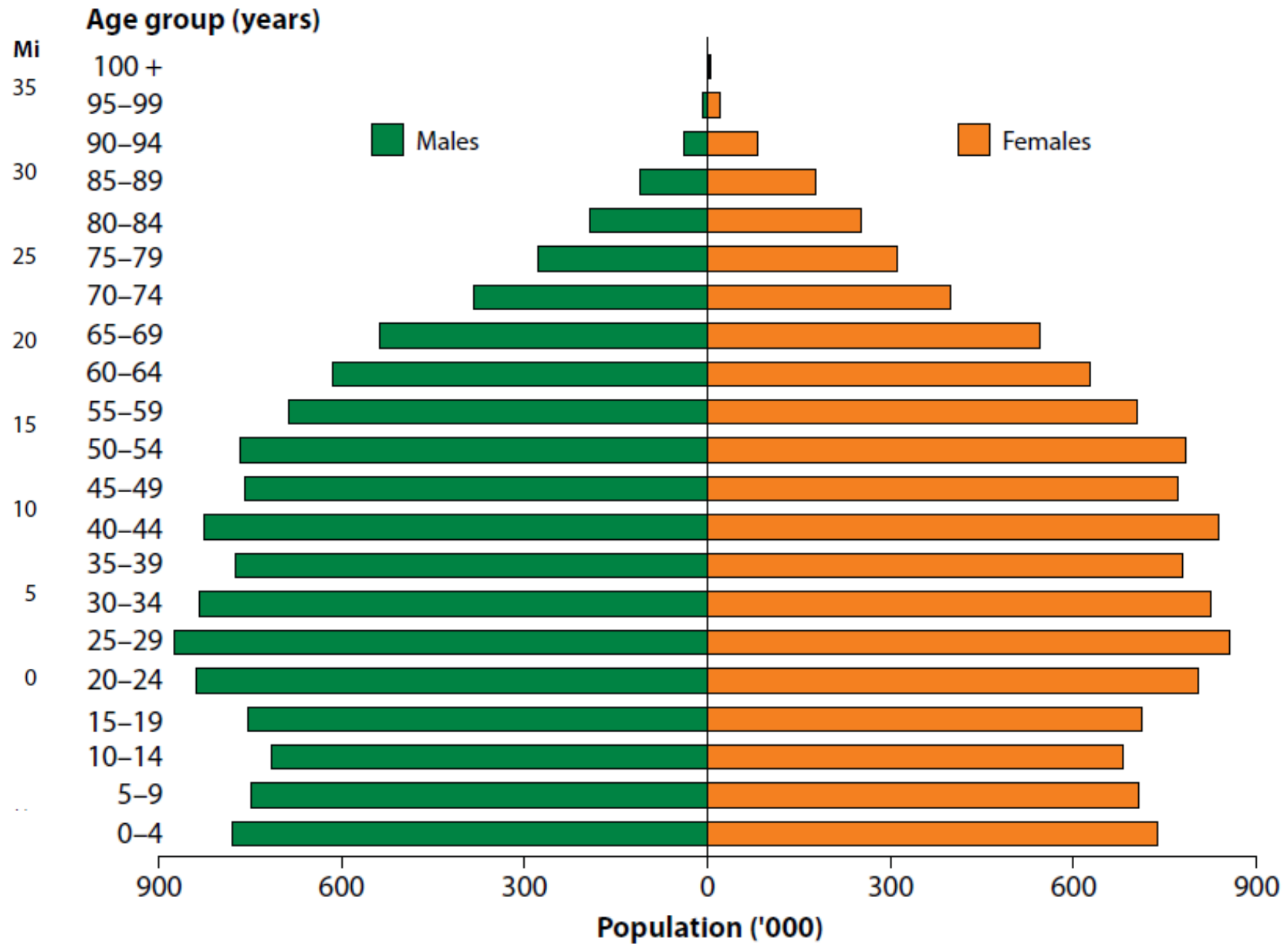


Note: figure shows population density by Statistical Area Level 2 based on the ASGS (see Box 1.1).

Sources: AIHW analysis of ABS 2010a, 2013m.

Population density, 30 June 2012

Australian Institute of Health and Welfare 2014. Australia's health 2014. Australia's health series no. 14. Cat. no. AUS 178. Canberra: AIHW.

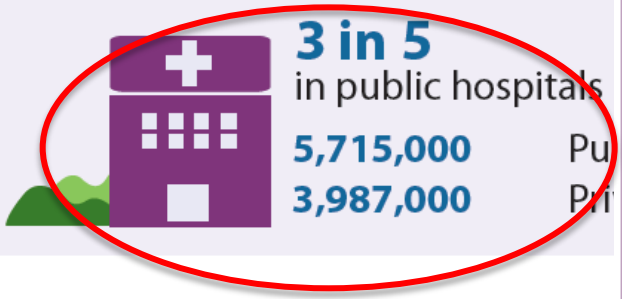


Source: ABS 2013c.

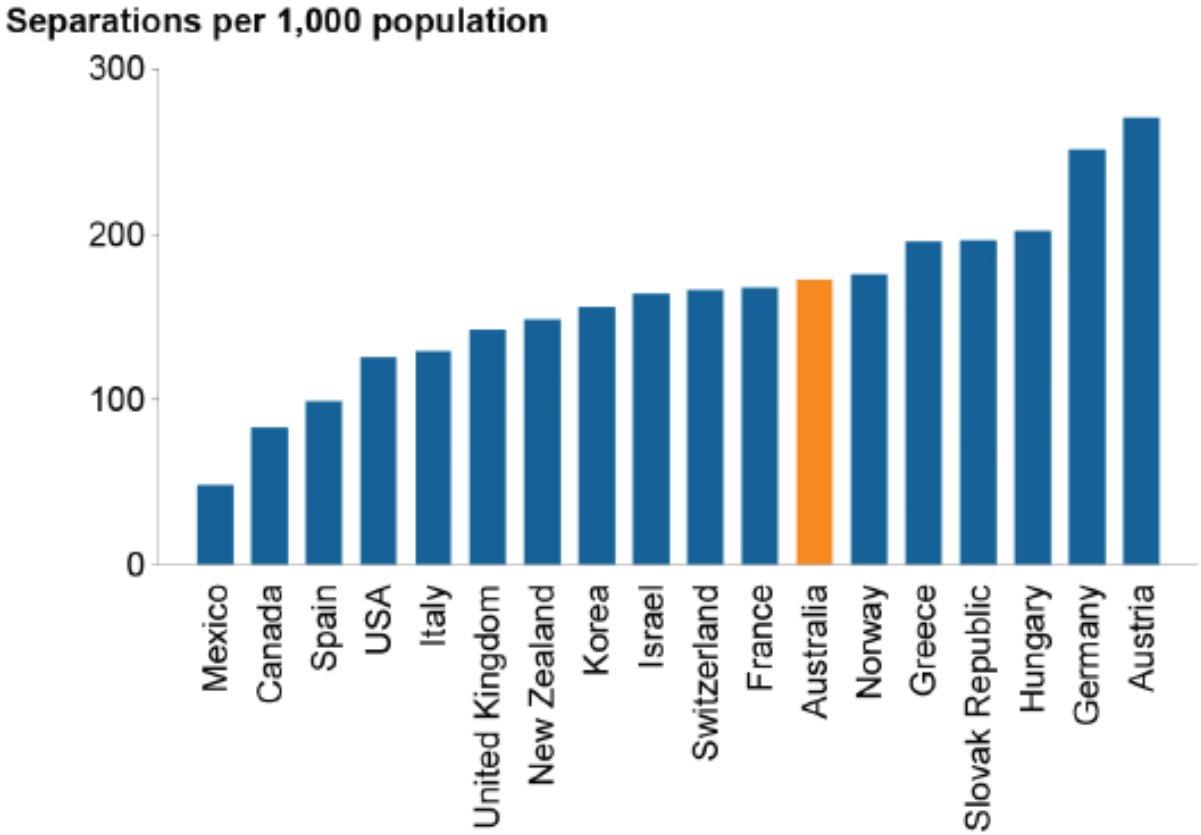
Australian population, by age and sex, June 2013

Aus

Where?

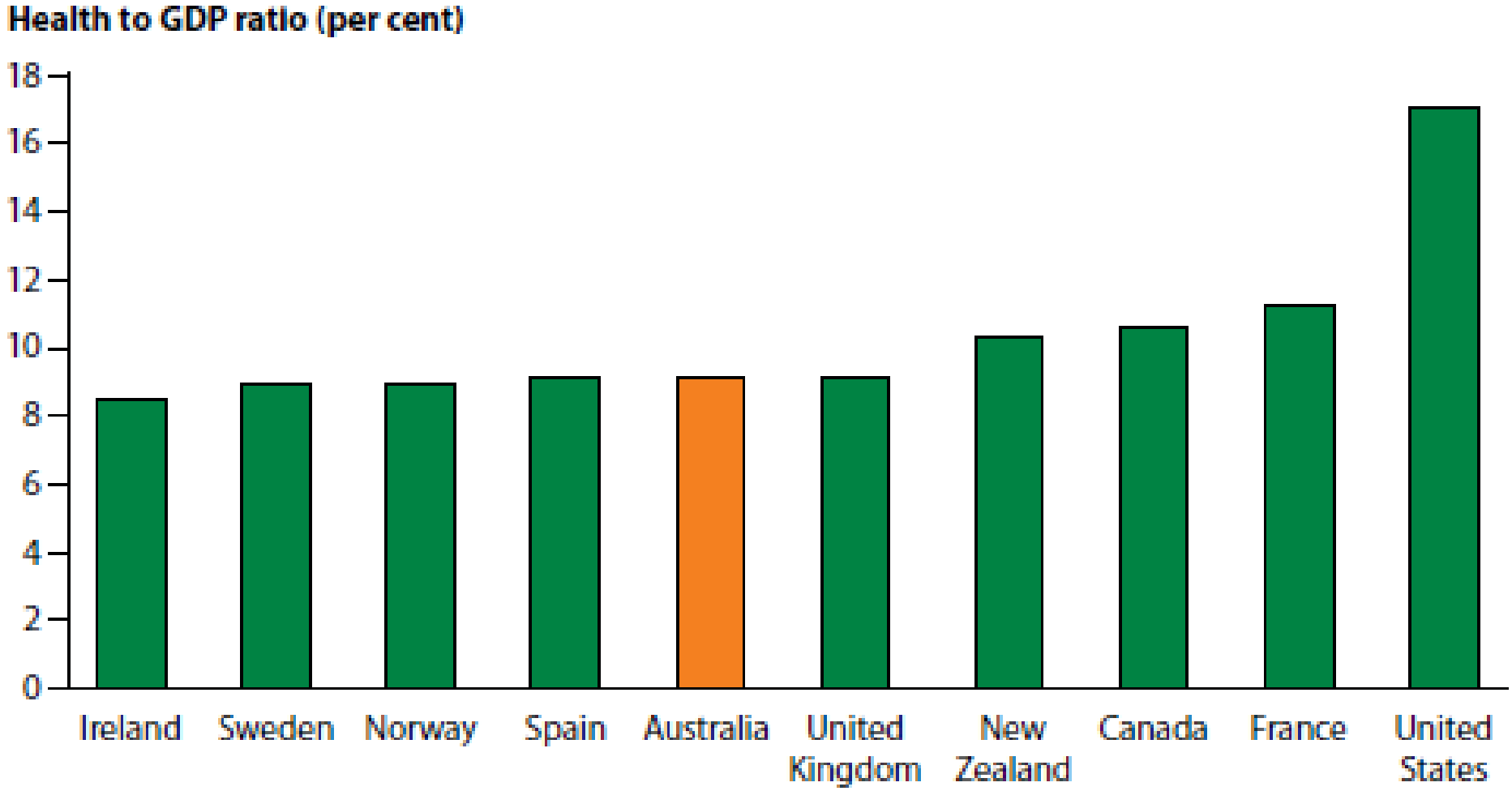


Australian Institute of Health



Note: Data for OECD countries vary in collection periods, by financial year and calendar year. Data are for 2011 and 2012 except for Korea (2013) and Australia (2013–14).

Figure 16: Overnight separations per 1,000 population, Australia, 2013–14 and selected OECD countries



Source: AIHW 2013a.

Health expenditure as a proportion of GDP, selected OECD countries, 2011

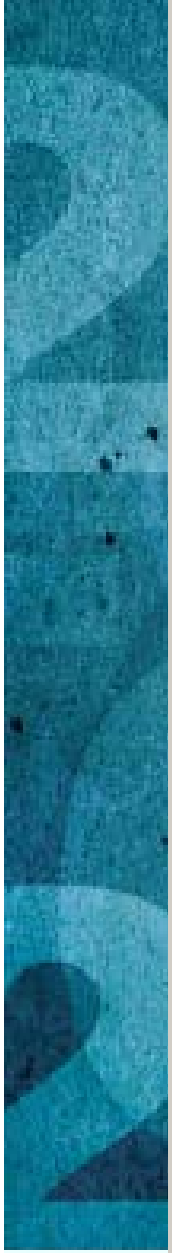
National Health Reform Act 2011

Act No. 9 of 2011 as amended

- to promote, support and encourage the implementation of initiatives relating to health care safety and quality
- to **collect, analyse, interpret and disseminate information** relating to health care safety and quality
- to **publish reports and papers** relating to health care safety and quality
- to formulate, promote and support **the implementation of standards, guidelines and indicators** relating to health care safety and quality, and monitor their implementation and impact

- to advise on **national clinical standards**
- to **formulate model national schemes** that provide for the **accreditation** of organisations that provide health care services and relate to health care safety and quality
- to consult and co-operate with persons, organisations and governments on health care safety and quality

(q) to do anything incidental to or conducive to the performance of any of the above functions



- Standard 1 – **Governance for Safety and Quality in Health Service Organisations**
- Standard 2 – **Partnering with Consumers**
- Standard 3 – **Preventing and Controlling Healthcare Associated Infections**
- Standard 4 – **Medication Safety**
- Standard 5 – **Patient Identification and Procedure Matching**
- Standard 6 – **Clinical Handover**
- Standard 7 – **Blood and Blood Products**
- Standard 8 – **Preventing and Managing Pressure Injuries**
- Standard 9 – **Recognising and Responding to Clinical Deterioration in Acute Health Care**
- Standard 10 – **Preventing Falls and Harm from Falls**

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You control what goes into it, and who is allowed to access it. Your eHealth record allows you and your doctors, hospitals and other healthcare providers to view and share your health information to provide you with the best possible care.

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- Latest statistics on the PCEHR
- Trial sites selection process
- Public submissions to the Electronic Health Records and Healthcare Identifiers: Legislation Consultation

Get your personal eHealth record now

Register

Register yourself or register your children for an eHealth record.

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If you have an IVC or if this is the first time you have accessed your eHealth record.

Login

Or login if you have previously accessed your eHealth record.

Note: to access the eHealth record system please ensure you have a supported web browser (see Compatible browsers).

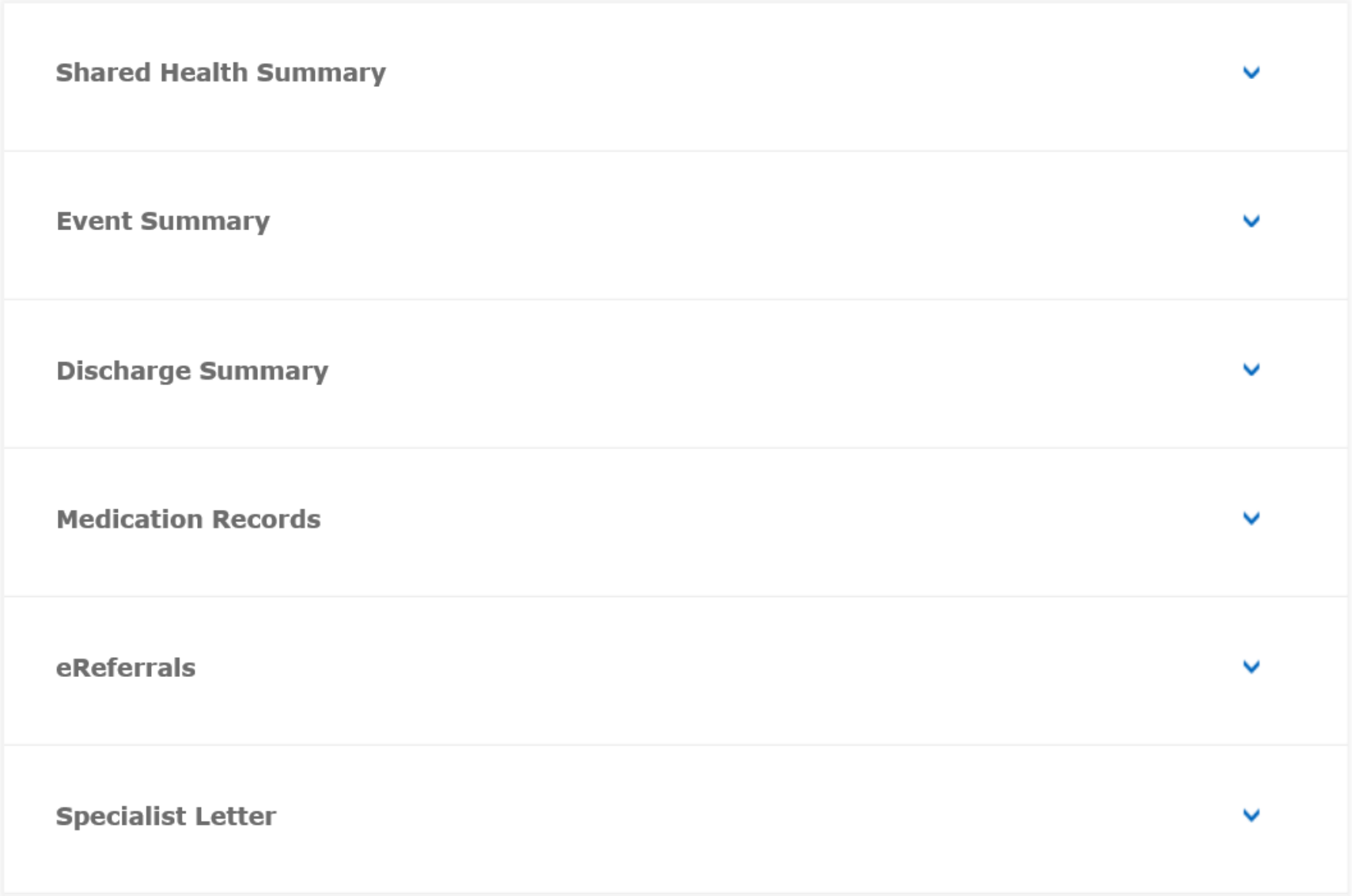
For Individuals

- Register my child
- Take control of my existing eHealth Record
- Add me to a child's eHealth Record

For Healthcare Providers

- Register my Healthcare Provider Organisation
- Register as a Contracted Service Provider
- Assisting individuals to register

Clinical documents – myHealth Record



HEALTH INFORMATION TECHNOLOGY

By Melinda Beeuwkes Buntin, Matthew F. Burke, Michael C. Hoaglin, and David Blumenthal

DOI: 10.1377/hlthaff.2011.0178
HEALTH AFFAIRS 30,
NO. 3 (2011): 464-471

The Benefits Of Health Information Technology: A Review Of The Recent Literature Shows Predominantly Positive Results

Melinda Beeuwkes Buntin (Melinda.buntin@hhs.gov) is director of the Office of Economic Analysis, Evaluation, and Modeling, Office of the National Coordinator for Health Information Technology (ONC), Department of Health and Human Services, in Washington, D.C.

Matthew F. Burke is a policy analyst at the ONC.

Michael C. Hoaglin is a former policy analyst at the ONC.

David Blumenthal is the national coordinator for health information technology.

ABSTRACT An unprecedented federal effort is under way to boost the adoption of electronic health records and spur innovation in health care delivery. We reviewed the recent literature on health information technology to determine its effect on outcomes, including quality, efficiency, and provider satisfaction. We found that 92 percent of the recent articles on health information technology reached conclusions that were positive overall. We also found that the benefits of the technology are beginning to emerge in smaller practices and organizations, as well as in large organizations that were early adopters. However, dissatisfaction with electronic health records among some providers remains a problem and a barrier to achieving the potential of health information technology. These realities highlight the need for studies that document the challenging aspects of implementing health information technology more specifically and how these challenges might be addressed.

Health Affairs, 30, no.3 (2011):464-471

but….

- Ash, Joan S., et al. “Some Unintended Consequences of Information Technology in Health Care: The Nature of Patient Care Information System-related Errors.” *Journal of the American Medical Informatics Association* 11 (2004): 108.

- Harrison, Michael I., Ross Koppel, and Shirly Bar-Lev. “Unintended Consequences of Information Technologies in Health Care—An Interactive Sociotechnical Analysis.” *Journal of the American Medical Informatics Association* 14 (2007): 542.

- Karsh, Ben-Tzion, et al. “Health Information Technology: Fallacies and Sober Realities.” *Journal of the American Medical Informatics Association* 17 (2010): 621.

PEDIATRICS®

OFFICIAL JOURNAL O

Article

Unexpected Increased Mortality After Implementation of a Commercially Sold Computerized Physician Order Entry Sys

Yong Y. Han, MD*‡, Joseph A. Carcillo, MD*‡§, Shekhar T. Venkata
Robert S.B. Clark, MD*‡§, R. Scott Watson, MD, MPH*‡§□, Trung C.
MD*‡, Hülya Bayir, MD*‡, Richard A. Orr, MD*‡§

+ Author Affiliations

ABSTRACT

Objective. In response to the landmark 1999 report by the Institute of Me initiatives promoted by the Leapfrog Group, our institution implemented sold computerized physician order entry (CPOE) system in an effort to errors and mortality. We sought to test the hypothesis that CPOE impleme reduced mortality among children who are transported for specialized care.

Methods. Demographic, clinical, and mortality data were collected of all ch admitted via interfacility transport to our regional, academic, tertiary-car hospital during an 18-month period. A commercially sold CPOE progra within the framework of a general, medical-surgical clinical application plat implemented hospital-wide over 6 days during this period. Retrospective CPOE and post-CPOE implementation time periods (13 months before an CPOE implementation) were subsequently performed.

Results. Among 1942 children who were referred and admitted for special the study period, 75 died, accounting for an overall mortality rate of 3 analysis revealed that mortality rate significantly increased from 2.80% (3 CPOE implementation to 6.57% (36 of 548) after CPOE implementation. Mul revealed that CPOE remained independently associated with increased o (odds ratio: 3.28; 95% confidence interval: 1.94-5.55) after adjustment fo covariables.

Conclusions. We have observed an unexpected increase in mortality coinc

Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors

Ross Koppel, PhD
Joshua P. Metlay, MD, PhD
Abigail Cohen, PhD
Brian Abaluck, BS
A. Russell Localio, JD, MPH, MS
Stephen E. Kimmel, MD, MSCE
Brian L. Strom, MD, MPH

Context Hospital computerized physician order entry (CPOE) systems are widely regarded as the technical solution to medication ordering errors, the largest identified source of preventable hospital medical error. Published studies report that CPOE reduces medication errors up to 81%. Few researchers, however, have focused on the existence or types of medication errors facilitated by CPOE.

Objective To identify and quantify the role of CPOE in facilitating prescription error risks.

Design, Setting, and Participants We performed a qualitative and quantitative study of house staff interaction with a CPOE system at a tertiary-care teaching hospital (2002-2004). We surveyed house staff (N=261; 88% of CPOE users); conducted 5 focus groups and 32 intensive one-on-one interviews with house staff, information technology leaders, pharmacy leaders, attending physicians, and nurses; shadowed house staff and nurses; and observed them using CPOE. Participants included house staff, nurses, and hospital leaders.

Main Outcome Measure Examples of medication errors caused or exacerbated by the CPOE system.

Results We found that a widely used CPOE system facilitated 22 types of medication error risks. Examples include fragmented CPOE displays that prevent a coherent view of patients' medications, pharmacy inventory displays mistaken for dosage guidelines, ignored antibiotic renewal notices placed on paper charts rather than in the CPOE system, separation of functions that facilitate double dosing and incompatible orders, and inflexible ordering formats generating wrong orders. Three quarters of the house staff reported observing each of these error risks, indicating that they occur weekly or more often. Use of multiple qualitative and survey methods identified and quantified error risks not previously considered, offering many opportunities for error reduction.

Conclusions In this study, we found that a leading CPOE system often facilitated medication error risks, with many reported to occur frequently. As CPOE systems are implemented, clinicians and hospitals must attend to errors that these systems cause in addition to errors that they prevent.

JAMA. 2005;293:1197-1203 www.jama.com

ADVERSE DRUG EVENTS (ADEs) are estimated to injure or kill more than 770 000 people in hospitals annually.[1] Prescribing errors are the most frequent source.[2-5] Computerized physician order entry (CPOE) systems are widely viewed as crucial for reducing prescribing errors[2,3,6-17] and saving hundreds of billions in annual costs.[18,19] Computerized physician order entry system advocates include researchers, clinicians, hospital administrators, pharmacists, business councils, the Institute of Medicine, state legislatures, health care agencies, and the lay public.[2,3,6-10,12,14-17,20-22] These systems are expected to become more prevalent in response to resident working-hour limitations and related care discontinuities[23] and will supposedly offset causes (eg, job dissatisfaction) and effects (eg, ADEs) of nursing shortages.[24,25] Such a system is increasingly recommended for outpatient practices (BOX).

Adoption of CPOE perhaps gathered such strong support because its promise is so great, effects of medica-

See also pp 1223 and 1261.

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Corresponding Author: Ross Koppel, PhD, Center for Clinical Epidemiology and Biostatistics, Room 106, Blockley Hall, School of Medicine, University of Pennsylvania, Philadelphia, PA 19104 (rkoppel@sas.upenn.edu).

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Incidence of Adverse Events and Negligence in Hospitalized Patients — Results of the Harvard Medical Practice Study I

Troyen A. Brennan, M.P.H., M.D., J.D., Lucian L. Leape, M.D., Nan M. Laird, Ph.D., Liesi Hebert, Sc.D., A. Russell Localio, J.D., M.S., M.P.H., Ann G. Lawthers, Sc.D., Joseph P. Newhouse, Ph.D., Paul C. Weiler, LL.M., and Howard H. Hiatt, M.D.

N Engl J Med 1991; 324:370-376 | February 7, 1991 | DOI: 10.1056/NEJM199102073240604

Adverse events occurred in 3.7 percent of the hospitalizations (95 percent confidence interval, 3.2 to 4.2), and 27.6 percent of the adverse events were due to negligence (95 percent confidence interval, 22.5 to 32.6). Although 70.5 percent of the adverse events gave rise to disability lasting less than six months, 2.6 percent caused permanently disabling injuries and percent led to death.

Health Care

The Quality in Australian Health Care Study

Ross McL Wilson, William B Runciman, Robert W Gibberd, Bernadette T Harrison, Liza Newby and John D Hamilton

A review of the medical records of over 14 000 admissions to 28 hospitals in New South Wales and South Australia revealed that 16.6% of these admissions were associated with an "adverse event", which resulted in disability or a longer hospital stay for the patient and was caused by health care management; 51% of the adverse events were considered preventable. In 77.1% the disability had resolved within 12 months, but in 13.7% the disability was permanent and in 4.9% the patient died. ***(Med J Aust 1995; 163: 458-471)***

November 1999

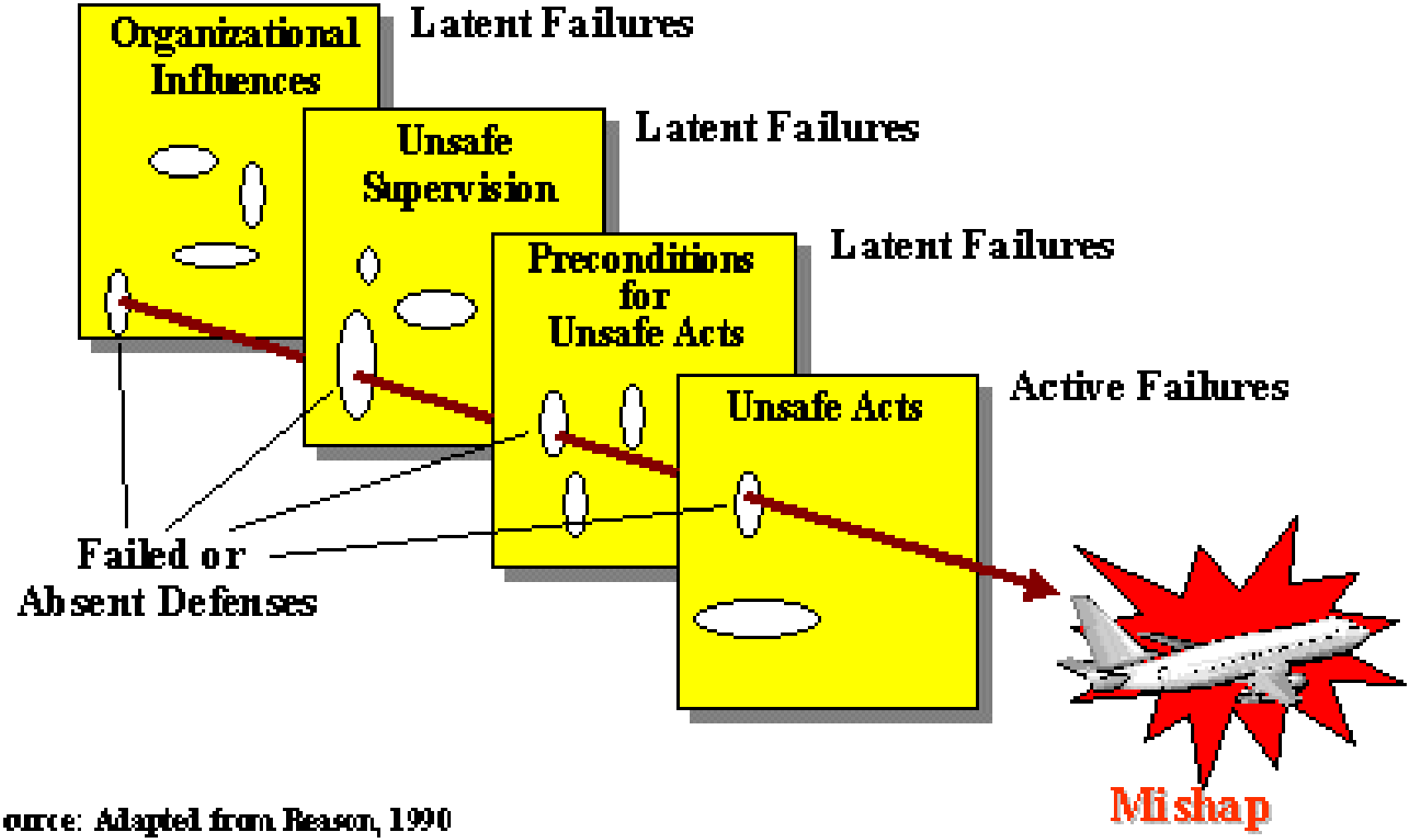
INSTITUTE OF MEDICINE

Shaping the Future for Health

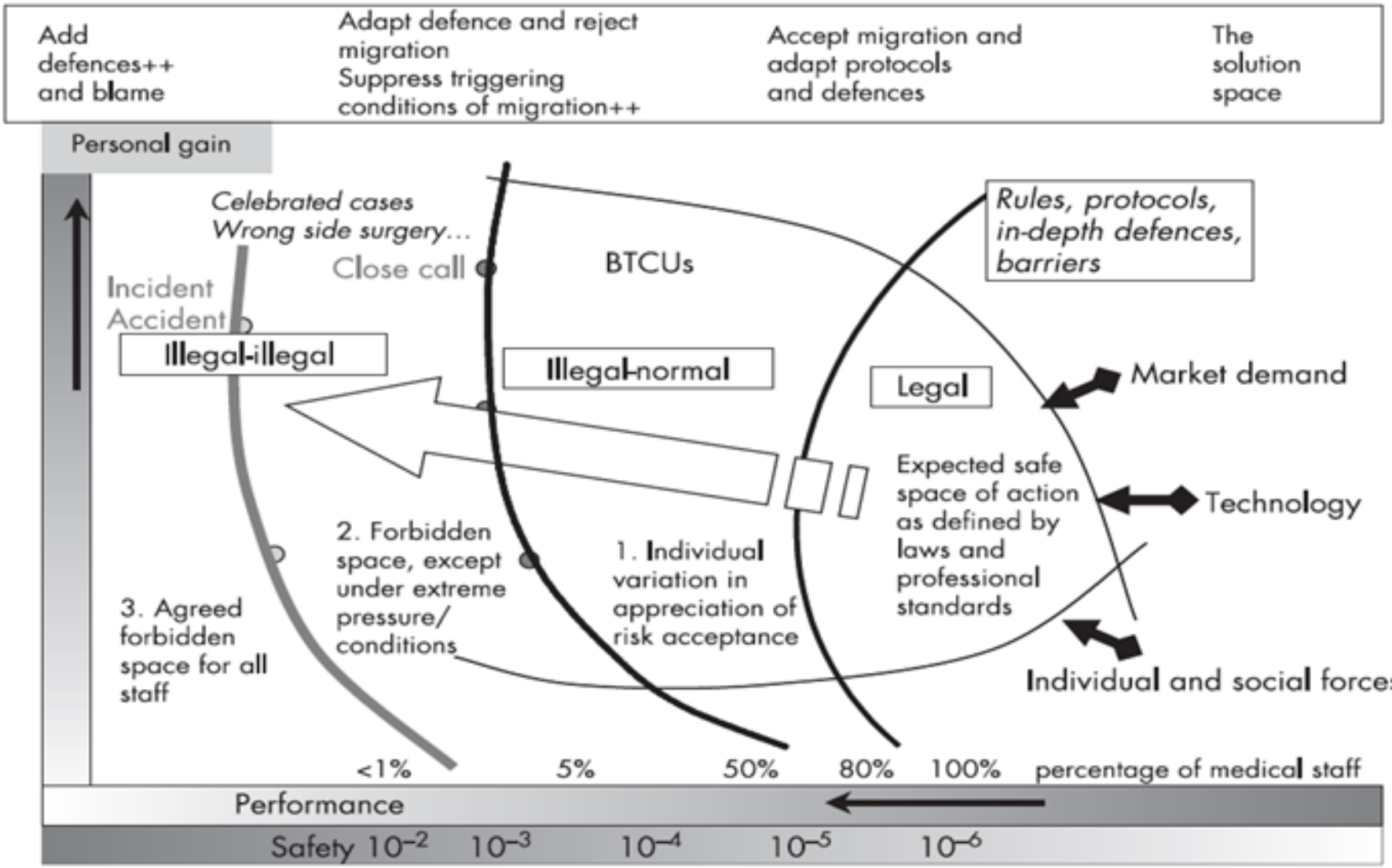
TO ERR IS HUMAN:
BUILDING A SAFER HEALTH SYSTEM

Health care in the United States is not as safe as it should be--and can be. At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented, according to estimates from two major studies. Even using the lower estimate, preventable medical errors in hospitals exceed attributable deaths to such feared threats as motor-vehicle wrecks, breast cancer, and AIDS.

The Reason Model and Accident Causal Chain



Source: Adapted from Reason, 1990



Violations and migrations in health care

Amalberti, Vincent, et al. Qual Saf Health Care 2006;15:i66–i71

OPEN ACCESS

An analysis of electronic health record-rela patient safety concerns

Derek W Meeks,[1,2] Michael W Smith,[1,3] Lesley Taylor,[4] Dean F Sittig Hardeep Singh[1,3]

ABSTRACT

Objective A recent Institute of Medicine report called for attention to safety issues related to electronic health records (EHRs). We analyzed EHR-related safety concerns reported within a large, integrated healthcare system.

Methods The Informatics Patient Safety Office of the Veterans Health Administration (VA) maintains a non-punitive, voluntary reporting system to collect and investigate EHR-related safety concerns (ie, adverse events, potential events, and near misses). We analyzed completed investigations using an eight-dimension sociotechnical conceptual model that accounted for both technical and non-technical dimensions of safety. Using the framework analysis approach to qualitative data, we identified emergent and recurring safety concerns common to multiple reports.

Results We extracted 100 consecutive, unique, closed investigations between August 2009 and May 2013 from 344 reported incidents. Seventy-four involved unsafe technology and 25 involved unsafe use of technology. A majority (70%) involved two or more model dimensions. Most often, non-technical dimensions such as workflow, policies, and personnel interacted in a complex fashion with technical dimensions such as software/hardware, content, and user interface to produce safety concerns. Most (94%) safety concerns related to either unmet data-display needs in the EHR (ie, displayed information available to the end user failed to reduce uncertainty or led to increased potential for patient harm), software upgrades or modifications, data transmission between components of the EHR, or 'hidden dependencies' within the EHR.

Discussion EHR-related safety concerns involving both unsafe technology and unsafe use of technology persist long after 'go-live' and despite the sophisticated EHR infrastructure represented in our data source. Currently, few healthcare institutions have reporting and analysis capabilities similar to the VA.

Conclusions Because EHR-related safety concerns have complex sociotechnical origins, institutions with long-standing as well as recent EHR implementations should build a robust infrastructure to monitor and learn from them.

BACKGROUND AND SIGNIFICANCE

Investments in health information technology (HIT) can enhance the safety and efficiency of patient care and enable knowledge discovery.[1] However, emerging evidence suggests that HIT may cause new patient safety concerns and other unintended consequences due to usability issues, disruptions of clinical processes, and unsafe workarounds to circumvent technology-related constraints.[2–16] In particular, rapid adoption of electronic health records potential safety concerns re implementation, and use.[12 1] cerns are broadly defined reached the patient, near mi the patient, or unsafe condi likelihood of a safety event.[2] venting EHR-related safety because concerns are often not only potentially unsafe of the EHR but also EHR us tional characteristics, and rul guide EHR-related activities. and newer 'sociotechnical' a for these elements are requir plexities of EHR-related pati

Despite a clear need to EHR-related safety concerns the nature and magnitude scarce. A few studies have and classify EHR-related safe patient safety incident repor In addition, conceptual fram been developed to incorpora nical and non-technical facto EHR safety and effectivene instance, we previously deve model that proposes eight i sions that are essential to u safety (table 1; Sittig and Si model accounts for the com its users, the involved wor external or organizational p assessment of EHR-related sa

We conducted a qualitati lysis' of completed EHR-relat based on voluntary reports c integrated healthcare syste Singh's sociotechnical mode work, our aim was to des related safety concerns and and context of these safety build a foundation for future

METHODS

Design and setting

We performed a retrospective investigation reports about E cerns from healthcare Department of Veterans Affa ates the largest integrated he USA with over 1700 sites clinics, community living readjustment counseling cen sive EHR, nationally mandat

► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/amiajnl-2013-002578)

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OPEN ACCESS

Technology, cognition and error

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To cite: Coiera E. *BMJ Qual Saf* 2015;**24**:417–422.

INTRODUCTION

Our information machines exist to make us faster, more powerful decision-makers. Computers prompt our limited human memory with reminders of what we should be doing. They retrieve information we could never remember or indeed even know. They suggest solutions to complex problems for us and take over the many routine tasks that we delegate to them. Information technology (IT) is thus a cognitive prosthesis that enhances our abilities beyond the unaided human norm.[1]

Unless a decision process is entirely automated, it is the product of the technology, the human user and how well each fits the other. Weed famously saw this act of using IT as one of 'knowledge coupling' between human and machine.[2] It is the quality of this interaction that counts in the end, and not the quality of the elements in isolation.[3]

The first test of our interaction with IT should be whether it leads to better, and quicker, decisions. Well-designed interactions with IT should also ensure that our decisions are as safe as possible. Poorly designed interactions unfortunately can distort decision-making and create new types of hazards and errors, ending in patient harm.[4] Indeed, there is a steadily growing evidence base that confirms that this harm is real, widely prevalent and that its consequences for patients can be significant, sometimes fatal.[5 6]

The evidence base also clearly shows that human factors are a major contributor to IT-associated errors and harms.[7] There is thus an imperative to design clinical information systems that are both demonstrably safe in construction and in use. For this to happen, we must move from empirical observation of IT-related hazards, errors and harms to a theory-based understanding of the causes of these risks and their mitigation.

In a thoughtful review of what we know about the genesis of error and patient harm,[8] Patel and colleagues make abundantly clear that we must understand deeply the interplay between human cognition and error. That exploration should also encompass machine reasoning and human–computer interaction.

In the remainder of this paper, the way that the interplay between cognition and IT can lead to error and patient harm is first reviewed. The second part of the paper considers how such an understanding can shape our design of safer interactions with IT, and indeed how we can harness this technology class to minimise IT-related risks. Both themes are areas of research and practice that surely must become a major new focus for patient safety if we are to neutralise this potent and increasingly pervasive source of patient harm.[9]

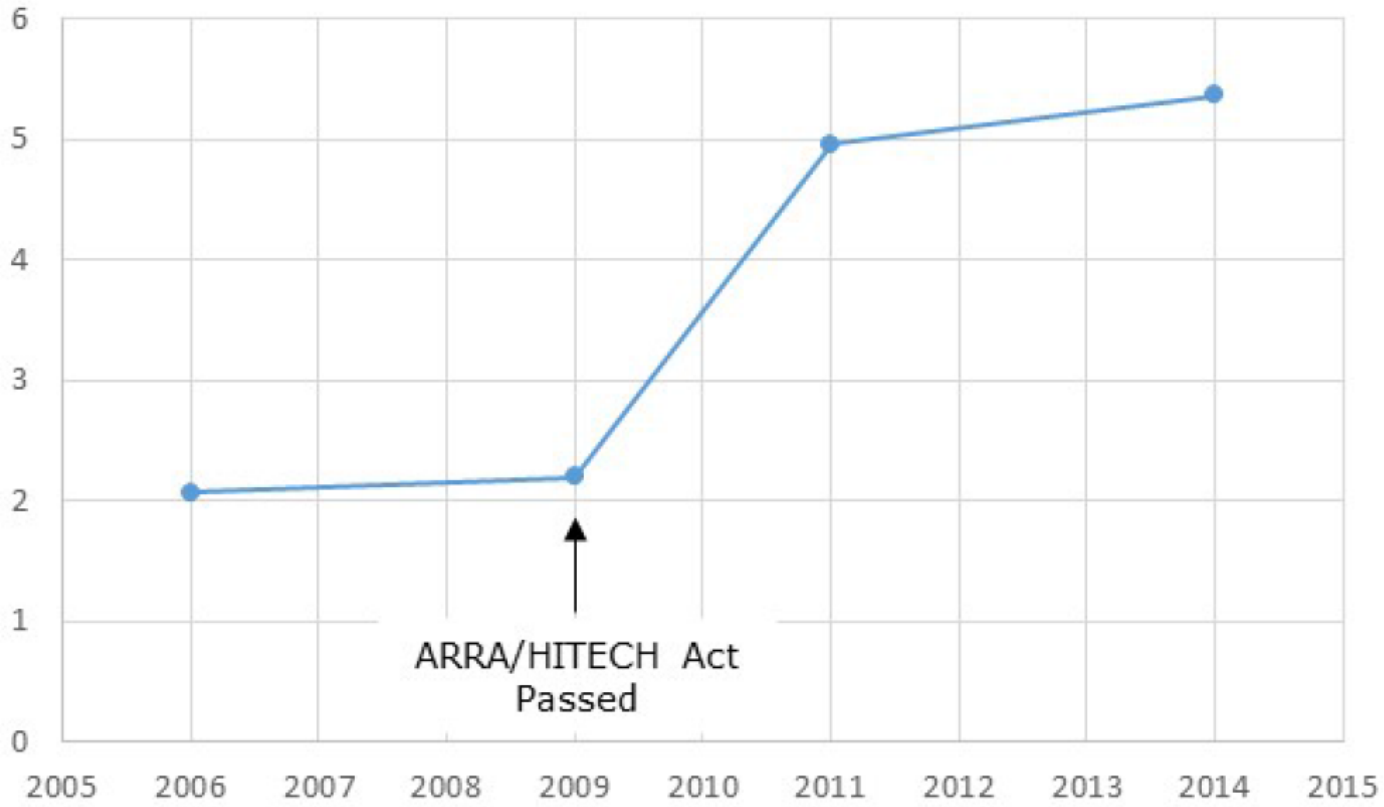
THE ROLE OF IT IN THE GENESIS OF ERROR

While our capacity to design safe interactions with clinical IT is still rudimentary, we do know enough about error, cognition and technology to identify a number of research priorities. For example, disruptions to memory, cognitive overload and cognitive biases can all in different ways impair our interaction with this technology. Other major sources of disruption include both IT systems that are not designed to reflect the cognitive processes underpinning clinical work, as well as the resulting workarounds that arise as humans try to circumvent the limitations of IT.

Multitasking, interruption and cognitive load

Adverse events can occur when the available *cognitive resources* such as memory are insufficient for the task at hand. This may occur because our attention is divided among a number of tasks. If a clinician is distracted or interrupted with a new task, or is multitasking, then memory processes can be disrupted by this excessive cognitive load and lead to errors in task execution.[10] For example, after being interrupted while creating a medication order in an electronic

Figure 1. Number of Peer-Reviewed Publications on Health IT Safety per Month, as Identified in Four Systematic Reviews



Approaches to health IT safety

Singh, Hardeep, David C. Classen, and Dean F. Sittig. “Creating an Oversight Infrastructure for Electronic Health Record-Related Patient Safety Hazards.” *Journal of Patient Safety* 7 (2011): 172.

Institute of Medicine, Committee on Patient Safety and Health Information Technology. *Health IT and Patient Safety: Building Safer Systems for Better Care*. Washington, DC: National Academies Press, 2011,

Jones, Spencer S., et al. *Guide to Reducing Unintended Consequences of Electronic Health Records*. Prepared by Rand Corporation. Rockville, MD: Agency for Healthcare Research and Quality (AHRQ), August 2011.

QQUIP Quest for Quality and Improved Performance

Costs and benefits of health information technology: an updated systematic review

Paul G Shekelle, Caroline L Goldzweig

Southern California Evidence-based Practice Centre

RAND Corporation

The Health Foundation

- choose a system that is intuitive to use and that requires little training for users

- choose a system that can be modified and developed easily

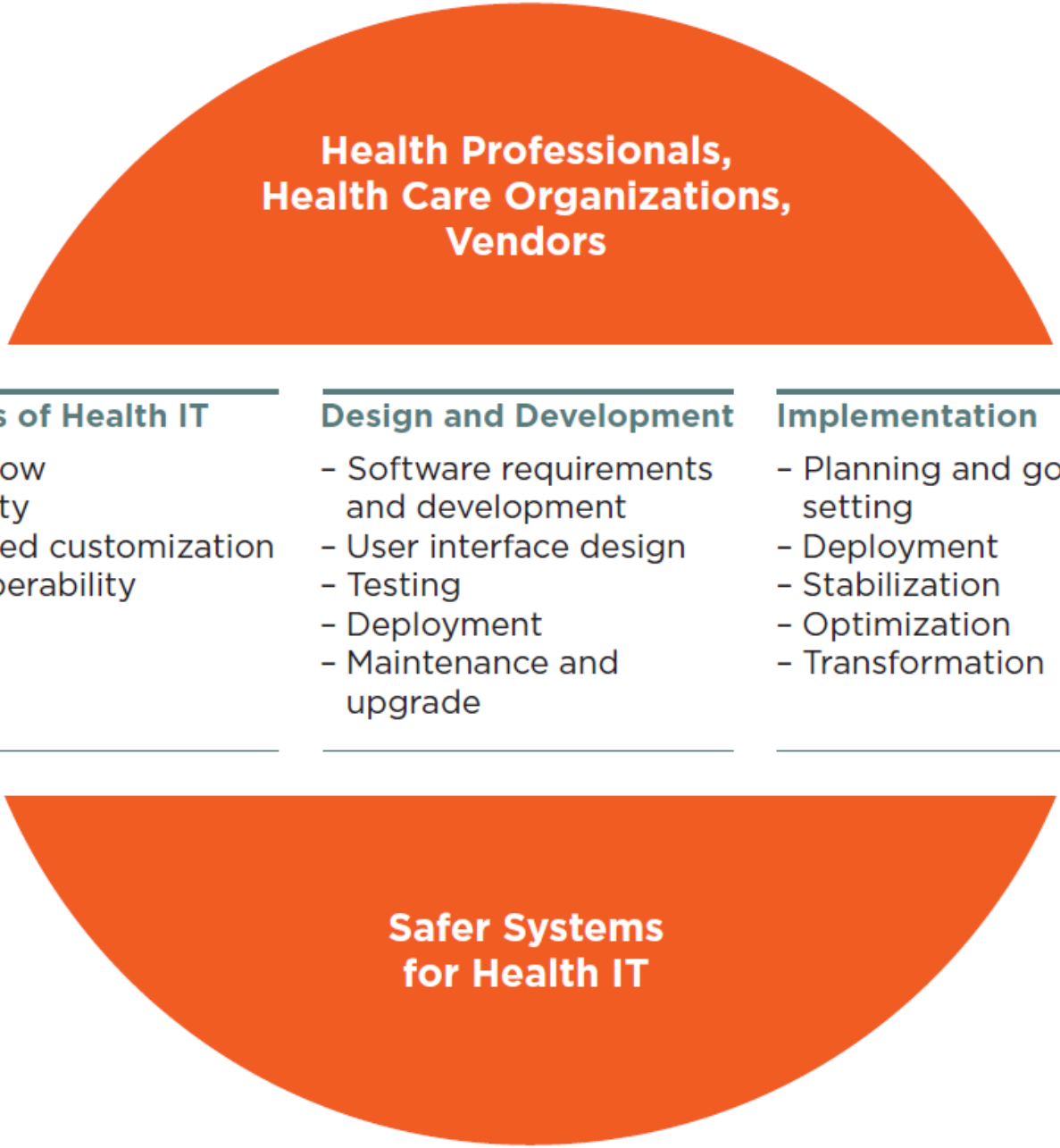
- ensure that the decision-making process for developing or selecting a system is participatory, but once this decision has been taken ensure that implementation is directed and driven.

These findings need to be tested in other settings to understand the degree to which they are generalisable.

FEATURES OF SAFE HEALTH IT

Technology does not exist in isolation from its operator. As such, the design and use of health IT are interdependent. The design and development of products affects their safe performance and the extent to which clinician users will accept or reject the technology. To the end user, a safely functioning health IT product is one that includes

- Easy retrieval of accurate, timely, and reliable native and imported data;
- A system the user wants to interact with;
- Simple and intuitive data displays;
- Easy navigation;
- Evidence at the point of care to aid decision making;
- Enhancements to workflow, automating mundane tasks, and streamlining work, never increasing physical or cognitive workload;
- Easy transfer of information to and from other organizations and providers; and
- No unanticipated downtime.


Health Professionals,
Health Care Organizations,
Vendors
Features of Health IT
- Workflow
- Usability
- Balanced customization
- Interoperability
Design and Development
- Software requirements and development
- User interface design
- Testing
- Deployment
- Maintenance and upgrade
Implementation
- Planning and goal setting
- Deployment
- Stabilization
- Optimization
- Transformation
Safer Systems
for Health IT

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A personally controlled eHealth Record (PCEHR) is a secure online summary of your health information.

You control what goes into it, and who is allowed to access it. Your eHealth record allows you and your doctors, hospitals and other healthcare providers to view and share your health information to provide you with the best possible care.

Want to know more? Visit our frequently asked questions, find out about privacy and security or learn more about the recent budget announcement.

What's new

- Latest statistics on the PCEHR
- Trial sites selection process
- Public submissions to the Electronic Health Records and Healthcare Identifiers: Legislation Consultation

Get your personal eHealth record now

Register

Register yourself or register your children for an eHealth record.

Setup online access

If you have an IVC or if this is the first time you have accessed your eHealth record.

Login

Or login if you have previously accessed your eHealth record.

Note: to access the eHealth record system please ensure you have a supported web browser (see Compatible browsers).

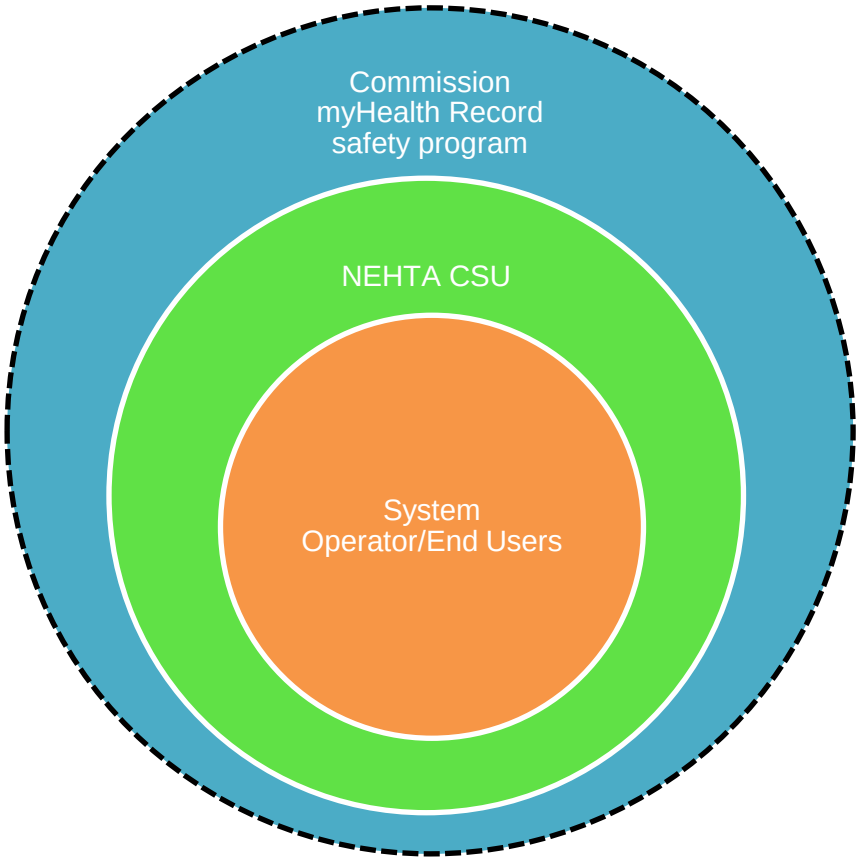
For Individuals

- Register my child
- Take control of my existing eHealth Record
- Add me to a child's eHealth Record

For Healthcare Providers

- Register my Healthcare Provider Organisation
- Register as a Contracted Service Provider
- Assisting individuals to register

Clinical safety layers: myHealth Record

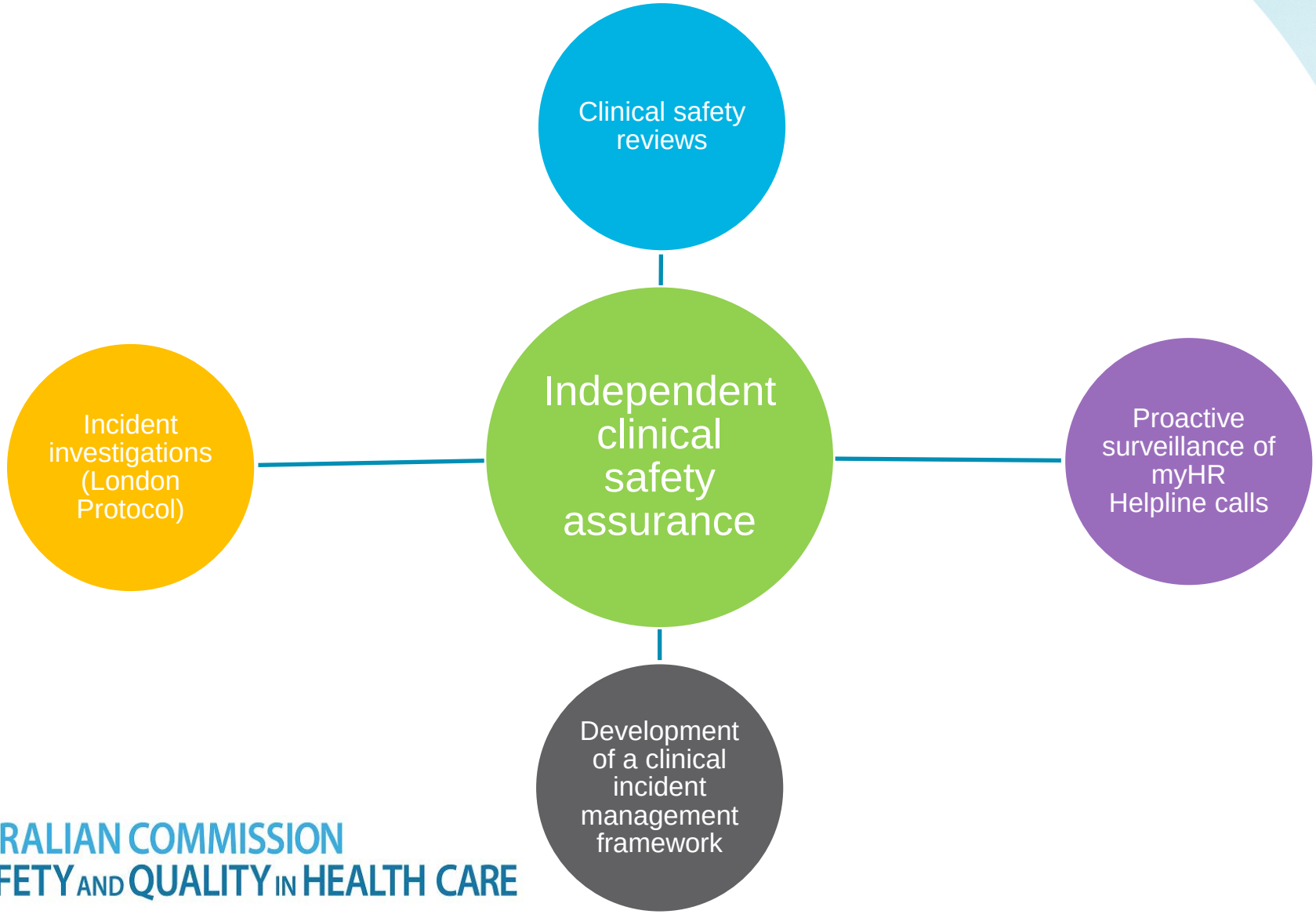


System Operator/End Users - day to day monitoring and reporting of potential or actual clinical safety issues

NEHTA CSU – expert advisors to the System Operator and users on clinical safety issue mitigation and resolution

Commission – independent oversight and ability to provide expertise and support to the SO and NEHTA on clinical safety issues when requested.

Commission clinical safety program



Clinical safety reviews

Supports early identification of potential clinical safety risk areas and to recommend enhancements to guard against these risks.

5 reviews completed since July 2012, with a sixth submitted

http://www.safetyandquality.gov.au/our-work/safety-in-e-health/

Incident management & clinical governance	myHR content	Continuous assessment
• Clinical safety management tools	• Medications • Discharge summaries • Shared health summaries • Event summaries	• Acceptance and implementation of previous recommendations

Clinical safety review 1 (2012)

An initial review of clinical safety processes by the Commission found a number of issues including the use of risk registers, clinical safety assessment processes, documentation and roles and responsibilities in relation to the PCEHR, and resulted in nine recommendations made.

The recommendations were grouped into the following categories:

- clinical safety management tools
- risk registers
- clinical safety management processes in the PCEHR system
- inter-agency clinical safety management processes.

The purpose of the first PCEHR clinical safety review was to **examine the progress made on the nine Report recommendations**. In addition, a review and assessment of the clinical incident management process for the PCEHR was conducted.

16 recommendations were made on improving structures and processes.

Clinical safety review 2 (2013)

The Second Review included a **document review** of policies, processes and supporting tools and templates.

Recommendations (12) included:

- Improving the inter-rater reliability of classification of clinical risk
- Shared risk register
- Creation of a test environment – simulation and training
- Revise the incident management and response plan
- Establish a clinical safety officers working group
- Development of a Clinical Utility Program with “A single clinical sign-off process is being developed that includes consideration of clinical safety, clinical functional assurance and adoption, benefits and change”
- Revise the HELPLINE scripts to identify and escalate clinical risks and incidents
- Information packs and inter agency scenario testing for clinical incident management, and a structured clinical incident reporting template.

Clinical safety review 3 (2013)

1: A review of a sample of de-identified PCEHR records (112)

2: An investigation of the National Prescription and Dispense Repository (NPDR) included data analysis, an online survey for Pharmacists (with 12 responses), site visits to general practices and pharmacies (six site visits) and consultation with key stakeholders.

3: To review and develop **incident identification, selection and review processes** for the Clinical Governance Advisory Group, with scenario planning and mapping for incident review and reporting

Recommendations (15) included improving the attribution of identifiers to records, and improved onscreen presentation of PCEHR artefacts in clinical systems, especially medications. Further work on incident management was recommended, including better incident notification mechanisms.

Clinical safety review 4 (2014)

An end-to-end investigation of **discharge summaries** included data analysis, site visits to three hospitals (across three jurisdictions) site visits to two general practices (in two jurisdictions).

A review of a sample of 102 de-identified PCEHR records, and

An evaluation of the implementation status of the recommendations made in the first three PCEHR clinical safety review reports.

Recommendations (6) included:

- **Standard presentation of discharge summaries**
- Structured **dosing directions for high risk medicines**
- Optimal **presentation** of **pathology and diagnostic imaging** results
- Ongoing refinement of the continuous quality improvement processes

Clinical safety review 5 (2014)

End-to-end analysis on the accuracy and data quality of **Shared Health Summaries** provided to myHR.

Review the rigour and consistency of applying **best practice clinical safety principles in the design and build** of new functional aspects for the myHR system (Release 5).

Report on the **usability** of a sample of **Shared Health Summaries** (from the perspective of GPs, community pharmacists and “high pressure” users like emergency departments)

Analyse and report on the current use of Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Schedule (PBS) administrative data

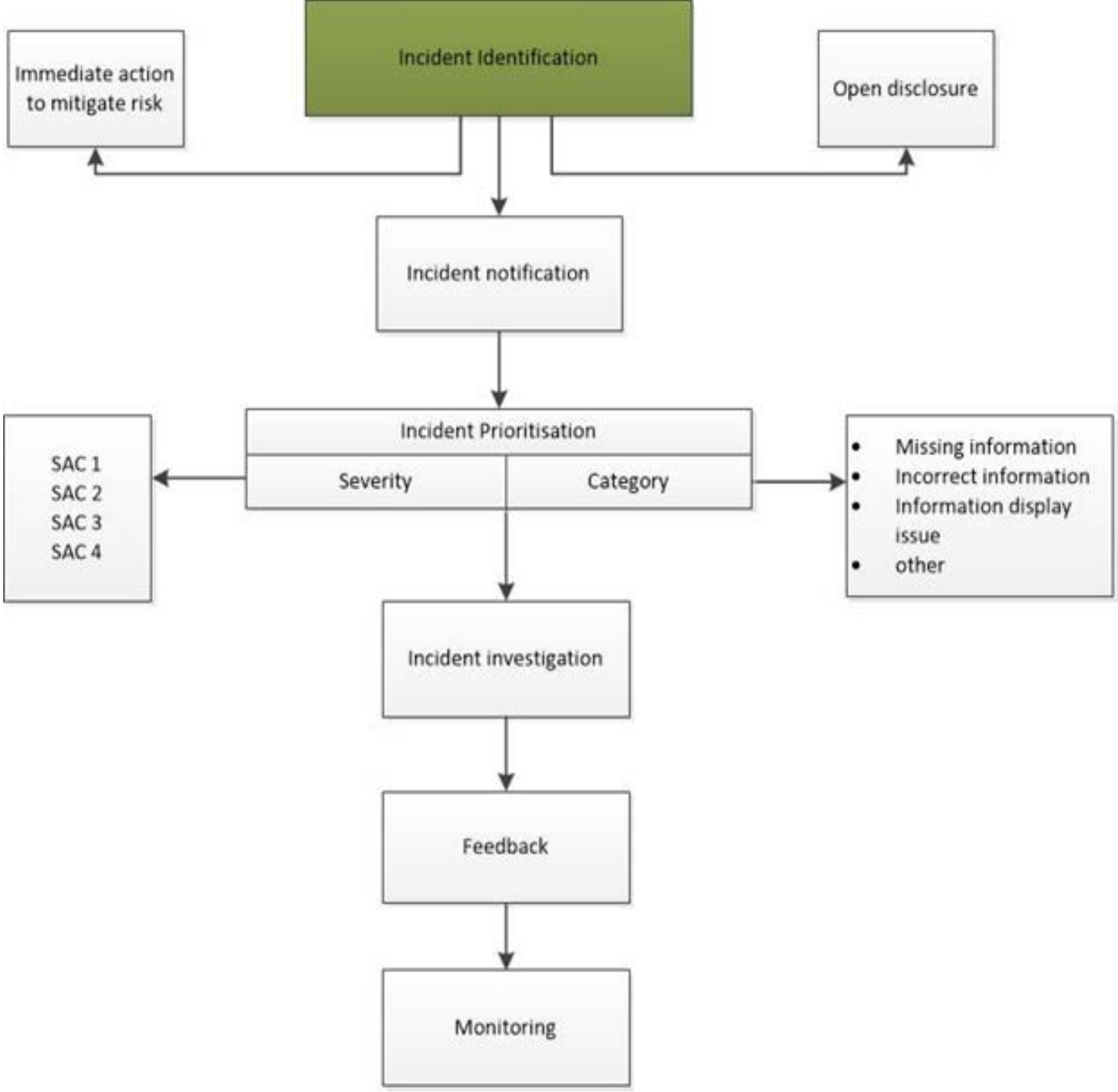
Review of a sample (approximately 500) de-identified myHR records for general **data quality and consistency**.

Clinical safety review 6 (2015)

Review of the identity management processes underpinning the PCEHR System, focusing on Individual Healthcare Identifiers

End-to-end review of **Event Summaries**, including usability.

Clinical incident management


Incident Identification
Immediate action to mitigate risk
Open disclosure
Incident notification
Incident Prioritisation
Severity
Category
SAC 1
SAC 2
SAC 3
SAC 4
Missing information
Incorrect information
Information display issue
other
Incident investigation
Feedback
Monitoring

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- Home
- High Priority Practices
- Organizational Responsibilities
- Contingency Planning
- System Configuration
- System Interfaces
- Patient Identification
- Computerized Provider Order Entry with Decision Support
- Test Results Reporting and Follow-Up

SAFER Guides

Safety Tips

Organizational Responsibilities

The highest-level decision makers (e.g., boards of directors or owners of physician practices) are committed to promoting a culture of safety that incorporates the safety and safe use of EHRs.

High Priority Practices

Clinicians are able to override computer-generated clinical interventions when they deem necessary.

ONC SAFER guides

1. High Priority Practices
2. Organizational Responsibilities
3. Contingency Planning (Downtimes)
4. System Configuration
5. System Interfaces
6. Patient Identification
7. Computerized Provider Order Entry with Decision Support
8. Test Results Reporting and Follow-up
9. Clinician Communication

Singh et al. BMC Med Inform DecisMak. 2013 Apr 12;13:46.20

PCEHR safety guidance – myHR safe use guides

- The Commission is developing guides for clinicians and consumers to promote the clinically safe use of the myHR system.
- Guides to be based on US *Safer Guides*, tailored to myHR context.

SAFER Safety Assurance Factors for EHR Resilience

Table of Contents | About the Checklist | Team Worksheet | About the Practice Worksheets | Practice Worksheets

Self Assessment

High Priority Practices

General Instructions for the SAFER Self Assessment Guides

The SAFER Guides are designed to help healthcare organizations conduct self-assessments to optimize the safety and safe use of electronic health records (EHRs) in the following areas.

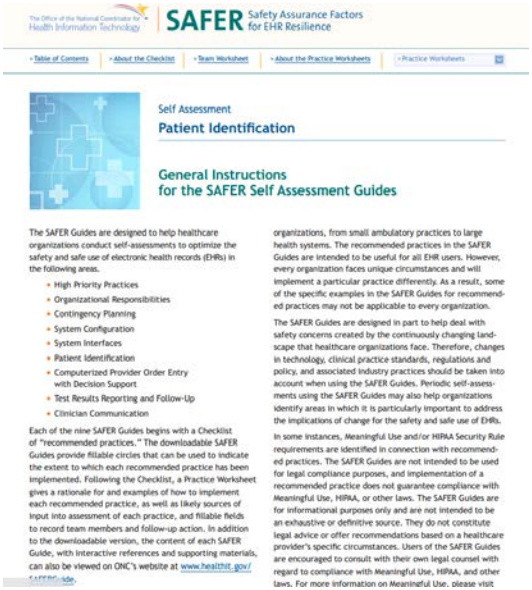
- High Priority Practices
- Organizational Responsibilities
- Contingency Planning
- System Configuration
- System Interfaces
- Patient Identification
- Computerized Provider Order Entry with Decision Support
- Test Results Reporting and Follow-Up
- Clinician Communication

Each of the nine SAFER Guides begins with a Checklist of "recommended practices." The downloadable SAFER Guides provide fillable circles that can be used to indicate the extent to which each recommended practice has been implemented. Following the Checklist, a Practice Worksheet gives a rationale for and examples of how to implement each recommended practice, as well as likely sources of input into assessment of each practice, and fillable fields to record team members and follow-up action. In addition to the downloadable version, the content of each SAFER Guide, with interactive references and supporting materials, can also be viewed on ONC's website at www.healthit.gov/SAFERGuide.

The SAFER Guides are based on the best evidence available at this time (2013), including a literature review, expert opinion, and field testing at a wide range of healthcare organizations, from small ambulatory practices to large health systems. The recommended practices in the SAFER Guides are intended to be useful for all EHR users. However, every organization faces unique circumstances and will implement a particular practice differently. As a result, some of the specific examples in the SAFER Guides for recommended practices may not be applicable to every organization.

The SAFER Guides are designed in part to help deal with safety concerns created by the continuously changing landscape that healthcare organizations face. Therefore, changes in technology, clinical practice standards, regulations and policy, and associated industry practices should be taken into account when using the SAFER Guides. Periodic self-assessments using the SAFER Guides may also help organizations identify areas in which it is particularly important to address the implications of change for the safety and safe use of EHRs.

In some instances, Meaningful Use and/or HIPAA Security Rule requirements are identified in connection with recommended practices. The SAFER Guides are not intended to be used for legal compliance purposes, and implementation of a recommended practice does not guarantee compliance with Meaningful Use, HIPAA, or other laws. The SAFER Guides are for informational purposes only and are not intended to be an exhaustive or definitive source. They do not constitute legal advice or offer recommendations based on a healthcare provider's specific circumstances. Users of the SAFER Guides are encouraged to consult with their own legal counsel with regard to compliance with Meaningful Use, HIPAA, and other laws. For more information on Meaningful Use, please visit the Centers for Medicare & Medicaid Services website at www.cms.gov. For more information on HIPAA, please visit the HHS Office for Civil Rights website at www.hhs.gov/ocr.



SAFER Safety Assurance Factors for EHR Resilience

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Patient Identification

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- The guides aim to support surveillance for known health IT safety risks, with checklists of potential actions clinicians and users can undertake to guard against these risks

Many thanks to

Prashan Malalasekera

Dr Berni Eather