WORKSHOP REPORT

'Developing a research framework and agenda for clinical handover'

Centre for Research Excellence in Patient Safety, Monash University
and
The Australian Commission for Safety and Quality in Health Care

Saturday, 24th February, 2007
Mercure Hotel, Brisbane, QLD

EXECUTIVE SUMMARY **2**
INTRODUCTION **2**
WORKSHOP OBJECTIVES **3**
A DEFINITION FOR HANDOVER **3**
A FRAMEWORK FOR HANDOVER **4**
AN AGENDA FOR RESEARCH **6**
POLICY 6
PRACTICE 6
EVALUATION 7
CLOSING SUMMARY **8**
THE WAY FORWARD **9**
REFERENCES **10**
APPENDIX A: SEMINAR PROGRAMME 11
APPENDIX B: WORKSHOP PROGRAMME 13
APPENDIX C: WORKSHOP PARTICIPANTS 14

Executive Summary

The NHMRC Centre of Research Excellence in Patient Safety (CRE-PS), supported by the Australian Commission on Safety and Quality in Healthcare, held a clinical handover workshop in Brisbane on Saturday 24th February 2007.

By engaging with key stakeholders, CRE-PS intended the workshop to be a forum from which a research framework and agenda for national and international audiences could be developed.

This framework for handover research formed the key outcome of the workshop and is integral in guiding future research into how best to address gaps in knowledge surrounding the process of clinical handover. It will, subsequently, contribute to enhanced patient safety through improving, modifying and reducing reliance on handover.

Four presentations by CRE-PS and Commission members helped both to set the scene and encourage debate and discussion during the workshop proceedings:

- Overview of past national and international workshops (Bryce Cassin)
- Introducing a proposed framework and gaps in knowledge (Dr Sue Evans)
- Exploring the concept of resilience within handover (Dr Shelly Jeffcott)
- Describing the challenges of handover research (Dr Georgiana Chin)

The main discussion in the workshop centred on ratifying a definition and framework for handover. Key concepts from the framework then became the focus of brainstorming sessions.

The workshop group was broken down into three smaller teams, each with a CRE-PS representative, who reported back to the larger group with the most pertinent of a range of generated research questions around these nine core concepts. Discussion and debate was encouraged throughout by the workshop facilitator, Professor Joseph Ibrahim.

Introduction

The workshop was preceded by a day-long seminar where a range of experts made presentations which discussed the complexity behind handover and the feasibility of a variety of potential solutions (both system and technology based).

There were also some speakers who presented useful examples of specific (mainly acute health sector) initiatives implemented to help alleviate the problem of handover, at a local level. Thus, the seminar provided a backdrop to in-depth discussion which took place on the Saturday, with invited participants.

Appendix A contains full details of the Seminar Programme. Approximately 240 participants attended from Australia and internationally (2 from NZ). Appendices B and C contain programme and participant information (n~25) for the workshop.

Workshop Objectives

The workshop began when the faciltator asked participants what they hoped to achieve in the half day of discussion. Four main aims were raised:

1. To find an agreed definition of handover
2. To define a national strategy, relevant to the frontline
    a. Underpinned by a conceptual model or framework
    b. Leading to 10 to 20 research questions (requiring prioritisation)
3. To establish collaborations for undertaking achievable research projects
4. To share knowledge on potential assessment tools appropriate to handover

This ambitious list was refined to focus on points one and two, centring particularly on the latter (i.e. 2a and 2b) model and framework building. Up to now, research in Australia surrounding clinical handover has been largely ad hoc and atheoretical which has meant that results have been hard to generalise.

CRE-PS presented a framework to provide the structure for examining the problem of handover and serve as a guide to examining both the important variables that exist and the relationships between those variables. It was intended to guide a systematic research agenda in handover, determining which concepts are important to investigate and in what priority.

A Definition for Handover

A refinement of the recent definition of clinical handover, presented in the 2006 Australian Medical Association (AMA) booklet[1] *Safer Handover: Safer Patients*, was proposed to the group. This definition describes clinical handover as:

'the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.'

This is in contrast to previous definitions that had discussed information transfer without notions of responsibility and accountability. It was felt that both information transfer and responsibility/accountability transfer should be included in any comprehensive definition of clinical handover.

In addition, the wider system, that is, the contextual or structural shapers of cognition and behaviour (e.g. risk management policy, pre-existing organisational sub-cultures, structural/political factors), should be incorporated in the definition.

The majority of workshop participants agreed on the addition of the extra concepts, particularly acknowledging the importance of a difference between the concepts of responsibility and accountability. There was discussion around the

need to establish a consensus as to their meanings and key distinctions.

For instance, accountability was regarded as something that cannot be delegated, i.e. you are accountable *to* something/someone outside of yourself (e.g. policy and procedures). Responsibility is then something that you may be able to delegate and so varies more between individuals who will inevitably feel different levels of responsibility *for* their own conduct/actions.

The explicit addition of a reference to 'teams' was also mooted for future definitions of handover. This would differentiate between individual and team responsibilities/accountabilities and so assist in better reflecting the hierarchy of professional accountability within healthcare systems. Teamwork is an important pre-determinant of successful handover and is influenced by many complex, system-based factors.

One participant reminded us all that handover is a strategy to achieve an objective, i.e. to provide the necessary information to enable safe patient care. As such, there is a need to remain mindful that clinical handover is about more than just the acts of transfer; although, of course, the success of these transfers is crucial to the success of the end objective (e.g. patient safety).

A Framework for Handover

A number of frameworks with potential application to the area of clinical handover were explored, prior to the workshop (see: Figure 1). Many of these were created specifically to explore safety and quality in healthcare and have been applied, successfully, to particular problem areas; but never to clinical handover.

Source	**Variables**
Agency for Healthcare Research and Quality (AHRQ)	Effectiveness, Patient safety, Timeliness, Patient Centredness[2]
Australian Council on Healthcare Standards (ACHS)	Clinical function, Support function, Corporate function[3]
World Health Organisation (WHO)	Stewardship, financing, creating and sustaining resources and producing and using research[4]
Donabedian	Structure, Process, Outcome[5]
Normative Primary Healthcare	Goals and values, planning and development, core functions, approaches, capacity, outcomes and indicators[6]

Figure 1: Potential frameworks for application to clinical handover

After this initial literature review and a series of consultation sessions with an expert group from within the CRE-PS team, a framework was proposed. It combined the Donabedian model for evaluating quality and a normative model, previously applied to primary healthcare. This mixture appears to be well-suited to the context of clinical handover and the key issues, therein (see: Figure 2).

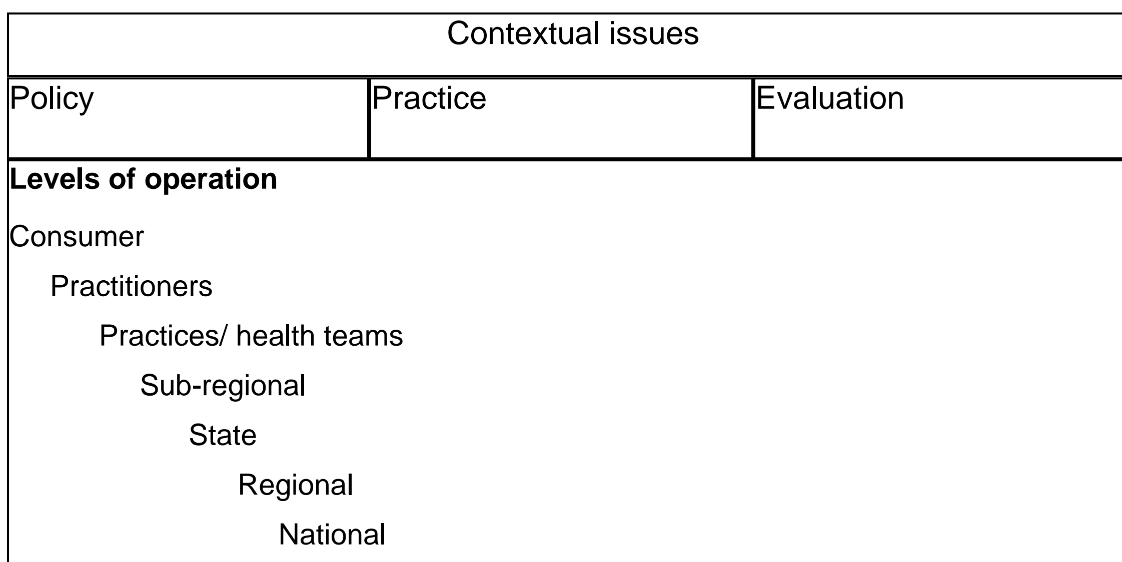

Figure 2: Preferred framework for clinical handover research (as adapted from Donabedian and the Normative Primary Healthcare Models)

Importantly, the respective concepts of structure, process and outcome were replaced by policy, practice and evaluation, within the overall context or system of care. Levels of operation are also included since we wish to depart from the hospital-centric perspective of prior research. Some participants felt that policy would be better placed within the overarching 'context' box within the model, although the majority were happy with the present model. It will be used as an underpinning framework for the discovery and organisation of a future research.

In essence, the three domains that came out of the re-worked AMA definition were: 'information', 'responsibility/accountability' and 'system.' These were then interlaced with the proposed adapted handover framework (Figure 2) and lead us to a 3x3 matrix from which to create/structure pertinent research questions:

	Policy	*Practice*	*Evaluation*
Information	RESEARCH QUESTIONS…		
Responsibility/ Accountability			
System			

Figure 3: 3 x 3 matrix from which participants developed research questions

An Agenda for Research

The bulk of the workshop was spent brainstorming research questions that fit within the 9 different grids (see: Figure 3). These are reported, in turn, below:

Policy

Information

1. To determine whether policy regarding information transfer will influence practice in clinical handover

2. To determine whether standardization of methods of information transfer will influence practice in clinical handover

3. To determine whether a minimum dataset for information transfer will influence practice in clinical handover

4. To determine whether the use of ICT to link information will influence practice in clinical handover

Responsibility/Accountability

5. To determine an appropriate system of responsibility and accountability for clinical handover

6. To determine clinician's understanding of their responsibility and accountability for clinical handover

System

7. To determine the most effective method of inter-disciplinary team training to influence practice in clinical handover

8. To determine an appropriate system of escalation for clinical handover

9. To determine and standardize the competencies required for clinical handover within existing credentialing systems

10. To determine and describe the role of clinical handover within wider processes of patient care

Practice

Information

11. To determine the clinical skills and judgments necessary for effective information transfer in clinical handover

12. To determine the impact of existing tools for standardizing information transfer on clinical handover practice

13. To determine the ideal organizational conditions to optimize clinical handover practice

14. To determine, classify and compare current types of clinical handover practice across different clinical settings

15. To determine the ideal characteristics of clinical handover for different clinical settings

Responsibility/Accountability

16. To determine the current practice of assigning responsibility and accountability within clinical handover and its impact on patient care

17. To determine the factors which facilitate or impair the implementation of an appropriate system of responsibility and accountability within and for clinical handover

18. To determine how organizational conditions impact on clinician’s responses to systems of responsibility and accountability

System

19. To determine how cultural differences within clinical settings impact on clinical handover practice

20. To determine, classify and compare current clinical handover practice at jurisdictional and national levels

21. To determine how cultural factors, at an organizational, team and individual level, impact on the practice and effectiveness of clinical handover

Evaluation

Information

22. To determine the most appropriate process and outcome measures for use in the evaluation of clinical handover across clinical settings

23. To determine whether the rates of adverse events are an appropriate measure for evaluating the safety and efficacy of clinical handover

24. To determine whether simulation training can assist in the evaluation of clinical handover

Responsibility/Accountability

25. To evaluate whether systems of accountability and responsibility within clinical handover are consistent and transparent across environmental and professional interfaces of care

26. To determine how clinician's responses to systems of responsibility and accountability impact on clinical handover

System

27. To determine how change in clinical handover practice impacts upon quality of care

28. To determine whether improvements in clinical handover practice translate into better patient outcomes

Closing Summary

In summary, the policy section asks how we can coordinate the creation and regulation, across units and jurisdictions, of:

- Standards for care
- Standards for information transfer
- Standards for responsibility/accountability, and,
- Standards for information systems

In summary, the practice section asks how we can determine:

- The most appropriate information
- The most appropriate format
- The most appropriate system of accountability
- The most appropriate individual and team competencies

In summary, the evaluation section asks how we can assess:

- What is a good handover / good team
- How do we best measure these (processes vs. outcomes)
- If simulation is a useful research tool, and,
- Can improvements be linked to better patient care

The Way Forward

Lack of a systematic approach to clinical handover remains a major barrier to improving practice, reducing patient harm and ensuring safe care.

The workshop succeeded in ratifying a research framework. The framework articulates a proposed national approach to identifying the gaps in our knowledge, in the form of a list of research questions within our 3x3 matrix of key variables for handover. In order to best fill these gaps, the research questions now need to be subjected to an explicit scoring system in order to ensure that research is prioritised according to impact (physical, emotional and financial) and research feasibility.

We propose to further develop, prioritise and ratify research questions with workshop participants.[7] Details of how, and over what time frame, this will be operationalised will be determined by the CRE-PS team.

References

1. Australian Medical Association. Safe Handover: Safe Patients. Kingston, ACT; 2006.
2. Hurato M, Swift E, Corrigan JE. Conceptual framework for organizing evidence on quality outcome measures. Envisioning the National Health Care Quality Report. Washington, DC: National Academy Press; 2001.
3. Australian Council for Healthcare Standards. EQuIP 4 functions, standards and criteria; 2007 (19 February).
4. Pang T, Sadana R, Hanney S, Bhutta ZA, Hyder AA, Simon J. Knowledge for better health - a conceptual framework and foundation for health research systems. Bull World Health Organ 2003; 81(11): 815-20.
5. Donabedian A. The quality of care - how can it be assessed? JAMA 1998; 260: 1743-8.
6. Davies GP HW, McDonald J, Furler J, Harris E, Harris. . Developments in Australian general practice 2000–2002: what did these contribute to a well functioning and comprehensive Primary Health Care System? Aust NZ Health Policy 2006; 3(1).
7. Elwyn G, O'Connor A, Stacey D. et al. Developing a quality criteria framework for patient decision aids: online international Delphi consensus process. BMJ 2006; 333(7565): 417.

Appendix A: Seminar Programme

Clinical Handover Seminar
Friday 23rd February 2007
Mercure Hotel, Brisbane

PROGRAM

08:30 Registration

09:00 Dr John Wakefield: Queensland Health: Opening address.
09:10 Associate Professor Ian Scott: Setting the scene- do we need handover?
09:30 Ms Karen Gibson: Improving transition from hospital to community: handing over key clinical facts.
09:50 Professor Peter Cameron: What is handover? What are the real issues?

10:00 Morning tea

Session 1: Health system approach Facilitator: Professor Peter Cameron

10:30 Dr John Wakefield: Queensland's initiatives to improve clinical handover.
10:50 Dr Annie Moulden: Victoria's initiatives to improve clinical handover.
11:10 Dr Annette Pantle: New South Wales' initiatives to improve handover.
11:30 Dr Christine Jorm: Australian Commission on Safety and Quality in Healthcare – building handover tools and knowledge with the WHO Patient Safety Alliance.
11:50 Questions to Health System speakers.

12:05 Lunch

Session 2: Health services approach Facilitator: Dr John Wakefield

13:00 Professor David Watters: Using IT to assist in handover.
13:30 Ms Linda Hardy: Improving handover using a multi-pronged approach.
14:00 Dr Kim Hill: Enhancing clinical communication between clinicians.
14:30 Ms Jenny Rodwell: Improving patient safety and consumer engagement through a new clinical handover procedure.
15:00 Afternoon tea

Session 3: Future directions Facilitator: Professor Joe Ibrahim

15:30 Ms Jennie McKay: Streamlining medication management into the community.
16:00 Professor Penny Sanderson: Designing practical systems to improve information transfer.
16:20 Panel discussion: Moving beyond projects- sustaining and spreading achievements. Do we know enough to make significant change?

16:45 Close.

SPEAKER DETAILS

Dr John Wakefield: Senior Director, Queensland Health Patient Safety Centre.

Associate Professor Ian Scott: Director, Internal Medicine; Director, Clinical Services Evaluation Unit Princess Alexandra Hospital; and

Associate Professor of Medicine, University of Queensland.

Ms Karen Gibson: General Manager, Project Coordination National E-Health Transition Authority (NEHTA).

Professor Peter Cameron: Director, NHMRC CRE in Patient Safety; Emergency Physician, Alfred Trauma Centre; Head, Victorian State Trauma Registry.

Dr Christine Jorm: Senior Medical Advisor, Australian Commission on Safety and Quality in Health Care.

Dr Annie Moulden: Paediatrician and Director, Quality and Safety, Royal Children's Hospital, Melbourne; Clinical champion, Victorian Quality Council Clinical Handover project.

Professor Joseph Ibrahim: Associate Director, NHMRC CRE in Patient Safety; Foundation Professor and Director, Aged Care Medicine, Peninsula Health; Clinical Liaison Officer, State Coroners Office and Victorian Institute for Forensic Medicine.

Dr Annette Pantle: Director, Clinical Practice Improvement, Clinical Excellence Commission, NSW.

Professor David Watters: Professor of Surgery, University of Melbourne; Director of Surgery, Barwon Health.

Professor Penny Sanderson: Professor of Cognitive Engineering and Human Factors, The University of Queensland.

Ms Linda Hardy: Nursing Director, Medical Business Unit, Ipswich Hospital.

Dr Kim Hill: Director, Clinical Governance, Hunter New England Health, NSW.

Ms Jenny Rodwell: A/Quality Risk Manager, Coffs Harbour Base Hospital, NSW.

Ms Jennie McKay: Senior Clinical Pharamcist, electronic Liaison Medication System (eLMS), Safe Medication Practice Unit, Queensland Health.

Appendix B: Workshop Programme

Clinical Handover Workshop
Saturday 24th February 2007
Mercure Hotel, Brisbane

WORKSHOP OUTLINE

TIME	CONTENT	FACILITATOR/SPEAKER
08:30	Registration (with coffee/pastries)	
08:45	Welcome Introduction / Objectives of workshop Handovers and patient deaths: What's the evidence of a problem?	Dr Christine Jorm Prof Joe Ibrahim Prof Joe Ibrahim
09:05	What would happen if there was no handover today, tomorrow, next week?	Prof Joe Ibrahim
09:20	Background National & State Initiatives ASQHC workshop '05, ARCHI Seminar '04, VQC workshop '06, WHO '07	Dr Christine Jorm & Bryce Cassin
09:30	Current gaps in knowledge (10 mins) What are the key issues? (from delegates) Which are the most important for research? (from delegates)	Dr Sue Evans & Prof Joe Ibrahim
10:00	Delegates review ACSQHC workshop themes: are they still relevant?	Prof Joe Ibrahim & Dr Sue Evans
10:20	**MORNING TEA**	
10:35	Developing the research framework - key principles (from delegates)	Prof Peter Cameron
11:05	Exploring New Ideas Resilience through handover - Dr. Shelly Jeffcott (10 mins)	Dr Shelly Jeffcott & Prof Joe Ibrahim
11:35	Research methods Research challenges in clinical handover - Dr. Georgiana Chin (10mins)	Dr Georgiana Chin & Prof Joe Ibrahim
12:05	Developing specific research questions within the framework (the research agenda) - defining the research questions (from delegates)	Prof Joe Ibrahim
12:45	Next steps: research prioritisation	Prof Joe Ibrahim
12:55	Thanks and closing of workshop	Prof Peter Cameron

Appendix C: Workshop Participants

Associate Professor Robert Adams, Respiratory Consultant, SA Department of Health

Associate Professor Gillian Bishop, Director ICU, Campbelltown, Sydney, South West Area Health Service

Professor Peter Cameron, Director Centre of Research Excellence in Patient Safety, Monash University, Melbourne

Mr Bryce Cassin, Manager Clinical Safety and Quality Projects, Australian Commission on Safety and Quality in Health Care

Dr Georgiana Chin, PhD scholar, NHMRC CRE in Patient Safety

Dr Sue Evans Executive Officer /Senior Research Fellow, Centre of Research Excellence in Patient Safety

Dr Kim Hill, Director Clinical Governance, Hunter New England Health, NSW

Professor Joseph Ibrahim, Associate Director Centre of Research Excellence in Patient Safety

Dr Shelly Jeffcott, Senior Research Fellow, Centre of Research Excellence in Patient Safety

Dr Christine Jorm, Senior Medical Advisor, Australian Commission on Safety and Quality in Health

Dr Peter Lim, AMA representative, Australian Medical Association

Dr Roderick McRae, AMA representative, Australian Medical Association

Dr Annette Pantle Director, Clinical Practice Improvement Projects, Clinical Excellence Commission

Mrs Christy Pirone, Principal Consultant, Safety and Quality SA Department of Health

Dr Brian Richards, Principal Medical Advisor, Department of Health and Ageing

Professor Penny Sanderson, Professor of Cognitive Engineering and Human Factors, The University of Queensland

Associate Professor Ian Scott Director, Clinical Services Evaluation Unit Clinical Service Evaluation Unit, Princess Alexandra Hospital, Brisbane

Dr Duncan Stuart, Deputy Executive and Director of Medical Services, Royal Brisbane and Women's Hospital

Dr John Wakefield, Senior Director, QLD Health Patient Safety Centre

Dr Bernadette Watson, Lecturer, The University of Queensland, School of Psychology

Professor David Watters, Professor of Surgery, University of Melbourne

Ms Maureen Wilson, Manager, Victorian Quality Council

Miss Ming Chow Wong, PhD scholar, School of Information Systems, University of Tasmania

Dr Kwang Chien Yee, Medical Registrar, University of Tasmania, Faculty of Commerce