Interprofessional learning through simulation

Clinical handover: *the use of iSoBAR*

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Acknowledgements

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Foreword

Professor Cobie J. Rudd
Pro-Vice-Chancellor (Health Advancement), and National Teaching Fellow 2011-12,
Australian Government Office for Learning and Teaching
ECU

Australia's health workforce is facing unprecedented challenges. Supply won't meet demand, and the safety and quality of care remain key issues. The national health workforce agency, Health Workforce Australia (HWA), an initiative of the Council of Australian Governments (COAG), has been established to address the challenges of providing a workforce that meets the needs of our community – now and in the future.

Accordingly, ECU has set a priority on meeting these challenges, with a focus on the national health workforce reform agenda set out in the 2008 National Partnership Agreement (NPA) on Hospital and Health Workforce Reform.

In June 2010, ECU was awarded $4.6M from the Australian Government through a nationally competitive process under the ICTC Program, an initiative which aims to develop interprofessional learning and practice capabilities in the Australian health workforce.

The IpAC Program aims to complement traditional clinical placement activities with high quality interprofessional learning competency development and assessment, so that at the earliest point students gain exposure to best work practices within multidisciplinary teams that have the patient's individual needs as the focus.

Additionally, the IpAC Program has developed interprofessional learning resources and interprofessional health simulation challenges in collaboration with the ECU Health Simulation Centre. The ECU Health Simulation Centre is recognised internationally as a

specialist centre in providing human factors based sequential simulation programs using professional actors. Most simulated learning interactions revolve around a single moment, such as a patient's admission to the emergency department. What we provide at the ECU Health Simulation Centre is a sequential simulated learning event that follows the patient and carer's journey through the healthcare system, for example, from the accident site following a motor vehicle accident, to the emergency department, to a hospital ward, to their home and into the community for GP and allied health follow-up.

Human factors in health care are the non-technical factors that impact on patient care, including communication, teamwork and leadership. Awareness of and attention to the negative aspects of clinical human factors improves patient care.

ECU's involvement in national health workforce reform is all about playing a role that enables the health workforce to better respond to the evolving care needs of the Australian community in accordance with the NPA's agenda. The IpAC Program is an example of how we can work across sectors, nationally and internationally, to determine better ways of addressing the pressing issue of how best to prepare students for the workplace and thus assuring that health systems have safe, high quality health services.

Interprofessional Ambulatory Care Program

ECU's IpAC Program was established with support from the Australian Federal Government through funding from the ICTC Program. The IpAC Program aims to deliver a world-class interprofessional learning environment and community clinic that develops collaborative practice among health professionals and optimises chronic disease self-management for clients.

This is achieved through the provision of clinical placements within the multidisciplinary team at the IpAC Unit, a community clinic that develops communication and collaboration among health professionals and optimises chronic disease self-management for clients. Additionally, a range of clinical placements are offered at existing health facilities, where trained IpAC Program clinical supervisors provide clinical support and ensure the integration of interprofessional learning into each clinical placement.

The IpAC Unit, in collaboration with the ECU Health Simulation Centre, has developed a range of interprofessional learning through simulation resources. These learning resources are packages consisting of an audiovisual resource and a facilitator's manual, and aim to facilitate interprofessional learning and to support the participants in the development of interprofessional skills.

The interprofessional learning through simulation resources developed by the IpAC Program aim to provide health students and health professionals with the opportunity to learn with, from and about one another by engaging them in interactive live simulation events. These simulations encourage students and professionals to challenge themselves and each other in a safe learning environment.

ECU Health Simulation Centre

ECU houses the only fully functioning Health Simulation Centre of its kind in Western Australia, specifically designed and equipped to address the interprofessional learning needs of the health workforce and implementation of both state and national safety and quality frameworks.

The ECU Health Simulation Centre offers health workforce training and development specialising in clinical skills, human factors, and patient safety training for multidisciplinary health teams. Using a variety of educational techniques, including a broad range of simulation mannequins, professional actors and task trainers, ECU specialises in immersive simulation and observational learning. Supporting the ECU Health Simulation Centre are nursing, medical, paramedic and psychology academic and technical staff whose aim is to cultivate the development of competent and confident health professionals centred on enhancing patient safety.

Interprofessional learning

Interprofessional education occurs when two or more professions learn with, from and about each other in order to improve collaboration and quality of care (Centre for the Advancement of Interprofessional Education, 2002).

Interprofessional learning is the learning arising from interaction between students or members of two or more professions. This may be a product of interprofessional education or happen spontaneously in the workplace or in education settings (Freeth, Hammick, Reeves, Barr, & Koppel, 2005). It has been found that interprofessional education can improve collaborative practice, enhance delivery of services and have a positive impact on patient care (Canadian Interprofessional Health Collaborative (CIHC), 2008).

The World Health Organization (WHO) has recognised the importance of interprofessional education and collaborative practice in developing a health workforce that is able to meet the complex health challenges facing the world and assist in the achievement of the health-related Millennium Development Goals (World Health Organization, 2010). In developing its framework for action, the WHO have recognised that models of interprofessional collaboration are most effective when they consider the regional issues and priority areas (including areas of unmet need) in the local population (World Health Organization, 2010). In doing so, interprofessional education and collaborative practice can best maximise local health resources, reduce service duplication, advance coordinated and integrated patient care, ensure patient safety and increase health professional's job satisfaction (World Health Organization, 2010).

The end goal of interprofessional education is to create a health workforce with improved levels of teamwork, collaboration, knowledge-sharing and problem-solving, eventually leading to better patient and client outcomes in health settings (Braithwaite et al., 2007).

Interprofessional learning through simulation

Simulation in education refers to the re-creation of an event that is as closely linked to reality as possible. Gaba (2004) defined simulation as a technique, rather than a technology, to replace or amplify real life experiences with guided experiences often immersive in nature to evoke or replicate aspects of the real world, in a fully interactive pattern. Simulation provides a safe learning environment for students to practice, where they are free to make mistakes, correct them and improve the processes of care (Kenaszchuk, MacMillan, van Soeren, & Reeves, 2011). Simulation is the bridge between classroom learning and the real life clinical experience, allowing students to put theory into practice.

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Interprofessional learning through simulation combines the principles of interprofessional learning and the use of simulation as an educational methodology. Interprofessional learning through simulation provides students with the opportunity to practice working with other health professionals and allows participants to explore collaborative ways of improving communication aspects of clinical care (Kenaszchuk, et al., 2011).

Many of the interdisciplinary team core competencies, such as problem solving, respect, communication, shared knowledge and skills, patient-centred practice, and the ability to work collaboratively (Canadian Interprofessional Health Collaborative, 2010) can all be developed by interprofessional learning through simulation.

Teamwork and interprofessional practice and learning are being recognised as central to improving client care and outcomes and enhancing client safety (Sargent, 2008). Promoting patient safety through team efforts is one of the five core competencies identified by the Institute of Medicine (2003).

In today's healthcare setting, no one health professional can meet all of the client's needs and therefore a healthcare team approach is required. Interprofessional learning through simulation provides learning opportunities to prepare future healthcare professionals for the collaborative models of healthcare being developed internationally (Baker et al., 2008).

How to use this resource package

This interprofessional learning through simulation resource package has been designed to support the facilitation of interprofessional learning among students and practitioners with an interest in developing their skills and knowledge of interprofessional practice.

The package consists of two components: an audiovisual resource and a supporting manual. In order to optimise the learning opportunities from this package it is recommended that participants are firstly introduced to the concepts of interprofessional learning and human factors in health care.

The audiovisual resource consists of two scenarios, the first demonstrating sub-optimal performance of the healthcare team, with the second demonstrating more effective performance, improving the patient experience. The package has been created in a format

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to enable flexibility in its application depending of the educational setting. We recommend the following format:

1. Facilitator guided discussion around the concepts of interprofessional learning and human factors in health care
2. View scenario 1 of the audiovisual resource
3. Facilitator guided discussion around the scenario specific learning competency areas (samples given within manual)
4. View scenario 2 of audiovisual resource
5. Facilitator guided discussion, identifying and discussing the changes witnessed and how this resulted in an alternative outcome. In particular discussion relating the causes of these changes to personal (future) practice is essential in improving interprofessional practice.

Opportunities for further reading and exploration of the scenario are provided in the *Further Information* and *References* sections of this resource manual.

Scenario brief

A 28-year-old male motorcycle-rider has had an accident on the road. It had been raining and he hit an oil slick and skidded into a wall, his right leg taking most of the impact. He is conscious but in considerable pain when the paramedics arrive on the scene 15 minutes after impact. He complains of pain in his chest and his right leg.

When the ambulance arrives at a very busy hospital, the Triage Nurse is caught up with an intoxicated and abusive patient, the ED nurse is fairly new and is feeling overwhelmed, and the ED doctor is irritable and misses the first part of the handover.

List of characters
- ED Doctor
- ED Nurse
- Paramedic (older)
- Paramedic (younger)
- Patient (motorbike rider)
- Triage Nurse

Key learning competencies

The key learning competencies for this scenario are based on the IpAC Program learning objectives as well as the Canadian Interprofessional Health Collaborative (CIHC) Competency Framework (Canadian Interprofessional Health Collaborative, 2010). The specific competency areas for this scenario are:
- Interprofessional communication
- Team functioning and collaboration
- Perceptions and attitudes influencing practice

Interprofessional communication

The interaction between the healthcare team members demonstrates collaboration through:
- The sharing of relevant client medical history to facilitate rapid and appropriate medical intervention.
- Communication that is relevant to the client's medical history.
- Active listening by team members.

- Communication is authentic, consistent and demonstrates trust.
- Communication ensures a common understanding of care decisions made.

Team functioning and collaboration

Healthcare team members demonstrate an understanding of the factors that can enhance and adversely affect teamwork.

- Healthcare professionals understand the principles of team dynamics and process that enable effective team collaboration.
- Healthcare professionals work together to formulate implement and evaluate interventions and care to enhance health outcomes.
- Healthcare team members foster positive relationships with all members of the team.
- Healthcare professionals demonstrate respect and professional behavior toward each member of the healthcare team.
- Members within the team have an awareness of their role within the team.

Perceptions and attitudes influencing practice

Reflective practice is crucial in continuous development and re-assessment of skills when working in health care. A reflective practitioner:

- Reflects on feedback and integrates changes into practice.
- Awareness of how one's attitudes, beliefs and assumptions impact upon how a client or health professional is approached.
- Identifies knowledge deficits and seeks clarification.

Key discussion points

Scenario 1

The following discussion points are useful in considering the scenario of this resource package. Consider each member of the healthcare team when answering the following questions. The team consists of: ED Doctor; ED Nurse; Patient; Paramedic (younger), Paramedic (older); and Triage Nurse.

- What did this person do well?
- What could this person do better?
- What could be the reasons for this persons (inter)acting in this manner?
- How has this impacted on the healthcare outcome for the client?

- What changes could be implemented to achieve a better outcome for all involved?

Interprofessional communication

- How would you describe the quality of communication in this scenario?
- Do the health professionals demonstrate active listening skills?
- Is there a common understanding of care decisions made?
- Is all relevant information passed on? How could each of the health professionals make sure that nothing is missed?

What human factors can you identify that negatively affect communication?

A. Stress from work load, busy day feeling that cannot get work done, inability to care for each client effectively. When stressed, people often react rather than act and listen.

A. Assumptions are made by each health professional.

A. The young paramedic may not know whether a standardised handover tool is adhered to in this environment.

How could each health professional improve the communication?

A. Active listening, using summarising and paraphrasing.

A. The use of a standardised communication tool for handover will ensure no information is missed.

Team functioning and collaboration

How have human factors affected the teamwork and ultimately the client outcome?

A. Each healthcare professional seems concerned with their specific tasks and their communication with their colleagues seems dismissive. This impacts on their ability to function as a cohesive team, in turn impacting client outcomes.

Why would these health professionals behave in this manner towards each other?

A. Discuss each health professional: ED Doctor; ED Nurse; Paramedic (younger); Paramedic (older); Triage Nurse.

What could each team member do differently to improve the teamwork in this situation?

A. Effective communication: listening, summarising, asking for clarification, providing relevant information, etc.

A. Respect and understanding of each professional's specific skills and knowledge set.

A. Understanding of similarities and differences between members of the healthcare team.

A. Awareness of how to ensure a common understanding.

A. Awareness of how the manner in which information is provided or asked for impacts on how it will be received or provided.

What role and/or skill overlap exists between the healthcare professionals in this scenario?

A. Each team member needs the assessment of the patient's injury and vital signs and implement life support as required.

Do the individual healthcare professionals support each other? How has this impacted on the outcome and client care? How can this be improved?

Is the patient an informed team member? Is this relevant in this situation?

A. Each health professional could give the client information on an ongoing basis. This may reduce the patient's stress levels.

A. Communication with the patient and listening to his responses to questions can be a diagnostic aid.

Perceptions and attitudes influencing practice

What attitudes and perceptions have each health professional brought to this scenario?

How have the team members' attitudes and perceptions impacted on the patient outcomes?

How can this be prevented?

Key discussion points

Scenario 2

- What did you notice had changed from scenario 1? How did these changes impact on the final outcome?
- How do you think the healthcare team operated in the revised scenario? What were some of the specific changes that occurred and how did this affect the dynamics in the revised scenario?
- What was the impact of these changes on the client outcomes?

Encourage participants to reflect on their own practice:

- How can you ensure the interprofessional learning objectives are addressed in your interprofessional and client-centred practice?

Literature review

The link between communication and patient safety is well recognised in health care, with communication failure being identified as the leading cause of inadvertent patient harm (Leonard, Graham, & Bonacum, 2004). Breakdown in communication was the leading root cause of approximately 70% of sentinel events reported to the US Joint Commission between 1999 and 2011 (The Joint Commission, 2011). In Australia, communication issues contributed to 25% of sentinel events reported in public hospitals in 2004-2005 (Australian Institute of Health and Welfare, 2007). Additionally, 11% of preventable adverse events leading to permanent patient disability have been attributed to communication issues, in comparison to 6% resulting from inadequate skill levels of clinicians (World Health Organization, 2007).

The health care environment is becoming increasingly complex, with patients receiving input from multidisciplinary teams, consisting of clinicians with diverse backgrounds, training and communication styles, with nurses, doctors and other clinicians taught to communicate in very different styles (Leonard, et al., 2004). Communication is a vital constituent of healthcare and is necessary in order to provide patients with the best possible care (Iedema, 2009). This makes clear the risk of communication breakdown and the impact of such an event.

Many factors contribute to communication failures in health care including traditional hierarchical relationships, increasing workload, a mobile workforce, differing perceptions and language and prior experiences (Curtis, Tzannes, & Rudge, 2011). A lack of formal training and assessment in communication and teamwork skills has been identified as an issue within the health care workforce, and the hierarchical culture in medicine has been blamed for prohibiting people from speaking up (Leonard, et al., 2004). A trend towards specialisation of health care providers means more people and units are involved in a patient's care (World Health Organization, 2007). Furthermore, members of the multidisciplinary team are often separated from each other both in time and space and members of the team may change many times during the patient's treatment. All of this can complicate communication and illustrates the importance of effective communication within the team for successful coordination of teamwork and collaborative care (Marshall, Harrison, & Flanagan, 2009).

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Leonard et al. (2004) describe how the inherent limitations of human memory and the ability to multitask, in an environment associated with high levels of stress, fatigue and frequent interruptions, means that even the most skilled and experienced clinicians are likely to make mistakes. Effective communication and teamwork strategies are therefore essential to help prevent these inevitable mistakes from becoming consequential and harming patients and providers.

Lingard et al. (2004), described the characteristics of communication failures within the operating room. Failures in communication were observed in 30% of team exchanges, related to information being communicated too late; incomplete or inaccurate communication; key individuals not being present; and issues left unresolved. One third of these communication failures had immediate effects, such as inefficiency and team tension, potentially jeopardising patient safety.

As well as affecting clinical care, communication also impacts on clinicians' well-being and public satisfaction (Iedema, 2009), with poor communication identified as one of the most common elements of stress amongst health professionals (Perry, 1997). Leonard et al. (2004) identify that communication is often situation or personality dependant and describe the aim of effective communication and teamwork as creating a "common mental model" and an environment where all team members feel safe to speak up about safety concerns. This is supported by Curtis et al. (2011), who recommend the incorporation of interprofessional training within the tertiary health curriculum to develop shared mental models concerning communication, with the goal to improve interprofessional communication skills and therefore patient safety and care.

Clinical Handover

The handover procedure is predominantly a communication process, which requires the transfer of important patient information and care between multiple health care providers (Bomba & Prakash, 2005). The Australian Medical Association (AMA) defines 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" (Australian Medical Association, 2006, p. 8). The risk of adverse patient events increases each time a patient is transferred between units, health

care providers or teams (Australian Commission on Safety and Quality in Health Care, 2011a).

Clinical handover has been clearly identified as a high risk scenario for patient safety and an area in need of improvement (Australian Commission on Safety and Quality in Health Care, 2010; Hill & Nyce, 2010; Wong, Yee, & Turner, 2008). Improving communication during handover is a high priority area for patient safety around the world. In 2007, the World Health Organization (WHO) included "communication during patient handovers" as one of its nine *Patient Safety Solutions* (World Health Organization, 2007). The US Joint Commission (2011) includes improving staff communication within its current *Patient Safety Goals* and requires a standardised approach to handovers. Clinical handover has also been identified as a priority project for the Australian Commission on Safety and Quality in Health Care (ACSQHC) (2010).

 A literature review on clinical handover by Wong et al. (2008) identified potential dangers relating to discontinuity of care, adverse events and legal claims of malpractice. Specifically, ineffective handover can result in unnecessary delays in diagnosis, treatment and care; repeated tests; missed or delayed communication of test results; and incorrect treatment or medication errors (Australian Commission on Safety and Quality in Health Care, 2010). This may lead to preventable readmissions, wastes time and health care resources, and can have a major impact on patient outcomes (Jorm, White, & Kaneen, 2009).

The need for improved handover of clinical information and responsibility is becoming increasingly important for patient safety (Australian Medical Association, 2006). Changing work patterns for medical staff are evident in many countries with efforts being made to reduce the working hours of junior doctors. This has resulted in an increased number of shifts, which means that handover of clinical information is occurring more frequently (Australian Medical Association, 2006; Bhabra, MacKeith, Monteiro, & Pothier, 2007; Ferran, Metcalfe, & O'Doherty, 2008). One recent Australian study estimated that a patient will see an average of 6-10 doctors per hospital admission (Thompson et al., 2011), emphasising the vital role that handover plays in continuity of care (Bomba & Prakash, 2005).

Clinical handover is an integral part of health care, occurring across all health settings, every day. Handovers occur at clinician shift changes; when patients are transferred between wards, departments or health services; and during the process of admission, referral and

discharge (Australian Commission on Safety and Quality in Health Care, 2011a). In Australia, over 7 million handovers occur in hospitals, and over 26 million in community care settings annually (Australian Commission on Safety and Quality in Health Care, 2011b). During handover, clinicians are diverted from direct patient contact, disrupting continuity of care, which potentially impacts on departmental efficiencies (Yee, Taylor, Knott, Dent, & MacBean, 2007) and provides opportunities for errors. Communication is an essential part of the handover process and its nature can vary depending not only on the skills of individual clinicians but also on the environment in which it occurs: chaotic during periods of stress and multitasking, or organised and deliberate under controlled conditions (Beach, Croskerry, & Shapiro, 2003). Both the content and duration of the handover improves if the handover takes place in an organised manner allowing clinicians to spend more time in direct patient care (Mikos, 2007).

Clinical handover skills are rarely formally taught or evaluated in any of the health professions (Hill & Nyce, 2010). Current handover practices have been found to be highly variable, unstructured and error-prone (Bomba & Prakash, 2005). There is dissatisfaction amongst health professionals regarding the communication of clinical information, which can lead to stress and frustration when required information is not available or communicated inappropriately or at the wrong time (Clark, Squire, Heyme, Mickle, & Petrie, 2009). In an Australian study, Bomba and Prakash (2005) found that 95% of doctors in one hospital noted that there was no standard or formal procedure for handover. The majority of doctors surveyed in this study recognised that existing handover processes in hospitals need to be standardised to ensure that patients of concern are clearly identified and standing test orders are recorded, for improved quality of care and effective time management.

For a handover to be effective and allow the appropriate action to be taken, it must include all relevant information, be accurate, unambiguous and timely (Australian Commission on Safety and Quality in Health Care, 2011b). Conversely, poor communication during handover is characterised by missing, inaccurate or disorganised information, mistimed or delayed information and cognitive overload (Beach, et al., 2003).

The omission of information during handover has the effect of increasing clinician workload as it requires time being spent chasing up information. Multidisciplinary handover can help reduce omissions in important information by ensuring clinicians are made aware of discipline-specific issues impacting on patient care (Australian Medical Association, 2006).

Bhabra et al. (2007) demonstrated the importance of including a written component to handover to support the retention of information received during verbal handover. In this experimental study, only 33% of patient information was retained after a verbal-only handover, compared to a retention rate of 100% when a printed handout containing all patient information was also used.

Handover needs to be a two-way communication process (Australian Medical Association, 2006), with a face to face handover helping to ensure a shared mental model by allowing for more questioning and clarification of information (Australian Commission on Safety and Quality in Health Care, 2010; Hill & Nyce, 2010). Other additional benefits of face to face handover have been suggested including the opportunities for social interaction, education and team building (Australian Commission on Safety and Quality in Health Care, 2010).

Communication in the Emergency Department

The Emergency Department (ED) is an area in which multiple transitions of patient care occur. The communication process in the ED is particularly complex and there are many opportunities for errors which can impact on patient care (Redfern, Brown, & Vincent, 2009). The simultaneous management of multiple ill patients, practitioner shift work, limited knowledge of patients' pre-existing medical conditions, high levels of diagnostic uncertainty, high decision density, unscheduled care and variable practice settings make ED transfer of care especially vulnerable to error (Bomba & Prakash, 2005; Croskerry & Sinclair, 2001).

Handover of clinical information from ambulance crew to ED staff is often ineffective and error-prone (Redfern, et al., 2009), with one study indicating that only 56% of verbal information is accurately retained by ED staff (Talbot & Bleetman, 2007). An Australian study on ED handover found that in 15% of handovers, not all required information was handed over. This led to adverse effects for staff and patients including delays or confusion in communication, repetition of assessments and delays in management (Yee, et al., 2007). A Scottish study by Thakore and Morrison (2001) identified that only 19% of ambulance staff had received formal training in providing handover, with 83% of the remaining indicating a need for training. They found that 69% of medical ED staff felt that the quality of handover varied significantly between different ambulance crews and the majority considered ambulance radio reports to be poorly structured.

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A recent review of the literature on clinical handover of patients arriving by ambulance to the ED (Bost, J., Wallis, Patterson, & Chaboyer, 2010) supports the use of a structured handover process consisting of both verbal and written components to improve information exchange and to ensure that important clinical information is not missed.

Standardised Communication Tools

The implementation of standardised communication tools to improve safety has been occurring in other high reliability industries, such as aviation and the military for some time. One such situational briefing tool, SBAR (Situation, Background, Assessment, Recommendation), was developed by the US Navy for structuring important and urgent communication in nuclear submarines (Marshall, et al., 2009). In the health care setting, the Australian Commission on Safety and Quality in Health (ACSQHC) (2010) recommends standardising the content and process of clinical handover to improve safety by ensuring consistency in critical information exchanges.

SBAR was adapted for application to health care by Leonard et al. (Leonard, et al., 2004) and stands for:

Situation – what is going on with the patient?

Background – what is the clinical background or context?

Assessment – what do I think the problem is? and

Recommendation – what would I do to correct it?

SBAR can be applied to virtually any clinical domain and has been widely used in obstetrics, rapid response teams, ambulatory care, intensive care, cardiac arrests and other areas (Leonard, et al., 2004). The use of SBAR during handover has been recommended by WHO as part of its *Patient Safety Solutions* (World Health Organization, 2007). It is also the suggested model for clinical communication by the Institute for Health Improvement (Marshall, et al., 2009).

Handover mnemonics such as SBAR have been shown to improve communication during clinical handover in a number of ways. By providing a structured process to follow and enhancing the memory of important steps (Riesenberg, Leitzsch, & Little, 2009), they enable the brief and concise transmission of critically important pieces of information in a

predictable sequence (Leonard, et al., 2004). They can help to clarify the purpose and content of handovers, reduce confusion (Jorm, et al., 2009), bridge the difference in communication styles between disciplines and assist in the development of clinician's critical thinking skills (Leonard, et al., 2004). Adopting a common language for communicating critical information may facilitate the reception and processing of information, enabling a more informed clinical contribution (Curtis, et al., 2011) and optimising the chances of problem recognition (Leonard, et al., 2004; World Health Organization, 2007).

The literature clearly supports the benefits of implementing standardised communication models for both patients and clinicians. The introduction of a formalised approach to handover was shown in a study by Leonard et al. (2004) to reduce nursing turnover, increase employee satisfaction and improve perceptions of the safety climate amongst staff. Other benefits included elimination of wrong site surgeries, more appropriate handling of medical errors and greater individual responsibility for patient safety. Mikos (2007) found that the implementation of SBAR reduced handover time from an average of 6 to 2minutes per report, allowing nurses to spend more time in direct patient care. The outcomes of this included a reduction in patient falls during shift changes and an improved response time to patient call lights. In a study by Clark et al. (2009), the use of SBAR combined with training on assertive communication strategies resulted in an improvement in nurses' perceptions of handover content and structure and increased confidence in their communication skills.

Boaro et al. (2010) demonstrated improved communication within an interprofessional rehabilitation team following the implementation of the SBAR tool to structure debrief discussions. The team felt that this structured process reinforced a safety culture of openness, enhanced accountability and promoted a solution-focused approach rather than blaming individuals. Finally, Ferran et al. (2008) demonstrated that the use of a standardised handover proforma increased patient data transfer between doctors' shifts from 73% to 93% when compared to handwritten note-taking to assist verbal handover.

Some centres have adapted SBAR to ISBAR (Identify, Situation, Background, Assessment, Request), with the addition of "I" for "Identify" to ensure the explicit identification of yourself, the person you are talking to, and the patient, in order to eliminate confusion (Finnigan, Marshall, & Flanagan, 2010; Marshall, et al., 2009). The "R" was changed from "Recommendation" to "Request" to help junior clinicians ask for help by minimising any hierarchy gradient. Finnigan et al. (2010) reported that ISBAR improved the content and

clarity of communication during telephone referrals, and that the acronym was easily recalled by staff who found merit in using the ISBAR structure in making the telephone conversations more efficient and expecting the information in a particular order. These findings were supported by Marshall et al. (2009) who concluded that teaching ISBAR to junior clinicians was feasible, effective and likely to improve clinical communication during telephone referrals.

Another study by Thompson et al. (2011) found that the introduction of ISBAR improved junior medical officers' perception of handover structure and consistency in a time neutral fashion. Improved confidence in giving and receiving handover were also reported, as were perceived benefits to patient care and safety. Thompson et al (2011) cites the findings of Haig et al. (2006), in which the implementation of ISBAR was linked to a reduction in adverse events from a baseline of 90 per 1000 patient days to 40 per 1000 patient days.

Another adaptation of the SBAR mnemonic is iSoBAR (identity, Situation, observations, Background, Agreed plan, Readback), developed by the Western Australian Country Health Service (WACHS) and Royal Perth Hospital (Porteous, Stewart-Wynne, Connolly, & Crommelin, 2009). The iSoBAR handover checklist was developed to suit the local context, with the addition of "o" for "observations" to ensure the inclusion of adequate factual information on which to devise a plan of care. "A" was changed from "Assessment" to "Agreed plan" to encourage two-way communication and reduce assumptions. "R" was changed to "Readback" to reinforce the transfer of information and accountability, by clarifying who is responsible for what. This is consistent with recommendations from the WHO to include the repetition back of information received during the handover process to ensure that the message has been correctly understood (World Health Organization, 2007).

Porteous et al. (2009) found the iSoBAR tool to be widely accepted and utilised by WACHS clinical staff when introduced in a hospital environment, and effective in reducing duplication of paperwork and processes. Its use is supported by the ACSQHC and the tool is currently being used in shift handovers, emergency department and theatre-to-ward transfers, and for allied health referrals in Western Australia (Porteous, et al., 2009).

Conclusion

The literature highlights the risk clinical handover poses to patient safety and reinforces that there is an international need to improve communication during clinical handover. Improving handover will benefit patients, clinicians and senior management in many ways. Benefits for patients may include better identification and monitoring of individual health concerns, reduced medication errors and duplication of tests, and less delays in diagnosis, treatment and care. For clinicians, improved communication at handover can reduce duplication of tasks, lead to more concise communication between staff, clear role allocation, and increase staff morale and confidence. For management, the benefits include compliance with National Safety and Quality Health Service Standards, less adverse events, reduced costs and improved time efficiency (Australian Commission on Safety and Quality in Health Care, 2011a).

The implementation of standardised methods to structure and formalise the content and process of handover has been shown to be both feasible and effective. Mnemonics such as SBAR and its derivatives are widely used and recommended to improve the clarity, consistency, efficiency and safety of clinical handovers, as well as increasing clinician confidence during handover. Additionally, the literature highlights the importance of leadership, time commitment, human resource commitment and appropriate structures and processes being in place for effective clinical handover to occur (Australian Medical Association, 2006).

Medical glossary and acronyms

Adverse event
An incident in which harm resulted to a person receiving health care.

Clinical handover
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.

ED
Emergency Department
A medical treatment facility specialising in acute care of patients who present without prior appointment, either by their own means or by ambulance. The ED is usually found in a hospital or other primary care centre.

High reliability organisations
Organisations or systems that operate in hazardous conditions but have fewer than their fair share of adverse events. E.g. air traffic control systems, nuclear power plants, and naval aircraft carriers.

Interdisciplinary teams
A team that is collaboration-oriented. The team meets regularly to discuss and collaboratively set treatment goals and carry out treatment plans. There is a high level of communication and cooperation among team members (Korner, 2008, p. 2).

ISBAR
A mnemonic for standardised handover, which stands for Identify, Situation, Background, Assessment, Request.

iSoBAR
A mnemonic for standardised clinical handover, which stands for Identify, Situation, Observations, Background, Agreed plan, Readback.

Mental models
Psychological representations of real, hypothetical, or imaginary situations. Though easiest to conceptualise in terms of mental pictures of objects (e.g. a DNA double helix), mental

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IpAC Unit
interprofessional ambulatory care unit

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models can also include "scripts" or processes and other properties beyond images.

Mnemonic

A device such as a pattern of letters, ideas, or associations that assists in remembering something.

Multidisciplinary teams

A team that is discipline-oriented. Each professional works in parallel, with clear role definitions, specified asks and hierarchical lines of authority (Korner, 2008, p. 2).

Patient safety

The absence of preventable harm to a patient during the process of health care.

Quality of health care

The extent to which a health care service or product produces a desired outcome or outcomes.

Readback

A communication strategy in which the listener repeats the key information, so that the transmitter can confirm its correctness.

Root cause analysis

A systematic process whereby the factors which contributed to an incident are identified.

SBAR

A mnemonic for standardised handover, which stands for Situation, Background, Assessment, Recommendation.

Sentinel event

An adverse event in which death or serious harm to a patient has occurred, usually used to refer to events that are not expected or acceptable, e.g. an operation on the wrong patient or body part. They are often a consequence of serious problems in current policies or procedures.

Standardised communication tool

A framework for structuring the content of clinical handover to improve the communication of patient information between health professionals, allowing for more efficient and reliable information exchange. E.g. iSoBAR

Further information

Agency for Healthcare Research and Quality (US)

www.ahrq.gov

Aims to improve the quality, safety, efficiency, and effectiveness of health care for all Americans.

Australian Commission on Safety and Quality in Health Care

www.safetyandquality.gov.au

Includes publications, resources and education tools developed as part of the *Clinical Handover Program*.

Australian Institute of Health and Welfare (AIHW)

www.aihw.gov.au/

Provides information on the safety and quality of health care in Australia.

Canadian Patient Safety Institute

www.patientsafetyinstitute.ca

A not-for-profit organisation that exists to raise awareness and facilitate implementation of ideas and best practices to achieve a transformation in patient safety.

Institute for Healthcare Improvement

www.ihi.org

An independent not-for-profit organisation based in Cambridge, Massachusetts (US), which focuses on motivating and building the will for change; identifying and testing new models of care in partnership with both patients and health professionals; and ensuring the broadest possible adoption of best practices and effective innovations, with the aim to ensure everyone has access to safe and effective health care.

Joint Commission International

http://www.jointcommissioninternational.org

The international arm of The Joint Commission works with health care organisations, ministries of health, and global organisations, focussing on improving the safety of patient care through the provision of accreditation and certification services as well as through

advisory and educational services aimed at helping organisations implement practical and sustainable solutions.

The Joint Commission (US)

www.jointcommission.org

An independent, not-for-profit organisation, which accredits and certifies more than 19,000 health care organisations and programs in the United States. The Joint Commission evaluates health care organisations and supports them in providing safe and effective care.

National Patient Safety Agency (UK)

www.npsa.nhs.uk

A stand-alone national organisation sponsored by the Department of Health, which leads and contributes to improved, safe patient care by **informing, supporting** and **influencing** organisations and people working in the health sector.

WHO Collaborating Centre for Patient Safety Solutions

www.ccforpatientsafety.org

Collaboration between the World Health Organization, The Joint Commission and Joint Commission International dedicated solely to patient safety.

WHO Patient Safety

www.who.int/patientsafety/en

Facilitates the development of patient safety policy and practice across all WHO Member States and acts as a major force for patient safety improvement across the world.

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