



CENTRE FOR
**TRANSFORMATIVE
WORK DESIGN**

UWA Business School
The University of Western Australia (M261)



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Sustainable Health Review Panel

Ms. Kruk, Dr. Russell-Weisz, Mr. Barnes, Mr. Harding,
Ms. Brennan, Dr. Seymour, & Ms. Hammat
Sustainable Health Review Secretariat
189 Royal Street
East Perth, WA, 6004

Dear Ms. Kruk and the Sustainable Health Review Panel,

RE: Multi-Professional Operating Theatre (OT) Team Briefings –Building Safer, more Productive, and Healthier OTs

Summary

Operating theatres are highly complex environments where effective communication is critical for patient safety and efficacious work. One way of improving communication is through multi-professional team briefings which occur *before* an operating theatre list commences (unlike the WHO checklist that occurs after a patient has been brought to theatre). Multi-professional team briefings can improve the quality of patient care, increase theatre efficiency, and improve staff engagement. Importantly, multi-professional team briefings only take approximately 5 minutes to complete, yet teams are more than likely to make up this time via significant coordination improvements. Indeed, our preliminary data suggests multi-professional team briefings can yield vast savings. For example, at Fiona Stanley Hospital alone, effective multi-professional briefings can yield an efficiency saving of \$17 million per year¹. We recommend multi-professional team briefings to be rolled-out as a State-wide standard, enabling structures to be put in place, and the theatre management system to be used to monitor and support continuous improvement of briefing practices in OTs.

Introduction

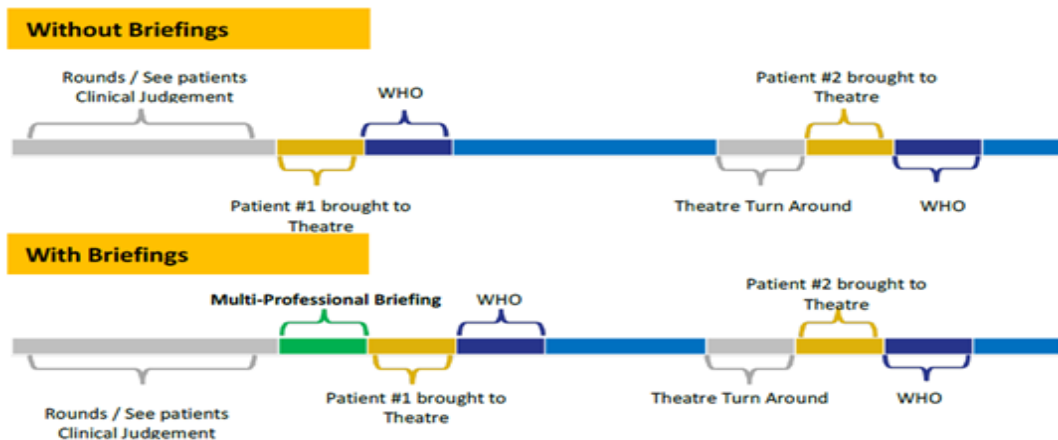
Many things need to fall into place for an operating theatre list¹ to run smoothly, and this usually does not happen by chance. This is because operating theatres are inherently complex involving multiple professional groups (e.g., surgeons, nurses, anaesthetists, and technicians) each with their own unique set of knowledge and skills, highly interdependent work, and unique patient requirements. There are many dynamic aspects and effective communication and excellent teamwork skills are critical to ensuring the various aspects come together to deliver high-quality patient care^{ii iii}. The complexity of operating theatres is further compounded by fluctuations in operating theatre staff due to scheduling rotations, absent staff, and conflicting medical commitments. As such, operating theatre teams in public hospitals cannot rely on their past experience of working together – they need a quick and efficient way of “becoming a team” so they can deliver efficient and high-quality patient care.

¹ An “operating theatre list” is a collection of individual surgical procedures assigned to a given theatre and timeslot.

One way of helping operating theatre teams come together as an effective and efficient team is through multi-professional team briefings. Multi-Professional team briefings are short 5 minute discussion that occurs *before* the operating theatre list commences to create a shared mental model of the operating theatre list and its complexities; it complements, but does not replace, the World Health Organization (WHO) pre/post-operative checklist (see Figure 1). The distinct contribution of multi-professional team briefings compared to WHO checks stems from their focus on the entire list and all its cases, rather than each individual case. During the multi-professional team briefing theatre staff, including surgeons, nurses, anaesthetists, and technicians, meet to plan ahead for the list.

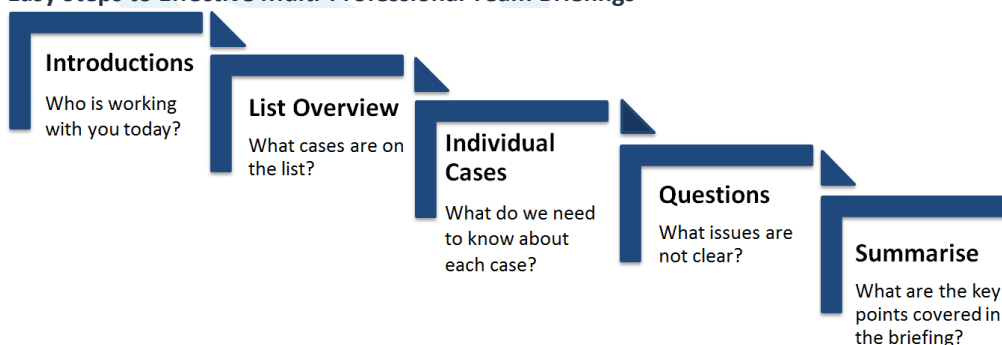
Multi-Professional team briefings have been incorporated in the National Health Service’s guidelines for safer surgery dating back to 2010^{iv}. Additionally, a SHRAC research translation project (led by Professor Parker) is currently evaluating the utility of multi-professional team briefings in WA theatres and developing guidelines and educational materials. Preliminary results strongly support the utility of briefings in improving theatre efficiency, staff engagement, and patient safety^v.

Figure 1. List Overview Without and With Multi-Professional Team Briefings



Based on our review of the existing literature in medicine and allied fields (e.g., aviation), as well as based on the implementation of multi-professional team briefs in four WA hospitals, we have developed a five-step model for effective multi-professional team briefings which is presented in Figure 2^{vi}. Multi-Professional team briefings commence with the introduction of team members and their role for the day. Introductions are important because public hospital staff seldom work in the same teams^{vii}. Introductions can help familiarise staff with each other and ensures that everyone knows how they will be contributing to the list. Second, a list overview provides information related to the total number of cases on the list, the expected list duration, and any strategies to improve turnaround time. Third, a review of individual cases on the list for the day clarifies roles (e.g., who will be primary operator? Who will be the scrub nurse?), identifies potential complications, and equipment requirements. Based on this step, teams may jointly decide to shift the order of patients around to maximize theatre efficiency. Fourth, the team opens the floor for questions and fifth, summarises any changes which have been made and key issues discussed. Our model is designed to be highly adaptive and to function as a framework, or conversational guide for teams as opposed to a checklist. As a framework, our model facilitates the active exchange of information between team members and contributes to the creation of a team identity. Whereas checklists focus on compliance, our framework is intended to engage staff.

Figure 2. 5 Easy Steps to Effective Multi-Professional Team Briefings



Our research team has conducted several survey studies assessing the prevalence of multi-professional team briefings in operating theatres across Australia and specifically in Western Australia. Our Australia-wide survey indicates that, while there is excellent adherence to the WHO check-list, the use of multi-professional team briefings is highly sporadic and occurs at best about 50% of the time^{viii}. Local audits from both Fiona Stanley Hospital and Princess Margaret Hospital are consistent with this general finding with multi-professional team briefings occurring at the beginning of approximately 50%^{ix} and 80%^x of lists^{xi}. As such, there is great opportunity for improvement across hospitals in Western Australia.

In the next sections, we briefly outline *how* multi-professional team briefings can contribute to the building of a more sustainable healthcare system in Western Australia. Specifically, we highlight how multi-professional team briefings contribute to improved patient safety and quality of care, can improve theatre efficiency, and can increase employee engagement. In doing so, multi-professional team briefings contribute to standards 1 (clinical governance), 4 (medication safety), 5 (comprehensive care), and 6 (communicating for safety) of the National Safety and Quality Health Service Standards (2nd Edition)^{xii}.

Improving Safety & Quality for Patients

The primary goal of multi-professional team briefings is to enable operating theatre teams to deliver high quality patient care through improved communication and collaboration. They do so by improving communication and supporting the exchange of information.

Improving communication is important given approximately 70% of errors occurring in hospitals are due to communication errors^{xiii} and approximately 48% of these are considered to be highly preventable^{xiv}. Accordingly, focusing on improved communication between clinical staff is a key driver for the delivery of high-quality patient care in WA hospitals. Multi-professional team briefings are specifically designed to enable theatre staff to share information and create a team identity where information can be freely exchanged. This is important as previous research on team communication has demonstrated that team members tend to spend more time sharing information that everyone in the team already knows and less time on information which is unique to each individual^{xv}. Unique information is very common in operating theatres because staff will have different clinical roles. For example, surgeons and anaesthetists are particularly likely to have unique information about patients (e.g., allergies, phobias, and comorbidities), whereas nurses and technicians are likely to be aware of theatre resources (e.g., instrumentation and equipment availability). All of these unique insights and knowledge are key to operating lists going smoothly and it is critical for teams to share this information. As such, multi-professional team briefings focus on the exchange of patient and procedure-relevant information to reduce medical errors and improve teamwork. Previous research on multi-professional team briefings has demonstrated their utility in providing higher-quality patient care by improving antibiotic administration^{xvi xvii}, reducing wrong-site surgery^{xviii}, and communication failures^{xix}.

Although multi-professional team briefings occur before the first patient is brought to theatre, they have the potential to shape a theatre team's dynamics for the rest of the day as it establishes good communication patterns from the start, that are likely to perpetuate health communication patterns throughout the day. Indeed, research undertaken at four WA hospitals has provided multiple qualitative examples of the utility of briefings in improving communication. A more rigorous examination of this is currently underway as part of the SHRAC grant^{xx}.

Improving the Financial Sustainability of WA Operating Theatres

Reducing the costs associated with surgery is a crucial challenge given increasing numbers of people requiring surgery^{xxi}, and the pressing need to achieve a sustainable health care system^{xxii}. Multi-professional team briefings are powerful interventions that can achieve cost savings through improved theatre efficiency. By increasing the efficiency with which theatres operate, the WA Health Department will be better positioned to achieve the National Elective Surgery Target (NEST), signed by WA that aims to *“ensure that elective surgical patients are treated within their recommended clinical priority time frame”*. Efficiencies generated across a theatre list means

more surgeries can be booked on a given list, there will be fewer patient cancellations due to theatres running over time, and reduced risk of infection and complications as a result of faster surgery.

Multi-professional team briefings enable operating theatre teams to be more efficacious in different ways.

First, they allow teams to proactively plan their days and identify potential or real challenges *before* they occur. For example, it is not uncommon for surgeons to require specialised instrument sets of which only a few may be available in the hospital and which require sterilisation between uses. If a nurse is aware of the need for such an instrumentation set at the beginning of the day, she can ensure it is available when it is needed by the surgeon. Alternatively, she may proactively suggest rearranging the order of patients to allow enough time for a set to become available. Otherwise, it is possible that a procedure will be delayed due to a set not being available when requested. During their research activities, the research team documented a case being delayed by 70 minutes because an instrument set was not available and suitable alternatives could not be located at the time. Such a delay could have been avoided if an effective multi-disciplinary team briefing had occurred at the start of the list that would have identified the need for the instrument ahead of time. Preliminary international research indicates that multi-disciplinary team briefings can result in a 31% decrease in foreseeable delays^{xxiii}, as does our own research.

Second, sustainability gains are generated due to teams working more effectively and efficiently together. Bolstered by a positive communication environment, teams that have taken the time to conduct a multi-disciplinary team briefing are likely to communicate better over the course of the day, be better equipped to handle variations in procedures, and are more able to anticipate ways to help one another – all of which contribute to improved efficiency. Furthermore, by effectively communicating, the order of patients can be arranged to maximize efficiency both during procedures and between them (e.g., reduce turnaround time). Preliminary results from research undertaken at WA hospitals suggest a potential efficiency of \$17 million per year at Fiona Stanley Hospital if effective briefings are implemented as standard practice^{xxiv}.

Improving Operating Theatre Staff Engagement

Having an engaged workforce is central to building a sustainable healthcare system. The benefits of staff engagement for individual performance, organisational effectiveness, and outcomes such as reduced absenteeism are well documented, both within^{xxv} and outside of the health sector^{xxvi}. Because of its effects on performance, attendance, retention, and effectiveness, staff engagement has huge potential cost benefits. For example, Gallop indicated that the decreased productivity of each disengaged employee costs companies, on average, \$US 3,400 to \$US 10,000 in salary, and research in the UK's National Health Service shows that hospitals with higher staff engagement have significantly better financial performance^{xxvii}.

The implementation of multi-disciplinary team briefings is an effective and efficient way of fostering staff engagement by creating team identities, reducing the chronic divide between professional groups (e.g., nurses and surgeons), and increasing cooperation and collaboration both within and between professional groups. Giving team members the opportunity to constructively contribute to the planning of their day is a meaningful activity which engenders a sense of autonomy and control in theatre staff, which in turn, supports psychological wellbeing. Multi-disciplinary team means may also enhance employee's sense of meaning, as indicated in the comment by one of the surgical fellows in our pilot study at Kaleeya hospital (see Figure 3, image 3).

Sharing information is not only beneficial for how the work progresses. Studies have shown that teams that more readily share information are also happier at work, as they enjoy each other's company and trust each other more^{xxviii}. International preliminary research has indicated that multi-disciplinary team briefings can enhance information exchange and team cohesion^{xxix}. In one pre-post design study involving the introduction of multi-disciplinary team briefings, researchers found a 19% increase in employee satisfaction and a 16% decrease in nurse turnover after the introduction of team briefings.

Figure 3. Qualitative Comments from WA Theatre Staff



Recommendations

Multi-professional team briefings can support a sustainable healthcare system in Western Australia (WA) with the potential to positively impact the quality of care that patients' receive. They can also shape the working environment of those within the WA health system to lead to more positive experiences at work. To take full advantage of multi-professional team briefings, we put forward three recommendations for the Sustainable Health Review Panel's consideration with a number of actions which can help achieve the recommendations. These recommendations and supporting actions have been generated from extensive field-work in WA hospitals, consultation with operating theatre staff since 2015, and ongoing research.

Recommendation 1. Multi-professional team briefings should be the gold standard for operating theatres across Western Australia (WA)

Actions:

- Endorse the use of multi-professional team briefings before surgical lists in WA.
- Include multi-professional team briefings in the State standards for operating theatre management.
- Provide guidance to staff on the impact of multi-professional team briefings on teamwork, surgery outcomes and patient care.

Recommendation 2. Enable staff to fully participate in Multi-Professional Team Briefings

Actions:

- A time should be allocated with the theatre workflow that is specifically assigned to conduction a briefing. The time window to conduct the briefings will need to be 5 minutes.
- Staff should be scheduled so that they may attend multi-professional team briefings. Where scheduling permits, all staff should be present for the multi-disciplinary team briefing. When staff miss the briefing, they must be brought up to speed which can reduce efficiencies. To avoid these efficiency losses, we recommend making briefing attendance mandatory when possible. If significant changes in staff occur, a second briefing should be conducted to ensure continuity of information.
- Training should be further developed so that all staff are familiar with multi-professional team briefings and can participate in briefings and lead them. This means allocating time to staff training.
- Multi-professional team briefings should be included in orientation materials.
- WA-wide briefing manual and procedure should be rolled-out. The UWA research team has already developed several articles, guides, brochures, posters, and videos to facilitate the introduction and training of multi-professional team briefings.

Recommendation 3. Monitor and Support Continued Improvement

Actions:

- Staff should be required to enter a record of briefings in the Theatre Management System (TMS).
- As a minimum, the TMS should be formatted so that theatre staff can indicate whether a multi-disciplinary team briefing has taken place in the theatre prior to commencing the list.

- The system should also provide staff the opportunity to document who was present.
- Ideally it will allow staff to record what issues were identified and/or resolved, and what steps were covered in their multi-professional team briefing. This information can be provided to teams as feedback.
- Recording the content of the multi-professional team briefings will allow the hospital system to conduct efficiency audits and to further examine the potential positive impact of multi-disciplinary team briefings on list efficiency.

Additional Resources

Nontechnicalskills.org has been developed by the UWA research team to support improvements in non-technical skills (e.g., communication, teamwork, and leadership) across industries, with a special focus on medical teams. Video guides, check-lists, and other resources are readily available from this website.

Centre for Transformative Work Design and the **UWA Centre for Safety** are research-intensive centres at the University of Western Australia. These Centres work closely with industry partners to generate new knowledge as well as facilitating the implementation of new evidence-based management practices. See: www.transformativeworkdesign.com and www.centreforsafety.com.au

About the Authors

Professor Sharon K. Parker is Director of the Centre for Transformative Work Design at the University of Western Australia, an ARC Laureate Fellow and Honorary Professor at the University of Sheffield. Professor Parker is Chair of the Society for Organisational Behavior in Australia and a chief investigator of the ARC Centre of Excellence in Population Ageing Research.

Joseph A. Carpini is in the final year of his PhD at the University of Western Australia Business School (Management & Organisations Department). He earned his M.Sc. in Management from the John Molson School of Business, Concordia University. Joseph's PhD research has examined the potential impact of multi-professional team briefings on team processes.

Dr. Laura Fruhen is a Post-Doctoral Research Fellow at the University of Western Australia. Laura holds a PhD from the University of Aberdeen (UK). Laura has led some of the research on the utility of team briefings in operating theatres conducted at the UWA.

Dr. A. F. Stewart Flemming is a hand and plastic consultant surgeon at both Fiona Stanley and Fremantle hospitals and is Clinical Associated Professor in the UWA School of Surgery. He is also chief clinical advisor to the UWA research team and has contributed to the implementation and evaluation of briefings at various hospital sites in WA.

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