

## SAFER: An Occupational Health and Safety Teaching Framework for Nursing Students

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*Occupational health and safety (OHS) education is integral to healthcare practice. Nurses/nursing students are particularly vulnerable during their work in this high-risk industry. Current clinical teaching appears to focus on individual risks rather than provide a broader overview of the complex issues involved. A novel educational resource, the Safety Assessment Framework for Evaluation and Assessment (SAFER), is presented, addressing a gap in current education resources for nursing students to broaden understanding about OHS. The study re-examined pilot focus group data from first- and third- year student OHS focus groups in an Australian university School of Nursing. The SAFER framework was informed by student nurses impressions/experiences of OHS (published in 2015 and 2016), supported by a literature review. Central to the SAFER framework is OHS 'risk management'. It incorporates stakeholders and Australian legislation, all in relation to 'responsibility' and 'trust'. Examples use focus group participant voice, linked with researcher interpretation and supporting documentation. Clinical educators now have a broad resource to facilitate student group discussions about OHS from multiple perspectives. SAFER's value beyond face validity should be tested, to confirm its applicability as a teaching resource in various university and training environments.*

**Keywords:** occupational health, education, nursing, curriculum, students

### Introduction

International reports about the healthcare industry workforce indicate that occupational health and safety (OHS) is a matter of global concern (ICN 2017, NIOSH 2014, Wåhlin et al. 2018). The Australian Work Health and Safety Strategy 2012-2022 is a policy framework which aspires to reduce future workplace injury and illness. Accordingly, healthcare and community services are targeted priority industries (Safe Work Australia 2012). As a 'healthy' workforce is required to provide ongoing care for all members of the community it is logical that attention is paid to teaching healthcare students about OHS from early pre-registration training. However, the best way to educate students about OHS is not fully described in the literature.

Further to legislative obligations (e.g., for professional registration or accreditation), learning about OHS is necessary for students. Healthcare is a high-risk industry for work injury (e.g., from manual handling) and illness (e.g., disease transmission) (Driscoll 2008, NIOSH 2014, Wåhlin et al. 2018). As nurses comprise a large percentage of the health workforce, their OHS deserves considerable attention (ICN 2017). Appropriately, it forms an essential part of

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nursing student education, due to the breadth of procedural tasks and patient conditions that can compromise a student's safety. However, developing an organised way of dealing with this component of student education is a challenge for clinical teachers, particularly due to the difficulties with managing self-care and patient safety simultaneously in complex and dynamic settings (O'Keefe et al. 2020). This article presents a research-informed teaching resource for nursing students to facilitate their learning about OHS and illustrates it with examples from nursing students explored by Boucaut and Cusack (2015, 2016).

## **Background**

Globally, nursing students face numerous clinical and non-clinical stressors while undertaking their training (Boucaut and Knobben 2020, Olvera Alvarez et al. 2019). The clinical hazards they face include, but are not limited to: disease transmission (Rahiman et al. 2018); musculoskeletal injuries (Menzel et al. 2016); sharps injury (Hambridghe et al. 2016, Thomas 2020); stress (Gibbons 2010, Olvera Alvarez et al. 2019); incivility (Cooper and Curzio 2012); and workplace violence (de Villiers et al. 2014). Clinical stressors student nurses reported in pilot focus groups comprised three key themes: trust (e.g., in colleagues); knowledge and awareness of OHS practices and; responsibility (e.g., towards patients, recognising scope of practice) (Boucaut and Cusack 2016). Non-clinical stressors which nursing students may experience include: difficulties with managing a work-life balance (Rella et al. 2009); financial stress (Loftin et al. 2012); and campus safety (de Villiers et al. 2014).

How best to facilitate knowledge and preparedness for student nurses to apply safe work principles beyond basic procedures in the face of such hazards appears to have not been clearly articulated in an overall framework within the wider literature. Existing literature mostly relates student safety to particular hazards, as reported above, rather than considering students' broader capacity to assess, evaluate and apply principles of OHS knowledge in fluid settings and scenarios. While key examples of protocols and areas of caution are essential and appropriate to clinical teaching (Feo et al. 2016) students arguably require an additional 'holistic' framework to reflect on multiple intrinsic and extrinsic hazards encountered during working life.

Makin and Winder (2008) provide a framework to enhance OHS by considering three hazard perspectives: safe person (personnel); safe place (workplace); and safe system (management). Using similar perspectives in relation to healthcare and trust, Beitat et al. (2013) consider the importance of trust in persons, organisations and processes; and trust in the overall healthcare system. This is a useful multi-dimensional approach because it trains learning across organisational and personal domains. Using these perspectives may help nursing students scaffold their considerations of safety and trust in the multifaceted environments they work in during their training. Hewett et al. (2013, p. 36.) describe nursing students' placement environments, especially hospitals: as, '... complex and dynamic organisational environments.' The complexity of these

environments, they state, ‘... derives not only from technical factors, but also from the multi-professional, hierarchical social system that operates them, and the lack of formal, codified rules that govern them.’ A well-structured framework could assist nursing student learning about OHS and help students to manage their own safety within such complex surroundings while absorbing nursing knowledge and skills.

Australian universities and teaching environments, such as clinical placements, have legislative responsibilities to provide safe work systems. In South Australia, an example is the Work Health and Safety Act (2012). These range from simple systems, like sign-on attendance, to complex processes such as evacuation or lockdown procedures. In the South Australian jurisdiction, the term ‘workers’ includes students and therefore both students and employers have responsibilities under the Act. As employers, universities also have OHS responsibilities to staff and students, including providing a safe work environment and safe systems of work. Because university supervisors have a duty of care to their students (Work Health and Safety Act 2012), students require education about OHS and self-care to ensure these principles are firstly, understood and secondly, upheld. These responsibilities play out in an environment where trust is paramount. The importance of ‘responsibility’ and ‘trust’ is described in the Code of Professional Conduct for Nurses in Australia as: ‘[an expectation that] nurses will conduct themselves personally and professionally in a way that maintains public trust and confidence in the profession. Nurses have a responsibility to the people to whom they provide care, society and each other to provide safe, quality and competent nursing care’ (NMBA 2010, p. 2). This Code of Professional Conduct also applies to registered nursing students conferring a responsibility to conduct themselves in a manner which reflects these sentiments.

Legislative and professional responsibilities for students around patient care need to be explicit within the pre-registration nursing curriculum. Of specific note, the Code of Professional Conduct for Nurses in Australia requirement - described above - is that these responsibilities extend beyond patients to other stakeholders including peers, co-workers and society (NMBA 2010). Although the code does not clearly define what is meant by ‘society’, it is reasonable to include the University, students’ clinical placement organisations, as well as their family and friends. Nursing students have demonstrated their ability to reflect on the shared responsibilities they have with these broader society stakeholders (Boucaut and Cusack 2016), and reinforcing these responsibilities within their curriculum is appropriate.

In their writings about trust, Candlin and Crichton (2013) identify the links between issues of trust, responsibility, and risk. Consideration of each of these issues is important to reveal some of the complexities that nursing students should consider in regard to their own safety (O’Keeffe et al. 2020). Trust ‘can be a risky venture’ (Carter 2009, p. 394) because placing trust in another person or organisation does not ensure that such trust is appropriate (i.e., used in the way the trustee might intend). Indeed, trust can be misplaced. Dinç and Gastmans (2012) also describe a number of articles about the importance of trust in nursing practice, highlighting the significance of trust between nurses, nurses and patients, nurses

and other healthcare professionals, and trust in the work setting, or institutional trustworthiness. Enhancing students understanding about trust (Materne et al. 2017), responsibility (Clouder and Adefila 2017, Perry et al. 2018) and risk in relation to their own safety and the safety of those they work with and care for will broaden their reasoning about OHS (Clouder and Adefila 2017, O'Keeffe et al. 2020).

Ultimately nursing students may face numerous hazards during both their pre-registration training and following graduation (Driscoll 2008, NIOSH 2014). Educators need resources to enhance student learning about their legislative responsibilities and other matters in relation to hazards associated with their role both as students, and future health professionals. Where appropriate these resources should reflect on issues of trust, knowledge and responsibility to take a more holistic approach to OHS (Boucaut and Cusack 2016). The conceptual framework described in this paper is a teaching resource that incorporates both the legislation and stakeholder viewpoints to consider these issues broadly. It is a research-informed teaching resource developed for nursing students to facilitate their learning about OHS, and it is illustrated in this paper with examples from nursing students explored by Boucaut and Cusack (2015, 2016).

### **Theoretical and Methodological Foundation**

With ethics approval (H-2015-222) faculty members at an Australian university explored nursing students' general perceptions and experiences about OHS via two pilot focus groups in 2014. The approach comprised semi-structured questioning within the group setting. A variety of reflections on student OHS was encouraged, including impressions about hazards, injuries and illnesses, work practices, safety culture, and self-care. Nine students participated in the groups facilitated by a nursing and an OHS practitioner. The first-year student group comprised six students (three male and three female), and the final year student group comprised three female students. The specific conduct of the focus groups has been previously reported in two separate articles, one on clinical findings (e.g., practical and procedural components of nursing practice) (Boucaut and Cusack 2016) and the other on non-clinical findings (e.g., university and campus life) (Boucaut and Cusack 2015).

The lead investigator of this research (RB) was employed as the nursing school health and safety officer at the time. Focus groups were an appropriate research method, congruent with the consultative style of the OHS legislation (Safe Work Australia 2011). The three key focus groups themes in relation to the clinical findings included: trust, knowledge and awareness of OHS, and responsibility. Connections between these themes, and the thought processes of students about how these three components influenced their descriptions of OHS situations were the catalyst for the conceptual framework presented in this paper, produced after secondary data analysis of the original focus group transcripts.

Additionally, the lead author (RB) endeavoured to be explicit about other OHS practices which helped shape her world view (Nayar and Stanley 2014). The

authors are health educators with an implicit interest in understanding students' views and experiences of OHS, fundamental to informing their teaching of students about OHS and self-care.

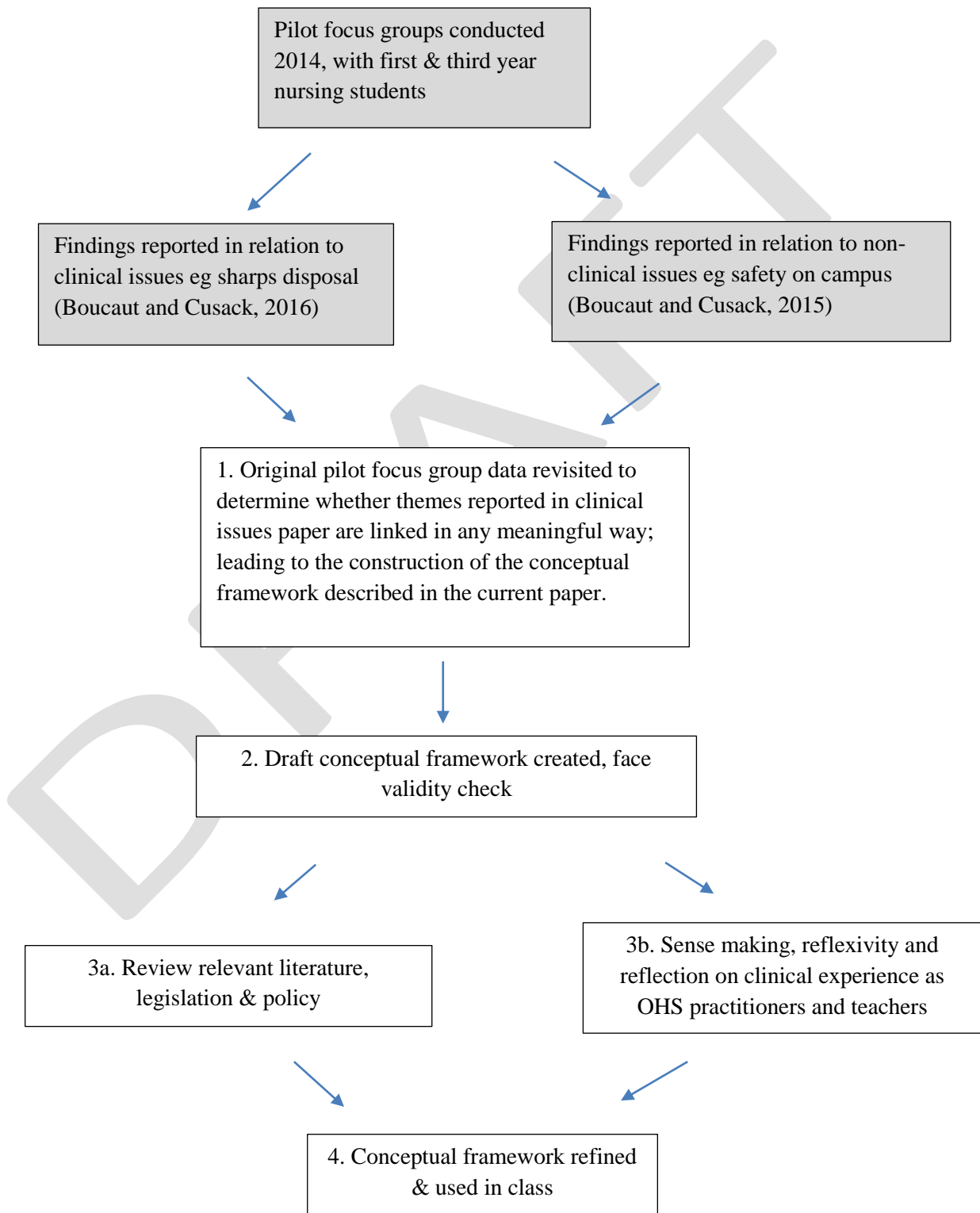
Following the development of themes from the focus group data, questions remained about links between the three core themes and other information within the data. In re-examining the data (Figure 1), it was possible to diagrammatically connect the themes and domains (clusters) of information within the data; this diagram formed the basis of the conceptual framework presented here (Figure 2). A conceptual framework was appropriate because such a structure 'identifies a set of variables and relationships that should be examined in order to understand the phenomenon' (Kitson et al. 2013). It is not a rigid application of points or processes, but instead a guide to thoughts and actions in an organised yet fluid way. Hence the conceptual framework can be used to form the basis of a discussion with students to facilitate learning about OHS.

Research analysis comprised four sequential steps (Figure 1). These steps included (i) reviewing focus group transcripts to determine if themes were linked in any way, and if so how; then (ii) drafting a conceptual framework to reflect links found within the data and sharing this with colleagues for feedback to check face validity. Step three comprised two distinct components: (iii.i) reviewing literature in relation to the themes and relevant legislation and (iii.ii) sense-making including reflection on practice and whether the framework fostered consideration of practical OHS issues. Finally, step four involved using the framework in class with nursing and allied health students to facilitate discussion about OHS.

Verifying research trustworthiness was appropriate through processes of peer debriefing, creating an auditable trail of evidence to enhance research credibility, and having coding independently verified (Miles and Hubermann 1994, Seale and Silverman 1997). Further, the framework's 'transferability' examines its application to other settings; it occurs through piloting the framework with other medical and allied health student groups which has since commenced (Miles and Hubermann 1994).

The intent of the current project was to develop a transferable framework of OHS reflection for students that acknowledged the fluidity of the healthcare and university systems, each of which is an 'open, complex and pluralist system' (Anaf et al. 2007).

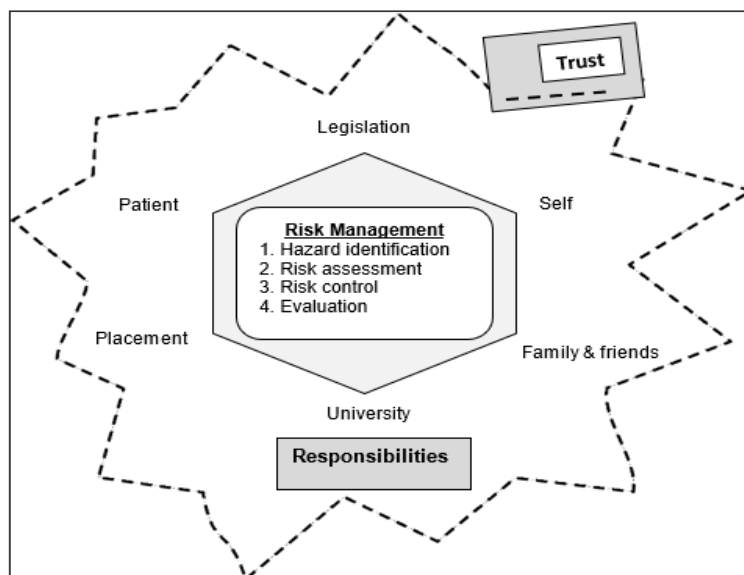
**Figure 1.** Developing the SAFER OHS Conceptual Framework: Relationship of Previously Published Information (Shaded) to Secondary Data Analysis



*Interpretation: Development of the Conceptual Framework*

Three themes from the student focus groups, **knowledge**, **responsibility** and **trust**, form the inner, middle and outer layers of the framework respectively (Figure 2); derived from the previous data set.

**Figure 2.** The SAFER Conceptual Framework



The inner part of the framework [*knowledge*] is titled ‘risk management’ as understanding this process is important foundation knowledge for OHS. Boucaut and Cusack’s (2015, 2016) semi-structured line of questioning in the focus groups revealed OHS influenced nursing students’ lives and practices in six discrete domains:

- i. Legislation
- ii. University
- iii. Placement
- iv. Self-care
- v. The patient
- vi. Family and friends

In the middle layer of the framework these six domains are represented as points of the hexagon of **responsibility**. The outer layer of **trust** encompasses all of the components within the framework.

To verify the process of data being developed into research themes, Table 1 illustrates the six domains with focus group data, ‘participant voice’. The authors have comments on the data and educational opportunities, ‘researcher interpretation’ while ‘supporting documentation’ refers to legislation, policies, and other relevant information about each domain.

**Table 1.** Domains Illustrated by Student Nurse Participant Voice from Previous Focus Groups\*<sup>#</sup>.

| Domain             | Participant voice (focus group quotes)  | Researcher interpretation  | Supporting documentation  |
|--------------------|---|--|---|
| <b>Legislation</b> | <p><i>I've seen over the last 10 years a lot of attention to workplace health and safety and a lot of legislation has come in ... the School [of nursing] has a Duty of Care and the hospital would [have too] and the placement [as well]</i><br/>(1<sup>st</sup> year male student)</p> <p><i>... people tend to be quite afraid of getting in trouble, litigation ...</i> (3<sup>rd</sup> year female student)</p>   | <p>Student discussion on safety legislation was limited (n=1). The student who spoke of the Duty of Care and legislation had prior work experience within an organisation which, the student reflected, had been required to respond to new safety requirements.</p> <p>Fear of litigation was raised by students in relation to student responsibilities for an unsteady patient who might fall. Students reported they would try to catch the patient rather than let them fall, although this may injure the student. Their concern for the patient rather than themselves, highlights the need to clarify student responsibilities in relation to the legislation, and university and placement expectations.</p> <p>These findings suggest that students require specific education about relevant legislation that applies to them, and the associated responsibilities.</p> | <p>The Work Health and Safety Act (2012), places responsibilities on employers and workers.</p> <p>Information about the safe handling of people is contained in the Model Code of Practice: Hazardous Manual Tasks (Safe Work Australia 2011).</p> <p>The Australian Nursing and Midwifery Federation (2016) has numerous OHS policies, including but not limited to: Smoke free work environment (2015); Safe patient handling (2015); Bullying in the workplace (2015), Fatigue prevention (2016); Workplace stress prevention (2016).</p> <p>The Health Practitioner National Law Act (2009) requires all nursing students to be registered with their national board (the Nursing and Midwifery Board of Australia). The universities facilitate this process.</p> |
| <b>University</b>  | <p><i>Universities have a bad reputation for being targeted by people who target other people to mug them or assault them or other things</i> (1<sup>st</sup> year male student)*</p> <p><i>... if you're doing an injection [the tutors remind] you to check that you've got a sharps container close by ... just prompting where they can see you might be lacking because you're trying to learn and do things at the same time</i> (3<sup>rd</sup> year female student)<sup>#</sup></p> <p><i>The tutors are really good</i> (3<sup>rd</sup> year female student)</p> | <p>Students were aware of issues related to safety on campus. Generally, they felt protected within their own cohort.</p> <p>The university has its own corporate brand to promote in order to attract and retain students. Having a safe system of work and meeting OHS legislative requirements is an important part of this.</p> <p>The students valued the support of their clinical tutors in regard to student safety.</p>   | <p>Some Australian Universities have a Student Charter which provides '...students with an overview of what they can expect of the University, and of their responsibilities as students', and commits to provide a safe and supportive environment.</p> <p>The Australian Nursing and Midwifery Accreditation Council (2016) determines whether university programs meet education standards.</p>  |
| <b>Placement</b>   | <p><i>I won't drink, not when I'm on placement</i><br/>(1<sup>st</sup> year female student)<sup>#</sup></p> <p><i>I know that when you're tired you do make mistakes and I do worry about that</i> (3<sup>rd</sup> year female student)<sup>#*</sup></p> <p><i>... In the Emergency Department there's a strong security presence</i> (3<sup>rd</sup> year female student)</p>  | <p>Students' reflections on safety included considerations of their own safety, patient safety and also that placements had responsibilities to provide a safe work environment for staff and students more generally.</p> <p>Placements need to provide safe learning environments for students. Students have a role to provide feedback about placement activities and suitability of the site as a</p>   | <p>As employers, placements have a Duty of Care for staff and student OHS, for example to induct students and provide adequate supervision. As healthcare providers they have responsibilities to their patients, staff and students, such as providing a safe environment and appropriate facilities. Workers (including students) have obligations to conduct themselves in a safe manner (Work Health and Safety Act 2012).</p>  |



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|------------------|--|---|---|
|                  | <p><i>I know a person who works at Aged Care and he says that ENs and RNs literally get told to stop using so many gloves cos they are just wasting money so they will be washing patients...without gloves on their hands (1<sup>st</sup> year, male student)</i></p> <p><i>I think, in a hospital, the unit will provide [manual handling] training (1<sup>st</sup> year female student)</i></p>   | <p>placement. Educators need to encourage students to provide this feedback and ensure there are mechanisms to provide honest feedback safely.</p> <p>Placement staff may or may not be as caring about the students as university staff. Supervisory placement staff may not fully understand students' scope of practice. University educators should raise student awareness of these potential issues to enhance student safety.</p>  | <p>Students require clearance prior to undertaking clinical placement, for example for immunisation, police checks and Tuberculosis screening (An Australian University, n.d. a)</p>  |
| <b>Self-care</b> | <p><i>You should have a healthy lifestyle ... set a good example for the patients, so protect yourself so you can protect others (1<sup>st</sup> year male student)*</i></p> <p><i>You have to use your back a lot to move patients and equipment ... Especially in aged care; apparently it's very physical (1<sup>st</sup> year female student)</i></p> <p><i>We have practised putting on gowns and gloves (1<sup>st</sup> year female student)</i></p> <p><i>The thing is getting to and from placements with shift hours (3<sup>rd</sup> year female student)</i></p> <p><i>... coming into uni ... having to use computers, a lot of reading and ... studying ... I was getting a lot of headaches (3<sup>rd</sup> year female student)*</i></p> <p><i>... a lot of time we talk to each other [to debrief] (3<sup>rd</sup> year female student)<sup>#</sup></i></p> | <p>Self-care was identified by both first and third years to be an important part of being a nursing student. Their identification of self-care was often so that the students could care well for their patients rather than care for themselves <i>per se</i>.</p> <p>In a controlled environment, using scenarios, educators can challenge students to reflect on the level of risk to their own health and safety, as well as the risk to other workers so that the students develop the ability to consider this in various circumstances.</p> <p>Students may not be aware that attending clinic when unwell may have adverse effects on colleagues as well as patients. When injured e.g. with a sore shoulder they may not be an effective team members in a two person lift. When unwell e.g. with gastro or the flu, they may transfer their sickness to patients or other staff. The students have a responsibility to ensure they do not adversely affect others.</p> | <p>Nursing students need to be physically fit to undertake the clinical component of their training (University of Adelaide 2016).</p> <p>Universities offer a range of services to promote student mental and physical health and manage existing issues (University of South Australia 2016).</p> <p>Canadian nursing students reported fatigue and that they do not allocate sufficient time to exercise due to competing demands on their time (Chow and Kalischuk 2008). Chronic fatigue and stress can lead to burnout in nursing students and new graduates (Rees et al. 2016).</p> <p>The Work Health and Safety Act (2012) states that while at work, workers have duties to 'take reasonable care of their own health and safety' (Section 28) and to take reasonable care that they 'do not adversely affect the health and safety of others.'</p> |
| <b>Patient</b>   | <p><i>... you know they'd rather save the patient, like do whatever they can to help their patient (3<sup>rd</sup> year female student)</i></p> <p><i>[the tutor said of a patient with inappropriate behaviour] ... if you really don't feel comfortable looking after him then you don't have to (3<sup>rd</sup> year female student)</i></p> <p><i>... it was kind of ... sad ...then we had a debrief ... on our last day one of the residents died, we talked</i></p>   | <p>The focus of safe behaviour reported by students was primarily for the patients benefit. Students need education throughout the duration of their training, about the balance between safe-patient and safe-self. Further students need support to reason through factors that influence this balance in clinical situations of escalating complexity.</p>   | <p>The Australian Health Practitioner Regulation Agency (AHPRA) and the Nursing and Midwifery Board of Australia work in partnership to protect the public (patient welfare).</p> <p>Under the National Law, education providers are required to advise AHPRA of student health impairments that may place the public at substantial risk of harm</p>   |

|                                  |   |   |   |
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| <p><b>Family and friends</b></p> | <p><i>about that for a bit (3<sup>rd</sup> year female student)</i></p> <p><i>...I am worried about contagious diseases we could contract ... and pass on to our families(1<sup>st</sup> year female student)</i></p> <p><i>...I need to make sure ... I don't want put the health of people I know and love at risk (3<sup>rd</sup> year female student)<sup>#</sup></i></p> <p><i>.....my biggest issue is fatigue ... based around family [responsibilities] (3<sup>rd</sup> year female student)<sup>#</sup></i></p> <p><i>I was lucky I had male friends that would walk me to placement (3<sup>rd</sup> year female student)</i></p> <p><i>... a family member of mine had passed away [on that ward] only a few months ago... I found that really quite confronting (3<sup>rd</sup> year female student)<sup>#</sup></i></p> | <p>Students shared their concerns for their responsibilities to family and friends. Students generally focussed on the health of others, rather than themselves.</p> <p>Students may have caring responsibilities for family in addition to studies. External work places demand on students.</p> <p>Students recognise and appreciate support from family and friends, e.g., to provide transport and to debrief about their work. This need for debriefing is backed up by University counselling services.</p> | <p>University safety systems incorporate counselling services to support students for both course related matters and personal matters (University of South Australia 2016).</p> <p>The Communicable Disease Control Branch of the South Australian Government aims to limit healthcare associated infections, in healthcare facilities and their spread to the community (SA Health 2016).</p> |
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Source: Boucaut and Cusack (2015, 2016).

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## Discussion

### *Risk Management – The SAFER Central Framework Component*

In reference to Figure 2, the central part of the SAFER conceptual framework for teaching nursing students about OHS is the risk management methodology which underpins the OHS legislative approach in Australasia (SAI Global 2009) and in Britain (Health and Safety Executive 2014). Understanding OHS risk management is a route of entry to developing knowledge and awareness about OHS and to acquiring an appreciation of OHS legislation relevant to nurses. Risk management involves four sequential steps: 1) hazard identification; 2) risk assessment; 3) risk control and; 4) evaluation. A starting point for student nurses to understand risk management is knowledge of the main hazards involved in nursing practice (described previously in ‘Background’) and how to identify hazards. Enabling students to determine the level of risk involved in their activities (O’Keeffe et al. 2020), the ability to decide on appropriate control strategies and subsequently evaluate them is a worthy benchmark to aim for in pre-registration education. Teaching students about risk helps them consider problems of an OHS nature logically to assist their clinical reasoning and increase their self-efficacy. Students can be prompted to realise different ways they probably use this process unconsciously in everyday life. For example, when crossing the road or, in health practice, assisting a patient from sitting to standing. Equipping students with this knowledge provides them with a foundation upon which to make safe decisions throughout their nursing careers.

### *Responsibility and Trust, Legislation and Stakeholders – The SAFER Middle and Outer Framework Components*

The middle and outer components of the SAFER conceptual framework are considered together because while they are separate concepts, they are closely aligned (Figure 2). The middle part enables students to recognise and consider the ‘responsibility’ that comes from being a nurse. Its hexagonal shape illustrates the six discrete domains representing both the legislation and five stakeholders who are: self (the student); the patient; the university; the placement; and family and friends. There are responsibilities associated with the legislation and each of the five stakeholders that students need to appreciate, outlined in Table 1.

The outermost component of the conceptual framework is a circle of trust which is fundamental to patient care (Kitson et al. 2013). The circle of trust has perforations (representing permeability and changeability), identifying that levels of trust may vary and trust can be positive but can also be misplaced in certain situations. Students should become aware of issues of trust to enhance self-care, co-worker and patient safety and their own responsibilities to be trustworthy, for example to work safely in teams. The focus group theme showed that students reported ‘trust in their colleagues’ as an important concept (shown in Table 1, self-care in relation to debriefing).

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*Levels of Systems Thinking for Safety*

Students can be encouraged to consider OHS in terms of levels of prevention and intervention. The World Health Organisation (2002) encourages people to organise their thoughts on health systems within complex networks into three levels: micro (individual or patient level), meso (healthcare organization and community level) and macro (policy level). Conceiving the healthcare system in this way encourages thinking about the dynamics of the healthcare system and also provides the students with the opportunity to realise that health and safety issues often traverse multiple levels (Makin and Winder 2008). The value in exploring relevant OHS scenarios with students is that they can see the need for solutions to be introduced at more than one level. The conceptual framework (Figure 2) can be used to encourage multifaceted consideration of scenarios in this system levels way of thinking.

Within the focus groups students frequently talked about hazards at the micro-level, like the need for hand-washing, and the meso-level, such as the need for security presence in the emergency department (Boucaut and Cusack 2016). There was much less talk within the focus groups about macro level issues (e.g., legislation). That the majority focused on the micro- and meso-level problems and interventions highlights that students tend to think more narrowly about OHS than at a broader policy level. Given that students have limited experience and technical skills this could be expected. The intention is to direct discussion towards any one, or all, of the three components of the conceptual framework to more comprehensively scaffold their learning. Students can be encouraged to contemplate some OHS challenges and interventions initially in straightforward scenarios with novice students (Benner 1982) progressing to more complex scenarios in concert with the stages of their developing OHS knowledge and their increasing clinical experience.

*Self-care*

Educators and staff have responsibilities for the OHS of students they supervise. In their paper on accountability and responsibility Scrivener et al. (2011) describe challenges Registered Nurses face, concerning their duty of care, when delegating tasks to students. These staff must ensure their task delegation is appropriate to the student's level of competency and safety. During the focus groups first-year nursing students reported placing substantial trust in their clinical tutors (Boucaut and Cusack 2016). While appropriate in some circumstances, at other times students may need to consider the wisdom of putting all their trust in their superiors, in relation to self-care. Educators have an inherent responsibility to prepare students to have heightened awareness of situations that may adversely affect the students' own OHS. It is valuable for students to also recognise that responsibility for their own self-care may not be others' priority and reliably implemented, especially given the complexity of patient care. Even when students become aware of situations where their safety may be compromised they may face difficulty voicing concerns about their own safety. Reasons for this include: not

knowing the boundaries to their scope of practice, the authority gradient within the work environment, and the duality of managing self-care and patient-care in a complex and dynamic setting. Having conversations with students about the challenges student nurses may face to their own safety at work is a vital role for educators.

#### *Flexibility of the SAFER Conceptual Framework*

The SAFER conceptual framework is a resource for student reflection on practice. It may also assist educators who are less acquainted with OHS to begin to develop curricula.

The 'responsibility' aspect of the framework could be adapted to suit the end-user, depending on the student activity. The hexagon of stakeholders and legislation can be tailored to reflect the stakeholders associated with different student groups. For example, the 'placement' element could be deleted for those students who do not undertake clinical placements. There is also the capacity to include additional elements or stakeholders if needed.

#### **Limitations**

Although the SAFER conceptual framework is modelled on themes arising from a pilot study with two focus groups of Australian nursing students (Boucaut and Cusack 2015, 2016), it is arguably a helpful educational resource to facilitate structured discussions with students about OHS. The framework has initial face validity and has provided a helpful basis for discussion between the authors and students in nursing and physiotherapy, each being health care groups where both students and professionals are at high risk of OHS issues (Kneafsey et al. 2012). In the future, the SAFER framework should be evaluated more broadly by those with OHS clinical education expertise to confirm its face and content validity and to determine its usefulness for wider acceptance.

#### **Conclusion**

An OHS teaching resource has been developed - the SAFER conceptual framework - that incorporates the concepts of knowledge of OHS risk management, responsibility and trust. The concepts relate to themes identified within previous nursing student focus groups. The SAFER conceptual framework provides a useful starting point for students to learn about OHS. The framework reinforces that a risk management approach is fundamental to every student learning about OHS; and by considering other components around the students' professional responsibilities and the inherent trust issues therein, we can broaden students thinking about OHS from early stages in their training.

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