“Talking out loud”: Western Australian medical students’ views on a sexual health elective

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MBBS

This thesis is presented in partial fulfilment of the requirements for the Masters of Health Professions Education

School of Allied Health
2019

Thesis Declaration

I, Alison Ruth Creagh, certify that:

This thesis has been substantially accomplished during enrolment in this degree.

This thesis does not contain material which has been submitted for the award of any other degree or diploma in my name, in any university or other tertiary institution.

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The research involving human data reported in this thesis was assessed and approved by The University of Western Australia Human Research Ethics Committee. Approval number: RA/4/1/7182.

Written participant consent has been received and archived for the research involving participant data reported in this thesis.

This thesis contains published work and/or work prepared for publication, some of which has been co-authored.

Signature: 

Date: 25.6.19

Abstract

Introduction:

Sexual health is important from both an individual and a public health perspective. However, sexual health is not well addressed by many health professionals, and lack of sufficient training appears to be one of the most common barriers to delivering good sexual health care. A sexual health elective was developed and offered to medical students at the University of Western Australia from 2007 to 2013. Many other sexual health programs for health professionals and students have been evaluated, but no published studies were identified which evaluated their impact beyond two years. Very few published studies incorporated a qualitative component to explore which particular teaching strategies were most effective, and the evidence for particular strategies remains unclear from the quantitative studies available. In addition, many studies identified that participants increased their knowledge, changed attitudes, and increased their confidence and skill, but a limited number of studies identified whether changes were translated into clinical practice. This research examined the impact of a sexual health elective unit on a group of medical students, and whether or how it led to increased knowledge, skills and/or confidence in sexual health consultations.

Methods:

A qualitative phenomenological study was performed, in order to gain a deeper understanding of whether, and how, the teaching strategies did or did not assist students to develop knowledge, skills and confidence in delivering sexual health care. Former students of the sexual health elective were invited to complete a brief questionnaire and/or participate in a semi structured interview. Twelve participants completed the questionnaire, and ten were interviewed. Each interview was audio recorded and transcribed, and thematic analysis was conducted to search for major themes.

Findings:

Participants outlined ways in which the elective unit impacted on their sexual health knowledge, confidence and skills. The four major themes included *Becoming Open, Shifting Perspectives, Becoming Comfortable,* and *Translating to Practice.* Teaching strategies which were important in enabling the development of knowledge, confidence and skills are highlighted in a series of subthemes and include the provision of a safe

environment, active facilitation, challenging students' thinking, and opportunities to practise skills. Participants' self-reported clinical practice improved in a variety of ways, including both in sexual health consultations, and in other aspects of their practice such as delivering bad news, discussing "difficult" issues, and practising more patient-centred care.

Conclusions:

Sexual health is important to include in health professional curricula, due to the significant impact on individual and public health of sexual health issues, which are often inadequately addressed by health professionals. There is limited published information about how to teach sexual health in a way which supports improvements in clinical practice, and no studies were identified which provided evidence of effective long term changes to clinical practice. This study found that effective teaching strategies which enabled students to gain sexual health knowledge, confidence and skills, and to put these into practice in their clinical interactions, included provision of a safe environment, active facilitation, challenging students' perspectives, and providing opportunities to practise their skills.

Future research could evaluate whether longer term changes to clinical practice occur after enhancing the teaching of sexual health for health professions students and graduates.

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Acknowledgements

I would like to thank a number of people for their generosity in providing thoughtful contributions to this study:

The participants, whose pseudonyms are Chris, Deborah, Ewan, Grace, Irene, Julie, Laura, Lewis, Meg, Robert and Ruth. Each responded with enthusiasm, articulately sharing the impact of the elective with me, which enabled me to share it with others.

The eighty one former students of the elective unit, who inspired me with their enthusiasm for learning.

The co-coordinator of the sexual health elective, Associate Professor Dianne Carmody, with whom developing and running the unit was a very valuable learning experience and a great pleasure.

Prof Gabrielle Brand and Prof Sandra Carr, my research supervisors, who were unfailing in their ability to provide excellent advice and feedback, and with whom discussions were always intellectually stimulating.

Dr Ric Chaney and Dr Sarah Smith, whose insightful comments and suggestions were very valuable.

Ms Jessica Predovnik, who drew the metaphorical garden path much more skilfully than I was able to do.

Professor David Paul, who has been unfailingly supportive throughout the journey, and provided very helpful comments and suggestions.

This research has been supported by an Australian Government Research Training Program (RTP) Scholarship.

Authorship declaration

This thesis contains work that has been published

Details of the work: Poster presented at International Union against Sexually Transmitted Infections / Australasian Sexual Health Association Conference, Auckland, November 1st to 3rd, 2018, titled 'Teaching sexual health to health professions students: what makes a difference?'
Location in thesis: Poster summarised the findings of this thesis
Student contribution to work: Principal contributor
Co-author signatures and dates: [redacted] Date: 12.6.19 and [redacted] 26.6.19
Details of the work: Poster presentation to Australasian Sexual Health Alliance Conference in Adelaide, South Australia, on 14-16.11.2016, titled "Talking out loud': WA medical student views on sexual health teaching'
Location in thesis: Poster summarised preliminary findings of this thesis
Student contribution to work: Principal contributor
Co-author signatures and dates: [redacted] Date: 12.6.19 and [redacted] 26.6.19

Details of the work: Oral presentation to Australian New Zealand Association for Health Professional Educators /Ottawa Conference in Perth, Western Australia on 21.3.16 titled ‘‘Talking out loud”: WA medical student views on sexual health teaching
Location in thesis: Presentation summarised preliminary findings of this thesis
Student contribution to work: Principal contributor
Co-author signatures and dates: [redacted] Date: 12.6.19 and [redacted]

Student signature: Date: 25.6.19 [redacted]
I, Sandra Carr, certify that the student’s statements regarding their contribution to each of the works listed above are correct. [redacted] Coordinating supervisor signature: Date: 4th July 2019

Chapter 1 Introduction

> *Unsafe sex is the second most important risk factor for disability and death in the world's poorest communities and the ninth most important in developed countries.*[1(p. 1595)]

Sexual health issues are extremely common, and can have a significant impact on the quality of people's lives. They can be a major cause of physical and psychological problems, and contribute to significant relationship difficulties, yet both health professionals and patients have difficulty raising the topic of sexual health during regular consultations[1-5]. Some researchers have considered why health professionals and students have difficulty discussing sexual health. One studied whether discomfort with sexual health was related to students' own experiences, and found that the students' level of sexual experience was weakly linked to their comfort in discussing sexual health, but the main reason for discomfort was feeling that they had not been adequately trained in this area[6].

Given how common and serious sexual health issues can be, it is important that health professionals be adequately trained and prepared to address the sexual health needs of their patients, and be actively enquiring about sexual health[7,8]. It has been consistently found that many health professionals and health profession students have not been adequately prepared[9-12] to deal competently with the sexual health concerns of patients, and that patients' sexual health concerns have not been adequately addressed[2,13-18]. In Australia and New Zealand, a study of medical school Deans and sexual health specialists in 2011 found that most sexual health specialists considered that sexual health training for medical students was inadequate[19]. These findings were supported in an Australian study of the management of sexual health in general practice which found significant gaps in the management of sexual problems[20], and another Australian study, which explored the barriers to GPs offering Chlamydia tests in general practice, concluded that lack of knowledge and lack of training were significant barriers[21]. A United Kingdom (UK) study of the impact of a Sexually Transmitted Infection (STI) training course on GP practice found similarly that even after the course, participants considered that a lack of sufficient training remained a barrier to offering routine STI testing to those at risk[22]. The consequences of inadequate training include reducing

patient access to appropriate sexual health care and preventative services, and this needs to be addressed[23,24].

A number of barriers to the provision of adequate training to health professional students to meet the sexual health needs of patients have been identified. First, research has found a need for teaching staff development to overcome the discomfort of some educators in teaching about sexual health[10,19,25,26]. In addition, sexual health does not fit neatly into one specific health professional discipline, such as primary health care, obstetrics and gynaecology, or psychiatry, and it may be considered 'someone else's job'[26]. Not fitting neatly into traditional disciplines creates difficulties in providing a cohesive and well-integrated program for sexual health education[27], and there is a lack of clear sexual health curricula in many health professional education programs. For example, there is no specific requirement for sexual health teaching in medical schools in Australia or the United States of America[10,19,28]. Finally, a lack of sexual health teaching in undergraduate medical training has been attributed to the difficulty of finding time within an already crowded teaching timetable[25].

Purpose of this study

The undergraduate optional unit, People, Health and Sexuality (IMED3313), was developed in 2007 in response to the author and her work colleagues' perceptions that at the University of Western Australia (UWA), there was insufficient teaching in this speciality area within the medical course, and because of this, few medical students appeared to be interested in sexual health. The elective was delivered for six years, until changes in the medical school course resulted in its discontinuation in 2014. Evaluations of the unit following completion by each group were positive, but it was not known at that time whether the unit resulted in improvements in the ability of participants to deliver competent sexual health care to patients.

This research study explored the question:

> **What aspects of the unit and/or teaching strategies facilitated the acquisition of knowledge, skills and confidence in sexual health?**

Structure of thesis

Following this introductory chapter, a brief background to the research project, including information about the sexual health elective, forms Chapter 2. A focused review of the literature relating to sexual health education for health professionals and

students is presented in Chapter 3. The following chapter discusses the research methodology. The findings of the research are outlined in Chapter 5, and the next chapter discusses these findings in relation to the existing published literature. Chapter 7 presents recommendations for sexual health teaching, and for further research in the area.

A number of terms and abbreviations commonly used in sexual health care may not be familiar to all readers, so these are presented in a glossary (Appendix 1). Other Appendices include the Participant Information and Consent Forms, a table which summarises the studies identified in the focused review of the literature, and examples of the stages of data analysis.

Chapter 2 Background

Personal background

The author's professional life since graduation as a medical practitioner from the University of Western Australia has included a variety of clinical and educational roles, mostly in Western Australia. She worked in an Aboriginal Health Service, and then worked as a general practitioner for 17 years. During this time, she also worked at the Sexual Assault Resource Centre, and at Women's Health and Family Services (where she still works). In these professional roles, it has been particularly important to adopt a patient centred approach to practice, and be attuned and sensitive to subtle cues from patients who are experiencing sexual health and other issues.

Since 2000, the author has worked as the Medical Educator at Sexual Health Quarters (SHQ), previously known as "Family Planning". Clinical roles at SHQ have been in the main clinic in Northbridge, the youth health service "Quarry", and the sex worker service, "Magenta". In each of these services, it has been vital to the doctor patient relationship to be approachable and to provide non-judgemental and skilled care in sexual health.

In each of these clinical roles and settings, patients have discussed experiences they have had with other health care providers who were judgemental, and how these experiences have negatively affected their self-esteem, their willingness to seek further care, and their trust in health professionals and the health care system. For example, patients who presented with an unintended pregnancy, and would like to be referred for an abortion, have frequently related how another doctor has "made me feel guilty", or "told me it was wrong", put pressure on them to change their decision, or treated them with little respect. Others, diagnosed with an STI, have indicated that they felt judged when they presented to another health professional for investigation or treatment.

Whilst teaching doctors and medical students, the author has observed that while some were interested in sexual health, many have felt that they lacked knowledge and skills in this area, and felt inadequately prepared for the sensitive and patient centred care that is required, in the author's opinion, in sexual health.

The writer is an experiential learner, and over the years her teaching approaches have become more and more experiential, as she observed the increased level of engagement and enjoyment of the learning experience for participants when compared with more didactic approaches.

The elective unit: People, Health and Sexuality

Many medical schools worldwide have provided limited sexual health teaching in their curricula[9,13,29,30] and health practitioners have often been observed to have inadequate skills in this area[19,31,32]. For this reason, the elective unit called People, Health and Sexuality was developed by Associate Professor Dianne Carmody and the author of this thesis, and offered to a small number of UWA medical students in the third year of a six year medical degree, aiming to enhance their knowledge, skills and confidence in sexual health. In planning and designing the unit, Associate Professor Carmody and the author wanted to ensure that students learned (and re-learned) about different aspects of sexual health, and gained interest, knowledge, skills and confidence in their ability to provide sexual health care to patients.

Teaching People, Health and Sexuality

From the facilitators' prior experience of teaching in sexual and reproductive health, and their clinical experience and knowledge of the sexual health difficulties that many people experience, some potential sensitivities for students around sexual health were recognised. These could include past sexual abuse, current relationship difficulties, ongoing sexual identity issues, and cultural, religious, and personal ethical issues. It was recognised that teaching about these issues could make some students uncomfortable, and possibly have negative impacts on their wellbeing and on their openness to learning. To minimise this risk, the facilitators aimed to provide the students with a safe and supportive learning environment. They wanted to respect and acknowledge students' own values and experiences, whilst respecting their privacy, and to provide a safe environment which would enable students to share their views with others, to grow in their understanding of the clinical aspects of sexual health, and to be open to a diversity of views, resulting in deeper learning.

> *If the education process begins by bringing out the learner's beliefs and theories, examining and testing them, and then integrating the new, more refined ideas into the person's belief systems, the learning process will be facilitated.*
>
> Kolb[33(p.28)]

When planning the unit, the wellbeing of students and their emotional safety were a priority, and some of the more challenging activities were considered carefully. For example, it was considered whether to include a visit to Magenta, the sex worker advocacy organisation. Most students had limited prior exposure to clinical settings, and

very few clinical experiences in sexual health. However, seeing how well the students engaged with less challenging experiences early in the unit schedule, the visit was included towards the end of the workshop schedule. During the first year, noticing students' enthusiasm for learning in this setting, and the lively discussion stimulated by this visit, it was considered that whilst it did pose challenges, it was not overwhelming. As Kolb warned, a careful balance between safety and challenge is required:

> *To focus so sharply on continuity and certainty that one is blinded to the shadowy penumbra of uncertainty and doubt is to risk dogmatism and rigidity, the inability to learn from new experiences. Or conversely, to have continuity continuously shaken by the vicissitudes of new experience is to be left paralysed by insecurity, incapable of effective action*[33 (p. 28)]

People, Health and Sexuality (IMED3313) was first delivered in 2007, then each year from 2009 to 2013. It was a semester long (thirteen week) series of weekly sessions. These consisted of nine to ten 3.5-hour workshops, two to three 3.5-hour clinic observations, and one sexual health agency visit. The number of students was limited to fifteen per semester, to facilitate participatory student discussions, and to enable each student to experience more than one clinical session.

The learning outcomes of the unit were that by the end of the semester, students would be able to:

1. Explain the physiology of male and female sexual function
2. Describe social, cultural and psychological aspects of sexuality
3. Describe legal aspects of sexuality
4. Integrate knowledge of sexuality throughout the lifespan
5. Demonstrate an understanding of sexual identity including behaviours and feelings
6. Describe issues relating to sexuality and disability
7. Describe issues relating to sexuality and illness
8. Demonstrate an ability to communicate about sexual health
9. Demonstrate an ability to take a sexual history
10. Identify personal attitudes and values relating to sexuality
11. Identify community and professional resources regarding sexual health
12. Demonstrate an understanding of sexual health education
13. Demonstrate developing professional attributes and skills in sexual health

In planning the unit, the facilitators maintained awareness that discussing different aspects of sexual health in a professional context could potentially raise personal issues for students. This concern was realised when, amongst the six groups that participated, one or two students per group did discuss personal issues privately with one or both facilitators. The teaching strategies included to enhance safety for students included:

- Small group teaching
- Setting "group rules" at the commencement of the semester
- Opportunities for private reflection
- Modelling respectful and inclusive professional behaviour

As stated, each cohort was limited to a maximum of fifteen students. For most workshop activities, the group was divided into smaller groups of between two and five students. Group rules were developed and agreed on collaboratively with the students each year, and included such issues as the degree of confidentiality to be maintained, the right to be heard, and the right not to not speak if a student chose, and to respect and to hear the views of others.

A reflective activity during the first workshop was for students to anonymously record their hopes and their fears about the unit, which assisted the facilitators to create a safe environment. In a second, guided, reflective activity, students wrote notes on the development of their own sexual identity, and the issues that influenced this development. These reflections were not expected to be shared, but were intended to encourage students to reflect on their own stories as they later learnt about the stories of others, both guest speakers and patients.

The facilitators consciously demonstrated a professional boundary between public and private information. A number of stories from their professional lives were discussed, but personal information was limited to that appropriate to share with a group of students. Similarly, students were not asked about their personal lives. With stories from the facilitators' professional lives, they were careful to avoid details of specific patients, but instead used scenarios combined from a number of different experiences with patients, or discussed their own responses to particular clinical scenarios.

To achieve the learning outcomes for this unit, a range of educational activities were developed, and are summarised in table 1 below. The activities were planned based on the facilitators' understandings of educational principles, and the teaching strategies

were developed to encourage reflective learning, to develop new skills, and to vary each week to engage and maintain interest throughout the semester.

Table 1: Educational activities used in People, Health and Sexuality

Educational activity	**Example**	**Rationale**
Setting up a group agreement	All groups agreed on the degree of confidentiality they expected from the other participants, amongst other issues such as use of mobile phones.	Set up "safe environment"
Brainstorm activities	Students considered the different words, and different types of language used in sexuality	Practise using sexual health language, consider language for use in professional and in other contexts
Pre reading followed by group discussion	Different students read about different chronic illnesses and their impact on sexuality, and brought this understanding to a group discussion	Enhance knowledge of the impact of chronic illness on sexual health, develop awareness of common issues for people with illness
Videos	A fictional video about an elderly couple who meet in a nursing home	Stimulate discussion, challenge perspectives on elderly people and sexuality; enhance awareness of changes in sexuality through the lifecycle.
Brief lecture segments	A mini lecture on sexual anatomy and physiology	Increase knowledge about sexual anatomy and physiology
Values and attitudes continuums	Students stood on a continuum from "completely agree" to "completely disagree" with a range of statements, such as "15 year olds are too young to have sex". Participants discussed why they chose the particular place on the continuum and were encouraged to move if their views changed	Identify and discuss own values, listen to others' perspectives, consider whether own values might change

Educational activity	**Example**	**Rationale**
Individual reflections	Students wrote about the development of their own sexual identity, but were not asked to share this with others (including teachers)	Reflection on own development, increase awareness that individual journeys may differ, encourage further reflection when speakers and patients discussed own identity development
Guest speakers	Gay, lesbian and transgender people telling their personal stories about the development of their sexual and gender identity	Challenge assumptions about gender identity and sexual identity, reflect on the differences in the development of individual identities, enhance knowledge of difficulties experienced by sexual and gender minorities
Small group (three to five students) activities with discussion	Groups discussed what to include in a sexual history, or how to promote safe sex	Enhance individual participation in active learning Consider how to ask sensitive questions in a professional way
Observation of sexual health consultations	Family planning, women's health and sexual health centres	Role modelling with skilled clinicians; encouraging reflection on how to develop these skills; demonstrating the range of patient presentations in sexual health, and the skills required to assist with these issues.
Visits to sexual health agencies	Sexual assault service, a sex worker advocacy and education service (Magenta), abortion clinics	Awareness of some of the more challenging aspects of sexual health; challenging attitudes

Educational activity	Example	Rationale
Other whole group activities	Enacting a brief drama about a teenager with an unplanned pregnancy, then discussing the responsibilities of the different characters in the drama	Identification and voicing of own attitudes, hearing others' perspectives, reconsidering own views

Also included in the learning activities (and mentioned by some participants during the research interviews) were three types of assessment:

Table 2: Assessments used in People, Health and Sexuality

Reflections on each clinic observation and agency visit
Role playing a scenario, randomly chosen from a pool of eight provided scenarios (for example, discussing with a "fellow GP" how to consult with an adolescent about sexual health)
Small group presentations on a sexual health topic of their choice

The students

For the six years of 2007 and 2009 to 2013, between ten and fifteen third year medical students each year completed the elective unit, a total of eighty one students altogether. Of this total, twenty eight were male, and fifty three female. The cultural and religious background of the students varied widely. We did not record these backgrounds formally, but this information was sometimes mentioned during class discussions, and included a mix of Anglo Australian, Chinese, South East Asian, Indian, Sri Lankan, European, North and South American and Middle Eastern backgrounds. Religion was less commonly mentioned during classes than cultural backgrounds, so students may have had other religious backgrounds besides those mentioned, which were Jewish, Christian, and Buddhist.

Evaluations of the unit

The elective unit was very popular and received positive feedback at the end of the course. On completion of the unit, students were asked to submit a Student Perceptions of Teaching (SPOT) evaluation, consisting of 12-22 questions with a 5 point Likert scale (1=strongly disagree to 5=strongly agree), and two free text questions.

The quantitative evaluation results from the eighty one students over the six years in relation to improved knowledge, skills and confidence were extremely positive, as seen in Table 3 below.

Table 3: Sample of evaluation results

Question	Average /5
Knowledge *I have gained a good understanding of concepts and principles in this field.*	**4.89**
Skill *The clinical experience obtained facilitated my skill development.*	**4.90**
Confidence *I feel more confident to discuss issues related to sexuality with a patient.*	**4.86**

The qualitative open-ended responses to the unit evaluation about what worked well were also very positive, and included increased sexual health knowledge:

> *I have completed the unit feeling so much more comfortable with the concepts of sexual health.*
>
> Medical student 1

Another student mentioned that the unit helped to develop sexual health communication skills:

> *Helping us as medical students be much more open to discuss sexual health*
>
> Medical student 2

Encouraging small group discussion increased student comfort with sexual health, as demonstrated in the following comment:

> *Talking out loud about the issues makes you more comfortable!*
>
> Medical student 3

The two main responses to the question on what could be changed or improved included several students suggesting that more time be spent on taking a sexual history. Other suggestions were practical and organisational issues such as the location of the workshops, and solving parking difficulties.

Chapter 3 Literature review

Introduction

Sexual health is an important issue from the perspective of patients[14,15,34] and many health professionals[35,36], and from a public health perspective it is highly significant[1]. Unsafe sexual practice is the second biggest risk factor for death and disability in the world's poorer areas, and the ninth most important in wealthier countries[1]. However, as outlined in the introductory chapter, there are many gaps in the provision of adequate sexual health care, in Australia and elsewhere[2,13-18]. One of the most important influences on health care professionals' capacity to deliver good sexual health care appears to be adequate training[6], so it is important that effective sexual health care education is provided. In Australia there is no standard curriculum required for undergraduate medical programs[28], which means that the extent of teaching of sexual health in medical schools has varied widely. Worldwide, health professional education in sexual health has varied from comprehensive to completely absent, and many programs have not met the needs of the participants[6,10,19,37,38].

Due to the challenge of crowded curriculums within courses for health professionals, it is important to identify the most effective education strategies for delivering sexual health education, in order to produce future health professionals who are both competent and confident to address sexual health issues in their clinical practice.

In this targeted review of the literature, the following questions will be addressed:

1. How have health professions education programs approached the teaching of sexual health?
2. Were these approaches successful in changing attitudes to sexual health, building knowledge, skills, confidence and comfort with sexual health consultations, or in changing subsequent clinical practice?
3. What can be learned from these studies to inform future sexual health teaching?
4. What are the gaps in knowledge about providing sexual health education to health professions students and graduates?

Literature review methodology

A targeted approach to reviewing the literature was used[39]. Articles were selected which identified a specific sexual health education intervention for health professionals or health professional students, and included an evaluation of whether the learning outcomes were achieved. For these articles, the learning outcomes included one or more of: changes in attitudes towards sexual health issues; the development of sexual health knowledge, skills, confidence or comfort levels; or changes to clinical practice.

The phrase 'sexual health education' was used broadly to include articles which discussed either general sexual health education, or teaching about an aspect of sexual health, for example 'STIs', 'sexual history taking', 'sexual health in older people' or 'transgender health'. The search initially focused on teaching health professions students, but because very few high quality articles were identified, the search was broadened to include the teaching of health professions graduates as well. Both qualitative and quantitative studies were included, but the vast majority were quantitative studies. Only one qualitative study[30], and two mixed methods studies[15,40] were identified. Articles were included irrespective of when they were published, or the quality of the evidence, in order to examine the broadest possible scope of the limited literature.

The literature review was conducted utilising a number of strategies. An initial literature survey was conducted using the following databases: Onesearch (the University of Western Australia's library database) CINAHL, Web of Science and PubMed, using the terms, and combinations of these terms, listed in Table 4 below. These terms were also used to search the contents of a number of health professions education journals, such as *Academic Medicine*, *Medical Teacher*, *Medical Education*, and *Focus on Health Professional Education*, and publications of the Association for Medical Education in Europe (AMEE). The search was expanded by looking for additional articles by the authors already identified, locating references utilised by the authors of these publications, and searching for publications which cited the identified articles.

Table 4: Examples of search terms used for initial literature review

"Sex* health"	"medical", "doctor", "medical student"
"sexual health"	"nurse", "nursing" and "nurs* student"
"sexual health education"	"health professional"

Using these selection criteria, fifty three programs were identified from publications from 1976 to 2018. Some of the highest quality evidence was found in early articles, such as that by Rabin *et al* from 1994[41]. Of the fifty three programs, thirty one were for medical students, two for nursing students, eight for doctors and twelve for mixed professionals working in health care settings. Most of the studies were conducted in the United States of America[29,34,42-44,41,45-68]; the remainder were from diverse nations including the United Kingdom[69-74], Ireland[15], Netherlands[75], France[76], Iceland[77], Taiwan[78], India[79], Nepal[30], Canada[80], Colombia[81], Brazil[82], South Africa[83], New Zealand[84] and Australia[85,86].

The fifty three studies relevant to this review have been summarised as a table in Appendix 6. The table includes an assessment of the quality of the evidence provided on the impact of the educational interventions. Assigning a lower quality of evidence is not intended to imply low quality education or research work, but may instead be related to the availability of the resources required to complete a robust study, or to limitations to publication by journals.

The three studies with qualitative components did not provide sufficient information about their methodology, and the qualitative components were categorised as providing low quality evidence[15,30,40]. For the quantitative studies, the level of evidence was assessed according to the criteria in the table below:

Table 5: Criteria for assigning high, medium and low levels of evidence

High	Medium	Low
Comparisons were made between similar groups, or comparisons were made of individuals pre and post education AND More than 20 participants per group AND The evaluation included an independent assessment of knowledge, skills or performance in clinical practice If questionnaires were used, they were clearly identified as validated	Comparisons were between similar groups, or the same method was used before and after the program AND The evaluation relied on self assessment, OR Unclear if questionnaires had been validated	The criteria for high or medium levels of evidence were not met eg. small numbers of participants, inconsistencies between the findings and the conclusions, or the publication did not provide sufficient substantiation for the findings

A number of other articles were identified which proposed or discussed educational interventions, but did not evaluate them, and these were excluded from this literature review.

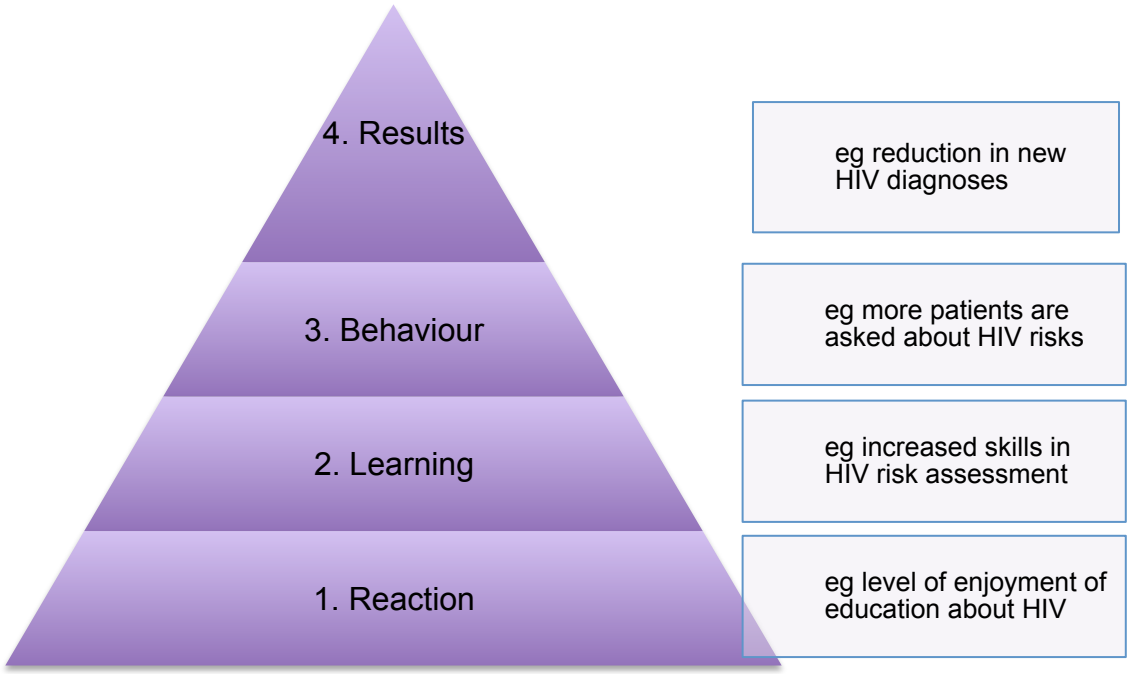
Teaching strategies and effectiveness of sexual health education programs

The publications reviewed documented the evaluation of a number of strategies for teaching sexual health to students and graduates of health professional courses. Most used a combination of teaching strategies, including role plays with simulated patients or with peers, with or without feedback; observation of clinical consultations, viewing videoed patient interactions or role plays; didactic lectures or written materials; facilitated discussions; health care consumer teaching; exploration of student attitudes; reflective exercises; and individual study modules using case scenarios. All except one of the educational interventions described were new stand-alone sexual health teaching programs. The single exception was the integration of sexual health topics into existing teaching sessions during four different medical student rotations: paediatrics, psychiatry, internal medicine and family medicine[62].

The evaluations of different sexual health training programs for health professions students or graduates have been summarised below. Most studies were evaluated at the conclusion of the educational program, but some assessed the outcomes one year afterwards[47,55,70,77,81], and one assessed whether changes were still evident two years post intervention[85,87].

A widely used model indicating the levels of evaluation of the outcomes of education programs was proposed by Kirkpatrick[88]. This is shown diagrammatically below as Figure 1, using a hypothetical example to illustrate the differences between the levels of evaluation. Level 1 is the reaction of participants to a program, such as level of enjoyment, and is relatively simple to perform at the conclusion of a program. Level 2 evaluates what has been learnt, such as whether skills have improved between the beginning and the ending of the program. Level 3 evaluations include whether participant behaviour has changed, for example putting newly acquired skills into practice. Level 4 evaluations indicate whether changes have occurred at a population level, for example whether STI rates decrease after an education program has taught clinicians to develop skills in assessing STI risk factors. Many education evaluations have been performed at level 2, as it is usually simple to perform, and confounding factors are more easily controlled for than evaluation at levels 3 or 4. However, a limitation to evaluation at Level 2 is that the impact of the education on clinical behaviour is not known. Higher levels at which education programs can be evaluated are more reflective of the impact of the education at an individual practitioner or population level, but are more challenging and resource-intensive to evaluate, and are also more likely to be subject to influence by factors outside the control of educators or participants. For example, in a hypothetical project to reduce new HIV diagnoses by educating health professionals to perform better HIV risk assessments, the impact of other factors such as a successful community health promotion campaign cannot be excluded.

Figure 1: Kirkpatrick's levels of evaluation



The majority of studies identified in the focused review of the literature evaluated learning outcomes at level 2 in Kirkpatrick's model, such as improved sexual health consultation skills. However, many of the studies identified in the review discussed a common rationale for enhancing teaching about sexual health, namely, that sexual health consultations were not done well in practice. While achievements such as increased skills or confidence could be expected to change future clinical behaviour, evidence for this is equivocal. For example, one study found that participants' increased knowledge and intention to change clinical practice were not related to actual changes to practice[89]. Ideally, therefore, evaluation of these programs would have been conducted at level 3, evaluating the impacts of educational programs on clinical behaviour, or "doing sexual health consultations well". However, it is not always possible to evaluate whether educational programs have made a difference to behaviour in practice, for a number of reasons[88]. These include the time and cost involved in assessing changes to behaviour before and after a program, or comparing actual practice in a control group with an intervention group; and the difficulty of excluding other factors that either promoted or prevented participants from putting this learning into practice, such as working in an environment that discourages these changes[88]. One of the studies in this review illustrates one of the difficulties with evaluating programs at level three. Ross and Landis had planned to evaluate their program by assessing sexual

history taking before and after the education program, but abandoned this partway through the study due to lack of resources[61]. Instead, for the post program evaluation, they relied upon participant self-report, which provided a lower level of evidence for changed clinical practice than that which their planned direct observation method may have provided.

Despite the difficulties outlined above, eleven of the identified studies investigated changes to clinical practice (Kirkpatrick level 3), some of them in addition to other learning outcomes such as increased confidence or increased sexual health consultation skills (Kirkpatrick level 2).

Because very few studies reported identical combinations of learning outcomes, this review focused on educational programs that aimed to address six key areas: *knowledge*, *attitudes*, *comfort levels*, *consultation skills*, *confidence* and *clinical behaviour*. Where a study reported on more than one of these, it has been summarised under the heading of the earliest learning outcome in the following list: 1. *knowledge,* 2. *attitudes,* 3. *comfort,* 4. *skills,* 5. *confidence* and 6. *clinical behaviour*. All but three of the studies identified were solely quantitative, with the majority using questionnaires or assessment checklists to evaluate the learning that had occurred.

1. Which programs achieved increases in sexual health knowledge?

One barrier to providing effective sexual health consultations is a lack of knowledge about sexual health issues[4,8,90,91]. Twenty eight of the studies included in this review discussed educational programs which evaluated changes to participants' sexual health knowledge by comparing groups, using pre and post tests, or obtaining participants' self assessment after the program's conclusion.

The teaching strategies used in these programs included reading materials, didactic sessions, exploration of attitudes, health care consumer panels, videos, case discussions, small group discussions, role plays, peer teaching, reflective exercises and clinical experiences. No particular combination of teaching strategies appeared to be more effective than others. Most programs included didactic components along with one or more other activities, although one used the single strategy of role plays with feedback[48]. The studies which compared different education programs found no difference in knowledge acquisition between different programs[42,56].

All but one program which looked for increases in knowledge were effective. For this program, some areas of knowledge about AIDS increased, but not all[83]. The teaching strategies used for this program were not described.

There is no clear evidence that the length of a sexual health education program plays an important role in increasing participants' knowledge, because even short programs have been effective. Most studies providing higher level evidence of increases in knowledge were relatively brief, from 75 minutes[42] to 4 hours[67,92], although one[78] was a twenty hour program.

For the programs evaluated at the end of a program and at a later time, all showed that the early gains in knowledge were maintained. Some studies provide good evidence of knowledge maintenance for 3 months[42,75], others for 11 months[81], 12 months[47], and two years[85,87].

The next section contains brief summaries of the studies which identified whether knowledge increased after an education program. Those with higher levels of evidence are discussed first, then those with medium levels, followed by those with lower levels of evidence.

Knowledge – higher quality evidence:

The impact of a twenty hour optional education program for nursing students, which included the exploration of student attitudes, didactic teaching about sexual difficulties, and skills practice was examined using pre and post questionnaires, which were repeated seven weeks later, to determine knowledge, attitudes and "self efficacy"[78]. While a control group was also used, the authors did not clearly outline how they allocated students to the intervention or control group, and did not discuss whether the groups were comparable at the outset of the study. However, comparisons between the intervention group before and after the program demonstrated significant increases in knowledge about sexual health between the pre and post test questionnaires, and it remained high seven weeks after the program ended. Interestingly, student attitudes initially changed, but after seven weeks were similar to those found prior to the educational program. Self-efficacy (confidence) increased by the conclusion of the program, and whilst it decreased after seven weeks, it was significantly higher than prior to the education intervention.

In another study, three different seventy five minute educational interventions around HIV counselling for doctors, nurses and physician assistants were compared[42]. The

interventions were standardised patient role plays with feedback; a case based self study module; and classroom-based didactic sessions, case studies and role plays. The first method of assessment was standardised patient role plays, prior to and after the education. During these, skills were rated both by the standardised patients and by the participants themselves; participants in each of the three groups were found to have improved skills after their respective education programs, and there was no difference in improvement between each of the three groups. Three months later, a questionnaire investigating knowledge, self assessed skills and willingness to provide HIV care was administered. Again, each of the three education programs were similarly effective in changing attitudes and increasing both knowledge and skills at this time. While all three programs appeared to be equally effective, the authors noted that participants preferred the two interactive methods over the self-study module.

In a study conducted over three consecutive years, half of a class of medical students were allocated to participate in a four hour sexual health simulated patient role play session with feedback[92]. Compared to the students who were not allocated to the role play session, participants were found in an Objective Structured Clinical Examination (OSCE) four weeks later to take more thorough sexual histories and to provide better HIV counselling. The intervention group students were also found to have greater knowledge in a written examination, undertaken about four weeks after the education session[48].

The effects on medical students of the provision of written material, followed by a two hour educational session consisting of a panel discussion with lesbian, gay, bisexual and trans (LGBT) people, and small group case discussions about LGBT issues was examined[50]. Comparing the pre and post session questionnaires, the authors found that students' knowledge of LGBT issues increased, and attitudes towards LGBT people became more positive.

A package of didactic materials about sexually transmitted infections was sent to two hundred and forty two general practitioners, who were encouraged to reflect on their own practice compared to that of their peers[86]. Significant increases in knowledge occurred when followed up two months later. The authors also looked for increases in self reported sexual history taking, and comfort with taking a sexual history, and stated that sexual history taking increased, although this result was not presented in detail.

A four hour program about sexuality and older people for health professionals working in a nursing home was provided, in which participants viewed recorded interviews with

older people, then discussed the issues raised in the videos[67]. This study used tests of knowledge and attitudes before and after the educational intervention, and found that participants experienced an increase in knowledge about sexual health, and broadened their attitudes towards older people and sexuality.

Knowledge – medium quality evidence:

A one day sexual health education program for a interprofessional group of health professionals working in a rehabilitation care service was evaluated[85,87]. The program included didactic sessions and discussion of case studies about sexual health concerns in rehabilitation care. Two randomized groups were compared, those who had done the workshop and those yet to complete it, using questionnaires to assess knowledge, comfort discussing sexual health issues, and participant attitudes. The questionnaires were administered before, immediately after, and three months after the education program, and both groups were followed up two years later with the same questionnaire. By that time both groups had completed the workshop. Comparing before and after, before and three months after, and before and two years later, the workshop was found to have increased knowledge and levels of comfort discussing sexual health, and to have resulted in more open attitudes towards sexual health.

An early publication from 1976 examined the impact of a sexual health education program for medical students[47]. The students were male only, but the reasons for this were not explained. This approximately thirty hour program included mostly didactic components, along with an exploration of student attitudes, and an optional observation of a sexual counselling session. This study, using attitudes and knowledge questionnaires prior to the intervention, immediately afterwards, and at 6 months and 12 months post intervention, demonstrated significant increases in knowledge and changes to attitudes, and these were still present twelve months after the program. Whether questionnaires were validated was not discussed.

Another early study reported on a sexual health program of approximately twenty seven hours for medical students, which incorporated discussion and didactic components[81]. The researcher used sexual health knowledge and attitude tests before, four months after and eleven months after the course. This questionnaire was a Spanish translation of an English-language questionnaire, and it is not clear if either version was validated. Changes in attitudes, and increased knowledge, were observed between the pre-course and four months post-course questionnaires, and were still present eleven months later.

The impact of a student-led one week sexual health education program for medical students which included didactic components, health care consumer involvement, a film on sexuality and disability, discussions, and role play practice of sexual history taking was evaluated[49]. Attitudes and knowledge questionnaires, comparing participants prior to, immediately after, and three months after the program, demonstrated that participants increased their level of sexual health knowledge, changed some attitudes and felt more comfortable discussing sexual health issues after the program, and these changes persisted three months later.

Medical students undertook an elective 24 hour didactic course prior to becoming peer sexual health educators for secondary students, with each medical student then delivering education to six groups of secondary school students[76]. Increased sexual health knowledge for medical students was demonstrated by comparing knowledge questionnaires before and after the program. The authors also reported an increase in student confidence, but did not discuss how this was determined.

The effects of two one hour long HIV education sessions for twelve internal medicine residents were compared[56]. One was a didactic lecture plus questions, the other, covering the same topic, included didactic material, a simulated patient interview, and feedback from the simulated patient. Questionnaires to assess knowledge and comfort levels with HIV discussions were completed by all participants before and two weeks after the education session. Based on this questionnaire, there were increases in knowledge and in feeling comfortable with HIV discussions after the program, and no difference between the groups was found. However, an OSCE two weeks after the education demonstrated a clear difference between the groups. Both the simulated patient and an independent physician rated the skills of each resident. Those who had participated in the interactive session had significantly higher scores for interpersonal skills and for history taking than those who had done the didactic course.

An optional clinical experience for medical students focusing on care for transgender patients was evaluated[60]. The length of the experience was not described in the publication, nor was information about whether students participated in or simply observed clinical consultations. Students completed a questionnaire before and after the experience, including their self assessed levels of knowledge, skills and comfort caring for transgender patients, and their attitudes towards transgender care. The authors found that comfort with and self-assessed knowledge about transgender care had both increased, comparing the individual questionnaires before and after the experience.

Three two-hour long education sessions about transgender issues for the thirty five staff (medical, nursing, counselling, administration and security) of a health service providing comprehensive care in a low-income area was studied[52]. Using a questionnaire before and after the training, the authors found a decrease in negative attitudes towards transgender patients, increased knowledge of transgender issues, and increased readiness to see transgender clients.

Three studies evaluated changes in knowledge for health professionals working in disability care[15,75,84]. A one-day interprofessional sexual health program for health professionals looking after people with disabilities, which included didactic components, reflective exercises, video clips, role plays, case studies and group discussion, was reported[15]. The assessment tools were pre- and post-tests of knowledge, comfort and self-assessed sexual health consultation skills, followed by interviews of a sample of participants between two and three weeks later. Compared to before the program, participants had increased knowledge, and greater skills and comfort with sexual health both at the conclusion of the program and two to three weeks later. Findings from analysis of the interviews supported the quantitative findings.

In another study, optional two-day workshops about sexual health issues in people with disabilities were provided for health professionals caring for people with disabilities and those requiring rehabilitation[84]. The workshops included didactic components, small group discussions and demonstration role plays. Pre- and post-tests were performed, and repeated six months later, exploring knowledge, attitudes, comfort and self-rated skills in managing sexual health concerns, and the frequency with which participants addressed sexual health concerns with clients. All of these measures increased at the end of the education program, and these higher levels were maintained six months later, except for a small decrease in self-reported skills between the post-test and the six month follow up.

A six-to nine-hour education program for a interprofessional group of health professionals working in disability care was discussed[75]. The training included didactic sessions, discussions, and role plays with simulated patients. Participants were also given “homework” – to talk about sexual health with patients. Two methods of assessment were used: self-rated competence, and a questionnaire assessing knowledge, attitudes and levels of comfort discussing sexual health. These were administered before and after the program, and three months after the program. The authors found changes to participants’ attitudes, improvements in knowledge and comfort with sexual health

discussions, and increases in self rated competence, and these were maintained when re-assessed three months after completion of the program.

Knowledge – lower quality evidence:

Three studies focused on teaching about lesbian, gay, bisexual and transgender (LGBT) issues[59,63,80]. Medical students studying in small town rural settings participated via video link in small group discussions of LGBT case scenarios. Students performed satisfactorily in examinations of their knowledge and clinical skills in LGBT issues, and from this the authors concluded that their teaching was effective[80]. No comparisons were made before and after the introduction of the teaching, nor with a control group. Elsewhere, an optional four hour program including three hours of didactic components and one of simulated patient role plays was provided to medical students about LGBT issues[63]. Students' self-reported knowledge levels increased when evaluated at the end of each of the three didactic hour-long sessions. A third program studied the impact of a one day training session for eighty one medical students about LGBT issues[59]. The program consisted of didactic components, a community member panel, and videos of clinical scenarios. Questionnaires completed before and after the session indicated increases in knowledge, confidence and comfort with LGBT issues in clinical practice.

Two programs were dedicated to transgender care. One involved a single lecture to teach medical students about aspects of transgender care[93]. Using pre- and post-assessments of three knowledge questions, the program demonstrated increases in knowledge. In another, a four hour education program about transgender care was offered to ten interested health care providers[94]. The teaching methods were not specified, nor was the timing of the questionnaire evaluation, but participants considered that after the education their knowledge levels and confidence consulting with transgender patients had increased[94].

In 1989, three hundred interprofessional health and other professionals (eg journalists) attended one of a series of four information days about Acquired Immune Deficiency Syndrome (AIDS)[83]. The teaching strategies utilised were not outlined. Some aspects of knowledge about transmission of HIV increased when compared to questionnaires completed before the program, but some did not. Anxiety about acquiring HIV, however, decreased significantly after the program.

A medical student-developed and –led three hour elective session on sexual health included a didactic presentation, a demonstration role play, discussion and small group role plays[51]. The authors found that the ninety two participants performed better in

written sexual history taking questions in their final examinations than in their other subjects, but no comparisons were presented between students who undertook the elective and those who did not, so it is difficult to draw any clear conclusion from this finding.

A thirteen hour elective on sexual health and abortion was developed by medical students[29]. The program included didactic teaching and clinic observation, and was attended by fifty medical students. At the end of the program, student evaluations showed that they considered their understanding of abortion and sexual health to have increased.

A sexual history taking education program was provided for two hundred and twelve medical students, which included a forty five minute didactic session on taking a sexual history, followed by two role plays, in which one third of the students took an active role, and two thirds observed[45]. One semester later, in a content examination, those who participated in the role plays were found to have slightly higher levels of knowledge than those who had observed the role plays. However, the authors did not discuss whether students were self-selected or allocated to actively participate in the role plays, nor whether there were other differences between the students who participated and those who observed.

Another study of a sexual history taking program for medical students sought to identify whether medical students' knowledge and self-perceived skills changed after their introductory sexuality teaching[66]. Questionnaires from one hundred and fifty three students were compared before and after similar human sexuality teaching programs at two different medical schools, University of California, Los Angeles (UCLA) and University of California, Davis (UCDavis). The program consisted of five (UCLA) or nine hours (UCDavis) of didactic teaching, and six (UCLA) or nine hours (UCDavis) of small group interactive workshops. At UCLA, all students were randomized to either conduct a role play sexual history or to observe one. At UCDavis, one third of the students participated in role plays, and this was not randomized. The authors reported that, when combining the medical students at both schools, those who observed or participated in role plays were more knowledgeable, and had higher levels of self perceived sexual health communication skills, than those who did not observe or participate. However, other unidentified differences between the two schools' education programs cannot be excluded. Interestingly, at UCLA, where all students either participated in or observed role plays, no difference in knowledge levels or self

perceived skill levels was identified between the participants and the observers, which contrasts with the observation from a different study that knowledge appeared a little higher in active participants in role plays compared to observers[45].

The knowledge and attitudes of nursing students towards STIs and HIV were evaluated by comparing two cohorts, before and after the addition of an extra sexual health module[40]. Neither the teaching strategies used, nor the duration of the module, were outlined. Using knowledge and attitudes questionnaires (no mention was made of whether these were validated), the findings included increases in knowledge, and changes in attitudes towards people with STIs and HIV. Some attitude changes indicated greater acceptance of patients with these conditions, but others indicated less acceptance. Focus groups of a small sample of each cohort provided student recommendations that small group discussions were helpful in challenging their views, and that clinical placements would be useful to consolidate their learning.

In summary, of the twenty eight studies which conducted evaluations of participant sexual health knowledge, one found that their program resulted in variable changes in knowledge, but the remainder were effective in enhancing knowledge levels. Only two programs compared different educational strategies[42,56] and both concluded that their programs were equally effective for knowledge acquisition.

2. How did attitudes towards sexual health issues change?

Health practitioners, along with the general community, may hold negative attitudes towards sexual health issues generally, or towards particular sexual practices (eg anal sex), particular population groups (eg gay and lesbian patients) or particular issues, such as abortion. These negative attitudes may prevent some practitioners from addressing sexual health issues for some patients, or may mean that these issues are not addressed in a respectful or effective way.

Fifteen studies evaluated whether learners' attitudes changed towards aspects of sexual health. Most of these also evaluated whether knowledge was enhanced, or whether there were changes in sexual health skills, comfort, or confidence with sexual health consultations.

The educational activities included in programs which aimed to change participant attitudes included didactic segments, discussions, videos, community member teaching, role plays, exploration of attitudes and clinic observations. Interestingly, seven of the

programs which provided medium and higher levels of evidence for attitude changes did not include an explicit exploration of participant attitudes in their teaching strategies, though two did so. It appears, then, that to change attitudes, explicit exploration of attitudes within an education program is not necessarily required. Focus group findings from one of the two mixed methods studies in this review included the observation that the participants found small group discussions helpful in identifying and re-considering their attitudes towards sexual health issues[40]. Didactic components combined with panel discussions were used effectively in other studies which reported changed attitudes, for example, a two hour program about LGBT patients resulted in 'more accepting attitudes'[50]. A purely didactic program of eight lectures also resulted in changes in attitudes[65].

The length of education programs did not appear to make a difference to changes to attitudes. The nine programs with medium to high levels of evidence that attitudes changed ranged from two to thirty hours in duration, with the two hour program demonstrating high level evidence of attitude changes after the program[50].

One program in which role plays were used as the main teaching strategy was found to be ineffective in changing attitudes[74]. In contrast, role plays were part of the mix of strategies used by another program with good evidence of effectiveness in creating attitude change[78]. A possible explanation for the difference is that in the former study, some attitude changes may have been missed, because scores for a number of questions were combined, rather than examining each attitude question separately.

Most studies looking for changes in attitudes were evaluated at the beginning and end of the program. Those which also evaluated attitudes at later time periods found that most changes to attitudes persisted. One found that changed attitudes were maintained two years after their education program[87], and another eleven months later[81]. Only one study found a decline in attitude changes over time, with the initial attitude changes returning towards the baseline seven weeks later[78].

The next section contains brief descriptions of the studies which found changes to attitudes following an education program. In addition, some of those described in the previous section also found changes to attitudes along with increased knowledge[47,49,50,52,67,78,75,81,85,87].

Attitudes – medium quality evidence:

An audience response system was used to assess attitudes before and after a series of eight lectures for one hundred and thirty five medical students on non-traditional sexual behaviour[65]. Attitudes towards homosexuality became more positive by the end of the program.

Attitudes – low quality evidence:

Evaluation of a role play workshop in sexual health for three hundred and eighty seven medical students found that there was no difference in attitudes between the half of students who had already completed the workshop and the half who were about to commence it[74]. The attitude questionnaires used were a mixture of professional and more personal attitudes, such as "How willing would you be to spend the evening out socialising with [a patient diagnosed with an STI]?", and the authors added "attitude scores" rather than examining responses to individual attitude questions. It is possible that some attitudes had changed after the program, but not others.

Another study evaluated the impact of a brief lecture and a small group tutorial for medical students about transgender issues[68]. Questionnaires of seventy four participants and one hundred and eighty three non-participants before and a month after the program showed that participants developed greater comfort with transgender issues, and demonstrated attitude changes such as a greater willingness to treat transgender patients, and to consider transgender issues as part of conventional medicine.

In one medical student program, sexual health issues were integrated into existing teaching rotations in paediatrics, psychiatry, general medicine and family medicine[62]. The teaching strategies included didactic components, videos, modelled patient interviews and standardised patient role plays. Faculty development was also provided. Questionnaires were used to compare attitudes and comfort with sexual health consultations before and after the program, which found a decrease in homophobic attitudes, and increased comfort with sexual health consultations.

In summary, a number of education programs have aimed to change attitudes towards sexual health, in order to enhance the likelihood that participants will provide non-judgemental sexual health care. No specific educational strategies can be identified as the most effective in changing attitudes, but it appears that a wide variety of activities can achieve this outcome.

3. Was comfort with sexual health consultations enhanced following education?

One of the barriers to the provision of quality sexual health care can be discomfort for patients or health care providers[18,95,96], and it has been demonstrated that higher levels of comfort with sexual history taking is associated with a higher chance that sexual histories will be performed in general practice[97]. Fifteen educational research studies evaluated changes in participant comfort with sexual health consultations.

A wide range of teaching strategies were used in programs that enhanced students' or health professionals' comfort with sexual health generally, or with a specific sexual health issue. These included participating in or observing role plays, clinical experience, self study modules, didactic components, exploration of attitudes, community member teaching, problem based learning, films, case and general discussions and reflective exercises. Most programs included at least two teaching strategies, with between one and five included. Didactic components, role plays and facilitated discussions were the most common. One study which compared the effectiveness of different teaching strategies in enhancing comfort with sexual health consultations found that the three different strategies (role play, role play with didactic material and discussions, or individual case study modules) were equivalent in creating increased comfort for participants[42]. The single program which demonstrated only partial efficacy in enhancing comfort levels was one which aimed to increase willingness to care for AIDS patients[46]. There are several possible reasons why this program appeared to be less effective compared to other education programs. It is likely that fears about contracting HIV would have been high at the time it was published (1990), approximately seven years before the significant improvement in life expectancy for people with HIV with the development of highly active HIV treatment[98]. Fear of contracting HIV may have limited the ability of a single education program to enable practitioners to feel more comfortable to treat patients with AIDS. A paper published three years later identified that:

> *"…affective barriers" to practitioners learning and providing patient care seem to be higher for HIV/AIDS than for other sexual health issues* [53 (p. 265)]

Increased comfort with sexual health consultations was shown to remain high in the five studies which assessed this longitudinally after the end of the education program, with no reduction in comfort after 2 years[87], 6 months[84], or 3 months[42,49,75].

The length of the programs which increased participant comfort with sexual health issues varied from one to twenty five hours. It appears that relatively brief programs can

be effective, for example three seventy five minute programs which provided high levels of evidence for their effectiveness[42].

The next section contains brief descriptions of the studies which found changes to levels of comfort with sexual health, or an aspect of sexual health relevant to the education provided. In addition, those described previously[15,56,60,75,84,85,87] discussed increases in comfort levels.

Comfort - medium quality evidence:

A one hour simulated patient role play with feedback was provided for one hundred and forty medical students[44]. Comparing questionnaires administered before and after the education session, comfort with sexual health consultations and self assessed skills increased.

A two and a half hour sexual health session for medical students, which explored attitudes and values, and included role plays and discussions, found through pre and post program questionnaires that students' comfort with sexual health consultations improved after the session[69].

The findings were different in an evaluation of a series of three education sessions about AIDS, lasting ninety minutes each, for one hundred and three medical, nursing and other health professionals[46]. These sessions included didactic teaching, panel discussions, and demonstrations of infection control procedures. Contrary to the authors' expectations, participant willingness to treat AIDS patients did not change, and a high proportion became more concerned about their risk of contracting HIV than they had been prior to the education. However, another learning outcome was achieved when participants said they were more likely to increase their infection control precautions.

An evaluation was undertaken of nine hours of formal sexual health teaching for medical students[71]. The program included didactic sessions, problem based learning, exploration of attitudes, health consumer teaching, reflection, videos and small group discussions. Comparing student questionnaires prior to and after the program, medical students felt more confident and more comfortable to perform sexual health consultations after the educational sessions.

A twelve item questionnaire about attitudes to sexual history taking, comfort and confidence was used to study the impact of a half day workshop for medical students, which incorporated didactic components, case discussion, role play and feedback[70]. When comparing responses before and after the workshop, it was found that students

were more likely to appreciate the relevance of sexual history taking after the workshop. After the workshop, the students also felt more comfortable, confident and competent to ask patients about sexual health issues. A year later, there was no difference in whether a sexual health history was initiated with patients between participants and non participants. The authors did not, at this point, reassess student confidence or comfort levels.

Comfort - lower quality evidence:

A brief evaluation following a six hour course on sexual dysfunction for seventy four medical students found that students felt more comfortable with sexual health after the program[82]. However, the evaluation did not include any questions about comfort levels, and it is unclear how this conclusion was reached.

In summary, clinicians who are comfortable in providing sexual health care may be more likely to actually provide this care[97]. A range of education strategies appear to improve comfort in both the short and the long term; most effective programs included role plays, didactic components and discussion. Whilst two mostly didactic programs did not clearly demonstrate increased comfort[46,82], a number of the other programs which were effective included didactic components.

4. How were sexual health consultation skills improved?

A common barrier to providing quality sexual health care is the perception by a provider that they do not possess sufficient skill to conduct these consultations[2,4,8,10]. Fifteen studies examined the development of greater skills in sexual health.

Most of the studies discussed below which evaluated changes in sexual health consultation skills used self-assessment as the only measure, which is traditionally seen as a lower level of evidence than a more "objective" external assessment. Interestingly, in a study comparing three different education programs, the participants' self-assessment of skills was similar, to, or lower than, an external examiner's assessment in a particular OSCE station. However, a generalised self-assessment of skills, as used in a number of studies, may not be comparable to a self-assessment of a specific performance.

The educational strategies used by studies which identified enhanced sexual health consultation skills included participation in and observation of role plays, self study modules, didactic components, group discussions and teaching by community members.

Almost all programs which led to improved skill development included experiential learning such as role plays, along with other components. The importance of role plays was demonstrated in a comparison of two education programs, in a small study of twelve participants, participating in a one hour workshop[56]. The education strategies used were didactic only in one program, and didactic plus role play with feedback in the other. This study found that the interactive program improved skills more than the purely didactic one. In contrast, one program which did not include role plays utilised a case based individual study module, and this appeared to increase participants' skills to the same extent as two different interactive workshops, which both included role plays[42].

The only study which found no change in skill levels was very brief, lasting one hour, and utilised community member teaching only[64]. Another brief program using community member teaching along with other education strategies was, however, effective in improving skills[43]. The latter study combined community member teaching with role plays and group discussions, and was slightly longer, three hours instead of one. It was also perhaps optimistic for the former study's authors to utilise the achievement of "excellence" in an unintended pregnancy counselling OSCE station as a criterion, because the education provided did not include opportunities to practise unintended pregnancy counselling skills, and it is possible that skills were improved, without reaching "excellence".

Other programs which clearly demonstrated increased sexual health skills by assessment with OSCE stations were brief (ranging from one to four hours), indicating that education programs do not need to be lengthy for skills to improve[42,44,48,56,70,92].

None of the fifteen studies to evaluate the development of participants' sexual health consultation skills provided high level evidence of long term improvements in these skills. For studies which assessed participant skills using OSCE stations, the longest gap was four weeks between the education and the assessment[48,92]. Only three studies evaluated skill levels before and after a program, and at a later time – two at three months[42,75], and one at six months[42,75,84]. These three studies found that increased self assessed skill levels were maintained at the later follow up.

The next section contains brief descriptions of the studies which found changes to sexual health skill levels after an education program. In addition, those described above[15,42,44,48,92] demonstrated enhanced skill levels after the educational intervention.

Skills - higher quality evidence:

One of the few reports of educational interventions to discuss a lack of the expected outcomes was also one of the briefest. Medical students were randomized to meet with, or not, women who had recently decided to terminate their pregnancies[64]. In an hour long session in small groups, the women informally discussed with students their process of making a decision about their pregnancies. Up to seven weeks later, in an OSCE station where pregnancy options counselling was required, those who participated were no more likely than other students to achieve a rating of excellence. The OSCE assessors commented, however, that a higher proportion of the students who did not participate in the education session appeared to be uncomfortable in the OSCE station than those who had participated in the session.

Skills - medium quality evidence:

In a brief report of a randomized trial of a three hour sexual history taking education session for half of a group of twenty medical students, positive outcomes were identified[43]. The teaching strategies included students developing the questions to ask in a sexual history, role playing an interview with a patient and receiving feedback, and a group discussion with patients with HIV. One week later, two OSCE stations requiring sexual history taking showed that students who had received the education performed better than those who had not, including better interpersonal skills, and taking more complete sexual histories than the other students.

Skills - lower level of evidence:

Medical students and some medical faculty members were identified to have improved self-assessed levels of skill in sexual health consultations, when asked during a focus group discussion after they completed a humanities education program that included a role play and case discussion session on sexuality[30]. The length of time for the sexual health component of the program was not described.

Twenty four family practice residents were randomized to attend two slightly different two hour training sessions[54]. The first was described as skills-based, and the second as attitude-based. Both groups received didactic information about sexual responses, sexual difficulties and non-judgemental care, and performed role play consultations. The skills-based group then discussed cases with a psychologist, while the attitudes-based group explored and discussed their personal attitudes towards sexual health topics. A week after the education program, each participant's skills were assessed by

performing a simulated patient role play. Comparing the two groups, the skills-based education group was considered to have achieved greater skills than the other group. There was no assessment of either group at baseline, nor discussion of whether the groups were comparable prior to the education program, so it is not possible to know whether the education programs were responsible for the differences in skill levels.

A review of a medical student-initiated elective course in reproductive health, incorporating nine lectures and interactive activities, reported that most of the one hundred participants considered their skills to be significantly increased, when provided with a checklist of competencies that they considered that they had achieved[58]. The self assessment occurred either at the end of the elective (students who completed it in 2001) or twelve months after completion (students who completed it in 2000). No comparisons with other students were made, therefore this study provides only low level evidence that the elective, and not the basic medical course, improved the sexual health consultation skills of the participants.

In summary, a range of teaching strategies were used in programs which enhanced participants' sexual health consultation skills. Role plays, with and without feedback, were used in all programs which provided medium to high levels of evidence of effectiveness. Experiential learning, such as role plays, along with a range of other education strategies, appears to facilitate the development of sexual health consultation skills.

5. How was confidence in sexual health consultations enhanced?

There is some evidence that health professionals who do not feel confident to enquire about and address sexual health issues are more likely to avoid "opening a can of worms" by asking patients about their sexual health[4,90].

Four of the seven programs which assessed confidence levels[52,70,71,78] provided medium level evidence that their programs resulted in increased confidence in performing sexual health consultations with patients, by comparing students before and after their education programs. These programs were between half a day and twenty hours long, and each included both didactic and highly interactive teaching methods such as role plays.

Evidence of increased confidence, or "self-efficacy" beyond the program's end was only available from one of these studies, seven weeks after the program's conclusion[78].

Confidence had decreased a little when compared to immediately after the program, but not to pre-program levels.

The next section contains brief descriptions of the studies which found changes to confidence in sexual health consultations after an education program. In addition, those described above[52,59,70,71,78,94] demonstrated increases in participants' confidence.

Confidence – lower quality evidence:

An elective training program for medical students to become peer sexual health educators included didactic sessions, interactive workshops and observation of sexual health education sessions provided by other educators[99]. The length of the program was not discussed. The impact on students was evaluated using questionnaires of student confidence with different sexual health scenarios, comparing students who chose and those who did not choose the elective[72]. The length of time between the elective and the assessment was not specified. The group who completed the elective was found to have increased confidence in discussing sexual health with patients, compared to non-participants, although there was no comparison between groups pre elective, nor of individual participants before and after the elective. It is possible that greater underlying confidence led to students choosing the elective, rather than the elective resulting in increasing confidence.

A questionnaire administered after a three hour teaching session on LGBT issues for twenty three medical residents found that 96% of participants felt more prepared to care for LGBT patients after the session[57]. The session incorporated didactic components, small group discussions and case discussions. Few details were available about the questionnaire used to evaluate the program.

In summary, teaching strategies used by the different programs demonstrating increased confidence with sexual health consultations included role plays with feedback, consumer teaching, case and general discussions, didactic components, exploration of attitudes, observing others teaching sexual health, problem based learning, and viewing videos. There is no clear evidence from these studies about which teaching strategies were most effective in enhancing participant confidence, as no comparative studies were available, and the studies could not be compared with each other for this learning outcome. Increased confidence with sexual health consultations may enable health care providers to put their acquired knowledge and skills into practice, although evidence for this is lacking.

6. Did sexual health consultations in clinical practice change after education?

Because the majority of studies in this literature review were conducted due to perceived deficits in health professionals' ability to provide needed and safe sexual health care, one of the most important elements in evaluating sexual health teaching is whether it results in changes to participants' clinical practice. The five previously discussed educational outcomes of increased sexual health knowledge, and changes to sexual health attitudes, comfort levels, skills and confidence may, but do not necessarily, lead to improvements in clinical practice[89].

Of the eleven studies looking for changes in clinical practice, only four[34,41,55,86] provided clear evidence of a change: an increase in sexual history taking. Each of these were relatively brief programs of twenty five minutes to five hours. One program demonstrated that the clinical changes were maintained for at least one year[55], in contrast to another in which participant self reports indicated no increase in sexual history taking for the intervention group at this time[55,70]. These two programs were similar in length (three and a half hours and half a day respectively), teaching methods (didactic, video, discussion and role plays vs didactic, discussion, role plays with feedback) and the length of time after the program when the changes were re-examined, which was twelve months for both. The main difference between these two studies was the method of evaluation. The first assessed whether sexual histories were taken in three OSCE stations in which this history was indicated[55] while the second used self-reporting of taking sexual histories in practice[70].

The next section contains brief descriptions of the studies which found changes to clinical practice after an education program. In addition, three described previously[73,84,86] demonstrated changes to clinical practice.

Changes to practice - higher quality evidence:

Clear evidence for changes in clinical behaviour was provided by a study which compared two cohorts of medical students, one of which received extra training of approximately three and a half hours in sexual history taking[55]. The training included didactic sessions, video cases, discussions and role plays with feedback. Students in the cohort who had the extra training initiated a sexual history during an OSCE a year later more often than those without the training.

A randomized controlled study compared the effect of no education, written and audio materials only, or written and audio materials plus a simulated patient visit with feedback on primary care physicians' sexual history taking and provision of advice to patients about reducing their risk of STIs[41]. This study found that combining a simulated patient visit with the educational materials was more effective in increasing sexual history taking and providing STI risk reduction advice than simply providing the educational materials. The evaluation tools included physician self report, three to five months after completing the education, and for a sample of the participants, a simulated patient evaluator, who was unknown to the physician at the time of the visit. After the education program, seventy three percent of those who received the educational patient simulation visit reported increasing the number of STI and HIV discussions with new patients, compared to fifty three percent of those who received written materials, and forty two percent of those who received no education. These rates were comparable to those found during the anonymous simulated patient visit six to eight months after the program for a sample of participants.

Changes to practice - medium quality evidence:

Substantial changes in clinical conversations about sexual health were achievable after participation in a structured education program[34]. Twenty three general medical clinic doctors were randomized to a control group or an intervention group, with the intervention group undertaking five hours of education about sexual history taking, sexual function and sexual difficulties. The teaching strategies used in this education were not described. Both patients and physicians were asked, two months later, to complete a questionnaire immediately after their consultation, which included items such as whether sexual health was discussed. The group who received the education discussed sexual health with eighty two percent of their patients, whereas the control group discussed it in only thirty two percent. Whilst no pre-tests were performed, the two groups were considered to be similar with respect to levels of clinical experience and gender.

Modest changes in clinical practice resulted from an optional sexual health program and the provision of extra workplace resources for a interprofessional group of health professionals working in oncological care[77]. The approximately ten-hour program included didactic sessions, case discussions and role plays. Comparing questionnaires prior to and four months after the intervention, the health professionals had increased

the frequency with which they discussed sexual health issues with their patients, although this was not statistically significant.

A one- to two-day interactive course for general practitioners about STIs had mixed results[100]. After attendance, there was a significant increase in the number of Chlamydia tests performed, but no significant increase in HIV tests. Further details of the course teaching strategies were not provided by the authors.

Benefits were demonstrated from a one day interactive HIV education program, which included didactic components, role plays and small group discussion, compared with no education, or the provision of written materials alone[53]. New patients of the two hundred and fifty three physicians were interviewed before and after the program, to assess how often sexual histories were taken. While the three comparison groups differed significantly by gender and area of specialty, the participants in the interactive program increased the proportion of patients from whom they took a sexual history, but the other two groups did not. Interestingly, the internal medicine physicians in the interactive group increased their sexual history taking more significantly than the family medicine or obstetrics and gynaecology specialists. The authors postulated that this was partially because at the time of the study, internal medicine specialists were assigned the principal responsibility for managing HIV, which by increasing its relevance to participants, may have enhanced the participants' ability to learn from the program.

Changes to practice - lower quality evidence:

A compulsory sexual history taking educational program for fifteen hospital residents, consisting of a nine hour program including videos, discussion, role playing, consideration of barriers to taking sexual histories, and discussion with HIV positive patients led to increases in the frequency of self-reported sexual history taking[61]. Viewing of videoed consultations with patients to assess whether the resident took sexual histories from patients was performed prior to the program, but plans to repeat this following the program were abandoned due to insufficient staff time. Instead, interviews were performed six months after the program, when thirty six percent of participants identified that they now performed routine sexual history taking, compared to seven percent of those seen taking histories prior to the education. It is unfortunate that due to resource issues, the same assessment method was not able to be conducted before and after the education. This would have provided more robust evidence of a change in the frequency of taking a sexual history from patients after the educational intervention, but highlights one of the difficulties encountered when evaluating the

impact of education at Kirkpatrick Level 3 – that of having sufficient resources to enable observation of clinical practice.

Changes in practice were reported following participation in a sexual health education session for primary care doctors and nurses, which included tutorials, simulated patient role plays with feedback, and viewing video dramatisations of consultations[73]. The length of the program was not specified, and the authors mentioned that each program varied according to the needs of participants. Evaluation questionnaires which included free text comments were completed by participants at the conclusion of the program. The authors stated, but their findings section did not provide any evidence for this, that some changes to sexual health communication had occurred in the participants' practice, and that other, unspecified, changes in practice had also occurred.

In summary, it is valuable to have evidence that most programs which evaluated changes to clinical practice were successful. Significant resources were required to conduct evaluations which provided good evidence at Kirkpatrick level 3, changes to clinical practice, compared to Kirkpatrick level 2, eg improved skills. Even brief programs were found to lead to long term changes in practice, for example a three and a half hour workshop which increased sexual history taking when assessed twelve months after the program[55]. Role plays and didactic components were used in most of the programs which resulted in changes to practice, but other effective programs included reflection, consumer teaching and small group discussions.

Limitations to interpreting the literature

There were significant limitations to drawing clear conclusions from the literature reviewed above. These include the lack of comparability of the studies, due to the diversity of education interventions described, the diversity of participants, the evaluation of different learning outcomes, and the tools with which they were evaluated. For example, two very similar programs, those of teaching medical students to become peer sexual health educators, reported on different outcomes. One looked for changes in confidence[72], while the other looked for changes in knowledge[76], so they cannot be compared, nor their effects on subsequent clinical practice estimated.

One difficulty with drawing conclusions from the studies is that for some the results were not sufficiently detailed within the publications to allow readers to draw their own conclusions. Many did not provide sufficient information to allow the reader to assess the quality of the evaluation tools. In particular, many studies utilised "knowledge and

attitude questionnaires", without discussing how these were developed, whether they were validated, nor providing examples of the questions utilised[49,52,75,78,84,85]. Others mentioned particular findings without discussing how these findings were obtained[73,76,82]. Some stated that changes to communication skills had occurred, but did not provide information about how they came to this conclusion[73], and others claimed an increase in comfort with sexual health consultations for the students, but the evaluation questionnaire did not include a question about this[82]. A number of studies provided low level evidence for changes, such as student self-assessment of knowledge and skills[15,30,44,52,58,62,75,84].

Some research identified in this review discussed the use of control groups, including some who randomized participants to different groups. However, very few of these studies discussed their randomization process in detail, nor whether they found the control and intervention groups to be similar (eg age, gender, particular health profession). Some groups were clearly dissimilar, for example in one study, those who were assigned to the education but chose not to attend were included in the control group[70].

Most studies in this review focused on a narrow range of learning outcomes. For example sexual history taking skills[92]; the frequency of asking about sex[70]; or confidence in dealing with sexual health issues[72]. The findings from studies with different learning outcomes were therefore not able to be compared. It is also not clear whether achieving one of the possible learning outcomes in sexual health education, such as improving knowledge, is associated with improvements in other areas, such as confidence in sexual health discussions, nor whether this makes a difference in clinical practice. Some authors have noted that some learning outcomes were not necessarily associated with improvements in others. For example, in one study for individual students there appeared to be little correlation between such issues as sexual health knowledge, self assessed skills, attitudes towards sexual health consultations, and comfort with sexual health scenarios[66]. Others, whilst not demonstrating that the learning outcomes were linked to each other, did find that increases in knowledge or skills, for example, occurred alongside positive changes to clinical practice[70,84,86].

A further difficulty when comparing the findings of the studies reviewed were the differences in educational strategies employed, the particular aspects of sexual health taught (eg generic sexual history taking, or more specific topics such as sexually transmitted infections, or transgender health) and the length of time the learners

participated in their educational experiences. Overall, many articles provided good evidence that the education achieved all the learning outcomes that were evaluated when a range of active learning strategies such as role plays, discussion of personal attitudes or particular scenarios, along with some didactic components, were used[41,42,48,50,55,67,78].

There is very limited information about the longer term effects of the fifty three education programs included within this review, and some publications did not state when the evaluation was conducted[51,72,94]. The majority of the studies were evaluated at the conclusion of the program or within three to six months. Some studied their effectiveness eleven to twelve months later[47,55,70,81], and one study evaluated the educational impact two years after the program's conclusion[87]. Of the studies which assessed the impact beyond the conclusion of the program, most found that the changes to knowledge, attitudes, skills, comfort or clinical behaviour were maintained[42,75,84,87], but one study which assessed the program's impact after three months found some reduction in confidence, and some return of pre-intervention attitudes[78]. Other studies did not evaluate learning immediately after the program, but found that participants had retained their learning (or improved, compared to prior to the education program) when evaluated between three and twelve months later[49,55].

A systematic review of randomized and nonrandomized controlled trials of teaching sexual health history taking skills to medical students or doctors was published in 2011[101]. Of eleven studies discussed, only one, by Rabin *et al*[41], discussed above was judged to provide high quality evidence that the interventions resulted in improved skills. Similarly, of the studies in this focused literature review, only nine out of fifty three provide robust evidence of at least one outcome of improved knowledge, skills, confidence or clinical practice for participants.

What can be learned from these studies to inform future sexual health teaching?

Considering which teaching strategies appear to be most effective in enhancing the ability of clinicians to address sexual health issues in practice, most resulted in changes to at least one of the learning outcomes evaluated, when compared with no education. Most programs used a combination of several teaching strategies, with the most common being a combination of didactic components and active participation in role plays, with or without feedback. Other strategies included: observation of role plays,

independent study modules or reading, reflective exercises, values clarification exercises, discussions around sexual health issues or sexual health cases, problem based learning, viewing videos, involving consumers in teaching, development of presentations or delivering education to peers, and clinical attachments (although authors did not specify whether participants were observers or actively involved in clinical care in these attachments[29,60]). Two studies discussed faculty development and/or development of extra resources for use in the workplace, and one provided "homework", which was to talk to patients in the workplace about sexual health. Two well conducted studies which compared different teaching strategies provided evidence that adding role plays to didactic teaching improved clinician's likelihood of taking sexual histories[41], or improved their skills in history taking[56]. On the other hand, a third well conducted comparison study found that role playing was not essential to the development of sexual health consultation skills, when compared to self study modules based on cases[42]. In that study, interactive teaching methods, including role plays, were however preferred by participants. While skills may be gained in other ways, the value of practising skills using role plays in sexual health education is high.

It may be useful to consider the length of time required for education programs to enable changes to practice to occur. No studies provided direct evidence to answer this question by comparing programs of varying length, but relatively brief programs of seventy five minutes[42] to three and a half hours[55] were able to create changes in participants' skills or their likelihood of initiating sexual histories, three to twelve months later.

Of interest to further research, there was not necessarily a correlation between the different learning outcomes of knowledge, skills, confidence, comfort or clinical practice. For example, two different education strategies enhanced knowledge and comfort with HIV consultations to the same extent, but the more interactive program resulted in greater development of skills than the more didactic program[56].

In summary, most programs provided evidence of their effectiveness of a short to medium term increase in knowledge, skills, comfort and confidence in providing sexual health care. However, there was limited evidence that these strategies extend to changes to the clinical practice of participants.

Which interventions resulted in longer term change?

Most of the education programs discussed above were implemented because of the recognition of gaps between the sexual health needs of patients and the capacity of health professionals to address these issues. Therefore, it is important to consider whether the identified changes persisted.

It is clear that the vast majority of education interventions reported in the literature have had at least a short term positive impact. It is notable that while many of these included didactic components, almost all included more interactive teaching strategies. Few studies looked for longer term changes. Of those which did, there was medium to high evidence of persisting changes in knowledge, skills, confidence or clinical behaviour a year or more after the education program was completed. For example, after a one day workshop for rehabilitation providers, which consisted of didactic teaching and discussion of case studies, knowledge, comfort and attitude changes were consistently maintained two years after the workshop, and were changed significantly different compared to before the workshop[87]. A second example found increased initiation of sexual history taking continued, twelve months after a three and a half hour workshop including didactic teaching, video cases, discussions and role play with feedback[55].

Studies which did not show changes

The importance of an appropriate evaluation method was highlighted in some studies which did not show expected changes in participants' sexual health knowledge, skills, confidence or clinical behaviour. The assessment methods used may have failed to detect significant changes. One study which did not show any changes in attitudes towards patients with STIs twelve months after a sexual health role play workshop employed an unusual combination of personal and professional attitudes[74]. All scores for the questions were added together, despite measuring different attitudes. It is possible that some attitudes changed whilst others did not, but this was not able to be detected in this study. In the same study, the initial evaluation had assessed students' knowledge and skills after the workshop, and this had improved, but was not re-assessed at the twelve month followup. Another intervention which did not demonstrate a change investigated the impact of a one hour small group discussion with a patient who had chosen to have an abortion[64]. The criterion used to evaluate change was the proportion of students who achieved excellence in a pregnancy options counselling OSCE station. For such a brief education intervention, which did not involve any skills

practice, this was possibly an unrealistic expectation, and expecting "excellence" was perhaps also unrealistic. Again, outcomes such as altered attitudes may have occurred, but were not evaluated.

Another study showed no change in sexual history taking frequency one year after a half day workshop, when medical students had not increased the proportion of patients from whom they took a sexual history compared to students who did not attend the workshop[70]. The control group for this study was not equivalent to the intervention group, and whilst early improvements in confidence and self-assessed competence were seen, these learning outcomes were not re-evaluated one year later. The teaching strategies in this study were very similar to another study which did show changes in sexual history taking twelve months later, so it is difficult to know why one workshop succeeded and the other did not[55].

Affective barriers to learning may affect the outcomes when teaching about sexual health[53]. In 1990, well before highly effective HIV therapy was available, a four and a half hour program about Acquired Immune Deficiency Syndrome (AIDS) aimed to reduce anxiety about AIDS, and increase the willingness of practitioners to see AIDS patients[46]. Unexpectedly, the level of concern about contracting HIV increased after the workshop, and there was no increase in the willingness of practitioners to see AIDS patients. A high level of fear of contracting what was at the time, a mostly-fatal infection, may have played some role in this program not achieving its aims.

Which education strategies appear to be most effective?

It would be useful for health professional educators to be aware of which education strategies are most effective in improving the ability of health professionals to provide good sexual health care to their patients. A literature review of controlled trials of education programs on sexual history taking skills (randomised and non-randomised) in 2011 found that clear conclusions could not be drawn about which teaching strategies were the most effective[101]. However, similarly to the focused literature review in this thesis, the authors considered that effective teaching strategies included opportunities to practise sexual history taking, and to receive feedback on skills.

From the focused review of the literature in this chapter, the answer to which educational strategies were most effective in improving health professionals' ability to provide good sexual health care remains unclear. The majority of studies found that

whichever teaching strategies were used, the participants achieved the expected changes in knowledge, attitudes, skills, confidence and clinical behaviour. Whilst higher quality studies demonstrating longer term changes were very few, a combination of didactic teaching and interactive strategies were utilized and shown to be effective in these studies[55,84,100].

Gaps in knowledge about teaching sexual health to health professions students

After reviewing the available sexual health education literature, a number of gaps in knowledge remain. These include whether achieving learning outcomes of increased knowledge or confidence, for example, translate into changes in clinical practice; which teaching strategies are most effective; and particularly why some teaching strategies appear to work well in one program, but not in another.

Consistent evidence from the literature is that most types of sexual health teaching to health professionals or students provide immediate and/or sustained changes over several months in one or more important outcomes such as changed attitudes or increased knowledge, confidence, comfort or skills in discussing sexual health. A remaining gap is whether the education programs make a difference to clinical behaviour in the longer term. Of the few studies which investigated changes to clinical practice, only one found that positive changes had occurred and remained twelve months after their program's conclusion[55], whilst another found the opposite[70]. No studies investigated changes in clinical behaviour beyond twelve months.

Another gap that emerged from reviewing the literature was that of addressing which educational strategies were most effective. Because the learning outcomes, evaluation methods and timing of the evaluations was very different for each of the studies, few comparisons can be made between the different programs. The clearest evidence available regarding the most effective educational methods was from the four studies which made well controlled comparisons between different educational strategies, and included an assessment of skills after their programs. One study identified greater sexual health consultation skills for a group receiving brief skills-based training compared to a similar group who explored their personal attitudes and comfort with different sexuality issues[54]. Adding a role play to didactic teaching improved the skills of participants in another study[56]. However, a third study found that all participants' skills improved, and that there was no difference in skill levels between three different

educational approaches, which were cased based study materials, simulated patient role plays with feedback, or a combination of didactic materials, case studies and role play[42]. It is difficult to draw clear conclusions from this evidence. The inclusion of skills-based training, such as role plays, appears in two studies[54,56] to improve sexual health consultation skills compared to exploring personal attitudes or simply providing didactic teaching, while another found that this was not necessarily the case[42].

When considering which educational strategies enhance the likelihood of medical practitioners addressing sexual health issues with patients, only one study was available to provide clarity. That research found that combining written materials and a simulated patient visit with feedback was more effective in increasing the likelihood of discussing sexual health with patients than simply providing written materials, and enhanced the likelihood that those written materials were read[41]. This provides an indication that skills based education may be superior to didactic only education in changing an aspect of clinical behaviour.

An important gap in the literature is an understanding of how and why most sexual health education programs achieve their aims, and some do not. The inclusion of qualitative data may have assisted this understanding. For example, the research presented in this thesis found that the role of emotions in deepening student engagement and understanding was important, but it would be difficult to investigate this issue using a quantitative study, and this issue was not investigated in any of the studies included in this review of the literature.

In summary, there are a number of important gaps in the available literature on teaching health professionals and students about sexual health. These include which teaching strategies are most effective, why most programs were effective but some were not, whether gains in such areas as knowledge or skill are maintained for longer than two years, and whether these gains translate to changes in clinical practice. These important gaps will be reviewed in the discussion section, Chapter 6, in relation to the findings of this research.

Chapter 4 Methods

The purpose of this research was to explore the long term impacts of undertaking a sexual health elective, which was offered to University of Western Australia medical students from 2007 to 2013. The research question was:

> **What aspects of the unit and/or teaching strategies facilitated the acquisition of knowledge, skills and confidence in sexual health?**

In this chapter the research methods will be outlined, including a discussion of the reasons for choosing the research methodology.

Methodology and research design

Choice of research methods

When considering and selecting a methodology to address the research question, a number of issues were considered: what was already known, from a preliminary search of the literature; the depth and breadth of enquiry that was required; and the scope and timeline available to complete this Masters research project.

The literature that was available prior to commencing the research provided information about the variety of teaching strategies that had been used to teach sexual health to students and graduates of health professions, and changes in aspects of participant performance that occurred in the short term. However, as discussed in a 2011 systematic review of sexual health teaching to medical students and medical graduates, no clear conclusions could be made about which of the many teaching strategies were the most effective[101]. The available literature was also unable to illuminate how and why the strategies used were effective, and whether gains in knowledge, confidence or skills were maintained over more than one year. In addition, the views of participants about their sexual health teaching were barely addressed.

Quantitative research methods have been used by most researchers[6,9,11,47,65,69-72,74,76,79,81,95,102-111] when evaluating the impact of teaching health professionals and students about sexual health, and have the advantage of comparing participants with non-participants, or the same participants before and after an education program. For this research project, quantitative methods were considered, and would have provided the advantage of enabling comparisons between those who completed the unit and those who did not. However, the use of quantitative methods alone was unlikely to provide a deep understanding of the complex processes of learning.

The development of skills in sexual health is complex, requiring the integration of knowledge and understanding, sensitive communication skills, and an excellent awareness of one's own attitudes and values. A research methodology that would enable a greater understanding of these complex issues was required. A range of qualitative approaches was considered, mainly due to their capacity to reflect a greater complexity of the learning process than would quantitative methods.

Qualitative research methods which were considered for this study included ethnography, case study, grounded theory, phenomenological approaches and narrative research[112]. Ethnography is used to explore issues in a particular culture, and was therefore less suited to this research[113]. Case study research, because it aims to provide an in-depth analysis of particular issues using multiple sources of data, would have been appropriate to answer the research question, and was considered an option for this study[113]. Grounded theory research, aiming to form a "theory" based on the results of the research, did not seem appropriate to answer the research question[113]. Narrative research, or interpreting the research data as stories, would have also provided the capacity for a deep exploration of the research issues[112], but seemed more suited to investigate personal issues rather than the educational focus of this research. A phenomenological approach, with its focus on the "essence" of the experience, had the potential to create a deeper understanding than might otherwise be possible[112,113].

Based on the issues discussed above, a qualitative research study using a phenomenological approach was selected. Phenomenological methods are used in order to understand the *"meaning or essence of one or more individuals' experience of an event or phenomenon"*, and *"the meanings to these individual(s) of the experience"*[113(p. 383)]. Rather than beginning with assumptions or hypotheses, and testing them, a phenomenological approach allows for a more open method to answer the research question. This approach was chosen because it would provide the complexity and depth of data suitable to address the research question[114].

The main method of data collection in phenomenological research is individual interviews, although focus groups can be used[115]. Interviews seemed most appropriate because students came from a range of cultural and religious backgrounds, and had very different levels of pre-existing knowledge about sexual health, and individual interviews would enable each participant's learning to be understood. While focus groups would have highlighted the most common aspects of the learning process, the author particularly wanted to explore the individual journeys of a variety of students, and then

use these individual learning experiences to find common themes. The data collection method chosen was individual, semi-structured interviews of consenting former students who had completed the elective unit, People, Health and Sexuality (IMED 3313).

Ethics process

An application for Ethics Committee approval for the research was submitted to the University of Western Australia Human Research Ethics Committee in October 2014, and formal approval to commence was given on 5.11.14 (RA/4/1/7182).

Population sample

Of the eighty one students who completed the unit, People, Health and Sexuality, four were excluded, due to a potential conflict of roles, because the author had been a formal mentor for each of them as part of their degree course after their completion of the elective unit. The sample population was therefore the remaining seventy seven of the former students of the unit.

Of the remaining seventy seven former students, all who were able to be contacted were approached to participate. In 2015, when the interviews were conducted, these former students ranged in levels of experience from the fifth year of their six year undergraduate medical course to their fifth postgraduate year.

Recruitment

Contact with potential participants was almost entirely by email. Two of the cohorts were still students, and another had just completed their degrees, and were therefore able to be contacted through their student email addresses on 9.12.14.

Many of the graduates were employed by the Western Australian Department of Health, for whom work email addresses were available. Details of the study were sent to these email addresses on 11.12.14.

For the former students of the unit for whom current email addresses were not available, a number of alternative strategies for contact were attempted, but these were less successful. They included:

1. Requesting details of the research be sent through Convocation, the University of Western Australia's postgraduate association, to former students of the elective who had graduated. For this, a list of the graduates who had not been contacted was provided

on 28.1.15. However, the author was not able to confirm whether Convocation did or did not send emails to these graduates.

2. Searching the website of the Australian Health Practitioner Regulation Agency (AHPRA), to check the location of potential participants' current workplaces. This revealed that one former student was working in Europe, but all attempts to find further contact details for that graduate failed. Two of the other potential participants who were working in Australia were able to be contacted through this strategy.

3. Searching on Facebook and Linked In websites to find publicly available contact information was used to identify the workplaces of two former students. After contacting them at their workplaces, by letter in one case, and by email in another, one former student agreed to participate, and the other did not respond.

Information sent to potential participants

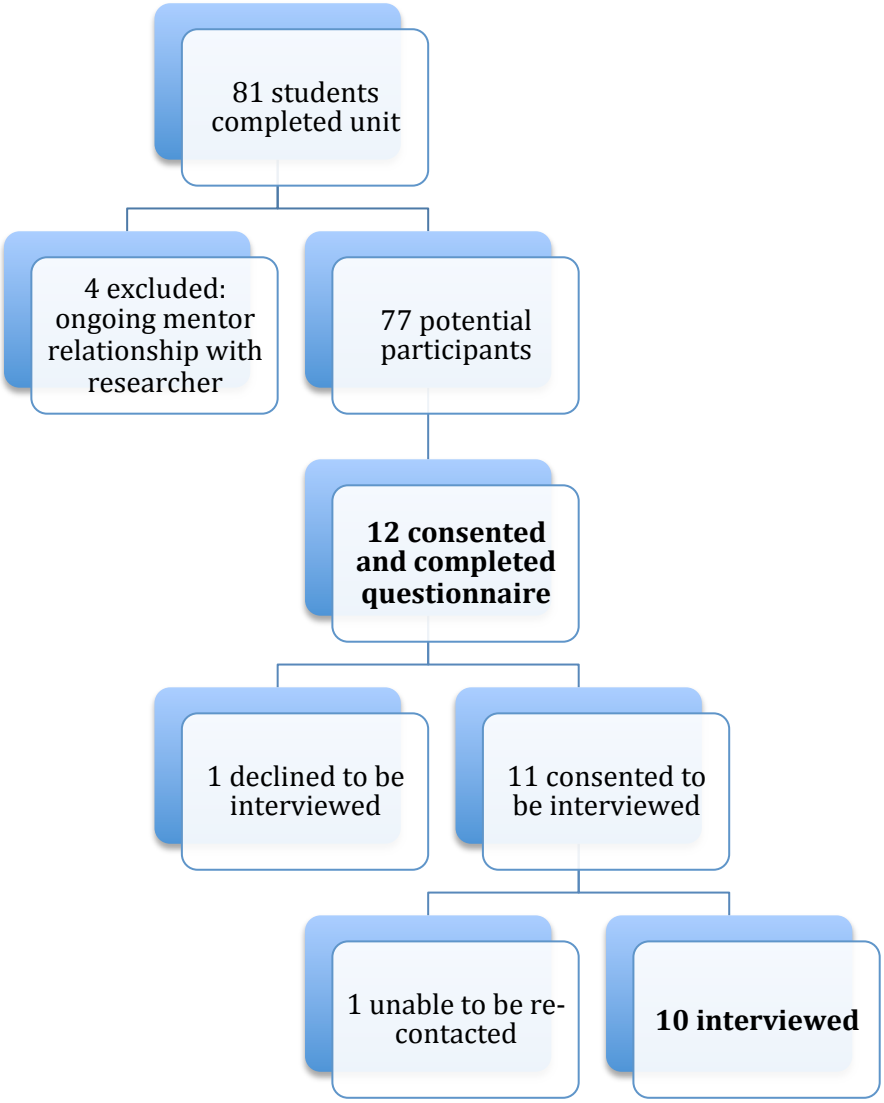
Potential participants were emailed with the purpose of the study in the body of the email, and the Participant Information sheet and Consent Form were included as email attachments (Appendices 2, 3 and 4). In addition to this, a one page questionnaire was sent (Appendix 5), with the consent form, including the options of returning the questionnaire, consenting to be interviewed, or both.

The questionnaire included questions about the year in which the participant completed the unit, their gender, cultural background, current work role, frequency of discussing sexual health, and two open ended questions, about the most memorable learning activity from the unit, and other comments about the unit. The purpose for gathering demographic data was to enable the selection of the most diverse possible group of participants for interview. The two open ended questions were intended to gather brief information about the unit's impact from as many former students as possible.

Respondents

Twelve participants responded to the invitation to participate in this research study. All twelve consented to and completed the brief questionnaire. Eleven of these consented to be interviewed, but between the initial response and attempts to arrange an interview, contact was lost with one of these participants. Interviews were conducted with the remaining ten participants. The process of recruitment and selection of participants is illustrated in Figure 2 below.

Figure 2: Recruitment and selection of study participants



Data collection

Data from the questionnaire were collated into a Microsoft Excel© spreadsheet, utilising the initials of each participant.

Interviews were arranged face-to-face for nine of the participants, and by Skype for one who was in a remote location. Interviews followed a semi structured open format, with the interview questions including:

Why did you choose to do the unit?

Tell me about your experience of the unit

Do you have any views on how the other students experienced the unit?

How have you used (your knowledge, skills, confidence) since then?

What do you wish you had learnt?

While all participants were asked the standard questions, they were encouraged to share more, with the use of open questions, utterances such as *"mm hmm..."*, or probing questions like, *"So can you give me a specific example of that happening?"* Other spontaneous questions were asked in order to expand on previous answers. For example, two participants were asked about their recommendations for designing a sexual health curriculum, to explore what they considered useful for their learning.

Interviews of the ten former students of the unit were conducted between 3.2.15 and 7.5.15 in a variety of settings for the convenience of each participant, including quiet offices at the University of Western Australia (UWA) and a women's health service, a garden at UWA, and two large parks with quiet areas. The former students came from a range of different cultural backgrounds, identified as male or female, and completed the unit in four of the six years in which the elective was delivered. No participants were recruited from the first year in which the unit was offered, 2007, nor the fourth year, 2011.

In addition to interviews of former students of the elective unit, the co-coordinator of the unit, Dianne, was interviewed face to face, to seek her views about the elective unit, and to elicit her responses to the initial data analysis. This interview was completed on 24.9.15 in a quiet room at her work place.

The list of interviews undertaken, using pseudonyms for the former students, is in Table 5 below.

Table 6: Interview Record

Date	**Pseudonym**	**Place**
3.2.15	Chris	Counselling room, Joondalup Women's and Family's Health Service
9.2.15	Grace	Interview room, Education Centre, University of Western Australia (UWA)
19.2.15	Laura	Skype
23.2.15	Irene	Interview room, Education Centre, UWA
5.3.15	Meg	Garden at UWA
11.3.15	Julie	Lawn, Kings' Park, Perth
7.4.15	Ruth	Interview room, Education Centre, UWA
16.4.15	Lewis	Interview room, Education Centre, UWA
28.4.15	Robert	Interview room, Education Centre, UWA
7.5.15	Ewan	Russell Square, Northbridge
	Name	
24.9.15	Dianne (co-facilitator)	Teaching room, School of Women's and Infants' Health, UWA

Each interview was commenced after both verbal and written consent were obtained. The ten face to face interviews were recorded using a personal digital recorder (Tascam DR-05 Linear PCM recorder), with a backup recording on the author's personal mobile telephone. The interview conducted through Skype was recorded electronically on my personal computer utilising Ecamm software, and using the author's personal mobile phone as a backup recording. For that interview, the written consent form was received by email, and verbal consent obtained immediately prior to the interview.

All transcriptions were completed by the author, using Express Scribe software. Transcriptions retained hesitations, including utterances such as 'um' and 'like', silent pauses, and non verbal gestures or sounds, such as coughing or laughing. This was done to ensure that the fullest possible meaning of each transcription was available when analysing the data. To assist clarity in this thesis, hesitations were not usually included in the representative quotations, and were replaced by three full stops to indicate that

words had been omitted. The exceptions to this were when they seemed to the author to emphasise or add to the meaning of a statement. For example, 'um' and 'just kind of' would have been omitted in this quote from Grace:

> *I know that everyone um maybe opened up a bit more, um, just kind of people felt more comfortable talking about things…*

was changed to:

> *I know that everyone …maybe opened up a bit more, …people felt more comfortable talking about things…*

Meaningful pauses, such as in this quote from Chris, who was contrasting his learning from People, Health and Sexuality with another sexual health learning experience, were retained:

> *…the one chance that we had last year to learn about sexual health history taking was (pause) poor. Poor in terms of the fact that you didn't have a chance to practise, you didn't have a chance to really mull over ideas…*

To further enhance clarity in this thesis, some phrases, such as references to prior discussions or other asides, were also omitted, and replaced with three full stops. Where explanations seemed helpful, these are included within square brackets. For example, explaining the acronym, SARC, in this quote:

> *…we visited SARC [Sexual Assault Resource Centre], and I really wanted to visit again…*
>
> Irene

Data security

All electronic records, including digital recordings, transcriptions and contact details of participants were password protected, and stored on a personal computer used solely by the author. Recordings on the author's personal mobile telephone were deleted after checking that the other digital recording was clear, when the interview transcription had been completed.

Printed materials retained no identifying details. For example, during early data analysis, transcriptions were printed using allocated pseudonyms rather than real names. Pseudonyms were chosen by the author, and reflected the gender of the participant, but were otherwise unrelated to any participant's real name. The allocated pseudonyms were used throughout this document, and will be used in any future publications.

According to her wishes, data from the interview of the co-cordinator of the unit was not de-identified, and her real name is used in this document.

Data analysis

Demographic questionnaire

Data from the questionnaire was collated, and is described briefly within the Findings section. It was also utilised to provide starting points for the interviews.

Interview transcripts

After completing and checking the transcription of each interview, the transcription was de-identified by allocating a pseudonym to the participant. The transcriptions, using pseudonyms of former students of the unit, and the co-coordinator's real name, were loaded into Nvivo© software to assist with coding.

Methods of analysis

Thematic analysis is recognised as an effective method for identifying and analysing patterns in qualitative data[116], and there are accepted procedures for performing thematic analysis[112,113]. The analysis was completed using the following phases described by Braun and Clarke[116]:

Phase
1 Familiarizing yourself with your data
2 Generating initial codes
3 Searching for themes
4 Reviewing themes
5 Defining and naming themes
6 Producing the report

Phase 1 - Familiarizing yourself with the data

During the process of transcription, each interview recording was reviewed at least three times, both to ensure that the transcription was accurate, and to begin the process of familiarization with the material. Each interview transcript was read and reflected on

several times before commencing coding, and re-read in its entirety a number of times during the subsequent phases of data analysis.

Phase 2 – Generating initial codes

Initial manual coding was performed shortly after each interview transcription was completed. For the first three transcriptions, coding was commenced using coloured highlighters within the Microsoft Word© documents, but completed within Nvivo© software. Coding was manually performed within Nvivo©, rather than using its automated functions. The selection of codes to apply to the interview transcriptions was based on the concept of labelling each new idea. More than one code was often use for the same set of words, for example, this quote from Irene was simultaneously coded as 'safe environment', 'discussion' and 'confidence':

> *…every week we talked about it for one, two hours, and it was a very safe environment to do so. So I think doing that helped gain, helped me gain my confidence in talking about these things…*
>
> Irene

Approximately one hundred initial codes were developed. After a new code was identified, the other interview transcriptions were checked to establish whether this code applied to other interviews. The coding of interview data was checked by a research supervisor (GB), and was reviewed and refined after discussion with this supervisor throughout the period of analysis. The process of reviewing and checking the codes by the author and also by the research supervisor was aimed to enhance the rigour of the data analysis. Some codes were similar, and were combined together during analysis. Some codes were discarded because they were not considered common or essential to answering the research question. For example, a discarded code was 'not regimented', from the following quote:

> *…it was really open, and non judgemental, and informative, and I don't know, it was not that regimented the way that some of the other units were.*
>
> Ruth

In the final analysis, eleven essential codes remained. Examples of final codes included: 'challenging thinking', 'enjoyment', and 'safe environment and active facilitation'.

Phase 3 – Searching for themes

The final codes were analysed, searching for overall themes, using an inductive approach. When considering overall themes, important criteria included:

1. The proposed theme incorporated very common codes (eg many or most participants discussed these issues)
2. The proposed theme was important to answer the research question. Other interesting data were available, such as some participants' suggestions (eg. Robert's, below) that sexual health be taught very early in medical school courses, but this was not as relevant as other data to answer the research question.

   …teaching the way that a sexual history is taken, in first year, in first semester, in the first week of first year…

   Robert

A number of strategies were used to assist this phase of the analysis, including reviewing the data using Nvivo© software, developing mind maps, arranging codes on large sheets of paper, and SmartArt graphics within the Microsoft Word© software program. Some representative mind maps and a photo of a paper version are included in Appendix 7. Throughout the process of searching for themes, interpretations were checked and discussed with the principal research supervisor (GB).

Phase 4 – Reviewing themes

The themes were reviewed and refined over the course of the analysis, returning to the interview transcriptions to check how strongly and consistently they supported the themes, and discussing the proposed themes with the principal research supervisor (GB). During the writing of the report (Phase 6), the themes continued to be reviewed and refined.

Phase 5 – Defining and naming themes

Over the course of a number of months of reviewing and discussing possible themes, four major themes were identified which were considered to be both relevant to the research question, and descriptive of the principal findings of the research. Whilst these were again reviewed during Phase 6, writing the report, they remained as the main themes.

Phase 6 – Producing the report

During the writing of this thesis, all phases of the data analysis continued to be undertaken. For example, when considering the importance of the subtheme, *safe environment and active facilitation,* the relevant interview transcriptions were re-read to

ensure the accuracy of the coding, and to check for further references to this subtheme that had not been initially coded. All transcriptions were re-read to check the importance for each participant of safety and/or active facilitation. The coding was also reviewed to see if any codes appeared to be more important than those already identified within the major themes and subthemes.

Rigour of the study

In this research project, a number of strategies were used to maximise the rigour of the study. The first of these was to bracket the authors' own thoughts and ideas, as discussed below. A second strategy was checking interpretations of the data, by posing possible alternative interpretations, and re-reading the relevant interview transcripts to consider the validity of possible alternative interpretations. A third measure was checking, and re-checking of interpretations of the data with the principal supervisor (GB).

One aspect of good qualitative research which was not able to be achieved in this study was data saturation. Ideally, no new codes are found after the final interviews are conducted. In this study, ten participants consented to interview, and several new codes were added during analysis of the final interview. However, no additional potential participants were available for interview, so data saturation was not able to be achieved.

Bracketing author's own perspectives

A number of qualitative researchers have highlighted the importance of acknowledging and "bracketing out" the researcher's own thoughts and ideas, to ensure that the research truly reflects findings from the source material, rather than the researcher's own views, and to enable the reader to consider the validity of the findings by understanding the researcher's own views[112-114,116].

The choice of research question and methods was strongly influenced by the author's personal values about educational research, which include the view that participants in education should have a strong voice in how their education is provided. This view originated from aspects of the author's own education experience and subsequent reflections, as a medical educator, on this experience. The author considers that a significant proportion of her medical education was much less effective than it could have been, and would have been greatly improved by listening to, and acting upon, the views of learners.

As a teacher in the sensitive area of sexual and reproductive health, with the awareness that some topics may be uncomfortable or difficult for some students, it was important to the author to investigate whether there were unforeseen negative impacts upon students, along with possible positive ones.

In order to bracket the author's perspective, she documented her thoughts and feelings about the elective unit, which included:

A sense of fun and enjoyment, on the part of both participants and teachers

An impression that many students gained significant levels of confidence

The perception that some of the students were working through personal issues of their own, and that the unit brought these to the fore, which could result in positive or negative experiences

The conviction that small group activities encouraged and enabled most students to be open about their own views

The author's views about teaching, particularly in the area of sexual health, comes from a constructivist perspective[117]. These views include the importance of a safe and encouraging environment, respect for learners, the value of active participation in learning, the provision of regular and constructive feedback from peers and/or teachers, encouraging reflection, creating enjoyable learning activities, and keeping activities varied to maintain interest for both participants and educators.

A number of these issues, but not all of them, were elucidated during the course of the interviews, such as the sense of fun and enjoyment. In interpreting and analysing the interview data, the author attempted to put these views to one side, and to listen carefully to the views of the former students about what they found to be useful or not useful for their learning. Where the author's own attitudes appeared to coincide with the views of participants, she carefully re-read the transcriptions, or listened to the recordings, to check that her interpretations were valid, and further checked interpretations with the principal research supervisor (GB).

A summary of the final themes and subthemes is listed in Table 6 below. These themes and subthemes will be discussed in detail in Chapter 5.

Table 7: Themes and subthemes

What aspects of the unit and/or teaching strategies facilitated the acquisition of knowledge, skills and confidence in sexual health?		
Theme		**Subthemes**
Theme 1	Becoming open	Safe environment & active facilitation
		Enjoyment
		Making it meaningful
Theme 2	Shifting perspectives	Increasing awareness
		Talking out loud
		Challenging thinking
Theme 3	Becoming comfortable	Practising
		Becoming normal
		Gaining knowledge, confidence & skill
Theme 4	Translating to practice	Translation to practice in sexual health care
		Beyond sexual health care

Chapter 5 Findings

Introduction

In this chapter, the findings of the study will be presented, focusing on a thematic analysis of the questionnaires and in-depth interviews of former students of the elective unit, People, Health and Sexuality. After discussing relevant background information, the four main themes and subthemes will be presented. The themes are *Becoming Open, Shifting Perspectives, Becoming Comfortable* and *Translating to Practice.*

"…we seemed to draw a range of students…": Participant backgrounds and reasons for choosing the unit

Background data from the questionnaire, and the principal motivations for choosing the unit, elicited from the interviews, are briefly discussed below. Individual participants varied in their backgrounds, their pre-existing sexual health knowledge, and their attitudes towards sexual health, and these factors influenced their motivation for choosing the unit, and influenced their learning from the unit.

The overall diversity of students' cultural backgrounds, belief systems and personal experiences was highlighted by Dianne, with whom the author developed and taught the unit:

> *…we seemed to draw a range of students, even though we had a small number …from quite diverse backgrounds, I'm meaning both culturally, [and] in terms of their life and sexual experience. …we had people from very conservative type backgrounds, and with perhaps a limited experience in this area, certainly some limited comfort in talking about these issues, to some people who were much more "out there"…*
>
> Dianne

The data obtained from the questionnaires included the year that the participant undertook the unit, their gender, their cultural background, and their current work role. Some details are summarised in Table 7 below, but current work roles, years of completion of the elective unit and cultural background are not included in this table, because this combination of information could lead to the identification of individual participants and breach their confidentiality. At the time of interview in 2015, five were medical students (two completed the unit in 2012 and three in 2013), two were Resident

Medical Officers, two had entered specialty training in different specialties, and one was working in sexual health. Four graduates completed the elective unit in 2009 and one in 2010. Five participants identified similarly as Anglo-Australian/Caucasian; the others had five different combinations of cultural and religious backgrounds. Six participants were female, and four were male.

Participants were not specifically asked about their sexual identity or their religion, but some participants chose to openly discuss these issues whilst responding to interview questions. Three mentioned that they practised a religion, and others that they did not follow a religion. The participant who mentioned his sexuality expressed this as "diverse", which was understood to mean "not heterosexual".

Table 8: Demographic data of interviewed participants

Pseudonym	Gender	Student or Graduate
Chris	M	Student
Grace	F	Graduate
Laura	F	Student
Irene	F	Student
Ruth	F	Graduate
Lewis	M	Student
Robert	M	Graduate
Julie	F	Graduate
Meg	F	Student
Ewan	M	Graduate

One additional participant was Deborah, who completed the questionnaire and consented to be interviewed, but contact was lost with her until after the interviews were completed. Another was Edward, who completed the questionnaire but did not consent to be interviewed. These questionnaires were included in the data analysis.

There were diverse reasons for the participants choosing People, Health and Sexuality as their elective. These included cultural background, sexual identity, and work and life experiences. Some recognised that their personal or cultural background had limited

their sexual health knowledge, and in some cases they felt it contributed to awkwardness around sexual health. For example, Irene chose the unit partially because of her cultural background, and recognised that as a health professional she would need to feel more comfortable and be more open to talking about sexual health:

> *…for me personally being an Asian, I wasn't really very comfortable in talking about sexuality and things related to that, so I thought it would be a good experience, and I think it would help me to be more open about these things.*
>
> Irene

In contrast to Irene's sense of lack of comfort with sexual health, Robert had previously worked in sexual health, and this had enhanced his interest in the area. He explained:

> *… it was an area I was already interested in, because I was working part time in a sexual health clinic already, which had …fostered an interest in the area...*
>
> Robert

For Ewan, his sexuality played a part in wanting to do the Unit:

> *… because I had a diverse sexuality myself, I was really interested in what would be taught in the unit around that, and … I guess I wanted to, not to test people, but see how appropriate it might be.*
>
> Ewan

Two participants described negative personal experiences with health care providers as a motivation to choose the unit, expressing a desire to be better able to help their own patients. For example, Grace said:

> *I know myself as a patient, I've definitely had interactions before I was a doctor that were not very good, I suppose, in the area of sexual health.*
>
> Grace

The diversity of student backgrounds and experiences was reflected in a diversity of reasons for choosing to take the elective unit, People, Health and Sexuality. Participants with limited knowledge or confidence, or who had negative experiences with health professionals, recognised a need to develop their knowledge and skills, and those with pre-existing knowledge or interests appeared keen to further develop their skills and understanding of sexual health.

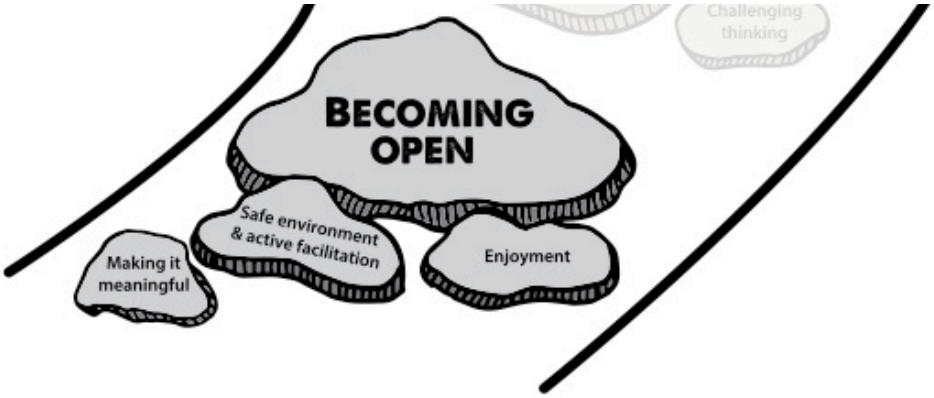
Major themes

Transcriptions of interviews with participants in the study were analysed to reveal four major themes: *Becoming Open, Shifting Perspectives, Becoming Comfortable* and *Translating to Practice*. All four themes were strongly linked. When analysing the data, the themes and subthemes were considered non-linear and unique for each individual, and the metaphor of stepping stones along a garden path is used. Each participant took a unique series of steps along their learning journey, depending on their background knowledge and experiences, interest and motivations. Laura observed the individuality of each student's journey during the workshops:

> *…what I really liked watching was how different sessions impacted different people*.
>
> Laura

In the following sections, the main themes, and the components of each key theme, will be described in detail, with supportive quotations from the interview transcriptions.

Theme 1: Becoming Open: "I'm more open to the idea…."



Within the main theme of *Becoming Open*, important issues were identified as subthemes, including a *safe environment and active facilitation, enjoyment* and *making it meaningful*, which enabled participants to become open to deeper, more meaningful learning. These interlinked subthemes will be discussed below, using illustrative quotes from the interviews.

The subtheme of experiencing a sense of fun and enjoyment was echoed by the co-facilitator of the unit, Dianne:

> *Oh, mainly it was fun! It's always a pleasure to watch people exploring and developing, wanting to attain more knowledge and skills, and their professionalism around this area, which I suppose is a particularly strong issue for me as an educator of future health professionals…*
>
> Dianne

As Dianne commented, students of the elective unit, including the participants in this study, explored and developed their knowledge, skill and confidence in sexual health.

Becoming open

Becoming open to learning was specifically discussed by many of the participants, including Grace, who talked about becoming more open to discussions with fellow students after the teaching sessions:

> *I think we would talk about what we had learnt in the sessions, a little bit, and ... maybe things that we hadn't had much information about before, and maybe it opened up that ability to talk about things.*
>
> Grace

Irene recognised that she became more open to learning about sexual health issues. She recounts how it has informed future options in her career, and how she later chose to explore aspects of sexual assault:

> *… [during the Unit] we visited SARC [Sexual Assault Resource Centre], and I really wanted to visit again, so I did choose SARC as an option to do this year … if I didn't do this unit I would definitely not want to go there and learn more about sexual assault and everything, but I think because of the unit, I feel more bold … more - not comfortable - but I'm more open to the idea of visiting such a place, whereas before it would definitely be quite low on my choice list.*
>
> Irene

Safe environment and active facilitation

The safety of the learning environment was identified by participants as an important factor in becoming open. This enabled them to trust each other, feel secure, and be comfortable enough to expose their own thoughts and views on sexuality, which for some were customarily kept private.

The participants identified a number of teaching strategies that enabled this sense of safety, including the small size of the group, a relaxed, informal, open environment where there were no "right or wrong" answers, and a non-judgemental and responsive facilitation style. Laura found small groups helped in the development of trust, and this facilitated her learning:

> *... we were a small group, which is helpful, and meant that you built a kind of trusting relationship in the wider group…*
>
> Laura

Chris commented on how the safe environment facilitated discussions:

> *I think the beauty was that everyone was aware of that, and didn't feel pressured to say things that they wouldn't feel comfortable saying. So ... just do it at their own level of comfort.*
>
> Chris

Robert found that the setting of group rules, which were developed and agreed to by students in the first session of the unit, contributed to the sense of safety for participants:

> *… in the first session was set out the rules of the course in that it was like a safe space in which to have those discussions, and I think that was really valuable…*
>
> Robert

Robert then referred to active facilitation of discussions as helpful in creating safety for him and others to voice their opinions, and ensuring that different points of view were heard:

> *... it was an active form of facilitation rather than just sitting listening. There was a lot of engaging people and actually trying to get every single person to bring something to the table, bring something out, and get those, get those ideas flowing, get those conversations happening…*
>
> Robert

Ewan stated that the non-judgemental environment contributed to his sense of safety. Whilst discussing learning about the use of language in sexual health, he mentioned that students were encouraged to consider the language they used when interacting with patients, but were not judged for using the "wrong" terms:

> *It really made me think about how we approach people, how we talk to people, the language that we use... not that it was… "You're not using the right pronoun", things like that, but it was all done in a really positive way.*
>
> Ewan

The interview data revealed that fostering a safe environment was important to students, as it ensured that students with a variety of experiences and backgrounds felt comfortable to explore and to discuss their own attitudes and values. Active facilitation of discussions was seen as helpful in involving all students in active learning, and ensuring that a diversity of views was heard.

Enjoyment

Most participants spoke about the learning experience as fun. Ruth even considered one of the assessments enjoyable:

> *See, I don't remember that being an assessment, I just remember that being fun!*
>
> Ruth

Ruth compared the unit with other electives, articulating the difference as enjoying the sessions, which helped her to engage in the learning process more effectively:

> *…so the sessions were enjoyable…I've done a lot of other electives that I've just found very dry, you haven't been engaged ... so it's just the variety and the engagement, level of engagement that I think made it more effective.*
>
> Ruth

Meg made a similar comment, stating that her enjoyment of the sessions helped her to learn, and to remember her learning:

> *…it was fun ... particularly because it was a small group, and we got to know each other quite well …there was a lot of team work and particularly like brainstorming ideas, that was fun. And also a good learning tool to remember things, so it's been three years on, and I do remember, because it was fun…*
>
> Meg

Laura expanded further on her enjoyment of the sessions, which was partly because she felt that she would be challenged and would learn something new and useful:

> *We just had so much fun! It was, and it was really just every week, you knew, you were going to get in, eat some delicious food, be challenged, learn a different perspective, or a different take on something, and leave with new information, new skills …new ways to deal with situations.*
>
> Laura

Making it meaningful

Some participants noted that for them, there were links between engaging their personal experiences, enjoying the sessions, and becoming open to new learning because it was memorable and more meaningful to them.

Grace and Ruth both discussed the inclusion of participants' own experiences:

> *I felt it was good that it kind of addressed our own experiences and what we might be bringing ourselves to the consultation.*
>
> Grace

> *…there was also a lot of drawing on our own personal experiences and ideas, which made it more personal, and made it easier to retain the information.*
>
> Ruth

Ewan's personal experiences increased the meaning to him of a particular session. He had described himself as being of diverse sexuality, and spoke of a session in which speakers of diverse gender and sexuality discussed their personal experiences:

> *… yeah, that to me was really powerful, and I mean I don't know how other people reflected on that, but … I always remember that ... as a really positive experience for me. If I had to single something out, that was my favourite activity from the unit.*

Ewan

For Chris, a different kind of personal experience enhanced the meaningfulness and ability to remember a particular session. He recalled the session he found most useful:

> *Our 'mini-exam' simulation where Di [unit co-cordinator] pretended to be a 14 year old boy who I counselled through safe use of contraceptives. A memorable moment as I realised I would actually be able to do this kind of thing in the real world.*

Chris

Participants in this study recalled specific aspects of the unit by saying "I still remember…". Chris, for example, linked one recollection with a feeling:

> *I could remember the feeling looking at that assessment schedule…. and it was like, dread, that it gave us at the time…*

Chris

Ewan linked feeling surprised with a memory:

> *And always remember that's the first time I'd ever met a trans man, and thinking, "Oh, gosh, I never would've realised".*

Ewan

Grace considered that some of her memories of the unit were linked with highly emotive experiences. In her case, she recalled a distressed patient:

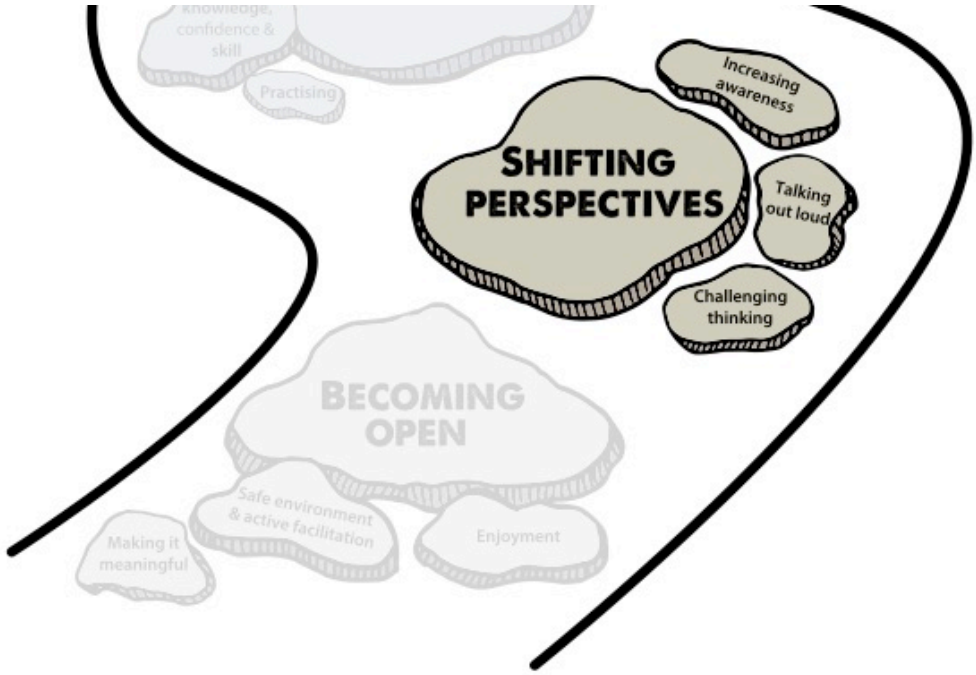
> *There was another girl who'd been diagnosed with Herpes who was really upset, so I remember quite a bit about that as well. Yeah. I think it's just the way my memory works, is like the more emotional things is what I remember more.*

Grace

As discussed in this first theme, *Becoming Open,* factors such as a safe environment, active facilitation, enjoyment of the sessions and making it meaningful (personally or professionally) were identified as contributing significantly to learning, and enabled

participants to become more open, particularly in relation to examining their own thoughts and feelings around sexual health, which will be discussed in the next theme, *Shifting Perspectives*.

Theme 2: Shifting Perspectives: "It definitely changed my perspective…"



In the first theme, *Becoming Open*, particular aspects of the unit that encouraged participants to become open to new learning around sexual health were identified. Becoming open enabled participants to actively engage in discussions and other learning activities that challenged and shifted their perspectives. The second theme, *Shifting Perspectives,* will be discussed below, including the subthemes: *increasing awareness*, *talking out loud*, and *challenging thinking*.

Shifting perspectives

Participants identified a number of ways in which their perspectives were challenged and changed. One was a realisation that stereotypes had been held about certain groups of patients, which participants were made aware of, and subsequently changed, during the unit. The following quotes illustrate how individual participants found that their preconceived ideas about older people, people with disabilities and sex workers were challenged, resulting in changes to their perspectives.

… it was more of a paradigm shift for me. Like knowing that elderly, well, older people also have their own sexual needs, and 'cause I guess I'm guilty of brushing them aside, and thinking, "oh, they're old, they don't really have anything to do with that any more"… and I guess just learning about it and gaining that new perspective …

Irene

…for some reason because they are disabled, I just assumed that they weren't having sex. I mean, which is a stupid way to think, really, if you think about it, but I don't think I'm the only person who had that preconception either …

Ruth

Ewan commented on how his change in perspectives subsequently improved the care he provided to sex workers:

… it definitely changed my perspective on sex workers, not that I had a really negative perspective, but just really like, they're everyday people, as well. It really, really changed the way I thought about that, which has helped me professionally, definitely.

Ewan

Changes in perspectives were not confined to participants' attitudes towards diverse patient groups. Ewan's perspective on how doctors talk with patients about sexual health was challenged, and altered, when he observed a clinical session:

… she was just so hip and like, (laughs) loud and just really … no reservations about talking about sex... you still think of doctors a certain way … I guess you see that you can actually talk, or communicate with patients, in a way which is completely different to what you'd expect or see on television …

Ewan

Chris's response, when asked how he used the knowledge and skills that he'd gained from the unit, stated that it was more a change in his thinking, rather than his behaviour:

… it comes into how you think [rather] than how often I've taken a sexual history …

When it comes up, it's very obvious that I've learnt something from that unit, and that a paradigm has been shifted …

Chris

Increasing awareness

The first theme, *Becoming Open*, laid the foundations for participants to develop a greater awareness and understanding of sexual health issues, including the diversity of different groups of patients. An increased awareness of sexuality and older people was illustrated by Grace:

> *… after the [session on] sexual health and older people, I think a lot of people were like "Oh! I never would have thought of that!" It was kind of show people their prejudices, I suppose …*
>
> Grace

Irene, along with others, spoke of how guest speakers increased her awareness, resulting in a deeper understanding of issues faced by lesbian, gay, bisexual, transgender and intersex (LGBTI) patients:

> *I haven't met anyone that has been lesbian or gay, and just meeting them and gaining their perspective for the first time was quite interesting.*
>
> Irene

New awareness of sexuality issues for people living with disabilities was raised by Robert, who recounts how he had not previously thought about these issues:

> *… there was one week on sexuality in people with disabilities, physical and mental disabilities, and that was really interesting for me, 'cause it's not something that I had had reason to think about before.*
>
> Robert

He went on to say:

> *… recognising that they have their own strong sense of sexuality, and it's an important aspect of their lives, and acknowledging that, I think is probably the most important thing I got from that. Because as I said, it's not something I'd considered before, and I think if I'd been presented with that situation clinically, I would have been a bit flustered, and really not known how to go about it …*
>
> Robert

In the two quotes above, Robert referred to his increasing awareness of the issue of sexuality and disabilities being helpful in preparing him to engage with patients in the future. Chris's awareness of a different client group was altered when he observed a sex worker visiting Magenta, a sex worker education and advocacy organisation:

… even just the experience of being in the shop front area when a sex worker walked in to come and buy stuff, and you sort of think to yourself, "Oh, OK, that's who we're talking about", and they're coming in for that reason, and they're doing exactly what we're saying, and it's real, all of a sudden, you know …

Chris

Several participants identified that hearing people's lived experiences was valuable in broadening their understanding of sexual health. For example, Ewan remembered, six years after doing the unit, meeting a transgender speaker, and how it challenged his preconceptions:

I've still never forgotten the day that we had people come in and tell their stories. … that's the first time I'd ever met a trans man, and thinking, "Oh, gosh, I never would've realised", it really made you question, you know, you could walk down the street, you would never know. And I think just hearing people's stories like that was really, really good.

Ewan

Participants in this study noted that they developed increased awareness of a diversity of issues experienced by different patients and patient groups through their participation in the unit, and this often led to the recognition of, and challenging of, stereotypes. This in turn created shifts in their perspectives.

Talking out loud

Challenging ideas and shifting perspectives was developed further by the experience of *talking out loud* with peers and others. When asked what he thought helped students to learn about sexual health, Lewis responded:

… get us actually talking about it, participating actively …

Lewis

Laura found that listening to others, and verbalising her own thoughts and feelings, was part of the learning process for her to be open to changing her personal views around sexual health:

We verbally, or out loud, discussed difficult topics, and we weren't forced to take a stance on them or anything, but we were just kind of challenged to be able to voice them out loud … which meant that you couldn't just have an uncomfortable feeling and keep it inside, you had to process that uncomfortable feeling, and verbalise it and try and communicate it to someone, and then also be willing to shift it and change it.

Laura

Deborah contributed a similar view:

It was very interesting to see what other people thought, and to explain why you have those beliefs/values. It caused me to really think hard about some issues, and to be able to better understand other viewpoints and this is definitely useful in daily life, not just medicine.

Deborah

Like Laura and Deborah, for Robert, discussions with other students who had differing views challenged his thinking, and resulted in a change of perspective. He reflected:

… having to justify your opinions and beliefs on it, and discuss them with someone else who has differing ones, makes you challenge it, and I guess in some cases probably made me change what I think.

Robert

As Laura, Deborah and Robert suggested, needing to process or justify one's own opinions and beliefs was part of the process of challenging these opinions, which caused them to reconsider their beliefs. Participants felt safe in the group environment to openly express their views, to listen to others, and to alter their views as a result.

Challenging thinking

An increasing awareness of sexual health issues, and the act of talking out loud through open discussions resulted in participants' thinking being challenged. Along with others, Chris found older people and sexuality a challenging concept:

I think we all found it quite - fairly confronting learning about elderly sexuality.

Chris

Ewan found that his assumptions about his own knowledge were challenged. He talked about a session on sexual and gender diversity:

… it was just something that even I, who felt like I knew quite a lot about this sort of stuff, realised actually I don't.

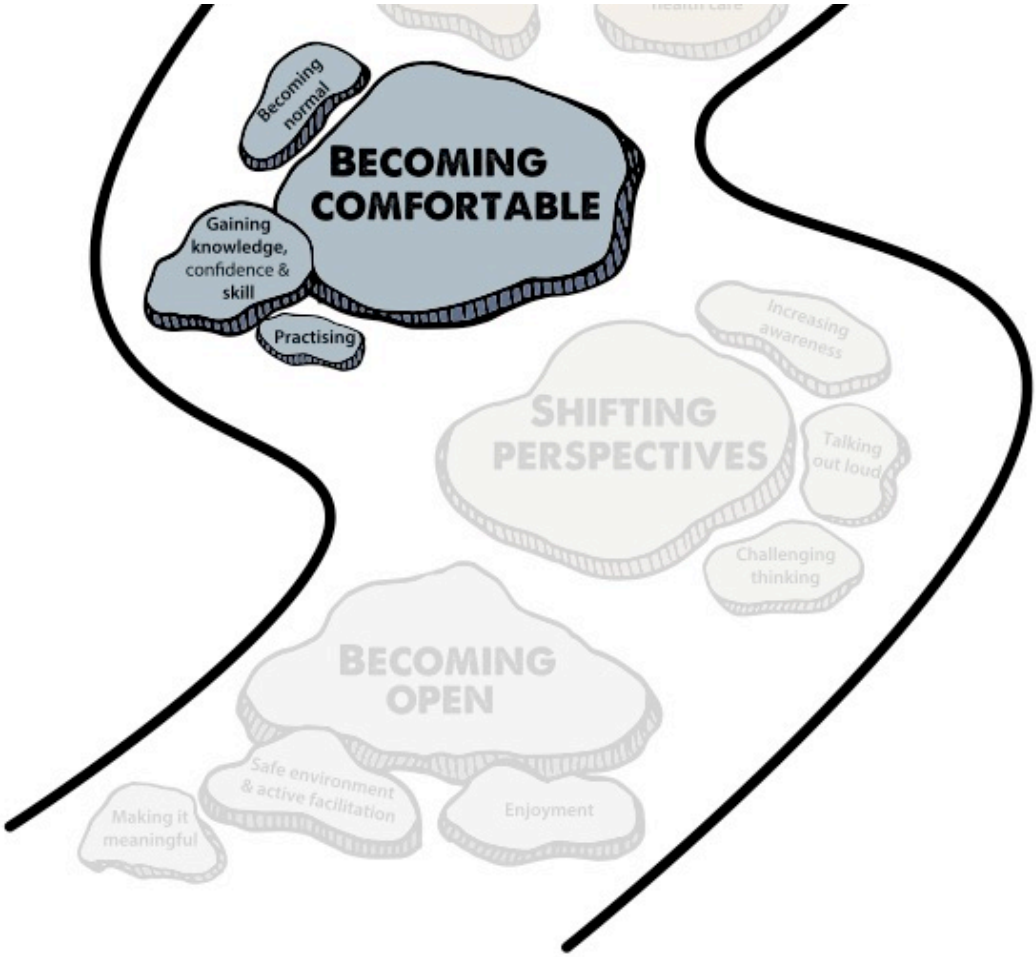
Ewan

Participants discussed a number of different preconceptions and attitudes which shifted as a result of doing the unit. These included attitudes towards particular groups of patients – older people, people with disabilities and sex workers, for example – along with less predictable changes such as an assessment of their own knowledge about a topic, how doctors relate to patients, and increasing recognition of the importance of sexual health issues for individual patients.

The path towards shifting perspectives included an increasing awareness (through exposure to diverse patient groups), which confronted and challenged participants' thinking, and fostered a deeper understanding of sexuality, and an appreciation of the differing views of others. The process of talking out loud in a safe, non-judgemental environment encouraged participants to explore, identify and clarify their points of view, and through the process of being challenged, to alter their views. Finally, challenging the thinking of participants resulted in changes in their perspectives towards diverse patient groups and to sexual health in general.

The next section will discuss the third theme, *Becoming Comfortable*, which then leads to the final theme, *Translating to Practice,* which will explore how participants used the new knowledge, skills and confidence that they gained from doing the unit in their clinical practice.

Theme 3 - Becoming Comfortable: "I could have a conversation with anyone"



Participants described feeling safe enough to openly discuss sexual health issues in the group setting, and through discussing issues to challenge their own ideas and perspectives, leading to changes in their views. The previous two themes, *Becoming Open,* and *Shifting Perspectives* leads to the next main theme, *Becoming Comfortable*.

Participants identified a number of factors that were related to becoming more comfortable with sexual health discussions. These included the opportunity to practise communicating about sexual health issues, the normalising of sexual health, and feeling more knowledgeable, confident and skilled in working with patients in sexual health.

Becoming comfortable

Participants described how the environment in the unit created the safe space for them to begin to feel more comfortable with sexual health issues. Robert valued this increasing comfort highly, saying:

I think that comfort around the topic was also possibly even the most valuable thing from it.

Robert

Grace identified the importance of being comfortable talking about sexual health in clinical practice:

…no matter what kind of doctor you'll become, it's probably an important area to … always have in mind, and to feel comfortable with, and I think definitely the unit opened people up to that.

Grace

Grace's level of comfort with sexual health was enhanced through role modelling. This included noticing how comfortable the unit facilitators seemed, and observing clinicians who were comfortable talking with patients about sexual health. She said:

… the people teaching us were obviously so comfortable with these topics, that it made it just seem very normal, you know, and like kind of easy to talk about.

Grace

Laura noticed that compared to her peers, in the year following the unit, she was much more comfortable talking about sexual health:

…that's something I noticed a lot in fourth year, was the difference between … how comfortable I felt with having a good history from a patient, compared to someone who hadn't done the unit, or maybe just hadn't had much exposure to taking a sexual history.

Laura

Practising skills, sexual health *becoming normal,* and *gaining knowledge, confidence and skill* are the subthemes in this theme of *Becoming Comfortable*, and are expanded on in the next section.

Practising skills

Grace mentioned the helpfulness of practising using role plays:

I think any role plays that you have a chance to participate in as a student are always really helpful for the future, 'cause you might think that you know something, but then when you're put on the spot to actually have to use that knowledge, it shows up areas you need to work on.

Grace

Lewis echoed the importance of practising before engaging with real patients. He illustrated this with an example of taking a patient obstetric history when he hadn't had the opportunity to practise asking a particularly sensitive question:

> *… if you don't really think about how you're going to ask those specific questions, you sort of get trapped. Like the other day I was going through a pregnancy booklet [with a patient], and hadn't read through it much before hand, came across a question that was, "Is your partner a cousin, or a first or second degree relative?" and I got there, and didn't have any idea how I was going to ask this question …*
>
> Lewis

Chris contrasted his learning in the unit with a later teaching session on sexual health, in which there were no or limited opportunities to practise, reflect or become comfortable:

> *… you didn't have a chance to practise, you didn't have a chance to really mull over ideas, it was just sort of rattled off to you in the space of an hour. It was one of those kind of, "if you already know this, then you already know this, but if you don't already know this then I'm telling you but you don't have any time to practise". Like, it's not a good environment for learning to be comfortable taking a sexual history. Certainly not. And there's just not enough time in that setting.*
>
> Chris

Meg considered practising helpful, and would have liked more opportunities to practise:

> *We observed quite a bit in clinic, but it would have been good to start practising from then on.*
>
> Meg

Robert linked practising sexual history taking with his level of comfort when taking histories in his work:

> *I guess having practised, I'm just more comfortable going to a patient's room and as part of my history, always taking a sexual history, saying "OK, are you sexually active? With who?" etcetera etcetera etcetera.*
>
> Robert

Like Lewis, Robert emphasised the value of practising to avoid offending a patient:

… until you actually say it with a patient, and you don't sort of know how you're going to phrase something, and then it's not hard to accidentally say something that comes out completely offensively, and wrong …

Robert

Practising skills enabled participants to feel more comfortable to discuss sexual health, and to improve their skills.

Becoming normal

Having the opportunity to explore their own views and attitudes around sexual health, to talk about sexual health out loud, and to practise taking sexual histories through role plays in the classroom, helped in normalising sexual health and treating it as one of the routine issues to enquire about when interacting with patients, rather than as something awkward or difficult to do.

Chris considered how the skill of sexual health history taking had become quite normal for him:

... prior to the unit, I thought of sexual history taking as a very awkward and different kind of history to take, whereas now, sexual health history, mental health history, are just a different type of system ... to take a history for sexual health is just a different set of questions.

Chris

Julie also felt that sexual health discussions had become a normal part of her practice:

… it's more just confidence about talking about sexual health, and not being embarrassed about it, and asking everyone about it, rather than selecting out people [for whom] I think would be useful.

Julie

She explained how practising had led to it had become normal for her to discuss sexual health:

You say something often enough and you don't care about asking about someone's vaginal discharge if you've asked fifty other people about it as well.

Julie

Grace identified that part of the process for her in normalising sexual health discussions was the attitude of the facilitators:

... the people teaching us were obviously so comfortable with these topics, that it made it just seem very normal, you know, and kind of easy to talk about.

Grace

Increased awareness of issues for patients, practising relevant skills, and beginning to feel that sexual health was a normal, comfortable issue to address, appeared to lead to new confidence in the area of sexual health.

Gaining knowledge, confidence and skill

Part of Robert's increasing confidence was that he considered that the breadth of his knowledge increased after doing the unit:

I think I have a much broader and more complete knowledge of sexual health and sexuality in a much broader cross section of the community than I would've had having not done it.

Robert

Irene reflected that she was not at all confident about talking about sexual health issues prior to undertaking the unit, but that this had changed, partly because she had more knowledge:

... I think before the unit, if there was a conversation in the group about it, I wouldn't really say anything. ... I would just shy away, and just let other people do the talking, whereas now I think, also having more knowledge about all these issues, about, well, sex in older people, and the LGBTI [Lesbian, Gay, Bisexual, Transgender and Intersex] issues, and stuff, so I think I'm ... more confident ...

Irene

The process of gaining knowledge, practising and feeling more at ease increased Laura's confidence in discussing sexual health:

I know that the unit definitely helped build my confidence so that I could have a conversation with anyone ...

Laura

It was interesting that some participants saw completing the unit and increasing their confidence as giving them a competitive edge over other medical students who did not undertake the unit. This was evident in both Julie's and Meg's comments.

... [in a subsequent year] we did a day's skills training in sexual health, and I was like, "mm, I know how to do this." So it was good, felt like I was ahead of the game.

Julie

... definitely had a lot more confidence, as compared to my peers who didn't ... have sexuality unit, I was actually helping out a lot, my other friends ... and knew a lot more than they did.

Meg

Whilst a number of participants indicated an increase in confidence, including Grace, who had graduated more than a year prior to the interview, she also said:

I think I could always use more practice, like I think it'll just be a long time till I feel absolutely confident.

Grace

Ewan referred to the skills gained as assisting him in his work:

…really helped me when I started working at the clinic, because I could take a sexual history.

Ewan

Ruth discussed gaining the skill of being able to talk with patients about difficult topics in a broader context than sexual health, partly as a result of observing clinicians working in sexual health:

So, in the confidence that I saw in the consults, and in the way they normalised the situation, it facilitated discussion between the patient and the doctor or the nurse without this kind of barrier going on, so in taking that on, taking that confidence and taking the facilitation of conversation, on with my patients, it means that we can discuss anything in terms of, you know, bowel problems, pneumonia, cancer, the fact that a patient might die, anything. And it's just been a really good tool to have.

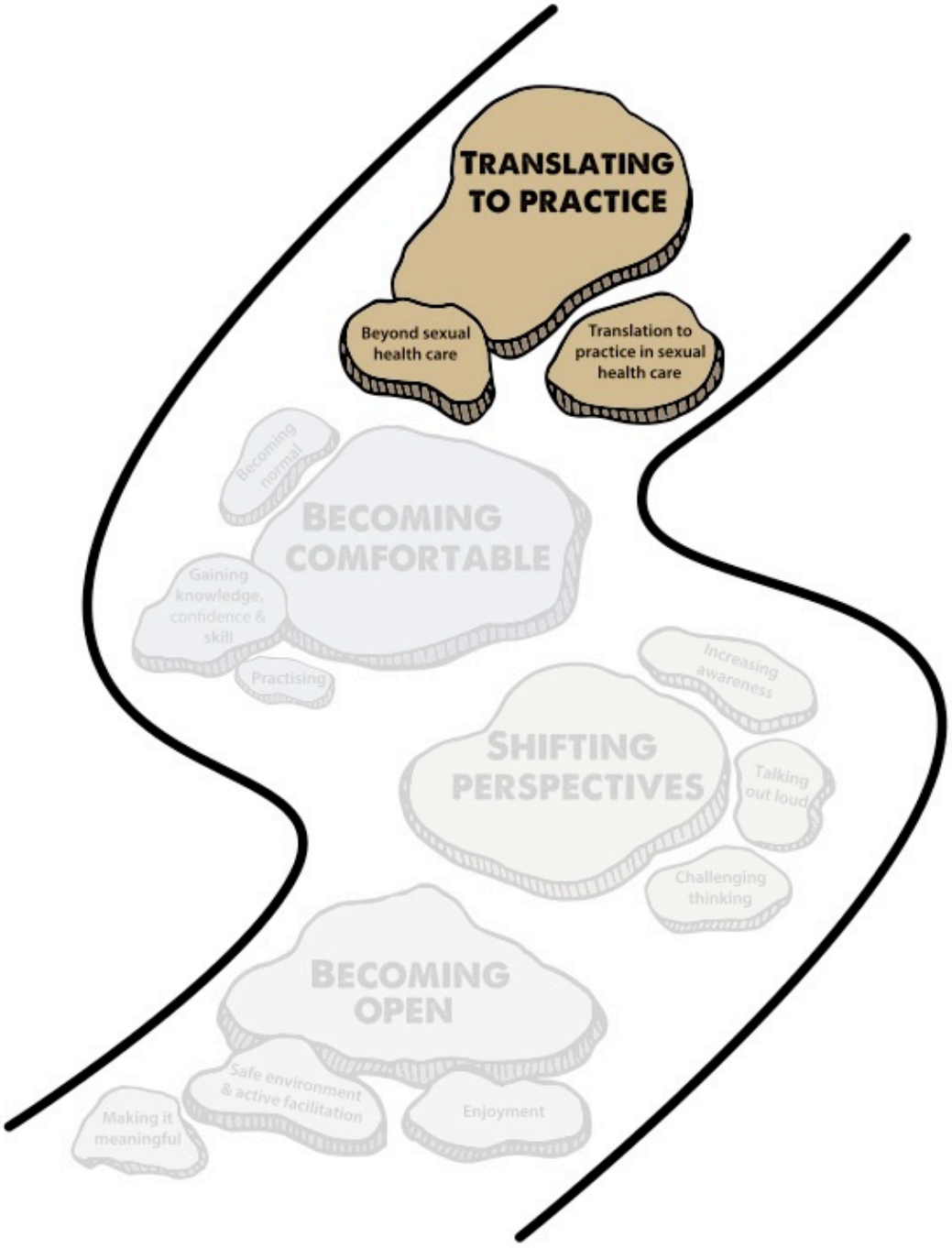
Ruth

Reflecting back over the five years since he completed the unit, Robert discussed several factors that enabled him to become more comfortable and confident, including gains in his knowledge, and both thinking about and actively practising sexual health discussions:

> *So I sort of feel, even though I don't see my colleagues' consultations, that I'm more comfortable with sexual health in a clinical setting now than a lot of them are. And I think that a lot of that is due to having a better understanding from this course. And having had the opportunity to practise those sort of scenarios and to actually think through them …*
>
> Robert

The theme of *Becoming Comfortable* included the subthemes of *practising, becoming normal,* and *gaining knowledge, confidence and skill*. The process of becoming comfortable with sexual health discussions was linked to opportunities to practise, normalising sexual health, and feeling knowledgeable, confident and skilled in this field. This enabled participants to apply their skills to their practice. The next and final theme will discuss how the knowledge, skills and confidence gained during the unit translated into participants' practice.

Theme 4: Translating to practice: "…that's something that I now do with every patient"



As outlined in the previous theme, *Becoming Comfortable*, participants described how the sexual health learning, and their increased comfort with sexual health discussions, prepared them to practise as better clinicians. In this theme, *Translating to Practice,* quotes from participants will illustrate the impacts of completing the unit on their clinical practice, and in particular how they have used the knowledge, confidence and skill that they gained. Participants identified examples of how their learning influenced their ability to provide patient centred care, and provided examples of the transferability

of skills from sexual health to other areas of health care. The theme of *Translating to Practice* will be discussed in two sections, *sexual health* and *beyond sexual health*.

Translation to practice in sexual health

Ruth discussed how her knowledge, in this example about sexually transmitted infections (STIs), helped her to reassure her patients and to normalise the issue for them:

> *… it's good to have a bit of knowledge. I just feel like, you know, consolidated my knowledge on STIs so I can say, "Look, this is what you've got, this is how often it happens, it happens a lot, it's OK."*
>
> Ruth

Both Ruth and Laura considered that their patients were more comfortable because of their own comfort with sexual health:

> *I think the fact people feel, because I don't think it's a problem, they feel more comfortable talking to me.*
>
> Ruth

> *… the thing … I took home from it was just being so much more comfortable with asking a question, or thinking about needing to ask a question, and then it being so natural to flow, that the patient then felt comfortable with it …*
>
> Laura

Robert emphasised that health professionals need to be comfortable with sexual health in order to provide the best care for patients:

> *… and like I said, looking at the emergency department screen and seeing which patients wait the longest, it's the ones who are going to be, what you might call "an awkward consultation", and I think that really reflects where people are comfortable and where people aren't. And I think that's detrimental to patient care. So I think it's absolutely vital for people to learn about sexual health in a broader sense than they currently do.*
>
> Robert

Having experienced the learning process of shifting perspectives, Chris felt more prepared to advocate for certain marginalised patient groups. For example, he wanted to help alter stereotypes and prejudices against sex workers, noting the similarities

between these stereotypes and prejudices and those towards people from different cultural groups:

> *... I still get, like, really annoyed, when people say nasty things about sex workers and health practices and that kind of thing in hospitals, I get really annoyed on their behalf.*
> *... it's the same as any kind of xenophobic attitude, that always comes because you've never actually come across one of those people, and interacted with them, in real life. It's the same with anti-Semitism, and the same with racism towards Indigenous people. You ask those people, have they ever actually met and spoken to one of those people, and they say "no".*
>
> Chris

Similarly, Ewan considered it important that doctors advocate for their patients in the area of sexual health, stating:

> *... it's an area I think doctors have to advocate a little bit for patients, because the way society is structured, not everyone is really willing to voice any concerns they might have around their sexual health ...*
>
> Ewan

Robert said that despite not necessarily having specific knowledge about a patient's problem, his confidence to talk about sensitive issues and to help address these issues, enabled him to provide more holistic care for his patients:

> *For me, even if I don't have a clue what the medical aspect that I need to be dealing with is, I can get a history, and develop a rapport with the patient, and then go and get the extra knowledge that I need to actually go and manage that appropriately. But I can get the information and I can develop the relationship that I need to develop with a patient, to talk about sensitive issues comfortably. So that's what I think I've gained from it professionally.*
>
> Robert

Being thorough was important to Chris, who observed that when assessing patients, he considered sexual health issues to be more at the forefront of his mind than for his peers:

> *... it came up in my head as a differential more often than it would for other people when looking at someone who's presented to hospital for something.*
>
> Chris

Translating to practice – beyond sexual health

Participants in this study identified a number of ways in which their general skills were enhanced. Aspects of being a good doctor which participants linked to their learning from the unit included thoroughness, being holistic, and providing non-judgemental care. For example, Grace talked about being thorough:

> *... to be a thorough doctor, you need to address that area in certain presentations, so that [those who did the unit] would feel like they were doing the wrong thing by the patient, I think, if they didn't take a sexual history if it was necessary...*
>
> Grace

Ruth felt more able to discuss other "difficult topics" with patients:

> *This was the best elective I did and it has been very useful in my approach to discussing any difficult topic with patients.*
>
> Ruth

She explained how this helped her with difficult conversations with patients about such things as:

> *… bowel problems, pneumonia, cancer, the fact that a patient might die …*
>
> *… I just found that staying calm and trying to normalise the situation allowed people to discuss how they were feeling without feeling judged, without feeling embarrassed …*
>
> Ruth

Irene talked about how she has changed her communication style to suit specific patients:

> *... it made me realise that, I guess, for different age groups you have to tailor your communication style, and your way of interacting with them, so that discussion was quite good, I think.*
>
> Irene

The importance of keeping personal views (or assumptions) separate from clinical consultations was highlighted by Irene:

... after the clinic it made me realise that yes, I have these views, but at the same time I have to handle them in a way such that it doesn't affect how I advise people, and talk to them about it, and so basically not bringing my own opinions about the matter into conversations ...

Irene

Meg recalled a discussion about professionalism, including her need to practise the skill of being non-judgemental:

... "having a professional face" I remember... not being judgemental, and just have that same face whenever you ask a question, or whatever response that you get from the patient, that was helpful. That needed a little bit of practice, at first! But I think I should be able to do that quite well now.

Meg

Laura emphasised the importance of understanding each patient's perspective:

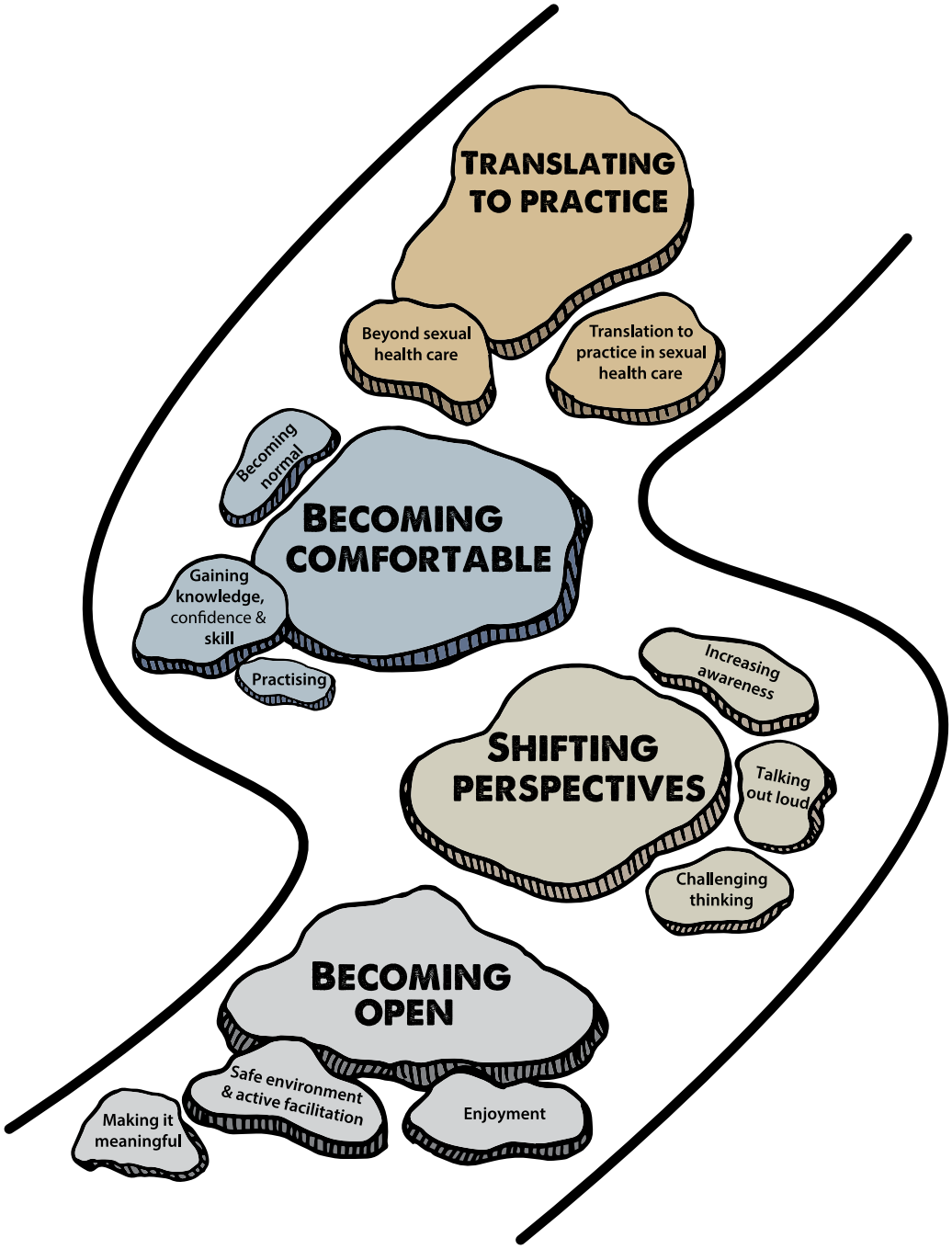
…the unit taught you week by week to see a different group of people, and in that group of people, they all had different experiences, and what are you going to do as their doctor to see them from those different perspectives and to understand their story? And that's something that I now do with every patient.

Laura

In the discussion of the theme, *Translating to Practice,* quotes from interviews have illustrated how the participants utilised their knowledge, confidence and skills from completing the unit, both in the specific area of sexual health, and how they applied this in their practice beyond sexual health. Aspects of patient care that participants had developed included being non-judgemental, understanding patients' perspectives, keeping personal viewpoints separate from professional interactions, being knowledgeable about sexual health, and being thorough by considering sexual health and including sexual health in history taking.

In this chapter, I have presented the major themes emerging from the ten interviews and twelve questionnaires of former students of the medical student elective unit, People, Health and Sexuality, at the University of Western Australia. The themes of *Becoming Open, Shifting Perspectives, Becoming Comfortable* and *Translating to Practice* represent a journey towards greater knowledge, confidence and skill in sexual health and beyond. Several participants highlighted that they still had some way to go in this journey – for Grace it was in the area of confidence, and for Robert it was in the area of

knowledge. However, the findings of this study bring to light some important issues around sexual health teaching and learning, which will be discussed in the next chapter.



Garden path illustrations by Jessica Predovnik

Chapter 6 Discussion

Introduction

This chapter will commence with a brief restatement of the study's purpose. The findings will then be discussed in relation to the research question, supported by current literature in health professions education. The limitations of the study and possible directions for future research will be outlined, and the thesis will conclude with recommendations for further work in this area.

A qualitative research methodology, using a phenomenological approach, was chosen in order to answer the research question,

> **What aspects of the (sexual health elective) unit and/or teaching strategies facilitated the acquisition of knowledge, skills and confidence in sexual health?**

In the preceding chapter, the findings included four main themes of *Becoming Open, Shifting Perspectives, Becoming Comfortable* and *Translating to Practice*. In the next section these findings will be discussed in relation to current health and education literature, to offer key insights in response to the research question.

How do participants gain knowledge, skills and confidence?

In this research study, the participants each referred to specific knowledge, skills and confidence gained through their participation in the unit. The particular areas of knowledge, skills and confidence identified was unique to each participant, and each provided examples of how they had translated their learning from the unit into their clinical practice. The uniqueness of each individual's learning was highlighted by Boud:

> *The different reactions which people have of the same event often have their origins in their personal and cultural past and, for this reason, no event is such that everyone will experience it in the same way.*[118] (p. 63)

Because of the diversity of pre-existing levels of knowledge about sexual health, the different cultural and religious backgrounds of participants, and the different reasons the participants identified for selecting the elective unit, it was not surprising that in this study, each participant identified an individual learning journey.

An individual learning journey is an important feature of experiential learning, which recognises that each learner comes to the learning environment with different experiences, values and learning styles, which influences how and what they learn from each concrete experience[33]. As an example, a number of participants discussed different responses to and learning from a session about lesbian, gay, bisexual, trans, intersex and queer/questioning (LGBTIQ) issues. Ewan identified closely with this session, as he identified as being of 'diverse sexuality', but was also confronted by realising that he had unconsciously adopted some stereotypes; Meg, who stated that she had limited prior knowledge, learnt for the first time about the life experiences of LGBTIQ people, which encouraged reflection, and increased her knowledge and confidence in this area; while Laura said that she was, and remained, challenged about the use of appropriate and helpful language when interacting with LGBTIQ people.

Whilst the participants in this study had different motivations for choosing the unit, and each identified different combinations of knowledge and skill that they developed and retained through their participation in the unit, some teaching strategies which enabled this learning to occur stood out during analysis of the interview and questionnaire data, which will be discussed below.

1. Making it safe

> *Each of our students will have their own individual constraints, experiences and preferences. The educator's task is to provide an environment and the resources in which each learner can flourish*[119] (p. e1561)

Numerous authors in health professions education have discussed the importance of creating a safe environment, and how it facilitates learning[40,69,119-122]. Safety is important to allow students to identify gaps in their knowledge, to talk about any concerns, and to practise and expand their skills[120]. The importance of safety for participants has been emphasised by some authors in the teaching of sexual health, as a safe environment enables participants to discuss and re-evaluate their own beliefs and attitudes about sexual health issues[40]. Practising sexual health communication skills within a safe environment enables students to develop skills, comfort and confidence in discussing sexual health concerns with patients[69].

The studies discussed in the focused literature review of sexual health teaching for health professionals and health professions students (Chapter 3) did not discuss whether students considered the learning environment to be a safe one. This highlights one of the possible difficulties with quantitative research in health professional education:

unless the researchers have inquired into how learning is facilitated, such important information is not gleaned. It is conceivable that the safety of the learning environment was a factor in the success of some programs when compared with similar programs which appeared to be less successful, for example two theoretically similar workshops which demonstrated subsequent changes to clinical practice in one case, but not in another[55,70].

A major finding of this study was that participants reported a strong sense of feeling safe in the learning environment, and this encouraged them to develop their knowledge, skills and confidence in a number of important ways. It enabled each student to actively engage and participate, and to safely explore their own views whilst hearing the diverse views of others (including peers and guest speakers) around sexual health. This was important, as for many participants the learning experience challenged their views, and sometimes led to changes in their perspectives. The safe environment also enabled participants to practise a new set of skills with each other before engaging with patients, with a consequent growth in confidence, especially in sexual health consultations.

Teaching strategies which were identified by participants that encouraged this sense of safety included maintaining small group numbers, setting up 'group rules' (during the first session each year), ensuring students understood that they could choose how much to disclose and that they would not be judged, and that there were no "right or wrong" answers. Active and respectful facilitation ensured both that the diversity of views on sexual health issues was welcomed, and that each student's perspective was encouraged and heard. Respect for the views of students was demonstrated by the unit facilitators, providing a useful role model for students in respectful interactions with patients and with each other, enhancing the sense of safety.

The creation of a safe environment for students, emphasised by participants in this study, is well supported in the health professional education literature[123-125], but was not specifically addressed by the studies in the focused review of sexual health education literature. A safe environment is considered essential for students to be able to engage deeply in their learning about sexual health, and in developing their skills and confidence prior to engaging with patients.

2. Challenging thinking and changing attitudes

Challenging learners is an important aspect of constructivist learning theories generally[119,126,127], experiential learning theories[33], and of the specific theoretical

perspective of transformational learning[128,129]. Experiential learning, which includes challenging student perspectives, encourages learners to express their beliefs and to examine and test them, which enables their beliefs to be refined[33].

From a transformational learning perspective, the creation of cognitive dissonance within the learner stimulates students to examine their attitudes, values and beliefs, revise their frames of reference, and to change these attitudes and beliefs[129]. Cognitive dissonance has been described as:

> *…the uncomfortable tension that comes from holding two conflicting thoughts at the same time*. [130 (p.3)]

Many of the studies identified in the focused review of sexual health education literature discussed whether attitudes towards specific sexual health issues changed during the education program. Most did not investigate how the program led to participants' attitudes changing, and the educational activities used within these programs were very varied. Most programs which identified changes to participant attitudes used a combination of didactic and interactive methods such as consumer panel discussions, or small group discussions. In one of the few qualitative components to studies in the literature review, focus group findings included that students found small group discussions helpful to challenge their views[40].

In this study, the teaching strategies designed to challenge the views of participants were effective in stimulating students to consider their views more deeply, and in many cases to change them. Many examples of cognitive dissonance leading to altered beliefs and attitudes were identified, including issues that they had not previously considered (or not considered deeply), such as sex and disability, LGBTIQ people, abortion, sex work, sexual assault and sexuality across the lifespan. Given the more controversial nature of some of these issues, such as sex work or abortion, it was interesting that the most commonly mentioned challenge to students' existing perceptions was the concept of older people having sexual feelings, and being sexually active.

A central principle of transformational learning theory is to challenge student beliefs through the process of critical reflection. Learners require both the safety and the opportunity to reflect in order to resolve this cognitive dissonance[128]. Increasing awareness of personal beliefs and attitudes fosters the individual's capacity to critically examine and change attitudes if required. Challenging beliefs can occur either through an internal catalyst (reflection) or an external catalyst (eg a teacher or a patient)[119].

In this study, examples of internal catalysts identified by participants as challenging them included talking out loud about sexual health and justifying their own views to their peers in small group discussions, and becoming aware of their own preconceptions or stereotypes. For example, Ewan's realisation of his preconceptions about trans men, and Ruth's about people with disabilities not having sex. Another internal catalyst was one of the unit assessments, a role play consultation, which challenged students to utilise their knowledge and skills in front of their peers. Although some discussed their fear or "dread" of performing in front of their peers, participants found it memorable because they positively enjoyed it, or suddenly recognised that they had developed sufficient skills to discuss sexual health with patients.

Numerous external catalysts were found in this study to challenge participant views and attitudes. For example, guest speakers including health care consumers caused participants to think about issues they had not previously considered, such as sexuality for people with disabilities. Additionally, participants were challenged to reconsider their views through hearing different peer perspectives to their own. Clinic observations and visits to agencies such as an abortion service, a sexual assault service, and a sex worker advocacy organisation, confronted participants through demonstrating the reality of different people's sexual health experiences. This was likely to be particularly important for those who had limited prior opportunities to consider these issues.

Challenges to perceptions about older people and sexuality occurred particularly during a session on sexuality across the lifespan, which included a video and facilitated discussion. This session was planned to enhance awareness of the changes in sexuality throughout the lifespan, from early childhood through to older age. However, it is interesting to note that the greatest lasting impact on participants from the session was an increased awareness of sexual activity and capacity for sexual feelings in older people that they had not previously appreciated. Most participants described this session as challenging their previous assumptions and views. Assumptions such as 'older people are not interested in sex' were challenged and reconsidered as 'older people have sexual feelings' and 'as a health professional, I will need to understand sex and older people to do my job', resulting in deeper and more memorable learning in this area than, for example, the less challenging idea of 'younger people are interested in sex'.

These internal and external catalysts challenged the participants' views, and resulted in a shifting of perceptions which was strongly evident in this study. To enable attitude changes to occur, student openness to hearing different viewpoints, and increasing

awareness of these different viewpoints or experiences, were required. For example, participants discussed a number of stereotypes that they had held, which altered as they gained awareness about specific groups, such as older people or sex workers.

Health professionals come from societies which may hold negative attitudes towards certain sexual activities, sexual minority groups, health services such as abortion care. Holding these views can have a negative impact on health care professionals' capacity to deliver patient centred health care[131], and many of the publications identified in the literature review have evaluated changes in attitudes after the program. In order to change attitudes, participants' own views are brought to the fore through small group discussions, didactic teaching, health consumer teaching or clinical experiences; considered, through reflection or during discussions; and finally re-evaluated.

3. Balancing safety and challenging thinking

Educators need to find the balance between insufficient challenge, allowing prior certainties to persist, and challenging learners so much that they become "paralysed by insecurity"[33 (p 28)]. When creating a safe environment, it is important to allow learners to explore and to change, but to make sure they are not overwhelmed with new challenges.

> *As learners, engaged in this process of knowledge creation, we are alternatively enticed into a dogmatic embrace of our current convictions and threatened with utter skepticism as what we thought were adamantine crystals of truth dissolve like fine sand between our grasping fingers*[33 (p. 108)].

Other educators have referred to the importance of balancing the two potentially opposing principles of safety and challenging students. Challenges can, on the one hand, be perceived as threatening, or a barrier to success, and on the other as an opportunity to develop new skills[129]. Educators need to ensure that new tasks are graduated in their level of difficulty, enabling students to understand important issues but also to develop a sense of self-efficacy, or confidence in their own skills[129].

Facilitators play an important role in balancing sufficient challenges with sufficient safety because without challenge, there may be little motivation for a student to reflect, but without a supportive environment, the student may not feel able to notice and consider all aspects of their experiences, including their own responses[132]. Similarly, a recent systematic literature review on reflective practice in health professions education, concluded that through the provision of a safe environment, time to reflect, good

facilitation, mentorship and peer support, students were encouraged to reflect and to learn more deeply[133].

As discussed above, two essential elements in sexual health teaching, supported by this study, are providing a safe learning environment in which students can engage deeply with their sexual health learning, and challenging participants' existing knowledge, preconceptions and beliefs. These elements need to be balanced for student learning to be most effective. Participants in this study were provided with opportunities to effectively learn about some potentially challenging issues, such as sex work and abortion, suggesting that students can cope with significant challenges provided they feel safe to explore, reflect and learn.

4. Practising skills

The development of skills through practising was an important finding of this study. Practising skills was strongly linked to becoming comfortable with sexual health language and discussions, normalising discussions about sexual health, and increasing confidence. This experiential process was also useful to the development of general communication and clinical skills.

Skills practice during the unit was confined to role plays with peers and facilitators, rather than with patients, because the unit was offered to students during their final preclinical semester. Some participants suggested that more practice would have led to greater confidence, and that it would have been useful to practise with patients. Enabling practice with patients (or simulated patients) would therefore have enabled the students to progress further along the spectrum towards active performance of clinical tasks, with a likely additional increase in confidence.

The focused literature review of sexual health education for health professions students and clinicians showed that skills practice (role plays) was a feature of most of the programs which led to increased comfort with sexual health consultations[15,44,56,69,71,75,84], and with those programs that were found to enhance participant skills and confidence[29,42,70,92]. Importantly, skills practice was a strong feature of the studies that demonstrated an increase in sexual health discussions in clinical practice[41,53,55,77].

One of the few publications to report on participants' perceptions of sexual health education found that students did not consider observing clinical consultations as sufficient to enable them to perform these consultations themselves, but that practising their skills, and the opportunity to 'find the right words' to conduct consultations,

resulted in their confidence increasing[69]. Students in another study identified that clinical placements would consolidate their learning in sexual health[40]. As students progress from passive observer of clinical interactions to full participation as a clinician, their active participation increases, as do several interlinked factors: practical competence, and a sense of confidence, motivation and professional identity formation[134]. Educators can assist this process by providing support whilst also challenging students, but not to the point of overwhelming them[33].

Taken together, the findings of this study, and those in the focused review of the literature (Chapter 3), well supported by experiential learning theories, provide strong evidence that skills practice is a valuable learning strategy, enabling learners to become more confident and skilled in sexual health, which results in a greater likelihood of addressing sexual health in clinical practice.

5. Translation to practice

The findings of this study indicate that teaching in sexual health can have a positive impact on the provision of sexual health care, and on generic communication skills, in the longer term, in some cases up to five years after completion of the sexual health elective in their undergraduate medical degree.

This study was intended to investigate the development of sexual health knowledge, skills and confidence for the students who participated in the unit. However, an additional positive finding was that the knowledge, skills and confidence gained from the unit enabled participants to put this learning into practice in their interactions with patients around sexual health. Further, it assisted participants to provide better care to their patients outside the area of sexual health. In this section, issues which enabled learning to be recalled and remembered will be outlined, then how this learning was utilised in their future clinical practice in sexual health, and finally, how learning was utilised in participants' overall clinical practice.

A review of the literature on the translation of learning to clinical practice highlighted a number of principles of medical education which were linked to skilful clinical practice[135]. These included: repeated skills practice, ensuring that learning was relevant to future practice, and providing feedback, along with an individual focus on learning, students taking part in decision making, reciprocal learning, feasibility and cost efficiency, mentoring and holistic care.

All but one of the studies discussed in Chapter 3 which investigated changes to clinical practice found that practitioners addressed sexual health issues more often after the education[34,41,53,55,61,70,73,77,84,86,100]. Most of these studies included role play activities, but for some, other interactive activities such as small group discussion, use of health care consumers or reflective activities were employed. None of the studies examined changes to sexual health consultations other than their frequency in clinical practice, and none investigated changes to clinical practice outside of sexual health issues.

Remembering the learning

A number of issues contributed to participants in this study being able to recall their learning from the unit, including closely identifying the relevance of the learning to their future clinical practice, a sense of deep engagement, and the involvement of participants' emotions, including enjoyment.

Some participants in this study connected their learning with strong and specific memories, which varied from participant to participant. Most of these memories were associated with contact with patients, or with teaching by consumers. They included a sexually diverse participant meeting a trans man for the first time, a specific patient distressed by a diagnosis of genital herpes, learning to be non-judgemental during interactions with patients, and the experience of role playing a doctor having a conversation with a difficult adolescent (with an imagined patient rather than actual patient). These recollections were mostly associated with surprise (realising that one's preconceptions were not correct), a strong affective component (a sense of great enjoyment of the activities, or, in contrast, fear but a growing sense of confidence), or were linked to personal issues (eg a sexually diverse participant's delight with the respectful inclusion of LGBTIQ issues).

Experiential learning theorists emphasise the importance of emotions in remembering learning, pointing out that learning is more effective when it is more than simply cognitive, but involves the integration of "thinking, feeling, perceiving, and behaving"[136 (p. 194)]. The emotions are important to consider in learning about sexual health, as it can both facilitate learning, or create barriers to learning around this sensitive topic, as discussed by Lewis *et al* in their study of educating physicians about Acquired Immune Deficiency Syndrome (AIDS)[53]. Affective barriers were considered to potentially hinder learning from education programs, particularly in the area of HIV at a time when treatment was less effective than it is currently.

Student engagement with the emotional aspects of the learning makes that learning both more interesting, and more memorable, because the learning becomes part of an individual's autobiographical memory[129]. Further, emotional engagement, using a large range of senses, increases neural pathways, which enhances learning[137].

The role of emotions in remembering learning was one of the findings of this study, and is supported in education literature. It was not, however, discussed in the articles identified in the focused literature review of sexual health education programs.

Changes to clinical practice – in sexual health

Participants in this study described how learning about sexual health helped them in a number of ways to provide better sexual health care to their patients. These included being more likely to consider sexual health issues in their differential diagnoses, taking thorough sexual histories, actively addressing sexual health issues with patients (rather than avoiding the topic as they noticed some peers doing), 'normalising' sexual health for patients, and ensuring that patients felt more comfortable during sexual health consultations. These are important aspects of providing patient-centred care. Other aspects of patient-centred care which were found in this study will be included in the discussion below regarding how the unit helped participants' clinical practice beyond the area of sexual health.

A number of participants expressed the view that they were not good doctors if they neglected to take a sexual history when indicated. Whilst some participants were not taking sexual histories often, they felt competent to do this after completing the unit. Some contrasted their own clinical practice with their peers in hospital settings, noticing that their peers sometimes avoided seeing patients with sexual issues, or avoided taking sexual histories even when clinically useful.

A number of other studies have identified that health care practitioners may actively avoid discussing sexual health with patients [2,5,7,8,18,20,138], and that this may partially be explained by a lack of knowledge or confidence in managing sexual health issues. The majority of studies which examined effects on clinical practice found that sexual health education programs enhanced the likelihood of sexual health being addressed during consultations, but these studies did not investigate what aspects of the education program led to these positive changes[34,41,53,55,61,77,84,100].

Two small studies from the 1980s found that avoidance of difficult topics was common, but was often unrecognised, by both medical students and junior doctors[139,140]. This

avoidance can have potentially deleterious impacts on patients, such as inadequate history taking and care, not appearing to listen to patients, and not addressing patient concerns[140]. Common reasons for avoidance were that some issues were "difficult" or too emotive to discuss, or the health professional was concerned about harming a patient, or closely identified with a particular patient.

A study of communication between oncologists and their patients found that oncologists attended most carefully to issues they felt able to help patients with, such as pain that was amenable to treatment[141]. In contrast, pain which was considered less amenable to treatment was often not acknowledged, or was dismissed.

This resonates with the findings of this study, in which participants had observed that their peers, with less confidence in their abilities to address sexual health issues, tended to avoid these consultations, in contrast with the participants, who felt confident in their ability to address sexual health, and thus did not hesitate to see these patients. It is possible that the less comfortable peers of the participants in this study were not conscious of their avoidance of patients with sexual health related presentations, but their conscious or unconscious avoidance may have led to poorer delivery of health care. In order to provide adequate health care to patients with sexual health issues, it is clearly useful for education programs to be designed in a way that promotes sufficient skills and confidence for practitioners in the provision of sexual health care.

Changes to clinical practice – moving beyond sexual health

The results of this study indicate that skills gained from a sexual health elective extended beyond the area of sexual health, into other areas of health care. These areas included improved communication skills, understanding patients' perspectives, increased empathy, patient advocacy, professionalism, non-judgemental care, ensuring a patient is comfortable, and 'normalising' sensitive health issues. These skills and attributes are essential qualities in the delivery of 'patient centred care'. Patient centred care has been defined as:

> *Providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions*[142] *(p. 6)*

Patient centred care has been demonstrated to result in numerous improved patient outcomes, including greater satisfaction, higher adherence to treatment, and better health outcomes, when compared to less patient centred health interactions[143,144]. A number of health professions educators have developed specific programs to improve

health professionals' ability to provide patient centred care. For example, participants in an eighteen hour program, which included discussions about communication, participant practice, and the provision of feedback, improved patient centred care when compared to those in a control group[145]. In another study, medical student empathy scores were improved using simulated patient interviews, followed by debriefing and discussion of patients' feelings[146].

Learning from contact with patients has been considered valuable by medical students as it enabled them to link prior concepts with real situations, and resulted in increased confidence and motivation[147]. Clinical exposure which enables learners to see the relevance of what they are learning helps to make it more meaningful[119,120].

The impact of involving health care consumers in the teaching of health professionals has been demonstrated to have positive impacts on learners' understandings of patients' lived experiences. Student nurses gained a deeper understanding of patient experiences, and more positive attitudes towards mental health patients, when consumers were involved in their teaching[148]. A review of studies about the involvement of consumers in teaching in fields outside of mental health care found that whilst participant numbers in the studies under review were small, there was some evidence that consumer involvement enhanced the emotional engagement of students, which led to deeper understandings of patients' perspectives, and increased their focus on patient-centred care[149]. Involvement of health care service users can have a positive impact on the provision of non-judgemental care[40].

The findings from the studies discussed above demonstrate that these strategies can lead to increased understanding and empathy with patients, and/or enhanced patient centred care, which are echoed in the findings of this thesis. Several teaching strategies used during the elective unit provided participants with opportunities to develop a deeper understanding of others, including guest speakers, observing skilled sexual health consultations, role modelling of clinicians and course facilitators, practising communication skills, the provision of feedback about these skills, and stimulating individual reflection. Course speakers, including LGBTIQ speakers and former sex workers, shared at times very personal experiences and feelings with the students. In addition, during clinical attachments, students observed sensitive clinician-patient interactions, which provided insight into people's lives and sexual health issues. Through the role modelling of clinicians who were skilled and confident in patient-centred care in sexual health, participants developed an understanding that the

knowledge and skills were achievable. Finally, reflections on how the skills could be achieved (one of the assessments in the unit) was a way of drawing attention to these skills.

In this study, participants described how the skills developed during the unit enabled them to have other types of "difficult conversations" with patients, not limited to sexual health discussions. One participant outlined that as a result of the learning, she selected different communication strategies to use to suit individual patients, demonstrating that skills gained through the unit were transferable to other areas of health care.

There are interesting parallels between communication skills training and sexual health training. Studies of communication skills training have shown that role play practice with feedback and small group discussions is effective in improving clinician communication skills[150], as it is in improving sexual health care skills. Communication skills training led to an increased chance of discussing sexual health, in a small sample of Greek doctors[151]. Interestingly, findings from the research study in this thesis suggest the converse, that a sexual elective can not only improve sexual health skills and confidence, but can also assist the development of general communication skills. In contrast, studies identified in the focused literature review did not specifically evaluate aspects of care beyond the sexual health area, and therefore did not identify whether any improvements in generic consultation skills occurred after sexual health education programs.

In summary, the findings of this research study into the impact of a sexual health elective on the knowledge, skills and confidence of medical students and graduates demonstrate that it is possible to enhance the prerequisites for delivering skilled, patient centred, sexual health care. In addition, the study found that the teaching strategies with the greatest impact for providing good sexual health care were those learning and teaching exchanges that promote student safety whilst also challenging them, and enabling skills practise. As well as practising skilful sexual health care, participants in this study considered they were better able to communicate with patients about difficult issues, to advocate for patients, and to understand patients' perspectives than they had been prior to completing the unit. Teaching strategies which contributed to this included hearing the perspectives of marginalised consumer groups, observing skilled sexual health clinicians in practice, and opportunities for skills practice.

As others have observed, engaging health professions students and graduates using a variety of education strategies appears to be more effective than relying upon one

approach[152], and the combination of challenging participants, role modelling, encouragement, reflection and skills practice create a synergy which maximises the personal and intellectual growth of participants in the area of sexual health[129]. In this study, there appeared to be a strong synergy between creating a safe learning environment, challenging student perspectives, providing opportunities for role modelling and skills practice and engaging students' emotions, which led to significant benefits in their later clinical practice.

Limitations of the study

This study had a number of limitations, including a small sample size of ten participants, a group of former students who completed one elective at one university. Therefore, the findings may not apply in other settings, with other facilitators, or with different student populations. The participants in this study came from a broad range of backgrounds and experiences, but cannot be considered representative of all those who participated in the elective (selection bias)[113]. Those who chose not to participate in the study may have held different views about the impact of the elective to those who chose to participate.

Whilst the qualitative research design enabled some unexpected findings, such as the broader impact on patient centred care, the study would have been strengthened by a quantitative component to the research. For example, obtaining comparative data about the knowledge, skills, confidence or clinical behaviour of those who chose and completed the elective, those who chose the elective but did not succeed in obtaining a place, and those who did not choose to do the elective. Alternatively, testing the knowledge, skills, confidence or clinical behaviour of participants before and after the elective, would have provided useful information. In addition, an objective assessment of participants' skills in clinical practice, comparing those who did and did not complete the unit, would have also provided clearer evidence of the impact of the elective. However, these were not possible due to the scope of this Masters project.

The views and attitudes of the author may have influenced the study findings. The interviews and the initial analysis were performed by the author alone. Whilst all efforts were made to identify and to bracket the author's personal views and attitudes, and coding was revised after a research supervisor (GB) reviewed the initial coding, the author's perspectives may have played a role in the interpretation of the data[112].

The fact that the author was one of the course facilitators may have influenced whether or not former students chose to participate in the research, and may also have influenced

participant responses to the interview questions. The author was no longer in the "teacher" role for the participants, but the former existence of this relationship may still have had an impact. To mitigate this possible influence, the author clarified verbally prior to each interview that participation would not influence any future contact with participants.

The next chapter will outline recommendations arising from the findings of this research study and the focused literature review of other sexual health education programs for health professions.

Chapter 7 Conclusions and recommendations: getting the balance right

> *Learners must know what to ask (cognition). They must possess the skills required to introduce questions and provide counseling about sensitive topics. Moreover, the learners must feel comfortable enough to do so*[53 (p. 265)]

Based on a synthesis of the findings from this research project and a focused review of the health professions sexual health education literature, six recommendations were made to assist those providing sexual health education for health professionals. Acting on these recommendations may help learners to develop greater capacity to engage with people in clinical settings, and improve the quality of clinical interactions for all.

Recommendation 1: Include sexual health in health professions programs

Sexual health is important to our patients, and important from a public health perspective, yet recent studies[37,52,97,153,154] suggest that health professionals are still not addressing these issues well. The published literature about sexual health programs for health professionals shows that the benefits of even brief programs are worthwhile in developing at least one of the requisite areas of knowledge, skill, confidence and comfort in addressing sexual health, and this appears to enhance the likelihood of sexual health issues being addressed in clinical practice. It has been demonstrated that health professionals are more likely to address sexual health issues with patients following targeted education[41,53,55,84].

Health professional educators need to decide which of many possible issues need to be covered in their curricula, as a key issue in improving sexual health education for health professions students is hampered by the lack of clarity over what specific sexual health knowledge and skills need to be covered. As a minimum it has been suggested that the following should be included: sexual dysfunction, lesbian, gay, bisexual and transgender health care, sexuality throughout the life span, sexual violence, STIs and HIV, contraception, abortion, non-normative sexual activities and legal issues[155].

In line with current views in health professional education[156-161], there is benefit from integrating sexual health teaching vertically and horizontally across the curriculum[10,155]. Such an approach, incorporating sexual health issues into existing teaching sessions,

and supporting this with faculty development, can lead to learners experiencing improved comfort with sexual health issues, and attitudinal changes[62]. Integrating sexual health into existing teaching may also be easier to implement within existing health professions education programs than creating additional sessions within crowded education timetables. For this to be effective, staff development may be required, to reduce the likelihood that educator discomfort with sexual health issues will impede student learning[26].

Recommendation 2: For deeper learning to occur, ensure that participants have a safe learning environment

The creation of a safe learning environment maximises participants' potential for deep and transformational learning, and this seems particularly important when learning about sexual health. This study found that careful and active facilitation, small groups, and respect for participants' views enabled students to engage more deeply with the content, to challenge and reconsider their own personal views, and to practise their sexual health consultation skills.

Recommendation 3: Challenge participants – but not so much that they feel overwhelmed

Educational learning theories, such as experiential learning and transformational learning, identify the importance of balancing challenges with safety[129,136]. To gain an appropriate balance between safety and challenge, it may be helpful to establish a safe environment from the outset, and to consider gradually shifting from gentle challenges to greater ones, whilst noticing carefully how students are responding to each challenge.

When teaching includes the combination of challenging students, providing role models, skills development experiences, positive encouragement, learning beyond the classroom, and encouraging reflection, a synergy that maximises students' personal and intellectual growth can be created[129].

This study showed that challenging students in a safe environment led to changes in their perceptions about particular patient groups – such as older people, or sex workers. Gentle challenges may include small group discussions about issues such as ageing and sexuality, LGBTIQ issues, and people with disabilities and sex. A little more challenging may be the topics of sex work and abortion. Findings from this study supports the transformational learning theory view that for deeper learning to occur,

participants need to feel safe enough to explore their views and to reflect on their learning[129].

Recommendation 4: Consider and engage the emotions of participants – safely

Experiential and transformational learning theories highlight the value of engaging learners' emotions[129,136] in deepening learning, and researchers in health professions education outside the field of sexual health have found that teaching which engages participants' emotions has been valuable in enhancing patient centred care[149]. However, the impact of involving participant emotions can also be negative. Two studies in the focused review of the literature reflected on the impact of emotion on participant learning, which may have hindered learning[46,53]. Both studies focused on teaching about HIV/AIDS at a time when highly effective treatment was not yet available, and understandably, health care professionals had a high level of anxiety about contracting HIV, which appeared to be heightened by participating in the education programs.

The findings from this research study included the positive role of emotions in deepening student learning about sexual health, and led to a greater consideration of patients' perspectives, both in sexual health and in other areas of clinical practice. It is important to engage participant emotions in a safe environment, to enable participants to deepen their engagement, taking care to avoid increasing anxiety or other negative emotions, which could hinder learning.

Recommendation 5: Include skills practice

Skills development may be facilitated by a number of teaching strategies, which include role modelling, observing facilitators within workshops, and watching skilled clinicians communicating comfortably with patients about sexual health issues. However, the most important component of skills development appears to be practising sexual health consultations. A clear finding from both the literature and from this study is that practising skills with peers or simulated patients, ideally with feedback, is important to the development of skills in providing sexual health consultations[42-44,48,75,84,92]. When possible, practising skills with simulated or real patients may enhance participants' skill and confidence even more than practising with peers. As some participants in this study noted, extra opportunities for role plays, and being able to practise their skills with patients, were likely to have further enhanced their skills and confidence.

Recommendation 6: Evaluate the impact of changes to sexual health teaching, and include qualitative research

There are a number of important gaps in the research literature, including the need for longer term studies to identify the impact of education programs on clinical practice. In addition to sexual health being important to address with patients, this study suggests that sexual health teaching may also improve general communication skills and enhance the likelihood of providing patient centred care. Further research in this area would be useful.

Qualitative research methods can provide a deeper understanding of the impact of education programs and can be used to inform and further refine these programs. This study demonstrates that unexpected findings can emerge through using qualitative research methods. For example, generic communication skills and advocacy for patients were not expected findings from this study, but were useful to identify as outcomes of the learning. Teaching generic communication skills may increase the chances of clinicians addressing sexual health in practice, but conversely, interactive teaching including skills practice in sexual health may improve generic communication skills.

Many of the available publications on sexual health programs for health professionals and students were of limited quality. Future research of higher quality, aiming to address particular gaps in the existing literature, would be beneficial. Ideally these studies would evaluate changes to actual practice, or the development of sexual health consultation skills over a longer period of time than several months.

Research which highlights the views of students themselves is also valuable in clarifying why and how particular educational strategies are effective, or not, in achieving learning outcomes. For example, it would have been interesting to investigate why similar role play workshops were successful in creating changes to clinical practice in some settings[55], but not in others[70].

Summary

This study found a number of important aspects of teaching which enabled the participants to develop knowledge, confidence and skills in sexual health, and for them to continue to use these not only in sexual health, but also in other areas of health care. The principal teaching strategies which were highlighted include creating a safe environment, challenging participants' views and attitudes, and practising skills. These, along with other teaching in the unit, resulted in a number of positive outcomes in clinical practice, including confidence in communication skills, greater understanding of patient perspectives, and shifts towards patient centred care.

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Appendices

Appendix 1: Glossary of terms and abbreviations

AIDS

Acquired Immune Deficiency Syndrome, due to the Human Immunodeficiency Virus (HIV)

Gender

A person's self-determined identity as male, female, neither or both. This may be the same or different to the sex assigned at birth.

HIV

Human Immunodeficiency Virus

LGBTIQ

Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning or Queer. This refers to a person's self determined sexuality and/or gender identity. Other variations of this acronym are also commonly used by some authors to refer to the spectrum of sexual and gender identity, such as LGBT (lesbian, gay, bisexual and transgender)

For further clarification of these terms, see the Freedom Centre glossary: http://www.freedom.org.au/

Questioning, queer

Sexual or gender identity is either not yet clear to a person, or they do not consider themselves to be in other categories such as gay, lesbian, trans woman or trans man.

Sexual Health

> *Sexual health is a state of physical, emotional, mental and social well-being related to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.*
>
> World Association for Sexual Health[162] (p.156)

Sexuality

> *Sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, cultural, ethical, legal, historical and religious and spiritual factors.*
>
> World Association for Sexual Health[162] (p.156)

STI

Sexually Transmitted Infection

Trans, transgender

A person's sexual identity, when sex assigned at birth does not match their identity.

Appendix 2: Introduction to the research: recruitment email

Hello,

You are invited to participate in a study to look at the impact of the unit, People Health and Sexuality, IMED 3313, which you completed in the third year of your Medical course. There are two parts to the study, a brief demographic questionnaire, and semi structured interviews of some participants. If you would like to participate, please read the Participant Information Sheet, and complete the Demographic Questionnaire and the Consent Form attached.

If you would like to know more about the study, please contact one of the researchers by email:

alison.creagh@research.uwa.edu.au or

gabrielle.brand@uwa.edu.au

or telephone Ass Professor Brand on 6488 6879.

Best wishes,

Alison

Appendix 3: Participant Information Form

THE UNIVERSITY OF WESTERN AUSTRALIA

Achieving International Excellence

Asst Professor Gabrielle Brand
Telephone: 6488 6893
Fax: 6488 6879
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Education Centre
Faculty of Medicine, Dentistry and Health Sciences
University of Western Australia (M515)
35 Stirling Highway, Crawley
Western Australia 6009

PARTICIPANT INFORMATION FORM

"Talking out loud": impact of a sexual health elective on medical students' knowledge, skill and confidence

As a former student of the elective unit, People, Health and Sexuality (IMED 3313), at the University of Western Australia, you are invited to participate in a study to explore:

a) how the unit facilitated medical students' learning in the acquisition of knowledge, skills and confidence in sexual health.

b) what aspects of the course and/or teaching strategies facilitated, or were a barrier to, their ability to identify and manage the sexual health of the patient.

The researchers are:

- Dr Alison Creagh, student in the Masters of Health Professional Education program, supervised by:
- Assistant Professor Gabrielle Brand, Education Centre, Faculty of Medicine & Dentistry
- Professor Sandra Carr, Education Centre, Faculty of Medicine & Dentistry

What participation in the study would involve

Part A – As a former student of the elective IMED 3313, you will be invited to complete a brief demographic questionnaire.

Part B – A select number of former students will be invited to engage in a one hour interview.

This will occur at a time and place convenient to them. The interviews will be audiotaped and transcribed, and analysed using qualitative research methods. Participants will later be contacted to check interpretations of some aspects of the interview. The de-identified results are intended to be published in peer reviewed journals and at relevant conferences.

The audiotapes, transcripts and other research documents will be kept securely for at least seven years after publication of the results, then permanently destroyed.

Confidentiality

All contact details and other information about participants will be kept securely. Names of participants, and anything else that could identify a participant, will be removed prior to publication.

What are the potential risks to participants?

The focus of the research is on the development of professional knowledge and skill, not on personal issues. There is a slight risk of distress if personal issues were to arise during the discussion about professional skills and confidence.

What are the expected benefits of the research?

There are no direct benefits expected for participants.

The research is intended to provide information to the University of Western Australia and to other medical schools about student perceptions of sexual health teaching. This is expected to assist in the development of sexual health teaching programs in the future.

Voluntary participation

The study is entirely voluntary, and participants may withdraw at any time prior to completion of the data collection without prejudice in any way. There would be no need to provide an explanation or justification for withdrawal from the study. If requested, any documentation or interviews by the participant would be destroyed, and not utilised in future publications.

Further information

You are welcome to contact the researchers if you have further questions. Assistant Professor Brand's contact details are above; Dr Creagh's phone number is 0429 361 074 and email address is: alison.creagh@research.uwa.edu.au

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Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to hreo-research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information For and/or Participant Consent Form relating to this research project.

Appendix 4: Participant Consent Form

THE UNIVERSITY OF WESTERN AUSTRALIA
Achieving International Excellence

Asst Professor Gabrielle Brand
Telephone: 6488 6893
Fax: 6488 6879
email: gabrielle.brand@uwa.edu.au

Education Centre
Faculty of Medicine, Dentistry and Health Sciences
University of Western Australia (M515)
35 Stirling Highway, Crawley
Western Australia 6009

PARTICIPANT CONSENT FORM

"Talking out loud": impact of a sexual health elective on medical students' knowledge, skill and confidence

I _____ (name) have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time prior to completion of the data collection without reason and without prejudice.

I understand that all identifiable (attributable) information that I provide is treated as strictly confidential and will not be released by the investigator in any form that may identify me. The only exception to this principle of confidentiality is if documents are required by law.

I have been advised as to what data is being collected, the purpose for collecting the data, and what will be done with the data upon completion of the research.

I agree that research data gathered for the study may be published provided my name or other identifying information is not used.

I understand that I may withdraw my consent to participate at any time prior to completion of the data collection without reason or prejudice and that my record of participation will be destroyed, unless otherwise agreed.

Consent to Part A – completion of demographic questionnaire

(please tick) ☐

Participant signature: _____ Date: _____

Consent to Part B – participation in semi structured interview & audiorecording

(please tick) ☐

Participant signature: _____ Date: _____

Contact details for interview: _____

Best time/s or day/s to contact me are: _____

Approval to conduct this research has been provided by the University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at the University of Western Australia on (08) 6488 3703 or by emailing to hreo-research@uwa.edu.au

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Appendix 5: Questionnaire

THE UNIVERSITY OF WESTERN AUSTRALIA

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QUESTIONNAIRE

"Talking out loud": impact of a sexual health elective on medical students' knowledge, skill and confidence

1. In which year did you complete the elective unit, People, Health and Sexuality (IMED 3313)? *please select answer below*

2007 2009 2010 2011 2012 2013

2. What is your gender? _____

3. How do you describe your cultural background? _____

_____

4. What is your current work role? (eg. Obstetrics, GP, public health, etc)

_____

5. How often do you usually discuss sexual health with patients?
(Please select best answer below)

More than once daily

Not daily, but at least once weekly

Not weekly, but at least monthly

Less than monthly, but at least once per year

Less than once per year

6. What learning experience or activity from the course do you remember the most? Why?

_____

_____

_____

7. Is there anything else that you would like to say about the unit?

_____

_____