

“We don’t know what we need to learn”: Medical student perceptions of preparedness for practice in men’s health

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Abstract

Introduction: In response to poorer health status and lower use of healthcare services by men compared to women, the Australian National Male Health Policy (2010) includes a commitment to better workforce training. We present a formative evaluation assessing medical students’ preparedness and learning needs in relation to the care of men in order to inform the development of a commensurate curriculum framework.

Method: A 4-item Likert scale survey was administered to final-year students from one Australian medical school (n=170; 64% female, 36% male; 74% response). The survey assessed coverage of male health topics in the curriculum and preparedness for men’s health practice. Additional focus groups with 13 students from four Australian medical schools aimed to provide context for the survey data and better understanding of learning needs.

Results: Overall, 65% of students (67% male, 64% female) reported no or brief coverage of men’s health in the curriculum; 20% of students (14% male, 23% female) felt minimally prepared in men’s health practice. Students’ perceived learning needs mostly

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related to male reproductive system disorders. Focus group data highlighted a difference between the content/opportunities that exist in men's health education compared with women's health, stating that men's health education tends to be "scattered" variably through the medical course and that student or educators' personal interest tended to drive men's health education. In addition, unlike opportunities to undertake sensitive examinations on females, practice opportunities for male genital and prostate examination were limited, with some reporting no coverage in their medical course.

Conclusion: From a student perspective, there is a need to enhance men's health education in Australian medical schools by incorporating clinically relevant men's health across curricula using a defined framework.

Keywords: men's health; medical education; curriculum; implementation.

Introduction

In the context of a growing burden of chronic disease and an ageing population, healthcare reforms in Australia have placed greater emphasis on ensuring a responsive health workforce to deal with the increasing demands and higher consumer expectations on the health system (National Health and Hospitals Reform Commission, 2009). There has also been a focus on the disparities in health outcomes and health service access across different population groups. Specific attention was given to men, particularly those from more disadvantaged groups, with the launch of a National Male Health Policy in 2010 (Australian Government Department of Health and Ageing, 2010). This policy gave attention to the need for up-skilling the health workforce in the management of male health issues as part of a "male-friendly" health service delivery approach (Holden, Allan, & McLachlan, 2010).

Health professionals often perceive that they lack sufficient skills and knowledge in specific men's health issues to meet current and future patient need (Poljski et al., 2003). International studies have explored the lack of sexual health teaching in medical schools and consistently report that students feel poorly equipped to meet the sexual health needs of their patients (McGarvey, Peterson, Pinkerton, Keller, & Clayton, 2003; Turner, Jopt, Nieder, & Briken, 2014; Wittenberg & Gerber, 2009). Despite some work in the USA (Kerfoot & Turek, 2008) and Australia (Fairbank, 2011) on teaching urology topics, the broader inclusion of male health in the curriculum has not been addressed. Overall, there appears to be little systematic teaching in undergraduate and graduate education in men's health (McCullagh, 2011). Anecdotal evidence suggests that in Australia there is considerable variability in men's health content in medical school curricula, with most, albeit limited, teaching restricted to urological disciplines.

To help improve men's health teaching in Australian medical schools, a men's health curriculum framework (the "framework") is being developed by Andrology Australia in collaboration with representatives from four large medical schools. The framework defines student learning outcomes in a range of men's health topics in a similar way to other national frameworks, such as Indigenous health (Phillips, 2004) and musculoskeletal health (Chehade, Burgess, & Bentley, 2011). However, it is well

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recognised that medical schools are under considerable pressure to integrate new course material across a range of disciplines (Dauphinee, 2009). To ensure that the framework meets both the students' and educators' needs, we have undertaken a formative evaluation to inform the development of both the framework and the implementation strategy. The formative evaluation explored the current preparedness of medical students to practise in men's health and the local capacity, constraints and needs of medical schools to implement more men's health into their curricula. The evaluation findings will inform the development of a larger implementation project and further process and outcome evaluation of the framework's success in enhancing the teaching of men's health in medical curricula around Australia. This paper reports on the findings of one component of the evaluation in which we aimed to better understand student perceptions of the level of coverage of men's health topics in current undergraduate medical training, their level of preparedness for men's health practice and their views on how perceived inadequacies could be addressed.

Methods

For the purposes of this study, a realist theoretical perspective was adopted to explore the men's health teaching and learning experiences shared by medical students (Patton, 2002). A sequential mixed methods approach (Creswell, 2003) was used, encompassing a questionnaire survey followed by focus groups, for the purpose of confirmation and completeness of findings to gain a more comprehensive picture of medical students' learning experiences and preparedness for men's health practice (McEvoy & Richards, 2006).

Study participants

A convenience sample of 230 final (6th-year) undergraduate medical students at one medical school were invited to complete hard-copy questionnaire-based surveys as part of a quality improvement activity. To provide context and explanation of the survey findings, a purposive sample of medical students (n=13) was recruited from four Australian medical schools delivering undergraduate medical degrees (Monash University, University of Tasmania, University of Adelaide and University of Western Australia). Students were recruited for focus groups by advertisements circulated by student representatives from the four different Australian medical schools.

Data collection

Both qualitative and quantitative data were collected and analysed.

Survey—Phase 1

The primary source of data was the survey, which was developed specifically for the study. The survey items were developed from previous studies' findings (Henrich, Viscoli, & Abraham, 2008; Kerfoot et al., 2004) and expert opinion of men's health education needs for clinical practice. Members of the reference group overseeing the formative evaluation refined the topic items and pre-tested the survey to identify items with

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unclear wording. The final version was administered to medical students and comprised two broad sections: 1) extent of coverage in the curriculum of a range of topics relevant to male health, including basic science (10 items); general health, including mental health, preventive health and common medical conditions (29 items); reproductive health and development (12 items); and a single question to rate the overall coverage of men's health in the curriculum and 2) student preparedness for practice in general male health and male reproductive health, including patient examination (11 items); education and counselling for male health issues (11 items); and a single question to rate their overall preparedness to practice in men's health. To assess the extent of coverage, students were asked, "Please indicate the extent to which the following subjects were included in your medical degree by ticking the relevant box," for each item. Closed responses were given via 4-item Likert scales for each item (1=no coverage, 2=brief coverage, 3=moderate coverage, 4=in-depth coverage). To assess preparedness for male health practice for each item, students completed a closed response to the question: "Please indicate the degree to which you feel prepared to conduct the following, from what you learnt during your medical degree," followed by a 4-item Likert scale (1=not prepared, 2=minimally prepared, 3=moderately prepared, 4=thoroughly prepared).

Questionnaires were distributed to all attending students at the end of a lecture during a final day of university lectures prior to graduation. A total of 170 completed questionnaires were returned (74% response). Age and sex of students were recorded, but no other demographic information was collected.

Focus groups—Phase 2

Focus groups were subsequently undertaken to provide greater depth and nuance to help interpret and explain the student survey responses.

Four focus groups were undertaken with final-year medical students (n=13). The perceptions and understanding of male health education were explored through semi-structured focus group discussions. Discussion questions were partly informed by the Phase 1 survey responses. The following domains of interest were explored: 1) the perceived level of men's health education and preparedness for male health practice, 2) the enablers and barriers to student learning in male health and 3) the systems and resources required to support integrating male health education into current curricula. Focus groups were conducted face-to-face at a mutually convenient time at the end of semester two, with participants reimbursed for their time and costs.

Data analysis

Phase 1: De-identified survey data were analysed and presented using histograms. Between-group comparisons were not necessary for this descriptive part of the study, and no statistical analysis was warranted.

Phase 2: Focus group discussions were audio-taped, with permission, and transcribed verbatim. A thematic analysis was undertaken within a realist interpretive paradigm using an inductive approach (Braun & Clarke, 2006; Patton, 2002). Transcripts were

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coded into initial nodes, which were subsequently coded into overarching themes. Two investigators (CH, VC) independently coded the transcripts, and emerging themes were then discussed to gain consensus. The focus group analysis reported here was chosen to complement the survey findings.

Ethics approval

The formative evaluation received ethics approval from the Monash University Human Research Ethics Committee, Melbourne, Australia (CF13/2393 - 2013001264). The Social Science Human Research Ethics Committee of the University of Tasmania (no. H0013535) gave secondary approval.

Results

A total of 170 students of the 230 final-year medical students who received the questionnaire completed the survey (response rate 74%): median age of 23 years (range 22–28 years), 36% of respondents were male. Thirteen final-year medical students participated in four focus groups: median age of 24 years (range 22–25 years), 54% (n=7) were male. All students participating in the study were enrolled in undergraduate (5- or 6-year) medical courses.

Survey findings (Phase 1)

Men's health teaching in the curriculum

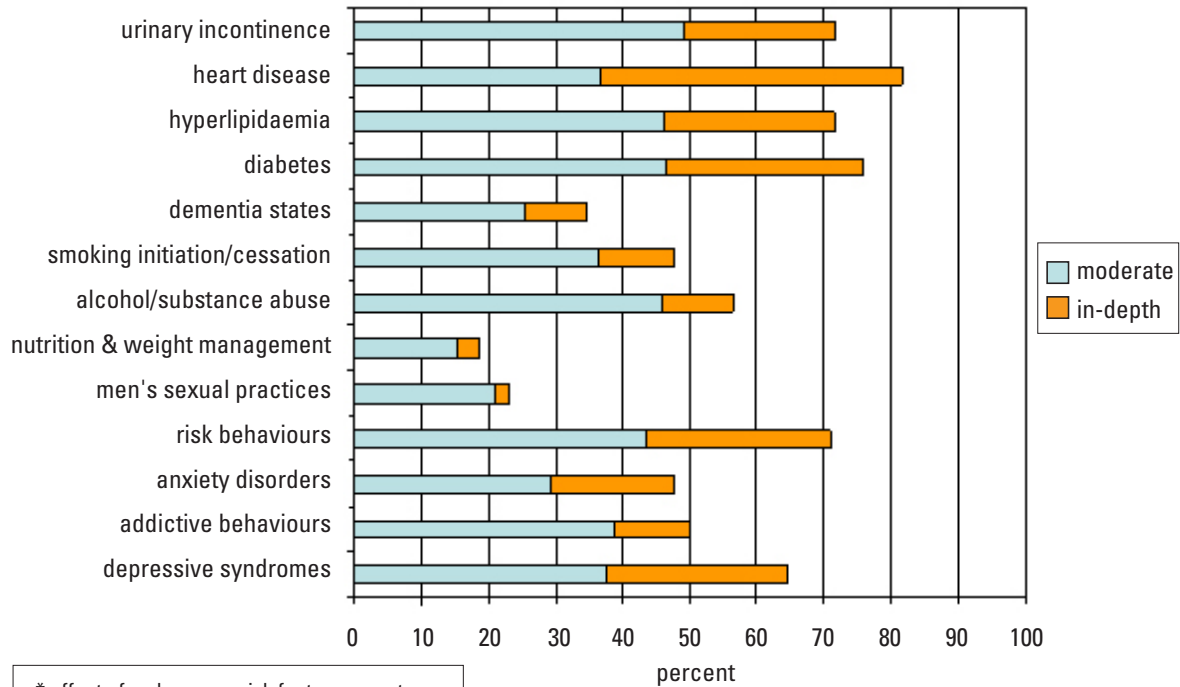
With respect to overall coverage of men's health in the curriculum, 65% of students (67% of males, 64% of females) completing the questionnaire survey reported "no" or "brief" coverage in the curriculum. Responses varied according to the topic. Over 50% of students indicated that many *general* health topics that were relevant to men had at least moderate coverage; more than 70% of students indicated that heart disease, diabetes and hyperlipidaemia had at least moderate coverage in the curriculum (Figure 1a). In contrast, many male-specific topics (such as reproductive health) were not perceived as having adequate coverage in the curriculum: 62% of students indicated that erectile dysfunction had no or brief coverage despite its association with cardiovascular disease. Less than 10% of students indicated that topics related to androgens and androgen deficiency had at least moderate coverage in the curriculum (Figure 1b).

Preparedness for practice in men's health

Overall, 20% of students (14% male, 23% female) indicated that they felt minimally prepared in men's health practice. Again, the level of preparedness varied depending on the health topic. The majority of students indicated that they felt at least moderately prepared for practice with male patients in areas of general health: over 90% indicated that they felt at least moderately prepared to do a cardiovascular disease (CVD) risk assessment (Figure 2a). Although over 90% of students indicated that they felt at least moderately prepared to perform a rectal examination on a man, only about 30% indicated that they felt prepared to perform a genital/scrotal examination (Figure 2b).

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Extent of coverage in the curriculum: general health*



* effect of male sex on risk factors, symptoms presentation, management or outcomes

Figure 1a. Extent of coverage in the curriculum, general health.

Extent of coverage in the curriculum: reproductive health

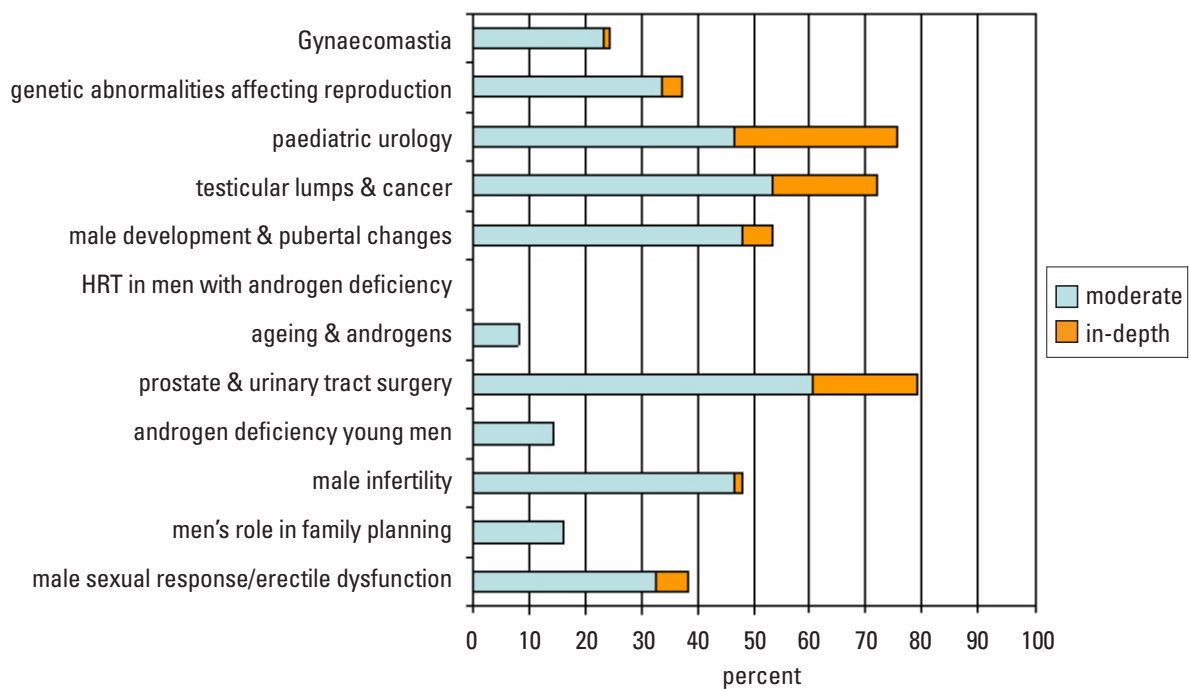


Figure 1b. Extent of coverage in the curriculum, reproductive health.

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Preparedness for practice: general health

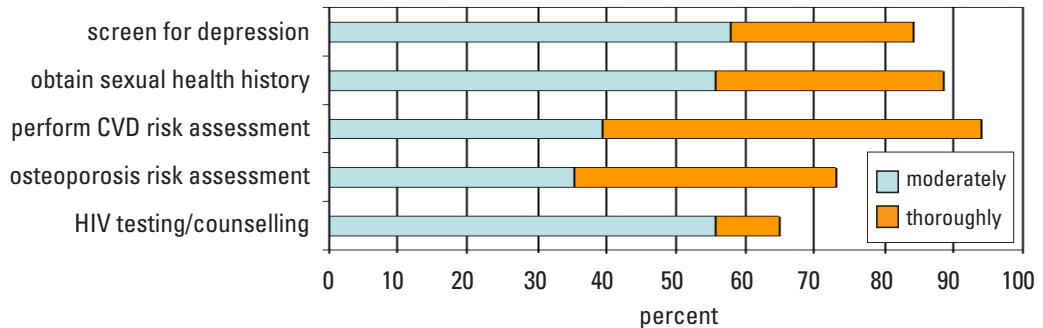


Figure 2a. Preparedness for practice, general health.

Preparedness for practice: reproductive health

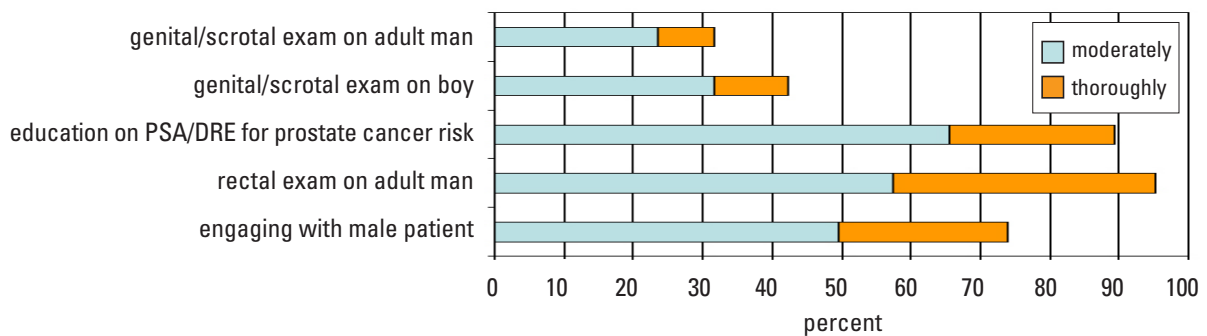


Figure 2b. Preparedness for practice, reproductive health.

Focus group findings (Phase 2)

Focus group discussions supported and explained the quantitative data through themes that are described below.

Lack of men's health learning

Students consistently expressed that there had not been many learning opportunities on a broad range of men's health topics:

"It's how we've been educated and there is really a lack of male health education" (S-UNI-1).

Students elaborated that male health topics tended to be distributed across the years of the medical course, and except for urological rotations, it was not confined to specific blocks of teaching as for women's health:

"We don't have it [male health] in depth, for instance female health we could nail it down very well" (S-UNI-1).

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The lack of teaching on male health also appeared to be related to whether assessment on particular topics had occurred, which in turn appeared to drive student learning and engagement:

“Male health in the course ... I don't think it was tested that much. So it feels though, coz it wasn't emphasised in the assessment I wasn't ... it didn't really matter whether or not we had a lot of teaching throughout it” (S-UNI-3).

“But I think it all stems down to the lack of compulsory exposure, you know ... But, for most people there would be no drive [to learn about male health] because there is no emphasis” (S-UNI-3).

Students from all schools noted that, compared to women's health, areas specific to male health often got overlooked in the curriculum, which may reflect the societal context:

“It's not just [University], I think it's generally there's like, it co-relates with society, there's less of an understanding of male health” (S-UNI-1).

“It's easier to define women's health in some ways than men's health” (S-UNI-2).

Students also expressed that the interest of the clinical educator can influence their learning, perhaps leading to variable levels of men's health content:

“[Clinical educator] sort of brings men's health for us more to the front” (S-UNI-2).

Variable learning outcomes

With the variable opportunities that may in part be driven by a student's own interest, there was some suggestion that this may lead to different learning outcomes between students in the same course:

“It's great that you sought that opportunity, but some people will go on right through and never do one [prostate exam]” (S-UNI-1).

Furthermore, students from three medical schools also expressed that there was variability in the opportunities for clinical practice, particularly with respect to male examinations, which was markedly different to female examinations where opportunities existed over several years of the course:

“Opportunities to practise are limited, whereas the same examination for females I've done it so many times so, you just know that like the back of your hand” (S-UNI-1).

“... no sort of instructions on clinical examination of male genitalia ... I haven't done any male examination, and I wouldn't feel confident doing that if I had to” (S-UNI-4).

However, students also revealed that when there was a lack of opportunity for clinical practice throughout the course, this also put pressure on limited resources when opportunities did arise, creating further barriers to practice:

“There's not enough clinical opportunities and you can imagine like this poor guy with prostate cancer and the consultant asking if the patient would be happy if five students did a PR exam, it's just not going to happen” (S-UNI-4).

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Interestingly, students from one medical school indicated that there was a dedicated program of volunteers (Clinical Teaching Associates) for male and female examinations:

“... which has a couple of days based around male health and that's very focused on examination trying to make you comfortable with it. I don't think it really addresses male health directly, it is more or less a way to have a look at a penis and do a digital rectal examination and be less embarrassed” (S-UNI-2).

Relevance to clinical practice

Students indicated that any men's health teaching needed to be relevant to clinical practice and taught by experts in the field:

“[teaching] by doctors that work [in the field], and I find it a lot more relevant and lot easier to understand” (S-UNI-2).

“We had quite a focus on like, meiosis and how sperm is made, but again how to apply that clinically and if that's helpful clinically ... what do I need to tell a patient how long it takes a sperm to grow ... ” (S-UNI-1).

Students also highlighted that lecturers/tutors needed to be cognisant of course curriculum and unit study guides so that content and clinical skills teaching was being taught at the correct level:

“Make sure there's I guess a clearly defined set of criteria that each clinician needs to talk about. If you're doing a lecture series ... needs to be access to the previous lectures” (S-UNI-3).

Active learning

Students' own interest appeared to drive their preparedness in male health practice given the acknowledged limited learning opportunities in the area:

“I've done research in urology because of my own interests, but otherwise there's nothing there to really promote men's health or urology” (S-UNI-1).

“Like depends on you taking the initiative to sort of ... seek the opportunity” (S-UNI-4).

Importantly, students indicated that a personal interest in the topic motivated them to pursue that interest:

“Not much at all ... if you want to learn about it you have to read it up yourself” (S-UNI-1).

A defined curriculum was also identified as important for self-directed learning, and students indicated that some direction was needed, otherwise their knowledge would be self-limiting.

“Male health, we don't know what we need to learn. We are not given anything. We're not going to know much about it” (S-UNI-1).

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Similarly, to further support learning, students suggested that a range of targeted and relevant online resources to deliver men's health education would be essential so that they could access them in their own time and use them to refresh their knowledge prior to clinical placements:

"... reproductive health, which is mainly female focused in 5th year ... have a separate online learning site, which is basically a series of lectures given by different clinicians. You can access it at any time you want day or night ... that's a good resource for students" (S-UNI-3).

"... some modules that you could go through prior to a GP placement, so that it is in the back of your mind before you started your placement" (S-UNI-2).

Education needs in men's health

Students indicated that men's health teaching should not be confined to urogenital topics but include a broad spectrum of areas, such as socio-behavioural issues:

"I guess gender comes with different risk factors" (S-UNI-2).

"... things that males are more likely to suffer from" (S-UNI-1).

"... a mixture of, like, differences in male health-seeking behaviours and engagement with health service and things like that" (S-UNI-4).

When students reflected on their education needs, they emphasised the need for education to be vertically integrated and introduced in the early years of the curriculum to consolidate their learning:

"I think it should be integrated early in the medical degree, not necessarily about clinical examination but other areas that's really important for male health and how it differs from other areas of health. Just making sure there is an understanding early in their medical degree which can be consolidated upon" (S-UNI-2).

This approach would also enable an enhancement of the curriculum rather than compromising other teaching:

"Shouldn't come at the expense of women's health, but there are places where you could squeeze in more men's health" (S-UNI-1).

Students also indicated that opportunities for practising clinical skills, as well as didactic learning, were critical for consolidation of knowledge:

"I sort of expect myself to see these cases ... in real practice and then sort of being able to consolidate what I've learnt so I'd be able to identify the gaps in my knowledge ... so I feel I didn't get that" (S-UNI-4).

"... seeing someone clinically ... as opposed to reading from a piece of paper" (S-UNI-1).

Discussion

While previous studies have explored medical students' knowledge of some aspects of male health, such as sexual health (Fayers, Crowley, Jenkins, & Cahill, 2003; Turner et al., 2014), this is the first study to explore broad topic areas pertinent to men's health teaching in medical school curricula from a student perspective and to identify ways to help address the perceived gaps. This study demonstrates that Australian medical students feel relatively unprepared for clinical practice in some areas of male health, particularly reproductive health, compared with other areas of medical practice. Key deficiencies related primarily to disorders of the male reproductive system: lack of coverage of approaches to androgen deficiency and appropriate therapeutic use of androgens, testicular and prostate examination, evaluation of lower urinary tract symptoms, and to a lesser extent, erectile dysfunction. Findings from the focus groups suggest that this low level of preparedness likely reflects a lack of male-specific health education and clinical practice opportunities in Australian medical school curricula, which is further supported by our survey data that suggests an overall low level of coverage of men's health teaching in the curriculum. However, students noted that men's health education should include a broad spectrum of clinically relevant topics, not confined to urogenital issues, and be vertically integrated through the curriculum to consolidate their learning and enhance the curriculum overall. Opportunities for clinical practice, while currently lacking, were perceived by students to be vital to consolidate their learning.

There were no apparent differences between female and male medical students in overall perceived coverage or preparedness for clinical practice in men's health. Such findings differ from previous reports that suggest that male students report higher levels of sexual health knowledge than female medical students (McGarvey et al., 2003). However, with increasing numbers of international students enrolling in Australian medical schools, further investigation of potential cultural sensitivities' related to gender is warranted.

The study identified a number of enablers and barriers from the student perspective to teaching of men's health in the current medical school curriculum. Drivers for education tended to be primarily the student's own interest as "active learners," whether that was driven by assessment or a personal interest in the topic. However, unless the students and educators are provided with some direction, relying on this approach appears problematic. The input of experts in the male health field is needed to guide the learning priorities that will adequately prepare students for clinical practice; relying solely on the interest of clinical educators at each medical school may potentially lead to broad variability of student outcomes.

While there may be apparent deficiencies in the teaching of male health in current medical school curricula from a student's perspective, the study did not identify insurmountable barriers to integrating new teaching, provided consideration was given to student learning styles and other external tensions. Education in the healthcare professions, including medicine, has been rapidly changing over the last several years in Australia (Wittert & Nelson, 2009), for example, the Australian Curriculum Framework for Junior Doctors (Graham et al., 2007). Drivers for these changes include: rigorous

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standards from regulatory agencies, the rapid expansion of knowledge, professional and consumer groups defining expectations of graduates and increasing popularity of integrated curricula. These drivers create tension between the need for change and the complexity of curriculum modification. Adopting a curriculum enhancement strategy (Kerkering & Novick, 2008) has the potential to facilitate the re-positioning of male health in medical schools to enhance learning outcomes in men's health without compromising other learning needs.

Students noted that the absence of a distinct stream in which andrology or men's health was covered in medical curricula was one of the underlying causes for the deficiencies in coverage. While women's health is a central component of Women's and Children's Health streams, andrology-related topics are dispersed throughout endocrinology, urology, general practice and internal medicine, or absent altogether. Furthermore, men's health researchers propose a theoretical framework that defines the intersection of men's health across the life-course and broader social context that has implications for the delivery of men's health education, policy and healthcare interventions (Evans, Frank, Oliffe, & Gregory, 2011) and reinforces the need to assign men's health teaching across disciplines. Indeed, with respect to sexual medicine, previous studies have advocated a multidisciplinary approach rather than one medical specialty delivering education as a single stream (Shindel & Parish, 2013; Turner et al., 2014). Given the pressure of content in medical curricula, a defined curriculum in men's health, coupled with facilities to enhance existing teaching across the curriculum would be a practicable means to redress these issues and to ensure consistent teaching aligned to student learning outcomes across year levels and medical schools.

An acknowledged study limitation was the small number of students participating in focus group discussions and the restriction of the survey to one medical school, despite a large number (and high response rate) of student respondents. However, the mixed methods approach identified themes from the focus groups that were consistent across medical schools and confirmed and provided explanation of the survey findings. Triangulation underpins our formative evaluation where data is collected through multiple sources (Creswell, 2003; McEvoy & Richards, 2006). Here, we report the findings from the quantitative and qualitative study of student perspectives. Further investigation is needed, through similar questioning of medical educators, to triangulate the student perceptions of men's health teaching. This would provide complementary perspectives and identify barriers and enablers to men's health curriculum enhancement from the medical school perspective.

Although government and/or specialist groups may advocate the need for men's health teaching, the learning experience of the student is paramount (Dauphinee, 2009). Ensuring that clinically-relevant men's health teaching is an overt part of medical training is vital to develop the student's interest and preparedness in men's health practice, a perspective supported by medical students. Indeed, Powell, Bridge, Eskesen, Estrada and Laya (2006) demonstrated that the number of sensitive examinations (male and/or female) performed is a predictor of student confidence. Yet, this study highlights that students generally report variability in the opportunities for sensitive

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male examinations, which was markedly different to female examinations where opportunities existed over several years of the course. A defined yet flexible curriculum framework can help to support a “commonality of experience” for students, reduce variability in learning opportunities between students and provide adequate preparation for clinical practice. Furthermore, a male health curriculum for medical schools would improve the recognition of men's health among practising health professionals, a key National Male Health Policy objective (Australian Government Department of Health and Ageing, 2010).

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