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COMMENTARY

Is immunisation education in midwifery degrees adequate?

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ABSTRACT

Maternal and childhood vaccination decisions begin during pregnancy, and midwives are an important information resource. Their role is set to increase with the expansion of maternal immunisations into new jurisdictions, and new maternal vaccines in development. Meanwhile, other health providers are orienting parents towards vaccine acceptance, using strategies at odds with midwifery norms around information provision and maternal autonomy. To better understand and address the implications of these developments, we conducted a pilot study to ascertain how midwifery students in Australian universities are taught about immunisation, including dedicated time, assessment, who teaches it, and when. We also analysed teaching materials, looking for messaging regarding the importance of vaccination and whether midwives should be advocating for it. We found that education on immunisation comprises less than four hours of the degree, and encountered the norm of midwives informing about rather than recommending vaccination. The considerations we brought to our small project, and what it illuminated, suggest that midwifery university education is an important arena for developing future vaccine advocates. However, midwifery ideology and professional practice mean that such efforts will be challenging, and must commence from a position of respect for the values midwives hold.

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Interactions with health professionals are a critical determinant of parents' attitudes regarding vaccination. An effective interaction can address the concerns of vaccine supportive parents and motivate a hesitant parent towards vaccine acceptance. On the other hand, poor communication and lack of in-depth knowledge about immunisation can contribute to rejection of vaccinations, especially for vaccine hesitant parents.[1] Research shows that parents' decision-making about childhood vaccines begins during pregnancy.[2] Pregnant women are also now required to consider recommended antenatal vaccines. Specific vaccines recommended vary between jurisdictions, but commonly include pertussis and influenza. There are also new maternal vaccines in development, including group B streptococcus[3] and respiratory syncytial virus (RSV).[4] This highlights the fundamental and expanding role of the midwife in counselling parents about the importance of vaccination. Conversations with midwives are particularly crucial in developed-world settings where parental vaccine hesitancy is a well-known phenomenon.[5] As we discuss below, midwives play a leading role in mainstream antenatal care in many developed-world jurisdictions.[6] Even in developed world settings where midwives have been marginalised in favour of obstetric care – as has been the case in North America – midwives remain the care provider of choice for parents seeking natural, low-intervention births. Literature from international developed world settings shows that such parents are also more likely to be worried about or refuse vaccines.[7] Midwives are thus vitally important to the vaccine decisions of the women in their care, and hence to public health outcomes for the wider community.

Governments, healthcare providers and researchers are increasingly recognising the significance of midwives to the successful promotion and delivery of maternal and childhood vaccines. A limited number of educational packages for practicing midwives have emerged to enhance knowledge and skills, for example one developed by the South Australian state government and utilised in other Australian states,[8] and a one day midwives immunisation course developed by the University of Auckland for midwives in New Zealand.[9] However, we were not able to find evidence of similar programs in the USA, Canada or the United Kingdom.

Additionally, we have found no international data on how midwifery students are taught about vaccination in their undergraduate or graduate degree programs. We believe that midwifery university education is a site of importance for two reasons. Firstly, we need to know whether midwives are graduating with confidence in their knowledge of vaccination and awareness of its importance. Secondly, we need to understand whether midwives' university education prepares them to promote vaccination to mothers in their care. Professional university training instils in us the values and norms of our future discipline. We connect with, internalise and develop a communal identity based around shared ideologies and practices. Aspiring midwives learn to become midwives at university, and so how their educators teach them about vaccination is important. This education informs their

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knowledge about vaccines, their willingness to promote immunisation to mothers, and the methods they use in doing so.

In a qualitative study pertinent to the health promotional aspect of midwifery immunisation education, Dube et al[10] compared the attitudes and practices of midwives and physicians in Quebec. The latter were comfortable taking a didactic approach, telling parents to vaccinate, whereas the midwives specified that their job was to inform, not instruct. Moreover, some of the midwives were themselves quite vaccine hesitant. A global review led by the lead author of this commentary contextualised Canadian midwifery care as 'alternative' and utilised by only a small percentage of the population. The review hence found higher levels of midwife support for vaccination in contexts where midwifery is 'mainstream,' such as Australia and New Zealand. However, even in the latter and other developed world settings, the notion that midwives present information rather than personally recommending or encouraging vaccination holds true.[6,11] Given the growing popularity of overt outcomes-based techniques in provider-parent vaccine conversations, including the presumptive approach[12] and motivational interviewing,[13] it is unclear whether midwives are comfortable using these evidence-based tactics to orient parents' vaccine decisions towards a goal of vaccination explicitly held by the healthcare provider. Midwifery ideology and professional practice privilege maternal autonomy and agency as sacrosanct with regard to pregnancy and birth choices well beyond vaccination.[10] Student midwives learn about vaccination within this cultural context. Hence, we need to consider the depth of vaccination education as part of midwifery degrees, including the amount of time dedicated, the immunisation experience of the lecturer, how maternal autonomy is presented, and whether counselling in favour of vaccination is countenanced. Understanding these things will help us to understand the capacities, interests and needs of midwives as key vaccination counsellors and providers.

Our small Australian pilot study in April-May 2018 sought to investigate some of these questions. Under University of Western Australia ethics permit RA/4/20/4392, we approached midwifery course coordinators in Australian universities and asked them a range of questions about the immunisation content within their degree offerings. We obtained results from five of Australia's 19 universities offering midwifery courses, and believe these data highlight important areas for further exploration.

We need more knowledge on how much time is dedicated to teaching student midwives about immunisation during their degrees. Two of our respondents were not sure how much time was dedicated to the topic, while two more reported 2 hours, and one reported 4 hours. Given the expanding scope of midwives' role in educating and counselling mothers about vaccination and delivering maternal and childhood vaccines, this is unlikely to be sufficient. Four of our five respondents reported that this teaching occurs face to face, with the fifth reporting online learning as part of the mix. Within our sample there were divergences in when this content is covered – first year (2), second year (1), and throughout the degree (2). This timing may matter in terms of how immunisation is framed within the developing midwifery habitus. Whether student midwives are assessed on material about immunisation is also relevant, since (well-designed) assessment not only measures whether a student has mastered a topic of study, but also sends cues regarding which topics and practices are important to the professional role. Three of our five respondents told us that immunisation content is assessed as part of their degrees, in diverse contexts including examinations, class participation, and clinical assessment. We also asked about outcomes of the teaching of immunisation content, and three respondents told us that at the end of the midwifery degree, the students would be able to educate parents about immunisation. Another said that in addition to this, the midwives would also be able to administer vaccines. The fifth did not answer.

We believe it may be important *who* teaches midwives about immunisation. Authors of a New Zealand study of health professionals' attitudes towards childhood immunisation found that training, reading and personal experience had the most influence on midwives' attitudes.[14] The review article led by the lead author of this commentary extrapolated that it would be desirable for midwives to receive training about immunisation from their peers, rather than experts from other disciplines.[6] This would also be pertinent to midwifery university education. Midwifery lecturers teaching student midwives about the importance of immunisation has the benefit of the messaging coming from connected peers with shared values, which behaviour-change experts consider to be a fruitful way of introducing new norms.[15] However, if midwifery lecturers do not feel sufficiently knowledgeable about immunisation, or simply have external resources that they can call on to help deliver curriculum, they may invite third party experts to guest-lecture on the topic. While we found no instances of using colleagues from other disciplines within the university (e.g. immunology experts), one of our respondents made use of a State Health Department official to deliver a lecture on maternal and childhood immunisation. The benefit of such an approach lies in the expertise of the guest lecturer, who may also be willing to advocate that midwives recommend vaccination to pregnant women and new mothers. The disadvantage is that such advocacy, coming from an outsider rather than a valued midwifery peer, may not be embraced by the student midwives, or even by the regular lecturers. All the midwifery lecturers in our study told us that they thought the student midwives generally responded well to their immunisation education during their degrees. However, whether the students would respond so well to education advising them to be explicit advocates of vaccination is unknown.

This issue of advocacy is an important one. In our study, we asked whether student midwives are taught to counsel parents about the benefits of maternal and childhood vaccination, and three of our respondents said yes. However, another said no, and the fifth responded, "They are taught to present the evidence in relation to both the benefits and the risks of vaccination." Expectant parents are indeed entitled to hear the risks about vaccination, and diligent health professionals should be presenting them. However, since these risks are miniscule by comparison to the risks of the diseases and

hence the benefits of vaccines in protecting against them, we do not consider that informing women of risks is mutually exclusive with advocating vaccination. Rather, the midwifery lecturer's response may directly speak to the deep-seeded idea that it is not the midwife's job to advocate vaccination.

We engaged in content analysis of two PowerPoint presentations of immunisation education acquired during our study. The longer of these was presented to students by an expert from the Department of Health in the state that the University was located in. The shorter was presented by a senior midwifery lecturer. Commonalities in both presentations were the protections offered by maternal immunisation in terms of its impact, explained for both pertussis and influenza, and an overview of the Australian childhood immunisation schedule. However, the shorter presentation (delivered by a midwife) did not include any information on how to counsel parents about childhood immunisation. By contrast, the longer presentation (by the guest lecturer from the Department of Health) encouraged the midwifery students to counsel parents regarding maternal immunisation in particular, including raising awareness of the availability and need for the vaccine. To address the concerns of pregnant women, midwifery students were advised to confidently encourage vaccine uptake, to explain to parents the benefits of vaccination for their newborn babies, and to reassure parents about the safety of maternal vaccination. From a service delivery perspective, they were encouraged to ensure the availability of free vaccines for all expectant mothers.

It is noteworthy that the longer guest lecture by the Department of Health expert also employed persuasive techniques to demonstrate to midwifery students why the vaccination of pregnant women and children is important. A 'disease framing' approach drew the students' attention to infection as a leading cause of morbidity and mortality worldwide, thereby orienting students to think about the serious consequences of the diseases against which vaccines protect. Students were informed about the impact of increased global mobility on the spread of infectious diseases, and that they might find that women in their care had contracted diseases while travelling. Students were then offered statistics on the success of vaccination in reducing diseases between 1926 and 2005. The PowerPoint also included information about the concept of herd immunity and how it protects the vulnerable in communities. In terms of demonstrating the importance of maternal and childhood vaccines, again a 'disease framing' approach was employed. For example, the physiological changes in a pregnant woman were utilised to explain why she is particularly susceptible to influenza, and the statistics regarding hospitalisations and deaths of infants with pertussis were presented. The techniques employed in this longer presentation highlight that midwifery education regarding immunisation cannot simply transmit content, such as which vaccines are on the schedule, or how vaccination works. It also has to demonstrate that vaccination is safe, effective and necessary, so that midwives will recognise its importance to the mothers and babies in their care, and hence its centrality to their role. While the 'disease framing' approach used in the Department of Health lecture might seem self-evidently useful, there is no research showing which approaches are most effective in convincing student midwives' of vaccination's importance. Research conducted amongst a different audience – parents – found that a disease framing approach (in that case, confronting images and narratives) does not always work as intended, and may increase vaccine concerns.[16] The extent to which this may also relate to education for some groups of health professionals is unknown and requires evaluation.

We expect research into the role of midwives in maternal and childhood immunisation, and how we can support them, to continue. The first and last authors of this paper are leading separate research projects in Australia to this end. We believe that more in-depth studies are required in Australian and international universities into how midwifery students learn about immunisation, and how they see their (internally contested) role as vaccine advocates. While we respect the midwifery ideological stance on maternal autonomy, we believe that mere information provision regarding immunisation is not going to be sufficient to enable mothers and their babies to make the most of this crucial, life-saving intervention, and that universities might be the place to intervene in cultural change. This is especially critical now as guidelines on maternal immunisation have recently changed with the introduction of the seasonal influenza vaccine in many jurisdictions. Whether and how those outside the profession (and champions within) can drive changes that enable midwives, and hence midwifery lecturers, to take up the mantle of vaccine promotion remains unclear. However, research to determine current practices and respectfully consider how to engage is a crucial first step.

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