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## GUEST EDITORIAL

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### Midwives and eHealth

eHealth is a cost-effective and secure use of information communication technologies (ICT) in support of health and healthcare delivery.<sup>1</sup> Midwives have greatly benefited from eHealth, most notably from adopting electronic health records, allowing them to quickly access patient data and information and decreasing paperwork and administration. However, with the increasing uptake by pregnant women of mobile applications (apps) focusing on aspects of pregnancy and childbirth, there is a growing concern from midwives that their clients may not receive accurate information. Mobile apps can be useful when women and their families consult a healthcare professional before following the advice set out in the app.

#### *Does technology help or hinder good care?*

Technology has transformed society, the way we live and interact, and the impact on women's health and provision of maternal and new-born health services is evident. A healthcare provider interaction is now often preceded by individuals, including pregnant women, entering their symptoms online and using 'Dr. Search Engine' to provide them with a preliminary diagnosis.

Pregnant women can now track and receive information about their pregnancies without a face-to-face consultation with a midwife or other care provider. Similarly, to reports from the general public, pregnant women also report experiencing 'information overload' through use of mobile applications and the Internet, with the most popular pregnancy application being downloaded 25 million times globally. Information can be contradictory and confusing for some, while others find it helpful.

A 2018 study by Connor et al in the United States into the use of mobile health applications by pregnant women found that study participants used free apps because they were easy to use, appreciated their interactive features and found them to be a trustworthy and convenient ways to receive information.<sup>2</sup>

#### *Medical devices*

Electronic medical devices and tools are available to assist pregnant women and midwives.

The International Confederation of Midwives (ICM) is currently partnered with Laerdal Global Health to implement the 50,000 Happy Birthdays project. Through this project, ICM has been involved in supporting Maternity Foundation to integrate the Safe Delivery App into Emergency Obstetric and Newborn Care (EmONC) training for midwives. The application provides midwives with direct and instant access

to evidence-based and up-to-date EmONC guidelines. The application also leverages the growing ubiquity of mobile phones to provide life-saving information and guidance through easy-to-understand animated instruction videos, action cards and drug lists. It can serve as a training tool both in pre- and in-service training and equips midwives even in the most remote areas with a powerful on-the-job reference tool.<sup>3</sup>

#### *Are at home diagnostic tools harmful to pregnant women?*

Pregnant women, who tend to be young and generally well versed in using mobile apps, can use at home electronic medical devices and tools to measure their own blood sugar levels and blood pressure, without the presence of a midwife or other provider. This technology has increased women's ability to self-care which can be useful to monitor changes in health status during pregnancy.

A 2018 study conducted in Belgium by Bansal et al used wireless devices for remote blood pressure monitoring of women with gestational hypertension. Results showed that remotely monitored women had lower hospitalisation rates, increased diagnosis of hypertension, and less diagnosis of pre-eclampsia when compared to women receiving traditional care. There were increased rates of early labour and lower rates of labour inductions, new-born hospitalisation and NICU admission.<sup>4</sup>

A handheld foetal Doppler ultrasound is often used to listen to the foetal heart rate during pregnancy as one indicator of foetal wellbeing. However, without a trained midwife interpreting the results and providing the woman with guidance and information, unsupervised use may lead to misdiagnosis, anxiety and unnecessary intervention.<sup>4</sup> Some devices designed for portable use at home can be used to transmit information to maternity providers. In each case they have been shown to have advantages and disadvantages. In many instances professional dilemmas arise for midwives because the information is inaccurate, or incomplete. As a trigger for face to face consultation such devices can be useful.

The lack of collaboration with the scientific community, midwives and other healthcare professionals in the development of eHealth technology is highlighted as a concern. Many of the most popular apps are also a platform to promote products and ideologies which may misinform and prevent women from making a truly informed choice.

The regulation of mobile app for pregnant women has not yet caught up to current scientific research – some mobile

phone apps have outdated information which could mislead users, if it is the only source of information.

It is recommended that a system be developed to certify or verify the quality of mHealth applications to ensure that information is based on latest research evidence.<sup>2</sup>

#### **Technology increases universal health coverage**

Universal Health Coverage is defined by the World Health Organisation as “ensuring that all people have access to needed *health* services of sufficient quality to be effective while also ensuring that the use of these services does not expose the user to financial hardship.”<sup>5</sup> eHealth provides the opportunity to increase health coverage in geographically hard to reach areas.

Midwives and other providers in rural, remote or hard to reach areas can lack adequate support and guidance to improve quality of care. In a systematic review conducted to evaluate the effectiveness of mHealth interventions focused on healthcare workers in low and middle-income countries, almost 79% of participants in 19 studies used text messaging as the main intervention.<sup>6</sup>

Twinning between midwives, defined as a ‘*cross-cultural, reciprocal process where two groups of people work together to achieve joint goals*’ is aimed at transcultural learning and empowerment. Twinning is on the increase globally and is supported by an Application called ‘Twintowin’.<sup>7</sup> This App, available in French and English, gives practical information on how to initiate, support and evaluate twinning between midwives.<sup>8,9</sup>

The usefulness of teleconsultation and online eLearning systems were discussed in a study conducted in 15 health facilities in rural Tanzania. The integration of mHealth into the healthcare system provided midwives and other care providers with new ways of learning and opportunities to apply knowledge, thereby enhancing clinical problem-solving and accountability resulting in improved coverage and quality of care.<sup>10</sup>

The ICM is involved in an American Academy of Pediatrics project in Zambia, where ECHO video conferencing technology is being used to create a community of practice to support training in EmONC. The Academy has created a central hub of specialists who have regular videoconferencing with rural and remote outlying health facility staff, to discuss clinical cases, efficacy of training and quality improvement.

Currently in remote rural facilities in Australia, telehealth has become an important tool to assist in the day to day care of pregnant women by providing them access to a midwife and a medical practitioner for routine and specialist consultations. This also is used to tap into expert assistance in emergencies where specialist care is not on site, but a specialist can advise on actions to stabilise a woman or her baby which could be life-saving.

#### **The power of data collection**

Access to results from evaluation of health data is crucial for midwives to improve quality of care of mothers and new-

borns. Many countries have moved from manual paper-based records to electronic methods of data collection, monitoring and evaluation.<sup>11</sup>

The introduction of eHealth systems has increased opportunities for timely data collection and analysis, which offers midwives improved decision support on which to base changes in care provision.<sup>11</sup>

Countless projects have started in the last few years to upskill midwives and other care providers in data collection. In rural Ghana, a mobile health application known as mClinic was designed to support midwives to capture data for managing the care of women, program monitoring and evaluation, decision making, and management. The project highlighted the need for continuous staff training and technology support in order to be effective.<sup>11</sup>

#### **The human touch and regulation for safer use**

Using home-based eHealth solutions as an adjunct to consultations by a midwife or other care provider can be an effective way to save costs and deliver health services more widely. However, all eHealth applications and technologies need to be regulated and regularly updated with current evidence in collaboration with midwives and other care providers.

The fast-changing world of technology has made regulating eHealth products difficult for policymakers. However, high standards need to be maintained as the general public becomes more reliant on their information and support. eHealth can inform women and their families of their health rights and choices available. It can also free up midwives from administrative tasks to spend more quality time with women to support them to experience the transformative power of birth.

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