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### Is the mHealth industry facing a skills crisis?

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results immediately after the survey to assist persons that need help;

2. Getting the health workforce to submit recommendations to their supervisors for adopting the survey process as part of policy guidelines; and
3. Realizing the dream of addressing the social determinants of health, strengthening the health system, and facilitating universal coverage for health care<sup>3</sup>.

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# Is the mHealth Industry Facing a Skills Shortage?

Growth in the mHealth industry is driving demand for practitioners capable of demonstrating the necessary skills, knowledge and understanding to implement and manage the use of technologies in different settings and scenarios.

Delivering successful mHealth projects begins with the recruitment of skilled managers. This is because the opportunities that mHealth presents aren't necessarily about introducing stand-alone technologies, so much as they are about structuring new delivery systems and strengthening the way in which the delivery of care is organised. This requires managing multiple stakeholders, policies, and organisational dynamics, in addition to having a thorough understanding of the technology involved. Designing and managing such transformation demands a unique combination of experience, knowledge, and skills.

This is where specialist training and education can be vital. Courses such as the Masters Programme in Global eHealth at the University of Edinburgh are designed to provide practitioners with a holistic understanding of the complexities that can accompany the implementation of mHealth and technology-enabled care projects.

"Experience and research show that eHealth implementation involves a



whole lot more than installing technology and demonstrating how to use it. Irrespective of branding, no device or software on its own is really a 'solution'. Solutions involve solving problems, in which technology can be helpful but can't be divorced from the processes, settings, people and cultures that surround them. This can be particularly important in LMIC settings and having the skills to effectively collaborate with local stakeholders is crucial." comments Dr Claudia Pagliari, Director of the Masters Programme in Global eHealth at the University of Edinburgh.

There are many challenges involved in effectively delivering eHealth, which vary across different types of project. Many projects tend to go awry in the imple-

mentation phase; understanding the common pitfalls and challenges encountered in the field can be vital for ensuring successful technology deployment.

With the demand for mHealth implementation growing around the world the industry is experiencing a severe shortage of project managers with the necessary blend of knowledge and experience required by these types of project.

"Experience is important but to develop real expertise also requires familiarity with a range of issues and case types. Most people lack any formal training in at least one of the core areas of health, technology and operations or project management." states Isaac Holeman, co-founder of Medic Mobile, who leads the

Global eHealth programme's mHealth course at the University of Edinburgh.

"We [Medic Mobile] always look for people with a combination of work ethic, passion and a moral drive concerning health equity. Beyond that, the three key skill areas are health care, technology innovation, and project management or/and international development. When people are lacking experience in one or more of these areas, we always ask what they are doing to work on their 'growing edges,' and we try to anticipate how quickly they'll be able to learn and how they feel about working beyond their comfort zone." continues Holeman.

Successful mHealth project managers also need to draw on insights and experiences beyond the relatively small body of mHealth evidence to consider the broader eHealth area and the wider innovation and design space. Many of the practical lessons from projects in these complimentary fields will provide understanding and insight applicable to mHealth.

"Our mHealth course revolves around the key building blocks of technologies and services, design processes, project management and impact evaluation. From this foundation we are able to introduce the complexity of mHealth initiatives, the importance of interdisciplinary thinking and collaboration, and the skills required for effectively developing, delivering and evaluating mHealth projects." says Holeman.

In practice, many successful projects now rely upon the skills of many different implementers in order to develop multi-disciplinary teams of researchers, managers, engineers and designers.

As a result mHealth practitioners must be capable of handling an array of multi-disciplinary elements within the course of their activities, including:

- » Quality of design
- » Technological approaches
- » Communications strategy
- » Understanding demand
- » Project planning and management
- » Costs and value
- » Organisational capacity
- » Governance
- » Leadership and policy
- » Stakeholder engagement and management



Translating taught knowledge into practice can be challenging and the best training tends to draw upon practical real-life cases in order to build experience.

"The secret is in the blending of experiential and academic learning. Students on our Masters program study a range of topics; from change management to policy and ethics; that help to give them a 360° perspective on the various technological and non-technological dimensions of eHealth. This enables our students and graduates to think laterally and holistically about problems in context, building the strategic and leadership skills necessary to effectively plan and deliver successful projects" comments Pagliari.

"As with all taught courses, it takes lateral thinking and hard work to translate learning into practice but there are several aspects of Edinburgh's Global Health Academy that address this challenge. These include developing curricula that integrate concepts from several fields to understand the practical problems faced by mHealth practitioners as well as academic theories and principles. There has also been a concerted effort to involve eHealth practitioners in teaching courses. I'm a case in point, and while the mHealth course delivers the necessary academic rigor, it was founded on my own experiences of real world challenges in mHealth projects. Students study part-time while they are still working day jobs, which for many of them involves a direct role in mHealth

and eHealth initiatives. This means that students can pose pragmatic questions about their work experiences to our discussion board and receive responses from me and other facilitators. Many report that being able to transition from work to study and guided reflection and back to work in this way has had tangible benefits for their own professional life" adds Holeman.

"There is a diverse range of people working in mHealth, all of whom can make a valuable contribution, but truly effective managers need to know a bit about everything, as well as having strong project management skills and an awareness of evaluation methods. Crucially we need more managers with an appreciation of the different needs, opportunities and challenges presented by mHealth in both high and low income settings, to avoid the kind of mistakes we have seen in the past when well-meaning but naïve Western NGOs or tech companies have made assumptions about how technologies will translate across settings, which turn out to be untrue or difficult in these new contexts." concludes Pagliari. ■

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