Overcoming the Quality Gap and Ethics in M-Health: MobileDiagnosis-Innovation and Quality to All

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ABSTRACT

Image transmission systems and remote monitoring were born with the mission of bringing aid and permit the access to quality diagnosis in rural isolated areas, where people are excluded from the “global network”. Still, in rural setting, a strong obstacle is represented by the lack of education. The tool that has quickly become omnipresent even in the most hard-to-reach places is the mobile phone and more specifically the smartphone. Microscopes, ultrasound, and other point-of-care devices can utilize a smartphone for processing power or become components that can directly function with a smartphone. The main goal, since the beginning of m-health, is to provide education and health care to all in the most remote places, and to use each innovation to improve the lives. In a global way.

KEYWORDS

App, Health Workers Training, m-Education, m-Health, m-Learning, MobileDiagnosis, Mobile-Phones, Telemicroscopy, Telepathology, Video Sharing

In the last four decades, the world has undergone a boom in information and communication technology. The PC and cell the phone were invented; the Internet stormed onto the stage; and corporations such as Apple, Microsoft, Google, and Facebook penetrated every corner of our lives. If technology cured social ills, then we would hope that during the golden age of innovation in a technologically advanced country, there would be some dip in the poverty rate. When deciding how to allocate resources between technology and human capital, invest first in the factor that is most lacking. There may be times when a technology investment makes sense, but for the world’s poorest countries, human capital, not technology, needs the boost first. It is not that technology is powerless or irrelevant; it is that technology is not the problem. Technology is just a tool; its impact depends on how it is wielded. If tool after fancy tool does not to build a better house, maybe we should invest more in the carpenter. (Kentaro Tokoyama)

INTRODUCTION

Image transmission systems and remote monitoring were born with the mission of bringing aid and permit the access to quality diagnosis in rural isolated areas, where people are excluded from the “global network.” Ensuring telemedicine tools that reach those with the greatest need is not as simple...
as delivering devices to a remote clinic. There is often the issue of power availability and device compatibility (Piotti & Macome, 2006).

Still, in rural settings, a strong obstacle is represented by the lack of education. The strengthening of core competencies remains the starting point, which may be enhanced, but arguably substituted, by more efficient, innovative and appropriate use of currently- and locally available technologies. The use of the latter should be prioritized, over the ad hoc introduction of new and costly, but seldom appropriate. The tool that has quickly become omnipresent even in the most hard-to-reach places is the mobile phone and more specifically the smartphone (Sales et al., 2013).

Every “innovation “must be inspired by the purpose to share all the benefits it generates widely. Therefore, each innovation must be affordable to all and must bring improvement in the life quality worldwide. Innovation must overcome the bridges, despite being a” market” driven product. Innovation can generate a strong quality improvement of knowledge and health care in a capillary way, also helping to understand and benefit from local ITC while stimulating the local microeconomic dynamics.

A summary of the authors’ work will be presented, as well as the innovations and their effects on the quality of the health care, education, and more widely of the rural life.

THE INNOVATION PATH – THE BEGINNING – EMERGENCY TELEPATHOLOGY

The idea of using m-phone/smartphone to take images and MMS them, without any devices from the microscope field was born in response to a medical emergency – a malaria diagnosis in Lampedusa island, 2008.

After that, it has been widely demonstrated that the m-phones /smart-phones can be easily used, without any adapter, to take and send images from a microscope also by MMS, in the absence of Internet connection. Since the beginning, this method, named “MobileDiagnosis” has evolved and has been applied to an increasing number of medicine and education fields. The future is to apply them to the integrated rural development. All steps were inspired by ethics and focused on the global good.

From the emergence of the daily work, from telepathology to evidence-based medicine, from the diagnosis to the education, from a single health center to a network, in the last eight years, MobileDiagnosis has been proving to be more than useful in almost all of the m–health fields (Bellina & Missoni, 2009) (see Figure 1).

Figure 1. Hand free m-phone taken images from microscope
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