



## Informal m-health: How are young people using mobile phones to bridge healthcare gaps in Sub-Saharan Africa?



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### ABSTRACT

The African communications 'revolution' has generated optimism that mobile phones might help overcome infrastructural barriers to healthcare provision in resource-poor contexts. However, while formal m-health programmes remain limited in coverage and scope, young people are using mobile phones creatively and strategically in an attempt to secure effective healthcare. Drawing on qualitative and quantitative data collected in 2012–2014 from over 4500 young people (aged 8–25 y) in Ghana, Malawi and South Africa, this paper documents these practices and the new therapeutic opportunities they create, alongside the constraints, contingencies and risks. We argue that young people are endeavouring to lay claim to a digitally-mediated form of therapeutic citizenship, but that a lack of appropriate resources, social networks and skills ('digital capital'), combined with ongoing shortcomings in healthcare delivery, can compromise their ability to do this effectively. The paper concludes by offering tentative suggestions for remedying this situation.

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### 1. Introduction

The African communications 'revolution' has been remarkable: by the end of 2013, mobile phone penetration rates were estimated to have reached 80%, and a recent [World Bank report \(2014\)](#) noted that more Africans now have a mobile phone than have a toilet. Although only 11% of phones in Sub-Saharan Africa currently have fast internet access (3G), this proportion is rising rapidly as costs fall and demand increases. There is widespread optimism that mobile phones can help overcome infrastructural constraints and provide routes out of poverty, particularly in rural areas (see

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reviews by [Donner, 2008](#); [Porter, 2012](#)). The potential for mobile phones to bridge healthcare gaps in low-resource settings has been grasped enthusiastically by the global health community, with significant investment in mobile health (m-health) initiatives (see reviews by [Bloomfield et al., 2014](#); [Aranda-Jan et al., 2014](#)).

Much less well-documented are the many *informal* ways in which young people in particular are using mobile phones for health-related purposes. M-health initiatives remain limited in scope and coverage ([Chib et al., 2014](#)); among our study participants (over 4500 young people in Ghana, Malawi and South Africa), only a handful had ever *heard* of m-health programmes, let alone participated in them. Instead, they were using phones creatively and strategically to seek healthcare. In this paper, we elaborate on these practices and consider the possible consequences for overcoming structural healthcare barriers.

A note on definitions: UN organisations define 'adolescence' as

the second decade of life (10–19 y) and ‘youth’ as ages 15–24 y. Here, we use the terms ‘young people’ and ‘adolescents and young people’ interchangeably to refer to our study participants aged 8–25 y, while recognising that growing up is a diverse and contingent experience that rarely maps straightforwardly onto chronological age.

### 1.1. Young people's access to healthcare in Sub-Saharan Africa

More than a quarter of the world's population – around 2 billion people – are aged between 10 and 24 years, with almost 90% of these living in low- and middle-income countries (ICPD, 2014). Adolescence and young adulthood are often considered to be among the healthiest periods of life, after the relatively vulnerable years of early childhood and before the health problems associated with ageing. However, young people across the world also face significant health challenges and barriers to care (WHO, 2012; Sawyer et al., 2012). The problems are typically magnified in low-income settings: Sub-Saharan Africa, which has the highest proportion of adolescents and young people worldwide, also has the worst adolescent/youth health profile (Patton et al., 2012; UNICEF, 2012).

Of course, barriers to healthcare in Sub-Saharan Africa are not confined to young people. Ghana, Malawi and South Africa (along with many other low- and middle-income countries) have all embarked on health systems reforms aimed at achieving universal coverage, but this is still far from being realised (Nyonator et al., 2014; Ataguba et al., 2014; Abihiro et al., 2014). In all three countries, a minority of the population has health insurance, despite the roll-out of the ostensibly pro-poor National Health Insurance Scheme in Ghana (Mills et al., 2012). The uninsured – disproportionately rural populations and those in the lower wealth quintiles – are reliant on public provision that continues to be patchy and under-resourced and/or incurring considerable out-of-pocket expenditure at private facilities (Nyonator et al., 2014; Ataguba et al., 2014; Abihiro et al., 2014; Mills et al., 2012). Of the three countries, only South Africa meets the WHO's recommendations for a minimum of 23 core health-workers (physicians, nurses and midwives) per 10,000 population, although with considerable geographical disparities (Ataguba et al., 2014). Ghana has 11 core health-workers per 10,000 population, and Malawi just three (WHO, 2014, n.d.).

Against this backdrop of limited and inequitable access, young people – who typically have limited economic resources, restricted mobility and low social status – can be particularly disadvantaged. Too old for paediatric services, but often marginalised or excluded from mainstream services, they can easily slip through the net. More than a decade since the WHO (2002) set out an agenda for establishing ‘Adolescent-Friendly Health Services’, the gap between provision and young people's needs in Africa remains substantial (WHO, 2012; Mburu et al., 2013; Chandra-Mouli et al., 2013). Where access to formal-sector services is limited, young people may resort disproportionately to a vast and highly eclectic ‘informal sector’ of unregulated healers and medicines (Van der Geest and Geissler, 2003; Hampshire et al., 2011). However, as therapeutic possibilities multiply, so do the potential risks, particularly where states lack the capacity to control and regulate pharmaceutical markets, allowing medicines and other therapeutic technologies to circulate freely (Baxerres and Le Hesran, 2011). The rise of sub-standard and counterfeit drugs adds to the uncertainty and potential risks (Caudron et al., 2008), as does media coverage of fraudulent healers (Shipley, 2009).

### 1.2. ‘Informal’ m-health and the society-technology dialectic

The potential for formal m-health initiatives to improve healthcare in low-resource settings has been widely hailed but, so far, that potential has not translated into large-scale policy investment (Chib et al., 2014:4). However, a key insight to emerge from scholarship on the new digital/media technologies is that change is often driven largely by *practice* rather than top-down planning (e.g. Horst and Miller, 2006; Jeffrey and Doron, 2013). Mobile phones and other technologies become appropriated, co-opted and used in ways that were not necessarily intended – or desired – by manufacturers or regulators. Moreover, these acts of appropriation are deeply embedded within existing social and cultural forms and wider ‘ecologies of communication’ (Horst and Miller, 2006:12). To pick just a couple of examples, the phenomenon of phone-based *Keitai* novels in Japan (Nishimura, 2011), or the proliferation of new language forms that SMS texting has generated, exemplify the inter-weaving of the local and the global in new cultural forms.

We should therefore perhaps not be surprised to find that, in the absence of large-scale formal m-health programmes, young people are taking the initiative to ‘do m-health’ *informally*. But how are they doing this and with what consequences? Seeking to move beyond rather sterile debates that set in binary opposition technological versus social determinism, Horst and Miller (2006) have argued persuasively that society and technology are dialectically related: that each becomes altered in interaction with the other. These insights are important for understanding how the uptake of new information and communication technologies might work to entrench and/or to disrupt health inequalities within and between countries.

## 2. Study sites and methods

The data presented here come from an ESRC/DFID-funded study (2012–15) on the impacts of mobile phones on young people's lives in Ghana, Malawi and South Africa ([www.dur.ac.uk/child.phones/](http://www.dur.ac.uk/child.phones/)). It builds on and extends our earlier study (2006–10) on children's mobility in the same field-sites ([www.dur.ac.uk/child.mobility/](http://www.dur.ac.uk/child.mobility/)), when mobile phones were just beginning to feature in young people's lives (Porter et al., 2012). Ethical approval was granted from [UK: Durham University Anthropology Ethical Review Board. Malawi: National Committee on Research in the Social Sciences and Humanities (NCRSH) at the National Commission for Science and Technology (NCST)].

Fieldwork was conducted in 24 study sites across the three countries: one high-density urban, one peri-urban, one rural with basic services, and one remote rural settlement with limited or no services, in each of two agro-ecological zones per country (Ghana: coastal savannah and central forest belt; Malawi: Lilongwe plains and Blantyre/Shire Highlands; South Africa: Eastern Cape and Gauteng/North-West provinces). All eight urban sites were situated within 2–3 km of a large public hospital, with numerous public and private clinics nearer by (although of course physical proximity does not equate to effective access). The peri-urban sites had more basic clinics, staffed often by nurses or clinical officers, with reasonably good transport connections to towns with secondary facilities. In the rural sites, healthcare provision was generally sparser, particularly in Ghana and Malawi, where people relied largely on informal-sector healers/medicine-sellers or travelling to a more distant formal-sector facility. These disparities are evident in adolescents' use of health services in our 2006–2009 study, a good indicator of differential access (Ataguba et al., 2014): Table 1.

Fieldwork for the current study proceeded in two phases.

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