

JULY 2017

MAKING ALL
VOICES COUNT

RESEARCH REPORT

A GRAND CHALLENGE
FOR DEVELOPMENT

ICT-facilitated accountability and engagement in health systems: a review of Making All Voices Count mHealth for accountability projects



Tabitha Hrynick and Linda Waldman

Authors

Tabitha Hrynich has recently completed a Masters in Development Studies at the Institute of Development Studies (IDS) where she focused on issues ranging from health, politics, gender, environmental sustainability and social justice, and the intersections between them. In her post-graduation work as a freelance researcher, she has focused on questions related to mHealth and its potential to enhance accountability for public health services, and worked with an interdisciplinary team to take a closer look at gender representation and leadership in high-profile international scientific collaboration.

Linda Waldman is a research fellow in the Health and Nutrition cluster at IDS where her work has focused on the diverse dimensions of poverty and the related issues of gender, racial classification, ethnicity and identity. She has also conducted research on farm workers, gender, environmental policy processes, health and social housing and aid architecture, in Africa, India and the UK. More recently, she has pursued research in the areas of mHealth and zoonoses. She obtained her PhD in social anthropology at the University of the Witwatersrand, South Africa.

Acknowledgements

This research was funded by the Research, Evidence and Learning Component of Making All Voices Count (MAVC), the Economic and Social Research Council (ESRC)/Department for International Development (DFID) Poverty Alleviation Scheme, grant number ES/J018651/1, and UK Aid through the Future Health Systems Research Programme Consortium. The views expressed do not necessarily reflect the UK Government's official policies. The authors would also like to thank the research participants for their time and energy.

Reference and copyright

IDS requests due acknowledgement and quotes from this publication to be referenced as: Hrynich, T. and Waldman, L. (2017) *ICT-facilitated accountability and engagement in health systems: a review of Making All Voices Count mHealth for accountability projects*, Making All Voices Count Research Report, Brighton: IDS

© The Institute of Development Studies 2017

Contents

Summary	4
1. Introduction	6
2. Methods	8
3. Accountability, public services and ICTs	9
3.1 Long-route and short-route accountability	10
3.2 ‘Sandwich’ strategies	11
3.3 ICTs and accountability	11
4. Making All Voices Count: Introducing the mHealth projects	12
5. Accountability through information in the seven mHealth projects	14
5.1 Five key elements for accountability	15
5.2 Underlying assumptions	16
6. Technologies for accountability: opportunities, constraints and challenges in the mHealth projects	17
6.1 Challenges encountered	19
7. Citizen engagement and accountability in the mHealth projects	22
7.1 Project models of citizen engagement and implications for accountability	22
8. Political processes, government involvement and mHealth accountability	30
8.1 Role of government in mHealth for accountability	30
9. Conclusion	34
References	36

Summary

Information and communication technologies (ICTs) and mHealth innovations hold great potential to improve health systems and health outcomes while at the same time enhancing citizen engagement and accountability. Yet there has been little assessment of the impact of mHealth innovations on the ground.

This paper reviews the experiences of seven mHealth initiatives funded by the Making All Voices Count programme: OurHealth, eThekwini WACs and Thuthuzela Voices (all in South Africa), Mobile Mapping for Women's Health (Tanzania), Text2Speak (Nigeria), SMS Gateway (Indonesia) and Citizen Journalism for Quality Governance of Universal Health Insurance Scheme (also Indonesia). It discusses the accountability model adopted by each project, and the challenges they faced.

All seven projects worked on the underlying assumption that citizen engagement and voice are central to strengthening accountability. Information gathering was seen as a prerequisite for advocating for service improvements; hence all seven projects used mobile phones or tablets to capture information on local service provision as a way of augmenting citizen voice. Five of the seven used technology to solicit people's feedback on their experiences of service delivery, their needs and / or concerns, and then shared this information with government actors.

The project strategies reflected two other assumptions: that citizens would provide feedback using the technology, and that government and service providers would be sufficiently sensitive to that feedback to take action to improve health or related services. While ICTs succeeded in providing quicker and easier ways of collecting and analysing information, they were not without their challenges. Developing apps or other technology often proved a slow process during project design, which was exacerbated by the relatively short period of funding from Making All Voices Count. Changes in government staffing (locally or nationally) also meant that some projects lost the crucial link with sympathetic and influential individuals who were willing to listen to and amplify citizen voices within government and policy circles, and take action when necessary.

Some projects had already built good working relationships with key stakeholders, including local communities, local-level officials and national-level decision-makers, and it was these projects that felt they were reasonably successful in reaching their accountability goals. Where projects lacked these linkages and relationships, it was much harder to achieve their goals.

The report concludes that there are limits to what technology can deliver in terms of augmenting citizen voice and enhancing accountability, particularly in the absence of other offline activities such as engaging citizens in meaningful ways and building good relationships with key government actors and departments.

Key themes in this paper

- Engaging existing community-level groups or forums is more likely to lead to success in uptake of ICTs for improving health services and strengthening accountability.
- Other stakeholders (e.g. health workers) must be involved to maximise impact and sustainability and to allay any fears about consequences of negative feedback.
- Unless those in positions of power to change things (locally and / or nationally) are allies in the process, efforts are unlikely to meet with success.
- Offline spaces can strongly complement online innovations to leverage individual citizens' feedback and translate that feedback into action to improve services.

1. Introduction

Governments around the world are compelled to provide public health service options or to regulate private health care markets in order to guarantee the rights and health of national populations, due to the fact that health care is particularly prone to market failure. Markets, for instance, do not protect citizens from information asymmetry, which disadvantages patients vis-à-vis providers.¹ They also tend to undersupply 'public goods', while failing to fix inequities in access to care – the consequences of which are felt most acutely by poor and marginalised citizens (Castro-Leal, Dayton, Demery and Mehra 2000; Ghosh 2008; Bloom, Standing and Lloyd 2008). However, despite efforts to correct these failures, public health systems are frequently beset by a range of contextual problems and undermining factors, especially in low- and middle-income countries (LMICs). Variables related to weak institutions (formal and informal), lack of resources and low governance capacity all contribute to systemic shortcomings that ultimately affect health outcomes.

The delivery of public services and the corresponding relationship between citizens and states is often conceptualised through the lens of accountability. This emphasises the responsibility of government to provide or guarantee services and rights (including those related to health) to citizens, who in turn can demand and receive improved services and expanded space to access and exercise rights and entitlements from a responsive state. But in practice, this relationship tends to break down, if it exists at all. Structural factors and relations of power uphold the status quo and, in so doing, keep the needs and demands of citizens (particularly poor and marginalised groups) off the political agenda. This can condemn whole populations, and especially the most vulnerable groups, to poor health despite rights enshrined in international treaties and national constitutions. This makes it necessary to have institutions that support accountability – broadly defined as state

responsiveness to citizens' needs and demands – to ensure that health systems work for all citizens.²

The linkages between accountability and poverty are addressed by the Making All Voices Count programme. It explored and sought to harness the potential of novel partnerships between government actors (including public officials and service providers), civil society, citizens and the private sector, combined with new information and communication technologies (ICTs), to enhance accountable governance and citizen engagement across different country contexts, and in different spheres of citizen–state relations, including health. The programme defines accountable governance as the adjustment of policies and practices of government and public institutions in response to citizen articulation of collective needs and priorities. It defines citizen engagement as “when citizens raise their voices [citizen voice] to communicate their concerns and priorities, leading to the possibility that government institutions will respond to their needs and demands” (Brock, McGee and Besuijen 2014: 5). Overall, Making All Voices Count sought to augment citizen engagement and voice, to stimulate the capacity and willingness of governments to respond to that voice, and to build empirical and conceptual evidence on what works through funding and active guidance for different types of accountability projects (Brock *et al.* 2014; McGee, Edwards, Minkley, Pegus and Brock 2015).³

ICTs are a key component of the Making All Voices Count programme. They are imbued with promise and have generated considerable enthusiasm regarding their potential to enhance citizen engagement and accountability. Within health systems specifically, ICT innovations have been seen as a new way to address well known shortcomings. Known as mHealth or eHealth, these technological innovations can enhance health service delivery, including by enabling

¹ Because of their lack of specialist medical knowledge, patients, and especially patients from poor and marginalised social groups, are ill-equipped to know when health providers are being negligent in relation to diagnosis and treatment of their health conditions (Ghosh 2008). Information asymmetry is particularly problematic in health systems.

² This understanding of accountability underpins the objectives of the Making All Voices Count programme, which more precisely uses the concept of 'accountable governance' as discussed in the following paragraph.

³ 'Innovation' projects are those which introduce a new intervention to a particular context. 'Scaling' grants enable organisations to expand existing projects and / or to integrate new technology into already-established initiatives. 'Learning' grants are for conducting accountability-related research, such as feasibility of a particular project model or evaluations of existing models.

There has been relatively little theorisation and empirical exploration of mHealth in relation to accountability

patients to participate in decision-making about their own health care. These innovations have been promoted as “health system strengthening tools” that facilitate accountable governance (Labrique, Vasudevan, Kochi, Fabricant and Mehl 2013), although there has been relatively little theorisation and empirical exploration of mHealth in relation to accountability. Since its inception, much of the work on mHealth has focused on small-scale, disparate pilots. These have had mixed reviews regarding health and / or health system improvements (Jennings and Gagliardi 2013; Aranda-Jan, Mohutsiwa-Dibe and Loukanova 2014; Gurman, Rubin and Roess 2012), and far less attention has been paid to whether or how ICTs have facilitated accountable governance and citizen engagement in relation to health (Waldman, Reed and Hrynck 2017).

Jennings and Gagliardi (2013), for instance, conducted a review of the impact of mHealth initiatives on gender relations in developing countries and found that while there was evidence of improvement in women’s empowerment in relation to health over the short term, such interventions could also unintentionally reinforce gender inequalities. The authors ultimately decided that the evidence was weak and conclusions about the long-term impact could not be drawn. Aranda-Jan *et al.* (2014), in a review of mostly small-scale mHealth initiatives in Africa between 2003 and 2013, noted evidence for improved health service delivery in several capacities. However, they also noted that much of this evidence was from grey literature prepared by project members and supporters incentivised to present their interventions in the best possible light. They called for more rigorous research, especially in relation to long-term impacts. The infancy of mHealth was also noted by Gurman *et al.* (2012); their review found a deficiency of rigorous, evaluative long-term data on the impact of mHealth interventions, especially

in LMICs. While recognising the weaknesses in the reliability of the available data and the small-scale, pilot nature of most mHealth projects, the above-named researchers and others have acknowledged the apparent benefits of mHealth in the short term while stressing the need for longer-term evaluations and investigations into its potential for scaling up. The past couple of years have, however, seen a transition to larger-scale, national-level mHealth initiatives that offer more than just ways of improving health outcomes. They incorporate innovative means of changing: how health system workers engage with each other and other state actors in the course of their work; how patients and other citizens interact with health system actors; and how private actors are linked to the health system and to government on health-related matters. MomConnect in South Africa, for instance, is a national-level mHealth initiative that utilises mobile phone technology to enhance maternal health provision for pregnant women and to build robust national-level data on pregnancy and maternal health.⁴ There has been widespread support and praise for this programme, and surveys conducted among participants suggest that the vast majority found it to be helpful during their pregnancies and better prepared them for childbirth.

However, MomConnect and other similar programmes have not proven to be a panacea. Researchers have shown how MomConnect does not reach women who may be most in need but who lack access to mobile phones and have lower literacy levels (technological or otherwise) (Wolff-Piggott and Rivett 2016), while health workers have resisted its integration into their routines (Wolff-Piggott 2016). The accountability literature in particular reveals many similar shortcomings and highlights the tendency for initiatives under the ‘ICT for accountability’ (ICT4A) umbrella to treat problems – such as those related to poor public health services – only as techno-administrative obstacles.

⁴ MomConnect aims to: (1) enrol all pregnant women in South Africa, providing each with a unique registration number, through even the most basic mobile phone; (2) use these data to develop the country’s first national electronic pregnancy register; (3) use SMS messages to encourage behavioural change, improve clinical outcomes and identify high-risk behaviour; (4) offer a helpdesk that enables women to ask questions, evaluate and report their experiences of health services; and (5) provide health staff with useful, regular updates and clinical information that facilitates their reporting to higher-level managers (Peter, Barron and Pillay 2016; Waldman and Stevens 2015).

It assumes that these obstacles can be overcome with technological solutions rather than seeing them for what they really are: highly contextual, fundamental imbalances in social, economic, political and power relations. Indeed, Aranda-Jan and colleagues (2014) noted that for mHealth interventions, success is based not on technology but “on accessibility, acceptance and low-cost of the technology, effective adaptation to local contexts, strong stakeholder collaboration, and government involvement”.

There has, however, been little serious consideration of whether and how mobile technology has improved (or might improve) accountability for health services. For instance, a Web of Science search of the periods 2004–2005, 2009–2010 and 2014–2015 found no published articles with both ‘accountability’ and ‘mHealth’ in their titles. A topic search of the same terms yielded only five articles in 2014–2015, but none explored these themes explicitly. This may be, in part, because of the recent growth in these innovations and also because most mHealth initiatives have not seen enhancing accountability for health services as an explicit primary objective, and thus have not been evaluated with this in mind.

In light of this dearth of literature exploring the emerging relationships between mHealth and accountability in public health systems, and in recognition of the potential of ICTs and mHealth to improve health outcomes and health systems,

this paper reviews seven mHealth initiatives funded by Making All Voices Count, which took place in Indonesia, Nigeria, South Africa and Tanzania. We aim to make the most of project learning, focusing on how mHealth can support citizen engagement and accountable governance for health services in diverse contexts, and the challenges that arose in the course of these projects. The rest of the paper is laid out as follows: section 2 offers a discussion of methods; section 3 presents a brief discussion of accountability in the literature; sections 4 and 5 introduce the projects and explore how they understood and sought to enhance accountability through mHealth; section 6 more specifically considers the role of technology in each project, with particular attention to the challenges related to its development, and whether / how it promoted accountable governance; section 7 looks at what forms of citizen engagement were used by the initiatives and how this affected their scope to enhance accountable governance; and section 8 explores the projects’ relationships with state actors, highlighting the importance of taking political considerations seriously. Embedded throughout the sections are acknowledgements of the importance of social, economic, political and power relations; the extent to which these factors were considered in project design and implementation greatly shaped the ability of the seven mHealth initiatives to facilitate citizen voice and accountable governance. Finally, Section 9 presents our conclusions.

2. Methods

This paper draws on a combination of semi-structured interviews conducted with representatives of the seven health-related projects funded by Making All Voices Count. These interviews lasted approximately one hour, and were conducted with the project members identified as having the most experience relevant to our enquiry. For some projects two or more individuals were interviewed, either together or separately, depending partly on their choice and partly on the timing of the interviews. Interviewees were asked how they had thought their intervention would enhance accountability for health services and how this played out in practice. Interviews also explored: the social, economic and political contexts

and how these were considered during project design and implementation; the intersection of technology and citizen engagement; and stakeholder collaboration and tensions. Finally, we encouraged interviewees to reflect on the challenges and opportunities that had arisen during the projects.

This paper also draws on project documentation held by the Making All Voices Count programme. This included proposals, progress and final reports, and, in one case, research papers produced by project personnel.

Due to methodological constraints resulting from our reliance on semi-structured interviews

with individuals involved in the projects and on project documentation, we do not offer a comprehensive assessment of the extent to which ‘accountability’ – however measured or defined – was improved, and whether this resulted in improved health outcomes. Our aim is not to classify projects as ‘successes’ or ‘failures’, but rather to examine project design and how the project worked in practice, with special attention to the achievements and challenges

identified by project members as they relate to questions of accountability.

The following short literature review focuses on three main areas relevant to these seven projects: (1) an overview of the main debates on accountability; (2) a discussion of accountability as it relates to public service delivery; and (3) the role, potential and limitations of ICTs in the context of enhancing accountability for public services.

3. Accountability, public services and ICTs

The concept of accountability originates in the longstanding tradition of political philosophy in which thinkers have considered how power might be restrained to prevent abuses and keep actions in line with agreed rules (Newell and Bellour 2002: 1). In recent decades, the term has been appropriated across a variety of theoretical and applied spaces, leading to confusion and loose application (see Lindberg 2009). In this section, we offer a brief discussion of how accountability has been understood, exploring different meanings and debates, with an emphasis on who is seen as accountable to whom. Furthermore, in keeping with our emphasis on mHealth technologies, we also explore literature related to ICTs and accountability.

According to Edwards and Hulme, accountability refers to “the means by which individuals and organisations report to a recognised authority, or authorities, and are held responsible for their actions” (1996: 9). This suggests that responsibility is upwardly oriented towards immediately identifiable authorities. Such an understanding is conceptually useful in thinking about relationships of accountability within government and organisational structures as it emphasises the bureaucratic relationships of accountability between (for instance) employees and low-level officials, and the managers to whom they report and who are ultimately responsible for their actions.

Another form of bureaucratic accountability refers to the relationships between government units and public organisations, as they are accountable to *other* government units and public organisations through systems of checks and balances. As there

might not necessarily be a hierarchy involved, this is sometimes referred to as ‘horizontal accountability’ (O’Donnell 1998).

While it is certainly prudent to pay attention to these relationships, the above conceptualisations of accountability have blind spots that have consequences for citizens, and particularly the most marginalised and vulnerable groups. In international development, for instance, an upward understanding of accountability has often been invoked to emphasise the accountability of LMIC governments to their donors. This fails to capture any sense that those vested with authority and power – especially in liberal democratic contexts in which all citizens have rights and entitlements – are ultimately responsible for upholding and providing for the rights and entitlements of the citizens who have entrusted them to govern (United Nations (UN) 2013). In reflecting on this, the UN has offered the following definition of accountability: “the relationship of Government policymakers and other *duty bearers* to the *rights holders* affected by their decisions and actions [original emphasis]” (2013: ix). As duty bearers, other development actors – from financial institutions, non-governmental organisations (NGOs) and aid agencies at the supranational level, to sub-national civil society organisations (CSOs), private sector actors, local officials and others – also ultimately have a downward responsibility to citizens. This citizen-ward emphasis in the discussion around *who* should be accountable to *whom* shifts the focus away from a managerial and bureaucratic understanding of accountability and puts the rights and entitlements of citizens squarely centre stage.

Liberal democratic states, through their constitutions and formal laws and institutions, are obligated and expected to protect and provide for both abstract and concrete rights and entitlements of citizens, which very often include access to public health services.⁵ In a robust democracy, state failure to deliver on these responsibilities should activate the mechanisms of what has been called ‘political accountability’ – the primary mechanism of which is regularly occurring free and fair elections enabling citizens to replace poorly performing elected officials (Adserà, Boix and Payne 2003).⁶ In reality, however, citizens, especially the poorest and most marginalised groups, are frequently failed by the ballot box. Elected officials, particularly in LMICs, are often incentivised to prioritise the interests of the middle and upper classes and / or individuals and social groups in clientelist networks. Furthermore, even well-intentioned officials seeking to act in the best interest of poor and marginalised citizens face challenges associated with weak institutions and bureaucratic and political resistance to their efforts to promote change.

3.1 Long-route and short-route accountability

In influential work on public services in LMICs, the World Bank (2003) called the process through which citizens replace poorly performing state officials through democratic elections the ‘long route to accountability’. As suggested earlier, it is a highly political process, and is shot through with extremely resilient relations of power that favour elites and others benefitting from the status quo. For the long route to translate into actual change and improvements in health services, there are a number of steps and institutional requirements. First, the health needs and demands of citizens must be made known to policy-makers. This is usually done through electoral platforms and political parties competing for votes, and partly through health statistics and assessment of population-level health needs. Participatory forums, civil society engagement or other citizen-oriented mechanisms can also be used to articulate and upwardly communicate citizen health concerns (Coelho 2006; Mahmud 2007).

Second, public authorities, elected as they are by citizens (or appointed by those elected), must design and implement policies to finance and regulate the health system, ensuring that it reflects citizens’ needs and priorities. In part, this includes guaranteeing an adequate number of sufficiently equipped health facilities, sufficient medical personnel with appropriate training, and that accurate health data is continuously collected so that the health system can dynamically respond to population health shifts. But also, critically, these processes must shape the incentives of all actors, be they relevant officials, private sector actors and health service providers, throughout the health system – from national health ministers to medical equipment suppliers, to rural clinic and community health workers – to provide accessible and appropriate health services to all citizens. (See Section 5 for further discussion of the importance of getting institutions and incentives right.)

Ultimately, for votes to translate into improved health services for all citizens, the long route requires a number of conditions: strong and inclusive democratic electoral processes; a high degree of political stability; and sufficient institutional sophistication through which necessarily complex health policies can be designed and implemented (Camargo 2011). Challenged by weak institutions, limited resources, low democratic participation and exclusion, clientelist tendencies and sticky power imbalances between social groups, long-route accountability has been seen as an unrealistic strategy for improving health systems in LMICs.

In light of challenges associated with the long route, scholars and practitioners have argued for the ‘short route’, or the ‘demand side’ of accountability (World Bank 2003; Camargo 2011). This falls under the conceptual umbrella of social accountability, which is defined as “an approach towards building accountability that relies on civic engagement, i.e., in which it is ordinary citizens and/or civil society organizations who participate directly or indirectly in exacting accountability” (Malena, Forster and Singh 2004: 3). Strategies range from independent grass-roots actions that bypass the state entirely and are locally

⁵ More ‘abstract’ rights and entitlements might include protection from discrimination, safeguarding of freedom of speech and access to information, the right to vote, the right to assemble, etc.

⁶ Democratic elections are typically considered the primary mechanism through which political accountability occurs. However, acknowledging the shortcomings of electoral processes, political scientists also stress other mechanisms, including systems of checks and balances between different branches of government (Adserà *et al.* 2003).

Making All Voices Count has sought to support strategic approaches that encourage citizen voice and engagement, harness and strengthen the capacity of sympathetic state actors at multiple levels, and, critically, build bridges between citizens, civil society, the state and others to transform health services

concentrated (see, for example, Björkman and Svensson 2009) to state-sponsored initiatives that invite citizen participation in official accountability processes (see, for example, Coelho 2006; Cornwall and Shankland 2013). Recent research on short-route accountability strategies that lack reciprocal cooperation in government has tempered the enthusiasm for such 'society side' interventions, arguing that without state support, these initiatives lack the 'teeth' of enforceable sanctions, as service providers who lack incentives from above are unlikely to respond to citizen voice (Devarajan, Khemani and Walton 2014; Peixoto and Fox 2016; Fox 2015; Camargo 2011).

3.2 'Sandwich' strategies

Given the challenges of both long- and short-route accountability, Fox has argued for 'sandwich strategies'. These he sees as "mutually empowering coalitions of pro-accountability actors in both state and society", which mobilise to overcome the challenges of weak institutions and the lack of formal accountability mechanisms (2015: 347). Recognising this, Making All Voices Count has sought to support strategic approaches that encourage citizen voice and engagement, harness and strengthen the capacity of sympathetic state actors at multiple levels, and, critically, build bridges between citizens, civil society, the state and others to transform health services. In the context of the programme, accountability (through the concept of accountable governance) is seen as the modification of behaviour of government actors, including service providers, in that they move to adjust policies or practices in response to the articulated needs and demands of citizens. This promotes both *answerability* (namely public actors' responsibility to provide information and justify their actions) and *enforceability* (the capacity to impose sanctions on those who abuse their positions of power). Accountability, Schedler argues, "implies

subjecting power to the threat of sanctions; obliging it to be exercised in transparent ways; and enforcing it to justify its acts" (1999: 15). Answerability, and especially the enforceability of sanctions – the latter of which Fox has referred to as 'teeth' (2015) – are the essential elements of what accountability in action looks like (McGee and Gaventa 2011; Brinkerhoff 2004).

3.3 ICTs and accountability

The global spread of ICTs, and of mobile phones in particular, has opened up new opportunities for people in LMICs to be socially and politically active, and to shape government decision-making processes (Zanello and Maassen 2011; Ray 2012). There is a wealth of literature on how ICTs might enhance citizens' access to information, amplify their voice and bring about positive political change (see, for example, Free, Phillips, Galli, Watson, Felix, Edwards, Patel and Haines 2013; International Institute for Communication and Development (IICD) 2014; Loh 2013; OECD 2013; Wakadha, Chandir, Were, Rubin, Obor, Levine, Gibson, Odhiambo, Laserson, and Feikin 2013). ICTs are innovative in that they allow communication to flow in multiple directions and process data in real time. ICTs can thus advance decision-making and flatten hierarchies by enabling information to flow downward from states to citizens, upwards from people to governments, and horizontally, between citizens and between government actors (Zanello and Maassen 2011; Peixoto and Fox 2016). For these reasons, Bailur and Gigler argue that ICTs can close the "accountability gap" — the space between the supply (governments, service providers) and demand (citizens, civil society organizations, communities) that must be bridged for open and collaborative governance" (2014: 2) while also addressing the governance challenges of time and space.

ICTs are particularly favoured for augmenting short-route accountability (using technology to

administer citizen reports, community score cards, audits, etc.), while also aggregating and amplifying citizen voice and relaying this to government service providers (Wittemyer, Bailur, Anand, Park and Gigler 2014). Underlying much of this work is an assumption that ICTs automatically enhance accountability by “improving the accuracy, timeliness, and completeness of data” (Madon 2014: 191); however, there is very little acknowledgement of the potential, also inherent in ICTs, to be used in ways that can undermine accountability and other democratic freedoms (Treré 2016).

ICT-based accountability initiatives have brought with them new challenges. For instance, despite innovative new technologies, citizens do not always engage, and categories of inclusion and exclusion may remain and even be reinforced (or new ones created); the quality of data can remain poor and / or the data collected is not always helpful; and without arrangements put in place to analyse, use and learn from data, there is little point to its collection. Furthermore, a lack of technological capacity sometimes means that data is still manually inputted in spite of ICTs, and there is little clarity on how ICT projects might be sustained beyond pilot periods (Gigler, Custer, Bailur, Dodds, Asad and Gagieva-Petrova 2014; Peixoto and Fox 2016).

The majority of this research into ICT-enabled accountability refers to ICTs in general, with very

little health-specific material. However, Madon’s examination of four mHealth initiatives and accountability in Karnataka, India, shows that “technology was the least relevant factor”, that the incorporation of ICTs did not automatically lead to improved answerability and enforceability, and that socio-economic and political contexts shaped the degree to which technology could facilitate accountability (2014: 207). Furthermore, Peixoto and Fox argue that for ICTs to enhance accountability, greater understanding is needed of “how and why” ICTs “*motivate* citizen action [original emphasis]” and then lead to improvements in service provision (2016: 26).

The widespread availability of ICTs and their potential for amplifying citizen voice, facilitating multi-directional communications, and real-time, large-scale data collection has generated considerable enthusiasm for ICT-enabled accountability. The challenges associated with ICTs and accountability, the substantial menu of technological choice, and the inconclusive evidence to date have, rather than dampened this enthusiasm, inspired further research into the ‘black box’ of ICTs, more experimentation with technologies and greater questioning of the relationship between ICTs and accountability (Peixoto and Fox 2016; Bailur and Gigler 2014). Despite this burgeoning field, the work on ICTs and health system accountability remains in its infancy, and it is here that this paper makes its contribution.

4. Making All Voices Count: Introducing the mHealth projects

Making All Voices Count funded seven projects that used ICTs as a means to enhance accountable governance for health issues (see Table 1). These projects, which had an array of institutional designs (discussed in detail below), also addressed different health issues. For purposes of introduction, six of these projects are grouped together and presented here according to three broad health themes: (1) general health; (2) sexual and reproductive health (SRH); and (3) maternal health. The seventh project focused on HIV/AIDS-related issues.

Two projects – OurHealth in South Africa and Citizen Journalism for Quality Governance of Universal Health Insurance Scheme (hereafter called CJ Health Insurance Scheme) in Indonesia – aimed to enhance accountability for health services generally rather than for specific health issues. Coincidentally, both were also citizen journalism projects, and both have been classified as scaling projects, and have thus received programme funding to expand existing initiatives. OurHealth was run by Health-e News, an organisation that recruits and trains South African health activists

in citizen journalism skills. These paid journalists, working in all provinces and in rural, poor and overlooked areas, are granted permission by health authorities to enter clinics to monitor medical supplies. They input the monitoring data into a mobile phone or tablet application (app). Using tablets, they also write stories about health issues in the clinics and in their communities which are regularly published on the Health-e News website and by national mainstream news organisations. In Indonesia, the Sloka Institute in Bali ran the CJ Health Insurance Scheme. In this project, community members were trained in how to use the organisation's long-running citizen journalism website and social media platforms to report on the quality of health services associated with the country's recently rolled-out national health insurance scheme. An app that enabled citizens to access information about health services and rate them was also planned. Both projects are still ongoing in altered forms, although the Making All Voices Count grant has ended.

The next two projects specifically aimed to improve accountability for sexual and reproductive health (SRH) services. Mobile Mapping for Women's Health was run by two partners, Simavi and Medicos Del Mundo, in rural Tanzania. In this innovation project, trained enumerators from local communities administered surveys using tablets to women (and later men) enquiring about SRH services in their local area. With this information, validated through respective community meetings in offline spaces, the project aimed to digitally 'map' both access to and quality of SRH services and discussed the data with local health authorities and community members. In South Africa, Thuthuzela Voices, run by the Foundation for Professional Development (FPD), tackled a different dimension of SRH – namely, rape and gender-based violence (GBV). This was classified as both a 'learning' and an 'innovation' project under the Making All Voices Count programme, as an app was also developed in conjunction with and as a result of research that sought to determine whether an app would be an acceptable and appropriate way to gauge client experience and collate feedback on services provided by Thuthuzela care centres (Johnson, Mahlalela and Mills 2017; Mahlalela, Johnson and Mills 2017). These care centres provide services for GBV survivors in Cape Town, including physical and psycho-social health support and case assistance in dealing with other relevant services such as the police and legal system. The rationale for the project was that uptake for services was low, and

relevant state actors had little idea of what was happening in these spaces. After the grant period ended, activities initiated under this project have continued with funding from alternative sources.

Two projects focused on maternal health: SMS Gateway run by Sinergantara and its partner in East Java, Indonesia; and Text2Speak, run by Pathfinder in Nigeria. SMS Gateway, an innovation project, developed an SMS-based app to help identify women in rural areas experiencing at-risk pregnancies and to connect these women with health service providers so that the latter could better prepare for their care. Community volunteers were paired with pregnant women as their health 'companions' and trained in how to use the app. In addition, the pregnant women's health needs, and the companions' abilities to support them, were discussed in community forums. In Nigeria, Pathfinder initially envisioned the innovation project, Text2Speak, as an SMS-based mechanism that would solicit feedback from pregnant women on the services they received at government antenatal clinics, as well as ascertain whether they had satisfactorily received payment for participating in the government's mobile conditional cash transfer (mCCT) programme, which offered monetary incentives to pregnant women to attend clinics. The political breakdown of this government project forced Text2Speak to re-strategise, and to focus on antenatal clinics with established links to Pathfinder and which were not involved in CCT programmes.

The final project (also South Africa) was envisioned as a joint initiative between the Durban University of Technology, local civil society representatives, municipal and provincial state bodies, and a private tech partner. This scaling project, entitled Technology for the Improved Efficiency and Effectiveness of eThekweni Ward AIDS Committees (for brevity, hereafter referred to as eThekweni WACs) sought to enhance accountability around HIV and AIDS services in eThekweni municipality, KwaZulu-Natal province. The project had envisaged modifying and extending the use of an existing app to help connect Ward AIDS Committees (WACs) – small community groups formed around HIV/AIDS issues – with higher-level government HIV/AIDS committees. The WACs would use the app to report on their activities, access information on the activities of other local and higher-level HIV/AIDS committees, and (most importantly) report service problems at the local level while also being able to track real-time responses to these reports from higher-level authorities.

Table 1 Overview of mHealth and accountability projects funded by Making All Voices Count⁷

Project	Country	Accountability activity	Health focus	MAVC project type	Lead organisation(s)
OurHealth	South Africa	Citizen journalists monitor medical supplies	General health	Scaling	Health-e News
CJ Health Insurance Scheme	Indonesia	Citizen journalists monitor health service quality	General health	Scaling	Sloka Institute
Mobile Mapping for Women's Health	Tanzania	Community members map and rank the availability and quality of services	Sexual and reproductive health	Innovation	Simavi and Medicos Del Mundo
Thuthuzela Voices	South Africa	Victims assess rape and gender-based violence services	Sexual and reproductive health	Learning and innovation	Foundation for Professional Development
SMS Gateway	Indonesia	Community 'companions' support pregnant women's use of health services	Maternal health	Innovation	Sinergantara
Text2Speak	Nigeria	Community feedback and ranking of services at antenatal clinics	Maternal health	Innovation	Pathfinder
eThekwini WACs	South Africa	HIV patients and community groups report to government on HIV and AIDS issues	HIV/AIDS	Scaling then learning	Durban University of Technology

The following sections examine in more detail the relationships between citizens, civil society, technology, government actors and accountability

within these mHealth projects, and the underlying assumptions of project models.

5. Accountability through information in the seven mHealth projects

As health systems are incredibly complex, there is no shortage of imaginable accountability relationships. In the words of Brinkerhoff:

The accountability landscape is filled with a broad array of actors with multiple connections; in some cases these actors are both accountable to one set of actors while simultaneously exercising accountability with regard to another set ...

These connections create layered webs of accountability with varying degrees of autonomy and sources of control / oversight (2004: 377).

Accountability relationships exist on the most intimate of levels (such as between a community health worker and a pregnant woman, or between a nurse and a supervisor) and on more diffuse and formal levels (such as between remote rural citizens and the

⁷ For more information on these projects, see the following pages of the MAVC website: OurHealth (www.makingallvoicescount.org/project/citizen-journalism-catalyses-debate-accountability-in-south-african-health-care/); CJ Health Insurance Scheme (www.makingallvoicescount.org/project/sloka-institute/); Mobile Mapping for Women's Health (www.makingallvoicescount.org/project/mobile-mapping-womens-health/); Thuthuzela Voices (www.makingallvoicescount.org/project/giving-a-voice-to-survivors-of-gender-based-violence/); SMS Gateway (www.makingallvoicescount.org/project/sinergantara-reducing-maternal-mortality-through-sms/); Text2Speak (www.makingallvoicescount.org/project/sms-service-to-strengthen-accountability-delivery-of-maternal-care/); eThekwini WACs (www.makingallvoicescount.org/project/durban-university-of-technology/)

government ministries located in a country's capital). Broadly speaking, accountability relationships might exist 'horizontally' between government bodies (O'Donnell 1998); 'vertically' and thus unfolding between citizens and different levels of the state; in mutually reinforcing independent or hybrid measures (Goetz and Jenkins 2001); in patchwork combinations of any of the above; or in other possibilities such as if and when private actors partner with the state.

5.1 Five key elements for accountability

Accountability for public services can be seen as involving a number of elements which ultimately ensure that agents (those responsible for carrying out certain tasks) are adequately performing their duties and fulfilling the rights of all citizens. As laid out by the World Bank (2003) and Camargo (2011), these elements are as follows:

- **Clear mandates.** If the responsibilities of agents are not clearly defined, there is potential for abuse. This is true both of service providers and other state actors.
- **Adequate resources and mechanisms for financing.** Agents must be provided with sufficient resources to carry out their mandates, or they will ultimately fail in delivering on their responsibilities.
- **Information-gathering mechanisms.** Information regarding the performance of health service providers and the service outcomes must be consistently collected; the data must be transparent and easily accessible to state actors and / or citizens.
- **Monitoring mechanisms.** A range of actors must actively monitor data collected so as to determine whether mandates are being met and sound the alarm when they are not.
- **Enforcement mechanisms.** Disciplinary actions and sanctions against agents who fail to meet standards must be available, enforceable, effective, and mobilised when necessary.

In relation to health systems, Camargo (2011) and Camargo and Jacobs (2011) emphasise the importance of institutions – understood as both formal and informal rules and practices (North 1990) – in shaping the incentives of agents in health systems. If not carefully balanced and calibrated for contextual realities, formal policies relating to the five elements of accountability listed above (mandates, resources, information, monitoring, sanctions and / or enforcement), along with informal practices of clientelism and patronage, can profoundly distort the incentives of

health service providers and public officials. This can leave citizens, particularly the most vulnerable groups, last on the list of those whom the former feel accountable to. For instance, should formal information-gathering and monitoring mechanisms be in place (and they may be entirely absent in conditions of low institutional capacity and corruption), they may be calibrated in ways that orient health actors towards efficient spending and resource use rather than how well they meet the health needs of the citizens they serve (Madon *et al.* 2010; Smith, Madon, Anifalaje, Lazarro-Malecela and Michael 2007). Further, if it is not clear who is responsible (ill-defined mandates), it will be difficult to demand answerability and to impose appropriate sanctions.

Even when data collection is focused on improving the provision of services available to patients, and when the collated information (detailing failure to provide appropriate health care) is publicly available, this may not generate demands for better accountability or lead to improvements in the health system (Ringold, Holla, Koziol and Srinivasan 2012; Kolstad and Wiig 2010; Peixoto and Fox 2016). This is because the government may not be able to monitor the information, force service providers to change their practices, or impose sanctions (Camargo 2011). Furthermore, community groups, CSOs and others are unlikely to actively engage in accountability initiatives if they cannot foresee their actions leading to a government response that promotes desirable change (Joshi and Houtzager 2012).

All seven mHealth projects funded by Making All Voices Count identified information-gathering mechanisms as the main prerequisite for accountability and assumed that technologies would facilitate this as they allow for faster, more efficient and innovative ways of collecting, collating, transmitting and sharing data. They saw ICTs as offering immediate solutions, without necessarily carefully considering, as prescribed by Peixoto and Fox, how and why these technologies might facilitate citizen engagement and voice and ultimately lead to changes in the behaviour of government and health actors to improve services. All the projects attempted to use technologies (mobile phones or tablets) to capture information on service provision at local level and, through this, to augment citizen voice. Most projects – Text2Speak, Thuthuzela Voices, SMS Gateway, Mobile Mapping for Women's Health⁸ and eThekwini WACs – used technology to actively solicit

⁸ In contrast to the other three projects that encouraged individuals to respond through technology, Mobile Mapping for Women's Health trained enumerators to interview people and, using smartphones, enter the relevant data into an app.

individual citizens' feedback on their experiences of service delivery, needs and / or concerns, and then shared this information with government actors.

5.2 Underlying assumptions

Underlying all of these cases are assumptions that citizens will provide feedback, and that government actors and service providers will be sufficiently sensitive to the data presented to them by civil society to act on it to bring about change. This approach was also based on the idea that, in most instances, relevant government actors were not aware of how citizens experienced particular services. For instance, Thuthuzela Voices developed a 'client experience' app that enabled victims of gender-based violence to report on their experiences at Thuthuzela care centres, with the police, and in the courts, because there was previously no systematic reporting of clients' experiences. The National Department of Health and the National Prosecuting Authority had very little knowledge of what was happening inside the care centres. As a representative of Thuthuzela Voices explained: "The data were being reported on individual pieces of paper all going in different directions, and nobody really knew what was happening with rape cases in South Africa." This in turn meant that it was difficult for the relevant government departments to tailor services to people's needs as they did not know what GBV victims prioritised or felt they needed: "If you don't actually know what the problem is, you won't know how to fix it." The Thuthuzela Voices project envisioned that the app would "create visibility for voice, create space for voice to be heard – in order to see if we can get responses". By presenting and discussing the aggregated data with government authorities and service providers and providing a degree of facilitation, the project hoped to activate change.

Another underlying assumption within all seven projects was that when government service providers became aware of citizens' needs, through technology providing aggregated data, relevant government officials would be sensitive to this information and bring about change. The Text2Speak representative, for example, explained that:

The aim was to be able to get this data, take a look at it, and discuss with the local government officers and officials and health staff so that we can let them know that, okay, in this particular facility, probably family planning information is not being offered even though it should be. And so, we would advocate to the government to do something about it in that particular facility.

The eThekweni WACs and OurHealth projects, both in South Africa, similarly envisioned a technological app as a way of ensuring a flow of information from civil society to relevant government actors. In the first case, accountability was seen as stemming from the way the app would "facilitate dynamic interaction between local civil society and relevant government actors". This involved trained community members observing or experiencing problems on the ground and using the app to report these. Having been alerted, government actors would then take action with their real-time responses being recorded in and visible to all users of the app. OurHealth adopted a similar understanding of accountability, but it trained and paid local health activists to become citizen journalists who would submit information to government personnel responsible for health and publish stories in well-known media. The underlying assumption, as with the other six projects, was that the government would be sensitive to information that revealed problems requiring attention. Thus, accountability for OurHealth was envisaged as "when any government official responds and says 'we've got this' – even the fact that they heard about it – that's an important part of accountability".

SMS Gateway also assumed that service providers were both willing and able to provide appropriate care for pregnant women, and that the main barrier was a lack of information about the specific needs of women with high-risk pregnancies. However, this project differed from the others in terms of when this information was received and how it should be acted on. SMS Gateway had patient-specific information submitted (through a mobile phone app) in advance of a patient arriving at hospital. The premise was that having this information, submitted by pregnant women's 'companions', would allow local health authorities to direct resources when and where they were needed. As one member of SMS Gateway explained:

The programme addressed a disconnection. Pregnant mothers in East Java, especially those in rural areas, usually have difficulty accessing the hospital ... So the SMS gateway identifies the risk in the community and then also it intends to increase the quality of public services ... By identifying the women through the app, the hospital can know when to expect her and what complications she may have so they can accommodate her accordingly.

Thus, in this particular project, rather than envisioning accountability as government actors and providers responding to feedback assessments on citizens' experiences of past care, accountability

was seen by SMS Gateway as requiring information on the needs of patients *before* they accessed health services. The problem of women with high-risk pregnancies not receiving appropriate care when, or if, they made it to hospitals, was framed not as the result of negligence, provider misconduct or lack of resource capacity, but as the result of a lack of information – and technology was the enabler that made it possible to fill this information gap.

As suggested above, theoretical interpretations of accountability emphasise five key elements: clear mandates; adequate resources and mechanisms for financing; information-gathering mechanisms; monitoring mechanisms; and enforcement mechanisms (World Bank 2003; Camargo 2011). All seven projects supported by Making All Voices Count prioritised information-gathering mechanisms with the assumption that, in so doing, other components of accountability were also potentially strengthened; better quality, more regular and appropriate information, along with citizen engagement in monitoring processes, means governments are empowered to design better health policy. This may translate into more appropriate mandates, more efficient and equitable

allocative strategies, and stronger bases for enforcing sanctions on ill-performing health actors.

Further, by emphasising the centrality of citizen voice and engagement in information-gathering processes, the projects also sought to enhance democratic citizenship and participation. Citizens involved with each project may have learned more about their rights and entitlements and the corresponding duties of the state – and have been encouraged to claim these rights, pressuring the state when necessary, while also (by virtue of the information they provide) enhancing state capacity to provide for these rights. Camargo and Jacobs (2011) refer to the institutional pitfalls of accountability in health systems, whether related to mandates, resources, information, monitoring or sanctions, as “key institutional junctures”. They argue that a particular health system problem can ultimately be traced back to such junctures, where accountability initiatives can then be introduced or strengthened. As is clear from the above discussion, the seven projects saw mHealth technology as a way of overcoming some of these key institutional junctures and as offering new ways to shape accountability within health systems.

6. Technologies for accountability: opportunities, constraints and challenges in the mHealth projects

ICTs, and particularly mobile phones, have tremendous potential to revolutionise health systems. mHealth has been seen as a means to massively enhance access to health information and health service provision (Labrique *et al.* 2013: 161). There are examples of SMS-based, government-supported health communications programmes in Bangladesh, Kenya, Rwanda, South Africa, Tanzania and elsewhere, which are designed to improve patients’ knowledge about their personal health conditions and provide health information relating to contraception, family planning and maternal health (Otto, Shekar, Herbst and Mohammed 2015; Vahdat, L’Engle, Plourde, Magaria and Olawo 2013; Mangone, Agarwal, L’Engle, Lasway, Zan, van Beijma, Orkis and Karam 2016; Sarwar 2015; Rajan, Raihan, Alam, Agarwal, Ahsan, Bashir, Lefevre, Kennedy and Labrique

2013). Indeed, there are many mHealth initiatives that have focused on information provision and their revolutionary potential lies in their ability to:

- make it easier for people to find health information (Hampshire, Porter, Owusu, Tanle and Abane 2011; Hampshire, Porter, Owusu, Mariwah, Abane, Robson, Munthali, DeLannoy, Bango, Gunguluza and Milner 2015; Batchelor, Waldman, Bloom, Rasheed, Scott, Ahmed, Khan and Sharmin 2015)
- offer improved communication between online knowledge providers and individuals who have questions or respond to information requests
- offer innovative means of “extending the reach of health facilities” into people’s homes by connecting sophisticated external devices that collect data and undertake medical assessments to people’s mobile phones (Labrique *et al.* 2013: 163)

All seven projects saw the technology that was embedded in, or made possible through, mobile phones, tablets or other portable electronic devices as critical to their vision of accountability

- use mobile phones to provide information and guidance that supports community health workers' provision of medical services.

However, few of these projects have focused explicitly on accountability, despite mHealth's potential to collate information on citizens' needs and their experiences of health service delivery. Yet it was this feature that all of the seven mHealth projects envisaged to lie at the heart of their health and accountability initiatives. All seven projects saw the technology that was embedded in, or made possible through, mobile phones, tablets or other portable electronic devices as critical to their vision of accountability. All believed that "a technology solution would assist" them and, in turn, all reported positively on this. In SMS Gateway, the technology made it possible for volunteers (known as 'companions') assisting pregnant women to communicate with health service providers about high-risk pregnancies. While government and health department staff would not normally have the means to hear these local-level voices, the technology made it possible for them to identify women with high-risk pregnancies. As one project member explained, "It's about a disconnection [between service providers and community representatives] and how the system can fix the disconnection between the pregnant women and the health system and the community. The SMS gateway has done that."

In the case of OurHealth, which had previously been using more conventional reporting systems (Microsoft Word and / or paper systems), the app made a big difference to the citizen journalists. Previously, they had to write everything down in notebooks and travel (sometimes long distances) to Internet cafes to type up and submit their reports, whereas the app meant they could type up and submit their reports wherever they were. It also helped project managers monitor the journalists through geo-tracking, thus making it possible to confirm that clinic visits were taking place. Finally, it helped with the data collection and analysis:

It was so hard collecting the data [before the app]... I had to sit in, and go through all the stock-out reports, and put them in an Excel

sheet. Then there are so many tabs, and so many spreadsheets, it becomes hard to even actually analyse it. With the mobile app, it was so much easier, because everything would just drop into one server and it was automated.

Mobile Mapping for Women's Health also found the technology extremely helpful in terms of data collection and analysis:

[Technology] allowed us to do more. We had four different surveys in one tool, so the comparisons we've been able to make – that's been made easier. We had the health facility surveys and household surveys, which were different based on whether the women had been to the health facility in the past six months or not, which allowed us to also focus on why they hadn't been, and what barriers they might have experienced or their attitudes towards sexual and reproductive health, and we also had the male involvement survey. This would have been much more complex if we'd just had paper-based tools. In terms of time for the enumerators, it's been much easier. The data was stored locally, and was only uploaded once a week when the enumerators gathered at the local office, so there were no issues with connectivity. And they have been collecting data, and they can now skip the step where they have to enter data into a computer in an office or somewhere. You also facilitate problems of data getting lost or corrupted.

Like OurHealth, Mobile Mapping for Women's Health had previously used paper-based accountability tools such as scorecards. It found that the use of smartphones saved staff time, enabled the collection of more and richer data, and enhanced analysis by making it easier and more fruitful as it facilitated complex comparisons. However, from the point of view of project staff, the technology did more than promote information gathering and analysis: they saw the maps as generating strong, visual evidence "showing very clearly to government stakeholders which health centres are performing well in a certain area and which are not".

6.1 Challenges encountered

The use of technology to enhance accountability by Mobile Mapping for Women's Health and the other projects was not without its problems. While the smartphones made data collection quicker and easier, a range of challenges were experienced. These included: (1) negotiating with technological partners to decide on the project design; and (2) overestimating people's abilities to use technologies. These are explored in more detail below.

1. Negotiating with technological partners and deciding on the project design

Mobile Mapping for Women's Health, as with the other projects, had not anticipated how much time and effort would be needed for technological development. Although the organisation had worked with a private sector partner previously, developing the smartphone app was not straightforward as there were different expectations of what the tool would do and how the data would be analysed. Whereas project staff working on Mobile Mapping for Women's Health had envisaged the map being generated as part of the app, the project's technical partner saw it as a survey tool linked to GPS codes. OurHealth and the CJ Health Insurance Scheme also found that they had to invest a lot into the technological design side, that their technical partners were "incredibly slow" and that these partners were not really able to deliver what the projects hoped for.

One thing I realised was using technology is, at the end of the day you can't leave it to the developer ... When I first saw it [the app] I thought, what will people do with this? People will not be able [to use] this. So that's what civil society does. We leave it to the developer, but they don't actually know what you want. So I realised that I had to drive a bit more, to say this is what I want, you [the technical designer] are just developing a platform.
(OurHealth project staff member)

These challenges were further complicated by the fact that those leading these projects also did not necessarily have the skills and expertise to work with the technical designers:

We tried to accept new technology, to use new technology, but we have to admit, it's something we don't really have experience with. We have expertise in citizen journalism, but not for apps.
(CJ Health Insurance project staff member)

This unfamiliarity with technology on the part of project staff, and the slow pace of their technical partner, eventually resulted in the CJ Health Insurance project having to abandon the development of the app. Other projects also mentioned time as a constraint. SMS Gateway, for instance, reported having to spend longer than anticipated on developing the app to ensure that it was aligned with existing processes for identifying risky pregnancies in the district and that information would flow to the right stakeholders. Project staff from Thuthuzela Voices detailed how learning from the research phase of their initiative led them to the conclusion that two apps were necessary if accountability and service capacity were to be meaningfully enhanced. This, of course, took additional time and money, and project representatives suggested that the timeline prescribed by Making All Voices Count was unrealistic: "To develop innovation and test it and run it – it was a pipedream to think you could do it properly in 12 months ... This idea that innovation is fast, or sustainable adoption of innovation is fast – is something that in my experience is just not true."

Getting the appropriate technology designed in a timely manner while working with private partners who are not necessarily on the same page was one challenge; a second challenge involved understanding what was needed to maximise stakeholders' ability to use these new technologies for health accountability.

2. Getting the technology right for different stakeholders

Given low levels of literacy (including technological literacy) among target groups, Mobile Mapping for Women's Health decided to use trained enumerators to collect data from community members on smartphones rather than attempting to solicit data directly from citizens through SMS, as several projects did. This enabled them to collect additional and more sophisticated data, and to include community members who did not have access to (or know how to use) mobile technology. The project also, however, envisaged collating digital maps and presenting these back to the communities for validation and discussion, and to generate collective investment in positive change. This was more difficult than expected, in part because low literacy levels meant that many community members could not read these maps, but also because of a lack of resources locally (such as projectors) to display the maps in digital

format. As one representative explained, “It was very difficult to show the communities the whole maps ... so what we are trying to do is just reading the map and explaining to them that this map is related to which of the discussions”. However, while the maps were not entirely useful in these community sessions, as noted earlier, project staff expected that they would provide clear and compelling evidence on which government actors could take action for positive change.

Thuthuzela Voices also found that the “technology capacity of the different stakeholders was very different”; this meant they had to use different technologies to cater for the needs of diverse stakeholders (such as the “many different types of data” needed by authorities and providers) and the accessibility requirements of GBV victims. Despite high levels of smartphone reach, many of the service users had limited access to data and airtime, which partly explains why the project decided to develop two interoperable apps. The first, a client experience app, focused on feedback from victims of GBV, enabling them to rate their experiences of legal, police and care services through a simple, no-cost SMS app, which could be accessed using a modest feature phone (Mahlalela *et al.* 2017; Johnson *et al.* 2017).⁹ The second, a case management app, was to be targeted at service providers and would enable them to follow victims through the system, and to push reminders and information to them while also prompting them to leave anonymous feedback through the client experience app. This feedback would later become available to service providers in ways that preserved patient anonymity. These tasks required a more sophisticated app for which the project, limited by the short timeline of Making All Voices Count, secured additional funding from alternative donors.

In Nigeria, Text2Speak also encountered the challenge of limited technological capacity among its target group (pregnant women), although the low patient response rate in this initiative was attributable to a range of factors. Despite offering phone recharge cards as a reward for participation in its SMS feedback system, only 20% of clinic users (556 women) offered feedback through the app. Although this was in line with response

rates in other Nigerian campaigns, Text2Speak investigated further and found that a number of core factors contributed to this. These included illiteracy, unfamiliarity and discomfort with texting, and the fact that the app (which required users to enter a code word each time they answered a question) was not easy to use.

It also became clear that many people had not been adequately informed of Text2Speak and were unaware they would receive a text soliciting feedback: “We found out that we did not do enough sensitisation and awareness so people were not aware that they would be receiving these messages after their antenatal visits.” As discussed later in this paper, Text2Speak had relied on health workers to inform pregnant women that they would be receiving these messages, but had failed to consider that health workers might feel threatened by the feedback and thus were reluctant to adequately inform patients. This lack of sensitisation would influence and interact with several other factors around citizen engagement (discussed further below).

Text2Speak also used mobile technology to reward women who did provide feedback, providing them with phone recharge cards, and this, too, proved problematic. The project found it very difficult to integrate the app with all Nigeria’s telecommunications networks and, in the end, had to accept that they could only provide recharge cards for those registered with a couple of specific networks. This meant that women who used other telecommunications providers had visited the clinics, been informed that they would be asked to provide feedback, and had been promised recharge cards for this, yet had not received the promised reward. When this credit was not forthcoming, it strengthened women’s resolve not to participate in Text2Speak and they deleted the text messages.

Reflecting on these experiences, one member of Text2Speak project staff said:

In retrospect, a lot of groundwork should have been done before the text messages had been sent out. One of the things we could have done better was to actually sit down with our target populations, which were the health-care

⁹ Thuthuzela devised a very simple structure for reporting. Clients were given the choice of rating health-care providers, legal services and the police. They were then asked to rank, on a five-point Likert scale: (1) the rooms and environment; (2) the staff they engaged with; (3) the services they received; and (4) the information / advice they were given. Finally, clients were given an opportunity to add their own open-ended comments and tended to say things like: “Police at _____ were very rude”; “It was dirty at the centre”; “I had to wait a long time”.

Several projects, including those that reported positive outcomes, experienced disconnects between their expectations of what the technology could do, what it actually did, and the implications for accountability

workers themselves, the clients we wanted to give an opportunity to provide feedback, and even the government officials who had the influence to make changes. Through stakeholder meetings, we could have identified the challenges in the system beforehand, and get them to articulate the solutions for those challenges and then we recommend technology as an enabler for that solution.

Text2Speak was not the only project to reflect that, in retrospect, too much emphasis had been placed on the technology and insufficient attention paid to creating a receptive environment for its use. The app used by eThekwini WACs was complex enough to warrant training and while the project had trained some community development and health workers on how to use it, their reports remained in limbo as their supervisors had not been trained, and thus were not responding to those reports. Due to changing political climates and issues of buy-in among government stakeholders, the project was ultimately unable to train these senior government actors (discussed further below). As with Text2Speak, eThekwini WACs overemphasised the technology while paying insufficient attention to the relationships needed to make this technology work to achieve their goals.

The OurHealth project had tried to develop an app that was easy to use and, because they were primarily interested in reporting medical stock-outs, asked for yes / no answers. The project found, however, that the issues around medical stocks were far more complicated than simply whether medicines had been delivered or were available in clinics. In some instances, for example, the medicine was not available at a clinic, but had been ordered and was waiting at the depot or was in transit, so as far as government personnel tracking the supplies could see, there was no stock-out to warrant attention. The organisation found that it needed to be able to capture these more nuanced details about where the medicines were and why they were not available at each clinic. This was particularly important as incorrect reporting

enabled the Department of Health to dismiss their claims, thereby undermining rather than enhancing the project's attempts to increase accountability. All seven projects envisaged using technology as a means to enhance accountability. In all instances, it was believed that the technology would reduce the gap between communities' or citizens' perspectives and experiences and that of health service providers. This approach worked for some of the projects – Thuthuzela Voices, OurHealth, SMS Gateway and Mobile Mapping for Women's Health – all of which reported positive, but perhaps unanticipated outcomes. However, as shown above, the use of technology is not without its own challenges. Several projects, including those that reported positive outcomes, experienced disconnects between their expectations of what the technology could do, what it actually did, and the implications for accountability. Text2Speak, eThekwini WACs, Mobile Mapping for Women's Health and OurHealth were included in this category. Text2Speak, as already mentioned above, was particularly reflective on its over-reliance on technology, while overlooking other factors:

We saw what technology could achieve and when we had to adapt to the situation on the ground, we were just going ahead with what technology could achieve without actually considering the reality on the ground, the context of the community where we wanted to implement our solution – these were things that should be in place even before technology comes on board.

Thuthuzela Voices emphasised the importance of these broader contextual issues, explaining that “the challenge is not the technology: the challenge is [sustaining the collection] of results, and creating the pressure to be responsive to what it says.” As discussed in the following section, creating the conditions in which technology can enhance accountability depends on a wide range of factors including the possibilities for citizen engagement in relation to health system accountability.

7. Citizen engagement and accountability in the mHealth projects

As discussed earlier, building accountability can be achieved through the long route, the short route, or through more strategic (sandwich) strategies (World Bank 2003; Camargo 2011; Fox 2015). The long route requires certain features: inclusive democratic institutions; that elected officials (or those appointed by them) have adequate information on population health needs and the will to design appropriate health policies that shape the incentives of health actors to meet these demands; and that it is possible to know about the activities of health actors and health outcomes at lower levels of provision. This enables the state to adjust policy when necessary (such as redirecting resources) and to impose sanctions on those who fail to perform.

In this scenario, citizens engage by expressing their policy preferences through voting, but it is the state that ultimately designs health policy, including setting up data collection mechanisms which can then, in addition to citizens' votes, inform policy-making. Because of the high institutional requirements for long-route accountability – including fair and inclusive electoral processes, political stability and regular, quality information to inform national policy – this 'state-centric' long route has not been seen as a promising course for LMICs, which tend to lack substantial institutional capacity.

The short route to accountability involves more intimate citizen engagement, often directly with service providers at localised levels. There are two main strategies associated with short-route accountability: the first, market exit, is notoriously unreliable in the context of health systems and the exercise of citizen voice.¹⁰ The second, also termed 'social accountability', involves the use of citizen voice to communicate with providers and is popular in contexts where formal accountability mechanisms

are weak, and where poor and marginalised groups are frequently overlooked by the state (Sirker and Cosic 2007; Ringold *et al.* 2012; UN 2013). However, as discussed earlier, social accountability initiatives that have not engaged state actors in mutual efforts to improve accountability have frequently failed, prompting calls for more strategic approaches. Most of the seven mHealth projects supported by Making All Voices Count can be seen as sandwich strategies, in which citizen engagement was encouraged from below, while sympathetic allies from within the state were also mobilised for change. In this section we focus on how these projects engaged with citizens and consider what implications this had for accountability.

7.1 Project models of citizen engagement and implications for accountability

While each project engaged citizens in slightly different ways, all of them held an underlying assumption that citizen voice – whether in the form of aggregated individual assessments of health services and / or mediated through civil society members and meetings – was necessary to build accountability. One factor that had a significant bearing on the projects' perceived success was the use of 'offline' spaces; these sometimes allowed citizens to come together to discuss their limited access to and poor quality of health services, reflecting on their rights to these services and the reasons for their exclusion; in other cases they allowed citizens to share information about the technological apps and accountability initiatives they were part of.

Text2Speak felt there was no "culture of accountability" among the pregnant women in their target group

¹⁰ Market exit, in which citizens opt out of poorly functioning public services for better market alternatives, tends not to be a very viable strategy in health systems, especially for poor people. There are several reasons for this, including: citizens not knowing that providers are being negligent (Ghosh 2008); a lack of viable market alternatives; and costs associated with switching. Moreover, marketised options may exist, but may exploit rather than serve poor people (Bloom *et al.* 2012). While mHealth is creating new health markets (He, Naveed, Gunter and Nahrstedt 2014) as private companies and entrepreneurs sell lifestyle and health-related products in LMICs (Ahmed, Bloom, Iqbal, Lucas, Rasheed, Waldman, Khan, Islam and Bhuiya 2014; Lucas 2015; Akter, Ray and D'Ambra 2013), there has, to date, been little exploration of mHealth markets as a form of health system accountability that benefits poor people.

The project hasn't really helped accountability, because accountability is a culture and that culture wasn't existing and we didn't do anything about trying to develop that culture before we deployed the solution

and that this was a major challenge for the initiative. This issue was particularly central to why Text2Speak representatives believed their project failed: "The project hasn't really helped accountability, because accountability is a culture and that culture wasn't existing and we didn't do anything about trying to develop that culture before we deployed the solution." When exploring why there was such a low response rate to text messages soliciting feedback from patients who had visited the antenatal care clinics, the project discovered that "many of them just felt that their voices would not be heard and didn't think that anything would be done about it. There was no confidence that their feedback would amount to any action."

Another problem identified by this project was that many of the pregnant women involved "don't even know that they should have better services" and that "they are not aware that what they are being offered is below standard and they should ask for more". These factors, which left women reluctant to participate in the project, were exacerbated by the fact that virtually no community sensitisation or outreach had been built into the project model. Rather, the task of informing women to expect text messages was left to clinic staff with whom the project had also failed to build relationships and trust; it was therefore not able to overcome health workers' perceptions that patient feedback was a threat to their jobs. The fact that women were unaware they

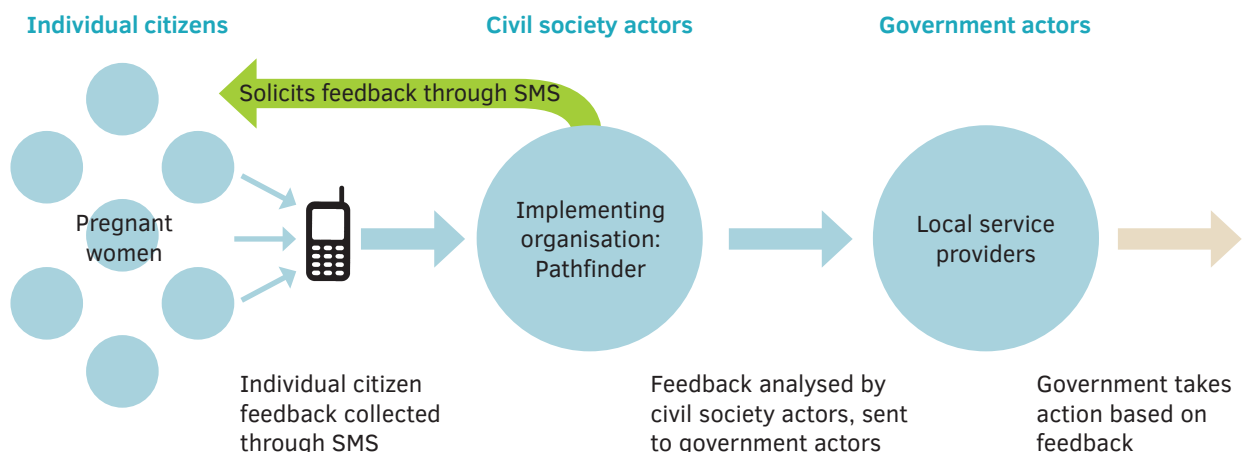
would receive text messages asking for feedback was compounded by cultural practices around concealing pregnancies, and women's low levels of literacy (including technological literacy). Women were also suspicious of text messages about their pregnancies from unfamiliar numbers, while many of them were also uncomfortable with texting.

On reflection, a project representative explained that:

If I'd had the time, I would actually have spent a lot of time in the actual communities where we implemented this project, engaging them, bringing them together ... trying to develop a common trust among them, trying to have a common mind-set of wanting to improve the quality of services ... Getting everybody to be the one to even start organising these meetings themselves and even start pushing it – and then introduce our technology as an enabler to maximise and amplify their voices.

So while acknowledging the role of deeper citizen engagement in hindsight – such as the potential for citizens to themselves demand and organise for change – this project failed to involve them in any meaningful way. It assumed that simply soliciting their feedback through SMS would result in enough responses that, when aggregated, analysed and sent to government officials, would lead to change. Figure 1 illustrates this project's vision of accountability.

Figure 1 Text2Speak accountability model



One factor common to several other projects that seemed to contribute to success in reaching their accountability goals was the leveraging of offline spaces for collective citizen engagement

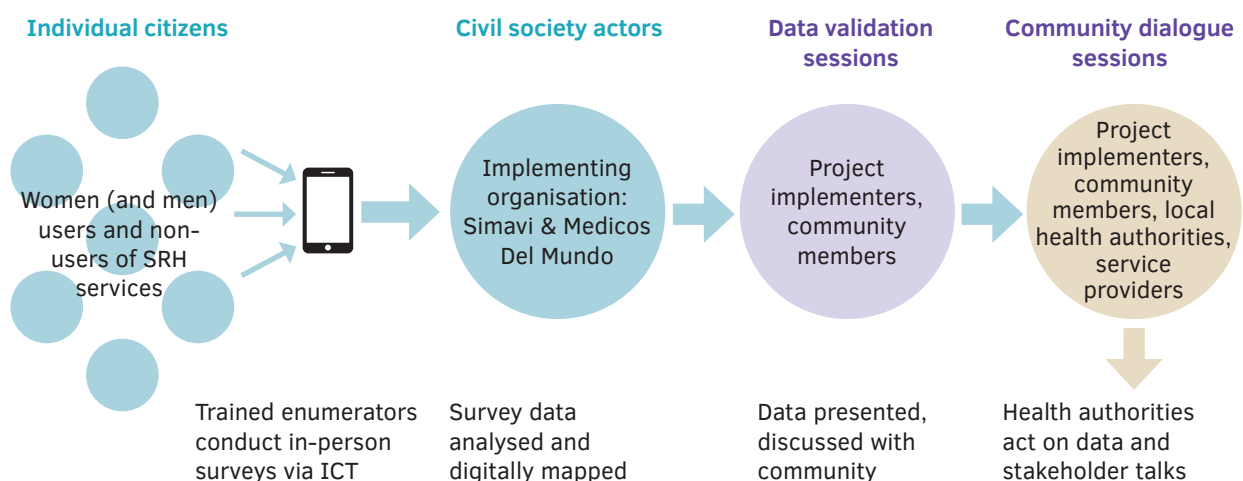
On reflection, Text2Speak regretted not having engaged with the community members on a face-to-face basis. In contrast, one factor common to several other projects that seemed to contribute to success in reaching their accountability goals was the leveraging of offline spaces for *collective* citizen engagement. Mobile Mapping for Women’s Health, for instance, greatly emphasised citizen engagement in offline spaces. First, data was collected in person at community members’ homes by trained enumerators using smartphone apps. The technology itself generated interest among the community members, encouraging participation and buy-in among women and men alike. Project representatives suggested that this in-person experience and the novelty and draw of the technology gave participants a sense of personal investment in learning about the results and witnessing positive change. A next step involved data validation sessions held at pre-existing village-level meetings attended by community members and local health personnel who were themselves members of the community. Here, findings from the data were presented, along with printed copies of the digital maps, which were discussed. This not only provided a means to validate and discuss the data with community members, it also engaged those local-level health actors in attendance for accountability, as one project team member explained.

Because they’re [local health workers] attending the community data validation meetings as well, and they’re hearing the feedback from the community, so based on the reaction, they are reflecting on their own behaviour and on how they treat women, or how the services they provide can create an impact. That’s creating a willingness to change.

Thus, these village-level, in-person data validation sessions seemed to activate the intrinsic motivations of local health personnel to make changes that were within their capacity. At the same time, they were also empowered to “see they’re in a position to hold the district health authority responsible for not enough resources or budget allocations”.

After data validation sessions, the project also facilitated offline community dialogue sessions, involving community members, local health personnel and local government health authorities to discuss the responsibility and actions needed from both government and the community. Figure 2 illustrates how the project envisaged accountability, showing how *offline* spaces played a central role while technology was used as an enabler of data collection and analysis to support these offline activities.

Figure 2 Accountability model for Mobile Mapping for Women’s Health



As the project was still in progress at the time of interview, the community dialogue sessions had not yet taken place although project staff were confident they would lead to productive results: “We anticipate that the link that will be created between community and local health authorities in these dialogue sessions will make sure the attitudes and behaviours of government actors and other stakeholders are influenced and make them more responsive” (Making All Voices Count narrative report 1.1: 18). As discussed in the next section, this confidence also came from the fact that the organisations running this project had longstanding good relations with the local health authorities and had secured their cooperation and buy-in for this project.

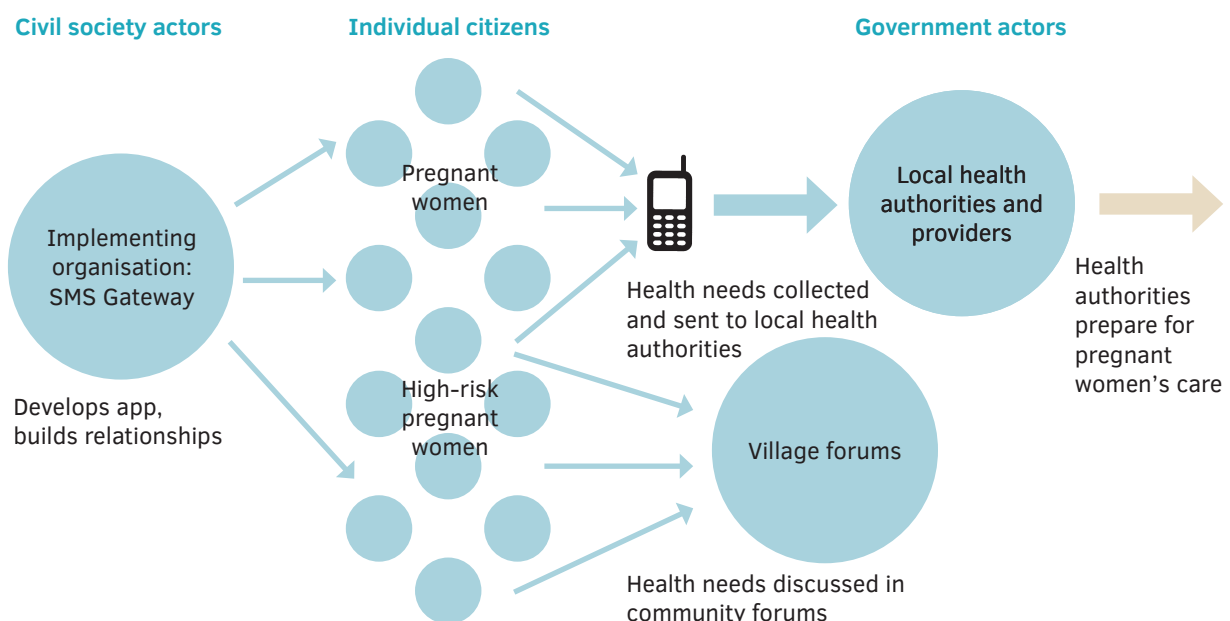
Like Mobile Mapping for Women’s Health, SMS Gateway also had a mechanism for offline collective citizen engagement and similarly took advantage of pre-existing village structures. In these already established forums, pregnant women and other community members (volunteers, community health workers and others) met twice monthly to discuss health issues around pregnancy (including identification and management of high-risk pregnancies) and to coordinate transportation:

The forum could be very active in sharing about their experiences of how to handle the high-risk pregnancy and also they discuss how to get to the hospital, how to get the ambulance ... There’s no public transport so they depend on the neighbours who might have a car. It might be arranged in the forums who can take them to hospital.

The mobile app was supported by community-organised meetings where pregnancies, hospital transport and other related issues were discussed. The app provided a tool for connecting the individuals involved – namely pregnant women and their ‘companions’ – with health authorities and service providers so that they would know when to expect the women at hospital (see Figure 3). So while these offline spaces were not aimed explicitly at discussing shortcomings in existing services – activities more typically associated with ‘accountability’ – they were spaces where individual women’s experiences and needs were reinterpreted collectively. They also educated community members on expected levels of service and – it thus seems reasonable to assume – that attendees were more able to assert their claim for this when accessing hospital services. Thus, in this case, a common interest in the wellbeing of pregnant women in rural communities was translated into activity online and offline to mobilise for improved care.

In the case of Thuthuzela Voices, citizen engagement in offline spaces came primarily in the research stages of the project. During this time, women survivors of GBV who had accessed services through the care centres were recruited to participate in focus groups designed to understand what survivors prioritised, whether they would find a feedback app acceptable, and how they envisioned such an app. Project representatives said that in these sessions, “There was quite a lot of expressed solidarity saying that ‘if my

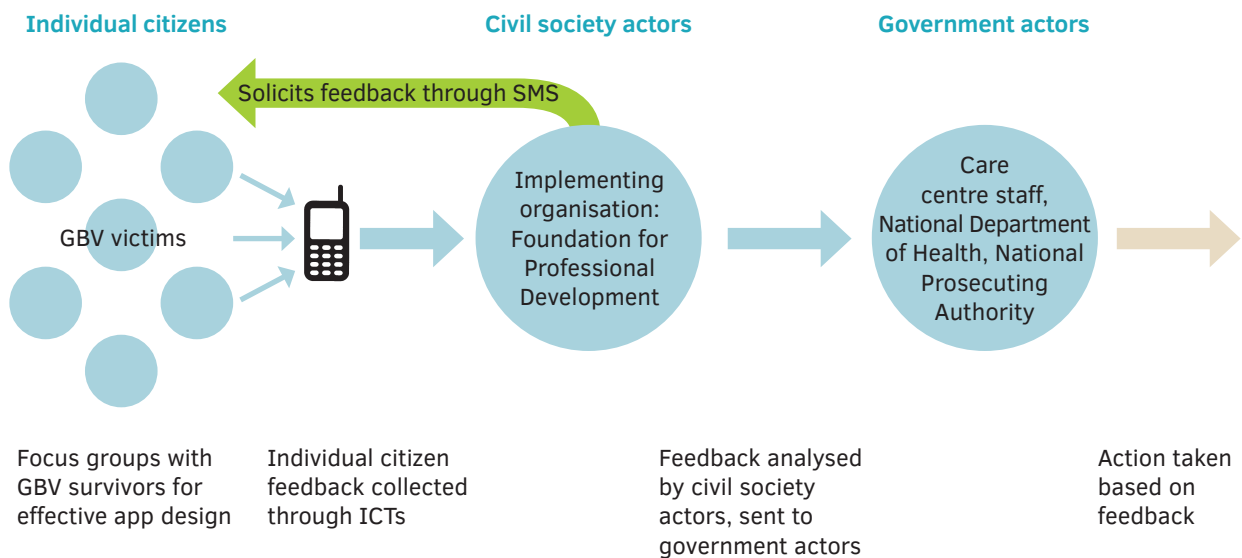
Figure 3 SMS Gateway’s accountability model



voice will make a difference for other people then I'm happy to share it." Thus, in contrast to Text2Speak, by bringing these women together and earnestly consulting with them, they were able to cultivate a sense among participants that their voices were valuable and would be used to advocate for real change. And while the technology itself was ultimately quite limited in its functionality – it could not, for example, accommodate an expressed wish by participants to have an embedded peer support platform, or allow for participants to see others' feedback – the project made efforts to share these wishes and suggestions with other organisations working on GBV, as well as with the National Prosecuting Authority and National Department of Health. It was also in these offline spaces with survivors that the project learned how important it was to the women to be able to rate police and legal services, something they had not initially considered.

While Thuthuzela Voices' intervention was similar in its functioning to that of Text2Speak – text messages soliciting feedback from individuals who had accessed services (see Figure 4) – the response rate was much higher (although the actual number of women accessing these services was much lower). The women knew that they would be receiving text messages as they were informed and encouraged by staff in the care centres, and given flyers explaining the initiative and stressing the value of their opinions. These flyers also had the entire survey printed on them to demonstrate its brevity and ease of use. Ultimately, while offline spaces only engaged service users in the research phase of the project, their input ensured that the implementation phase was better suited to women's needs in terms of ease of use and acceptability of the platform, enabling women to rate police and legal services.

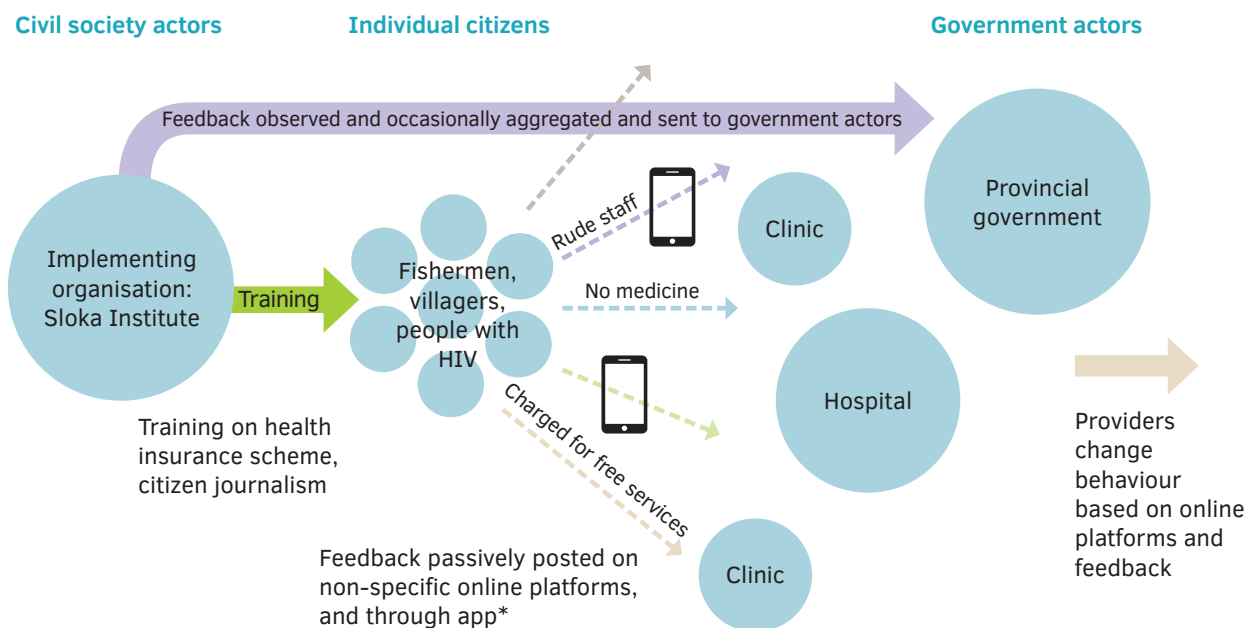
Figure 4 Thuthuzela Voices' accountability model



The CJ Health Insurance Scheme's model of accountability envisioned strong citizen mobilisation demanding accountability for Indonesia's newly introduced public health scheme. The project trained citizens (fishermen, villagers, people with HIV, among others) on the responsibilities of service providers, their rights as citizens under the scheme, the principles of citizen journalism and accountability, and also on how web-based platforms could be used to make demands. With this training, they were encouraged

to post feedback on health services associated with the national health insurance scheme via social media (e.g. on service providers' Facebook page and other websites). An app was also envisioned, but for reasons discussed earlier, was never developed. The project thus relied on citizens using their training to post appropriate reports on a number of online platforms; it also relied on service providers being interested enough to go to these sites, read the feedback, and make changes accordingly (see Figure 5).

Figure 5 CJ Health Insurance Scheme’s accountability model



(* the app was not developed)

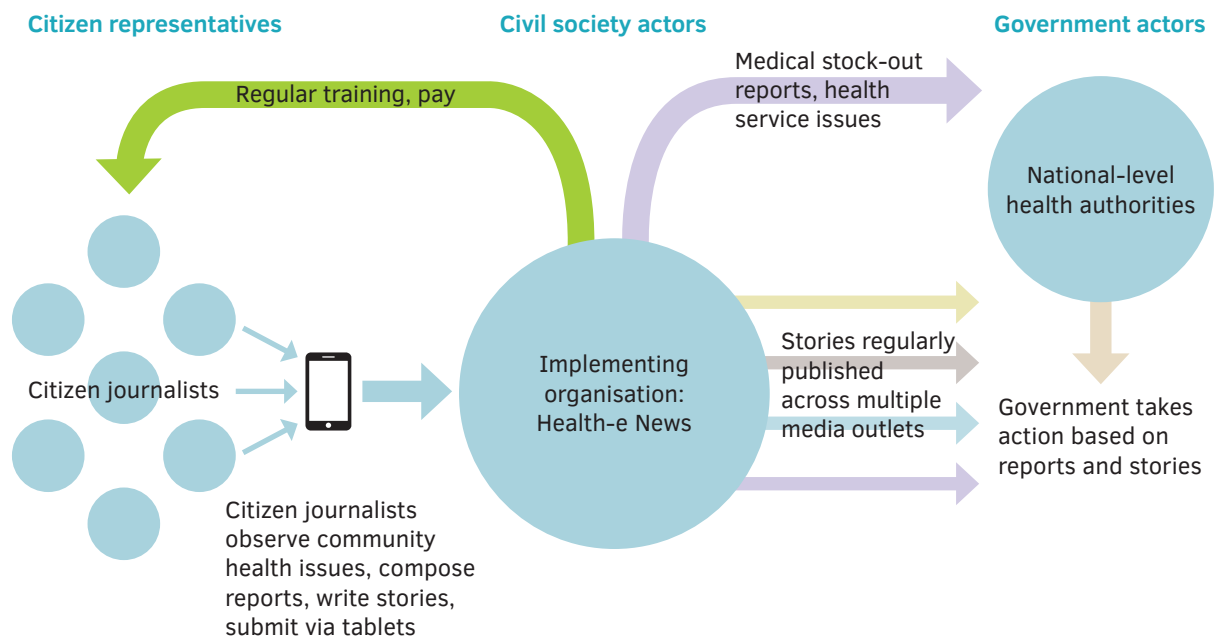
It was, as one project member explained, the citizens’ ongoing monitoring of the insurance scheme that was expected to put pressure on service providers to bring about change: “Citizen participation is really important and how we can create accountability. If they’re monitoring, if they are involved, I’m sure it can create accountability.” However, representatives from this project reported a lack of enthusiasm: “What I have seen so far, for me, is there is still a lack of participation. It has a bit increased, but it’s not what I imagined.” So while noting that some users were “really using social media to criticise this programme”, the scale of uptake was far lower than was initially hoped. This was explained as primarily due to the insurance scheme still being relatively new and the difficulty of identifying citizens who had actively used, or would be likely to use, the service. Later on in the project however, the CJ Health Insurance Scheme formed a relationship with a schizophrenia-related civil society group and trained a number of associated individuals who went on to be highly active.

As in the projects discussed above, leveraging the energy of an established social group with common interests, in this case a local schizophrenia advocacy group, was instrumental to more meaningful citizen engagement and interest. However, as we discuss in the next section, the primary and most problematic factor in terms of citizen voice being translated into actual changes to

health services in this project was not lack of citizen participation, but the absence of government allies. Without sympathetic actors applying pressure from the top to address problems brought to light, the project representative could not point to instances where the activities of the initiative led directly to change. Thus, in envisioning accountability as ultimately stemming from citizen participation, this project was unable to close the feedback loop.

Representatives from OurHealth perceived their project to be fairly successful in terms of enhancing accountability. Change agents were community-based health activists who had been recruited, hired and trained as citizen journalists and in accountability and governance. Thus in this project, wider citizen engagement was mediated through these citizen journalists – already familiar with health issues in their communities and engaging as health activists – who were charged with advocating for poor and marginalised health service users. Having secured permission from health authorities to access local clinics on a monthly basis, these journalists were tasked with monitoring medical supplies and reporting on other health-related issues in the clinics and in their communities. Their medical stock-out reports, created on a specially designed mobile app that kept track of essential medicines, were sent to national-level health authorities, as well as shared with another CSO working on stock-out monitoring (see Figure 6). In the event

Figure 6 OurHealth's accountability model



of a stock-out, national health authorities were informed, and the specific clinic was given a set period of time¹¹ to resolve the stock-out before the citizen journalist published the information publicly.

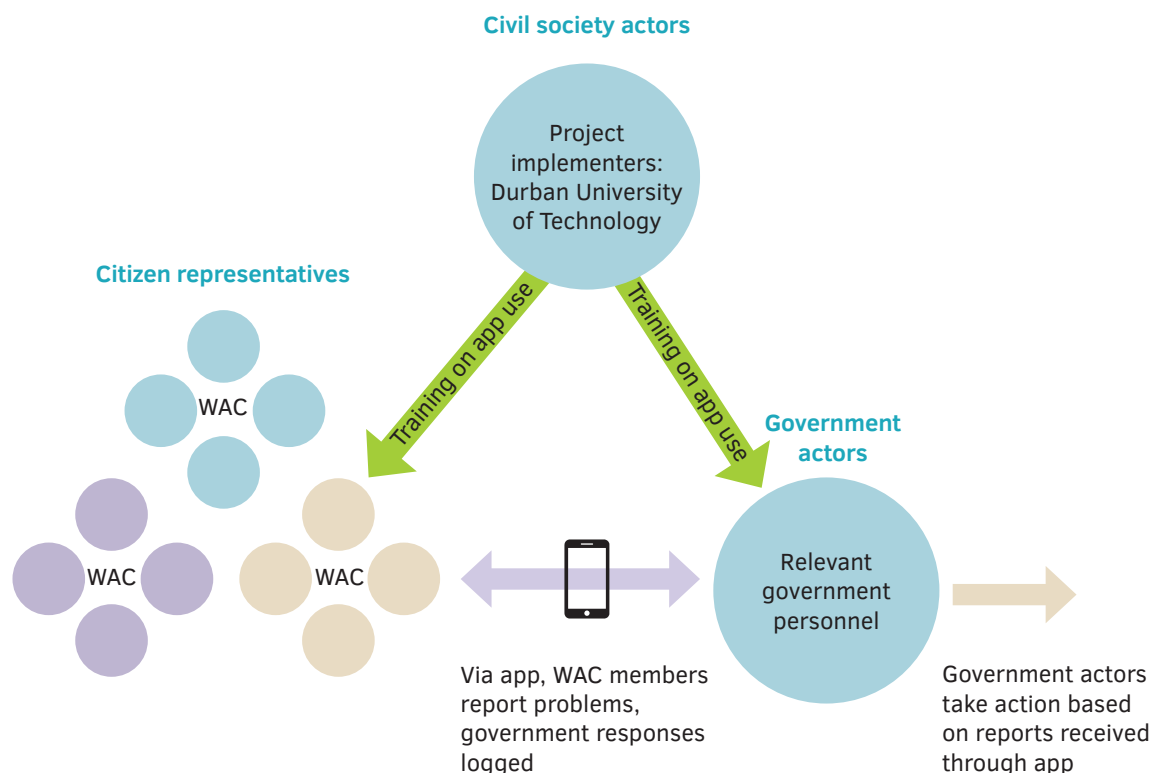
OurHealth citizen journalists also monitored health issues at the community level, both inside the clinics and elsewhere. The project reported that, as with the stock-outs, these issues (which were published in local and national media and in languages accessible to both audiences) were frequently resolved. The following example was given by our interviewee: a citizen journalist who reported the lack of running water in his local clinic was able to garner enough attention through his news story that the problem was resolved by his next visit. OurHealth argues that citizen journalists' stories have also been instrumental in bringing to light emerging, previously ignored or under-appreciated health issues, and that these stories have led the government to respond. And, as the stories frequently activated government responses to problems, the citizen journalists had "become like heroes in their communities". While citizen concerns are essentially interpreted by these citizen journalists, the project engages a wider citizenry in a more removed but potentially

transformative way: by publicising the journalists' stories across a range of channels, other health advocacy groups and individual citizens are armed with information to demand change, online and offline.

Although eThekweni WACs were not able to carry out their initiative as planned, the project had a similar model of citizen engagement to that of OurHealth, in that citizen concerns were meant to be interpreted by select community members – individuals who had been active in HIV/AIDS advocacy in local committees – and relayed to relevant government officials. The plan was that, after being trained, these citizen representatives would use the specially designed app and two-way platform to report problems observed on the ground, as well as upload notes of local HIV/AIDS-related community advocacy activities, and be able to track government response in real time. This data would only be visible to those who had access to the app, particularly government representatives in zonal, district and provincial AIDS committees. In this way, senior government representatives would receive relevant, local information upon which they could take action, should they be willing to do so. This privileged access to information would avoid broader citizen scrutiny and any political embarrassment for government officials.

¹¹ This was initially a fortnight, but later extended to a month.

Figure 7 eThekweni WACs accountability model



Citizen voice and engagement were thus seen as instrumental to accountability in different ways across the seven mHealth projects. For several (Text2Speak, Mobile Mapping for Women's Health, Thuthuzela Voices and SMS Gateway), citizen voice – in the form of aggregated individual assessments of health services – was the essential component in making the case for improved services to government actors. We have also shown how, for some of these projects (Mobile Mapping for Women's Health, Thuthuzela Voices and SMS Gateway) such individual service assessments / expressions of need were made greater than the sum of their parts by leveraging offline spaces to engage and bring citizens together collectively to discuss the data, their rights and the responsibilities of stakeholders, intervention design, and / or how action could be taken to improve health outcomes in the community. Text2Speak, by contrast, lacked these offline spaces and relationship-building

efforts, leaving project members to reflect on how neglecting citizen engagement contributed to rendering their initiative ineffective. However, as the experience of CJ Health Insurance Scheme illustrates, offline citizen engagement spaces – and / or information on citizens' rights and the responsibilities of health service providers – do not always lead to sufficient mobilisation for change. OurHealth and eThekweni WACS offered a completely different model of citizen engagement, yet the latter project did not advance far enough for this to swing into action. It was derailed by a number of political factors, both in and outside project members' control (discussed further below). While this section on citizen engagement has considered one dimension of the 'sandwich strategy' – that of citizen participation and cooperation for accountability – the next considers the role of government actors in mobilising for accountability.

8. Political processes, government involvement and mHealth accountability

Political support and commitment had a significant effect on project outcomes. In line with the observations of accountability scholars (Devarajan *et al.* 2014; Peixoto and Fox 2016; Fox 2015, 2016; Joshi 2014; Lodenstein, Dieleman, Gerretson and Broerse 2016), actionable support and cooperation from relevant government actors was a necessary condition of project success.¹² As discussed earlier, problems of accountability are fundamentally the result of unequal power relations and abuses of power. To tackle these imbalances requires those with power to operate in transparent ways and to justify their actions. It also requires sanctioning those that fail to perform their public duties (Schedler 1999).

However, these mHealth projects were based on assumptions that government actors would respond to non-political factors such as information on health issues, whether this be aggregated individual assessments of service experience or problems brought to light by citizen journalists or other civil society actors. The likelihood of this happening was greatly increased where relevant government personnel were strongly supportive throughout the course of the project. By this, we mean that they were not only supportive in their rhetoric, but were vested with enough authority and had access to sufficient resources to act on this information, and / or to activate accountability mechanisms embedded in government structures. Where projects lacked these supportive relationships with key government decision-makers, it was much harder to achieve their goals of strengthening accountability.

8.1 Role of government in mHealth for accountability

Recognising this, Making All Voices Count has sought to support initiatives that not only engage citizens but that are also actively supported by

government officials. In this section, we discuss the other essential dimension of the 'sandwich strategy' approach – government involvement (Fox 2015). We show how projects that had cultivated mutual working relationships of trust with government partners – including service providers and / or local or national-level officials – perceived themselves to be more successful in reaching their accountability goals and, ultimately, shifting the distribution of power. However, we also demonstrate how these relationships could not be taken for granted, and how for many, the Making All Voices Count project timeline constrained efforts to establish and / or develop these relationships to full effect.

All the projects examined in this paper were spearheaded by CSOs. This is in contrast to some accountability initiatives which, while seeking to involve citizens, are led by government actors (e.g. the participatory health councils of Brazil) (Coelho 2006; Cornwall and Shankland 2013). Of the seven projects, Mobile Mapping for Women's Health, OurHealth and Thuthuzela Voices enjoyed comparably high levels of sustained and substantive support from government actors. SMS Gateway maintained a positive and cooperative relationship with government officials, although this waned over time. eThekwini WACs and Text2Speak had strong support initially, but this was dashed by contextual political shifts. CJ Health Insurance Scheme had some rhetorical support but no substantive support from any political actors. Of all the projects with strong government partnerships, Mobile Mapping for Women's Health seemed to have the most productive relationship: "It's really key for the success of this project, or maybe what makes it a bit different from the others. Because we have that very strong tie already, we've had that buy-in from the beginning." A unique feature of this project – and indeed symbolic of the close

¹² As this paper is not intended to be evaluative of project success, we are rather gauging 'success' as perceived by the project representatives whom we interviewed, and also as reported in project documentation to which we had access.

The services that required the most attention, based on feedback from service users, were the ones least likely to be addressed. This illustrates how highly unfavourable feedback can pose barriers to accountability

cooperation between the project and government – was the inclusion of a district-level health data manager as a project enumerator. The project representatives highlighted their reasons for this:

This was part of our buy-in strategy and to support sustainability beyond the life of the project, to get the government already using the tool and to gain their interest in what the findings were and how to use them to improve their service provision.

The fact that the organisation has long worked in the area in cooperation with local health authorities meant that Mobile Mapping for Women's Health could leverage these established relationships of mutual trust with both government actors and community members to ensure more successful outcomes. While the project had not reached completion at the time of the interview, the representatives claimed that interactions with local authorities were very positive, and they expected to host productive dialogue sessions in the future that would bring the communities and health authorities together to discuss the data and ways forward. Similarly, OurHealth and Thuthuzela Voices also had an appreciable although not seamless degree of government support and receptiveness. The longstanding presence of each organisation in their respective context, and previous work on health issues, meant that they had already earned the trust, respect and cooperation of relevant authorities. However, as we go on to discuss, both these projects illustrate that government support is itself complicated by the presence of many different government actors and that it should not be taken for granted. In fact, rather than triggering government action to address poor quality public services, negative feedback can damage these important relationships.

In South Africa, Thuthuzela Voices intended to enhance accountability for services available to GBV survivors. These include health and psycho-social services accessed at specialised care centres, but also police and legal services. While

a number of key actors worked closely with the project, including care centre managers and service providers, staff from the National Department of Health and the National Prosecuting Authority (NPA), not all government actors involved in service provision and management were as supportive. Aggregated feedback collected through the app revealed very poor performance on the part of police who dealt with rape victims, while the near total absence of feedback on legal services suggested that women were simply not accessing these services. Thuthuzela Voices made concerted efforts to share this feedback, but it proved difficult to engage the police and legal services on their failings. Even government officials who were supportive of the project, such as those in the NPA, found the findings challenging and refused to accept that women were not accessing legal services. Those stakeholders who were more distant from the project, such as the police, simply did not engage with it. Both the NPA and Department of Health were reluctant to facilitate meetings with the police to discuss feedback. As to why this access to the police was not forthcoming, one project interviewee suggested:

I think it's because the police come up horrendously bad. Honestly, if they came out glowing, there'd be fewer problems. Our research just shows that this is a problem and the NPA, when we showed them our results, they said they weren't surprised and that the police weren't going to like it.

Thus, the services that required the most attention, based on feedback from service users, were the ones least likely to be addressed. This illustrates how highly unfavourable feedback can pose barriers to accountability. In addition, it also demonstrates the importance of recognising that 'government actors' are not a homogenous group and that delicate relationships exist not only between civil society and government actors but also between government actors. This is especially important to acknowledge when attempting to address accountability for issues that require

institutionally complex responses – in this case a combination of health, legal and police services. Navigating this complexity, as we discuss further below, also required time and resources not afforded by the relatively short grant period of Making All Voices Count.

OurHealth illustrates another challenge related to partnering with the state. In this case, a delicate balance had to be struck and maintained over the life of the project which, due to citizen journalists publicly highlighting failures of the health system, presented dilemmas for project staff. While Health-e News' citizen journalists had been praised as the "eyes and ears on the ground" by the South African President, tensions at both local and national levels occasionally threatened to derail project activities and endanger cooperative relationships between the project and various government actors. Just as poor feedback was not welcomed by some government actors involved in the Thuthuzela Voices project, publication of unflattering media stories and reports by OurHealth journalists also threatened to create tension and endanger relationships. As the project representative explained:

It was very hard for us to report on the stories. Because one of our fears was, if we do report, and it goes up, we're going to get kicked out of the clinics. That's why we pushed it, to say, before we move to the extreme of publishing a story. Because if they're responding, it's great, so let's give them a chance to respond.

As this quote suggests, issues were flagged for government actors before publishing a story, giving them a chance to address the problems first. Thus, the threat of bad press both incentivised government actors and providers to respond, but such publications also threatened OurHealth's very presence in the clinics as their permissions could be revoked at any time. After an unflattering report on medicine stock-outs was published by one of OurHealth's civil society partners, the project lost some access to higher-level government actors. OurHealth explained: "After that it was quite difficult. Sometimes we'd send the reports, and we would not hear anything from them." This led to the organisation having to scale back on other efforts, including working with government officials to build

an online platform whereby citizens could access information on specific service locations, as well as learn what types of treatments they could typically expect for particular conditions.

Several projects experienced a breakdown of political support. eThekwini WACs in South Africa and Text2Speak in Nigeria both encountered this early on in the project's lifespan, with severe consequences for accountability. In the case of eThekwini WACs, senior government actors – including the Office of the Premier of KwaZulu-Natal, the mayor of eThekwini and a member of the municipal government – had initially been supportive of the project. However, a recent election meant that the mayor was simply waiting out the remainder of the term, and had little real influence, and the supportive member of the municipality had resigned. The Office of the Premier, while rhetorically supportive, had no authority over government actors in the municipality. Yet, it was the municipality which ultimately had oversight over the WACs, and which was most relevant in terms of responsiveness to their concerns. As the project suffered from shifting government actors and difficulties securing government buy-in, the app, which was envisioned as a tool for linking civil society actors in the WACs with relevant government personnel, was never fully implemented.¹³

Political cycles and elections also negatively affected Text2Speak in Nigeria. As suggested above, project members were known in the district and had worked successfully with government partners in the past. Text2Speak was meant to be embedded in a large-scale government programme that would reinvest wealth from the country's natural resources into infrastructure, social programmes and health care. However, national elections were held shortly before the project began, ousting the government that had established the programme, which was subsequently shut down. As Text2Speak respondents explained: "The new government came in and decided that they didn't want to have any programmes that the past government was undertaking and so that was removed and we were left in limbo and we had to re-strategise." As project funding had already been released, the project had to retool with little time to re-establish

¹³ Due to these circumstances, Making All Voices Count changed eThekwini WACs' status from an innovation project to a learning project. eThekwini WACs then sought to understand why some wards had functioning WACs while others did not, as well as to document the challenges experienced by the project, and lessons learned.

relationships with actors in the new government. Upon reflection, Text2Speak representatives admit that this was a weakness in their project going forward: “Government officers were not involved in the process, so there was no commitment from them that if they got feedback from the community that they would act on that.”

It was the linking of political will to resource allocations that affected SMS Gateway and CJ Health Insurance (both in Indonesia). SMS Gateway was integrated into the district government’s own agenda to reduce maternal mortality. And while the project partnered and cooperated with the district health authorities throughout the pilot period, this support waned when political shifts at the national level restricted district government funding. The resulting budget cuts made it difficult for the district government to keep the programme going, despite the fact that it had previously suggested rolling out the model across the entire district. In Bali, the CJ Health Insurance Scheme had received enthusiastic support from provincial-level government actors. However, these same actors did not offer support when it came to addressing the service problems identified and imposing sanctions. Instead, they claimed that they did not have enough resources or staff to support the project. The project representative expressed frustration at this, suggesting “they should use their authority to push, and give pressure to their staff, but that’s not in our domain”.

Relationships with political actors and political cycles were clearly very important to the seven projects, with significant effects on whether (and how) accountability was enhanced. There is considerable recognition of this political importance in the literature on ICTs and technology (de Lanerolle, Walker and Kinney 2016; Fox 2016). Joshi and Houtzager (2012) focused on the failures to pay attention to politics and power and warned that social accountability initiatives can act as ‘widgets’, or technical mechanisms that do nothing to shift power structures. Stremlau, Fantini and Gagliardone (2015) similarly argued that technology can allow for the appearance of meaningfully shifting the status quo without really doing so.

All seven mHealth projects had relatively short grant periods (usually one to two years), which influenced their ability to foster political relationships. While some projects acknowledged that, with hindsight, there were variables over which they could have exercised more control,¹⁴ others found the grant period too short because they wanted to accomplish their project goals *while also* remaining flexible and receptive to what was being learned on the ground. For example, Thuthuzela Voices realised, through focus group sessions with service users, that these women were most interested in being able to rate and give feedback on police services as it was here where service quality was severely wanting. The police, however, had not been involved in the project’s initial plan or consultations. As one respondent commented: “By the time we’d done all of this research, and had all this information about the police, we’d never actually, and still haven’t, spoken to them.” In responding to this expressed concern, it became clear that additional work needed to be done, and new relationships built, yet there was simply not enough time or funding available.¹⁵ Projects such as SMS Gateway, which spent more time developing its app and figuring out the institutional structure of the intervention than originally envisioned, or Text2Speak, which only realised they should have invested more time and energy cultivating offline relationships with clients and government actors in the implementation process, did not have the opportunity to learn from these experiences and to amend their interventions accordingly.

Short project durations also make it difficult to influence government budgets. As one project representative explained:

It takes time to change culture and systems. One of the dangers of donor-funded projects is that their funding is not always long enough to bring about the change that is fundamentally needed. We could’ve been pushing and pushing and getting the data at district and national levels quarterly, and it could’ve been a very powerful tool. But you really need the time to influence national budgets on a sustainable basis. For health systems in general, if there’s enough data over a long enough period of time, you can say “look we need to build this into our budgets”.

¹⁴ These included: understanding the technicalities of different government units’ responsibilities; planning in advance for potential loss of government partners (through electoral cycles and other factors); and being more careful in the choice of technical developers.

¹⁵ Upon realising how important addressing police and legal services was to service users, the project initiated efforts to meet with police representatives to share findings from the app, and to lay foundations for future cooperation, but due to complex intra-government relationships, and a system of gatekeeping, these meetings have been long delayed.

Issues around national budget cycles, data collection and long-term structural change within health systems have focused attention on accountability through the long route, wherein sustained, quality information flowing to national-level decision-makers fundamentally influences health policy.¹⁶ Ultimately, most interventions in the Making All Voices Count portfolio may be unable to have this type of long-term, sustained and significant influence. This is only likely to be achieved where state actors are both sufficiently convinced of the value of a particular intervention so as to continue to dedicate state resources to it over time and where civil society actors maintain their own capacity to deliver their end of the bargain. Some projects, especially those carried out by organisations that have been working in their respective contexts for some time already, may have more chance of continuing in one form or another. With alternative funding, learning from the Thuthuzela Voices project, for instance, is now being applied to the construction of the second

interoperable app for service providers, while project representatives continue to try to build relationships with the police. OurHealth, which was funded as a scaling project, also continues beyond the Making All Voices Count project period. Mobile Mapping for Women's Health grew out of similar, paper-based accountability initiatives, and as the organisation has been advocating in this area and working with local health officials for some time, this project will also likely leave some legacy. Indeed, it is not implausible that each project will at least have had some impact by modelling what is possible or at least providing lessons to inform future initiatives. Further, it is not possible to measure any potential future effects. For instance, while project members of CJ Health Insurance Scheme were not able to claim with any confidence that this initiative led to changes in service provision, and certainly not to accountable governance, there is no way of knowing if the project has laid the groundwork for future, better planned and better executed initiatives.

9. Conclusion

All seven mHealth projects assumed that technology would enhance their efforts to increase accountability. For many, such as Thuthuzela Voices, OurHealth, Mobile Mapping for Women's Health and Text2Speak, the technologies adopted did indeed facilitate information collection and analysis, in some cases replacing previously bulky and awkward paper-based systems. Using technology meant that information collection processes were quicker, more streamlined and more easily translatable into data forms that were useful to those advocating for service improvements. In all cases, while technology was seen as speeding up information processes, its development was not always as quick, and certainly not straightforward. Several of the projects (e.g. SMS Gateway) experienced delays in the technology development process due to having to adapt to realities on the ground or because of tensions and misunderstanding with private technical partners. Furthermore, as evidenced by the experience of Text2Speak, for all its information facilitation capabilities, technology could not deliver accountability in the absence of

other offline considerations, such as meaningful citizen engagement and relationship-building with government actors.

In the realm of citizen engagement, all the projects assumed that the exercise and channelling of citizen voice was a necessary component of accountability – whether aggregated and analysed individual assessments of services, individualised expressions of need, or representatives communicating on behalf of other citizens (such as citizen journalists or WAC members). Projects that used 'offline spaces' – including focus groups such as in Thuthuzela Voices or already established village forums such as in Mobile Mapping for Women's Health and SMS Gateway – were more likely to report that their interventions did in fact lead to (or that they fully expected them to lead to) enhanced accountability. Having these in-person encounters may have strengthened confidence among citizens that their voices mattered and would lead to change, and fostered a sense of investment in the results in ways

¹⁶ As discussed earlier, elections are the primary mechanism through which health policy is designed and implemented to reflect the needs and demands of citizens through the long route to accountability. However, regular and quality information can also influence policy-makers outside electoral processes.

The seven projects also demonstrate the importance of seeing technological innovations not as mechanisms through which to build government responsiveness and accountability, but as enablers of essential relationships between citizens, civil society and government health actors

that the remoteness of relying on technology alone could not do. However, as is evident in the experience of CJ Health Insurance Scheme, offline spaces did not always ensure success: the target audiences participating in these spaces are just as important as the spaces themselves. Active established groups or forums seem likelier to more fully engage. Accountability through citizen engagement also involved getting access to the 'right' government representatives. This meant interacting with government representatives who were willing to engage back, and who were able to use official resources to bring about change. The experiences of the seven mHealth projects highlight the importance of and nuances associated with government partnerships.

While the experience from eThekweni WACs emphasises the importance of building relationships with government actors across a political spectrum, challenges experienced by Text2Speak and CJ Health Insurance Scheme were ultimately the result of having either no support or only rhetorical support from government actors. Projects with substantive political and government support, which amounted to more than rhetoric, were more likely to report that they had reached their accountability goals. Projects run by organisations that were already established in specific areas, and which had already earned the trust and cooperation of government actors (e.g. OurHealth, Thuthuzela Voices and Mobile Mapping for Women's Health) were more able to secure buy-in from relevant political actors. However, their experiences also illustrate the importance of carefully managing these relationships over time, as well as being open to the development of new

relationships with political and government actors so as to adapt to received information and project learning. Cumulatively, the seven mHealth projects show that, without sympathetic state allies who are willing and able to dedicate time and resources to make changes in service delivery, efforts to amplify and facilitate citizen voice among poor and marginalised communities for accountable governance of health services may – despite the enabling presence of technology – be rendered ineffective.

The seven projects also demonstrate the importance of seeing technological innovations not as mechanisms through which to build government responsiveness and accountability, but as enablers of essential relationships between citizens, civil society and government health actors. Strategic approaches to accountability – 'sandwich strategies' – that meaningfully engage and mobilise citizens while also cultivating and carefully managing relationships of mutual trust and cooperation with specific government actors who have the capacity to respond to citizen voice and address health accountability failures should be the central focus of social accountability initiatives. And while technologies can assist, accountability is ultimately about finding ways to address unequal distributions of power and abuses of authority. This has a number of prerequisites: adequate mandates, resources, information, monitoring mechanisms, and sanctions are all necessary for answerability and enforceability and, indeed, for accountable governance. While the seven projects encountered numerous obstacles, they also demonstrate what is possible and provide valuable lessons for others embarking on similar initiatives.

References

- Adserà, A.; Boix, C. and Payne, M. (2003) 'Are You Being Served? Political Accountability and Quality of Government', *Journal of Law, Economics, & Organization* 19.2: 445–90
- Ahmed, T.; Bloom, G.; Iqbal, M.; Lucas, H.; Rasheed, S.; Waldman, L.; Khan, A.S.; Islam, R. and Bhuiya, A. (2014) *E-Health and M-Health in Bangladesh: Opportunities and Challenges*, IDS Evidence Report 60, Brighton: IDS, <http://opendocs.ids.ac.uk/opendocs/handle/123456789/3613> (accessed 5 June 2017)
- Akter, S.; Ray, P. and D'Ambra, J. (2013) 'Continuance of mHealth Services at the Bottom of the Pyramid: The Roles of Service Quality and Trust', *Electronic Markets* 23.1: 29–47
- Aranda-Jan, C.B.; Mohutsiwa-Dibe, N. and Loukanova, S. (2014) 'Systematic Review on What Works, What Does Not Work and Why of Implementation of Mobile Health (mHealth) Projects in Africa', *BMC Public Health* 14: 188
- Bailur, S. and Gigler, B-S. (2014) 'Introduction: The Potential for Empowerment through ICTs', in B-S. Gigler and S. Bailur (eds), *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* Washington DC: The World Bank
- Batchelor, S.; Waldman, L.; Bloom, G.; Rasheed, S.; Scott, N.; Ahmed, T.; Khan, N. and Sharmin, T. (2015) 'Understanding Health Information Seeking from an Actor-Centric Perspective', *International Journal of Environmental Research and Public Health* 12.7: 8103–24
- Bateman, C. (2014) 'Using Basic Technology – and Corporate Social Responsibility – to Save Lives', *SAMJ: South African Medical Journal* 104.12: 839–40
- Björkman, M. and Svensson, J. (2009) 'Power to the People: Evidence from a Randomized Field Experiment on Community-based Monitoring in Uganda', *Quarterly Journal of Economics* 124.2: 735–69
- Bloom, G.; Standing, H. and Lloyd, R. (2008) 'Markets, Information Asymmetry and Health Care: Towards New Social Contracts', *Social Science & Medicine* 66.10: 2076–87
- Brinkerhoff, D.W. (2004) 'Accountability and Health Systems: Toward Conceptual Clarity and Policy Relevance', *Health Policy and Planning* 19.6: 371–9
- Brock, K.; McGee, R. and Besuijen, M. (2014) *Enabling Citizen Engagement and Accountable, Responsive Government: Strategy Synthesis*, Brighton: IDS, www.makingallvoicescount.org/wp-content/uploads/2015/08/Making-All-Voices-Count-Strategy-Synthesis.pdf (accessed 6 June 2017)
- Camargo, C.B. (2011) *Accountability for Better Healthcare Provision: A Framework and Guidelines to Define, Understand and Assess Accountability in Health Systems*, Working Paper Series 10, Basel: Basel Institute on Governance, www.snis.ch/system/files/accountability_for_better_healthcare_final.pdf (accessed 6 June 2017)
- Camargo, C.B. and Jacobs, E. (2011) *Social Accountability and Its Conceptual Challenges: An Analytical Framework*, Working Paper Series 16, Basel: Basel Institute on Governance, www.baselgovernance.org/sites/collective.localhost/files/publications/biog_working_paper_16.pdf (accessed 6 June 2017)
- Castro-Leal, F.; Dayton, J.; Demery, D. and Mehra, K. (2000) 'Public Spending on Health Care in Africa: Do the Poor Benefit?' *Bulletin of the World Health Organization* 78.1: 66–74
- Coelho, V.S. (2006) 'Brazilian Health Councils: Including the Excluded?' in A. Cornwall and V.S. Coelho (eds), *Spaces for Change? The Politics of Citizen Participation in New Democratic Arenas*, London: Zed Books
- Cornwall, A. and Shankland, A. (2013) 'Cultures of Politics, Spaces of Power: Contextualizing Brazilian Experiences of Participation', *Journal of Political Power* 6.2: 309–33
- de Lanerolle, I.; Walker, T. and Kinney, S. (2016) *Sometimes it is about the Tech: Choosing Tools in South African and Kenyan Transparency and Accountability Initiatives*, Brighton: IDS and the engine room, <https://opendocs.ids.ac.uk/opendocs/handle/123456789/10283> (accessed 6 June 2017)
- Devarajan, S.; Khemani, S. and Walton, M. (2014) 'Can Civil Society Overcome Government Failure in Africa?' *World Bank Research Observer* 29.1: 20–47
- Edwards, M. and Hulme, D. (1996) 'NGO Performance and Accountability: Introduction and Overview', in

- M. Edwards and D. Hulme (eds), *Non-Governmental Organisations – Performance and Accountability: Beyond the Magic Bullet*, London: Earthscan Publications
- Free, C.; Phillips, G.; Galli, L.; Watson, L.; Felix, L.; Edwards, P.; Patel, V. and Haines, A. (2013) 'The Effectiveness of Mobile-Health Technology-Based Health Behaviour Change or Disease Management Interventions for Health Care Consumers: A Systematic Review', *PLOS Medicine* 10: e1001362
- Fox, J. (2016) *Scaling Accountability through Vertically Integrated Civil Society Policy Monitoring and Advocacy*, Brighton: IDS
- Fox, J.A. (2015) 'Social Accountability: What Does the Evidence Really Say?' *World Development* 72 (August): 346–61
- Ghosh, B.N. (2008) 'Rich Doctors and Poor Patients: Market Failure and Health Care Systems in Developing Countries', *Journal of Contemporary Asia* 38.2: 259–76
- Gigler, B-S.; Custer, S.; Bailur, S.; Dodds, E.; Asad, S. with Gagieva-Petrova, E. (2014) 'Closing the Feedback Loop: Can Technology Amplify Citizen Voices?' in B-S. Gigler, and S. Bailur (eds), *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* Washington DC: The World Bank
- Goetz, A.M. and Jenkins, R. (2001) 'Hybrid Forms of Accountability: Citizen Engagement in Institutions of Public Sector Oversight in India', *Public Management Review* 3.3: 363–83
- Gurman, T.A.; Rubin, S.E. and Roess, A.A. (2012) 'Effectiveness of mHealth Behavior Change Communication Interventions in Developing Countries: A Systematic Review of the Literature', *Journal of Health Communication* 17.1: 82–104
- Hampshire, K.; Porter, G.; Owusu, S.A.; Mariwah, S.; Abane, A.; Robson, E.; Munthali, A.; DeLannoy, A.; Bango, A.; Gunguluza, N. and Milner, J. (2015) 'Informal M-Health: How Are Young People Using Mobile Phones to Bridge Healthcare Gaps in Sub-Saharan Africa?', *Social Science & Medicine*, 142: 90–99
- Hampshire, K.R.; Porter, G.; Owusu, S.A.; Tanle, A. and Abane, A. (2011) 'Out of the Reach of Children? Young People's Health-Seeking Practices and Agency in Africa's Newly-Emerging Therapeutic Landscapes', *Social Science & Medicine* 73.5: 702–10
- Harris, D.; Batley, R. and Wales, J. (2014) *The Technical is Political: What Does this Mean in the Health Sector?* ODI Working Paper, London: Overseas Development Institute, www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8888.pdf (accessed 6 June 2017)
- He, D.; Naveed, N., Gunter, C.A. and Nahrstedt, K. (2014) 'Security Concerns in Android mHealth Apps', AMIA Annual Symposium, November, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.646.6510&rep=rep1&type=pdf> (accessed 16 May 2017)
- International Institute for Communication and Development (IICD) (2014) *ICT for Health: Five Years of Learning*, The Netherlands: IICD, www.cominit.com/content/ict-health-five-years-learning (accessed 6 June 2017)
- Jennings, L. and Gagliardi, L. (2013) 'Influence of mHealth Interventions on Gender Relations in Developing Countries: A Systematic Literature Review', *International Journal for Equity in Health* 12: 85
- Johnson, S.; Mahlalela, N.B. and Mills, E. (2017) *Client Experience of Rape Victims Accessing Governmental Post-rape Services in South Africa*, Making All Voices Count Research Report, Brighton: IDS
- Joshi, A. (2014) 'Reading the Local Context: A Causal Chain Approach to Social Accountability', *IDS Bulletin* 45.5: 23–35
- Joshi, A. (2013) 'Do they Work? Assessing the Impact of Transparency and Accountability Initiatives in Service Delivery', *Development Policy Review* 31: s1
- Joshi, A. and Houtzager, P. (2012) 'Widgets or Watchdogs?: Conceptual Explorations in Social Accountability', *Public Management Review* 14.2: 145–62
- Kolstad, I. and Wiig, A. (2009) 'Is Transparency the Key to Reducing Corruption in Resource-Rich Countries?' *World Development* 37.3: 521–32
- Labrique, A.B.; Pereira, S.; Christian, P.; Murthy, N.; Bartlett, L. and Mehl, G. (2012) 'Pregnancy Registration Systems Can Enhance Health Systems, Increase Accountability and Reduce Mortality', *Reproductive Health Matters* 20.39: 113–17
- Labrique, A.B.; Vasudevan, L.; Kochi, E.; Fabricant, R. and Mehl, G. (2013) 'mHealth Innovations as Health System Strengthening Tools: 12 Common Applications and a Visual Framework', *Global Health: Science and Practice* 1.2: 160–71

- Lindberg, S.I. (2009) *Accountability: The Core Concept and its Subtypes*, Africa Power and Politics Programme Working Paper, 1
- Lodenstein, E.; Dieleman, M.; Gerretsen, B. and Broerse, J.E. (2016) 'Health Provider Responsiveness to Social Accountability Initiatives in Low- and Middle-Income Countries: A Realist Review', *Health Policy and Planning* 32.1: 125–40
- Loh, Y.A. (2013) 'Approaches to ICT for Development (ICT4D): Vulnerabilities vs. Capabilities', *Information Development* 31.3: 229–38
- Lucas, H. (2015) 'New Technology and Illness Self-Management: Potential Relevance for Resource-Poor Populations in Asia', *Social Science & Medicine* 145: 145–53
- Madon, S. (2014) 'Information Tools for Improving Accountability in Primary Health Care: Learning from the Case of Karnataka', in B-S. Gigler and S. Bailur (eds), *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* Washington DC: The World Bank
- Madon, S.; Krishna, S. and Michael, E. (2010) 'Health Information Systems, Decentralisation and Democratic Accountability', *Public Administration and Development* 30.4: 247–60
- Mahlalela, N.B.; Johnson, S. and Mills, E. (2017) *Feasibility and Acceptability of a Mobile Phone Intervention to Improve Post-rape Service Delivery in South Africa*, Making All Voices Count Research Report, Brighton: IDS
- Mahmud, S. (2007) 'Spaces for Participation in Health Systems in Rural Bangladesh: The Experience of Stakeholder Community Groups', in A. Cornwall and V.S. Coelho (eds), *Spaces for Change? The Politics of Citizen Participation in New Democratic Arenas*, London: Zed Books
- Malena, C. with Forster, R. and Singh, J. (2004) *Social Accountability: An Introduction to the Concept and Emerging Practice*, Social Development Papers: Participation and Civic Engagement, Paper No 76. World Bank
- Mangone, E.R.; Agarwal, S.; L'Engle, K.; Lasway, C.; Zan, T.; van Beijma, H.; Orkis, J. and Karam, R. (2016) 'Sustainable Cost Models for mHealth at Scale: Modeling Program Data from m4RH Tanzania', *PLoS One* 11.1: e0148011
- McGee, R.; Edwards, D.; Minkley, G.; Pegus, C.M. and Brock, K. (2015) *Making All Voices Count Research and Evidence Strategy*, Brighton: IDS, www.makingallvoicescount.org/wp-content/uploads/2015/08/RE-strategy.pdf (accessed 7 June 2017)
- McGee, R. and Gaventa, J. (2011) *Shifting Power? Assessing the Impact of Transparency and Accountability Initiatives*, IDS Working Paper 383, Brighton: IDS
- Mobile Mapping for Women's Health (2016) MAVC narrative report 1.1, 29 June, unpublished programme document
- Motsoaledi, A. (2015) 'Launch of Adolescent Mobisite and Anniversary of Momconnect', Speech by the South African Minister of Health, Kt Motubatse Community Centre, Soshanguve, 20 August 2015, www.gov.za/speeches/minister-aaron-motsoaledi-launch-adolescent-mobisite-and-anniversary-momconnect-20-aug-2015 (accessed 7 June 2017)
- Newell, P. and Bellour, S. (2002) *Mapping Accountability: Origins, Contexts and Implications for Development*, IDS Working Paper 168, Brighton: IDS
- North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press
- O'Donnell, G. (1998) 'Horizontal Accountability in New Democracies', *Journal of Democracy* 9.3: 112–26
- Organisation for Economic Co-operation and Development (OECD) (2013) *OECD e-Government Studies: Egypt*, Paris: OECD Publishing
- Otto, K.; Shekar, M.; Herbst, C.H. and Mohammed, R. (2015) *Information and Communication Technologies for Health Systems Strengthening: Opportunities, Criteria for Success, and Innovation for Africa and Beyond*, Health, Nutrition and Population (HNP) Discussion Paper, Washington DC: The World Bank
- Peixoto, T. and Fox, J. (2016) 'When Does ICT-Enabled Citizen Voice Lead to Government Responsiveness?' *IDS Bulletin* 41.1: 23–39
- Peter, J., Barron, P. and Pillay, Y. (2016) 'Guest Editorial: Using Mobile Technology to Improve Maternal, Child and Youth Health and Treatment of HIV Patients', *South African Medical Journal* 106.1: 3–4
- Rajan, R.; Raihan, A.; Alam, M.; Agarwal, S.; Ahsan, A.; Bashir, R.; Lefevre, A.; Kennedy, C. and Labrique, A.B. (2013) *MAMA 'Aponjon' Formative Research Report*, Baltimore MD: Johns Hopkins University Global mHealth Initiative

- Ray, S. (2012) 'Reinforcing Accountability in Public Services: An ICT Enabled Framework', *Transforming Government: People, Process and Policy* 6.2: 135–48
- Ringold, D.; Holla, A.; Koziol, M. and Srinivasan, S. (eds) (2012) *Citizens and Service Delivery: Assessing the Use of Social Accountability Approaches in the Human Development Sectors*, Directions in Development Human Development, Washington DC: The World Bank
- Sarwar, M.R. (2015) 'Bangladesh Health Service Delivery: Innovative NGO and Private Sector Partnerships', *IDS Bulletin* 46.3: 17–28
- Schedler, A. (1999) 'Conceptualizing Accountability', in A. Schedler, L. Diamond and M. Plattner (eds), *The Self-Restraining State: Power and Accountability in New Democracies*, Stanford CA: Stanford University
- Seebregts, C.; Barron, P.; Tanna, G.; Benjamin, P. and Fogwill, T. (2016) 'MomConnect: An Exemplar Implementation of the Health Normative Standards Framework in South Africa', *South African Health Review* 125–36
- Sirker, K. and Cosic, S. (2007) *Empowering the Marginalized: Case Studies of Social Accountability Initiatives in Asia*, World Bank Institute Research Paper 266, Washington DC: The World Bank
- Smith, M.; Madon, S.; Anifalaje, A.; Lazarro-Malecela, M. and Michael, E. (2007) 'Integrated Health Information Systems in Tanzania: Experience and Challenges', *The Electronic Journal of Information Systems in Developing Countries* 33.1: 1–21
- Stremlau, N.; Fantini, E. and Gagliardone, I. (2015) 'Patronage, Politics and Performance: Radio Call-in Programmes and the Myth of Accountability', *Third World Quarterly* 36.8: 1510–26
- Tréré, E. (2016) 'The Dark Side of Digital Politics: Understanding the Algorithmic Manufacturing of Consent and the Hindering of Online Dissidence', *IDS Bulletin* 47.1: 127–38
- United Nations (2013) *Who Will Be Accountable? Human Rights and the Post-2015 Development Agenda*, Geneva: Office of the United Nations High Commissioner for Human Rights
- Vahdat, H.L.; L'Engle, K.L.; Plourde, K.F.; Magaria, L. and Olawo, A. (2013) 'There Are Some Questions You May Not Ask in a Clinic: Providing Contraception Information to Young People in Kenya Using SMS', *International Journal of Gynecology & Obstetrics* 123.1: e2–e6
- Wakadha, H.; Chandir, S.; Were, E.V.; Rubin, A.; Obor, D.; Levine, O.S.; Gibson, D.G.; Odhiambo, F.; Laserson, K.F. and Feikin, D.R. (2013) 'The Feasibility of Using Mobile-Phone Based SMS Reminders and Conditional Cash Transfers to Improve Timely Immunization in Rural Kenya', *Vaccine* 31.6: 987–93
- Waldman, L. and Stevens, M. (2015) 'Sexual and Reproductive in South Africa', *Reproductive Health Matters*, July. doi:10.1016/j.rhm.2015.06.009.
- Waldman, L.; Reed, P. and Hrynicky, T. (2017) *Accountability in Health Systems and the Potential of mHealth*, IDS Working Paper 490, Brighton: IDS, https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/13037/Wp490_Online.pdf (accessed 3 July 2017)
- Wittemyer, R.; Bailur, S.; Anand, N.; Park, K-R. and Gigler, B-S. (2014) 'New Routes to Governance: A Review of Cases in Participation, Transparency, and Accountability', in B-S. Gigler and S. Bailur (eds), *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* Washington DC: The World Bank
- Wolff-Piggott, B. (2016) 'Towards an Affordance Perspective on mHealth Usage: A Clinic-Level View', Proceedings of SIG GlobDev Eighth Annual Workshop, Münster, Germany, 26 May 2015, www.globdev.org/files/GlobDev-ECIS-2015_Paper12.pdf (accessed 16 May 2017)
- Wolff-Piggott, B. and Rivett, U. (2016) *An Activity Theory Approach to Affordance Actualisation in Mhealth: The Case of Momconnect*, Research Papers 108, http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1086&context=ecis2016_rp (accessed 16 May 2017)
- World Bank (2003) *World Development Report 2004: Making Services Work for Poor People*, Washington DC: The World Bank, <https://openknowledge.worldbank.org/handle/10986/5986> (accessed 8 June 2017)
- Zanello, G. and Maassen, P. (2011) 'Strengthening Citizen Agency and Accountability Through ICT: An Extrapolation for Eastern Africa', *Public Management Review* 13.3: 363–82

About Making All Voices Count

Making All Voices Count is a programme working towards a world in which open, effective and participatory governance is the norm and not the exception. It focuses global attention on creative and cutting edge solutions to transform the relationship between citizens and their governments. The programme is inspired by and supports the goals of the Open Government Partnership.

Making All Voices Count is supported by the UK Department for International Development (DFID), the US Agency for International Development (USAID), the Swedish International Development Cooperation Agency (SIDA) and the Omidyar Network, and is implemented by a consortium consisting of Hivos, IDS and Ushahidi.

Research, Evidence and Learning component

The programme's Research, Evidence and Learning component, managed by IDS, contributes to improving performance and practice, and builds an evidence base in the field of citizen voice, government responsiveness, transparency and accountability (T&A) and technology for T&A (Tech4T&A).

Web www.makingallvoicescount.org

Email info@makingallvoicescount.org

Twitter [@allvoicescount](https://twitter.com/allvoicescount)

Disclaimer: This document has been produced with the financial support of the Omidyar Network, SIDA, UK aid from the UK Government, and USAID. The views expressed in this publication do not necessarily reflect the official policies of our funders.



This work is distributed under the terms of the Creative Commons Attribution 4.0 International licence, which permits unrestricted use, distribution and reproduction in any medium, provided the original authors and source are credited. <http://creativecommons.org/licenses/by/4.0/legalcode>



Implemented by:

