

**Program/Project Purpose:** Nigeria's maternal mortality ratio is the tenth highest in the world, with an estimated 630 maternal deaths per 100,000 live births (WHO 2010). The Nigerian government is implementing a maternal and child health conditional cash transfer (CCT) scheme, paying women to attend ANC, skilled delivery and immunization to address high mortality. Currently the government is using a cash/paper based system to track and pay clients, requiring large costly overhead and heightening potential corruption. The current system limits the ability to scale CCT to the 1,250 site goal. From 2014 - 2015, Pathfinder International and the Nigeria government are piloting mobile technology and mobile money to improve the efficiency of the CCT program, in order to learn lessons for national scale.

**Structure/Method/Design:** Pathfinder developed and piloted a mobile phone application to register and track CCT clients and a web dashboard for government staff to view and approve payments via mobile money. This pilot project is in 5 sites near Abuja, Nigeria. Pilot sites were selected by the government and women in low income brackets qualify to receive CCT payments. Mobile network operators (MNOs) and Banks were engaged to support implementation of mCCT. Government staff, health workers, MNOs and Banks are engaged in a national MCCT working group guiding the design of this project. Pilot evaluation will inform the development of a costed business model to scale up and sustain the mCCT program.

**Outcomes & Evaluation:** Currently, 5 sites are using the mobile application, government staff are trained on the dashboard, and over 300 women have been registered in mCCT. Clients are given free SIM cards to receive appointment reminders, mCCT payments and give feedback on the quality of services received. A BUSPH Doctor of Public Health (DrPH) student will conduct a pilot evaluation in early 2015. Research methods include: 1) interviews with clients, health workers, government and other experts and 2) review and use of data from ongoing research in Nigeria examining the impact of introducing mobile applications on the quality of ANC services in Nigeria and two cost effectiveness studies looking at the impact on health outcomes and efficiencies gained by introducing mobile money. A scale up framework will be developed based on results.

**Going Forward:** Ongoing challenges include delayed signing the MOU with the government and bank for mobile money implementation. Mobile money payments have not yet been made to clients, but expected to start in December 2014. Pilot project evaluation results expected in

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### Evaluations of complex global health initiatives: evidence on the need for case-based research

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**Background:** Seminal evaluations have repeatedly exposed challenges in getting evidence on what works, why, and under what conditions. More evaluation studies are using case-based mixed methods in response. The Institute of Medicine convened a workshop in January 2014 to explore the experiences of complex global health program evaluations and consider lessons learned. Here we analyze the workshop proceedings to identify key messages, and identify steps to improve the science of case-based evaluation methods.

**Methods:** Our findings are based on participant observations and analysis of major themes, identified by coding the workshop proceedings in NVivo. These were grounded by our experiences with two of the core

evaluation examples of the workshop and participation in other case-based, mixed-methods evaluations of global health interventions.

**Findings:** All evaluations presented or discussed at the IOM workshop used case-based mixed methods, either solely or as a part of overall study design. There was a strong emphasis on the need for causal theories of change for all program purposes: design, implementation, performance improvement, and evaluation. Consensus on the need for deeper understanding of implementation context was supplemented by calls for differentiating between: contextual "constants" which cannot be influenced; contextual factors which can; and contextual factors that directly support observed changes. Importantly, controlling for contextual complexity using RCT or QED designs may remove the very things that should be identified as important mechanisms for change. Near universal use of multiple methods for capturing the how and why of intervention implementation success explained the predominance of case-based approaches for evaluating complex global health initiatives.

**Interpretation:** We propose three feasible methodological steps to improve quality and utility of case-based evaluations. 1) Evaluators should assess implementation and contextual variability directly, not just control it, distinguishing among contributors, supporting factors, and pre-conditions to program success or failure. 2) Evaluators should use purposive case selection as an explicit strategy to improve the transferability of findings to other implementation situations. 3) Evaluators need to balance context-specific (within-case) implementation detail with context-neutral (cross-case) patterns of successes, failures, and solutions to problems. To make progress in global health post-2015, we need to successfully operate complex interventions at scale, in varying implementation situations, and consistently over time. Currently we rarely gain systematic insight on how implementers were able to achieve success, or not; what problems were addressed successfully, or not; or how situational variability affected successes and challenges. This information is crucial if we are to increase the likelihood of success, scale, and sustainability for global health interventions that are known to work, but somehow do not when implemented at scale or in new settings. Well-designed, theory-grounded, case-based, multi-methods evaluation studies that assess context show a way forward for evaluations to provide this necessary information.

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### Telesurgery presence in low and middle income settings: A systematic review

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**Background:** Telehealth, the application of telecommunications to healthcare, is a rapidly growing and diversifying field. It is well known that telecardiology and telepsychiatry are some of the fastest growing subsets of telehealth. This boom is revolutionizing how medical care is being delivered in low and middle-income settings. However, it is relatively unknown the role telesurgery currently plays in LMICs. A more thorough understanding is necessary of telesurgery's position in LMICs in order to illustrate how it can be expanded to improve care.

**Methods:** A systematic literature review was conducted using PubMed, EMBASE, The Cochrane Library, CINAHL, WHOLIS and 5 regional databases, to identify journal articles published from 2004 to October 15th 2014 which described the use of telehealth or telesurgery in general. The resulting literature was categorized based upon World Bank July 2014 definitions of low, low-middle, and high-middle income countries; high-income countries were excluded. Article references were searched for additional relevant sources. Data