

Using mobile phones to notify births and deaths.

**What is the effect?**

**And what are the implementation considerations?**

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In many countries, births and deaths are not properly registered. This may be because of the way government systems are organised, because people live far from government services, or because they are not aware of the need to register births or deaths. By registering births and deaths, governments can track the health of their population, identify needs and problems, and design better services. Birth registration also allows children to establish their legal identity and can help them access services such as healthcare and education. In some settings, members of the public, healthcare workers, administrative staff and others are now using mobile phones and tablets to send information about a birth or death to the health system or to a central system. But how well do these work?

## Main results of the review

The review found one study from Lao People's Democratic Republic that measured **the effect** these systems have on the number of births and deaths that are properly registered. However, we don't know whether these systems had any effect because the certainty of this evidence was very low.

The review found 21 studies from low and middle-income settings that described **factors that could influence the implementation** of these systems. These factors were tied to the health system and the notification system, the person responsible for notifying, the community, and the families involved.

## Who is this summary for?

Implementation agencies, ministries of health, programme managers, healthcare facilities and other stakeholders who are considering the use of mobile phones and other mobile devices to register births and deaths.

## What did the review search for?

A recent Cochrane Review of mixed methods searched for studies that assessed the effect of using mobile phones and other mobile devices to register births and deaths. The review also searched for studies that described how these mobile solutions are being used in practice and the factors that influence their use.

## How up-to-date was this review?

The review authors searched for studies that had been published up to August 2019.

## Questions for planners and implementers

Below are a set of questions that may help health system or programme managers when planning or implementing birth or death notification via mobile devices. These questions build on the findings of this review:

### **1. Have you taken the needs and view of notifiers and community members into account when developing and planning the birth or death notification system?**

- Will you involve the person responsible for notifying births and deaths via mobile device (the ‘notifier’) in the planning, development and evaluation of the mobile application specifically and the birth-death notification process in general?
- Is there a need to raise awareness in your community about the importance of timely birth and death registration?
- Have you taken people’s views and customs regarding birth and death into account when developing routines for birth-death notification? For instance, are you likely to find relevant family members at home and accessible after a birth or a death? Are people likely to volunteer information about certain types of births and deaths, such as stillbirths, babies born to unmarried mothers, or suicides?

### **2. Do notifiers have the legal authority to provide the services expected of them?**

- For instance, are they legally able to issue birth / death certificates as well as notifications? Will they have access to relevant databases? Will you need to work with the government to make any necessary changes to the law? Or should you reconsider your choice of notifier?

### **3. Will the planned notifiers have enough time within their current roles to deliver birth-death notification services timeously?**

- For instance, where health facility staff are notifiers, do they consider birth-death notification to be part of their job? If this task is to be added to existing tasks, will they be sufficiently compensated, for instance if their job is now extended to include home visits?

### **4. Will families have reasonable access to notifiers and to post-notification services?**

- Will families and notifiers be able to reach each other easily so that the necessary information can be collected in a timely way? For instance, where the notifier is expected to travel to families, does he or she have access to reliable transport? Where families are expected to travel to the notifier, is this a reasonable distance and do they have access to reliable and affordable transport?
- Will families be able to access post-notification services, for instance birth or death certifications or childhood vaccinations, in an easy and timely manner? Have you considered increasing the number or proximity of service points where registration can take place? Have you considered whether birth certificates can be issued at the time and place of notification to reduce the need for parents to travel to a registration centre?

### **5. Are there systems in place to analyse birth and death data to identify important health problems and trends?**

- Are there systems in place to regularly analyse incoming data around births and deaths so that you can quickly identify important problems, trends or changes in people’s health? Where important issues are identified, is there a plan for how these will be addressed?

### **6. Have the costs to the health system and to notifiers been included in the budget?**

- When budgeting for birth-death notification systems using mobile devices, have you considered the initial costs of setting up the technology (including purchase of mobile devices for notifiers, servers, and other related technologies) as well as running costs (including purchasing airtime for notifiers or paying for costs of information transmission)?
- If notifiers are expected to use their own mobile phones, how will their costs be covered? For instance, will they be provided with phone credit, and how will you ensure that this phone credit is sufficient and timely?

## 7. Have you assessed and taken into account the technological requirements for notifiers and for existing electronic health information systems?

- Will notifiers have easy and reliable access to networks and to electricity to charge devices? Where offline data coverage and storage is used in settings with poor network coverage, is it easy for notifiers to find locations with good network coverage to upload data at a later date?
- Will notifiers have access to reliable mobile devices with sufficient memory for storing data? Are these devices easy to repair or replace locally, and who will pay for this?
- Will your birth-death notification system be linked to or integrated into other relevant systems, such as existing electronic health information systems, and does it have clear government support? And have you considered the requirements to ensure interoperability?
- How will you ensure the confidentiality of the birth and death information? Have you considered security measures for any mobile devices used to collect and transmit data, mechanisms of data encryption at rest and transmission, and access to secure data servers? For instance, have you considered the use of dedicated usernames and passwords, anonymous reporting of sensitive data, data encryption and secure protocols of data transmission, using access control to limit user permissions to view or edit data, ability to lock and wipe mobile phone remotely if lost, and data storage in a Tier 1 high security data center?

The questions presented in this summary are from a Cochrane Review.

**This summary does NOT include recommendations.**

The review authors have searched for, assessed and summarised relevant studies using a systematic and pre-defined approach.

The review authors searched for, assessed and summarised relevant studies using a systematic and predefined approach. They assessed the certainty of each finding using a systematic approach called GRADE. They then used the review findings to develop a set of questions for implementers.

## 8. Will the planned birth or death notification system reduce rather than increase inequities?

- Are there groups of people in your community who may find it difficult to benefit from a birth-death notification system via mobile device, for instance, because of poor network coverage, poor roads, lack of staff, language or literacy issues, or long distances to post-notification services? If so, what strategies will you use to ensure that these groups do not fall behind?

## 9. Is there a plan for addressing the training needs of notifiers?

- Do you know enough about notifiers' training needs? Notifiers may be very familiar with paper-based systems for notification, but how familiar are they with the use of mobile phones? What kind of
- Will you have regular training opportunities for notifiers, including notifiers coming in to the programme for training refreshers at different time points?
- What kind of follow-up support will you be offering notifiers? For instance, where can notifiers go when they have questions or problems about the technology used or the process of notification?
- Will you have access to people locally that have the skills, the mandate and the availability to offer training and support?

## 10. Is there a plan for monitoring notifiers and providing supportive supervision?

- How do you plan to encourage and support notifiers to ensure that they submit high quality, timely data? For instance, will notifiers receive acknowledgements that their data has been received? Will they receive reminders? Do you plan to have regular performance meetings? Where the data they and others have collected has allowed you to identify problems and develop strategies, will notifiers be made aware of their own contribution?
- How do you plan to monitor the quality and timeliness of the data collected by notifiers? For instance, will you check all data continuously or only carry out spot-checks?

**These questions are based on studies from a range of different settings. This means that the importance of these questions may be different in your setting.**

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Human Reproduction Programme;  
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## Reference

The information for this summary is based on the following Cochrane Review:

Vasudevan L, Glenton C, Henschke N, Maayan N, Eyers J, Fønhus MS, Tamrat T, Mehl GL, Lewin S. Birth and death notification via mobile devices: a mixed methods review. Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD012909. DOI: 10.1002/14651858.CD012909. pub2

The implementation considerations described here are also partly based on similar implications for practice from a linked Cochrane review: Odendaal WA, Anstey Watkins J, Leon N, Goudge J, Griffiths F, Tomlinson M, Daniels K. Health workers' perceptions and experiences of using mHealth technologies to deliver primary healthcare services: a qualitative evidence synthesis. Cochrane Database of Systematic Reviews 2020, Issue 3. Art. No.: CD011942. DOI: 10.1002/14651858.CD011942.pub2.

These reviews are among a series of systematic reviews informing the WHO guidelines on digital interventions for health system strengthening (<https://bit.ly/2U7BXT6>)

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