Recommendations on digital interventions for health system strengthening

Overview of WHO guidelines

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(Note – Steve Ollis’ presentation follows)
General concepts

Target audience
• Decision-makers in ministries of health
• Public health practitioners
• Donors

Aim
• Strengthen evidence-based decision-making on digital approaches by governments and partner institutions, encouraging the mainstreaming and institutionalization of effective digital interventions.

Caveats
• Temper expectations based on the ICT and enabling environment
• Avoid unconnected systems
  • Impact on the effectiveness and sustainability of the intervention
• Recognize that there may be newer interventions that don’t have evidence that meets WHO’s strict criteria
Interventions included now
(will add more over time)

- **Birth** notification via mobile devices
- **Death** notification via mobile devices
- **Stock** notification and commodity management via mobile devices
- Client-to-provider **telemedicine**
- Provider-to-provider telemedicine
- Targeted **client communication** via mobile devices
- Digital **tracking** of patients’/clients’ health status and services via mobile devices
- Health worker **decision support** via mobile devices
- Provision of **training** and educational content to health workers via mobile devices (mobile learning-mLearing)
Interventions in taxonomy
All part of strengthening health systems
Set up

For each recommendation

• Summary of evidence
  • positive and negative effects of the intervention
  • acceptability and feasibility,
  • equity, gender and human rights impacts,
  • resource use
Recommendation 1

Birth notification via mobile devices

WHO recommends the use of birth notification via mobile devices under these conditions:

• in settings where the notifications provide individual-level data to the health system and/or a civil registration and vital statistics (CRVS) system, and

• the health system and/or CRVS system has the capacity to respond to the notifications.

(Recommended only in specific contexts or conditions)

Responses by the health system including the capacity to accept the notifications and trigger appropriate health and social services, such as initiating of postnatal services.

Responses by the CRVS system include the capacity to accept the notifications and to validate the information, in order to trigger the subsequent process of birth registration and certification.
Recommendation 2
Death notification via mobile devices

WHO recommends the use of death notification via mobile devices under these conditions:

- in the context of rigorous research, and
- in settings where the notifications provide individual-level data to the health system and/or a CRVS system, and
- the health system and/or CRVS system has the capacity to respond to the notifications.

*(Recommended only in the context of rigorous research and in specific contexts or conditions)*

Responses by the health system include the capacity to accept the notifications and trigger appropriate health and social services.

Responses by the CRVS system include the capacity to accept the notifications and to validate the information, in order to trigger the subsequent process of death registration and certification.
Recommendation 3
Stock notification and commodity management via mobile devices

WHO recommends the use of stock notification and commodity management via mobile devices in settings where

• supply chain management systems have the capacity to respond in a timely and appropriate manner to the stock notifications.

*(Recommended only in specific contexts or conditions)*
Recommendation 4
Client-to-provider telemedicine

WHO recommends the use of client-to-provider telemedicine
• to complement, rather than replace, the delivery of health services and
• in settings where patient safety, privacy, traceability, accountability and security can be monitored.

*(Recommended only in specific contexts or conditions)*
In this context, monitoring includes the establishment of standard operating procedures that describe protocols for ensuring patient consent, data protection and storage, and verifying provider licensing and credentials.
Recommendation 5
Provider-to-provider telemedicine

WHO recommends the use of provider-to-provider telemedicine in settings where

• patient safety, privacy, traceability, accountability and security can be monitored.

(Recommended only in specific contexts or conditions)

In this context, monitoring includes the establishment of standard operating procedures of that describe protocols for ensuring patient consent, data protection and storage, and verifying provider licensing and credentials.
Recommendation 6
Targeted client communication via mobile devices

WHO recommends targeted client communication via mobile devices for

• health issues regarding sexual, reproductive, maternal, newborn, and child health
• under the condition that potential concerns about sensitive content and data privacy can be addressed

(Recommended only in specific contexts or conditions)
Recommendation 7

Health worker decision support via mobile devices

WHO recommends the use of decision support via mobile devices

• for community and facility-based health workers in the context of
• tasks that are already defined within the scope of practice for the health worker.

(Recommended only in specific contexts or conditions)
Recommendation 8

Digital tracking of clients’ health status and services (digital tracking) combined with decision support

WHO recommends digital tracking of clients’ health status and services, combined with decision support under these conditions:

• in settings where the health system can support the implementation of these intervention components in an integrated manner; and

• for tasks that are already defined as within the scope of practice for the health worker.

*(Recommended only in specific contexts or conditions)*
Recommendation 9
Digital tracking combined with:

(a) decision support and
(b) targeted client communication

WHO recommends the use of digital tracking combined with decision support and targeted client communication under these conditions:

- where the health system can support the implementation of these intervention components in an integrated manner;
- for tasks that are already defined as within the scope of practice for the health worker; and
- where potential concerns about data privacy and transmitting sensitive content to clients can be addressed.

(Recommended only in specific contexts or conditions)
Recommendation 10
Digital provision of training and educational content to health workers via mobile devices/ mobile learning (mLearning)

WHO recommends the provision of learning and training content via mobile devices /mLearning

• to complement, rather than replace, traditional methods of delivering continued health education and post-certification training

(Recommended)
Overall support / issues about digital health

Health Workers

Factors that may increase acceptability
• expand their range of tasks
• efficiency
• increased speed
• save travelling time
• portability
• Connections
• Status

Factors that may decrease acceptability
• do not reduce their workload and in some cases increase their workload
• loss, damage and theft
• shaped by their pre-existing digital literacy.

Feasibility for health worker
• network connectivity and access to electricity
• usability issues
• integration with other digital systems
• problems with the design of the programmes or of the device itself,
• confidentiality of medical information and data security
Overall support / issues about digital health

Clients/individuals

• Feel like someone is interested
  • providing support, guidance and information, and giving a sense of direction, reassurance and motivation
  • offering reassurance and a sense of safety
• appreciate the increased access and the consistency and continuity of care
• increased their independence and self-care

People with health conditions that are often stigmatised or very personal (e.g. HIV, family planning and abortion care)
• worry that their confidential health information will be disclosed
• prefer face-to-face contact
• should be little or no charge

Individuals who speak minority languages
• access to health workers who speak this language
• But low literacy or digital literacy skills

Clients with other responsibilities, living far from health care facilities or with few funds
• may save money and reduce the burden of travel
• but poor access to network services, electricity or mobile devices
How to read the guidelines

• Go over the recommendations
• Choose the ones that interest you
• Read the section in detail, to become more acquainted with the evidence
  • Effectiveness
  • Acceptability
  • Feasibility
  • Resource use
  • Gender, equity and human rights
• And to understand the justification for the recommendations
• And read the implementation considerations
• So you can
  • Convince colleagues as necessary
  • Improve your intervention
Recommendations on digital interventions for health system strengthening

Classification of digital health interventions
Reactions to the Digital Health Guidelines

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Digital health and innovations sub-group
Child Health Task Force

17 May 2019
Reactions

• Evidence a bit dated
• Review the additional remarks in each section – provides reactions and thoughts of GDG outside of the evidence “GDG also believed that the use of mobile devices to perform this task was likely to provide a more expedient means of effecting the notification and subsequent health services”
<table>
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<tr>
<th>Implementation Phase</th>
<th>Cost Category</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>One-time start-up costs</strong></td>
<td>Content adaptation ($)</td>
<td>- <strong>User-centred design process</strong> to define requirements within appropriate context. This includes business process mapping, understanding the intended users, and documenting functional and non-functional requirements.</td>
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|                                      | Outreach and raising awareness of the intervention ($$) | - **Raising awareness in the community** about the intervention and how to make notifications. This may be conducted by outreach through community health workers, pamphlets, billboards, mass messaging.  
  - **Campaigns and community outreach programmes** directly to communities and key informants. |
|                                      | Equipment/hardware ($)                | - **Devices** (e.g. mobile phones, tablets, computers) used by key informants for conducting birth notifications.  
  - **Set-up of cloud hosting or physical server**, which would require physical and virtual security and authentication. |
|                                      | Initial training ($)                 | - **Development/adaptation of training curriculum** and standard operating procedures. This can include materials for training-of-trainers approaches.  
  - **Training on standard operating procedures** for the recipient of the birth/death notification (i.e. health workers and civil registrar personnel). |
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| Recurring costs      | Human resources ($$)       | ‣ Personnel to oversee overall programme.  
                             ‣ Personnel for system set-up and user support.  
                             ‣ Personnel for partnership building and coordination meetings to align with stakeholders (e.g. ministry of health counterparts, other implementing partners, mobile network operators).  
                             ‣ Incentives for reporting birth and death notifications, particularly if relying on community members and key informants for the notification. |
|                      | Refresher training and workflow management ($$) | ‣ Refresher training or continued community outreach to facilitate uptake of notification processes.  
                             ‣ Periodic review meetings to discuss feedback on system performance and challenges. |
|                      | Communication/data exchanges ($) | ‣ SMS text message/USSD voice call/data transmission charges based on volume of communication content and communication channel.  
                             ‣ Short code maintenance fee, which represents a simplified number for clients to use when registering for the service.  
                             ‣ Aggregator maintenance fees to enable communication across multiple network carriers. |
|                      | Technology maintenance ($)  | ‣ Data hosting (e.g. server maintenance or cloud-hosting fees).  
                             ‣ Software maintenance, licensing and upgrade fees.  
                             ‣ Hardware maintenance, including insurance and... |
The WHO/ITU National eHealth Strategy Toolkit [9] has identified the following implementation considerations:

- Infrastructure
- Health workforce
- Governance
- Financial resources
- Interoperability and standards
- Policy and regulations

In addition, drawing on systematic reviews of the global evidence, we identified the following cross-cutting implementation issues:

Involving stakeholders in programme design and implementation

- Involve health workers, facility staff and other users in the design, user testing and implementation of the programme, and include them in decisions about changes to the programme. Ensure that the programmes and digital devices are easy to install and to use.
- When designing the programme and planning health worker training, pay particular attention to the needs of health workers who are not technically literate. Make an effort to ensure that the requirements of the new programme do not threaten their job security.
- Raise awareness of the programme among clients and potential clients in order to increase their trust in and use of the programme.

Assess how programmes can be efficiently integrated with the rest of the health system.
What does this mean for us?

Promote awareness
Take advantage of cost and consideration data
Identify areas for further research
Be sure the details don’t get lost