eHealth and innovation in women's and children's health: A baseline review

Based on the findings of the 2013 survey of CoIA countries by the WHO Global Observatory for eHealth

Improving the health of women and children is a global health imperative, reflected in two of the most compelling Millennium Development Goals (MDGs), which seek specifically to reduce maternal and infant deaths by 2015\(^1\). This report, based on a 64-country survey, clearly demonstrates – as never before in such detail – the vital role that information and communication technologies (ICTs) and particularly eHealth\(^2\) are playing today in helping achieve those targets – and it shows how they can be the spring-board for further progress.

It demonstrates how, every day, eHealth is saving the lives of women, their babies and infants in some of the most vulnerable populations around the world, in a wide variety of innovative ways. This report is rich in examples from many countries. New and cost-effective measures to improve the health of women and children are increasingly on offer – and the offers are being taken up.\(^3\)

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2. eHealth is the effective use of information and communication technology (ICT) for health.
Executive summary

Brief background

This joint report by the World Health Organization (WHO) and the International Telecommunication Union (ITU) stems from the launch in 2010 of the United Nations’ Secretary-General’s Global Strategy for Women’s and Children’s Health with the aim of accelerating action on the MDGs mentioned above. It called for a process to determine the best arrangements for global reporting, oversight and accountability.

This led to the creation of the United Nations Commission on Information and Accountability (ColA)\(^4\), which developed an accountability framework with three interconnected processes – monitoring, reviewing and action, and was focused on 75 countries which together have 98% of the world’s maternal and child mortality.

It links accountability for resources to the results, outcomes and impacts they produce. Threading the framework together is the flow of information to support implementation of the ColA’s ten recommendations to support delivery of better information for better results; better tracking of resources for women’s and children’s health; and better oversight of results and resources, nationally and globally.

Information and communication technologies (ICTs) and eHealth applications play an essential role in meeting all the recommendations. The first four of these focused on generating better information for better results, including resource tracking, and these are the prime focus of this report.

For each of these four recommendations, an independent Expert Review Group (iERG), established by WHO in 2012, has been reporting to the UN Secretary-General on the results and resources related to the Global Strategy, and on progress in implementing the recommendations, based on a set of iERG core indicators.

As a consequence, WHO launched a survey whose aim was “to collect and analyse data on progress being made in the uptake of eHealth in countries – particularly in the use of eHealth for the benefit of women’s and children’s health”.

This is the report of that survey, in which 64 of the 75 countries responded, and which was conducted through the WHO Global Observatory for eHealth (GOe). Over 300 eHealth and maternal and child health experts have contributed to this report, supported by many WHO colleagues around the world. WHO and ITU then joined forces to analyse the findings and present them here.


Introduction

The Internet and the mobile phone have become commonplace and almost indispensable aspects of daily life for a huge and growing proportion of people around the world. Remarkable technological advances in recent years have taken us from the bulky personal computer to the laptop, smart-phones and other handheld devices. Further exciting innovations are certain.

These are instruments of change – changing the way people live, work and interact, and the way health authorities and health care professionals can, through eHealth, help citizens everywhere to live longer and healthier lives.

The process of change is sometimes so rapid that understanding and acting on its implications and potential health benefits can lag behind. A theme of this report, emerging from the survey is how these instruments of change, and policies related to them, are part of a “quiet revolution” in which many far-reaching health-related changes are now taking place.

Already, well over 100 countries are using mobile phones to achieve better health, or exploring how they can do so. Internet access is expanding everywhere, and with it access to vital information and advice. Through it, governments are finding new avenues, including official websites and social media, to provide more information to their populations at large, and to promote women’s and children’s health programmes.

Meanwhile, use among health-care workers and patients themselves is gaining momentum. At the same time, governments are steadily moving towards ICT-based integrated health information systems, and adopting eHealth policies. Since 2012, at least seven more countries have adopted an eHealth strategy. The National eHealth Strategy Toolkit, developed and published jointly by WHO and the ITU, has quickly become an invaluable guide for all countries. The ability of people in general, together with health-care professionals and policy-makers, to make better-informed decisions has been transformed by ICT-enabled solutions. These trends are set to continue in the coming years and to have profound effects on people at all levels.

At the family level, mothers and pregnant women are becoming enlightened on healthy pregnancy, safe delivery and improved infant and child protection. At national and community levels, official registration of births, deaths and causes of death is gradually improving. Counting the number of children born is essential in embracing them in a continuum of care through their mother’s pregnancy and into their first weeks, months and years of life. Birth registration is a “passport to protection” for children, extending from basic services in health, social security and education, to safeguards against other threats to their wellbeing and safety.

However, these key points are only a part of a more nuanced and complex picture. This report also highlights the many difficulties, dilemmas and barriers that stand in the way of further progress. Progress recorded to date is often uneven, piece-meal and fragmented. It is held back by an array of problems. These include lack of government commitment in some cases, lack of skilled health professionals and expertise in others, and lack of financial and other resources almost everywhere.

The report highlights gains that have been made and offers them as models that other countries can emulate. But it also shows where those gains have been much harder to achieve, and gives the reasons why. It provides many lessons that have been learned; often these lessons derive not from success stories, but from the lack of them.
Some of the most encouraging findings are summarized here:

- Ninety-four per cent of the countries have a national policy or strategy for women’s and children’s health.
- Over 90% of the countries are monitoring six of the 11 key indicators on reproductive, maternal, neonatal and child health (RMNCH), and monitoring of all of them is generally widespread in these countries.
- Sixty-nine per cent have implemented, at least partially, an electronic information system to register births, deaths, and causes of death.
- Fifty-six per cent of the countries report that eHealth is supporting major women’s and children’s health initiatives.
- Forty-eight per cent have adopted at least one type of eHealth initiative for the monitoring and surveillance of maternal, neonatal and paediatric patients. Telemedicine and teleconsultation services are the most frequently adopted.
- Forty-two per cent of the countries have a national eHealth policy or strategy.
- Thirty-six per cent of national eHealth strategies refer to the use of eHealth for women’s and children’s health.

This report also examines the barriers to the implementation of eHealth and lessons that can be learned. The main barriers emerging from the survey are:

- a lack of suitably qualified or experienced professionals to develop and implement eHealth projects;
- inadequate infrastructure to support programmes;
- a lack of adequate business models to support broad and sustainable eHealth delivery; and
- A lack of political commitment.

Recommendations

The report makes recommendations on these and other issues, and many echo those of the iERG. They stress the need to:

- Promote intersectoral working, between ministries, partners, RMNCH programmes, and ICT to improve monitoring, surveillance, civil registration and vital statistics (CRVS) and resource tracking systems.
- Promote electronic data capture and processing to help improve the uptake and quality of information, and indicators, for decision-making, with web-based reporting supporting integrated RMNCH information systems.
- Promote the coordinated collection of indicators via electronic means as part of an integrated plan for implementing eHealth services for women’s and children’s health.
- Support policies and eHealth strategies for RMNCH services, including by use of the WHO/ITU National eHealth Strategies Toolkit and developing inventories of eHealth initiatives for RMNCH.
- Address specific issues to enable eHealth programmes for RMNCH. These include providing access to information for citizens and health-care professionals while addressing issues that include use of social media, electronic records, training, online safety, privacy and the challenges of implementation.
- Recognize and act on identified barriers to eHealth development in the development of eHealth policy for delivery of RMNCH services.

These and other recommendations are intended to help countries build on the work already done – much of it impressive – and find ways to accelerate the pace at which they can further improve the health of every woman and every child.