**Background**

There is growing recognition that diseases that cannot be passed from one person to another (non-communicable diseases – NCDs – such as cancer, heart disease or diabetes) dominate health care needs and expenditure in all developed and most low and middle-income countries. NCDs cause an estimated 36 million deaths every year, including 9 million people dying prematurely before the age of 60. Harvard University now estimates that the cumulative lost economic output in developing countries associated with NCDs is US$7 trillion over the period 2011-2025 through health-care costs and productivity losses.

Most low- and middle-income countries are now facing a double burden of communicable and non-communicable diseases. In recognition of this global threat, the UN General Assembly arranged a High-level Meeting on NCDs in September 2011, at which Heads of State and government officials participated and adopted a wide-ranging agenda for the prevention and control of NCDs. The Political Declaration adopted by the General Assembly acknowledged that NCDs constitute one of the major challenges for development in the 21st century and requested WHO to lead and coordinate global action against NCDs. Following from that meeting, a meeting of UN agencies was convened in December 2011 to agree on next steps for the UN. At that meeting, it was agreed that UN agencies could enter into joint work-plans with WHO to focus on the NCD agenda. WHO and ITU, the UN health and telecoms agencies, have decided to come together in a groundbreaking new partnership, with governments and the private sector to focus on mobile technology for NCDs.

The following four types of NCDs - cardiovascular diseases, cancers, chronic respiratory diseases and diabetes - make the largest contribution to mortality and overall disease burden in the majority of developing countries and in those economies currently undergoing growth or shrinkage. These diseases are largely preventable if effective steps are taken to reduce four common lifestyle risk factors, namely: tobacco use, unhealthy diet, physical inactivity and excessive alcohol consumption.

Recent technological innovations are changing the healthcare and health-management context for NCDs, and providing the global community with new opportunities for prevention and control. This new UN initiative will harness the best technology available in the world and make it available to all member states to fight NCDs. Mobile phones have already been successfully used in the communicable disease and maternal/child health fields to improve access to health services, to train health workers, to ensure treatment compliance, in monitoring and surveillance, and in the management of chronic diseases, etc. In the non-communicable disease field there is good evidence for disease management using mobile applications. A number of countries have also used mobile technology to deliver health promotion messages on the NCD risk factors, to survey the epidemic, to persuade users to change unhealthy behaviours and to help countries implement national laws on NCDs. This initiative will take these successful pilots to the world stage through a new global UN, private sector and government partnership focused on providing mobile solutions for NCDs. The initiative will be launched at the World Telecoms Event in Dubai, October 2012.

**Main strategic objectives**

With a global coverage of 7.4 billion mobile phones, this initiative will harness mobile technology to provide sustainable, scalable and cost-effective solutions for the key NCD risk factors, and to improve treatment and diagnosis of the common NCDs. Text messaging has been used, with and
without additional incentives, to help people quit smoking, to increase the use of sunscreen, to improve compliance in the management of diabetes and to encourage and increase the use of condoms, among many other behavioural change initiatives. Studies on the use of technology for smoking cessation in the developed world indicate significant potential for behavioural change, and often show a doubling of quit rates compared to the control group. Examples of other mHealth NCD interventions range from applications that allow individuals to monitor their diabetes and to plan their treatment programs. Other innovative approaches combine sensors with mapping to track the contexts in which people with asthma use their inhalers, which furthers public health knowledge of asthma and the environment.

The WHO/ITU mHealth Initiative for NCDs will scale up these already successful and cost-effective technologies for NCDs, which have been proven at a pilot level, and make them available for the world. The initiative will harness the “best” technology in the world to make it available to Low and Middle Income countries to help them address their burden of Non Communicable Diseases by validating technology for results, quality assurance and cost effectiveness. For areas where there is still work to do, the initiative will help develop cost effective tools and devices, and innovative solutions, by catalysing innovations from the private sector and from the academic community through challenges and by working with governments to provide incentives. The initiative will create standards and guiding principles that enable governments and their citizens to quickly access and adopt the new tools and devices. By focusing on the WHO “best buys” for NCDs, this initiative will save millions of lives and reduce the economic burden to society due to NCDs.

**MHealth for NCD Tools**

The initiative will initially run for a 4 year period and will focus on technology across three NCD areas – prevention, treatment and enforcement (see figure 1). The work plan will include both

---

**Figure 1**

mHealth for NCDs: (Prevent, Treat, Enforce)
mHealth for NCDs (WHO-ITU Joint Work-plan)

mHealth operational projects within developing countries in the area of NCDs as well as the development of standard operating procedures for member states setting out how to run an mHealth NCD intervention package to support more traditional NCD prevention and control work. The initiative will be targeting 8 countries during the 4 year period, with at least one drawn from each geographical region. The mHealth interventions will be presented in a “juke box structure”, meaning that countries can pick and choose those interventions that best suit their needs. Mobile solutions will be primarily sms or apps based and will include a range of services including mawareness, mcommunication, mtraining, mbehavioural change, mservices, mtreatment and mscreening / building on existing successful pilots and scaling them to a population level (figure 1).

The structure

The initiative will have a global platform supported by country platforms. A small secretariat at WHO and ITU headquarters in Geneva is considered important to support overall coordination and implementation in target countries, to document and disseminate lessons learned, to mobilize stakeholders and resources at global level and to link with other NCD mobile Initiatives. This small secretariat will reach out via numerous partners and other mHealth initiatives in order to achieve the workplan objectives.

Country operations will be run at country level through a national platform composed of various stakeholders who are responsible for the initiation, implementation and supporting of country operations.

A steering committee and advisory committee will provide guidance to the secretariat and will approve successful NCD mHealth interventions to be used.

Partnership

The initiative will work with partners at all levels. At the global level, partners will be able to support the secretariat, share knowledge and lessons learnt and technical expertise to help develop the standard operating procedure for each mHealth intervention and provide funds. Specific countries will be able to act as sponsors and patrons of the initiative, while other partners will be able to become part of the advisory committee to the initiative. At the country level, partners will help roll out the operational projects, provide products and technical know-how as well as funding support. This initiative will showcase the synergy between UN agencies, the private sector and government institutions (figure 2).

In the current financial climate, a major challenge for all sectors is to ensure that they are focusing on cost-effective solutions. As mobile technology is now so cheap and with the focus on the WHO best buys for NCDS, which have been chosen for their cost-effectiveness, this initiative will be economical for all sectors involved.
The initiative will be monitored according to WHO measurement framework. The expected outcomes and impact include some or all of the following:

**Expected Outcomes**

- Enhanced country capacities to strengthen health systems to address the growing NCD burden through effective use of mobile technologies and communication channels.
- Improved environment and increased opportunities for collaboration between different health, ICT and technology actors in the mobile ecosystem, at the country level.
- Empowered citizens with greater access to information relevant to address their health needs arising out of NCDs.
- Better understanding of challenges in the use of ICT/Mobile technologies in the most sustainable and scalable manner for NCD interventions.
- Widely disseminated principles, guidelines, Standard Operating Procedures, recommendations and “best” practices etc. for the employment of innovative approaches to health system strengthening using mobile technologies to support NCD goals.

**Expected Impact**

- Improved health promotion and protective behaviours (including healthy eating, exercise), and reduced risk behaviours (including tobacco and alcohol use).
- Projected cost savings, through early/timely interventions, reduced health cost burden and greater productivity, on averting future NCDs.
- Improved adherence to chronic disease management/treatment compliance for NCDs.