

INFORMATION PAPER
on
Main eHealth activities outside of the EU

Annex II-2
World Bank positioning on eHealth

LIST OF ABBREVIATIONS

ACCRONYM	DEFINITION
ECOWAS	Economic Community of West African States
ICSID	International Centre for Settlement of Investment Disputes
ICT	Information and communications technologies
IDA	International Development Association
IFC	International Finance Corporation
MDG	Millennium Development Goals
MIGA	Multilateral Investment Guarantee Agency
REDISSE	Regional Disease Surveillance Systems Enhancement
UHC	Universal health coverage
UN	United Nations
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization

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Preamble

Object

The present document is an Annex to Joint Action to support of the eHealth Network (JAsEHN) Deliverable 8.1.4 in WP8 "Report on main eHealth activities outside of the EU". It has been prepared by Norbert Paquel (external, director of Canope cabinet – France) under the control of Michèle Thonnet (Work Package leader-FRNA), then corrected and approved by the sPSC.

The objective of D8.1.4 is to observe the situation in various countries in order to better understand the development factors and main trends in the worldwide movement towards a tighter integration of ICT tools in healthcare but also to be able to initiate cooperation when advisable and possible. Information has also been gathered for two organizations that play a role in many projects, PAHO and World Bank.

Methodology

As explained in the main D8.1.4 document, the research was based on a desk study carried out between 2017/02 and 2017/08. It is important to note that time runs often very fast in the eHealth and mHealth domains. Accordingly, contrary to healthcare organizations and fundamental policies trends, concrete programmes and projects can change rapidly. However, if they correspond to clear needs and sustainable methods, they should not disappear. Moreover, important developments that may have occurred since August 2017 have been taken into account when possible.

- I -

Synthetic presentation of the World Bank

1. Introduction and background

The World Bank (WB) was created in July 1944 at the Bretton Woods Conference; it comprises 189 Member States. Four additional institutions were created since:

- The International Finance Corporation (IFC), created in 1956
- The International Development Association (IDA), created in 1960
- The International Centre for Settlement of Investment Disputes (ICSID), created in 1966
- The Multilateral Investment Guarantee Agency (MIGA), created in 1988

Together with the WB, these organizations make up the World Bank Group (WBG). The WB itself is made up of two institutions: the International Bank for Reconstruction and Development (IBRD) and the IDA. IBRD and IDA share the same executive leadership and the same staff. IBRD offers loans to middle income developing countries while IDA focuses on poorest countries.

The purposes of the Bank as described in its Articles of Agreement are:

- i. To assist in the reconstruction and development of territories of members by facilitating the investment of capital for productive purposes, including the restoration of economies destroyed or disrupted by war, the reconversion of productive facilities to peacetime needs and the encouragement of the development of productive facilities and resources in less developed countries.
- ii. To promote private foreign investment by means of guarantees or participations in loans and other investments made by private investors; and when private capital is not available on reasonable terms, to supplement private investment by providing, on suitable conditions, finance for productive purposes out of its own capital, funds raised by it and its other resources.
- iii. To promote the long-range balanced growth of international trade and the maintenance of equilibrium in balances of payments by encouraging international investment for the development of the productive resources of members, thereby assisting in raising productivity, the standard of living and conditions of labour in their territories.
- iv. To arrange the loans made or guaranteed by it in relation to international loans through other channels so that the more useful and urgent projects, large and small alike, will be dealt with first.
- v. To conduct its operations with due regard to the effect of international investment on business conditions in the territories of members and, in the immediate post-war years, to assist in bringing about a smooth transition from a wartime to a peacetime economy.

The Bank's mandate also includes promotion of good governance and fight against corruption as well as fight against climate change.

As part of the United Nation's (UN) system, the Bank is compelled to work towards the Millennium Development Goals (MDG):

- To eradicate extreme poverty and hunger
- To achieve universal primary education

- To promote gender equality and empower women
- To reduce child mortality
- To improve maternal health
- To combat HIV/AIDS, malaria, and other diseases
- To ensure environmental sustainability
- To develop a global partnership for development

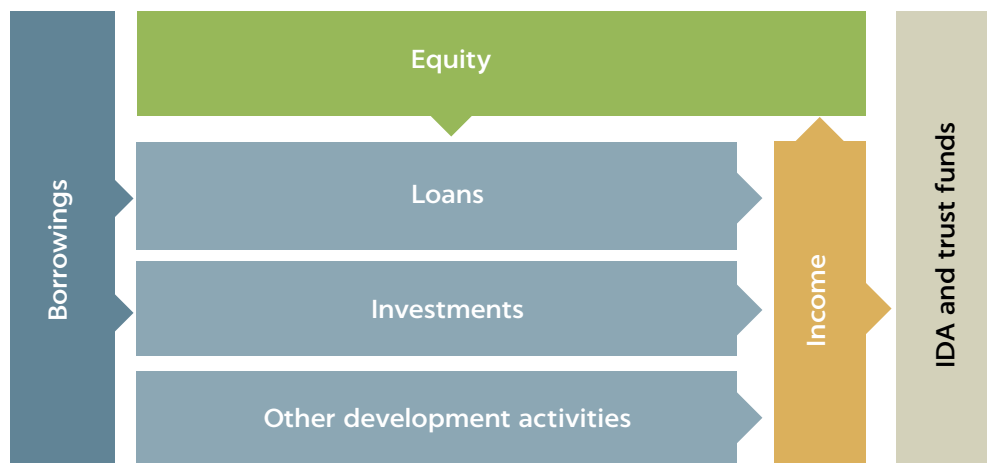
The current WBG strategy focuses on two goals:

- To end extreme poverty: reduce the percentage of people living on less than \$1.25 a day to 3 percent by 2030.
- To promote shared prosperity: foster income growth for the bottom 40 percent of the population in every developing country.

2. WB resources and priorities

(from the World Bank Annual Report 2016)

Figure 1: IBRD Business Model



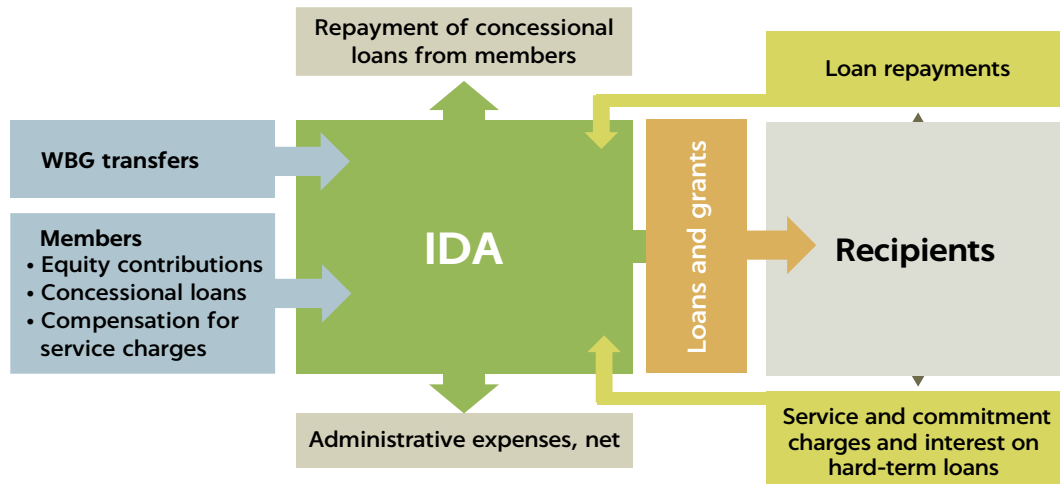
To fund development projects in member countries, IBRD finances its loans from its own equity and from money borrowed in the capital markets through the issuance of World Bank bonds. In fiscal 2016, IBRD raised U.S. dollar equivalent (USDeq) 63 billion by issuing bonds in 21 currencies. IBRD's equity comprises primarily paid-in capital and reserves.

As a cooperative institution, IBRD seeks not to maximize profit but to earn enough income to ensure its financial strength and sustain its development activities. Of fiscal 2016 allocable net income, the Board of Executive Directors recommended to the Board of Governors the transfer of \$497 million to IDA and the allocation of \$96 million to the General Reserve.

IDA is funded largely by contributions from developed and middle-income partner countries. Additional financing comes from transfers from IBRD's net income, grants from IFC, and borrowers' repayments of earlier IDA credits. Development partners meet every three years to replenish IDA's funds and review its policies. Administrative expenses are recovered primarily through service charges paid by recipient countries.

The World Bank has two broad categories of lending operations¹: investment operations and development policy operations. Investment operations provide funding (in the form of IBRD loans and IDA credits and grants) to governments to cover specific expenditures related to economic and social development projects in a broad range of sectors. Development policy operations provide untied, direct budget support to governments for policy and institutional reforms aimed at achieving a set of specific development results.

Figure 2: IDA Business Model



Development policy loans (DPLs) have a short-term focus (1 to 3 years). They provide quick-disbursing external financing to support policy and institutional reforms. Development policy lending is the sole instrument for policy-based lending.

- The Bank's assessment should conclude that an appropriate macroeconomic policy framework is in place.
- Conditionality is expected to continue to be streamlined, with a limited set of conditions or triggers (expected prior actions) focusing on those actions most crucial to the success of the program.

Figure 3: IBRD lending by theme, FY 2016 (billions of US\$)

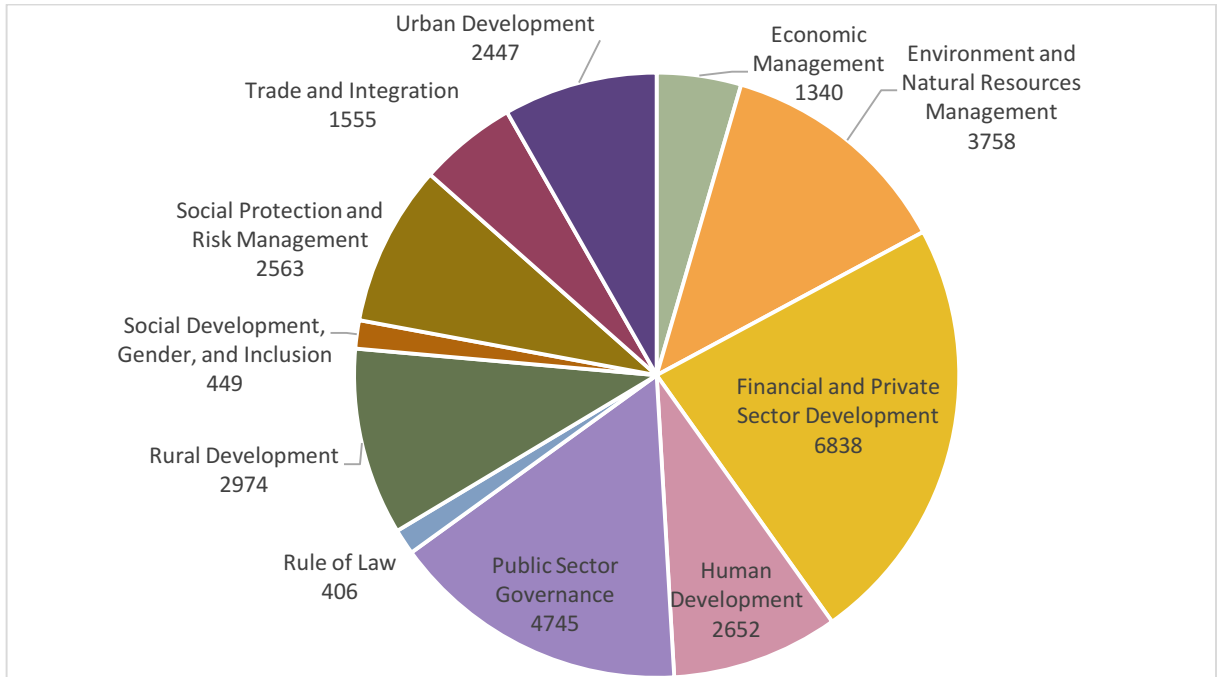
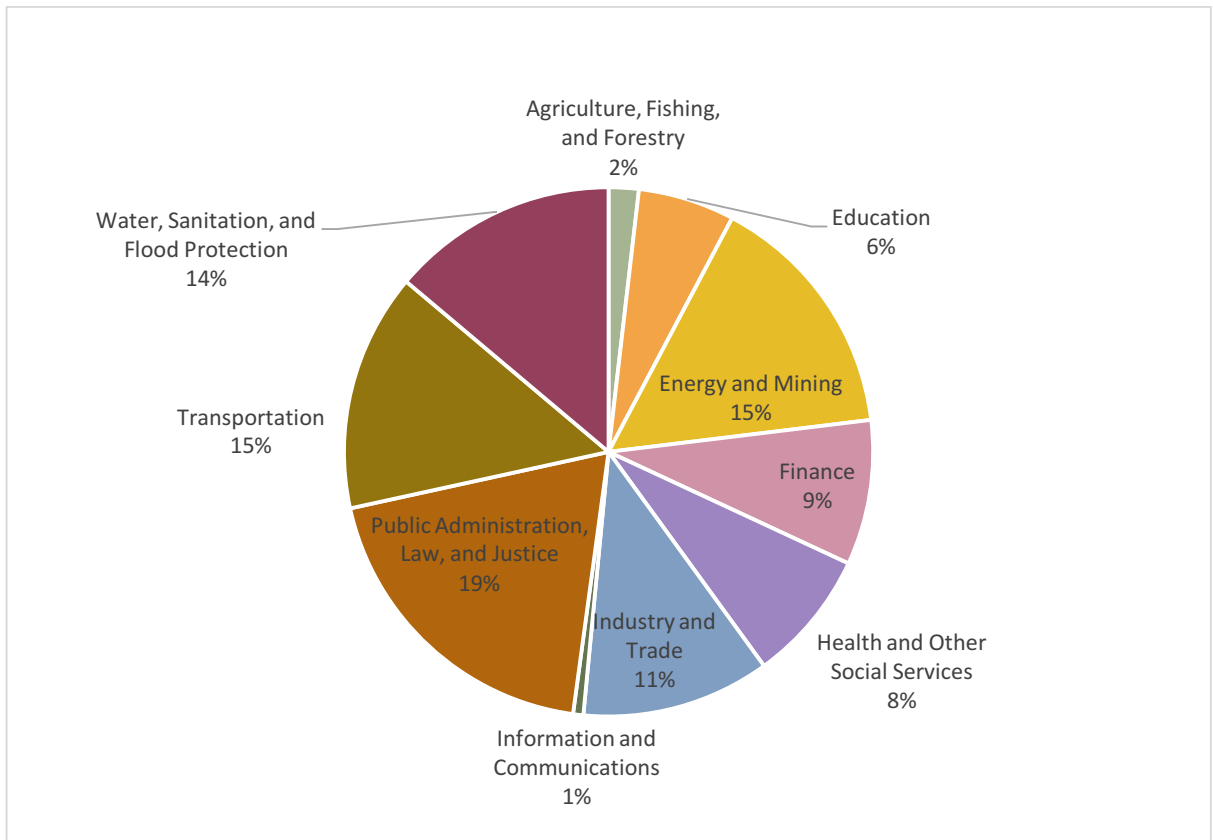


Figure 4: IBRD lending by sector, FY 2016 (billions of US\$)



- II -

eHealth as a development tool

The global movement toward universal health coverage (UHC) provides an umbrella under which the World Bank Group works with governments and development partners to ensure all people receive quality, affordable care without suffering financial hardship. The means toward UHC includes strengthening health systems and prevent and treat communicable diseases.

Learning from its vast experience in development projects, the World Bank has identified a series of finding and issued some recommendations pertaining to eHealth.

3. eHealth potential in developing countries

The World development report 2016, subtitled “Digital dividends”, included a focus on eHealth which provides a good overview on the Bank’s position on the matter.

(from the World development report 2016)

The internet and associated technologies have the potential to expand health services in developing countries, increase health system efficiency, and lead to better patient outcomes.

Public health and clinical care cannot be delivered safely, with high quality and in a cost-effective manner, without seamless, sustainable, and secure data and information exchange at all levels of the health system. By 2011, 93 of 112 health systems in countries surveyed by the World Health Organization (WHO) had already adopted some form of an eHealth or mHealth approach, mostly for information programs, emergencies, and telemedicine. Yet overall, deployment has been slow. Too often data are captured in a way that cannot be shared as needed because of interoperability issues or a lack of standards regarding the exchange of health information. Sometimes data are captured multiple times in multiple ways, leading to duplication, inaccuracies, and delays. Often they are not captured at all.

Low and middle-income countries can do better. First, they can build on the emerging experience of developed countries and adapt systems to local conditions to benefit from eHealth without repeating others’ mistakes.

Second, the absence of “legacy systems” can be an advantage. Countries can now make use of cloud computing to lower system costs and mobile technology to expand services to even the poorest and most remote locations. **The potential value of eHealth can arguably be greater in poorer countries**, since it expands the reach and impact of the often very small number of highly trained physicians, assists clinical staff in rural and remote areas in making better diagnoses and treatment decisions, and helps make the best use of limited health care funding.

There is early evidence to suggest that eHealth solutions, while costly to implement, can bring significant cost savings. This is because the implementation of human resources information systems, logistics management information systems, clinical decision support tools, digital payments, financial management information systems, and SMS reminder systems can address a variety of health system problems, including system inefficiencies, overuse of procedures, inappropriate hospital admissions, corruption and fraud, and missed appointments.

Effective country ownership, good governance, and strong institutional and human capacity are core to eHealth planning and implementation. This includes a strong legal basis for managing health-related data with appropriate safeguards. In addition to ensuring that health workers are able to effectively use such systems, this also implies the need for strong health informatics

training programs in order to develop a qualified eHealth workforce. National planning, enterprise architecture, standardization, and interoperability are essential for successful eHealth implementation.

User-centred health care systems should leverage the unique capacity of citizens to contribute information and feedback. This enables health systems to connect with clients when and where needed, but clients can also access information and care, at their convenience.

Replacing paper-based patient registers with electronic registers should help improve local health care quality and inform management decision making. Similarly, increasing the use of eHealth and mHealth approaches and tools can support improved decision making by frontline providers, including GPS-enabled tools and harnessing the revolution that smartphone access to broadband content will bring about in developing countries. In this regard, more emphasis is needed to expand and improve the use and functionality of open-source software platforms (for example, OpenMRS, OpenLMIS, and iHRIS); develop new open-source platforms (for example, for health insurance and training); and support open-source frameworks (for example, OpenHIE).

Information and communication technology platforms (web, social media, SMS campaigns, direct access to personal data in electronic health records) can be leveraged to enhance accountability, transparency, and empowerment of citizens to be active contributors to governance in health and central to health care delivery.

4. Identified criteria for eHealth projects success

(from Information and Communication Technologies for Health Systems Strengthening - Discussion Paper, 2015)

Despite the potentially transformative nature of information and communication technologies (ICT) for health, or eHealth, in strengthening health systems, many projects in African countries remain at the pilot stage and are unable to be scaled up even when robust evaluations of these pilots show positive results. This difficulty in scaling up pilot projects is linked to a number of structural and institutional weaknesses that are often not sufficiently addressed in many ICT interventions, resulting in suboptimal benefits and operational inefficiencies.

Seven elements are necessary for developing scalable eHealth solutions:

1. Adequate physical infrastructure
2. Data and interoperability standards
3. Sufficient local capacity
4. Supportive policy and regulatory environment, including an integrated national eHealth strategy
5. Appropriate business model
6. Thoughtful partnerships aligned with national and local priorities
7. Effective monitoring and evaluation (M&E)

5. Specific mHealth recommendations

(from 2012 Information and Communications for Development, Maximizing Mobile)

Funding for mHealth implementations is often scattered and these projects are too often stand-alone pilot program In parallel, entry barriers for the supply of applications are often lower for mHealth than for other eHealth services or conventional delivery of health care, because small start-ups and local developers can develop mobile software with relatively few resources and can address a much wider potential user base. The shift from eHealth to mHealth can also create an opportunity for a shift from top-down to bottom-up approaches, from government to consumer

initiatives, and from centralized to decentralized spending, if mHealth initiatives are effectively implemented.

5.1 Most relevant challenges to the greater uptake of mHealth

- **Insufficient financial resources**

Obstacles to comprehensive mHealth solutions are often financial, especially in the developing world. In particular, if no payment structures have been established, it is unclear who should cover the costs for mHealth in private health care (consumers, governments, insurance companies?). This is critical, since the largest part of the cost is often related not to the development of the mHealth application but to the integration of mHealth services with other health care infrastructure.

- **Lack of sustainable business models**

The rollout of mHealth and other eHealth products and services needs sustainable business models and revenues. Besides a lack of public and private investments in developing such products and services, low-income countries often lack human resources and purchasing power on the demand side. Thus, business models cannot simply be adapted from the developed world but must be designed to match the scarcity of resources both on the demand and supply side.

- **Privacy and security concerns**

Typically, mHealth faces significant privacy and security concerns, with limitations on access to patient data that can complicate inter- actions between different systems such as primary care, emergency care, and insurance.

- **Limited evidence**

Reliable assessments on the impact of mHealth services are scarce, making it difficult to justify adoption and implementation.

- **Difficult coordination of stakeholders**

Orchestrating diverse private, public, and development sector interests for mHealth can be challenging. Clear roles have yet to be defined, and role models are lacking. The different stakeholders have different goals and strategies that often overlap and conflict, leading to frictions and inefficiencies.

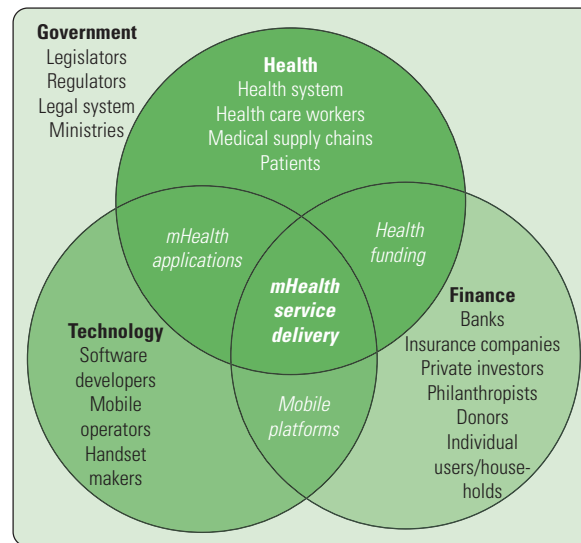
- **Interoperability issues**

Piecemeal implementation of mHealth products and services has led to a lack of interoperability between applications that run on different devices and platforms.

5.2 mHealth ecosystem framework

A useful framework for the mHealth ecosystem is provided in a World Bank report on mobiles in health (Qiang et al. 2012), which positions mHealth at the nexus of health, technology, and financial services, with government influencing all three of these spheres. This positioning is in line with a common argument that mobile financial services can enhance the impact of mHealth initiatives.

Figure 5: mHealth ecosystem



Source: Qiang et al. 2012.

The main challenge for the mHealth industry in low-income countries has been to continue to deliver services once initial funding of pilot projects ends and to scale up or replicate effective models in large-scale implementations. This challenge results in part from a lack of long-term feasible business models. To obtain sustainable investment in this emerging industry, the private sector needs to demonstrate effective and robust mobile apps that address both local and national health needs, especially for low- and middle-income countries, where average per-user revenues are lower. In cases where incentives for the private sector are not strong enough (that is, where the market prospects are too uncertain, or consumers lack purchasing power), the public sector will have to fill the gap, for example, by directly subsidizing mHealth services, limiting administrative cost for licensing, or engaging in public-private partnerships.

The business models for mHealth must follow the actual health care needs of individuals and the public to be sustainable. As health is considered a public good, the business models should also be aligned with public policy interventions. Investment in mobile applications for public health issues such as non-communicable diseases should help reduce the costs of health care services and guarantee a healthier population and workforce for developing economies.

Principles for implementing mHealth applications:

- Avoid a one-size-fits-all approach
- Maintain flexibility
- Take standards and interoperability into account
- Evaluate existing information systems
- Ensure quality and content of health information
- Respect privacy and confidentiality
- Track key success indicators for monitoring and evaluation Enable public-private partnerships

- Ensure the commitment of leaders
- Offer training and take literacy into account

6. Project focus: the Regional Disease Surveillance Systems Enhancement

The Regional Disease Surveillance Systems Enhancement (REDISSE) is an interesting example of how a cross-country/multi-sector health project can be designed and of how information systems can fit in a global response to a specific health issue.

REDISSE II is a second project under the REDISSE Program that will eventually engage and support all 15 countries in the Economic Community of West African States (ECOWAS) region. Overall, the program aims to address the gaps and weaknesses in disease surveillance, preparedness and response systems across all countries in West Africa to better prevent and control infectious disease outbreaks.

REDISSE II was launched in the wake of the 2013-2016 Ebola Virus Disease epidemic in West Africa which confirmed the critical importance of strengthening national disease surveillance systems and inter-country collaboration in order to detect disease outbreaks earlier and respond more swiftly and effectively.

The regional benefits and positive externalities of effective disease surveillance and response are substantial. Collective action and cross-border collaboration are essential and emphasized throughout the Program:

- i. the Programme support countries' efforts to harmonize policies and procedures;
- ii. countries are empowered to engage in joint planning, implementation and evaluation of program activities across borders at regional, national and district levels, and;
- iii. the Program promotes resource sharing of high-cost specialized assets.

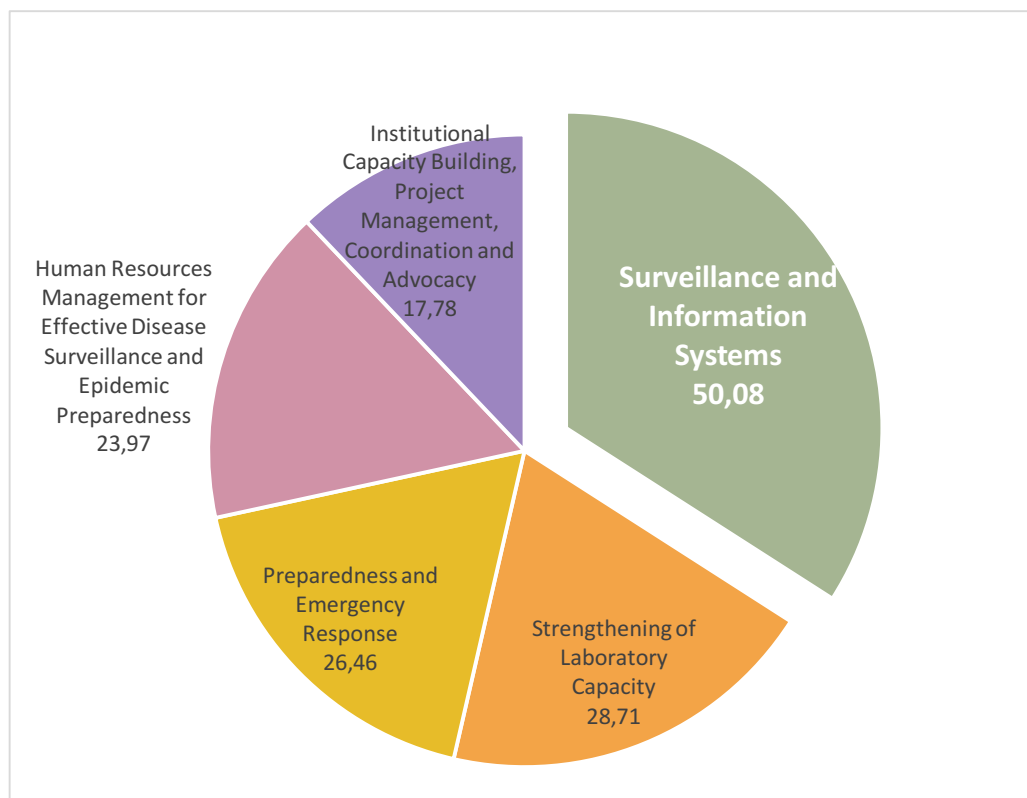
Health systems in West Africa suffer from chronic insufficiency of financial and human resources, limited institutional capacity and infrastructure, weak health information systems, prevailing inequity and discrimination in availability of services, absence of community participation, lack of transparency and accountability, and a need for management capacity building. Data quality assurance protocols and supervision to ensure data completeness and accuracy are not fully implemented, which is a critical challenge to disease surveillance strategies.

REDISSE II has five components:

- Component 1: Surveillance and Information Systems
- Component 2: Strengthening of Laboratory Capacity
- Component 3: Preparedness and Emergency Response
- Component 4: Human Resources Management for Effective Disease Surveillance and Epidemic Preparedness
- Component 5: Institutional Capacity Building, Project Management, Coordination and Advocacy

The five identified project components and thirteen sub-components serve as a menu of options for countries to select from so that the project can address specific needs of countries that are at different stages of building their respective disease surveillance, preparedness and response systems.

Figure 6: Estimated budget allocations by component (US\$ million)



Component 1: Surveillance and Information Systems involves the enhancement of national surveillance and reporting systems and their interoperability at the different tiers of the health systems. The sub-components are:

- i. support coordinated community-level surveillance systems and processes across the animal and human health sectors;
- ii. develop capacity for interoperable surveillance and reporting systems; and
- iii. establish an early warning system for infectious disease trends prediction.

Activities under this component include:

- i. the establishment of appropriate linkages between national animal health and human health surveillance information systems, between national systems to regional/international disease surveillance and reporting systems, and adaptation of potentially cost-effective risk-based approaches to surveillance;
- ii. cross- border collaboration in surveillance (including active/event-based, passive and syndromic surveillance) for the early detection of cases;
- iii. timely reporting by community-level surveillance agents as well as district health and veterinary facilities, and minimization of turnaround time from specimen collection to laboratory confirmation and reporting;

- iv. the use of surveillance data for risk analysis (assessment, management and communication) to implement appropriate outbreaks prevention and control interventions across the sub-region.

Figure 7: Estimated budget allocations by component (US\$ million)

