**Project Title**: Strengthening Health System in Montenegro (Phase 2)

**Project Number:** 00103594

**Implementation Partner:** UNDP Office in Montenegro

**Commencement Date:** 17 October 2018

**Completion Date:** 31 December 2022

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| **Brief description** |
| Enhancement of the Health Information System - HIS is of enormous importance for the further development of the entire health-care system, strategic planning of activities and required resources, and appropriate provision of health services.  The results of the analysis that was carried out during the project's first phase indicate that the existing information system in the health sector is incomplete, fragmented and insufficiently interoperable to provide satisfactory information for the efficient management of the health system. The analysis also indicated the necessity to set up an organisational unit at the Ministry to deal with the information system management, IT and analytical activities. Finally, the key planning documents were produced during the project's first phase and they include: i) Integrated Health Information System Development Strategy 2018- 2023 and ii) Action Plan for 2018 - 2021, which include proposals for the new E-architecture of the system, define priority projects such as improvement of the IT infrastructure at the Clinical Centre, and offer solutions for integration of all existing health systems.  The goal of phase 2 is to set up the comprehensive *Integrated Health Information System (*IHIS) and accordingly implement the activities set in the Strategy's Action Plan, in order to achieve full improvement of the IT infrastructure in the health sector and facilitate centralised and timely management and use of reliable data for strategic decision-making. System modernisation and improvement of IT infrastructure will significantly increase its efficiency and also result in savings related to maintenance and every day operation and thus facilitate significant investments to improve the quality and standard of health services. |

Contributing Outcome (UNDAF/CPD, RPD or GPD):

By 2021, the population has improved access to quality, equitable, inclusive and mutually reinforcing systems of health, education, protection and decent work.

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| **Total resources required (USD):** | **1,686,200** | |
| **Total resources allocated:** | **1,793,200** | |
| **Transferred from phase 1** | 91,000 |
| **Government of Montenegro:** | 1,686,200 |
| **UNDP** | 16,000 |
| **Unfunded:** | N/A | |

Agreed by (signatures):

|  |  |
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| The GOVERNMENT of Montenegro | UNDP – Implementing partner  Daniela Gasparikova,  UNDP Resident Representative to Montenegro |
| dr Kenan Hrapović,  Minister of Health |
| Date: | Date: |

**Strengthening Health System in** Montenegro (ID 00103594)

*- Brief Summary with key components, results and plans -*

**Intro**

Development and upgrade of the National Integrated Health Information System - IHIS is of enormous importance for further development of the overall health-care system. Improving the IT infrastructure of the entire health system has significant implications for the improvement of the quality of health services’ provision, but also for the process of evidence-based and timely strategic decision making. The existing information system in the health sector is incomplete, fragmented and insufficiently interoperable, and consequently unable to provide satisfactory information for the efficient management of the health system.

***Phase I (Aug 2017 – Jun 2018, budget: 81,200 USD)***

In order to come up with adequate decision on further development of NIHIS, the goals of the project Phase I were to implement a comprehensive analysis which will, among others, identify the new e-Architecture including the functional analysis of the existing information systems and the ways for the existing systems to be integrated with the proposed new solutions, and accordingly to set up the comprehensive Integrated Health Information System (IHIS), in order to achieve full improvement of the IT infrastructure in the health sector and facilitate centralized and timely management and use of reliable data for strategic decision-making.

**Key results – phase 1:**

- **Completed the comprehensive analysis**, which include analysis of the situation of the existing information systems, i.e. mapping of the existing systems, business processes and data flows. Based on the comprehensive study the national **health sector e-Architecture is defined**.

- Supported development and adoption of the key planning documents that can serve as the framework for the further development of NIHIS - **Health Information System Development Strategy** **2018- 2023** and corresponding Action Plan 2018-2021.

***Phase II (Oct 2018 -Dec 2021, budget: 1,793,200 USD)***

The results of the analysis that was carried out during the project's first phase indicate that the existing information system in the health sector is incomplete, fragmented and insufficiently interoperable to provide satisfactory information for the efficient management of the health system.

The goal of phase 2 is to set up the comprehensive Integrated Health Information System (IHIS) and accordingly implement the activities set in the Strategy's Action Plan, in order to achieve full improvement of the IT infrastructure in the health sector and facilitate centralised and timely management and use of reliable data for strategic decision-making. System modernisation and improvement of IT infrastructure will significantly increase its efficiency and also result in savings related to maintenance and every day operation and thus facilitate significant investments to improve the quality and standard of health services.

**Key results – phase 2:**

* Creation of **institutional and organizational framework** to make IHIS sustainable – the new organizational unit - Department for IHIS and eHealth established within the Ministry of Health – technical support provided within the Project.

Also, the new Directorate for Digital Health was established within the Ministry of Health, after the constitution of new Government of Montenegro.

* **Definition of EHR** (Electronic Health Record) and adoption of data exchange standards – Developed and adopted the **Interoperability Framework** for Health System in Montenegro, Draft **structure and content of EHR** prepared for further legal procedure.
* Development and implementation of the central information system for data exchange and control of business processes – **TOR for the software platform for EHR developed** through the project – tender for selection of vendor published in Apr 2019 but cancelled due to **decision of the Ministry of Health that EHR is going to be implemented by the state Health Insurance Fund**.
* **Development and implementation of the IS** for management and development of the work processes at the **Clinical Centre of Montenegro,** as well as its integration with the other ISs in health and other sectors – ongoing – implementation slowed down due to Covid 19, currently estimated to be completed by end of 2021.
* **Informatization of the Emergency Medical Assistance** – to be implemented - additional activity, within the savings occurred due to the Ministry decision not to implement the EHR within the project, but directly by Health Insurance Fund.
* **Optimization and upgrade of the hardware and software infrastructure** at Clinical Center of Montenegro – **completed procurement and installation of IT equipment and renovation and equipping of CCM IT premises**, necessary for smooth functioning of the new IS CCM.
* **Capacity building** – ongoing together with the implementation of new software solutions.

**Key activities 2021:**

The main current activity is **completion of the IS CCM** implementation and integration – by end of 2021.The current status:

**Medical Information System (MIS)** isimplemented and successfully launched in almost all clinics within the CCM (30 in total). Namely, the MIS is still to be implemented in the Polyclinic of CCM, which digitalization and functioning is directly linked with the central System for scheduling the patients, integrated with the primary health care and run by the Ministry and Health Insurance Fund. Therefore, the implementers are in constant communication with the representatives of MoH and HIF to agree on the technical details of the named integration, in order to complete the implementation of the new MIS in the Polyclinic of CCM.

In parallel, the activities on integrations of the new IS CCM with the existing systems in the health sector are ongoing: Health Insurance Fund, State Agency for medicines, Laboratory, Radiology, Blood transfusion, etc.

**Business information system (PIS)** is in the final stage of implementation. Namely, all the individual modules have been developed and implemented (finance, procurement, HR, central pharmacy of CCM, etc), with the ongoing process of the bookkeeping automatization to ensure the automatic accurate storage of all data into the general ledger, in line with the accounting procedures.

**Module for the advanced reporting (BI)** is in the final stage of development. Namely, the application for advanced reporting on medical data from the MIS has been fully developed, with the ongoing development of advanced PIS reporting and integration and matching of the data from two main parts of the IS CCM.

The next planned activity within the Project is **Informatization of the Emergency Medical Assistance** (application support, dispatch centre, geolocation system) to establish a single system in which all processes are interconnected, which is technically stable and which allows integration with other information systems (especially with the EHR and the Emergency Block of the Clinical Centre).

The preparation meetings with the Ministry of Health and new management of the Emergency Medical Assistance are ongoing and it is expected to start soon with the preparatory phase of the development and implementation of the IS EMA.

**Plans for 2022 and beyond**

Bearing in mind the period covered by the Strategy for IHIS development, we anticipate that the project may also be extended to Phase 3 in the future in which some of the activities already present in the Action Plan would be implemented. The activities that we think could be the subject of Phase 3 include:

- **Introduction of telemedicine and mobile health (mHealth)** which involves the use of ICT technologies, electronic communications and software to provide remote medical services to patients without an in-person visit. Telemedicine technology is frequently used for exchange of information related to diagnostics, healthcare, prevention, follow-up visits, management of chronic conditions, medication management, specialist consultation and a host of other clinical services that can be provided remotely via secure video and audio connections. Moreover, having in mind the current COVID-19 outbreak crisis, possibility for provision remote medical services to patients becomes even more important during the emergency health situations, especially for vulnerable groups of population, in order to minimize their exposure to the additional health risks.

- **Review CCM IS** and implement adjustments suggested by the review.

- Create a **modern IT platform for advanced public health reporting** tailored to the needs of users, by applying modern technologies to control, filter, process, and analyse data and present results, and provide data access and manage data at the individual level (data warehouse, BI, OLAP)

Therefore, the current project duration until the end of 2021 would need to be extended for next phases of complex IHIS development (IS EMA, telemedicine,EHR, public health reporting, adjustment of legal framework, capacity building…).