

Comprehensive assessment of Afghanistan's health information system 2018



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Foreword

The importance of the health information system (HIS) in collecting and disseminating reliable and timely information at the output, outcome and impact level to monitor performance, assure quality of care and shape evidence-based policy-making is indisputable. Within the Ministry of Public Health, there have been efforts to improve the HIS, such as establishing a General Directorate of Evaluation and Health Information Systems to address structural fragmentation, implementing a District Health Information System, Version 2 (DHIS-2) as a national data archive platform to increase access to health information, organizing conferences to promote research and generate evidence, and decentralizing the monitoring system to enhance the Ministry of Public Health's oversight on service delivery.

To support additional improvements, an assessment of Afghanistan's HIS was requested to further strengthen the system and ensure that is operating according to international standards. The assessment details the strengths and weaknesses of the system to facilitate effective monitoring of Afghanistan's progress towards universal health coverage. The assessment assessed the compliance of the current information system with national, regional, and global demands for reliable and

timely health information on the 100 core health indicators, the 75 regional core health indicators, and the health-related Sustainable Development Goal (SDG) indicators.

The assessment was conducted jointly by the World Health Organization (WHO) Regional Office for the Eastern Mediterranean and the Ministry of Public Health through reviewing documents and conducting field visits and a national workshop with all relevant stakeholders. The assessment looked at key elements in ensuring a functional HIS: policy and governance, data sources, institutional and analytical capacity, and available mechanisms for review and action.

We appreciate the technical support of the WHO Regional Office for the Eastern Mediterranean and WHO country office in conducting the assessment, the results of which will support the efforts of the Ministry of Public Health and other stakeholders to address existing shortcomings in the HIS to facilitate Afghanistan's response to national, regional and global demands for timely and reliable health information for effective decision-making.

Dr Ferozuddin Feroz
Minister of Public Health
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Preface

The importance of generating high quality data to inform evidence-based decision-making is undeniable. It is critical for ensuring a rational use of resources and monitoring and evaluating public health and health outcomes. In the Eastern Mediterranean Region and within the context of the post-2015 development agenda, the demand for health information is increasing in terms of quantity, quality and levels of disaggregation. While countries in the Region are increasing efforts to improve their health information systems (HISs), efforts are being undermined by fragmentation of systems and a range of issues which negatively affect the effectiveness of HISs.

Since 2012, WHO has been working with Member States to agree on priority actions to strengthen their national systems. Through a consultative process and intensive work with Member States, WHO has developed a framework for strengthening HISs and identified 75 core indicators that focus on three main components: 1) monitoring health determinants and risks; 2) assessing health status, including morbidity and cause-specific mortality; and 3) assessing health system response.

As part of WHO efforts to support Member States to meet their national, regional and international obligations in reporting health indicators, a number of comprehensive assessments have been conducted in the Region since 2016 to identify key

strengths and weaknesses of systems. The first comprehensive assessment was conducted in Jordan, followed by Libya, Pakistan and Afghanistan. The assessment identified gaps in the HIS and generated recommendations and priority actions to improve country health data systems. Other key interventions focus on capacity-building in death certification, International Classification of Diseases (ICD) coding, data analysis, and use of the DHIS-2 platform to enhance collection, processing, analysis and use of health-related data for effective decision-making.

It is hoped that this report will guide decision-makers in Afghanistan's Ministry of Public Health and all development partners and stakeholders in planning and implementing effective interventions to enhance the country's HIS. WHO expects that the priority areas identified for action in the assessment and ongoing strategies to improve civil registration and vital statistics (CRVS) systems, including the quality of cause of death data, will support Afghanistan's efforts to monitor the health situation and sustainable development indicators.

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Acronyms

BPHS	Basic Package of Health Services
CRVS	Civil registration and vital statistics
DEWS	Disease Early Warning System
DHS	Demographic and Health Survey
EHIS	Evaluation and health information systems
EPHS	Essential Package of Hospital Services
GIS	Geographical Information System
HIS	Health Information System
HIV	Human immunodeficiency virus
ICD	International Classification of Diseases
IRIS	A system for automated coding of cause of death
ICT	Information and Communications Technology
NHA	National Health Accounts
SDGs	Sustainable Development Goals
SOP	Standard Operating Procedures
USAID	United States Agency for International Development
vMIS	Vertical management information system
WHO	World Health Organization

Executive summary

Health information systems (HISs), including civil registration and vital statistics (CRVS) systems remain key sources of data for evidence-based decision-making both at the national and subnational level. In order to enhance the operations of Afghanistan's HIS, the World Health Organization (WHO), in collaboration with the Ministry of Public Health, and with the support of two international consultants conducted an assessment of the national HIS in two parts: one-day field visit to the provinces and a two-day national workshop held in Kabul. The assessment team reviewed the operations of Afghanistan's HIS in terms of its adherence to sound policy and institutional environment, utilization of well-functioning data sources, availability of strong institutional capacity for data collection, management, analysis, use and dissemination, and implementation of effective mechanisms for review, data use and action. Using a methodology developed by the WHO Regional Office for the Eastern Mediterranean to conduct a comprehensive assessment, the team was guided by the WHO monitoring and evaluation assessment and planning tool which provides an overview of the weaknesses and strengths of the country's monitoring and evaluation systems and enables identification of priority actions based on those findings. Responding to the growing interest in using DHIS-2 technology for a health management information system, the assessment team also provided guidelines for rolling out DHIS-2 at the national level to enhance data collection, analysis and use for decision-making.

Findings

Two of the main strengths of Afghanistan's HIS are the existence at the national level of the General Directorate of Evaluation and Health Information Systems in the Ministry of Public Health, which provides health data and information at different levels from input, process, output to outcome and impact, and a number of projects implemented by development partners to enhance HIS operations. The 2015 Afghanistan Demographic and Health Survey also provides a rich source of data to monitor maternal and child health outcomes in the country.

In spite of a number of interventions which have been implemented to improve the system, the assessment identified that the national HIS across all components fulfils only about 47% of the attributes of a functional HIS. Some of the weaknesses include: lack of agreement on indicators and means of measurement and targets to monitor and evaluate progress towards the health-related SDGs; weak multisectoral coordination and monitoring and evaluation mechanisms; the need to strengthen data sources by ensuring that hospitals report cause of death data through medical certification using ICD-10 coding; and inadequate infrastructure for entering information on the deceased, including cause of death by individual record. The HIS requires significant strengthening in areas related to: strategies and resources for birth and death notification and medical certification of cause of death; effective supervision (up-to-date checklist and resources); and enabling local decision-makers and community members to analyse or use facility- and community-based information to develop responsive and appropriate service delivery strategies and community-based interventions. Similar efforts are needed to strengthen capacity for census and survey data collection, analysis, report writing and dissemination; and conduct periodic performance reviews based on robust analyses of data from all sources, including contextual and qualitative information. While detailed priority actions and their timeline are presented in the main body of this report, the main recommendations of the assessment are presented below.

Governance and policy

- ▶ Develop a costed monitoring and evaluation plan with clearly defined baseline and targets for all indicators.
- ▶ Develop mechanisms to mobilize domestic and external support to improve the HIS.
- ▶ Strengthen HIS operations by developing legislation and policy to improve data collection, processing, analysis, dissemination and use for decision-making in both public and private health facilities.

- ▶ Develop a harmonized national surveys plan to ensure that the country is able to report on the maximum number of core health indicators. This will ensure that key surveys, such as health examination surveys, remain a priority to provide data on most of the core health indicators.

Infrastructure and support

- ▶ Adopt technology that provides greater storage capacity (mostly cloud-based), a safer databank and facilitates easier data recovery.
- ▶ Improve the existing infrastructure to ensure that technological and staffing needs are in line with existing demands for capacity to collect, process, analyse, disseminate and use data for decision-making across all sub-information systems.
- ▶ Strengthen the functionality of public health laboratories to make them responsive to recurring and emerging health challenges.
- ▶ Manage and monitor the transition to DHIS-2, its roadmap, monitoring and evaluation plans and indicators and resource allocation.

Data management and standards

- ▶ Conduct regular workshops on data analysis and use at national and subnational level to build capacity of staff across all levels and ensure timely generation of key health reports.
- ▶ Develop mechanisms for a regular data management system to manage dynamic data demands.

Quality assurance

- ▶ Conduct periodic reviews of all routine health management information systems, including vital statistics data, at the national level to assess progress in implementing data quality assurance mechanisms.

- ▶ Develop and/or review Standard Operating Procedures (SOPs) for supportive supervision to enhance functionality of all sub-information systems and ensure that data are easily accessed, retrievable and utilized for decision-making.
- ▶ Conduct regular data analysis, independent reviews of data and performance reviews at the national and subnational levels, including actively engaging civil society and incorporating results from the reviews into the decision-making process.

Data dissemination and use

- ▶ Establish a national health observatory and promote an open data access policy subject to the rules and regulations governing the type of data that can be made available to the public.
- ▶ Conduct regular workshops for journalists and civil society organizations on disseminating health-related country data.

Way forward

There are existing opportunities to enhance the operations of Afghanistan's HIS. The detailed priority actions presented in this report provide an opportunity for the Ministry of Public Health, in collaboration with other stakeholders and development partners, to deploy interventions to enhance the HIS in the short-, mid- and long-term. Some of the interventions can be implemented without a great deal of change to the existing systems under the leadership of the Ministry of Public Health and guided by a national HIS coordinating committee. Implementing the interventions identified in this report can, however, be accelerated if all the national HIS stakeholders review the findings and priority actions of this assessment and reach a consensus on a final single agreed set of recommendations. The agreed set of recommendations/priority actions can be costed to facilitate resource mobilization both at the national level and international level. The timelines for implementation of the interventions can be adjusted depending on local circumstances.

1. Background

1.1 Overview of the health situation in Afghanistan

1.1.1 Health outcomes

With an estimated population of 29.2 million in 2016, Afghanistan has made significant improvements in key health outcomes since 2001. In particular, the country made notable progress towards achieving the Millennium Development Goal (MDG) targets of improving maternal (MDG 5) and child health (MDG 4) outcomes. According to recent estimates by the UN-Inter Agency Group on Maternal Mortality Estimation, Afghanistan's maternal mortality ratio declined from 1100 deaths per 100 000 live births in 2000 to 396 deaths per 100 000 live births in 2015.¹ Results from the 2010 Afghanistan Mortality Survey² and the 2015 Afghanistan Demographic and Health Survey also registered declines in under-5 mortality. Neonatal mortality rate declined from 37 deaths per 1000 live births in 2010 to 22 deaths per 1000 live births in 2015, whereas post-neonatal mortality rate declined from 40 deaths in 2010 to 23 deaths per 1000 live births in 2015; and child mortality rate declined from 27 deaths per 1000 children in 2010 to 11 deaths per 1000 children in 2015.³

According to the 2016–2017 Afghanistan Living Conditions Survey, the percentage of the population with two hours' travel time to a health facility increased from 90% in 2014 to 93% in 2016–2017. Additionally, skilled birth attendance increased from 50.5%³ to 53.4%.⁴ Similarly, institutional

delivery also increased from 48% in 2015 to 50.5% in 2016–2017.⁴

1.1.2 Burden of disease

The top 10 causes of death in Afghanistan in 2016 were ischaemic heart disease, cerebro-vascular disease, conflict and terror (which ranked third in 2016 compared to thirty first in 2005), lower respiratory infection, road injuries, tuberculosis, congenital defects, diabetes, neonatal preterm birth and chronic kidney disease.⁵ While for the causes of premature death, lower respiratory tract infections remained the leading cause of premature death between 2005 and 2016. They were estimated to cause almost 26 000 deaths in 2015 – primarily among children under five. Meningitis and tuberculosis; injuries from conflict and terror; and road injuries ranked second and fifth as causes of premature death; with deaths from conflict and terror notably increasing almost 12 times between 2005 and 2016. With respect to noncommunicable diseases, ischaemic heart disease, congenital defects and cerebrovascular disease all ranked among the leading causes of premature death.⁶

1.1.3 Nutrition

Results from the 2004 and 2013 national nutrition surveys showed that the prevalence of stunting had declined significantly from 61% in 2004 to 41% in 2013. The prevalence of underweight declined from 34% in 2004 to 25% in 2013, while there was no improvement in wasting, which slightly increased from 9% in 2004 to 9.5% in 2013. Breastfeeding and complementary feeding remain low. Early initiation

¹ Trends in maternal mortality: 1990 to 2015: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2015.

² Afghan Public Health Institute, Ministry of Public Health, and the Central Statistics Organization. Afghanistan Mortality Survey 2010. Calverton, Maryland: Ministry of Public Health of Afghanistan; 2011 (<https://dhsprogram.com/pubs/pdf/fr248/fr248.pdf>)

³ USAID. Afghanistan Demographic and Health Survey 2015. Central Statistics Organization. Ministry of Public Health. The DHS Program ICF International. Rockville, Maryland, USA. (<https://www.dhsprogram.com/pubs/pdf/PR77/PR77.pdf>)

⁴ Afghanistan Living Conditions Survey 2016–2017. Kabul: Islamic Republic of Afghanistan Central Statistics Organization; 2018 ([http://cso.gov.af/Content/files/ALCS/ALCS%202016-17%20Analysis%20report%20%20English%20_compressed\(1\).pdf](http://cso.gov.af/Content/files/ALCS/ALCS%202016-17%20Analysis%20report%20%20English%20_compressed(1).pdf)).

⁵ Afghanistan Health Data, Institute for Health Metrics & Evaluation. 2016 (<http://www.healthdata.org/afghanistan>)

⁶ Troeger, C. et al. 2017. Estimates of the global, regional, and national morbidity, mortality, and aetiologies of lower respiratory tract infections in 195 countries: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet Infectious Diseases*, 17(11), pp. 1133–1161. doi: 10.1016/S14733099(17)30396-1.

of breastfeeding decreased from 69%⁷ to 41%⁸ whereas exclusive breastfeeding decreased from 58%¹ to 43%²; and minimal acceptable diet slightly increased from 12%¹ to 16%².

1.1.4 Quality of services

The Balanced Score Card data from 2017 shows improvement in specific domains by province. The client satisfaction and quality of care index score was 79.0% at the national level; highest in Jawzjan province (95.1%) and lowest in Badakhshan province (60.9%). The health worker satisfaction score is 65.8% at the national level, with the highest score in Herat province (77.0%) and lowest in Laghman province (59.4%). Similarly, the health worker motivation score is 71.3% at the national level; with the highest in Jawzjan province (81.4%) and lowest in Laghman province (65.6%). Similarly, the average score for provider's knowledge of the Basic Package of Health Services (BPHS) is 28.9% at the national level; the highest in Baghlan province (77.4%) and the lowest in Helmand province (48.6%). The minimum time required for a health provider to complete a patient history, perform physical examination, make diagnosis and provide counselling and prescribe treatment is nine minutes. The national median score for this indicator was 3.3 minutes in 2017, a drop from 12.1 minutes in 2015 and 7 minutes in 2016. The trend over time also shows a progressive decline.

1.2 Overview of the HIS

The national health strategic plan (2016–2020) calls for the strengthening of existing systems to promote evidence-based decision-making in which the HIS is the sixth strategic area. The HIS strategic area calls for “strengthened monitoring, evaluation, surveillance, health information, and an improved culture of learning and knowledge management, resulting in increased evidence-based decision-

making and practices at all levels of the health system”.

The Monitoring, Evaluation and Health Information System General Directorate of the Ministry of Public Health provides health data and information at different levels from input, process, output to outcome and impact. The Health Management Information System department reports input and output level data; the Monitoring Directorate collects process level information and verifies input and output; the Evaluation and Research Coordination Directorate provides population-based information and identifies the effectiveness and failure of policies and programmes; and the Surveillance Department generates event-based, weekly, and trend-of-diseases information for disease surveillance and response. The Vital Statistics Department collects information on births and deaths, and reports to the Afghanistan Central Civil Registration Authority. The Vital Statistics Department will also focus on establishing a mortality reporting system to identify causes of death. In order to assess performance and progress in implementation of the BPHS and Essential Package of Hospital Services (EPHS) through contracted nongovernmental organizations and the Ministry of Public Health-Strengthening Mechanism, the Ministry of Public Health has contracted a third party, KIT Royal Tropical Institute, to conduct independent evaluations of health facility known as BPHS and EPHS Balanced Score Cards. The third party is tasked with assessing the quality of care; availability of services; quality of supervision; measuring the perception of clients and communities; HMIS verification and health facility functionality assessment for BPHS, EPHS and drop-in centres; and assessing the quality of the Afghanistan demographic health survey.

Since 2015, important steps have been taken to enhance data quality. This includes establishing the General Directorate of Monitoring and Evaluation

⁷ National nutrition survey Afghanistan 2013. Kabul: Ministry of Public Health; 2013 (<https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/assessments/Report%20NNS%20Afghanistan%202013%20%28July%2026-14%29.pdf>).

⁸ USAID. Afghanistan Demographic and Health Survey 2015. Central Statistics Organization. Ministry of Public Health. The DHS Program ICF International. Rockville, Maryland, USA. (<https://www.dhsprogram.com/pubs/pdf/PR77/PR77.pdf>).

to integrate and refine all data generated by relevant departments under one umbrella in order to enhance accuracy and prevent duplication. The new structure aims to ensure that all collected data are relevant and needed for decision-making. In addition, health management information system verification rounds are regularly conducted by a third party to evaluate the quality of data in all the 34 provinces. Nevertheless, there is still substantial over-reporting and duplication of data across the country.

One key step taken by the Ministry of Public Health was the launch of a data warehouse using DHIS-2 to make verified data accessible to all health and health-related stakeholders and partners using DHIS-2 data visualization tools. The current data warehouse includes the HMIS data and other vMIS data.

The evaluation and health information system quarterly and annual reports are prepared based on synthesized data from the health management information system, surveillance, monitoring and third party reports. These data are regularly collected from the field and are analysed and compiled at the central level. The reports are shared with all programmes and stakeholders. Despite these efforts, there is a limited capacity to synthesize data to produce comprehensive health situation reports and provide valuable information with more analytical evidence for decision-making.

2. Purpose and objectives of assessment

Afghanistan receives technical support from bilateral and multilateral donors to enhance its HIS. Despite recent improvements in selected areas of HIS, such as the computerization of the health management information system, systematic methods for data quality checks at a dedicated unit in the Ministry of Public Health as well as for data analysis and use, continuation of technical support is still needed, especially in the management of routine HIS. In addition, consolidated efforts and resources are needed to improve infrastructure, particularly at the provincial level in areas related to

registers and paper-based forms in the facilities, as well as computers and broadband connectivity.

In view of the existing strengths and challenges and also within the context of strengthening country health data systems for effective monitoring towards universal health coverage, enhancing HIS integration is a key priority for the Ministry of Public Health. The strategic priorities include enhancing data dissemination, stronger mechanisms for sustainability and country ownership; implementing HIS curriculum within medical and public health programmes; and strengthening CRVS systems.

In order to effectively position Afghanistan's HIS to respond to national, regional, and global demands for reliable and timely health information, this comprehensive assessment was conducted to support Afghanistan's efforts to monitor its health development agenda, as well as enhance its reporting capacity on the 100 core health indicators and the 75 regional core health indicators, including the health-related SDGs. A comprehensive approach enables identification of weaknesses and strengths of the country's monitoring and evaluation or HIS systems, and to identify priority actions based on those findings. The approach involves assessment of a checklist of attributes of the four main components of a functional HIS: governance, well-functioning data sources; analytics and use; and review and actions.

Following consultations with the Ministry of Public Health, the key objectives of the assessment as outlined in the terms of reference (ToR) were to:

- ▶ develop a common understanding of information systems and databases available in the country in order to identify areas for improvement particularly on information flow across the country;
- ▶ provide documentation on the different sources of data for HIS (i.e. population-based, institution-based, service records and individual records, and surveillance or community system);

- ▶ provide an understanding of their content, data elements, associated reporting burden, and how these information systems are used and by whom;
- ▶ assess the strengths and weaknesses of these components and operations within the HIS, including aspects of governance, data sources, institutional capacities, and review and action;
- ▶ provide recommendations for HIS strengthening consistent with international standards, indicator frameworks and guidelines;
- ▶ recommend strategies that build capacity of the information management system enabling it to produce core indicators on disease burden, health access and utilization, mortality, HIV surveillance, and human resources, including generating data to monitor progress towards the SDGs;
- ▶ develop a roadmap to strengthen the HIS based on the findings of the assessment, including priority actions, responsible and timeline.

The results of the assessment will support the Ministry of Public Health to develop a prioritized and detailed roadmap to improve the HIS and the reporting of core indicators at national, regional and international levels.

3. Assessment methodology

The assessment team adopted a methodology that sought to develop a common understanding of available information systems and databases, assess the strengths and weaknesses of these and operations within the HIS and provide recommendations consistent with international standards, indicator frameworks and guidelines. The methodology was based on an approach developed by the WHO Regional Office for the Eastern Mediterranean for comprehensive assessment of HISs (Fig. 1). Discussions during the assessment

were guided by the WHO monitoring and evaluation assessment and planning tool⁹ which provides an overview of the weaknesses and strengths of a country's monitoring and evaluation systems and enables identification of priority actions based on those findings.

3.1 Document reviews

As part of the mission preparations, the assessment team reviewed documents provided by the Ministry of Public Health, documents on interventions by other development partners to improve HISs and documents available in the public domain.

3.2 Field visits

On 23 April 2018, the assessment team visited Parwan Provincial Health Directorate and four facilities: Parwan provincial hospital, Qarabah district hospital in Kabul, Paghman district hospital and Khoja comprehensive health centre in Kabul. The assessment team members met with managers of facilities, service providers and HIS officers. Notes on discussions and findings were assimilated and analysed.

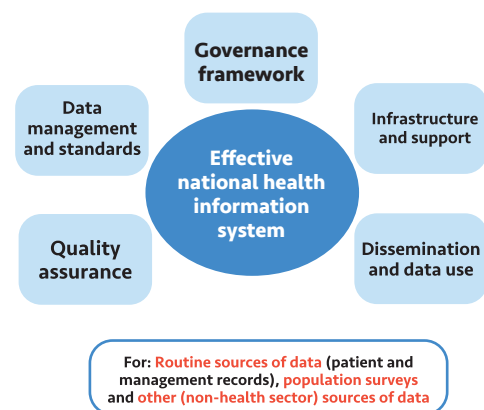


Fig. 1. Adapted model of an effective national health information system

⁹ O'Neill K, Viswanathan K, Celades E, Boerma T. Chapter 9. Monitoring, evaluation and review of national health policies, strategies and plans. In: Schmets G, Rajan D, Kadandale S, editors. Strategizing national health in the 21st century: a handbook. Geneva: World Health Organization; 2016.

3.3 HIS assessment workshop

A two-day workshop was conducted in Kabul, Afghanistan from 24 to 25 April 2018 to review the different information systems (manual and automated). Four working groups sessions focused on key components of a functioning HIS: policy and governance; data sources (CRVS, routine HIS, disease surveillance); institutional capacities; and mechanisms for review, data use and decision-making. Working groups reviewed the types of systems used, challenges related to data collection and flow, data quality, timeliness and efficiency in data flows, challenges in reporting compliance, analysis and interpretation, capacity of staff, use of information for decision-making, and difficulty of collecting information from different sources at all levels. The assessment team was briefed on plans to scale up use of DHIS-2 as a data collection tool across all facilities. DHIS-2 was used as a tool to manage the data warehouse at the time of the assessment. Discussions were guided by the quantitative WHO monitoring and evaluation assessment and planning tool.

The WHO assessment team was supported by two international consultants. A debriefing meeting was held with the Ministry of Public Health and other stakeholders on the last day of the mission to present observations arising from the assessment and discuss next steps. Findings were grouped according to thematic areas of the monitoring and evaluation assessment and planning tool resulting in a set of priority actions and recommendations to improve Afghanistan's HIS. The final report was shared with the Ministry of Public Health and all stakeholders.

4. Key findings

Improved collection, processing, analysis, dissemination and use of health information is a key step in achieving better health outcomes in Afghanistan. Evidence-based decision-making can be realized if a country has a functional, integrated and comprehensive HIS. Within the context of the post-2015 development agenda, the growing demand for health-related information

by policy-makers, programme managers, donors, nongovernmental organizations, the general public and other stakeholders calls for establishment and enhancement of a unified and well-defined system of data collection and reporting from the health facility to the national level.

In Afghanistan, as in the case with most countries, the HIS serves multiple users and a wide range of purposes. Discussion on the key findings on HIS focuses on two key components: observations from field visits in selected facilities and a quantitative assessment on the availability of key attributes of a functional HIS. This is followed by a discussion on key priority actions to enhance the HIS.

4.1 Observations from field visits

The field visits to Parwan Provincial Health Directorate and four facilities (see Section 3.2) were made consistent with the objectives of the assessment (see Section 2). Two teams conducted the field visits to gain insight into the operations and functionality of the various components of HIS at the provincial level and identify areas for improvement. While the selected facilities were not representative at the national level and within the constraints of the available time, this approach enabled the assessment team to witness current practices at the facility level. For each team, a summary of the key findings related to the four functional areas of: policy and governance; data sources; institutional capacities; and mechanisms for review, data use and decision-making are presented.

4.1.1 Parwan and Kabul provinces

In Parwan province, the review team held meetings at the Provincial Public Health Directorate and provincial hospital. In Kabul province, the review team held meetings at Qarabagh district hospital. The visits were made with the support of the WHO country office. During the visits, meetings were held with the Provincial Director of Public Health, the Provincial Hospital Director, the Qarabagh District Health Officer, including all personnel involved in service provision and recording/reporting processes.

Table 1. Key observations on the HIS in selected facilities of Parwan and Kabul provinces

Key HIS component	Strengths	Areas for improvement
1. Sound policy and institutional environment	<p>A list of indicators is available for collection and monitoring of data.</p> <p>Use of electronic data sources for easy compilation and extraction of data.</p> <p>Staff well oriented on HIS-related issues and standards.</p>	<p>Lengthy procurement processes for supplies related to HIS data collection.</p>
2. Data sources	<p>Birth and death registration conducted in facilities.</p>	<p>Antenatal and postnatal care data not complete in facility registers.</p> <p>Insecurity affecting data collection in selected areas.</p> <p>Multiple fragmented databases or systems. These systems lead to significant amount of time for staff to complete the forms.</p> <p>Patient Master Index or identification not uniquely identified (i.e. no unique ID available for the patient).</p> <p>No family registers available to support monitoring and containment of disease occurrences.</p> <p>Cause of death not ICD-coded although improvement plans are in place.</p>
3. Strong institutional analytical capacities	<p>Staff mostly available at the Provincial Public Health Directorate to analyse data.</p>	<p>Analyses of data not conducted at the lowest level of service delivery.</p> <p>No dedicated HMIS officers in the facilities visited.</p>
4. Mechanisms for data use, review and action	<p>Feedback mechanisms for data are routinely implemented.</p>	<p>Limited mobile network coverage for selected facilities affecting data transmission/feedback.</p> <p>No district health annual reports are available.</p>

During the field visits, the review team also visited all relevant sections of the health facilities.

A summary of the key observations across the four components of a functional HIS are presented in Table 1.

4.1.2 Kabul province

The review team visited Paghman and Khoja comprehensive health centres to observe the operational components of current information systems at the primary health care level and also to identify strengths, opportunities and areas for

improvement. During the visits, meetings were held with the management and staff of each facility to understand the scope of work within the context of the assessment.

The team identified a number of services and associated registries used in these facilities. These include: morbidity registries for outpatient departments; inpatient records; vaccination registries; child growth monitoring charts; reproductive health services (e.g. antenatal and postnatal care, including delivery, maternal vaccination, family planning and newborn care); psychosocial/mental health; dental service records;

and communicable disease surveillance records. During the visits the team observed the availability of monthly aggregate reports covering services. This also included weekly DEWS reporting to the Ministry of Public Health. The team was informed that Khoja's health centre was managed by the Ministry and the centre in Paghman is managed by a nongovernmental organization. The differences in the management of these hospitals also had implications for the type of information systems and collation of data available in each facility. A summary of the key observations across the four components of a functional HIS are presented in Table 2.

During facility visits in Kabul province, the team noted key enabling factors to enhance HIS operations, such as staff initiatives and interest in strengthening the HIS, community engagement through community health workers and commitment of national and international partners.

4.2 HIS assessment and planning tool: scoring

The assessment team used the HIS assessment and planning tool to obtain an overview of the current status of the different components of a functional HIS, and to identify priority actions that required further strengthening or development. The assessment tool comprises of a checklist of attributes of the four main components of a functioning HIS platform: sound policy and institutional environment; well-functioning data sources; strong analytical capacities; and mechanisms for review and action. The tool was presented to the participants in a plenary session.

During the workshop, participants were divided into four groups to score 71 attributes of the checklist under the following categories:

- **Group 1:** Sound policy and institutional environment; and effective country mechanisms for review and action.
- **Group 2:** Well-functioning data sources related to routine HISs.

- **Group 3:** Well-functioning data sources related to household surveys, census and CRVS; and strong institutional capacity for data collection, management, analysis, use and dissemination
- **Group 4:** Well-functioning data sources related to disease surveillance and health systems.

Fig. 2 presents the results of the scoring of the attributes. Complete scoring results for each component (by working group) are presented in Annex 1.

According to an assessment conducted by workshop participants, 17% of the attributes of a functioning platform are not present, distributed across all components. Although several initiatives have been implemented to enhance the HIS, there are no mechanisms for a common investment framework to be used as a basis for partners and domestic support. There is also a lack of up-to-date legislation and detailed regulations for health information, including all data sources. The country also lacks overall unifying health data architecture and health data collection standards. Other key gaps include lack of systems for the automated coding of causes of death (e.g. IRIS), lack of trained human resources to conduct verbal autopsies, non-use of verbal autopsy techniques to generate nationally representative cause of death statistics, non-use of web-based systems (e.g. DHIS) across all facility reporting systems, and the lack of a functional laboratory information system.

Other key attributes which are not present include limited capacity to synthesize and analyse national data from all relevant sources using a collaborative approach involving health ministries, national statistics offices, technical experts and public and private sector. Systematic linkages between health sector reviews and disease- and programme-specific reviews are also lacking. The country also lacks mechanisms for civil society organizations to actively and meaningfully participate in country reviews of progress and performance at all levels.

Table 2. Key observations on the HIS in Paghman and Khoja comprehensive health centre

Key HIS component	Strengths	Areas for improvement
1. Sound policy and institutional environment	Defined annual targets at the facility level supported by calculations from nongovernmental organizations and Ministry of Public Health.	The budgets for the BPHS and health management information system is donor dependent.
	Comprehensive health centre management tools, organogram, centre structure, patient flow chart, and infection control guiding tools are available.	Development of strategic framework for EHIS after collection of sufficient evidence through planning or finalization of in-depth assessments.
	Staff committed to enhancing HIS operations.	
2. Data sources	No evidence of duplication of reporting forms and registries.	Improving death registration mechanisms and processes.
	Population data (catchment area census) available.	Initiatives required to reduce forms and information load to necessary levels.
	Availability of largely donor-funded computing equipment to facilitate information management process.	Strengthen staff/supportive teams through on-the-job training mainly for community health workers.
3. Strong institutional analytical capacities	Analyses of data made as part of review processes to assess achievement of targets.	Promoting data analysis and use at the facility level.
		Establishing a coaching mechanism to develop staff capacity at health facilities for HIS would be more effective than routine training.
		Implementing effective human resource management initiatives as part of HIS development.
4. Mechanisms for data use, review, and action	Monthly HMIS facility committee meetings to discuss targets.	Documented data quality feedback.
	Monthly feedback received for reporting sites.	
	Staff developing their own means of facilitating communication (on board referral messages of community health workers and reporting tool).	

Almost 37% of the attributes need significant strengthening, meaning that although key attributes of a good functioning HIS are in place, there is still significant room for improvement. This includes: key strategic areas such as agreeing on indicators, means of measurement and targets for monitoring and evaluation of the health-related SDGs; improving multisectoral coordination and monitoring and evaluation mechanisms;

strengthening data sources by ensuring that hospitals are reporting deaths, with causes of death through medical certification using ICD; and availability of adequate infrastructure for entering information on the deceased, including the causes of death by individual record. Significant strengthening is also needed in areas related to strategies and resources on notification of births and deaths and medical certification of causes

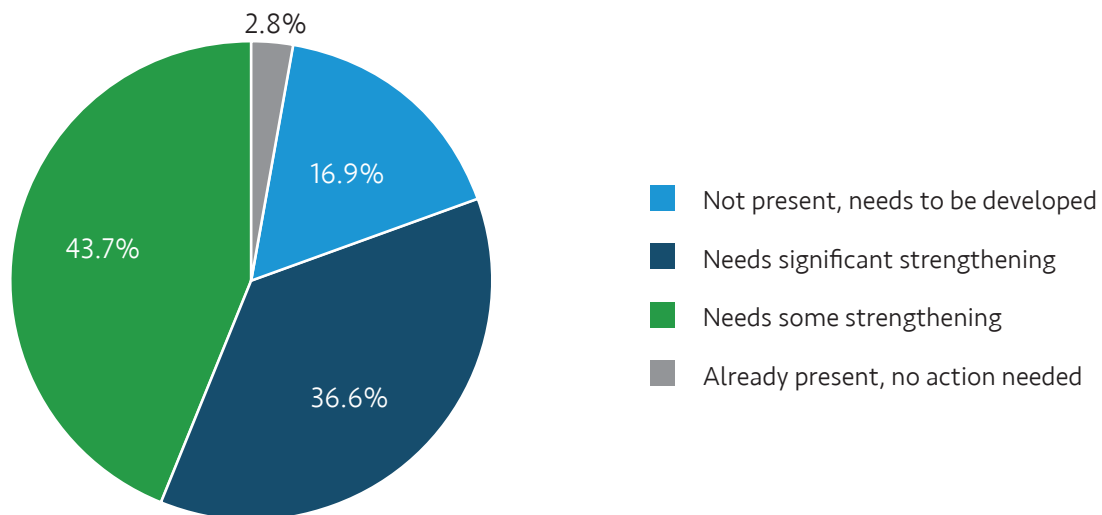


Fig. 2. Summary of scores from the assessment and planning tool

of death, effective supervision with up-to-date checklist and resources, and enabling local decision-makers and community members to analyse or use facility and community-based information to develop responsive and appropriate service delivery strategies and community-based interventions. Significant efforts are also required to strengthen training and capacity-building for a functional routine HIS; system for collection and use of patient management data at the point of service; and institutionalization of regular and independent data quality assessments. In order to improve timely use of information for decision-making, significant effort is needed for the Central Statistics Organization to publish timely and reliable annual population estimates for various demographic and geographic groups (e.g. live births, surviving infants, and women of reproductive age). Similar efforts are needed to strengthen capacity for census and survey data collection, analysis, report writing and dissemination. Results from periodic performance reviews based on robust analyses of data from all sources should be incorporated into decision-making, including resource allocation and financial disbursement.

Almost 44% of the attributes need some strengthening. These include finalizing and implementing an updated comprehensive and costed monitoring and evaluation plan for the

national health sector strategy; with the plan being informed by a recent assessment of the current monitoring and evaluation plan or HIS; and a plan that includes a balanced and limited set of core health indicators with well-defined baselines, targets, frequency of measurement and data sources. The country also needs to ensure that disease- and programme-specific monitoring, evaluation mechanisms, including indicators are aligned with the monitoring and evaluation plan. Other areas requiring some strengthening include: existence of an effective country-led coordination mechanism for monitoring and evaluation review with the active involvement and support of relevant development partners and stakeholders; SOPs that define roles and responsibilities for collecting, managing and disseminating health data, including confidentiality; comprehensive assessment of current CRVS performance; up-to-date legislation and regulations for CRVS; feedback mechanisms to all sub-reporting units; and a comprehensive list of health facilities with unique facility identifiers and georeferenced codes.

Key gaps that require some strengthening include ensuring that disease- and programme-specific data elements are: integrated into the national common data repository; harmonized system of facility assessments to verify service delivery and quality of care; national coordination mechanisms

and plans for census and national surveys; national research agenda; defining list of priority diseases and syndromes for surveillance; and ensuring that standards case definitions are available for all diseases and syndromes under surveillance. Additional efforts should focus on ensuring regular analyses of data at different levels to detect events involving cases or deaths above expected levels for the particular time and place and defining alerts and thresholds for priority diseases and syndromes. Other areas requiring some support include provision of adequate staff, equipment, logistics and supplies for public health surveillance activities, tracking public health expenditure on an annual basis, and ensuring that health information sub-systems are interoperable.

Critical areas that require additional strengthening include following international standards in analysis and presentation of key indicators in order to ensure comparability of results between populations and over time and implementing effective mechanisms to support analysis and use of data at sub-national level. Effective mechanisms to ensure that health data are available and accessible requires some strengthening. In addition, there is a need to strengthen mechanisms to engage national public health and academic institutions, advocacy

groups and the media in disseminating key health information.

Finally, only two attributes (about 3% of the attributes) were already present and did not require further action. Household surveys are conducted every 2–3 years to monitor progress on key health indicators of the national health strategic plan and the timeframe to verify an event and to report weekly aggregated data are defined at all levels.

Table 3 summarizes some of the key issues discussed by component in each of the working groups, aggregated in two main domains: Substantial support is needed (which includes attributes scored as 1 and 2); and some support is needed (score 3).

A table summarizing the scores by attribute and component of the monitoring and evaluation platform is available in Annex 2. Priorities emerging from the discussion and captured in Table 3 have also been included in the roadmap, Section 7.

Table 3. Key areas requiring improvement in the HIS identified in working groups

Key HIS component	Substantial support is needed	Some support is needed
Group 1. Sound policy and institutional environment	<p>Developing a common investment framework as the basis for partner and domestic support.</p> <p>Development of legislation and policy for the HIS.</p> <p>A national strategy for e-health and ICT development should be developed.</p> <p>Key actions to strengthen HIS functionality include developing an overall unifying health data architecture using existing standards.</p>	<p>A key priority will be to implement the costed monitoring and evaluation plan that was developed as part of the national health strategic plan.</p> <p>Participation and involvement of HIS-related partners (e.g. civil society and the private sector) needs to be improved and institutionalized through the existing monitoring and evaluation board.</p> <p>Although SOPs for the health information system are available, they need to be revised in line with international standards and the national context.</p>
Group 1. Effective country mechanisms for review and action	<p>Operationalizing the performance review system to include engagement of stakeholders.</p> <p>Improving use of data for decision-making.</p> <p>Feedback mechanisms between central Ministry of Public Health and provincial (inter-programme) entities.</p>	N/A
Group 2. Routine HISs	<p>Current staffing, supervision and analytical capacities to ensure a functional routine HIS in place are inadequate. Feedback mechanisms and use of web-based systems across all reporting facilities needs to be improved.</p> <p>Key actions to strengthen the routine HIS include training of staff in health departments and at all levels; piloting and implementing DHIS-2 nationally, use of e-health, and setting up dashboards for health facilities to monitor their performance.</p> <p>An effective electronic medical record at the point of service is required to enhance data collection.</p> <p>Data quality assessments are provided largely by independent parties. There is a need to conduct the assessments within short intervals, preferably monthly, and conduct a consolidated annual data quality assessment.</p>	<p>Current infrastructure for a functional routine HIS in place needs improvement.</p> <p>Updating the exact geo-reference codes for health facilities and providing training on GIS applications to relevant health staff are areas that were identified as requiring some support.</p> <p>Integrating all the programmes in the national data warehouse.</p> <p>Capacity-building mechanisms and recognition for health workers should be implemented, including provision of incentives.</p>

Table 3. Key areas requiring improvement in HIS identified in working groups

Key HIS component	Substantial support is needed	Some support is needed
Group 3. Household surveys, censuses, CRVS	The composition and ToR of the national monitoring and evaluation board should be revised and mechanisms identified to conduct regular meetings.	Although a CRVS comprehensive assessment was conducted, there is a need to identify reasons why progress in addressing key CRVS recommendations has stalled. Another assessment is recommended.
	Despite efforts to improve cause of death data, a huge gap in ICD cause of death certification and use of verbal autopsies to generate national representative CoD was identified. There are about 20 hospitals that are reporting; however, since 2014 only 4000 death certificates have been issued. There is a need to generate demand for death registration among stakeholders; assess the CRVS system for the gaps and provide programmatic recommendations, and streamline data collection efforts.	Although CRVS legislation exists, it is not enforced by the health sector and needs to be updated accordingly.
	There is a need to strengthen the vital statistics unit in the Ministry of Public Health (especially in the deaths section); recording deaths occurring in the community; improve quality of data on cause of death.	Improve coordination by strengthening Ministry of Public Health participation in the Central Statistics Organization committee and the monitoring and evaluation board.
	Adjustments to the customized DHIS-2 Startup Mortality List are required for effective data collection of cause of death.	Although there is a plan for national level surveys, there is a need to develop a national priority research agenda to guide implementation of surveys.
	While expected progress with CRVS interventions are expected to take a considerable time, there is a need to establish a verbal autopsy system.	
Group 3. Strong institutional capacity for data collection, management, analysis, use and dissemination	Although data synthesis takes place at the national level to some extent, there is no synthesis at the subnational levels. This can be addressed by conducting training on data use at the provincial and facility level.	Use of international standards for analysis and dissemination of key health indicators.
	Written guidelines and tools should be developed to support performance and analytic reviews at all levels.	Develop data dissemination standard operating procedures to ensure maximum outreach.
	Ensuring that health information is easily accessible, health statistical reports need to be prepared and disseminated regularly. HIS stakeholders should also promote an open data access policy.	Conduct regular data dissemination workshops for journalists and civil society organizations.
	Capacity-building is needed to conduct complex survey data analysis, including equity and efficiency analyses, through collaborative approaches at the national level.	

Table 3. Key areas requiring improvement in HIS identified in working groups

Key HIS component	Substantial support is needed	Some support is needed
Disease surveillance	<p>Efforts and resources are required to strengthen functionality of public health laboratories, including legislation regarding reporting of cases by private laboratories.</p> <p>Conduct assessment of disease surveillance programmes to define the level of integration.</p>	<p>The Research, Evaluation, Vital Statistics and Surveillance committee needs to review the list of priority diseases and case definition of diseases.</p> <p>Capacity-building of staff at different levels to analyse data on cases or deaths exceeding expected levels requiring a public health response.</p> <p>Establish a taskforce for the revision of alert threshold for priority diseases and syndromes.</p> <p>Technical support for implementation of e-surveillance.</p> <p>Mapping available human resources to determine the availability and capacity of staff at all levels to conduct public health surveillance.</p>
Group 4. Health systems information (logistics management information systems, national health accounts, human resources)	<p>Development of a registry with key data on each individual health worker.</p> <p>Strengthening of financial management information system(s) from facility to central level.</p> <p>Establishment of routine recording systems for tracking private health expenditures to replace health accounts annual surveys.</p> <p>Establishment of mechanisms to use the results of health accounts to inform national and subnational planning processes.</p> <p>Establishment or strengthening of the laboratory and logistics management information system(s).</p>	<p>Develop a mechanism for data on aggregate availability of human resources, by cadre and by district, to be periodically compiled and shared with decision-makers.</p> <p>Implement the system of national health accounts annually to track public health expenditure.</p> <p>Integration or inter-operability of health sub-information systems.</p>

A table summarizing the scores by attribute and component of the monitoring and evaluation platform is available in Annex 2. Priorities emerging from the discussion and captured in Table 3 have also been included in the roadmap, Section 7.

5. Addressing fragmentation of health information system

In Afghanistan, health service delivery is provided through health facilities, which includes health posts, health sub-centres, basic health centres, mobile health teams, comprehensive health centres and district hospitals. Another higher level of service delivery is provided through provincial hospitals.

While most services are provided in these facilities, each service is managed independently of other closely interrelated services. Responsible officers for each programme prepare their statistical reports and send directly to their supervisor at the district level for onward transmission to the provincial level. The health management information system that compiles data from various programmes operates concurrently with the vertical management

information system. The facility in charge is often not fully responsible for all the services collectively delivered by the facility or in a position to know the overall health status of the catchment population or complete performance of the health facility. This implies that both the service delivery systems and sub-information systems are fragmented.

While international standards call for an integrated management information system, many countries, including Afghanistan, are running vertical systems that are not responsive to the performance of the health system. The design of information systems should be influenced by the management design of a country's health system. While various management information systems have specific strengths, they also have several limitations. One of the key and common weaknesses of the management information system is the lack of information they collect. Combining data from all vertical systems provides an opportunity to use them at the national, regional and international level. One of the ways to address fragmentation of the system is to adopt a holistic approach that can easily be applied simply by changing management practices without adding any financial burden to the system.

A key step in enhancing HIS operations is to define indicators and identify data needs. This should be followed by a comparison of additional data needs and what already exists or is collected in the current sub-information systems. Once gaps are identified, data collection tools are modified, or additional tools are developed to ensure that all the required data are collected and reported. These additional operations should be reflected in an integrated HIS. Periodic reviews of data needs and operations should be made by all stakeholders in line with national HIS strategic priorities.

6. Transitioning to the DHIS-2 platform

The migration to DHIS-2 requires the full engagement of all stakeholders. DHIS-2 is not a parallel HMIS system but rather, the reference medium for national surveillance and response. The following sections provides key areas for consideration for a smooth transition to DHIS-2.

6.1 Key considerations

The following recommendations are expected to address issues and facilitate the transition to DHIS-2.

- ▶ **Establishing a national DHIS-2 steering committee:** DHIS-2 is a multisource integration platform whose integrity and quality requires coordination between involved parties. The steering committee is a multidisciplinary team comprising of decision-makers/authorities in charge of current management information systems. The committee is responsible for managing and monitoring, among other responsibilities, the roadmap for transition, monitoring and evaluating plans and indicators, and allocating resources. The committee is also in charge of establishing working groups responsible for policy definition, the development of standards and capacity-building.
- ▶ **DHIS-2 capacity-building plan:** Capacity-building for the transition to DHIS-2 is an essential step in enabling a consistent understanding of what DHIS-2 is (and is not) across all stakeholders, from end-users to high-level country-wide decision-makers. Capacity-building should include not only professional-based training on how to operate the DHIS-2 platform, but also the general countrywide training of all roleplaying individuals at the provincial or local level.
- ▶ **National HIS standards:** A national HIS strategy requires a health information standard plan and a committee to define key elements such as the coding, case definition and terminology to address the local to international expectations of indicator monitoring and surveillance reports. In addition, the development of standards facilitates the transition from the current health management information system, using a detailed data mapping of existing databases.
- ▶ **DHIS-2 storage and access policy:** At the time of the assessment, the Ministry of Public Health was using a cloud-based service to benefit from DHIS-2 services. While this solution may shorten the preliminary implementation of the

DHIS-2 platform in Afghanistan, the steering committee is expected to develop a transparent policy on where to store health information data, and who can access it, when, where and how. This is particularly important as it defines every stakeholder and contributor's rights on the data. It is also recommended that the Ministry of Public Health eventually invests in the infrastructure required to instal and run DHIS-2 for its data centre. Such decisions and any action should be based on capacity-building for Ministry of Public Health/IT and EHS professionals to ensure a seamless transition and assurance of reliable support.

And finally, it is recommended that a consultancy team carefully study the current health management information system databases, available human resources, and Ministry of Public Health data; and develop a detailed time-bound DHIS-2 transition plan that could be used as a basis for any further action and allocating resources.

6.2 DHIS-2 in Afghanistan: a practical platform for nationwide data collection

DHIS-2 is generally known as a data aggregation platform in health care. However, DHIS-2 is one of the ideal multi-platform support tools for health care data collection. Although Afghanistan has several vHMISs within the Ministry of Public Health, the lack of service-point data entry is a critical concern.

Considering the current nationwide lack of access to the internet/national network and also the fairly low literacy rate in Afghanistan, a triple-class solution using a combination of DHIS-2 platform plus mHealth (mobile-based health care IT solutions), particularly in areas of no internet access can be considered a practical IT-based solution for Afghanistan. Using this solution, three classes of incidence report could be feasible.

- ▶ **Class one (no internet non-literate-to-literate protocol):** According to this protocol, a non-literate community health worker reports any case of incidence (such as a case of death) to a

literate body at a designated call centre. The call centre agent can further transfer the data to DHIS-2 using either Class 2 or 3.

- ▶ **Class two (no-internet GSM-based short data message):** In this class, any case of disease outbreak, incidence or death can be reported using a coded SMS (with less than twenty characters), containing only name, event code, and location code, sent to an SMS server connected to DHIS-2 servers. This could effectively resolve the current issue of outdated reporting and weak cause of death reporting, particularly in areas of poor access.
- ▶ **Class three (internet-based mobile/tablet solutions):** In this class, a basic tablet or smartphone is used by people who are literate and trained in data entry and reporting at the service point or facilities. DHIS-2 has a well-supported network for such devices to be defined within its data entry platforms. Using this class, any basic service, such as a community health worker visit, vaccination or medicine distribution can be recorded and monitored instantly.

7. Roadmap of key priority actions

Priority actions were identified during working group sessions, based on the score of the attributes and the qualitative information gathered on day 1 of the workshop. Priorities were discussed extensively in a plenary session. A tentative timeframe, responsible actors and other key actors needed for implementation were identified. Key priorities are presented in Table 4.

8. Recommendations

The following recommendations are expected to enhance the operations of the national HIS by generating data of high quality that can be used for decision-making at all levels. This can be achieved through stakeholder coordination and implementing the detailed key priority actions outlined in Section 7. Addressing the recommendations requires effective coordination mechanisms that can be implemented through a

Table 4. Key priority interventions to enhance Afghanistan’s HIS

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
1. Policy, governance and institutional environment	1.1 Complete the baseline, target and frequency of indicators	Evaluation and health information systems, WHO, United States Agency for International Development (USAID), Health Economics and Finance Department	X				
	1.2 Complete governance and noncommunicable disease indicators	“As above”	X				
	1.3 Develop a costed evaluation plan, aligned with the monitoring and evaluation plan	“As above”	X				
	1.4 Develop a common investment framework taking into consideration all stakeholders	“As above”	X				
	1.5 Identify mechanisms to improve participation and involvement of related partners in monitoring and evaluation.	“As above”	X				
	1.6 Develop legislation and policy for the HIS	Ministry of Public Health, Ministry of Justice		X	X		
	1.7 Develop a national strategy for e-health and ICT	Ministry of Public Health, civil society organizations, Ministry of Communications		X	X		
	1.8 Revise SoPs for overall electronic HIS data architecture using existing guidelines	Evaluation and health information systems, WHO, USAID			X		

Table 4. Key priority interventions to enhance Afghanistan’s HIS (cont.)

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
2. Routine HISs	2.1 Develop ICT infrastructure for provincial health offices	Ministry of Public Health		X			
	2.2 Develop ICT infrastructure at the community level	Ministry of Public Health		X			
	2.3 Recruit and train data entry clerks at subnational and facility levels	Ministry of Public Health					X
	2.4 Recruit and train national health information officers	Ministry of Public Health, USAID	X				
	2.5 Enhance the functionality of the data centre under the Ministry of Public Health	“As above”	X				
	2.6 Implement effective transportation mechanisms to facilitate field visits	“As above”		X			
	2.7 Revise checklist for supervision of every vertical programme	Ministry of Public Health, WHO	X				
	2.8 Build capacity of supervisors through training and development of SOPs	Ministry of Public Health		X			
	2.9 Define and implement incentive mechanisms for supervisors to enhance data quality	Ministry of Public Health, USAID					
	2.10 Conduct training in data analysis for appropriate staff	Ministry of Public Health, WHO	X				
	2.11 Develop an integration plan for vertical programmes	“As above”			X		
	2.12 Define and implement principles for analysis of facility data, including how to deal with incompleteness, inconsistency, and implausibility for local level decision-makers	“As above”			X		
	2.13 Increase awareness of community health “ <i>shura</i> ”, community and political leaders in the health system to make evidence-based decisions	Ministry of Public Health	X				
	2.14 Standardize feedback mechanism to enhance data quality	“As above”	X				

Table 4. Key priority interventions to enhance Afghanistan’s HIS (cont.)

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
2. Routine HISs	2.15 Conduct performance review for all programmes	“As above”		X			
	2.16 Conduct capacity-building around new applications for data collecting, processing and analysing	Ministry of Public Health, WHO	X	X			
	2.17 Provide training on analysis and use of data to health providers	“As above”		X			
	2.18 Update geo-reference codes for all health facilities	Ministry of Public Health	X				
	2.19 Provide training on GIS application/GPS to provincial public health officers and district public health officers	Ministry of Public Health, WHO		X			
	2.20 Implement effective online application for the routine HIS at the public/private health facility level	Ministry of Public Health					X
	2.21 Use m-health and e-health applications, especially for remote and isolated areas	Ministry of Public Health			X		
	2.22 Establish dashboards for health facilities to monitor their performance	“As above”			X		
	2.23 Integrate all programmes in the data warehouse	Ministry of Public Health, WHO		X			
	2.24 Implement an effective electronic medical record system at the point of service	“As above”		X			
	2.25 Implement regular data quality assessments and verifications using WHO standards	“As above”		X			
	2.26 Define and implement incentive mechanisms for health workers	Ministry of Public Health		X	X		
	2.27 Conduct capacity-building of health workers in relevant technical areas	Ministry of Public Health, WHO		X	X	X	

Table 4. Key priority interventions to enhance Afghanistan’s HIS (cont.)

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
3. Health systems monitoring	3.1 Develop a human resource registry by cadre and district	Ministry of Public Health, WHO		X			
	3.2 Implement the system of NHA annually	“As above”	X	X			
	3.3 Strengthen financial management information system(s)	Ministry of Public Health		X			
	3.4 Establish routine recording systems for tracking private health expenditure	Ministry of Public Health, WHO	X				
	3.5 Establish mechanisms to use NHA to inform national and subnational planning	“As above”		X			
	3.6 Establish/strengthen logistics management information system	“As above”				X	
	3.7 Establish/strengthen laboratory management information system	“As above”			X		
	3.8 Establish mechanism for integration/inter-operability of sub-systems	“As above”			X		
4. Surveillance	4.1 Define list of diseases and syndromes to be under surveillance	Ministry of Public Health, WHO	X				
	4.2 Review case definition of diseases	“As above”		X			
	4.3 Strengthen functionality of public health laboratory	“As above”	X	X	X		
	4.4 Develop legislation to involve public and private healthcare facilities and laboratories in the public health surveillance system	“As above”		X			
	4.5 Establish taskforce to revise alert thresholds for priority diseases and syndromes	Ministry of Public Health		X			
	4.6 Implement e-surveillance or an SMS-based surveillance system	Ministry of Public Health, WHO	X	X			
	4.7 Map human resources capacity to conduct public health surveillance	“As above”	X				
	4.8 Build capacity of staff in public health surveillance	“As above”		X	X		

Table 4. Key priority interventions to enhance Afghanistan’s HIS (cont.)

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
5. Household surveys and censuses	5.1 Develop multisectoral mechanisms to coordinate census and national survey plans	Ministry of Public Health, WHO, USAID		X	X		
	5.2 Develop harmonized national health surveys plan	Ministry of Public Health, WHO, other stakeholders		X			
	5.3 Improve coordination by strengthening Ministry of Public Health participation in the national statistical committee and monitoring and evaluation board	“As above”	X	X			
	5.4 Implement a regular system of household surveys, including health examination surveys	“As above”			X	X	X
	5.5 Conduct a census	Central Statistics Organization			X		
	5.6 Develop a national priority health research agenda	Ministry of Public Health, WHO, other stakeholders		X			
	5.7 Conduct capacity-building activities in complex survey data analysis, efficiency analysis and report writing	Central Statistics Organization, Ministry of Public Health, WHO			X	X	X
6. Civil registration and vital statistics	6.1 Conduct a comprehensive CRVS assessment	Ministry of Public Health, WHO		X			
	6.2 Develop a multisectoral CRVS plan	“As above”	X				
	6.3 Update CRVS legislation	“As above”		X	X		
	6.4 Implement ICD standards for hospital reporting (e.g. DHIS-2 SMoL)	“As above”		X	X		
	6.5 Train doctors in medical certification of causes of death	“As above”		X	X	X	
	6.6 Build capacity in analysis and dissemination of cause of death data	“As above”		X	X	X	X
	6.7 Implement automated coding systems (e.g. IRIS)	“As above”		X	X	X	X
	6.8 Streamline data collection and reporting on surveillance and response to maternal and neonatal deaths at the central and provincial levels	“As above”		X	X		

Table 4. Key priority interventions to enhance Afghanistan’s HIS (cont.)

Roadmap of key priority actions			Time frame				
Strategic dimensions	Key priority actions	Responsible/ other actors	2018	2019	2020	2021	2022
7. Analysis, use and dissemination of data, including mechanisms for review and action	6.9 Strengthen the vital statistics unit in the Ministry of Public Health, especially section reporting on deaths	“As above”			X	X	
	6.10 Implement a verbal autopsy system for community deaths	“As above”		X	X	X	X
	7.1 Conduct regular data analysis and workshops at national and subnational level	Central Statistics Organization, Ministry of Public Health, WHO		X	X	X	X
	7.2 Develop guidelines for performance and analytic reviews	Ministry of Public Health, WHO			X		
	7.3 Conduct periodic data reviews at the national level	Ministry of Public Health, WHO, and other stakeholders		X	X	X	
	7.4 Use international standards for analysis and dissemination of key health indicators	Ministry of Public Health, WHO		X	X	X	X
	7.5 Conduct performance reviews/analytic reviews	“As above”			X	X	X
	7.6 Produce timely national and subnational HIS annual reports	Ministry of Public Health		X	X	X	X
	7.7 Establish intersectoral collaborative approaches for conducting synthesis and analysis of national level data	Central Statistics Organization, Ministry of Public Health, WHO		X			
	7.8 Develop data analysis and utilize guidelines and tools	Ministry of Public Health, WHO		X	X		
	7.9 Develop SOPS for data dissemination	Ministry of Public Health		X	X		
7.10 Promote and establish national health observatories and an open data access policy	Ministry of Public Health, WHO		X	X	X	X	
7.11 Conduct regular workshops on data dissemination for journalists and civil society organizations.	“As above”		X	X	X	X	

well-functioning HIS coordination committee with representation from key stakeholders.

8.1 Sound policy and institutional environment

The following recommendations and suggested activities in this component are expected to improve management, coordination and efficiency of HIS operations across the country and include:

- ▶ Enhance the operations of the national HIS, with the leadership of the Ministry of Public Health, by implementing the updated monitoring and evaluation plan with clearly defined baseline and targets for all the indicators. This can be achieved through the existing monitoring and evaluation committee.
- ▶ Mobilize HIS stakeholders through holding regular meetings with provincial and regional HIS coordinators and other stakeholders, including development partners, and develop mechanisms to mobilize domestic and external support to improve the HIS through the coordination committee.
- ▶ Strengthen HIS operations by developing legislation and policy to improve data collection, processing, analysis, dissemination and use for decision-making in both public and private health facilities. This can also include the development of legislation on data access and sharing.
- ▶ Develop a national strategy for e-health and ICT development.

8.2 Data sources

8.2.1 Health systems, health facility, and community information systems

Robust health systems, health facilities and community information systems are the backbone of any HIS. Initiatives to enhance these data building blocks need to be embraced by all stakeholders. This can be achieved by implementing the following key recommendations.

- ▶ Improve the existing infrastructure to ensure that technological and staffing needs are in line with existing demands for capacity to collect, process, analyse, disseminate and use data for decision-making. This can be achieved by recruiting skilled staff, training relevant HIS staff at all levels and purchasing ICT equipment.
- ▶ Develop and/or review SOPs for supportive supervision to enhance the functionality of all sub-information systems and ensure that data are easily accessible, retrievable and utilized for decision-making.
- ▶ Define indicators and targets to support regular monitoring to improve the quality of care.
- ▶ Conduct a training needs assessment to identify critical areas for capacity-building across all key functions of HIS operations.
- ▶ Develop mechanisms to ensure smooth integration of all vertical programmes and promote system interoperability across the country.
- ▶ Pilot and scale-up use of DHIS-2 to collect, process and disseminate data for Afghanistan's HIS.
- ▶ Strengthen financial management information systems, including implementation of a national system of health accounts annually.

8.2.2 Disease surveillance

Recognizing the critical role of public health surveillance in improving health outcomes, the following recommendations have been identified to strengthen the disease surveillance system.

- ▶ Develop a priority list of diseases and syndromes for surveillance and ensure that it is disseminated to all relevant staff and stakeholders. This process should also include a review of case definitions of diseases.

- ▶ Institute legislation for mandatory case detection and reporting from public and private health care facilities and laboratories.
- ▶ Implement e-surveillance or an SMS-based surveillance system and work towards integrating existing surveillance systems through implementation of electronic tools, such as DHIS-2.
- ▶ Build capacity of staff in outbreak investigation and response and data analysis and report writing to understand and capture trends and dynamics of public health threats.
- ▶ Strengthen the functionality of public health laboratories to improve their effectiveness in responding to recurring and emerging health challenges.

8.2.3 CRVS, household surveys and census

While interventions have been implemented to strengthen population-based data sources to provide data on issues such as population health status and access to services, the following areas have been identified as areas for improvement.

- ▶ Develop multisectoral mechanisms to coordinate plans for the conducting of national censuses and surveys.
- ▶ Develop a harmonized national survey plan to ensure that the country is able to report on the maximum number of core health indicators.
- ▶ Develop a national priority health research agenda to guide data collection and identify interventions to improve health outcomes.
- ▶ Conduct an assessment of CRVS operations to identify existing bottlenecks that have slowed progress in addressing the key recommendations of the CRVS comprehensive assessment that was conducted in 2013. A comprehensive system is preferable over other short-term solutions such as sample registration surveys which, by their nature, do not cover all areas

in a country, and for areas that are sampled complete enumeration may not be possible due to insecurity.

- ▶ Build capacity of doctors in medical certification of causes of death. Capacity-building should also be extended to relevant staff responsible for analysis of cause of death data in order to promote timely production of vital statistics reports.

8.3 Institutional capacity for data management and analysis

Institutional capacity for data management and analysis can be enhanced by addressing the following key areas:

- ▶ Conduct regular workshops on data analysis and use at the national and subnational levels to build capacity of relevant staff across all levels and ensure timely generation of key health reports.
- ▶ Conduct periodic data reviews at the national level to assess progress in implementing data quality assurance mechanisms.
- ▶ Develop mechanisms for the regular data management system to match dynamic data demands.
- ▶ Review existing data storage technology and adopt technology that provides greater storage capacity (mostly cloud-based), provides a safer databank and facilitates easier data recovery.
- ▶ Establish intersectoral collaborative approaches for conducting synthesis and analysis of national level data. This can be achieved through mechanisms and plans developed by the HIS coordination committee.

8.4 Mechanisms for data use, review and action

To measure health outcomes, ensure mechanisms are in place to use data, review regularly and

implement evidence-based interventions. Key areas to strengthen these mechanisms include:

- ▶ Enhance the existing data warehouse to address fragmentation by ensuring that all facilities are able to report and access data to monitor progress and share experiences.
- ▶ Establish a national health observatory and implement an open data access policy.
- ▶ Conduct regular data dissemination workshops for journalists and civil society organizations for population-based surveys and census. This can also include the Health Results Conference and other roundtable discussions on critical health issues.
- ▶ Establish coordination mechanisms between data producers and users to identify existing challenges and remedial actions.

8.5 Addressing fragmentation

Addressing HIS fragmentation remains a key challenge of HIS operations. The steps to achieve this are as follows:

- ▶ Define health indicators that are required to respond to national, regional and international demands for health data.
- ▶ Develop integrated data aggregation mechanisms across all facilities to ensure that they are responsive to system needs and data demands.
- ▶ Implement or customize an electronic tool, such as DHIS-2, with the capability of storing data required to calculate all national priority indicators.
- ▶ Conduct periodic reviews of data to identify alignment and promote triangulation of data for effective decision-making.
- ▶ Conduct periodic reviews of HIS performance based on existing resources and emerging needs.

8.6 Transition to DHIS-2

Afghanistan is currently using DHIS-2 as a national data warehouse and plans to use DHIS-2 as a data collection tool in all facilities. While DHIS-2 allows customization of HIS data collection, aggregation and reporting, there is a need to carefully plan its roll-out at the national level, the following are key recommendations to achieve this:

- ▶ Establish a national DHIS-2 steering committee to manage and monitor the transition roadmap, monitoring and evaluation plans and indicators and allocation of resources. The committee will also be in charge of establishing working groups responsible for policy definition, the development of standards and capacity-building.
- ▶ Develop a DHIS-2 capacity-building plan to enable a consistent understanding of what DHIS-2 is (and is not) across all stakeholders from end-users to high-level decision-makers.
- ▶ Develop a national HIS standard to address the local to international expectations of indicator monitoring and surveillance reports. The development of this standard should facilitate the transition from the current health management information system through detailed data mapping of existing databases.

9. Next steps

In order to enhance HIS operations in Afghanistan, there is a need to develop a plan that identifies the key HIS components, the expected output, financial cost, responsible stakeholders, and key recommended areas for improvement. In Afghanistan, an HIS improvement plan will entail coordination among all stakeholders at the national, provincial and district level. This can be achieved by development of a strategic plan that highlights existing strengths and opportunities and builds on the information provided in Section 4 on Key findings on health information systems (including the priority actions in Section 7).

A seamless and well-integrated HIS can be developed with the leadership of the Ministry of

Public Health, in close collaboration with provincial and district HIS coordinators and all stakeholders. The priority actions outlined in Section 7 should provide sufficient background information to develop an HIS strategy which will act as a resource mobilization document to improve the HIS. Depending on available resources and expertise, detailed short-, mid- and long-term plans for HIS strengthening can be developed accordingly. The focus should be on implementing interventions that can strengthen current HIS operations without much change (“quick-wins”). Once the HIS strategy is developed, it should be costed based on the type of intervention, the estimated number of person/days required, and any other additional materials or equipment needed.

Development of the HIS strategy should also take into consideration findings from some of the assessments that have been conducted in the country by other development partners, such as the USAID-funded Health Sector Resiliency Project, which conducted an assessment of the Ministry of Public Health information technology infrastructure¹⁰ including data demand and use¹¹ in 2016. The priority actions identified in this report can yield significant results if their implementation builds on the interventions and efforts of the Ministry of Public Health and other development partners to enhance the HIS. This approach is in line with strategies adopted by the Health Data Collaborative¹², an inclusive partnership of international agencies, governments, philanthropies, donors and academics, with the common aim of improving health data.

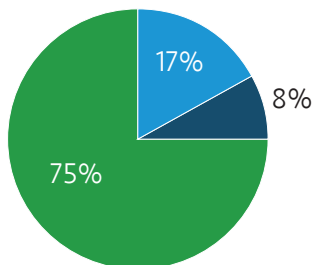
¹⁰ USAID. 2017. Health Sector Resiliency Project: Assessment of Ministry of Public Health existing information technology infrastructure. Kabul, Afghanistan: USAID.

¹¹ USAID. 2017. Health Sector Resiliency Project: Data demand and use assessment. Kabul, Afghanistan: USAID.

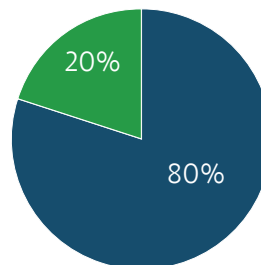
¹² Details about the Health Data Collaborative are available at <https://www.healthdatacollaborative.org/>

Annex 1. Summary of scores by working group

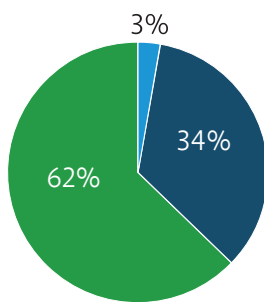
Group 1. Policy & institutional environment



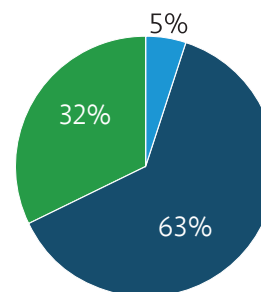
Group 1. Effective country mechanisms for review and action



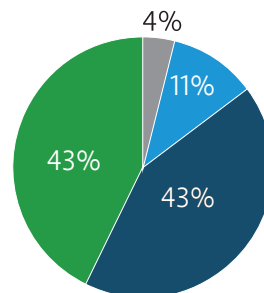
Group 2. Routine health information systems



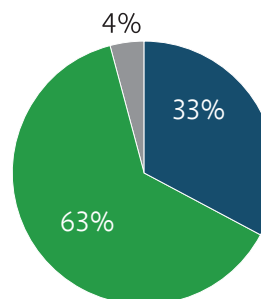
Group 3. Strong institutional capacities



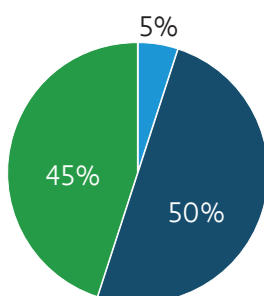
Group 3. Household surveys; censuses; CRVS



Group 4. Disease surveillance



Group 4. Health systems



Key

- Not present, needs to be developed
- Needs significant strengthening
- Needs some strengthening
- Already present, no action needed

Annex 2. Scoring exercise, by component and attribute

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Policy and institutional environment	<p>Common investment framework used as the basis for partner and domestic support.</p> <p>Up-to-date legislation and detailed regulations for health information, including all data sources.</p> <p>National policy/ strategy for e-health and ICT development and use, including governance and legal frameworks, enterprise architecture, standardization and interoperability, and research and evaluation on e-health.</p> <p>Overall unifying health data architecture and health data collection standards.</p>	<p>Agreed upon indicators, means of measurement and targets (developed in collaboration between relevant ministries and agencies) for monitoring and evaluation of the health-related SDGs.</p>	<p>Comprehensive costed monitoring and evaluation plan for the national health sector strategy.</p> <p>Monitoring and evaluation plan has been informed by a recent (within the previous two years) assessment of current monitoring and evaluation practices.</p> <p>The plan includes a framework that specifies a balanced and limited set of core indicators with well-defined baselines, targets, frequency of measurement and data sources.</p> <p>Disease- and programme-specific monitoring, evaluation mechanisms, including indicators are aligned with the monitoring and evaluation plan.</p> <p>Existence of an effective country-led coordination mechanism for monitoring and evaluation and review with active involvement and support of relevant development partners, civil society and other actors.</p> <p>SOPs have been developed that define roles and responsibilities for collecting, managing and disseminating health data, including confidentiality.</p>	

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Routine HISs	Facility reporting systems use web-based systems (eg. DHIS-2) when feasible.	<p>Effective supervision is in place (up-to-date checklist, resources).</p> <p>Local level decision-makers and community members analyse and use facility- and community-based information to develop responsive and appropriate service delivery strategies and community-based interventions.</p> <p>System for collecting and using patient management data at the point of service.</p> <p>Harmonized system of facility assessments to verify service delivery and quality of care.</p> <p>Regular and independent data quality assessments are institutionalized.</p>	<p>Infrastructure and staffing for a functional routine HIS.</p> <p>Feedback is systematically provided to all sub-reporting units.</p> <p>Training and capacity-building for a functional routine HIS.</p> <p>Comprehensive list of health facilities, with unique facility identifier and geocodes.</p> <p>Disease- and programme-specific data elements and indicators are integrated into the national common data repository.</p> <p>Data on community-based health programmes are available in formats that are easy to access and linked to facility-based databases.</p>	

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Household surveys, censuses, CRVS	<p>Systems for the automated coding of causes of death are progressively used.</p> <p>Trained human resources to conduct verbal autopsies.</p> <p>Use of verbal autopsy is being gradually expanded to generate nationally representative cause of death statistics.</p>	<p>A functional multisectoral coordination committee is in place (National Statistics Office, Ministry of Public Health,).</p> <p>Hospitals are reporting deaths, with cause of death, through medical certification using ICD.</p> <p>IT infrastructure for entering information on the deceased, including the causes of death by individual record.</p> <p>Strategies and resources to strengthen birth and death notification and medical certification of causes of death.</p> <p>National Statistics Office publishes timely and reliable annual population estimates for various demographic and geographic groups (e.g. live births, surviving infants, women of reproductive age by district).</p>	<p>A comprehensive assessment has been conducted of current CRVS performance.</p> <p>Up-to-date legislation and regulations for CRVS.</p> <p>A coordination mechanism is in place to coordinate plans for the conducting of national censuses and surveys.</p> <p>National survey plan and research agenda for household surveys detailing content, sequencing, periodicity, and funding, aligned with the monitoring and evaluation plan and the national health strategy.</p>	<p>Household surveys are conducted every 2–3 years to monitor progress on key health indicators of the national health strategic plan.</p>

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Disease surveillance		<p>Public and private health care facilities, laboratories and communities contribute to routine case detection.</p> <p>The country has adequate capacity to diagnose and record cases of notifiable diseases.</p> <p>Integration of all disease surveillance programmes.</p> <p>Sufficient staff are available at all levels to conduct public health surveillance and response.</p>	<p>List of priority diseases and syndromes under current national surveillance is defined.</p> <p>Standard case definitions are available for all diseases and syndromes under surveillance.</p> <p>Data are analysed on a regular basis at the different levels to detect events involving cases or deaths above expected levels for the particular time and place.</p> <p>Alert/action thresholds have been defined for priority diseases and syndromes.</p> <p>Equipment and logistics (forms and registers, computers, telephones, communication, including internet connectivity, cars and motorbikes) are sufficient and appropriately disseminated in the country to conduct public health surveillance activities.</p>	<p>Timeframe to verify an event and to report weekly aggregated data are defined at all levels.</p>

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Health systems	Functional laboratory information system.	<p>Electronic registry (IRIS) with up-to-date data on each individual health worker including a unique identifier, qualifications and key characteristics (name, birth date, sex, contact, place of work, etc.).</p> <p>Strong public financial management system, tracking government budgets, disbursements, and expenditures at all levels (from facility to central level).</p> <p>Country-specific routine recording systems for tracking private health expenditures (e.g., by nongovernmental organizations, enterprises, private insurances, etc.), to replace health accounts annual surveys.</p> <p>Health accounts results are used for policy planning and evaluation, from overall health system policies to health system financing policy specifically.</p> <p>Logistics information system for tracking commodities, medicines, equipment, and supplies.</p>	<p>Reliable and transparent system for tracking the aggregate availability of human resources. These aggregate data on availability of human resources, by cadre and by health facility, are widely available for purposes of assessing equity productivity.</p> <p>Health expenditures are tracked on an annual basis, using the global standard of System of Health Accounts.</p> <p>Health systems information sub-systems are interoperable, or have been integrated, into the health management information system.</p>	

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Strong institutional capacities	<p>Synthesis and analysis of national data from all relevant sources is conducted using a collaborative approach involving health ministries, national statistics offices, technical experts and the public and private sector.</p>	<p>Strong analytical institutional capacity for supporting synthesis of data is in place.</p> <p>At national level, there are periodic performance reviews/analytic reviews based upon robust analysis of health data from all sources including contextual and qualitative information.</p> <p>Regular (annual) report of progress and performance that covers progress against the objectives and targets, equity and efficiency.</p> <p>Effective processes to support analysis and use at sub-national level.</p> <p>Health data are transparent and accessible.</p> <p>National public health and academic institutions, advocacy groups, and the media are engaged by Ministry of Public Health and National Statistics Office to disseminate key health information.</p>	<p>International standards are followed for analysis and presentation of key indicators in order to ensure comparability of results between populations and over time.</p> <p>A range of dissemination strategies exist for health information, censuses and vital statistics, including reports, policy-briefs and web-based dissemination.</p>	

Table 2A. Results of the scoring exercise, by working group and attribute (cont.)

Component	Not present, needs to be developed	Needs significant strengthening	Needs some strengthening	Already present, no action needed
Effective mechanisms for review and action	<p>Systematic linkages between health sector reviews and disease and programme-specific reviews.</p> <p>Civil society organizations actively and meaningfully participate in country reviews of progress and performance at all levels.</p>	<p>Regular and transparent system of reviews of progress and performance against national and locally defined priorities with broad involvement of key stakeholders is in place.</p> <p>Independent reviews of data in strategically important programmes, such as maternal, child and perinatal deaths, are conducted regularly.</p> <p>Results from reviews are incorporated into decision-making, including resource allocation and financial disbursement.</p> <p>Health information flows include regular feedback and use of data locally to improve services and programmes.</p>		

This report presents the findings of a comprehensive assessment of Afghanistan's health information system undertaken by WHO in 2018 at the request of the Ministry of Public Health. Health information systems, including civil registration and vital statistics systems, provide health information data for programme and performance monitoring, quality of care, planning and policy-making. The assessment resulted in a set of recommendations to enable the Ministry of Public Health and other stakeholders to develop comprehensive and efficient systems to monitor health risks and determinants; track health status and outcomes, including cause-specific mortality; and assess health system performance. The recommendations also provide an opportunity for the country to respond to the growing demands for health data to measure progress towards the health-related Sustainable Development Goals.

