

Guidance for health information system governance

GUIDANCE FOR HEALTH INFORMATION SYSTEM GOVERNANCE

Abstract:

Health Information System (HIS) governance is the process of decision-making about the HIS and the process by which these decisions are implemented. While good HIS governance is important for effective, efficient and transparent operation of the HIS itself, it is also a prerequisite for good health system governance. Nevertheless, HIS governance mechanisms are commonly ill defined and/or function inadequately. This guidance provides an overview of attributes and tools for good governance in general, and for good HIS governance in particular. The United Nations Development Programme (UNDP) defined good governance as being participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and following the rule of law. These well known attributes of good governance are applicable to a HIS context as well. In addition, guiding principles for HIS development, building on the OECD Paris declaration on aid effectiveness, can serve as a useful tool for HIS governance improvement.

This guidance document is part of the WHO Regional Office for Europe's work on supporting Member States in strengthening their health information systems. Helping countries to produce solid health intelligence and institutionalized mechanisms for evidence-informed policy-making has traditionally been an important focus of WHO's work and continues to be so under the European Programme of Work 2020–2025.

Keywords:

HEALTH PLANNING, SOCIAL RESPONSIBILITY, HEALTH INFORMATION MANAGEMENT, PUBLIC HEALTH ADMINISTRATION

Document number: WHO/EURO:2021-1999-41754-57182

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Contents

- ACKNOWLEDGEMENTS IV
- AIM OF THIS GUIDANCE 1
- GOVERNANCE 2
 - Definition of governance 2
 - Definition of good governance..... 2
- HIS GOVERNANCE 4
 - Definition of HIS governance..... 4
 - Definition of good HIS governance 5
- THE IMPORTANCE OF GOOD HIS GOVERNANCE 9
- TOOLS FOR GOOD HIS GOVERNANCE..... 10
 - HIS assessments..... 10
 - HIS governance indicators..... 12
 - HIS strategies 13
- REFERENCES 15

Acknowledgements

This document was developed by the Data, Metrics and Analytics Unit in the Division of Country Health Policies and Systems of the WHO Regional Office for Europe. The main author is Marieke Verschuuren. David Novillo Ortiz provided direction during the production of the report and technical advice during concept drafting, writing and review. Special thanks to Natasha Azzopardi-Muscat for her strategic guidance.

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Aim of this guidance

This guidance is part of the WHO Regional Office for Europe's work to support Member States in strengthening their health information systems (HISs). Good governance is an important prerequisite for a well functioning HIS, yet HIS governance mechanisms are commonly ill defined and/or function inadequately. This guidance aims to support Member States in strengthening HIS governance by providing an overview of attributes and tools for good governance in general, and for good HIS governance in particular.

Governance

Definition of governance

Governance can be defined as the process of decision-making and the process by which decisions are implemented. It is needed every time a group of people come together to accomplish an end. Governance determines who has power, who makes decisions, how other players make their voices heard and how account is rendered. The concept is based on three dimensions: authority (who has a voice in making decisions), decision-making (how decisions are made) and accountability (1, 2). The essence of accountability is answerability – being accountable means being obliged to answer questions regarding decisions and actions (3). Governance is relevant to all kinds of social institutions and arrangements, and relates to communities and corporations at the national and international levels (4).

Definition of good governance

Good governance is a concept articulated and conceptualized in the context of development and development aid (4). In 1997 the United Nations Development Programme (UNDP) developed a set of principles that, with slight variations, appear in much of the literature (5). Such principles have also been formulated influentially by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (2): good governance is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and it follows the rule of law. It ensures that corruption is minimized, that the views of minority groups are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society (2). The Canadian Institute on Governance clustered the eight UNDP/UNESCAP principles into five overarching principles (Box 1).

Box 1. Five overarching principles for good governance

1. Legitimacy and voice

Participation – all men and women should have a voice in decision-making, either directly or through legitimate intermediate institutions that represent their intention. Such broad participation is built on freedom of association and speech, as well as capacities to participate constructively.

Consensus orientation – good governance mediates differing interests to reach a broad consensus on what is in the best interest of the group and, where possible, on policies and procedures.

2. Direction

Strategic vision – leaders and the public have a broad and long-term perspective on good governance and human development, along with a sense of what is needed for such development. There is also an understanding of the historical, cultural and social complexities in which that perspective is grounded.

3. Performance

Responsiveness – institutions and processes try to serve all stakeholders.

Effectiveness and efficiency – processes and institutions produce results that meet needs while making the best use of resources.

4. Accountability

Accountability – decision-makers in government, the private sector and civil society organizations are accountable to the public, as well as to institutional stakeholders. This accountability differs depending on the organizations and whether the decision is internal or external.

Transparency – transparency is built on the free flow of information. Processes, institutions and information are directly accessible to those concerned with them, and enough information is provided to understand and monitor them.

5. Fairness

Equity – all men and women have opportunities to improve or maintain their well-being.

Rule of law – legal frameworks should be fair and enforced impartially, particularly the laws on human rights.

Source: Graham, Amos & Plumptre (5).

HIS governance

Definition of HIS governance

HIS governance is the process of decision-making about the HIS and the process by which these decisions are implemented. For a more concrete concept of what constitutes HIS governance, WHO formulated a set of five functions of health system governance (6) (Box 2).

Box 2. Five functions of health system governance

1. Formulating policy and strategic plans
2. Generating intelligence: information and analysis for decision-making
3. Putting in place levers or tools for implementing policy – including design of health system organizational structures and their roles, powers and responsibilities; design of regulation; standard-setting; incentives; enforcement and sanctions
4. Collaboration and coalition-building across sectors and with external partners
5. Ensuring accountability by putting in place: governance structures, rules and processes for health sector organizations; mechanisms for independent oversight, monitoring, review and audit; transparent availability and publication of policies, regulations, plans, reports, accounts, etc.; and openness to scrutiny by political representatives and civil society

Source: WHO (6).

These functions are also relevant and applicable to an HIS context: an HIS governance mechanism should:

- provide policies and strategic plans to guide HIS operations and reforms;
- generate intelligence that informs these policies and strategic plans and other decision-making processes;
- put in place tools for implementing the policies and strategic plans (such as coordination mechanisms, concrete roadmaps and indicators for measuring progress).

In addition, HIS governance mechanisms should:

- ensure broad stakeholder collaboration, representing different HIS perspectives (including producers and users of health information, developers and end users of digital information systems);
- ensure accountability by putting in place transparent and controllable processes and procedures.

Definition of good HIS governance

Although guidance on good governance is available for specific elements of the HIS – most notably on health data governance¹ – not much documentation is available that addresses HIS governance as a whole. Nevertheless, the general principles for good governance can be translated into an HIS context; as such, they provide a useful framework for defining what good HIS governance should look like. In addition, the guiding values of HIS development can also serve as an inspiration for defining attributes of good HIS governance. These two tools for shaping HIS governance are elaborated below.

Applying the UNDP principles for good governance to an HIS context

The UNDP principles for good governance can be applied to an HIS context (Box 3). Important attributes for good HIS governance include broad and active stakeholder involvement, sustainability, leadership, flexibility, integration, transparency and lawfulness.

Box 3. The UNDP principles for good governance applied to an HIS context

1. Legitimacy and voice

Many stakeholders are involved in an HIS, ranging from institutions that collect data or analyse data and write health reports to knowledge brokers and users of health information. Thus, a participatory approach with broad stakeholder involvement is important in HIS governance.

Involvement of stakeholders should go beyond keeping them informed (top-down approach); active involvement in decision-making processes is necessary for effective HIS governance. This relates to the UNDP characteristic consensus orientation (see Box 1): stakeholders' needs and concerns should be heard and acted upon. Finding consensus can be problematic, as the interests of stakeholders may conflict. Dealing with such conflicting interests in a sensible way requires leadership. This links Principle 1 – Legitimacy and voice with Principle 2 – Direction.

¹ See, for example, the work done by the Organisation for Economic Co-operation and Development (OECD) on health data governance (7).

Box 3. The UNDP principles for good governance applied to an HIS context

2. Direction

A key aspect of good HIS governance is ensuring the sustainability of activities to prevent loss of knowledge and expertise. Sustainability of activities is also important because good population health monitoring requires the production of solid time trends. Ensuring sustainable HIS activities demands a long-term vision that is resistant to political issues-of-the-day thinking.

A vision for the HIS can be developed and operationalized in a strategy: this is a core element of HIS governance, defining the concrete aims of the HIS and providing guidance on how to collect the data and produce the information needed efficiently, in a timely manner and sustainably. Development of HIS strategies should be informed by the outcomes of an HIS assessment.

Implementing an HIS strategy and sticking to its long-term goals requires leadership. Although sustainability is essential for operating a functional HIS, there should also be some room for flexibility – for example, to accommodate emerging policy needs that may require new or revised data collections.

3. Performance

To support policy-making effectively and efficiently, integrated HISs are needed (9). An important aim of HIS governance should therefore be to improve integration of the various HIS elements, at several levels. Integration at the level of data sources is needed, as sketching a comprehensive picture of the health status of the population requires information from many different sources. This does not necessarily mean that all relevant databases should be physically integrated, but accessibility and interoperability of data – including linkage options – should be optimized. In addition, indicators should be aligned as far as possible throughout the entire HIS, to prevent overlap, to ensure efficient spending of resources and to prevent confusion among policy-makers and undermining of the trustworthiness of health information.

Integration of data and information is important not only within the health sector but also across policy domains, as health is influenced by many factors that are governed by other sectors (such as education, income and environment). Another form of integration that is important for operating the HIS efficiently and effectively comes from building the HIS, whenever possible, on existing coordinating mechanisms and fitting it into broader statistics strategies (10).

Responsiveness is another element included in Principle 3 – Performance (see Box 1). In an HIS context, responsiveness could be interpreted as flexibility – the ability of the system to respond to the changing needs of its end users (see also Principle 2 – Direction).

Box 3. The UNDP principles for good governance applied to an HIS context

4. Accountability

An organization or institution should be accountable to those who will be affected by its decisions or actions (2). The two main groups affected by the decisions of the HIS authority are HIS stakeholders (involved in the gathering of data and production and use of health intelligence) and the general public. The public is affected through decisions taken for the health care system that are based on the information from the HIS. Moreover, routinely collected population-wide data are at the core of HIS, and HISs are generally funded from public resources. The public should therefore be informed and consulted on how their data and their tax money are used.

Accountability and transparency are important for stakeholder involvement, as these increase stakeholder confidence in the decision-making process, which in turn increases support for the decisions taken. Accountability cannot be achieved without transparency, which requires a free flow of information. In an HIS context, two types of information can be identified: process information (such as the HIS strategy and strategy evaluation reports) and the health information itself. These should be made publicly available whenever possible, although some restrictions related to privacy and data protection legislation need to be taken into account when publishing health data (see Principle 5 – Fairness).

5. Fairness

Equity and the rule of law are the two UNDP characteristics listed under this principle (see Box 1). Equity is also highly relevant in an HIS context. To quote Sir Michael Marmot: “All too commonly where health is poorest, health information tends to be poorest” (11). Overcoming health inequalities and ensuring that adequate information is also available on vulnerable and hard-to-reach populations should be high on the HIS agenda.

Processing health data and information is subject to international and national legislation – most importantly related to privacy and data protection. When operating an HIS, compliance with prevailing legislation should be ensured.

Source: adapted from Rechel et al. (8).

Guiding principles for HIS development

HISs are very diverse, and policy priorities and available resources in countries may differ. As a result, national HIS improvement plans are likely to differ to a considerable extent. Nevertheless, common principles exist that can be used in the development of an HIS strategy to help ensure that HIS improvement activities have maximum impact (Box 4). As such, these guiding principles for HIS development are also useful for good HIS governance. It should be noted that there is some overlap between the principles for good governance applied to an HIS context in Box 3 and the principles for good HIS development in Box 4. This highlights the fact that some key HIS values are recognized across organizations and publications.

Box 4. Guiding principles for HIS development

1. Leadership and ownership

The process of developing and then implementing the HIS strategy should be led and owned by the country or organization responsible for the HIS. In most countries, this is the ministry of health (12, 13).

2. Stakeholder involvement and consensus building

The HIS strategy should be developed with the engagement of stakeholders, to ensure broad-based consensus and stakeholder buy-in (12, 13).

3. A focus on the needs of countries

The activities and interventions in the strategy should be relevant to the country context and address the priority needs of the country or organization, including its subunits (12, 13).

4. Building on what exists

Wherever possible the implementation process for the HIS strategy should build on existing initiatives, systems and knowledge. Strengthening the HIS should not take place in a vacuum but should be linked to and build on similar initiatives, especially national and international strategies for the development of statistics (12, 13).

5. Sustainability and flexibility

HIS improvement interventions and activities should lead to sustainability of the HIS, so that the system can satisfy the information needs of the present and evolve as those needs change (12, 13). These principles overlap with the three institutional qualities critical for an effective response to a crisis defined by UNDP: performance, adaptability and stability (14).

6. Registration at the source

HIS strengthening activities should support optimization of registration at the level at which the data are first generated. This will increase confidence in the completeness, quality and reliability of the data at higher levels in the health system (15).

7. International standards

HIS strengthening activities should pursue implementation of and compliance with international standards of data and statistics quality and governance (15).

8. Integration and interoperability

Strong HISs are integrated and interoperable (9, 16). HIS strengthening activities should therefore contribute to an integrated and interoperable HIS – one in which health data can be exchanged; triangulated across data sources; and used across multiple disciplines, sectors and domains; and in which indicators are aligned across the entire HIS (8). In addition, developing and strengthening HISs depends not only on how key units and institutions function but also on how they interact (9). Strengthening interaction between stakeholders – for example, in network-like structures – is therefore also an important element of improving integration of HISs.

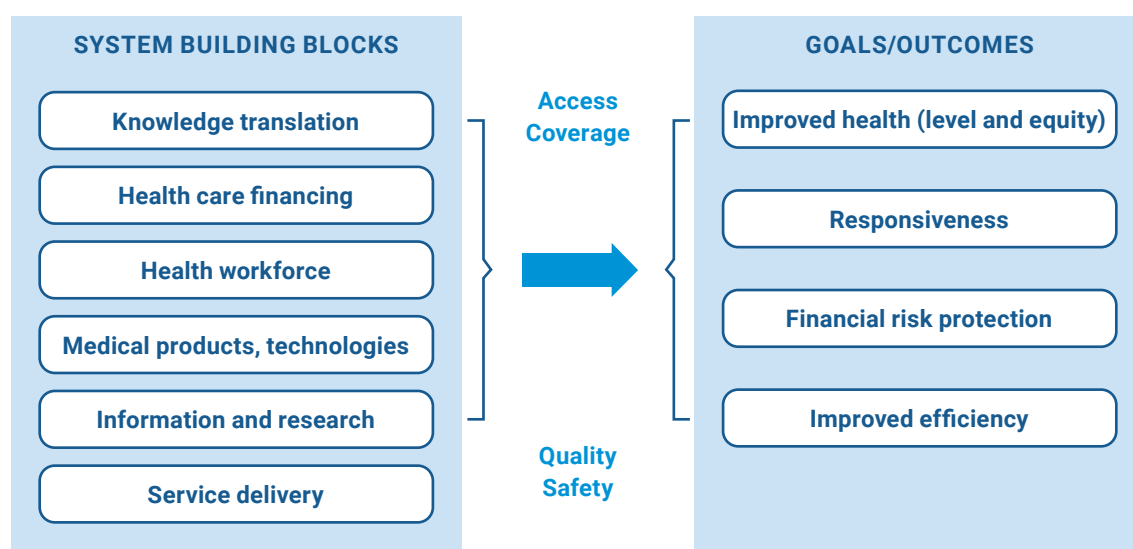
9. Digital solutions

The digital revolution should be used to help improve availability, completeness, timeliness, quality and use of data for decision-making and to minimize the burden of data collection (17). It is, however, important to be realistic about what technology can and cannot do, and about what is needed in terms of maintenance and training for well functioning and sustainable digital solutions.

The importance of good HIS governance

WHO defines five broad actions or functions for health system governance (6) (see Box 2), one of which is generating intelligence: information and analysis for decision-making. This function is performed by the HIS, so HISs are an intrinsic part of health system governance. The importance of HISs as a key element of health systems is acknowledged in the WHO Health System Framework (Fig. 1). This defines a well functioning HIS as one that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health system performance and health status. Leadership and governance should ensure that strategic policy frameworks exist, and that these are combined with effective oversight, coalition-building, provision of appropriate regulations and incentives, attention to system design and accountability (18). The HIS provides the effective oversight necessary for governing the health system, and contributes to its accountability. Thus, while good HIS governance is important for effective, efficient and transparent operation of the HIS itself, it is also a prerequisite for good health system governance.

Fig. 1. The WHO Health System Framework



Source: WHO (18).

Tools for good HIS governance

HIS assessments

HIS assessments are an important tool for HIS governance as they provide a structured approach to identifying priority areas for HIS strengthening. Other objectives of HIS assessments include mobilizing technical and financial support for the HIS strengthening process, serving as a baseline to monitor progress and enhancing knowledge about the HIS – informing HIS stakeholders about aspects of the HIS that they are less familiar with (19). Different HIS assessment approaches exist, each with their own advantages and disadvantages. Which approach is most suitable will depend on the specific circumstances of the assessment, and will be influenced by (among other things) the goal of the exercise, the extent to which previous assessments can be built on and the available time and resources.

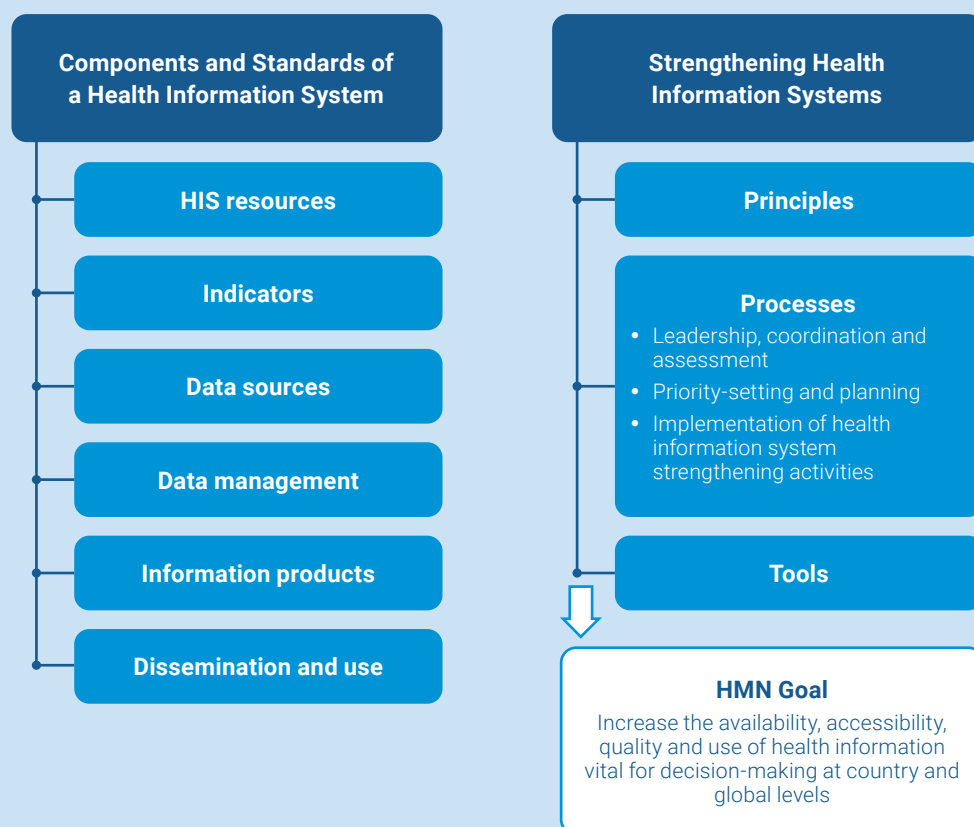
WHO has a long tradition of supporting Member States in assessing and strengthening their HISs. As such, a comprehensive body of WHO tools and guidance exists, with both global and regional perspectives. Some of these are listed in Box 5.

Box 5. A selection of WHO tools for HIS assessment and strengthening

Assessing the national health information system: an assessment tool, version 4.00 (19)

This tool was developed by the former Health Metrics Network (HMN). HMN was the first global health partnership that focused on two core requirements of health system strengthening in low- and low-middle income countries: the need to enhance entire health information and statistical systems, rather than focus only upon specific diseases; and the need to concentrate efforts on strengthening country leadership for health information production and use. The HMN framework that underlies the assessment approach is a well known and often applied way of structuring the core components of an HIS (Fig. 2).

Fig. 2. The HMN framework



Source: Health Metrics Network & World Health Organization (19).

Box 5. A selection of WHO tools for HIS assessment and strengthening

Health Information Systems Performance Index (HISPIX) (21)

HISPIX is a summary measure based on standardized indicators for assessing data quality and the overall performance of the HIS. The score is calculated from information available in the public domain, using standard indicators to enhance objectivity and comparability over time and across countries.

Support tool to assess health information systems and develop and strengthen health information strategies (22)

This tool was set up to accommodate the diverse situations of HISs and strategies within the WHO European Region. It is based on existing tools developed by HMN and covers all the phases related to health information strategy development – from assessment of the current state of the HIS, through strategy development and implementation to evaluation. At the time of writing, an update of the tool was in development.

Information systems for health standard assessment method: IS4H-MM 1.0 (23)

This tool assesses the maturity levels of an HIS. It can be adopted using different approaches (verification, discovery or managed discovery approach), each with a different level of detail, intended usage and primary audience.

Other organizations also provide support to countries for HIS assessment and improvement. MEASURE Evaluation, which is funded by the United States Agency for International Development, for example, is dedicated to improving health through improving data, and has developed a wide array of tools for this purpose. Among these is an online HIS Strengthening Resource Center, which includes a database of HIS assessment tools (20).

HIS governance indicators

Assessment of the performance of the HIS uses common indicators or attributes describing the desired functioning. It is recommended that these include indicators that focus specifically on the performance of HIS governance. Examples of such indicators are whether a multi-stakeholder HIS coordination mechanism is in place, what kind of HIS quality control mechanisms are in place, and whether financing for the HIS is sustainable and stable.²

Table 1 lists other examples of indicators on HIS governance and leadership. These demonstrate that, while assessments of the performance of the HIS in general are an important tool for good HIS governance by providing a sound basis for HIS improvement, it is also helpful to use specific indicators to assess the performance of HIS governance in particular, as these provide direct insight into the availability and quality of concrete attributes.

2 These examples were taken from the updated WHO support tool to assess health information systems and develop and strengthen health information strategies, which is currently in development.

Table 1. Indicators of the status of an HIS: HIS governance and leadership

Indicator	Description
Country has a national health strategy (year)	A national health strategy outlines a country's vision, priorities, budgeting and planned action to improve and maintain people's health. Any activities to strengthen HISs should be documented in the national health strategy.
Country has a health sector monitoring and evaluation (M&E) plan	Once a country has a national health strategy, it should have an accompanying M&E plan. This provides feedback on the effectiveness of the country's strategic plan for all major disease programmes and health systems. Motivation to improve the HIS is often driven by national M&E needs.
Country has an HIS policy (year)	Policies that govern a national HIS are one indicator of its strength. HIS policies outline a deliberate system of principles to guide decisions and achieve better HIS outcomes.
Country has an HIS strategic plan (year)	Strategic plans for HISs are based on HIS assessments, such as those developed based on the HMN framework. Strategic plans outline approaches to strengthen an HIS, and describe costed interventions to achieve results.
Country has set of core health indicators (year updated)	A list of core health indicators helps track progress. Availability of indicators and information on definitions, data sources and data collection methods are indicative of HIS performance and organization. Data should be comprehensive and cover all categories of health indicators: determinants, inputs, outputs, outcomes and health status. A core list of indicators can be part of the health sector M&E plan.

Source: MEASURE Evaluation (24).

HIS strategies

An HIS assessment provides an overview of the status quo of an HIS and pinpoints areas that require further development. It answers the question: Where are we now? An HIS strategy answers three further questions:

- Where do we want to go (HIS vision)?
- How are we going to get there (HIS improvement plan)?
- How are we going to measure whether we are on track (M&E plan)?

As such, HIS strategies are an important tool for well developed and transparent HIS strengthening processes. The WHO *Support tool to assess health information systems and develop and strengthen health information strategies* (both the 2015 version (22) and the forthcoming updated version) provides detailed and step-wise guidance for development of an HIS strategy.

An HIS strategy can be a standalone document, but it can also be integrated into a broader statistics strategy, or a health policy, describing how the availability and usability of the necessary health information to monitor progress towards the policy's targets will be optimized. In practice, broader, related strategies that include a section on health information are more common than standalone HIS strategies.

Each approach has pros and cons. A main advantage of inclusion in a broader statistics strategy is that the health information activities can piggyback on the structures, expertise and resources

available in the wider statistical system. A main advantage of integrating the health information strategy with a health policy is that it leads to very concrete outputs, which make clear the added value of the investments in the HIS. The downside of such integrated approaches, however, is that they are likely to focus only on specific parts and functions of the HIS, meaning that other problematic areas in the HIS may remain out of sight. The advantage of a dedicated HIS strategy is that it can cover the entire HIS and provide a balanced and comprehensive approach for HIS strengthening.

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The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Belgium	Kazakhstan	Slovakia
Bosnia and Herzegovina	Kyrgyzstan	Slovenia
Bulgaria	Latvia	Spain
Croatia	Lithuania	Sweden
Cyprus	Luxembourg	Switzerland
Czechia	Malta	Tajikistan
Denmark	Monaco	Turkey
Estonia	Montenegro	Turkmenistan
Finland	Netherlands	Ukraine
France	North Macedonia	United Kingdom
Georgia	Norway	Uzbekistan
Germany	Poland	

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