

Operational Framework for Monitoring Social Determinants of Health Equity



1. INTRODUCTION

Unacceptable gaps persist in how long people can expect to be healthy and live according to where they reside, how much money they have, their education level, their skin color, their ethnicity, whether they have a disability, and other characteristics. Health inequities—that is, the unfair and avoidable or remediable systematic differences in health among population groups defined socially, economically, demographically, or geographically—have proved stubbornly persistent, despite the commitments of many national and international actors to reduce them. Over the past several decades, while countries have witnessed remarkable health gains, such as achieving greater average life expectancy, these improvements have slowed and health inequities have tended to increase, especially within countries¹ (for more information on the status of health inequities, see Appendix A1).

While health care has a significant influence on health gaps, another part of health inequity is rooted in factors beyond it: much of people’s health and wellbeing is created or damaged by factors beyond the direct control of the health system. The social determinants of health (hereafter called “SDH”)—broadly defined as the conditions in which people are born, grow, live, work, and age, and people’s access to power, money and resources—have a powerful influence on health and health inequities.^{2,3,4,5} More specifically, SDH encompass both intermediary determinants of health (e.g., living and working conditions) and structural determinants of health (e.g., economic inequality, structural racism), commonly referred to as “downstream” and “upstream” factors, respectively.⁶ Structural determinants of health represent the socioeconomic-political mechanisms, structures, systems, and forces that generate social stratification whereby populations are stratified according to income, education, occupation, sex¹, gender², race and ethnicity, place of residence, and other factors, and the resulting socioeconomic positions produce unequal allocation of power, money, and resources, which manifest in unequal SDH. Structural determinants of health are considered the root cause of inequities in health.⁷ Studies suggest that SDH account for as much as 50% of health outcomes and are significantly associated with health inequities.^{8,9} Research has shown that interventions and policies addressing SDH, such as early education programs and social protection policies, can have positive effects on health and reduce health inequities.¹⁰ This evidence underscores the need for policy action on SDH to reduce inequities in health (for more information on SDH and actions addressing SDH that improve health equity, see Appendix A2).

Policy action is especially necessary to recover, rebuild, and prepare for the unprecedented and interlinked COVID-19 pandemic, climate change, conflict, food, and cost-of-living crises that currently afflict the world. These events have uncovered, exacerbated, and

¹ Sex refers to the biological and physiological characteristics of female, male and intersex persons, such as chromosomes, hormones, or reproductive organs. See: <https://icd.who.int/en>

² Gender describes socially constructed characteristics—such as norms, roles and relations of and between women and men. See: <https://www.who.int/publications/i/item/9789241501057>

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revealed new health inequities and inequities in SDH.^{11 12 13} The health, social, economic, and other impacts of these crises have disproportionately impacted racial and ethnic minorities, Indigenous Peoples, poorer populations, migrants, older adults, people with disabilities, and other disadvantaged populations (for instance, see Call-out Box 1 for more information on the COVID-19 pandemic and inequities in health and SDH). The impacts of one crisis exacerbate another, creating a spiral of worsening health, social, economic, and other factors for people across the world, especially for those who are already left behind. The confluence of crises are creating negative impacts on health, food and nutrition, education, poverty reduction, the environment, peace and security, and other factors, and negatively affect all the United Nations (UN) Sustainable Development Goals (SDGs).¹⁴ Consequently, these crises have stifled progress on implementation of the 2030 Agenda for Sustainable Development and thrown the world off track from achievement of the UN SDGs by 2030.^{15,16} The cascading and interlinked crises have underscored the importance of addressing the “toxic combination of poor social policies and programmes, unfair economics, and bad politics” that are responsible for much of health inequity.^{17,18}

Call-Out Box 1. The COVID-19 Pandemic is Revealing and Exacerbating Inequities in SDH and Health.

The COVID-19 pandemic exposed and amplified inequities in health and SDH in countries across the world. During the pandemic, while at least 6.9 million people¹⁹ have died from COVID-19 and billions of people have had their lives disrupted, the health, social, and economic impacts of the pandemic have fallen unequally on disadvantaged populations. Disadvantaged groups, compared with advantaged groups, have experienced: higher rates of COVID-19 infection, hospitalization, morbidity, and mortality; lower rates of vaccination; greater barriers to healthcare; and more social and economic disruption.²⁰ The pandemic also unmasked inequities in SDH, and has led to glaring inequities in COVID-19 health outcomes between population groups.²¹ In turn, the broader impacts of the pandemic, such as closure of schools and workplaces, have unequally impacted SDH themselves, further exacerbating broader health inequities.

Other recent crises are exacerbating the negative impacts of the pandemic and jeopardizing implementation of the 2030 Agenda for Sustainable Development and achievement of its SDGs by 2030. For instance, the pandemic has put steady progress in poverty reduction over the past 25 years into reverse, which has thrown the world off track from achievement of SDG 1—that is, zero poverty.²² The confluence of rising inflation, higher food prices, and the impacts of the war in Ukraine have derailed progress further in poverty reduction.²³

The evidence on the large and unequal health, social, economic, and other impacts of the pandemic and other recent crises highlight the need for countries to pay greater attention to SDH in pandemic and other crises prevention, preparedness, response, and recovery, which will help to manage COVID-19, “build back fairer” societies, and prepare for future outbreaks and crises.²⁴

In 2005, WHO established the Commission on Social Determinants of Health (CSDH) to support countries and global health partners in addressing SDH and reducing health inequities across the world.²⁵ The CSDH published a final report in 2008 that set out an

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agenda for change. Over the nearly past two decades since convening the CSDH and putting for an agenda for change, Member States of WHO have repeatedly committed to addressing SDH and actions to improve health equity, such as with the adoption of the 2011 Rio Political Declaration on the Social Determinants of Health²⁶ and 2009²⁷, 2012²⁸, and 2021²⁹ World Health Assembly (WHA) resolutions on SDH. In addition to political commitments, countries have adopted SDH-focused governance structures, policy frameworks, regulations, and other mechanisms to support policy action to advance health equity, such as adopting “Health in All Policies” (HiAP) or “Health Equity in All Policies” (HEiAP) approaches that integrate considerations of health and health equity, respectively, in policies across sectors and at multiple levels.^{30,31}

Despite the evidence, political commitments, and approaches for addressing SDH and reducing health inequities, there has been slow and uneven policy action in countries.³² Although research has documented SDH’s influence on health inequities and shown that interventions and policies addressing SDH can create healthier and more equitable communities, there has not been widespread adoption of policy action for addressing SDH and health inequities across countries, even within the same region.³³ There are many reasons for this, including: technical and capacity challenges; gaps in knowledge; the lack of governance structures to support the translation of research into effective policy changes; and the complexity of implementing actions that require sustained and coordinated change across many sectors.³⁴ However, there are some examples of positive outlier countries that have made progress in addressing the SDH to tackle health inequities, including during the pandemic³⁵, and the lessons from how they have achieved this change need to be documented and applied more broadly to create healthier and more equitable communities across the world.

As countries emerge from the pandemic and other recent crises, there is an opportunity for governments to “build back fairer”, exploring how to rebuild societies in a way that benefits all people, which will be a major step in advancing health equity.³⁶ This will be critical not only to manage and recover from the pandemic, but also to create healthier and more equitable communities in the future. However, many countries do not have the latest evidence on SDH and actions to close health gaps, and even fewer have monitoring and data to understand their country’s progress (or lack thereof) on addressing the many SDH that impact health and health equity and adopting interventions and policies that advance health equity.

Monitoring social determinants of health equity (SDHE)—that is, public health surveillance that focuses on data regarding SDH and actions (e.g., interventions and policies) that improve health equity—is critical to create healthier and more equitable communities. A key component of such monitoring not only entails systematically collecting, analyzing, and reporting data on SDH and actions across multiple sectors, but also on the many equity stratifiers—that is, the characteristics of social groups which may be more or less disadvantaged in terms of SDH, including income, education, occupation, sex, gender, race and ethnicity, place of residence, and other factors. Recognizing the importance of monitoring SDH and actions to improve health equity, over the past several decades, international, regional, national, and other stakeholders have developed

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monitoring frameworks, tools, systems, resources, and trainings to support monitoring health inequalities, SDH, and actions to advance health equity. Despite previous monitoring work, few countries currently systematically monitor SDH and actions to improve health equity, and use these data meaningfully to impact policymaking that can close health gaps. In 2016, 20 national systems in 15 countries had SDH-focused monitoring³, and efforts specifically focused on monitoring government actions to address the social gradient in health have only recently received attention.³⁷ To address this gap, countries require guidance and support on the latest SDH evidence, national monitoring of SDHE, and translation of monitoring and data to policy action that improves health equity.

In this context, in 2021, the Seventy-Fourth World Health Assembly (WHA) adopted resolution WHA74.16 on addressing SDH.³⁸ Building on previous resolutions and work on SDH, the resolution encourages Member States to address SDH by integrating them into public policies and programs, using a multisectoral approach. The resolution requests the Director-General to prepare an updated report on SDH since the CSDH 2008 report, reviewing the latest evidence and best practices for addressing SDH that improve health equity and setting priorities for the next decade. The resolution also asks the Director-General to develop an “operational framework for the measurement, assessment and addressing, from a cross-sectorial perspective, of the social determinants of health and health inequities, as well as their impact on health outcomes”.³⁹

The focus of this document is on the second action item—the operational framework for monitoring SDHE (hereafter called “operational framework”). The goal of the operational framework is to provide countries with a comparable framework and guidance to support national monitoring of SDH and actions that improve health equity, which is globally applicable and harmonized. In particular, the operational framework aims to:

- Highlight key indicators and their data sources that countries can use for monitoring SDHE.
- Provide guidance for national monitoring SDHE, including the process, translating monitoring to policy action, and crosscutting approaches to support it.
- Consider harmonization of monitoring SDHE at regional and global levels, including linking to monitoring efforts for the SDGs.
- Describe key challenges, ways to overcome them, and examples of monitoring SDHE that improve health equity from regions and countries.
- Propose an agenda for areas for action to support monitoring SDHE that improve health equity in countries across the world.

The operational framework achieves these aims in the following Chapters:

- Chapter 1 provides an introduction to the operational framework.
- Chapter 2 presents background on monitoring SDHE.
- Chapter 3 describes the rationale, aims, guiding principles, and methods of the operational framework.

³ See Table 3 for further information on countries that have undertaken monitoring related to SDH and actions to advance health equity.

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- Chapter 4 reviews conceptual frameworks and existing work on SDHE-related monitoring led by WHO, other UN agencies, and other international, regional, national, and subnational stakeholders.
- Building on this previous work, Chapter 5 presents a proposed menu of indicators for monitoring SDHE.
- Chapter 6 provides guidance in the process of monitoring SDHE across sectors and using data to inform policy at national and subnational levels.
- Chapter 5 describes crosscutting approaches required to support monitoring SDHE.
- Chapter 7 discusses opportunities for harmonization of monitoring SDHE at regional and global levels.
- Finally, Chapter 8 concludes with proposing an agenda for areas for action to support monitoring SDHE in countries across the world.

DRAFT

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2. BACKGROUND

What is monitoring SDHE?

Public health surveillance is defined by the Centers for Disease Control and Prevention (CDC) as “the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality, and to improve health. Data disseminated by a public health surveillance system can be used for immediate public health action, program planning and evaluation, and formulating research hypotheses”.⁴⁰

Monitoring SDHE, as characterized in this document, is a type of public health surveillance that focuses on data regarding SDH and actions—that is, interventions and/or policies—that improve health equity. Monitoring SDHE—and not just monitoring SDH and actions—helps to make the connection between SDH and actions that ultimately influence *health equity*. Integrating the term “health equity” in monitoring helps to attract the attention of policymakers by explicitly tracking progress on SDH and actions to improve health equity—a political commitment that many countries have made. For instance, 191 UN Member States have agreed to try to achieve the 17 UN SDGs by 2030, including SDG 3 entitled “Good Health and Well-Being,” which calls on countries to ensure healthy lives and promote wellbeing for all.⁴¹

Monitoring SDHE involves collecting data at different levels—such as global, regional, national, and local levels—across multiple sectors beyond health—such as agriculture, education, finance, and housing—that influence health and wellbeing. It also includes analyzing data to calculate national averages on measures of SDH and actions, as well as disaggregated data that reveal differences on measures of SDH and actions across population groups. Results from analyses can be used for reporting that identifies progress and opportunities for improvement on SDH and policies and interventions to address them. Translating evidence to policy action is critical, and requires crosscutting approaches and processes national as well as regional, and global levels.

Monitoring SDHE includes aggregate indicators of SDH and actions as well as disaggregated indicators. Aggregate, national indicators are used to monitor progress between countries, which can help to identify the divide between the best and worst performing countries in terms of addressing SDH and implementing actions to improve health equity. Identifying countries with the largest improvements and potential drivers of this can provide a model to help poorer performing countries to improve. In addition to aggregate indicators, monitoring SDHE measures disaggregated indicators where relevant and available in order to track the differential impact of SDH on different social groups and fairness of policies and interventions that improve health equity within countries. Monitoring equity in SDH measures the inequitable distribution of SDH within countries, which can help to identify some of the structural drivers and mechanisms of health inequities. Monitoring the policies and interventions that can improve health equity within countries entails tracking whether countries are ensuring equal opportunities, guarding against differentiated impact, and adopting proportional universalism to respond to differential needs.

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Monitoring SDHE is critical to achieve health equity.

Needless to say, but important to reiterate, monitoring SDHE is critical to achieve health equity.⁴² This is for a number of reasons. First, monitoring SDHE makes the extent of injustices in SDH and in policies and interventions to improve them visible. Second, where backed by evidence, monitoring SDHE can provide a simple yet powerful tool to show what conditions and actions drive—or reduce—health gaps in countries. Third, monitoring SDHE can help countries to measure and track progress over time toward improving SDH and effectively implementing actions that reduce health inequities. Fourth, monitoring SDHE can help governments to understand whether their interventions, policies, and investments are addressing and improving—or not—SDH and ultimately health equity. Countries can use information from monitoring SDHE to prioritize SDH and actions that can help to close gaps. Finally, monitoring SDHE can help to strengthen accountability and transparency, tracking government commitments and ensuring governments are enacting policies and spending as planned to address SDH that tackle health inequities.

There have been political commitments and previous work to advance monitoring SDHE.

Recognizing the importance of monitoring SDHE, international, regional, national, and other stakeholders have made political commitments, provided policy recommendations, and advanced work that is relevant to monitoring SDHE. WHO Member States have also made political commitments to monitoring SDH and actions that improve health equity, such as through the 2011 Rio Political Declaration⁴³ and World Health Assembly Resolutions (e.g., WHA62.14; WHA65).^{44,45} Monitoring is also often included in policy recommendations, including in the third umbrella recommendation of the final report of the CSDH.⁴⁶ In addition to political commitments and policy recommendations, over the past several decades, WHO, other UN agencies, and international, regional, and national stakeholders have advanced work on monitoring that is relevant to SDHE. WHO has developed monitoring frameworks, tools, resources, and training to support governments with monitoring health inequalities (e.g., see WHO Health Inequality Monitor)⁴⁷, social determinants of health (e.g., Urban HEART)⁴⁸, and government actions to address them (e.g., equity-oriented analysis of linkages between health and other sectors (‘EQUAL’ framework))⁴⁹. Other UN agencies have monitoring systems relevant to SDHE. For instance, the UN 2030 Agenda for Sustainable Development underscores the importance of monitoring and reporting on the Sustainable Development Goals (SDGs)⁵⁰, and the UN has developed monitoring and reporting toolkits⁵¹ to support national governments with this. National governments as well as more local level governments have also undertaken SDHE-related monitoring efforts. For example, in the United States (US), the US Health and Human Services (HHS) 2030 Healthy People initiative monitors progress to improve population health and includes measures of SDH, including education, occupation, and income.⁵² Chapter 4 of this document provides further information about previous work to advance monitoring SDHE.

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3. RATIONALE, GUIDING PRINCIPLES, TARGET AUDIENCE, AND METHODS

Rationale: Why is there a need for an operational framework?

Despite previous monitoring work, institutionalizing monitoring SDHE, and having these data meaningfully impact policymaking that can close health gaps, has proved elusive in most countries. As discussed below, there are many reasons for this, all of which taken together provide strong rationale for an operational framework.

No common framework or standards for national monitoring SDHE.

No comparable framework or standards to support national monitoring systems that are globally applicable and harmonized have been implemented. While WHO has developed guidance for national, regional, and global monitoring SDH and actions, there are challenges in the institutionalization of this work.

For instance, from 2013 to 2015, WHO invited several countries to test the equity-oriented analysis of linkages between health and other sectors ('EQUAL' framework); however, many issues covered by the domains were not institutionalized in data collection, analysis, or discussion in national systems, and capacity building would be necessary in the countries in order to institutionalize equity-oriented monitoring.^{53,54}

At the regional level, the WHO European Office for Investment for Health and Development led the European Health Equity Status Report Initiative (HESRI), which developed the Health Equity Policy Tool—a framework to track policies for increasing health equity in the WHO European Region; however, the extent to which it has been replicated at the national level is still in development.⁵⁵

Few countries currently systematically monitor SDH and interventions and policies to address them. In 2016, 20 national systems in 15 countries had SDH-focused monitoring⁴, and efforts specifically focused on monitoring government actions to address the social gradient in health have only recently received attention.⁵⁶ Unsurprisingly, health inequities are pervasive and rising both between and within many countries. Hence, a common operational framework for monitoring SDHE is urgently needed.

Challenges in capacity and resources to collect, analyze, and report data on SDHE.

Differences exist across countries in resources and capacities that influence the collection, analysis, interpretation, and reporting of data for monitoring SDHE. Some countries, especially low-resource ones, face numerous challenges around capacities and resources for monitoring SDHE; other countries, given their greater resources and capacities, are more advanced in monitoring SDHE. Countries therefore need a spectrum of monitoring approaches that span the feasible to aspirational to recognize the differences across countries.

Countries, especially low resource ones, likely do not have a dedicated and trained team of statisticians, economists, and other researchers to support with monitoring SDHE. Given

⁴ See Table 3 for further information on countries that have undertaken monitoring related to SDH and actions to advance health equity.

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time and budget constraints of many governments, it may be challenging to allocate sufficient resources that will be needed for hiring and training staff on monitoring SDHE, let alone contracting out work to researchers in academic institutions. However, shifting existing staff devoted to data and statistics on other urgent health issues, such as health emergencies and communicable diseases, may not be feasible or possible if there is weak political will and resources to address the issue of SDHE.

There also is substantial variation across countries in the statistical infrastructure and capacity for monitoring SDHE. Traditionally, Ministries of Health rely on a variety of data sources for public health monitoring, such as household surveys (e.g., Demographic Health Survey), vital records (e.g., death certificates, birth certificates), registries (e.g., chronic disease registries), and administrative data systems (e.g., hospital records of patient visits). However, monitoring SDHE entails collecting data from sources at different levels and across multiple sectors beyond health that traditionally do not share data with one another, such as education, labor, housing, and agriculture. It is challenging for countries to build monitoring systems and platforms that facilitate the collection, analysis, interpretation, and dissemination of data at different levels and across multiple sectors that do not traditionally share data with one another. However, there are no global norms and standards to increase the ease and security of sharing and using data across sectors to drive action on SDH that can improve health equity. Even if data is shared, it is likely that a public health data analyst in the Ministry of Health will experience difficulties in analyzing, interpreting, and understanding nuances of data from other sectors, such as the Ministry of Finance or Ministry of Education. Therefore, many countries, particularly those with the lowest resources, have not developed data and monitoring systems that routinely collect, analyze, and report data on the full range of SDH and actions.

As previously noted, few countries currently systematically monitor SDH and actions that improve health equity. While some countries are collecting and monitoring data on SDH, they more often focus on “downstream” SDH, such as education or income, rather than “upstream” or structural SDH, such as measures of political economy, structural racism, and other forms of discrimination. Also, countries do not often routinely collect and monitor data on interventions and policies that address SDH.

Even if data is available, countries also likely face challenges in identifying and selecting the most appropriate indicators to capture SDH and actions. For instance, for actions, there are indicators that measure access and coverage of policies, such as the percentage of adult workers with paid family leave coverage or the percentage of children in poor families receiving cash transfers. There are also indicators that capture information on adequacy and quality of policies, such as the adequacy of retirement benefits of the pension system or teacher-to-primary student ratio. There also are indicators of policy adoption, enactment, and implementation—each important, but different processes in policymaking.

Countries also do not often have monitoring systems that systematically collect data on characteristics that matter for health equity, such as race and ethnicity or information on racism and other forms of discrimination. The pandemic revealed gaps in public health infrastructure, including data and monitoring systems, which perpetuate health inequities.⁵⁷

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Many countries have incomplete and unreliable race and ethnicity data that are needed for data disaggregation to understand risk and outcomes by race and ethnicity. Most recently, during the pandemic, incomplete and unreliable race and ethnicity data made it challenging to identify the disproportionate impacts of the pandemic on racial and ethnic minority communities, understand the many drivers of these inequities, and ensure that those hardest hit by COVID-19 were being prioritized.

This shows how monitoring and data systems, depending on how they are set up and utilized, can perpetuate health inequities by not measuring them appropriately. This lack of performance of monitoring systems to monitor health inequities can be due to capacity issues as described above but can also be due to the political economy of the country and the lack of political will or interests to actively highlight inequities between population groups – or to question the power dynamics and histories in countries which leads to some groups being privileged over others.

Beyond capacity issues and political reluctance, the reasons for why monitoring systems lack data on race and ethnicity may be more nuanced, reflecting subtle distinctions depending on the country context. Sweden, for example, draws much of its statistics from Swedish population registers, which give authorities access to data on age, gender, education, income, address and place of birth, among other things, for each individual. These registers make it possible to produce detailed statistics that highlight discrimination on the basis of gender, class, geographical factors, and age. However, race and ethnicity, for example, are not, where there are arguments that the collection of such data risks cementing the division of people into races, and the data may be misused.

Inequities in COVID-19 exposure, illness, and death underscored the need for transforming public health data and monitoring systems to be equity-oriented. Reliable data collection of SDH, actions, and other factors that matter for health equity and timely and quality analysis and reporting of these data can help to save lives and ensure that those individuals and communities who are most marginalized are prioritized for interventions and policies that promote health and well-being.

Lack of governance to support monitoring and translate monitoring to action.

Strengthening governance structures, policy frameworks, and regulations that support monitoring SDHE and building partnerships across sectors to translate monitoring and data to action are also needed. Translating monitoring to action to address SDH requires working across sectors, taking intersectoral or multisectoral action. This entails a government department working with other sectors toward a coherently stated objective and ensuring that action in one sector does not adversely affect other sectors. The importance of multisectoral action to improve population health and reduce health inequities has long been recognized, including being highlighted in the Declaration of Alma Ata in 1978 and more recently in the 2011 Rio Political Declaration on the Social Determinants of Health.^{58,59} However, traditionally, governments work in silos, so working across sectors has proved difficult in practice. Yet, the UN SDGs provide impetus for countries to take a multisectoral approach—to make progress of SDG goals, targets, and indicators, complex challenges must be addressed across a broad range of sectors.

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A helpful tool for encouraging inter- or multisectoral action is to adopt a “HiAP” approach that ensures considerations of health in relevant public policies across sectors.⁶⁰ Also, more relevant to monitoring SDHE is a “HEiAP” approach that ensures considerations of health *equity* in relevant public policies across sectors can be useful for countries in translating monitoring to action on SDHE.⁶¹ However, engaging other sectors has proven difficult in practice.^{62,63}

In summary, monitoring in general is a major undertaking for countries, and monitoring SDH and actions to improve health equity is even more challenging, especially under-resourced ones. However, countries have not implemented harmonized data collection, analysis, and reporting protocols that support national monitoring systems and enable global comparisons of indicators that are universal and relevant. Hence, countries need a common operational framework for monitoring SDHE that can be implemented, including a menu of indicators that can be used across countries with different resources and capacities. Countries also need guidance in the process of monitoring SDHE across sectors and using data to inform policy. In addition, they need support in crosscutting approaches required to support monitoring SDHE. Finally, countries need help in coordinating efforts with monitoring and policy development at regional and global levels.

Aims and guiding principles: What does the operational framework aim to do and what are its guiding principles?

The goal of the operational framework is to provide countries with a comparable framework and guidance to support national monitoring of SDH and actions that improve health equity, which is globally applicable and harmonized. In particular, the operational framework aims to:

- Highlight key indicators and their data sources that countries can use for monitoring SDHE.
- Provide guidance for national monitoring SDHE, including the process, translating monitoring to policy action, and crosscutting approaches to support it.
- Consider harmonization of monitoring SDHE at regional and global levels, including linking to monitoring efforts for the SDGs.
- Describe key challenges, ways to overcome them, and examples of monitoring SDHE that improve health equity from regions and countries.
- Propose an agenda for areas for action to support monitoring SDHE that improve health equity in countries across the world.

More specifically, the operational framework aims to support countries by providing guidance in key areas and actions while committing to guiding principles described in Table 1.

Table 1. Guiding Principles of the Operational Framework for Monitoring SDHE.

Guiding Principle 1: Reconcile global with national monitoring objectives.
The operational framework includes both global and national monitoring perspectives. Global monitoring entails harmonized data collection, analysis, and reporting protocols

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across countries that enable global comparisons of indicators that are universal and relevant. For instance, the operational framework recommends a global menu of indicators that should be measured across countries, such as indicators from the UN SDG indicators database. On the other hand, national and local monitoring can address more context-specific issues that might not be easily comparable across countries. Recognizing the importance of national monitoring SDHE, the operational framework describes the process of it, such as mapping national priorities and data sources to determine which indicators to prioritize from the global menu.

Guiding Principle 2: Provide a spectrum of monitoring approaches that span feasible to aspirational.

Differences exist across countries in resources, capacities, political-economy environments, cultures, and other characteristics that influence monitoring SDHE. As a result, the most appropriate approaches for monitoring SDHE might range from taking the first steps to begin monitoring a select few SDH to expanding monitoring to include indicators on policies and interventions that improve health equity to developing a platform for seamless data sharing across sectors on SDH and actions. Recognizing, this, the operational framework provides a spectrum of indicators that span the feasible to the aspirational, so that countries can find something useful for their environment. Also, the operational framework features Call-Out Boxes that highlight a variety of monitoring SDHE approaches that are taking place in several regions and countries from across the world. A variety of approaches for monitoring SDHE will be needed to encourage action and achieve health equity.

Guiding Principle 3: Be comprehensive, yet concise.

It is important for the operational framework to be comprehensive since it will serve as a critical guide for many countries that are just beginning to monitor SDHE. Therefore, the operational framework is comprehensive enough to provide countries with a step-by-step approach to measure, assess, report, and prioritize SDH and actions that improve health equity. Even here, the operational framework cannot provide a “blueprint” for every country, but instead provides a roadmap that will need to be adapted and contextualized for every country’s reality. The operational framework needs to be concise enough to communicate effectively with policymakers to help encourage action. A long list of indicators for monitoring SDHE could be impractical for policymakers, especially in countries with limited capacity and resources.

Guiding Principle 4: Transform monitoring into action.

The operational framework aims to help governments to transform monitoring SDHE into action to advance health equity. To that end, the operational framework provides country examples of multi- or intersectoral action on SDH across countries with different resources and capacities. In addition, it describes the governance mechanisms to encourage intersectoral action on SDH. Finally, the operational framework identifies opportunities for civil society and community stakeholders to help transform monitoring into action.

Guiding Principle 5: Build on previous work and start a dialogue based on newer,

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emerging evidence, with a plan to carefully expand this work.

The operational framework doesn't "reinvent the wheel", building on previous conceptual frameworks, evidence, and monitoring work led by WHO and others. Previous evidence and monitoring work have tested and recommended indicators for monitoring SDH and actions, and it is practical to build on this previous work. To that end, the operational framework proposes a menu of indicators that includes previously tested and used indicators, which most countries can measure and track progress on.

It is recognized that it may not be possible to include in the operational framework all of the many SDH and policies and interventions that previous research has determined can improve health equity. While additional measures exist, the operational framework aims to start a dialogue about monitoring SDHE. The plan is to carefully expand the indicators of the operational framework over time so that countries can have a choice and select indicators that are most appropriate for their country context.

Target audience: Who should use the operational framework?

A key audience is governments and policymakers across sectors and at all levels of policymaking, including at regional, national, and subnational levels. In addition, the operational framework is relevant to other regional, national, and subnational stakeholders who are advancing work on monitoring and data relevant to SDH and health equity, such as nongovernmental organizations, the private sector, and development partners.

International partners can also use this document in supporting the efforts of countries to monitor SDHE, including the UN and its monitoring system for SDGs. Those in academic institutions may also find the operational framework useful for identifying areas requiring further research. Beyond these actors, people and communities can use this document, as they are central to monitoring efforts, especially with regards to holding governments accountable for their actions to address SDH and improve health equity.

Methods adopted for development of the operational framework:

The operational framework draws extensively on consultations with Member States, WHO colleagues at global, regional, and national levels, and an ad hoc expert group that WHO convened on this topic (see Appendix A3 for more information on the expert group). It also builds on existing literature, including peer-reviewed journal articles, reports, evidence briefs, manuals, toolkits, policy documents, and other resources. See Appendix A4 for further description of the approach and methods adopted for development of the operational framework.

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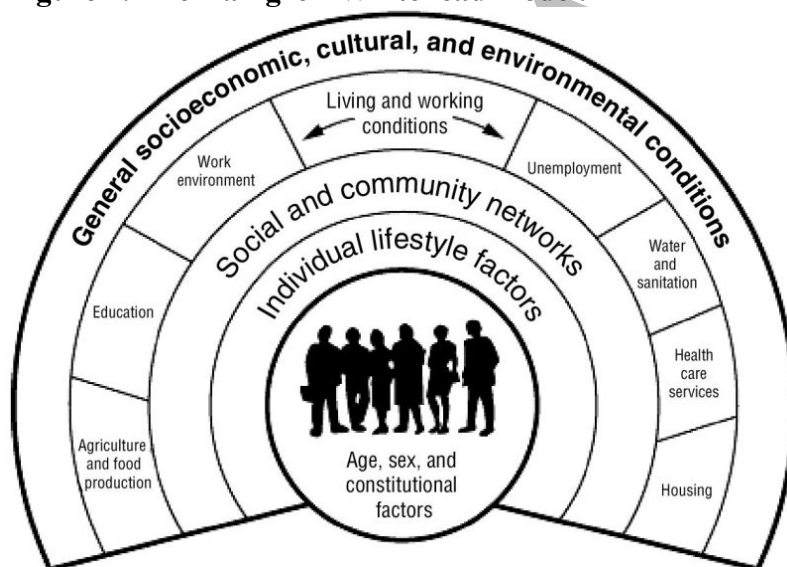
4. CONCEPTUAL FRAMEWORKS AND EXISTING WORK FOR MONITORING SDHE

The operational framework builds on previous conceptual frameworks and monitoring work undertaken by WHO and other stakeholders, aiming to complement these existing frameworks. The operational framework aims to add value by building on this existing work to support countries and different stakeholders in decision-making, programming, and action to address SDH and reduce health inequities.

There are many conceptual frameworks and decades of research that have built the foundation for monitoring SDHE.

Since the SDH concept is multifaceted, multiple conceptual frameworks have been put forth based on evidence of causal pathways and mechanisms that contribute to population health and health inequities. Examples of conceptual frameworks for SDH include the Dahlgren and Whitehead “rainbow” model⁶⁴ (see Figure 1), the Diderichsen model of “mechanisms of health inequality”⁶⁵, the conceptual framework for action on social determinants of health (also known as the CSDH framework)⁶⁶ (see Figure 2), and the monitoring framework for equity-oriented analysis of linkages between health and other sectors (EQuAL framework).⁶⁷

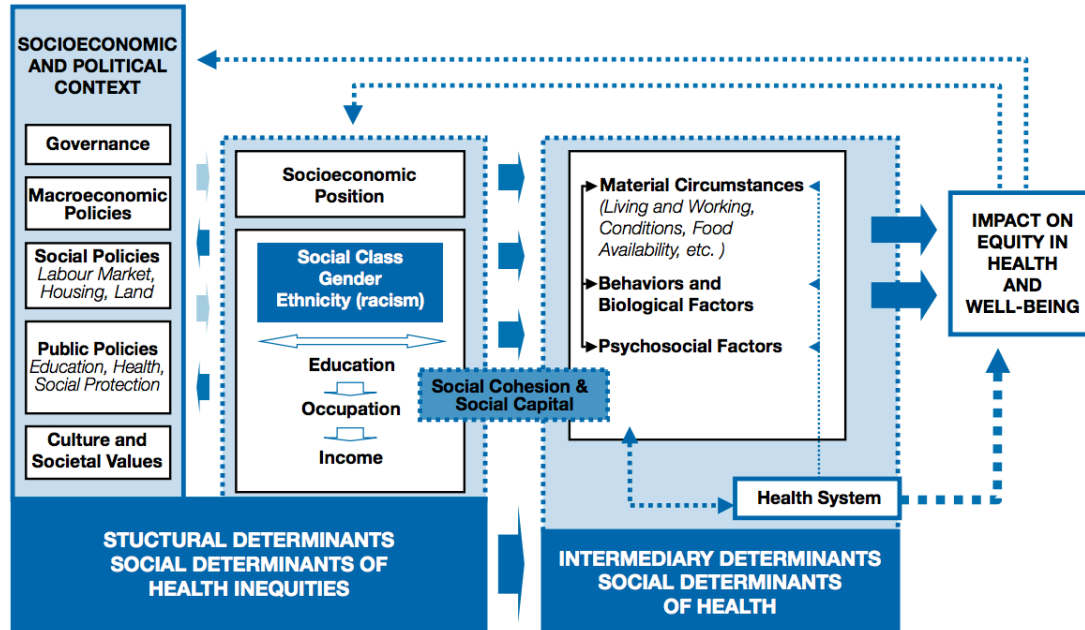
Figure 1. The Dahlgren-Whitehead model.



Source: Dahlgren G, Whitehead M. 1991. Policies and Strategies to Promote Social Equity in Health. Stockholm, Sweden: Institute for Futures Studies.

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Figure 2. CSDH conceptual framework on SDH.



Source: Commission on Social Determinants of Health, 2008.

Guided by the WHO CSDH, the CSDH framework⁶⁸ was designed to enhance the understanding of determinants and mechanisms and guide policymaking to illuminate opportunities for interventions and policies to address SDH that tackle health inequities. The conceptual framework shows how social, economic, and political mechanisms give rise to a set of socioeconomic positions, whereby populations are stratified according to income, education, occupation, gender, sex, race and ethnicity, and other factors. These socioeconomic positions in turn shape specific determinants of health status (also known as “intermediary determinants of health”), reflective of people’s place within social hierarchies. Based on their respective social status, individuals experience differences in exposure and vulnerability to health-compromising conditions (or health-promoting conditions). The most important structural stratifiers and their proxy indicators include: income, education, occupation, social class, gender, sex, and race/ethnicity. Together, context⁵, structural mechanisms⁶, and the resultant socioeconomic position of individuals encompass “structural determinants of health”, which are commonly referred to as the “social determinants of health equity”. The underlying social determinants of health equity operate through a set of intermediary determinants of health to shape health outcomes. Intermediary determinants of health include: material circumstances (e.g., physical living

⁵ “Context” includes all social and political mechanisms that generate, configure and maintain social hierarchies, including: governance, macroeconomic policies, social policies (e.g., labor market, housing, land), public policies (education, health, social protection), and culture and societal values.

⁶ Structural mechanisms are those that generate stratification and social class divisions in the society and that define individual socioeconomic position within hierarchies of power, prestige, and access to resources. Structural mechanisms are rooted in the key institutions and processes of the socioeconomic and political context.

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and working conditions, such as housing, food, water, air, and sanitation), psychosocial circumstances (e.g., psychosocial stressors, stressful living circumstances and relationships, and social support and coping mechanisms), behavioural and/or biological factors (e.g., nutrition, psychical activity, tobacco consumption, alcohol consumption, and genetic factors), and the health system itself (e.g., health coverage). This framework has served to illustrate the pathways of SDH and identify actions to reduce health inequities.

Beyond conceptual frameworks, decades of research have documented the influence of SDH on population health and health inequities.^{69,70,71,72} The list of potential SDH is expansive and evolving, including: income and poverty, education, employment, housing, air and water quality, neighborhood conditions, and social contexts.^{73,74} Newer work has highlighted other determinants, including: accountability and inclusion⁷⁵; income inequality^{76 77 78}, structural racism⁷⁹, commercial determinants of health⁸⁰; and digital determinants of health⁸¹. For example, a growing body of research documents the powerful influence of racial- and ethnicity-based stigma, racism, and discrimination on health.^{82 83} The pandemic raised awareness about the importance of addressing structural racism and ethnicity-based discrimination, including by investing in data disaggregation by race and/or ethnicity as well as other determinants that can help to unpack the compounding and intersecting drivers of exclusion.⁸⁴ With the exponential rise in use of digital health and clinical tools, the digital determinants of health—access and connectivity to digital technologies and platforms and the impact of such technologies and platforms on health—is another emerging SDH.⁸⁵ Despite their promise, digital technologies can have unintended consequences for health equity, especially for lower income people, racial and ethnic minority communities, older adults, and other minority groups who are more likely to lack access to digital technologies, face connectivity barriers, have poor engagement with digital tools and applications, and be digitally illiterate, which can contribute to poor health outcomes and exacerbate health inequities.⁸⁶

Research has also shown that interventions and policies addressing SDH can have positive effects on health and health equity.⁸⁷ There is growing evidence of the positive impacts of interventions and policies that increase exposure to SDH and redistribute SDH on health and health equity. The Cochrane Public Health Group has been at the forefront of global efforts to advance systematic review evidence on the effects of governance, social, and environmental interventions on SDH. Decades of research show that increasing access to early education has lasting positive effects on health, socioeconomic wellbeing, and health equity, and that programs that close gaps in education between disadvantaged and advantaged are needed to advance health equity.⁸⁸ In addition, evidence shows that social protection programs, such as cash transfers, have significant positive impacts for poor and vulnerable individuals, children, and families, including on health and health equity.⁸⁹ Emerging research also finds that cash transfer programs are effective in tackling SDH, such as financial poverty, education, household resilience, child labor, social capital and social cohesion, civic participation, and birth registration.⁹⁰ There also is sound evidence regarding the importance of other social protection policies for a wide range of SDH, including but not limited to, the areas of gender equity in political leadership, unemployment coverage, universal access to health and social services, as well as social inclusion, engagement with community, cultural continuity and support for self-

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determination among Indigenous communities.⁹¹ The widespread awareness of the evidence on SDH and policies to address them underscores the need for action.

WHO, other UN agencies, and international, regional, national, and more local level stakeholders have led decades of work to advance monitoring SDHE.

The operational framework builds on previous work led by WHO, other UN agencies, and international, regional, national and more local level stakeholders on monitoring of SDH, and existing international frameworks for monitoring equity more broadly including in the United Nations (UN) Sustainable Development Goals (SDGs).

Over the past several decades, WHO Member States have made political commitments to monitoring SDH and actions that influence health equity, such as through the 2011 Rio Political Declaration⁹² and World Health Assembly Resolutions (e.g., WHA62.14; WHA65).^{93,94} Monitoring is also often included in policy recommendations, including in the third umbrella recommendation of the final report of the CSDH.⁹⁵ In addition to political commitments and policy recommendations, WHO—at global and regional levels—has developed monitoring frameworks, tools, resources, and training to support governments with monitoring health inequalities (e.g., WHO Health Inequality Monitor)⁹⁶, social determinants of health (e.g., Urban HEART)⁹⁷, and government actions to address them (e.g., equity-oriented analysis of linkages between health and other sectors ('EQUAL' framework))⁹⁸. For more information on global WHO health inequality monitoring work and resources, see Appendix A5.

At the regional level, the WHO European Office for Investment for Health and Development led the European HESRi, which developed the Health Equity Policy Tool—a framework to track policies for increasing health equity in the WHO European Region; however, the extent to which it has been replicated at the national level is still in development.⁹⁹ The project also identified and quantified the impact of five conditions on health equity within a country - health systems, income security, living conditions, social and human capital and employment and work. Another example of regional level monitoring SDHE is in the *PAHO Plan of Action on Health in All Policies*, which includes a framework for monitoring for 35 countries across the AMRO/PAHO region.¹⁰⁰

Through this work, WHO has helped to develop and refine monitoring tools, resources, and best practices that are relevant for monitoring SDHE. There is substantial variation in the level and scope in this monitoring work. For instance, the Urban HEART¹⁰¹ sets forth a monitoring framework to be used on a more local level—for urban centers across the world. On the other hand, the *PAHO Plan of Action on Health in All Policies* proposes a framework for monitoring on a regional level—for 35 countries across AMRO/PAHO region.¹⁰² Regarding scope, Urban HEART¹⁰³ includes a small list of indicators, but provides comprehensive information on how to translate monitoring work into a report. Alternatively, the 2018 Working Group for Monitoring Action on the Social Determinants of Health that took place in Ottawa, Canada developed a core set of 36 indicators for government action on SDH to improve health equity.¹⁰⁴ Over the years, WHO-led monitoring work has introduced many different domains, measurement concepts,

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indicators, and data sources. Appendix A6 provides a detailed timeline of WHO-led work related to monitoring SDHE and government actions to address them.

Beyond WHO, other UN agencies have advanced monitoring work related to SDHE and policies to address them. In 2015, all 193 Member States of the United Nations adopted the 2015-2030 Agenda for Sustainable Development, which provides a shared blueprint to achieve a better and more sustainable future for all.¹⁰⁵ The Agenda includes 17 Sustainable Development Goals (SDGs) and 19 targets to help stimulate action in areas of critical importance for humanity and the planet. There are linkages between the SDGs, SDH, and health equity. One of the SDGs focuses specifically on health equity—SDG3 on ensuring healthy lives and promoting wellbeing *for all at all ages*—and many SDGs closely correspond to SDH. The agenda also pledges to “leave no one behind”, and one of the SDGs—SDG 11—specifically focuses on reducing inequalities.

At the 2017 General Assembly, the UN adopted a global indicator framework for SDGs and targets, which are refined annually and reviewed comprehensively in 2020 and 2025.¹⁰⁶ Indicators at the regional and national levels complement the global indicator framework. As of 2022, the global indicator framework includes 231 unique indicators. The UN launched an online SDG global database, which provides access to data on more than 210 SDG indicators for countries across the globe.¹⁰⁷ The UN also developed the online SDG Monitoring and Reporting Toolkit for UN Country Teams to support national governments in the monitoring and reporting of SDG. This toolkit is a ‘live’ document that is updated continuously as new resources become available, including those focused on monitoring and data, SDG localization and implementation, and capacity building and coordination. Recognizing the importance of aligning with the SDG indicators, the WHO 2018 Working Group for Monitoring Action on the Social Determinants of Health prioritized the UN monitoring system indicators and included a number of these indicators in the recommended framework.¹⁰⁸

At the regional level, in 2011, the European Community’s Seventh Framework Programme funded the SOPHIE project, which aims to generate new evidence on the impact of structural policies on health inequalities and their structural determinants, and to develop innovative methodologies for the evaluation of these policies in Europe.¹⁰⁹ In 2010, the Ministry of Health and Social Policy for the Spanish Presidency of the European Union made monitoring the social determinants of health and the reduction of health inequalities a priority, and commissioned an independent expert report on monitoring social determinants of health and the reduction of health inequalities.¹¹⁰ The OECD also monitors trends in health inequalities, and assesses the extent to which OECD countries are successful at providing equal access to health care based on need.¹¹¹ In addition, the OECD advises governments on the potential benefits and costs of policy interventions to reduce inequalities. Recognizing that tackling health inequalities requires taking a wider perspective, the OECD monitors and analyzes data on SDH. For instance, current OECD analysis highlights the importance of income, education, and healthy behaviors to life expectancy gains. More recently, the Joint Action Health Equity Europe (JAHEE)—an EU-based project that ran from 2018-2021—developed a standard for monitoring health inequalities and health conditions. The Public Health Agency on behalf of the government

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of Sweden led a sub-project on improving monitoring of health inequalities in 12 countries with the aim of supporting member countries to develop monitoring in health inequalities as well as developing indicators at policy level.

National governments as well as more local level governments have also undertaken monitoring of SDH and policies to address them. The United Kingdom and New Zealand have standard practices in place to collect data on SDH, such as deprivation indices, in a streamlined manner.¹¹² In Sweden, the Public Health Agency of Sweden developed a new public health framework that includes eight objective areas for good and equal health across a range of sectors, including early life, education, work, income, housing, health behaviors, participation, and health care.¹¹³ In the US, the US HHS 2030 Healthy People initiative—that monitors progress and encourages action to improve the health of the nation—recently added measures on SDH, including education, occupation, and income.¹¹⁴ In Colombia, guided by data, the government has taken steps to implement policies focused on SDH during generational transitions to reduce health inequalities, focusing on five SDH: (1) early childhood development; (2) opportunities for education and first employment; (3) improved housing conditions; (4) social protection for families; and (5) vulnerable populations.¹¹⁵

On a more local level, in 2014, the Institute of Health Equity, in collaboration with Public Health England (as of 2021, the Office for Health Improvement and Disparities) developed the Marmot Indicators, which provide the local public health authorities across the UK with information on SDH and actions to help improve population health and reduce health inequities.¹¹⁶ In 2017, Public Health England launched the Wider Determinants of Health tool with regularly updated indicators across six domains, including: (1) built and natural environment; (2) work and the labor market; (3) vulnerability; (4) income; (5) crime; and (6) education-- (Office for Health Improvement and Disparities).¹¹⁷ At a municipality level, Thimphu city in Bhutan recently started implementing its healthy city action plan where an integrated monitoring framework will be used to measure progress on SDH action (urban governance, urban planning and health equity).¹¹⁸

While WHO, other international and regional organizations, and governments have made progress on monitoring SDH and actions, there is a need to systematically assess these previous monitoring efforts, and use this information to recommend a comparable framework for monitoring SDHE. Table 2 provides an example of a review conducted by WHO in 2016 of existing global, regional, national, and local-level work for monitoring SDH and actions, including databases, reports, and frameworks. Once existing monitoring work is systematically assessed, it will be a natural next step to propose a new operational framework for monitoring SDHE that identifies and selects the most suitable domains, measurement concepts, indicators, and data sources.

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Table 2. Review of work for monitoring SDHE (as of 2016).

Name of monitoring system	Operator	Country (Reporting level; WHO region)	Reporting periodicity	Reporting years	Action on SDH monitored	SDH monitored
Global monitoring						
World Health Statistics	WHO	194 countries ^a (global; all regions)	Annual	2005 – 2015	-	Education, economic status, gender* *Note: The listed SDH are not systematically monitored in all WHS reports, and not for all indicators.
Regional monitoring						
Health in the Americas	PAHO, WHO	45 countries ^b (regional and national; AMR)	Every 5 years	2012	SDH-focused governance and health-promoting social policy interventions	Education, income, gender, occupation, ethnicity/race
Indicators for the implementation of the <i>PAHO Regional Action Plan on Health in All Policies</i>	PAHO	35 countries (regional; AMR)	Annual	Piloting phase	Action on the SDH along the <i>PAHO Regional Action Plan on Health in All Policies</i>	-
European Observatory on Health System and Policies	Partnership of governments and non-governmental organization ^f	31 countries (regional; EUR)	Updated as changes occur	Latest year in which the health reform occurred	Intersectoral action	-
Health 2020 Monitoring Framework	WHO European Regional Office	31 countries (regional; EUR)	Annual	[add]	SDH-focused governance intervention	Education, income, employment, social cohesion
Health Systems in South America	ISAGS – UNASUR	12 countries (national; AMR)	Unclear	2012	Action on the SDH	-
WPRO core indicators in the <i>Country Health Information Profiles</i>	WPRO	37 countries and areas	Every 2 years	2014-2015		Sex, age, urban-rural
Indicators in the <i>Healthy Islands: The Journey in the First 20 years 1995-2014</i>	WPRO-DPS	21 Pacific Island countries	Unclear	2015		Environment, age
National monitoring						
Brazilian Observatory on Health Inequities	Ministry of Health, Brazil	Brazil (national, state; AMR)	Annual	2001 - 2009	-	Education, income, occupation
Observatory for measuring health inequalities and equity analysis in Colombia (Observatorio para Medición de Desigualdades y	Ministry of Health and Social Protection, Colombia	Colombia (national AMR)	Annual	2012 - current		Education, gender, income, occupation, ethnicity

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Análisis de Equidad en Salud)						
Health Equity Surveillance System (Sistema de Vigilancia de la Equidad en Salud)	Ministry of Health, Uruguay	Uruguay (national AMR)	Unclear	2015	-	Education, income, housing, occupation
Social Determinants of Health Monitor (Monitoreo de Determinantes Sociales de la Salud)	Ministry of Health, Peru	Peru (national AMR)	Every 5 years	2014	-	Education, gender, income, housing
Social Determinants of Health Monitoring System	Public Health Foundation of India	India (national, state; SEAR)	Every 5 years	1992-1993, 1998-2000, 2005-2006	Health-promoting social policy intervention	Governance, Education, income, housing
Healthy People 2020	Department of Health and Human Services, United States of America	United States (national; AMR)	Annual	Different for different indicators	Health-promoting social policy intervention	Education, occupation, income
The Behavioral Risk Factor Surveillance System		United States (national, state; AMR) Guam	Annual	1984-current 2007-2010	-	Education, social cohesion
Local monitoring						
The Marmot Indicators** **Note: As of 2017, this is called the Wider Determinants of Health tool.	Institute of Health Equity, Public Health England*** ***Note: as of 2021, the Office for Health Improvement and Disparities	United Kingdom (local; EUR)	Every 5 years	2011, 2015	Health-promoting social policy intervention	Education, occupation, income
Making Life Better Indicator Monitoring System	Department of Health, Social Services and Public Safety, Northern Ireland Executive	Northern Ireland (state; EUR)	Annual	2014, 2015	-	Education, occupation, income, gender
Healthy North Carolina 2020	Governor's Task Force for Healthy Carolinians	North Carolina, USA (state; AMR)	[add]	2009 (Baseline year), 2013	-	Income, education, and housing
URBAN-HEART 1 and 2	Ministry of Health, Iran	Teheran, Islamic Republic of Iran (city; EMR)	Every 3 years	2009, 2012 (Pilot)	Health-promoting social policy intervention	Education, income, social capital

Note: Data come from a review conducted by WHO in 2016.

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5. PROPOSED MENU OF INDICATORS FOR MONITORING SDHE

A crucial first step for national monitoring SDHE is to identify a menu of domains, measurement concepts, and indicators that are globally applicable and harmonized across countries. Based on a systematic assessment of previous conceptual models, research, and monitoring, this document proposes a menu of SDH and actions indicators. The menu of indicators for monitoring SDHE has been developed while keeping the operational framework guiding principles in mind. In particular, the indicators reconcile global with national monitoring objectives (principle 1) and span feasible to aspirational (principle 2).

Conceptual framework.

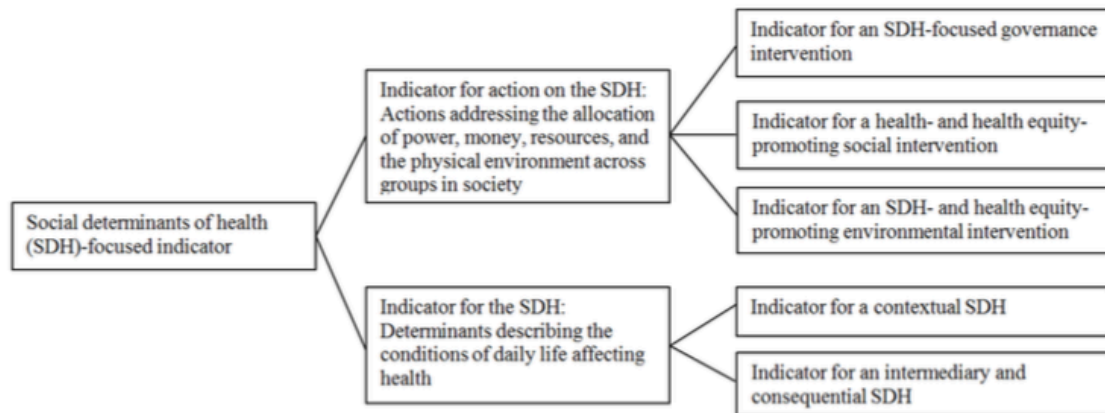
Selecting a suitable conceptual model serves as the foundation to inform the domains, measurement concepts, and indicators for routine monitoring SDHE. Rather than develop a new conceptual model, it is most feasible to select one that comes from existing literature and previous frameworks focused on SDH.

This operational framework uses the bifurcated classification of SDH-focused indicators that Pega and colleagues published in 2017.¹¹⁹ This conceptual model served as the foundation for the 2018 final core basket of indicators for the SDH action monitoring developed by WHO, the Public Health Agency of Canada, and the Canadian Institutes of Health Research – Institute of Population and Public Health in consultation with a group of international experts.¹²⁰ The final core basket is the output of the most recent WHO-led initiative to develop a comparable framework for national monitoring systems on actions that are globally applicable and harmonized. The 2017 Pega and colleagues conceptual model categorizes SDH-focused indicators into two types of indicators: (1) indicators for an intersectoral action that improves health equity and (2) indicators for a social determinant of health per se (see Figure 3).

There are three subtypes of indicators for action on SDH. The first subtype is indicators for governance structures and mechanisms, including human rights frameworks focused on SDH. The second subtype is indicators for social policies and programs that promote health and health equity, such as social protection and early childhood education interventions. And the third subtype are indicators for environmental policies and programs that improve health and health equity, such a policies preventing the dumping of toxic waste in informal settlements, which should improve their residents' health, and therefore improve health equity in the population. SDH action indicators thus are performance indicators for inputs, outputs and outcomes (i.e. coverage) of relevant government interventions. We do not use these subtypes of indicators for action on SDH, because they do not crosswalk with SDH; instead, we use a second conceptual model to inform the selection of SDH and action indicators.

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Figure 3. Proposed classification of SDH-focused indicators.



Source: Pega F et al. The need to monitor actions on the social determinants of health. *Bull World Health Organ.* 2017 Nov 1; 95(11):784-787. 2017.

Our menu of indicators stems from conceptual models of SDH, which classify SDH domains that influence health equity (e.g., see Figure 4 for the SDH model from the Centers for Disease Control and Prevention (CDC)).¹²¹ We use such models to identify six measurable SDH condition domains, including: (1) economic security and opportunity; (2) education; (3) physical environment; (4) social and community context; (5) health behaviors; and (6) health care. Each SDH domain contains multiple subdomains. For instance, physical environment entails subdomains including affordable and quality housing; green/open space; water and sanitation; and air/water quality.

Notably, the proposed menu of indicators includes two domains that are not traditionally considered to be SDH, but are included in the CSDH framework.¹²² First, we use the domain of health care, recognizing the health system plays a powerful role in health inequities through the issue of access, which incorporates differences in exposure and vulnerability, and through intersectoral action led from within the health sector. The health system plays an important role in mediating the differential consequences of illness in people's lives. Our proposed menu of indicators also includes health behaviors, such as nutrition, physical activity, tobacco consumption and alcohol consumption, which although traditionally are not considered SDH, they are distributed differently among different social groups and thus play an important role in social inequalities in health.

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Figure 4. Conceptual model of SDH.



Source: CDC – Social Determinants of Health. Available at: <https://www.cdc.gov/publichealthgateway/sdoh/index.html>

The six SDH domains span across a range of sectors. They also reflect conditions and opportunities that are important for people’s health and wellbeing across the life-course, ranging from early childhood education to working conditions. More equal conditions and opportunities across these areas throughout the life course will bring about reduced health inequities.

For each domain, we select SDH subdomains where there is strong evidence and widespread recognition of their impact on health. We also select subdomains for which there are gradients in health across the life course; for instance, people at every age who are not living in poverty are more likely to live longer and healthier lives, while people at every age in poverty experience shorter and sicker lives. Thus, close attention will need to be given to these subdomains to effectively improve health equity.

We also include indicators for action on SDH. Each action domain corresponds to a SDH domain. For instance, for the SDH domain of education, the action domain is policies to ensure access to quality of education. For each subdomain, we select evidence-based interventions or policies that can reduce health inequities. For instance, for the SDH domain of Work, income, economic security and inequality, we use the subdomain of fair work, income, economic security and equality, and include indicators of social protection policies that evidence shows have positive impacts on equality as well as health equity. We classify the policies based on the CSDH framework, which includes the following categories: governance; macroeconomic policies; social policies (labor market, housing, land); public policies (education health, social protection); and culture and societal values.

Development of a menu of indicators.

After identifying a conceptual model, we sought to develop a menu of indicators for national monitoring SDHE that are globally applicable and harmonized. There are several

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steps involved in this process, including: outlining considerations to keep in mind for selecting indicators and conducting a systematic process for identifying and assessing potential indicators for the menu of indicators.

Considerations to keep in mind for selecting indicators.

We outlined considerations for selecting indicators for monitoring SDHE that are adapted from WHO tools and resources for health inequality monitoring (e.g., Handbook on Health Inequality Monitoring; National Health Inequality Monitoring: A Step-by-Step Manual) (see Appendix A5). First, it is critical to ensure scalability, simplicity, and repeatability with the ability to update the menu of indicators over time. Second, consideration of data availability and indicator comparability/standardization across countries is important. Third, the menu of indicators should build on previous or existing data and monitoring systems, structures, and platforms, and not “reinvent the wheel”. For instance, indicators can build on previous health equity and SDH monitoring work led by WHO and other stakeholders, such as Urban HEART and the EQUAL framework. Indicators can also come from monitoring systems, structures, and platforms from other sectors, such as the SDG monitoring framework or the International Monetary Fund (IMF) climate change indicators dashboard.

Fourth, it is recommended to start with select, feasible indicators, but also consider aspirational indicators. We envisioned a comprehensive yet manageable menu of indicators. The menu of indicators should include common denominator indicators, which most countries can measure, such as proportion of children who have completed primary and secondary schooling. However, it should also propose more aspirational ones with respect to data collection and availability, such as percent of the eligible population who participated in voting, recognizing that resource constrained countries will likely experience challenges with such aspirational indicators, while at the same time aspirations can stimulate improvement.

Fifth, it is critical to consider the intersectionality of indicators for SDHE affecting populations, not trying to force people in a “box” of disadvantage. The menu of indicators should consider how to capture individuals and populations experiencing multiple disadvantages and unequal exposure to SDH and actions. For instance, indicators could capture the disproportionate impact of climate change on farmers in resource-constrained settings or COVID-19 on low-wage workers. Finally, the menu of indicators should acknowledge there are marginalized individuals and populations who have little to no data to monitor, such as undocumented migrants and populations affected by emergencies, homeless people, or incarcerated populations.

A systematic process to identify, assess, and prioritize potential indicators.

With these considerations in mind, we underwent a systematic process to identify, assess, and prioritize potential indicators for the menu of indicators.

First, we took stock of previous monitoring work and literature to identify potential domains, measurement concepts, and indicators. As discussed in the last chapter, WHO, other international and regional organizations, governments, researchers, and other

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stakeholders have made substantial progress on advancing monitoring work and literature related to SDH, actions, and health equity. However, there is still a need to systematically assess previous monitoring efforts, and use this information to recommend, plan, and implement a comparable menu of indicators for monitoring SDHE. We reviewed monitoring efforts focused on SDH, actions, and health equity, as well as on other health topics, such as achievement of universal health coverage (UHC) and implementation of the “health for all” strategy in the European region, the framework convention on tobacco control (FCTC), and country core public health capacities under the International Health Regulations (IHR). We also examined monitoring work in other sectors, such as the UN SDG indicators framework and indicators for the UN framework convention on climate change. On the later example, using such an existing framework can help to ensure the proposed indicators align with the best practices in monitoring for climate change, which can help to ensure that countries can understand the opportunities and risks associated with climate change and its impacts as well as design interventions for climate mitigation and adaptation that best meet the needs of affected communities and have a positive impact on health outcomes and equity.

Next, we developed criteria for the systematic assessment of previous monitoring work. To determine these criteria, we reviewed existing literature, resources, and tools, including from [WHO tools and resources for health inequality monitoring](#). Using these criteria, we then identified strengths and weaknesses of domains, measurement concepts, and indicators from previous monitoring work—even those not focused on SDH, actions, or health equity per se, labeling “gold standard” examples of where monitoring worked well, and where it did not. We documented domains, measurement concepts, and indicators of these previous monitoring efforts and literature, and the sources for each indicator, including databases, reports, and other indicator sets. Finally, we numerically ranked indicators on a scale of 1 (low) to 3 (highly) based on inclusion criteria. Once existing monitoring work was systematically assessed, the next step was to identify and select the most appropriate menu of indicators for monitoring SDHE.

After systematically assessing previous monitoring work, we followed a standard process for the systematic identification, assessment, and prioritization of domains, measurement concepts, and, in turn, the most appropriate indicators. Building on recent work led by WHO, the Public Health Agency of Canada, and the Canadian Institutes of Health Research – Institute of Population and Public Health, we adapted their standard process for selecting the new menu of indicators. In brief, we first identified domains, which are broader themes related to SDH and actions, such as “income” (SDH condition) or “minimum wage” (SDH action). Second, for each domain, we identified, assessed, and prioritized subdomains, these being defined, measurable concepts that capture an SDH condition or SDH action, such as “household income” or “coverage of social insurance programs”. Third, for each measurement concept, we searched for and documented relevant SDH and actions indicators—valid, reliable measures of the measurement concepts—from databases, global monitoring systems (including the SDG monitoring system), and global monitoring reports. We then compiled potential candidate indicators into a long list.

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Next, we systematically assessed each potential candidate indicator, adapting and using inclusion criteria from other monitoring work, including the WHO Health Inequality Data Repository. The selection criteria for indicators are: (1) quality and reliable data sources; (2) publicly available data; (3) data available at national level; (4) comparable statistical unit across different settings; (5) data available for 2015 or later; (6) data available for at least 10 countries. Another sufficient but not necessary criteria is that indicators can be disaggregated by dimensions of inequality, because this can help to identify inequities in SDH and actions that are the root of health inequities. However, many SDH action indicators cannot be disaggregated—data sources with indicators for policies and interventions do not yet stratify such indicators by dimensions of inequality. Finally, we numerically ranked indicators on a scale of 1 (low) to 3 (highly) based on the inclusion criteria.

On the basis of this assessment, we compiled the prioritized indicators in the key end product: the proposed menu of indicators presented in this operational framework for monitoring SDHE.

Menu of Indicators

Table 3 lists the proposed menu of indicators for monitoring SDHE. Countries are expected to begin with first exploring the use of the proposed menu of indicators. However, countries are also encouraged to develop or disaggregate data differently to match their own country priorities. Countries may have other indicators of interest or for further disaggregation, such as choosing to disaggregate by race/ethnicity in the United States or Aboriginal and Torres Strait Islander status in Australia.

Table 3. Proposed menu of indicators for monitoring SDHE.

Domain	Subdomain	Indicator	Data Source	Disaggregation
<i>SDH</i>				
Work, income, economic security and inequality	Unemployment	Unemployment rate (%)	UN SDG Indicators Database	Age, Sex, Disability
	Working conditions	Average hourly earnings of employees (local currency)	UN SDG Indicators Database	Sex, Occupation
	Working conditions	Employed population covered in the event of work injury (%)	UN SDG Indicators Database	Sex
	Working conditions	Fatal occupational injuries among employees (per 100 000 employees)	UN SDG Indicators Database	Sex, Migrant status
	Working conditions	Non-fatal occupational injuries among employees (per 100 000 employees)	UN SDG Indicators Database	Sex, Migrant status
	Food insecurity	Prevalence of severe food insecurity in the adult population (%)	UN SDG Indicators Database	Place of residence, Sex
	Poverty	Population below international poverty line (%)	UN SDG Indicators Database	Age, Sex, Place of residence (rural/urban), Disability
	Multidimensional poverty	Incidence of multidimensional poverty (%)	UNDP and OPHI	Age, Sex of household head, Place of residence (rural/urban), Subnational region, Ethnicity, race or caste

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	Wealth inequality	Gini coefficient	Global Data Lab	Economic status, Poverty status, Place of residence (rural/urban), and Subnational region
Education	Access to early childhood education	Net attendance rate, one year before the official primary entry age (%)	DHS	Sex, Economic status, Place of residence (rural/urban), Subnational region
	Access to primary education	Net attendance rate, primary school (%)	DHS	Sex, Economic status, Place of residence (rural/urban), Subnational region
	Access to secondary or higher education	Net attendance rate, secondary school (%)	DHS	Sex, Economic status, Place of residence (rural/urban), Subnational region
	Quality of early childhood education and development	Children aged 36-59 months who are developmentally on track in at least three of the following domains: literacy-numeracy, physical development, social-emotional development, and learning (%)	UN SDG Indicators Database	Sex
	Quality of primary and secondary education	Children and young people achieving a minimum proficiency level in reading and mathematics (%)	UN SDG Indicators Database	Sex, Education, Type of skill
Physical environment	Housing quality	Urban population living in slums or informal settlements, or inadequate housing (%)	UN SDG Indicators Database	N/A
	Housing affordability	House price-to-income ratio	IMF	N/A
	Land tenure	Adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure (%)	UN SDG Indicators Database	Sex (note: only for Both sexes and Female, not male), Local communities
	Green/open space	Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	UN SDG Indicators Database	Age, Gender, and Disability
	Water	Population using safely managed drinking water services (%)	UN SDG Indicators Database	Place of residence (rural/urban)
	Sanitation	Population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water (%)	UN SDG Indicators Database	Place of residence (rural/urban)
	Natural disasters	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	UN SDG Indicators Database	N/A
	Air quality	Mean levels of air pollution of particulate matter (PM10 and PM2.5)	UN SDG Indicators Database	Place of residence (rural/urban)
Social and community context	Crime, conflict, violence, and safety	Number of victims of intentional homicide per 100,000 population	UN SDG Indicators Database	Sex, Age
	Crime, conflict, violence, and safety	Conflict-related deaths per 100,000 population	UN SDG Indicators Database	Sex, Age, and Cause
	Crime, conflict, violence, and safety	Proportion of population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months	UN SDG Indicators Database	Sex, Age, Income, Education, Citizenship, Ethnicity
	Crime, violence, and safety	Proportion of population that feel safe walking alone around the area they live after dark See metadata	UN SDG Indicators Database	Age, Sex, Disability status, Ethnicity, Migration background, Citizenship
	Crime, violence, and safety	Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18	UN SDG Indicators Database	N/A

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	Language endangerment	Language endangerment index.	UNESCO Atlas of the World's Languages in Danger	N/A
	Migration	Population who are refugees by country of origin (%)	UN SDG Indicators Database	N/A
	Displacement	Internal Displacement caused by conflict, violence, and disasters	Internal Displacement Monitoring Centre (IDMC) Global Report on Internal Displacement (GRID)	N/A
	Discrimination	Population reporting having felt discriminated against (%)	UN SDG Indicators Database	Sex, Disability, Grounds of discrimination
	Gender equality	Gender Inequality Index	UNDP	N/A
	Trust and participation	Proportion of population who believe decision-making is inclusive and responsive	UN SDG Indicators Database	Sex, age, disability, and population group
Health behaviors	Alcohol	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in liters of pure alcohol	UN SDG Indicators Database	Sex, Age
	Tobacco	Age-standardized prevalence of current tobacco use among persons aged 15 years and older (%)	UN SDG Indicators Database	Sex
	Unhealthy foods	Prevalence of undernourishment	UN SDG Indicators Database	Place of residence (rural/urban)
	Unhealthy foods	Prevalence of obesity BMI>30 (% adult population)	WHO	Age, Sex, Area of Residence (rural/urban)
	Road traffic accidents	Death rate due to road traffic injuries	UN SDG Indicators Database	Sex, Age group
Health care	Access and affordability	Proportion of population with large household expenditures on health as a share of total household expenditure or income	WHO	Age, Gender, Residence (rural/urban), Household welfare
Actions				
Policies to promote fair work, income, economic security and equality	Social policies: Labor market	National compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	UN SDG Indicators Database	N/A
	Social policies: Labor market	Coverage of unemployment benefits and ALMP (% of population)	World Bank Open Data (Original source: The Atlas of Social Protection - Indicators of Resilience and Equity, The World Bank)	Economic status

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	Public policies: Social protection	Coverage of social safety net programs (% of population)	World Bank Open Data (Original source: The Atlas of Social Protection - Indicators of Resilience and Equity, The World Bank)	Economic status
	Public policies: Social protection	Coverage of social insurance programs (% of population)	World Bank Open Data (Original source: The Atlas of Social Protection - Indicators of Resilience and Equity, The World Bank)	Economic status
	Public policies: Social protection	Population covered by at least one social protection benefit (%)	UN SDG Indicators Database	Sex
	Public policies: Social protection	Children/households receiving child/family cash benefit (%)	UN SDG Indicators Database	Sex
	Macroeconomic policies	Redistributive impact of fiscal policy (gini coefficient)	UN SDG Indicators Database	N/A
Policies to ensure access to quality of education	Public policies: Education	Government expenditure on education, total (% of GDP)	World Bank Open Data (Original source: UNESCO Institute for Statistics)	N/A
	Public policies: Education	Pupil-teacher ratio, pre-primary	World Bank Open Data (Original source: UNESCO Institute for Statistics)	Sex
	Public policies: Education	Pupil-teacher ratio, primary	World Bank Open Data (Original source: UNESCO Institute for Statistics)	Sex
	Public policies: Education	Pupil-teacher ratio, secondary	World Bank Open Data (Original source: UNESCO Institute for Statistics)	Sex
Policies to enhance the physical environment	Social policies: Land	National urban policies or regional development plans that (a) respond to population dynamics; (b) ensure balanced territorial development; and (c) increase local fiscal space	UN SDG Indicators Database	N/A

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	Social policies: Land	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	UN SDG Indicators Database	N/A
	Governance	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	UN SDG Indicators Database	N/A
	Governance	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	UN SDG Indicators Database	N/A
	Governance	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	UN SDG Indicators Database	N/A
	Governance	Nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change	UN SDG Indicators Database	N/A
Policies to strengthen social and community context	Culture and societal values	Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal)	UN SDG Indicators Database	N/A
	Culture and societal values	Legal frameworks in place to promote, enforce and monitor equality and non-discrimination on the basis of sex	UN SDG Indicators Database	N/A
	Social policies: migration	Migration policies that facilitate orderly, safe, regular and responsible migration and mobility of people	UN SDG Indicators Database	N/A
	Governance	Seats held by women in (a) national parliaments and (b) local governments (%)	UN SDG Indicators Database	N/A
Policies to address commercial determinants of health that can help to improve health behaviors	Social policies: alcohol	Adopted written national policy on alcohol, year adopted	WHO	N/A
	Social policies: tobacco	Average price of cigarettes	GATS Atlas	N/A
Policies to achieve access to quality essential health care	Public policies: health	Coverage of essential health services (UHC Index)	UN SDG Indicators Database	Rural/urban

Beyond proposing a menu of indicators, it is important to support areas for action to carry out and accelerate monitoring SDHE. For each of the following three chapters, we discuss a key area and implementation actions for each key area. The objective is to highlight key considerations for action under each key area, drawing on country experiences, with a view to use lessons from countries to guide other countries as they operationalize monitoring SDHE. Each key area is accompanied by implementation actions, which are specific components to support each key area.

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6. PROCESS OF MONITORING SDHE ACROSS SECTORS AND USING DATA TO INFORM POLICY AT NATIONAL AND SUBNATIONAL LEVELS

The first key area of the operational framework is the process of monitoring SDHE across sectors, and using data to inform policy at national and subnational levels. Building on existing monitoring work, including [WHO tools and resources for health inequality monitoring](#), we propose several implementation actions and sub-actions, specific components to support each key area.

Action 1: Map priorities, data sources, systems, and platforms.

When implementing the menu of indicators for monitoring SDHE at national and subnational levels, countries need to take into consideration their contexts, including priorities, capacities, and data availability. The process of mapping is an in-depth stocktaking exercise of reviewing the landscape of SDH, actions, and monitoring SDHE to advance health equity for the country. Given the multidisciplinary nature of SDH and actions to address them, it will be important to include in this exercise stakeholders from multiple sectors beyond health that impact health and wellbeing, as well as from different administrative levels, including national, subnational, and more local levels. A multi-level, multi-stakeholder approach is needed for mapping, which includes governments, development partners, civil society, researchers, and the private sector. A first implementation action is to map national and subnational priorities, data sources, systems, and platforms. Mapping includes several sub-actions described below. Call-Out Box 2 illustrates mapping of priorities, data sources, systems, and platforms that has taken place in Colombia for the WHO Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity.

Call-Out Box 2. Mapping priorities, data sources, systems, and platforms for actions in Colombia.

In the installation phase of the first year of the WHO Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity, a series of studies and consultancies were developed to establish a preliminary diagnosis to help determine actions that are most relevant to the reality of Colombia. During the first year of implementation of the Initiative, consent was granted by Colombia and the focal point was defined, placing the coordination in the hands of the Directorate of Epidemiology and Demography. A first consultancy was carried out as part of the diagnosis, which was the mapping of policies, plans, initiatives and programmes that address the social determinants of health in the various government sectors. As a finding, a focus on equity is evident at different levels; for example, the objective of equity in health is made explicit in the Ten-Year Public Health Plan, and a Strategy called “Pase a la Equidad” (Ahead with Equity) is proposed so that this objective is translated into the different territorial health plans. Finally, the existence of a commitment to populations living in vulnerable conditions, and a differential approach expressed in different lines of action for these different populations was also evident. A first recommendation from this background work is that it would be important to follow up the construction of the Ten-Year Health Plan 2022-2031. Second, a study was carried out on the status of the social determinants of health and health equity in

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the country, based on a panoramic review of literature published in indexed journals and grey literature in the last 15 years: 135 articles and 7 published documents were identified. Important theoretical-methodological gaps were found, such as: lack of an explicit theoretical-methodological approach to guide the subsequent analysis and interpretation of the results (explanatory models of the social determinants of health for the analysis of inequalities in health or theories of justice for analysing equity in health). Also observed in some cases was a reduction of sociocultural categories to demographic variables: gender to sex and ethnic-racial to minority status; a confusion between structural and intermediate determinants; and a weakness in the theoretical discussion about the explanatory pathways of inequalities in health and in the articulation of the causes of inequity.

The review revealed advances in other cases. For example, the understanding of territorial inequalities went beyond the geographical or political-administrative units to include relational space with demographic, economic, political, cultural and environmental history. Other advances noted in studies were in the development of public policies, programs, interventions and observatories that have contributed to the understanding of the social determinants of health and equity in health. There were particular advances in complex categorisation for concepts of social class and race. Preliminary recommendations for more in-depth work are to deepen the analysis and theoretical discussion of the different explanatory pathways that articulate the structural determinants, the intermediate determinants and the impacts on health; to link the findings on health inequalities with the discussions around health inequities from different perspectives of social and health justice; to expand the theoretical reference frameworks of the health sciences with the theoretical contributions of the social sciences; and to advance qualitative approaches in a complementary manner to the development of quantitative approaches in order not only to explain, but also to understand and respond to the complexity of health inequities and promote the development of critical thinking. In addition to this, an evaluation of existing population surveys was carried out, which allowed the identification and description of the main domains of 24 surveys in Colombia. This is information that will contribute to the development of a monitoring system of social determinants and the strengthening of the monitoring and evaluation of intersectoral work. A case study of social participation in Colombia was carried out, which assesses institutional set-ups and experiences from the health sector. In summary, in the case of Colombia, it has been possible to build a general overview regarding the situation and approach to social determinants of health, which allows the Special Initiative to establish a starting point and baseline to be able to plan the actions of the second year, and to advance in the design of relevant intervention models and prototypes at the local level, as well as the definition of the municipality or territory where the initiative will be implemented.

Sub-action 1.1: Conduct mapping of scientific and policy writings to identify the level and scope as well as priorities for monitoring SDHE.

Before implementing a new monitoring system with the proposed menu of indicators for monitoring SDHE, countries should review papers, reports, policy briefs, and other scientific and policy writings. This process can help countries to determine the level and scope for their national monitoring system. Consolidation and review of scientific and

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policy writings provides an opportunity for countries to identify priority SDH, actions, and dimensions of inequality used for disaggregation.

The selection of SDH and actions for a national monitoring system will depend on the desired level and scope. In terms of scope, establishing a comprehensive national monitoring system entails an expansive scope, covering numerous SDH and actions topics (vertical), all aspects of SDH and actions (horizontal) and their intersection. For other purposes, it may be more appropriate to focus on a narrower selection of SDH and actions, or even a single topic. There is substantial variation in the level and scope in previous monitoring work, as described in Section 4 of this document.

Once the level and scope have been determined, multi-level, multi-stakeholders need to come together to identify priority SDH, actions, and dimensions of inequality for the new national monitoring system.

For dimensions of inequality used for disaggregation, countries can review resources to identify which dimensions are relevant to the population; that is, what types of factors constitute a source of discrimination or social exclusion that may be detrimental to SDH and health equity. Nearly two decades ago, colleagues first suggested using the acronym “PROGRESS” to facilitate greater awareness of the spectrum of equity stratifiers to consider, including place of residence, race/ethnicity/culture/language, occupation, sex, gender, religion, education, socioeconomic status, and social capital.¹²³ Updating, adapting, and developing something more current or relevant might help countries to make sure they are not missing key axis along which health and other opportunities are inequitably stratified. Dimensions of inequality that are frequently applied in monitoring (and recommended by the 2030 Sustainable Development Agenda as bases for data disaggregation) include: income; sex; gender; age; race; ethnicity; migratory status; disability; and geographic location (urban/rural). In addition, education is a common global dimension. Other factors that may be relevant in a given country or context include subnational region, religion, occupation, indigenous status, and migrant status.

For establishing priorities, it will be critical to take stock not only of global and national resources that are more visible and accessible, such as studies published in international journals or policy briefs at the national level, but also resources that are less visible and accessible, such as writings from local governments, other sectors, and the civil society. Such resources can reveal the objectives of policy planning and how funds are being invested, which can reveal priorities and where there is already political support for SDH, actions, and monitoring of them. Also, mapping of policy writings may help to reveal topics that are highly visible and neglected, which can help to inform selection of a topic that is already highly visible or one that has been neglected. However, for less visible topics, data availability may be an issue.

For mapping of national policy writings, national governments develop a number of national policies, strategies, and plans that play an essential role in defining a country’s vision, policy directions, and strategies for ensuring the health and wellbeing of its population. For instance, in many countries, the Ministry of Health publishes a strategic

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plan every few years, which reviews goals, strategies, and monitoring and evaluation indicators for health. On the other hand, the Ministry of Finance produces various documents that establish funding levels, set budgets, and release the necessary funds to finance Ministry of Health and other government operations.

Local government also play an important role in identifying issues, vulnerable populations, and delivering services that are crucial to addressing community needs. For instance, cities and other local level governments issue policy briefs, planning and budget proposals, and other writings on issues relevant to SDH and actions, such as transportation, housing, and urban development proposals. Many local governments also conduct and publish health impact assessments—an approach used to determine the potential health effects of a policy, program, or project on a population that can be applied in diverse sectors beyond health.

While resources on SDH and actions are often thought of as originating from the health sector, such as the Ministry of Health or public health academic institutions, given other sectors' impact health and wellbeing, it will be important for countries to consider scientific and policy writings from sectors beyond health. For instance, budget proposals from the Ministry of Finance can uncover the allocation of government resources, which can help to identify needs, priorities, and gaps in addressing SDH and adopting policy actions that improve health equity.

Finally, while local people and communities play a central role as agents of change, they are often not engaged in developing, reviewing, and implementing recommendations from policy and scientific writings that aim to identify priorities related to SDH and actions. Governments and partners need to work better together and strengthen community engagement, while civil society groups and community members can lead community engagement, participation, and advocacy efforts focused on identifying challenges and needs related to SDH and priorities for policy action that improve health equity. Mapping existing resources that support people-centered advocacy for SDHE can help identify gaps in capacity, investments, data, and information. In fact, community-led and participatory approaches are emerging as increasingly relevant for WHO Health Inequality Monitoring. Such approaches are also likely relevant for monitoring SDHE, where considerations around power and resources are critical.

Sub-action 1.2: Conduct mapping of data sources, systems, and platforms for collecting and sharing data across multiple sectors.

Beyond scientific and policy writings, it is also critical for countries to conduct mapping of existing data sources, systems, and platforms about SDH and actions at different levels and across multiple sectors. The following is adapted from step 2 of the cycle of health inequality monitoring in the [WHO Handbook on Health Inequality Monitoring](#).¹²⁴

As recommended for mapping scientific and policy writings, it is important for countries to conduct an assessment of data sources, systems, and platforms at *multiple levels*. For instance, mapping of subnational data sources, systems, and platforms, similar to country-level, is required for subnational coordination and implementation of monitoring SDHE.

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Decentralized implementation can help to improve responsiveness to local communities' needs, especially marginalized communities, such as migrant populations, where there often is a lack of data and information on SDH and actions to close unacceptable health gaps at national and global levels.

Also, an environmental scan *across sectors* of data sources, systems, and platforms for collecting and sharing data for monitoring SDHE is critical. Countries can harness existing monitoring initiatives in other sectors to identify data sources, systems, and platforms that can deliver joint information and accountability while facilitating cross-sectoral analysis and prioritization for investment and implementation of monitoring SDHE. For instance, the SDG monitoring framework offers a platform for health policymakers to link SDH and actions monitoring to existing monitoring of progress toward realization SDG targets. As is becoming the norm and a gold standard with most UN monitoring initiatives, a system for monitoring SDHE should be linked explicitly with the 2030 SDG Agenda, ideally through the use of relevant SDG indicators from the SDG monitoring framework, both to ensure global policy and monitoring alignment and – importantly – also to avoid burdening Member States with additional reporting requirements.

It is important to consider monitoring SDHE through the lens of the design of information systems in countries in terms of existing data sources and platforms, including: Census, Household Income and Expenditure Surveys; Vital Statistics; Disease Registries, and Health Surveys. Being explicit about these data sources and platforms can be helpful in looking at how they might become more useful from a SDH and health equity perspective.

The mapping exercise will reveal there are major data sources, systems, and platforms that have been used for tracking progress on health inequities at multiple levels and across sectors for many years, but less often for monitoring SDH and actions that influence health equity. For instance, the Demographic Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) are a major source of cross-country data on health inequities for many years. While these data sources include many indicators for measuring health inequities, they include several indicators relevant for SDH, but fewer for actions. Another challenge with these data sources is they are often updated periodically, not regularly, especially in resource-limited countries. It is important to continue this legacy, but enhance it by continuously updating these data sources—such as what is being done in Peru—and including more robust indicators for SDH and actions.

While reviewing resources at different levels and across multiple sectors, countries will need to systematically gather information about data sources, systems, and platforms that exist within their country. Data source mapping begins by creating a list showing available data by source type, data source name, and year(s) of data collection. For instance, there are traditional data sources, such as survey data, census data, administrative data, medical records, vital records, and community health assessments, and newer sources, such as electronic medical records (EMRs) or electronic health records (EHRs), economic/market/commerce/consumer data, social network data, mobile phone data, internet/social media content, and GIS data.

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During data mapping, it can be helpful to include notes with additional information, such as on data type (e.g., quantitative, qualitative), level of indicators (e.g., global, regional, national, and subnational), strengths and limitations, frequency of data collection, and data representativeness. For instance, it is important to understand the strengths and limitations of available resources to ensure the best available data are used for monitoring SDHE. Data should come from an information-producing system that has strong legitimacy, has high-level political support, is transparent, and includes policy, technical, academic and civil society constituencies. Data representativeness should also be taken into account—nationally representative data may be used for national monitoring, whereas data representative of a specific region or a small survey may be used for subnational monitoring.

Finally, for each data source, countries will need to determine availability of data for SDH and actions and dimensions of inequality that were identified as priorities in sub-action 1. The practice of monitoring SDHE is an iterative process. This sub-action may require a return to the first sub-action if, for example, data sources are inadequate or data are of low quality for the SDH condition and SDH action priorities selected in the first sub-action. Alternative indicators or proxy indicators may need to be considered. Similarly, indicators may not be able to be adequately disaggregated by the selected dimensions of inequity that are identified in sub-action 1. This process can provide insight into how health and other sector information systems may need to be strengthened, and where additional data collection is warranted.

To address these challenges, countries can build on efforts for monitoring of SDGs. Over the past five years, there have been considerable investments in strengthening statistical infrastructure and capacity for monitoring progress towards SDGs. Before monitoring of SDGs began, the UN Statistical Commission found that collecting, analyzing, and reporting of SDG indicators may be difficult for countries. However, by the end of 2022, there are monitoring reports and dashboards providing regional, sub-regional, and country-level data across the world on progress made on many SDG goals, targets, and indicators. But even these are lacking in disaggregated data. Some organizations are using triangulation, modeling, and estimation methods to address data gaps in SDG indicators. However, these are mainly to estimate national averages, and not disaggregated estimates. If disaggregated estimates are modeled and estimated, these are often limited to age and sex, not other dimensions of inequality.

Sub-action 1.3: Starting with the proposed menu of indicators for monitoring SDHE from the operational framework, identify and select the most appropriate indicators based on sub-action 1.2 and 1.3.

After mapping priorities and data sources, systems, and platforms for monitoring of SDH and actions to address them, the next step for countries is to identify and select the most appropriate indicators from the menu of indicators in the previous chapter. The menu of indicators proposed will form the core of the global, regional and national monitoring and reporting systems for SDH and actions. There are many available indicators in the menu for monitoring of SDH and actions.

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However, countries may have other indicators of further interest that are relevant to their country context. Incorporating flexibility to go further in the indicators would aid with this. Therefore, countries will need to assess the findings from the mapping exercises in sub-actions 1.1 and 1.2 to determine whether appropriate data are available to proceed with monitoring SDHE. For instance, countries can categorize indicators based on criteria (e.g., measurability/feasibility, validity, relevance/importance), such as categories Tier 1 (core indicators), Tier 2 (reach indicators), and Tier 3 (far reach indicators). If data can be obtained, countries can proceed to the next action area. However, if data are not available, countries can begin the task of raw data collection, which may be cumbersome, or can reconsider choices in sub-action 1.

Action 2: Analyze data.

After mapping and selecting the most appropriate indicators from the proposed menu of indicators, countries need to begin the process of data analysis. Data analysis is the process of systematically applying statistical tools and methods to describe and examine information, which can then be used to support decision-making. The following is adapted from step 3 of the cycle of health inequality monitoring in the WHO Handbook on Health Inequality Monitoring.¹²⁵

The approach to data analysis begins with dividing the population into subgroups according to relevant dimensions of inequity and considering disaggregated estimates by these population subgroups. Disaggregated estimates show the situation in each population subgroup and can be used to assess patterns of inequity across socioeconomic subgroups.

Next, summary measures are calculated for each SDH condition and SDH action indicator. Summary measures account for data from multiple subgroups to quantify SDH and actions in a single number, which can be used to make comparisons of changes over time, between indicators or across settings.

Below are sub-actions that need to be taken to implement this action area.

Sub-action 2.1: Prepare disaggregated data.

Data analysis begins with the disaggregation of SDH and actions data according to the dimensions of inequity. Each dimension of inequity will consist of at least two subgroups.

At this stage, it is important consider what criteria will be used to measure each dimension of inequity. These criteria will be specific to the dimension of inequity and type of information that is available about the population. For instance, in low- and middle-income countries, economic status is commonly measured as household wealth whereas in high-income countries economic status can be defined by individual income level.

In some cases, two or more dimensions of inequity may intersect and result in exacerbated disadvantage or may reveal a different pattern of inequity than indicated by either single dimension of inequity. Double disaggregation entails considering two dimensions of inequity simultaneously when forming subgroups for monitoring. Comparisons of two

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subgroups may be much more striking than comparisons based on either dimension considered separately.

Taking into account these considerations, population subgroups can be formed.

Action 3: Report results.

Building on the previous actions, the next action area is to communicate the state of SDH and actions to address them. The following is adapted from step 4 of the cycle of health inequality monitoring in the WHO Handbook on Health Inequality Monitoring (WHO, 2013).

For this action area, it is important to keep in mind the goal of monitoring SDHE—to help inform policies, programs, and practices addressing SDH that improve health equity. Thus, reporting needs to speak to this goal and audiences who can achieve it. Common outputs of reporting of monitoring include peer-reviewed articles (primarily targeted to academic and highly technical audiences), technical reports (targeted to technical audiences), and policy briefs (targeted to policy-makers).

Sub-action 3.1: Create standardized national SDH and SDH action monitoring reports/briefings/dashboards for data disaggregated by equity dimensions.

National-level country reports should be developed based on an agreed common structure. A shortened version of these reports would be housed as country profiles in the WHO global and regional health observatories. Both the country profiles and the in-depth national-level reports would be useful in the context of promoting action in countries, in particular for working across sectors using a Health in All Policies approach and for reorienting health systems.

The menu of SDH action indicators proposed in the previous section will form the core of the global, regional and national monitoring and reporting systems for action on the SDH. However, different regions and countries require different actions on the SDH, because of different policy and country contexts. Consequently, the report user requires indicators, descriptions of the policy and country context, and summaries of the evidence to meaningfully interpret individual actions on the SDH. Therefore, several further information elements are required for making sense of national SDH action indicators within their specific policy and country context.

Important policy contexts include macro-level and micro-level factors. Macro-level factors could be captured by indicators for a country's political economy for example. Micro-level factors could be captured by best practice examples describing the context for a specific intervention. For instance, text boxes of standardized best practice examples could include a description of the intervention setting (e.g. national strategies or plans for the action), the intervention itself (e.g. design and implementation) and evidence of the intervention's effectiveness in improving outcomes of interest (e.g. evidence from governmental and independent impact research and evaluations).

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Sub-action 3.2: Create standardized global SDH and SDH action monitoring reports/briefings/dashboards for data disaggregated by equity dimensions.

A global report will need to focus on presenting an overview of global progress towards addressing SDH that can improve health equity through the use of core and contextual national indicators described in this operational framework. The statistical annex to the report can list particular country profiles and the menu of indicators for SDH and actions, as well as the policy and country context.

Sub-action 3.3: Adhere to quality checks and ensure routine updates.

The final component of reporting is a quality check, to ensure that the best practices of reporting have been fulfilled. Best practices entail communicating information in a way that helps to put the results in context. They also make the reporting process more transparent and thorough, which provides a stronger case to urge remedial action where needed.

Action 4: Strengthen capacity building and training for monitoring.

Supporting the development of institutions and expertise within countries to build capacity and training for monitoring SDHE is important.

Sub-action 4.1: Strengthen capacities and training at national and subnational levels in data collection, data analysis, communication, and dissemination of results.

Countries vary in their capacity for monitoring and transforming monitoring into action to address SDHE. While this operational framework will be helpful for countries, it will only be useful if the Ministry of Health and other sectors have the capacity to analyze data and influence actions on the ground. However, many countries lack capacity for monitoring health outcomes, let alone SDH and government actions to address them.

There are numerous capacity challenges for monitoring of SDH and actions, especially in resource-constrained countries. Few countries have monitoring systems that systematically collect data on factors that matter for health equity and report on these data, such as race and ethnicity data or information on racism and other forms of discrimination. In addition, while in recent years more countries collect data that generate SDH information, such as education or income, few countries collect information on structural drivers of health inequities, such as structural racism and other forms of discrimination. Inequities in COVID-19 exposure, illness, and death exposed the need for transforming public health data and monitoring systems to be equity-oriented. Now there is an unprecedented opportunity to invest in and create public health data and monitoring systems centered on SDHE that can help to track progress and prioritize actions to promote health and wellbeing for everyone regardless of their race or ethnicity, level of education, how much money they have, or where they live.

Governments need to give greater priority to the development and enhancement of capacities and trainings on monitoring of SDH and actions to address SDH. To overcome capacity challenges, it is critical to consider what is achievable (and not) in which countries. It will be important for countries to know how well they have done and what are the gaps, which can help countries to understand their current status in monitoring SDHE,

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and priority actions to move forward. In addition, it is important to consider examples of partnership to overcome capacity challenges, such as between Ministries of Health and research agencies in countries to build capacity for analyzing data and conducting health impact assessments. There is also a need to support in- country and inter-country exchange visits between key actors to facilitate learning and scale-up. Finally, investment in training of policymakers, medical and health experts, and experts from other sectors will be critical. It will be important to document and share countries' experiences in implementing the operational framework for monitoring SDHE.

There are a number of existing WHO work and resources in this area, including resources and training for Health Inequality Monitoring, but also for Civil Registration and Vital Statistics (CRVS) and Routine Health Information Systems (RHIS), which countries can leverage for monitoring SDHE.

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7. CROSS-CUTTING APPROACHES TO SUPPORT MONITORING SDHE

The second key area of the operational framework is crosscutting approaches required to support monitoring SDHE. For this key area, we propose several implementation actions and sub-actions, specific components to support each key area.

Action 1: Map the policy cycle.

It is important to understand global, regional, national, and subnational health and other sector planning, programmatic, and project cycles. National governments will need to decide how to harmonize and align monitoring SDHE into their implementation efforts through global, national, and subnational plans, strategies, policies and programming, in partnership with civil society, the private sector and development partners.

Action 2: Strengthen political will, commitment, and leadership.

A key challenge that countries face in monitoring and transforming monitoring into action to address SDHE is a lack of political will, commitment, and leadership. To institutionalize robust monitoring and have it meaningfully impact policymaking that reduces health inequities, governments need to track metrics and take actions to address the social gradient in health. This requires asking governments to monitor and tackle differentials in power, political economy, and structural discrimination. There can be sensitivities around drawing attention to these issues as well as inequities between population groups within countries. Also, there are likely difficulties in integrating data across sectors to make meaningful differences to policy and implementation. It will be important to strengthen political will, commitment, and leadership to overcome political economy challenges to effective monitoring of and translating it to action to address SDH that influence health equity.

While the health sector can lead in efforts to strengthen political will, commitment, and leadership, change also requires commitment and leadership beyond the health sector and at multiple levels. To mobilize large-scale monitoring SDHE, it will be important to involve political leaders, civil society and influential community members, and private sector partners. Together, these stakeholders can work to ensure that monitoring SDHE is made a priority by formalizing political commitments (e.g., declarations), highlighting it in key documents (e.g., national development plans), regularly communicating its importance, providing adequate financing, and, ultimately, focusing on the implementation of efforts to strengthen monitoring SDH and actions (e.g., training programs).

Similarly, empowering people and communities entails making difficult decisions that require commitment and leadership. Many of the populations that have the worst health statuses face systemic discrimination based on race, ethnicity, gender, sexual orientation, socioeconomic status, location (for example, rural), religion, educational status and disability. In this context, empowerment requires a redistribution of power to fully engage all people and communities. Within these communities — even marginalized ones — there are also opportunities for individuals to demonstrate leadership and support the empowerment of others.

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Action 3: Support multisectoral governance.

Governance refers to “the complex mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests, exercise their rights and obligations, and mediate their differences”. Governance concerns the processes through which different groups from multiple sectors and different levels of jurisdiction, both public sector organizations and private sector entities, including corporations and citizens’ groups, interact to shape public health, including SDH. Governance is an appropriate means to take multisectoral action, which entails mediation of relationships and alignment of goals between multiple diverse actors who may share some common interests but have distinct mandates, values, and resources. Therefore, multisectoral action requires effective governance—that is, approaches to facilitate dialogue and negotiation across different actors, organizations and sectors that involve the recognition and (potentially) reconciliation of conflicting positions, the identification of shared goals as well as deliberations around resource use, reporting and accountabilities.

Multisectoral governance is widely acknowledged as imperative to tackle health challenges, address SDH, and achieve SDGs. The importance of multisectoral action to improve population health and reduce health inequities has long been recognized, including being highlighted in the Declaration of Alma Ata in 1978 and more recently in the 2011 Rio Political Declaration on the Social Determinants of Health. More recently, the UN SDGs provide impetus for countries to take a multisectoral approach to achieving health equity and joint monitoring across sectors, as its targets are multisectoral.

However, multisectoral governance has frequently proven challenging to implement, especially in low resource settings. Multisectoral governance requires tackling the silo approach that leads to the separation of sectors, as well as the different incentives that different sectors may operate under. For instance, Ministries of Health have historically focused on health service delivery and coverage, not on collaborating and coordinating with other sectors beyond health. On the other hand, Ministries of other sectors have had their own priorities that may or may not result in a focus on areas important for addressing SDH that improve health equity. Additionally, entrenched and powerful interests often support the status quo. Overcoming this resistance and supporting multisectoral responses to health requires concerted political commitment and leadership as discussed in action area 2.

Below are sub-actions required for supporting multisectoral governance:

- *Sub-action 3.1: Ensure linkages for monitoring SDHE with existing multisectoral policy collaboration initiatives (e.g., Health in All Policies).*
- *Sub-action 3.2: Scan governance policies and frameworks to enable data sharing and transparency across sectors.*
- *Sub-action 3.3: Establish, strengthen, and reform legal frameworks for monitoring SDHE.*
- *Sub-action 3.4: Secure budgets and establish objectives, roles, and responsibilities across departments and agencies for monitoring SDHE.*

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- *Sub-action 3.5: Increase accountability, transparency, and responsiveness for monitoring SDHE.*

In Australia, the government has a number of domestic policy frameworks that recognize the importance of data and multisectoral governance to address the wider determinants of health that act as barriers and drivers of health and wellbeing, as described in Call-Out Box 3.

Call-out Box 3. Multiple domestic policy frameworks recognizing the importance of data and multisectoral governance to address the wider determinants of health in Australia.

Australia has numerous domestic policy frameworks that recognize the wider determinants of health as barriers to and drivers of health and wellbeing, including: the National Women's Health Strategy 2020-2030, National Men's Health Strategy 2020-2030, National Preventive Health Strategy 2021-2030 (NPHS), Australia's Disability Strategy 2021-2031, National Action Plan for the Health of Children and Young People 2020-2030, National Agreement on Closing the Gap (National Agreement), and National Aboriginal and Torres Strait Islander Health Plan 2021-2031 (Health Plan) all. These frameworks include establishing and improving data collection processes and disaggregation of existing and future data and research to develop better understanding of health care access, experiences, and outcomes, and to inform policy design. Monitoring SDHE, in particular, aligns with the aims and policy achievements outlined in the NPHS. The NPHS is underpinned by an 'equity lens' and emphasizes that preventive action must focus on the wider determinants of health to address the increasing complexity of health issues and the interconnected causes of poor health and wellbeing. In addition, Australia's Disability Strategy 2021-2031 recognizes that ensuring people with disability attain the highest possible health and wellbeing requires addressing social, cultural, and economic determinants of health.

Call-Out Box 3 describes work in AMRO/PAHO to develop a portfolio of work with the aim of learning from the intersectoral response to COVID-19, including case studies, dashboard, course, and monitoring guide for intersectoral work.

Call-Out Box 4. Learning from the intersectoral response to the COVID-19 pandemic in AMRO/PAHO.

A line of work with the aim of learning from the intersectoral response to COVID-19 has been established. A database of experiences from 16 countries in the region has been developed, and seven in-depth case studies have been prepared with national, sub-national and local scopes: Costa Rica (national); Argentina (Greater Buenos Aires); Chile (Recoleta municipality); Mexico (Mexico City); Uruguay (national); Brazil (municipality of Nitori); and Cuba (national). The case studies characterise the type of intersectoral work that has been developed in the response to the COVID-19 pandemic; the associated actors; the coordination modality; the use of previous structures/ mechanisms or the construction of new organizational mechanisms; the role of civil society; its financing method, among others. At the same time, a proposal for indicators has been established to monitor the

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initiative that is underway, aligned where feasible with the monitoring and evaluation framework, as well as to develop indicators for monitoring post-pandemic intersectoral initiatives that are under review, debate, and validation. Based on the information that has been collected, an intersectoral dashboard is being built to facilitate access to the initiatives by various countries and actors, building a platform as the basis for establishing a community of practice and learning. An intersectoral course has been developed for local governments, which was installed on the PAHO virtual platform. It is made up of 6 modules and 15 teaching units, with practical examples, exercises, readings, and reflections. It is being implemented by municipalities, that is, by groups of municipal actors that will be constituted in cohorts. It is expected that there will be 2 or 3 cohorts per year. Also, a monitoring guide has been prepared for intersectoral work at the level of local governments in the validation process to be used by the countries and in the selected municipalities.

Action 4: Bring together multisectoral policymakers to translate monitoring and data to action.

In this increasingly complex world where multiple factors impact health and wellbeing, new approaches are required so that difficult issues are addressed while ensuring no one is left behind. This will mean working in different ways, including collaboratively across government, with stakeholders beyond government and with affected communities to both address SDH and take action in an integrated, people centered and equitable approach. Establishing multisectoral and multi-stakeholder responses will require development of effective intersectoral and intergovernmental mechanisms to ensure equity goals are reached. While a country may have targeted policies to promote health equity, it is also important to have mechanisms for multisectoral action as well as sharing of information and data across sectors.

Multisectoral action for health rarely occurs spontaneously. Countries that have had success with multisectoral action have seen political leadership and commitment from heads of government to drive and coordinate different sectors and actors to work together with joint accountability. Whether at national or subnational level, it is essential to have political leaders, to whom multiple sectors report, drive any multisectoral initiative, articulating the case for why the inputs of different sectors are required. But such leadership is only the first step. During the COVID-19 pandemic, the government of India adopted a multisectoral approach to improve health, SDH, and health equity (see Call-Out Box 5).

Call-Out Box 5: Efforts to address health inequities through multisectoral action during the pandemic in India

The government of India adopted a people-centric and multisectoral approach to tackle the pandemic ensuring accessibility, affordability and continuity of healthcare and other public services. It undertook a series of coordinated and multisectoral action to protect the lives of its people and reduce inequities through the following measures:

Public health: The government set up COVID-19 care centers, COVID-19 health centers and COVID-19 hospitals; used technologies to bolster community surveillance; and

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provided sustained community health services.

Health system preparedness: The National Health Mission mobilized additional human resources, essential drugs, isolation beds, pediatric ICUs and HDUs. The Pradhan Mantri health infrastructure mission supported 17 788 rural health and wellness centres in 10 high focus states; created 11 044 urban health and wellness centres in all the states; and set up 5-100 bedded critical care hospital blocks in 602 districts.

Health security: India carried out the world's largest COVID-19 vaccination drive in 2021. Despite vaccine hesitancy initially, India fully vaccinated over 91% of its population by mid-2022.

Social security: India promoted social schemes for unorganized workers, including home-based workers or wage workers. All migrant, gig and unorganized workers received health services from one-stop centers and were provided shelters, food and other amenities.

Governance: The government adopted a whole-of-government approach to manage the pandemic. All relevant sectors and partners collaborated to conduct joint planning sessions, and jointly developed and implemented the COVID prevention and control preparedness and management plans. A task force was created from the central to the state and further down to the village level to coordinate multisectoral actions. All experts of different disciplines teamed up and worked collectively to contain the pandemic.

Call-Out Box 6 describes work in EMRO to move from reporting to planning and action on SDH to advance health equity, including at the country-level.

Below are sub-actions required for bringing together multisectoral policymakers to translate monitoring and data to action:

- *Sub-action 4.1: Conduct regular processes for translation of monitoring/data to guide priority setting, actions, interventions, and investment across multiple sectors for addressing SDHE.*
- *Sub-action 4.2: Convene policy dialogues on monitoring/data on SDHE.*
- *Sub-action 4.3: Incorporate monitoring/data into policymaking to tackle SDH and adopt actions to advance health equity across multiple sectors.*

Call-Out Box 6. Moving from reporting to planning and action on SDHE in EMRO.

In the WHO region of the Eastern Mediterranean, WHO finalized the final report of the Regional Commission on Social Determinants of Health was launched in 2021, with support of the Initiative core partner, UCL-IHE. Workshops on the Report were held. A resolution supporting implementation of the Regional Commission's recommendation was passed in October 2021.

The regional office developed a toolkit for policymakers to guide their planning and action on SDHE to take necessary action to implement the recommendations of the report and resolution. The toolkit has been introduced to the countries of the region during the

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regional workshop took place in Cairo, Egypt on 14-15 November 2022. During the workshop, the toolkit was introduced, discussed and used during the hands-on scenario-based working groups. At the country level, under the SDC funded Multicountry Special Initiative project, action plans and working teams have been formed in the occupied Palestinian territory (OPT) and in Morocco. The work in the occupied Palestinian territories builds on the country office's advocacy project "Right to Health", monitoring barriers to access to health, including social determinants influencing health outcomes. Implementation has started in Morocco with a focus on national level policy dialogues; leadership strengthening; and the development of locally relevant evidence with the first national workshop on a national health inequities analysis held in July 2021, and the development of a network of researchers to support monitoring and action on SDH. Both countries also benefit from strong partnership with academic institutions at national level to support their respective work on SDH in the country.

Action 5: Foster community leadership and multisectoral, multi-stakeholder collaboration that is accountable and transparent.

At the heart of achieving health equity is engaged and empowered people and communities. Building collaborative relationships that enable stakeholders to jointly define SDH needs, identify solutions, and prioritize actions through contextually appropriate and effective mechanisms is central to addressing SDH that can improve health equity. Engaging communities should be part of a comprehensive strategy for monitoring SDHE.

Communities comprise a diversity of actors, including individual users of health and other social services and their families, lay public members, and private sector constituencies (both for-profit and not-for-profit), including civil society organizations (for example, consumer groups, community-based, faith-based and nongovernmental organizations, and affiliate groups). People and communities, and their capacity, desire and mechanisms to engage are constantly evolving, in part owing to changing social dimensions which have a profound impact on the process of engagement as well as on overall health and well-being. For example, factors such as globalization, population movement, humanitarian emergencies, and conflict result in fundamental changes to community structures and behaviors. Considering these human and social dimensions is critical to a people-centered approach and for effective community engagement.

Community engagement seeks to identify the interests and priorities of stakeholders and align shared goals and actions. As such, people are both co-owners and co-producers of SDH and health equity, with a central role in improving SDH and influencing national policies. Governance approaches must support these roles accordingly by creating enabling environments that foster mutual respect and trust necessary for meaningful dialogue, partnership and joint action. Moreover, they must ensure the responsiveness of health systems and other sectors that impact health to the voices of people and communities, including through the allocation of resources for identified needs and priorities.

It is also critical to engage community members who are socially disadvantaged and disenfranchised, including racial and ethnic minorities, Indigenous peoples, and people with disabilities.

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For instance, Indigenous Data Sovereignty is a global movement concerned with the right of Indigenous peoples to govern the creation, collection, ownership, and application of their data. Indigenous Data Sovereignty is outlined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In Australia, for example, Indigenous Data Sovereignty refers to Aboriginal and Torres Strait Islander peoples' inherent right to govern their communities, resources, and Country (including lands, waters, and sky). It is the right of Aboriginal and Torres Strait Islander peoples to exercise ownership over Indigenous data. Ownership of data can be expressed through the creation, collection, access, analysis, interpretation, management, dissemination, and reuse of Indigenous data. Australia's Closing the Gap Data Development Plan 2022-2030 guides the data development actions for data on Aboriginal and Torres Strait Islander people, including aligning with the principles of Indigenous data sovereignty that can help to ensure the collection and analysis of data for Indigenous peoples.

Engagement of community members who have disabilities and/or civil society and organizations representing people with disabilities is also critical. The disability movement plays an important role in monitoring and raising awareness to governments on health inequities and making use of important data.

Governments and partners can work together to strengthen community engagement and align around a common effort with a diverse but mutually reinforcing set of messages, processes, tools and tactics. Civil society groups and community members themselves can lead community engagement, participation and advocacy efforts. Media, including participatory citizen's media, can complement this. Although often overlooked, adolescents and youth constitute a key group that can actively engage as agents of social change to contribute to more effective policies and programs to promote their own health and well-being. The private sector can also contribute to advocacy efforts, while explicitly stating their interests and avoiding any conflicts therein.

In Lao People's Democratic Republic (PDR), the Ministry of Health and Ministry of Home Affairs, with support by WHO, developed the nationwide initiative CONNECT-Community Network Engagement for Essential Healthcare and COVID-19 Responses Through Trust, which is empowering local communities to enhance trust, ownership, and leadership regarding health, particularly for rural and marginalized groups. Developed in response to COVID-19, CONNECT is a multisectoral health governance initiative that aims to strengthen the capacity of local officials to improve public services through community engagement to enhance COVID-19 responses and primary health care in alignment with Samsang, a decentralized multisectoral policy (see Call-Out Box 7).

Call-Out Box 7. An initiative to foster community engagement to enhance COVID-19 responses and primary care in Lao.

Lao PDR is rolling out and scaling up CONNECT-Community Network Engagement for Essential Healthcare and COVID-19 Responses Through Trust. In Lao PDR, long-standing challenges in community health were highlighted and exacerbated by the pandemic. Weak relationships between villagers and the health system result in limited healthcare access or demand, vaccine hesitancy, poor maternal and child health outcomes, and low levels of

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trust – in both health systems and healthcare providers. Similarly, limited local ownership regarding health decision-making hinders the ability of communities to identify and implement changes to improve services.

Supported by WHO, a nationwide Ministry of Health and Ministry of Home Affairs-led initiative – CONNECT - is empowering local communities to enhance trust, ownership and leadership regarding health, particularly for rural and marginalized groups. Developed in response to COVID-19, CONNECT brings together representatives from communities, government agencies, healthcare providers, and ethnic and religious groups in a multisectoral approach. Together, through a sequence of participatory workshops, they improve relationships and governance, map local resources, develop local solutions, and enhance local authority and involvement regarding health policy and efforts, as well as developing respectful care and communication skills for health providers.

To date, CONNECT has directly supported 104 villages across 10 districts. Successful communities are required to pass along their experiences to neighbors, with virtual supportive supervision, and have now provided indirect support to 498 villages in 43 districts. CONNECT is now being rolled out to villages by local authorities themselves, aiming to improve trust and health equity, address underlying social health determinants, and strengthen health governance beyond COVID-19. The Government aims to rollout CONNECT nationwide.

In directly-supported communities there has been an increase in births at healthcare facilities and use of antenatal care, higher vaccination rates (reflecting increases in trust and engagement of local authorities), improved communication and coordination between village authorities and health centers, and better psycho-social support and decreased stigmatization for families isolated during COVID-19. A monitoring framework is measuring longer-term changes, including strengthened governance and health equity, community engagement, trust in health providers, uptake of essential maternal and child health services (i.e. delivery with a skilled birth attendant), health knowledge, and vaccination at a local level.

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8. HARMONIZATION OF MONITORING SDHE AT REGIONAL AND GLOBAL LEVELS

The third key area of the operational framework is harmonization of monitoring SDH and actions to advance health equity at regional and global levels.

Action 1: Coordinate with other WHO monitoring work at regional and global levels for monitoring SDHE across multiple sectors.

WHO can serve in a leadership and transformative role globally, supporting monitoring and action to address social determinants of health equity in countries across the world. WHO can be the authority on monitoring, not only in supporting countries with technical matters for monitoring, but also in setting normative values and principles—making the case for why focusing on monitoring social determinants of health equity matters.

For technical support, WHO can help with building capacity for monitoring in countries, especially in resource-constrained settings. For instance, WHO can develop a global database for monitoring SDHE, which can compile national data and indicators for countries to use for monitoring. In 2023, the WHO Health Inequality Data Repository will be launched, which will include some SDH indicators. WHO can also help provide insights on how countries are performing, such as publishing national scorecards on social determinants of health equity that can help countries to track progress and identify gaps that need to be addressed. WHO can help countries to go beyond monitoring, using information from monitoring for policymaking to improve social determinants of health equity.

WHO can also serve in a transformative role to advance monitoring SDHE. Using this operational framework, WHO can encourage a major and lasting change that can help countries to institutionalize robust monitoring of social determinants of health inequities, and have these data meaningfully impact policy making.

WHO also plays an important role in in facilitating multisectoral engagement on monitoring and action on social determinants of health equity in countries. WHO has strong, enduring relationships with Ministries of Health in countries across the world. While the health sector can play a lead role, other sectors can also be important in advancing monitoring and action on social determinants of health equity. Given this, WHO can encourage multisectoral collaboration between the Ministry of Health and other Ministries, such as Finance, Trade, and Education, to create a shared vision and plan for monitoring and action on social determinants of health equity across sectors. However, WHO will also need to overcome potential burnout of the Ministry of Health and other Ministries that have their own issues and priorities, especially during the COVID-19 pandemic and other emergencies.

WHO could also play a role in creating networks of researchers, civil society, and donors/development partners. Leveraging its relationships with many research institutions, WHO can partner with academia and create a network of researchers that collect and analyze data and publish papers and reports on monitoring social determinants of health

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equity in countries. In addition, WHO can partner with civil society, including religious bodies and nongovernmental organizations that are key stakeholders in moving the needle on social determinants of health and health equity in countries. Finally, WHO can create an alliance of different donors and development partners committed to improving SDH and equity to discuss monitoring SDHE.

Action 2: Collaborate with other UN organizations, intergovernmental agencies, and stakeholders in regional and global monitoring SDHE, human rights, sustainability, and other relevant issues across multiple sectors.

Beyond WHO, other UN organizations, intergovernmental agencies, and stakeholders need to collaborate on efforts to advance monitoring of SDH and actions to improve health equity. Many of these stakeholders' monitoring work can be informative for monitoring SDHE. For instance, UN Migration (IOM) has developed migration governance indicators, which include measures that are relevant for monitoring SDHE. Also, collaborating with these stakeholders can help to bolster support beyond WHO for monitoring SDHE. This will be critical to create global buy-in for monitoring SDHE.

Action 3: Link monitoring SDHE across multiple sectors to monitoring progress towards Sustainable Development Goals (SDGs).

In 2015, all 193 Member States of the United Nations adopted the 2015-2030 Agenda for Sustainable Development, which provides a shared blueprint to achieve a better and more sustainable future for all. The agenda pledges to “leave no one behind”. Multisectoral actions are central to addressing social determinants of health equity and achieving many SDGs. The UN monitors the realization of the SDGs, and the monitoring framework includes several relevant indicators for social determinants of health equity. In total, the monitoring system of the SDGs includes 261 indicators.

It is important to link monitoring SDHE to SDGs and their monitoring framework as governments undertake SDG implementation. If indicators from this operational framework link to the SDG indicator framework, they will enable policy makers to link multisectoral actions to sustainable development and health equity. Previously, the 2018 Working Group for Monitoring Action on the Social Determinants of Health (that took place in Ottawa, Canada) prioritized the UN monitoring system indicators and included a number of these indicators because using SDG indicators was regarded as crucial for ensuring alignment of the SDH action monitoring system with the 2015-2030 SDG agenda (Working Group for Monitoring Action on the Social Determinants of Health, 2018). This new operational framework proposes indicators from the SDG monitoring framework. While SDG targets do not explicitly include closing gaps within populations, they do consider disaggregation. In addition, by including SDG indicators in the Monitoring Framework, WHO can facilitate multisectoral action, linking SDGs, SDH, and health equity. For instance, several SDG indicators related to urban health equity are relevant to climate and health equity progress.

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9. AGENDA FOR MONITORING SDHE AND TRANSLATING DATA TO POLICY ACTION TO ADVANCE HEALTH EQUITY

While decades of research have documented the powerful influence of SDH on health inequities and shown that interventions and policies addressing SDH can create healthier and more equitable communities, few countries routinely monitor SDHE and translate data to policy action. Therefore, a new agenda for monitoring SDHE and translating data to policy action is urgently needed, especially as governments commit to addressing SDH, reducing health inequities, and building back fairer societies in response to the COVID-19 pandemic and other recent crises. In this context, we propose a new agenda, based on the previous chapters. Table 4 below presents the new agenda for key areas and actions to support monitoring SDHE and translating data to policy action to close unacceptable health gaps that persist in countries across the world

Table 4. Key Areas and Actions of the Operational Framework for Monitoring SDHE.

Key areas	Actions	Sub-actions
Process of monitoring SDHE across sectors and using data to inform policy at national and subnational levels	1. Map priorities, data sources, systems, and platforms	1.1. Conduct mapping of scientific and policy writings to identify the level and scope as well as priorities for monitoring SDHE 1.2. Conduct mapping of data sources, systems, and platforms for collecting and sharing data across multiple sectors 1.3. Starting with the proposed menu of indicators for monitoring SDHE from the operational framework, identify and select the most appropriate indicators based on sub-action 1.2 and 1.3
	2. Analyze data	2.1. Prepare disaggregated data
	3. Report results	3.1. Create standardized national SDH and SDH action monitoring reports/briefings/dashboards for data disaggregated by equity dimensions 3.2. Create standardized global SDH and SDH action monitoring reports/briefings/dashboards for data disaggregated by equity dimensions 3.3. Adhere to quality checks and ensure routine updates
	4. Strengthen capacity building and training for monitoring	4.1. Strengthen capacities and training at national and subnational levels in data collection, data analysis, communication, and dissemination of results

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Crosscutting approaches to support monitoring SDHE	1. Map the policy cycle	--
	2. Strengthen political will, commitment, and leadership	--
	3. Support multisectoral governance	<p>3.1. Ensure linkages for monitoring SDHE with existing multisectoral policy collaboration initiatives (e.g., Health in All Policies)</p> <p>3.2. Scan governance policies and frameworks to enable data sharing and transparency across sectors</p> <p>3.3. Establish, strengthen, and reform legal frameworks for monitoring SDHE</p> <p>3.4. Secure budgets and establish objectives, roles, and responsibilities across departments and agencies for monitoring SDHE</p> <p>3.5. Increase accountability, transparency, and responsiveness for monitoring SDHE</p>
	Bring together multisectoral policymakers to translate monitoring and data to action	--
	Foster community leadership and multisectoral, multi-stakeholder collaboration that is accountable and transparent	--
Harmonization of monitoring SDHE to advance health equity at regional and global levels	Coordinate with other WHO monitoring work at regional and global levels for monitoring SDH and actions to advance health equity across multiple sectors	--
	Collaborate with other UN organizations, other intergovernmental agencies, and other stakeholders in regional and global monitoring of SDH and actions to advance health equity, human rights, sustainability, and other relevant issues across multiple sectors	--
	Link monitoring SDH and actions to advance health equity across multiple sectors to monitoring progress towards Sustainable Development Goals (SDGs)	--

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10. APPENDIX

Appendix A1. Health Inequities are Widening and a Major Challenge for Countries Across the World.

Over the past half century, while many countries have witnessed remarkable health gains, in recent years, these improvements have slowed and health inequities, both between and within countries, stubbornly persist.

Life expectancy at birth—a measure of premature death and common indicator of the overall health of a population—shows large differences in health between and within countries across the world. In 2020, a child born in Central African Republic can expect to live for 54 years while a child born in Japan or Hong Kong can expect to live 85 years. Even within a region, health inequities persist between countries. In the African region, while healthy life expectancy increased on average by 10 years per person between 2000 and 2019, this is true for Africans living in mainly high and upper middle-income countries on the continent. Within countries, health inequities are observed between different population groups defined by characteristics such as gender, race and ethnicity, level of education, income, immigrant status, and other dimensions. While the US population has experienced a steep decline in life expectancy for the past several years, Indigenous Peoples and Black Americans have a disproportionately lower life expectancy—they are expected to live 13 and six years less than their White counterparts, respectively.

Health inequities not only have negative impacts on disadvantaged populations, but they are also detrimental to the health and wellbeing of the broader population. In addition, unfair and unjust health gaps create an economic burden in the form of human and financial costs to societies. Health inequities also thwart development and achievement of the United Nations (UN) Sustainable Development Goals (SDGs) by 2030.

Tackling health inequities therefore is a paramount issue that necessitates urgent policy attention and action. Governments must work to address the many social, environmental, economic, and commercial determinants of health that are at the root of health inequities, which make people—not just disadvantaged—sicker and die younger, disrupt the lives of individuals and families, create an economic burden to societies, and hinder countries' attainment of SDGs.

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Appendix A2. Social Determinants of Health.

The social determinants of health (hereafter called “SDH”)—broadly defined as the conditions in which people are born, grow, live, work, and age, and people’s access to power, money and resources—have a powerful influence on health and health inequities.^{126,127,128,129} More specifically, SDH encompass both intermediary determinants of health and structural determinants of health, commonly referred to as “downstream” and “upstream” factors, respectively.¹³⁰

Intermediary determinants of health include: material circumstances (e.g., physical living and working conditions, such as housing, food, water, air, and sanitation), psychosocial circumstances (e.g., psychosocial stressors, stressful living circumstances and relationships, and social support and coping mechanisms), behavioural and/or biological factors (e.g., nutrition, physical activity, tobacco consumption, alcohol consumption, and genetic factors), and the health system itself (e.g., health coverage).

Structural determinants of health refer to the interplay between socioeconomic-political context⁷, structural mechanisms⁸ generating social stratification whereby populations are stratified according to income, education, occupation, gender, race and ethnicity, and other factors, and the resulting socioeconomic position of individuals. These socioeconomic positions in turn shape specific determinants of health status—that is, intermediary determinants of health, reflective of people’s place within social hierarchies. Thus, structural determinants of health encompass the mechanisms, structures, systems, and forces that shape the distribution of intermediary determinants of health. Structural determinants of health are considered the root cause of inequities in health.¹³¹ Studies suggest that SDH account for as much as 50% of health outcomes and are significantly associated with health inequities.^{132 133}

Interventions and policies that address SDH and inequities in them can have positive effects on health and reduce health inequities.¹³⁴ For instance, social protection policies, particularly those that increase income in the most deprived areas, prevent and reduce poverty across the life cycle and have positive impacts on health and health equity.^{135 136} Also, early childhood education programs improve educational and health outcomes in the near-term for children and later in life, particularly for children from low-income families, which can reduce education and health inequities.^{137 138} Workplace policies that address occupation health and safety, job security, and fair wages can also impact health equity by improving working conditions and economic stability for disadvantaged populations.¹³⁹ The growing evidence of the powerful influence of SDH and actions to advance health equity underscores the need for policy action.

⁷ “Context” includes all social and political mechanisms that generate, configure and maintain social hierarchies, including: governance, macroeconomic policies, social policies (e.g., labor market, housing, land), public policies (education, health, social protection), and culture and societal values.

⁸ Structural mechanisms are those that generate stratification and social class divisions in the society and that define individual socioeconomic position within hierarchies of power, prestige, and access to resources. Structural mechanisms are rooted in the key institutions and processes of the socioeconomic and political context. The most important structural stratifiers and their proxy indicators include: income, education, occupation, social class, gender, and race/ethnicity.

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Appendix A3. WHO Expert Group on the Operational Framework for Monitoring SDH and actions to advance health equity.

To support development of the operational framework, WHO convened an Expert Group consisting of stakeholders with expertise in SDH and actions to advance health equity. The first meeting of this Expert Group occurred virtually on 6 December 2021 and 7 December 2021. Experts included the following people:

Professor Pascale Allotey

Director, United Nations University, International Institute for Global Health Unit
Kuala Lumpur, Malaysia

Professor John Ataguba

Professor and Director of the Health Economics Unit, University of Cape Town
Cape Town, South Africa

Dr Mickey Chopra

Global Lead, Service Delivery, World Bank
Washington DC, USA

Professor Ana Diez Roux

Dean, Drexel University, Dornsife School of Public Health
Philadelphia, USA

Dr Carlos Dora

Visiting Professor
Global Environmental Health Governance and Justice
Columbia Mailman School of Public Health
Geneva, Switzerland

Professor Rajae El-Aouad

Professor, Hassan II Academy of Science and Technology
Rabat, Morocco

Professor Tim Evans

Director, McGill School of Population and Global Health
Montreal, Canada

Professor Sharon Friel

Professor of Health Equity
Director, Menzies Centre for Health Governance
School of Regulation and Global Governance (RegNet)
Australian National University
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College of Agriculture and Natural Resources
Kwame Nkrumah University of Science & Technology Kumasi, Ghana

Professor Hoda Rashad

Director, Social Research Center
American University in Cairo
Cairo, Egypt

Professor Srinath Reddy

President, Public Health Foundation of India
Delhi, India

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Appendix A4. Methods

Below is a description of the approach and methods adopted for development of the operational framework:

1. Background papers reviewed and operational framework discussion paper written for the first expert group meeting.

A rapid literature review of scientific and policy writings on data and monitoring related to health inequalities, SDH, and actions to improve health equity was conducted. The types of writings included peer review papers, WHO and other UN reports, policy briefs, and white papers. The methodology for searching for writings was using Pubmed, Google Scholar, and Google to search for terms “data”, “monitoring”, “health inequalities”, “social determinants of health”, “policies”, “interventions”, “health equity”, and iterations of these terms (e.g., health *inequity*), and snowballing—that is, using the reference list of a paper or the citations to the paper—to identify additional papers. The writer who has a background and higher educations in public health research reviewed the abstracts and publication sources of writings to determine if they met selection criteria (that is, the writing focuses on monitoring and data for SDH and actions to improve health equity, was published between 2008 and 2021, and comes from a legitimate source). In addition, to ensure data triangulation and to understand the previous WHO work in this area, the former lead for this topic provided a hand-searched compilation of the WHO grey literature, consisting of project documents, reports, draft journal papers, and websites, as well as related peer-reviewed publications developed through WHO projects on SDH monitoring between 2013 and 2018 (e.g. Special Issue: Monitoring health determinants with an equity focus, see: <https://pubmed.ncbi.nlm.nih.gov/29366387/>, and <https://health.gov/healthypeople/priority-areas/social-determinants-health>). This material was reviewed in-depth and crosschecked with information from the rapid review using Pubmed, Google Scholar and Google. Selected writings were collected and saved in a Zotero library. The writer reviewed the selected writings and used them for research and writing of a discussion paper on the operational framework for the first expert group meeting. The discussion paper provided experts with background on previous monitoring work that is relevant to the operational framework. Given the WHA resolution for the operational framework requested WHO to build on existing monitoring work, providing experts with a comprehensive review of existing work was important to help guide the approach going forward.

2. Ad hoc expert group convened.

In December 2021, WHO convened an ad hoc expert group to provide guidance for development of the operational framework. The external experts were selected and invited to participate in the ad hoc expert group because they have contributed to data, monitoring, research, programmes, and policies relevant to SDH and actions to improve health equity. Many of these experts have previously served on previous WHO technical advisory groups and contributed to WHO programmes. Experts include academics but with a focus on translating research to policy, as well as public health officials working in governments to promote using monitoring and data for action on SDH.

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The first expert group meeting occurred virtually on 6 December 2021 and 7 December 2021, and the second meeting is scheduled to take place in June 2023. During the first meeting, experts provided their comments on the discussion paper, which informed the outline and subsequent draft of the operational framework. Following the meeting, experts had an opportunity to review the outline and drafts and provide written comments.

3. Outline of operational framework developed and reviewed by advisory groups and internal reviewers

An outline of the framework was developed, which was subsequently used to write the draft of the operational framework. The outline was informed by discussions during the first ad hoc expert group meeting. The outline was shared with ad hoc expert group participants as well as internal WHO staff who provided their written comments on drafts. Comments on the drafts were collected and tracked in documents to ensure they were addressed.

4. Inputs synthesized, writing commenced, and sections sent for feedback.

Building on the first step, a more comprehensive literature review of scientific and policy writings on data and monitoring related to health inequalities, SDH, and actions to improve health equity was conducted. The types of writings included peer review papers, WHO and other UN reports, policy briefs, and white papers. The methodology for searching for writings was using Pubmed, Google Scholar, and Google to search for terms “data”, “monitoring”, “health inequalities”, “social determinants of health”, “policies”, “interventions”, “health equity”, and iterations of these terms (e.g., health *inequity*), and snowballing—that is, using the reference list of a paper or the citations to the paper—to identify additional papers. The writer who has a background and higher educations in public health research reviewed the abstracts and publication sources of writings to determine if they met selection criteria (that is, the writing focuses on monitoring and data for SDH and actions to improve health equity, was published between 2008 and 2021, and comes from a legitimate source). Selected writings were collected and saved in a Zotero library. The writer reviewed the selected writings and used them for the evidence base of the operational framework.

The next step was to identify a menu of domains, measurement concepts, and indicators that are globally applicable and harmonized across countries. An assessment of previous conceptual models, research, and monitoring was conducted to identify a menu of SDH and actions to improve health equity indicators. The menu of indicators was developed while keeping the operational framework guiding principles in mind. In particular, the indicators reconcile global with national monitoring objectives (principle 1) and span feasible to aspirational (principle 2). Selecting a suitable conceptual model served as the foundation to inform the domains, subdomains, and indicators for routine monitoring SDH and actions to improve health equity. Rather than develop a new conceptual model, it was most feasible to select one that comes from existing literature and previous frameworks

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focused on SDH. After identifying a conceptual model, the next step was to develop a menu of indicators for national monitoring SDH and actions to improve health equity that are globally applicable and harmonized. There were several steps involved in this process, including outlining considerations to keep in mind for selecting indicators and conducting a systematic process for identifying and assessing potential indicators for the menu of indicators. On the basis of this assessment, the prioritized indicators were compiled in the key end product: a proposed menu of indicators presented in this operational framework for monitoring SDH and actions to improve health equity.

With the evidence base and proposed menu of indicators for monitoring SDH and actions to improve health equity, writing of the operational framework commenced and drafts were iteratively sent to the ad hoc expert group, regional focal points, and internal reviewers for review and comment. The comments of these stakeholders were useful to shape how to build on the wealth of existing monitoring work and present a practical and useful yet comprehensive and evidence-based operational framework for monitoring SDH and actions to address health equity. The stakeholders were also helpful to make the operational framework and its subject matter of monitoring SDH and actions to improve health equity – which is often research-oriented – more accessible to policymakers working in government and in the public policy arena more generally. The peer reviewers are from all of WHO six regions, helping to provide insights from different country contexts, which is important to ensure the operational framework is feasible, actionable, and can be sustained in regions and countries across the world. Comments on the drafts were collected and tracked in documents to ensure they were addressed.

5. WHO DDI colleagues reviewed, provided comments, and made writing contributions on drafts.

WHO DDI colleagues collaborated with the writer of the operational framework. With their expertise on health inequality data and monitoring, they reviewed, provided comments, and made writing contributions on the operational framework. They were particularly helpful with reviewing and providing feedback on the proposed domains and indicators for monitoring SDH and actions to address health equity. They also were useful for reviewing and providing written contributions focused on previous WHO-led work on monitoring health inequalities, SDH, and actions to address SDH that advance health equity, much of which was advanced by their team.

6. Full draft of operational framework circulated to expert group for peer review as well as WHO colleagues at global, regional, and national levels.

In November 2022, a full draft of the operational framework was circulated to the ad hoc expert group members for peer review. A full draft was also sent to internal WHO colleagues across the three levels of WHO for review, including from a range of divisions, departments, and units, reflecting the multidisciplinary nature of monitoring SDH and actions to improve health equity. Comments on the drafts were collected and tracked in documents to ensure they were addressed.

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7. Draft of the operational framework shared with Member States and discussed during the Executive Board in January 2023 and Member State consultation from January – March 2023.

In January 2023, a draft of the Operational Framework was discussed at the Executive Board in paper EB152/22. At the Executive Board, Member States expressed their support for the new Operational Framework and underscored the importance of WHO supporting countries with monitoring and using data for policy action to tackle social determinants of health to advance health equity. Between December 2022 and March 2023, the Operational Framework underwent a Member State consultation. Member States from across WHO regions reviewed and provided comments on the Operational Framework. Overall, Member States were supportive of the draft and provided helpful comments to strengthen the framework. Following this, from April to May 2023, comments were reviewed and addressed and an updated draft was prepared for Member States in time for the Seventy-Sixth World Health Assembly 2023.

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Appendix A5. Health Inequality Monitoring at WHO.

Health inequality monitoring entails routinely and systematically assessing measurable differences in health across population subgroups, which are defined by social, economic, demographic or geographic characteristics.⁹ Applicable across diverse health topics and indicators, health inequality monitoring yields crucial evidence about the comparative state of health within and across population subgroups, thereby enhancing the capacity to understand, evaluate and advance health equity.

WHO has a developed area of work around health inequality monitoring to strengthen and build capacity for the practice.^{10,11} The three main pillars of work, as articulated in the *2022-27 Inequality Monitoring and Analysis Strategy*, are centered on: strengthening capacity for health inequality monitoring; generating and disseminating high quality evidence on health inequality; and developing and refining health inequality monitoring methods, tools, resources and best practices.¹² WHO has delivered a number of activities, resources and tools for health inequality monitoring in accordance with these pillars.

- The *Health Inequality Data Repository* is the largest publicly available collection of disaggregated data on health and its determinants (including all SDG indicators with available disaggregated data).¹³ The Data Repository includes more than 2000 indicators with over 25 dimensions of inequality, across all world regions. Datasets can be explored interactively online (using the WHO *Health Equity Assessment Toolkit* (HEAT) application), or they can be downloaded for external use.
- HEAT is a free software application for analyzing, interpreting and reporting inequality data.^{14,15} The software has an interactive interface that supports exploration of disaggregated data, calculation of summary measures of inequality, benchmarking between settings, and creation of graphs, maps and tables. There are two editions of the software: HEAT, Built-In Database Edition, which has the Health Inequality Data Repository pre-installed, and HEAT Plus, Upload Database Edition, which allows users to upload their own data.

⁹ World Health Organization. Handbook on health inequality monitoring: with a special focus on low-and middle-income countries. Geneva: World Health Organization; 2013.

¹⁰ Hosseinpoor AR, Bergen N, Schlotheuber A. Promoting health equity: WHO health inequality monitoring at global and national levels. *Glob Health Action*. 2015;8(1654-9880 (Electronic)):29034.

¹¹ Hosseinpoor AR, Bergen N, Kirkby K, Schlotheuber A. Strengthening and expanding health inequality monitoring for the advancement of health equity: a review of WHO resources and contributions. Under review by *International Journal for Equity in Health*.

¹² World Health Organization. *Inequality Monitoring and Analysis Strategy 2022-27* [Internet]. Geneva: World Health Organization; 2022 [cited 2022 Nov 10]. Available from:

<https://www.who.int/publications/m/item/inequality-monitoring-and-analysis-strategy-2022-27>

¹³ World Health Organization. *Health Inequality Data Repository* [Internet]. 2022. Available from:

<https://www.who.int/data/inequality-monitor/health-inequality-data-repository>.

¹⁴ Kirkby K, Schlotheuber A, Vidal Fuertes C, Ross Z, Hosseinpoor AR. Health Equity Assessment Toolkit (HEAT and HEAT Plus): exploring inequalities in the COVID-19 pandemic era. *International Journal for Equity in Health*. 2022; In press

¹⁵ World Health Organization. *Health Equity Assessment Toolkit (HEAT and HEAT Plus)* [Internet]. 2022. Available from: www.who.int/data/inequality-monitor/assessment-toolkit

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- WHO *State of inequality*^{16 17 18 19} and *Explorations of inequality*²⁰ reports showcase examples of high-quality, detailed technical reports on health inequality, in many cases, serving as an inaugural global assessment of inequalities in a given topic area. Health inequality is also routinely reported in flagship WHO reports, including the annual World Health Statistics and Universal Health Coverage Global Monitoring Reports.
- The OpenWHO *Health Inequality Monitoring eLearning channel* provides an array of free, self-directed online courses to build capacity for monitoring across diverse topics, stakeholders and settings^{21 22}. The channel contains three course series devoted to the foundations of health inequality monitoring, applications to specific health topics, and skill building courses.
- Periodic capacity building workshops are conducted with interested stakeholder groups to establish and strengthen sustainable approaches to national health inequality monitoring, including facilitating professional networking.
- The *Handbook on health inequality monitoring* was published in 2013, outlining key concepts related to health inequality monitoring, with illustrative examples from low- and middle-income countries, and detailing a five-step approach to inequality monitoring²³. This served as the conceptual basis for *Step-by-step manuals*, which provide practical guidance on the application five-step cycle of inequality monitoring in the context of national monitoring²⁴, and the topics of immunization²⁵ and sexual, reproductive, maternal, newborn, child and adolescent health²⁶.

¹⁶ World Health Organization. *State of inequality: reproductive, maternal, newborn and child health*. Geneva: World Health Organization; 2015.

¹⁷ World Health Organization. *State of inequality: childhood immunization*. Geneva: World Health Organization; 2016.

¹⁸ World Health Organization. *State of health inequality: Indonesia*. Geneva: World Health Organization; 2017.

¹⁹ World Health Organization. *State of inequality: HIV, tuberculosis and malaria*. Geneva: World Health Organization; 2021.

²⁰ World Health Organization. *Explorations of inequality: childhood immunization*. Geneva: World Health Organization; 2018.

²¹ Bergen N, Kirkby K, Baptista A, Nambiar D, Schlottheuber A, Vidal Fuertes C, et al. Health Inequality Monitoring channel on OpenWHO: capacity strengthening through eLearning. *Int J Equity Health*. 2022 Sep 13;21(1):133.

²² World Health Organization. *Health inequality monitoring* [Internet]. OpenWHO. 2022 [cited 2022 Nov 16]. Available from: <https://openwho.org/channels/inequality-monitoring>.

²³ World Health Organization. *Handbook on health inequality monitoring: with a special focus on low-and middle-income countries*. Geneva: World Health Organization; 2013.

²⁴ World Health Organization. *National health inequality monitoring: a step-by-step manual*. Geneva: World Health Organization; 2017.

²⁵ World Health Organization. *Inequality monitoring in immunization: a step-by-step manual*. Geneva: World Health Organization; 2019.

²⁶ World Health Organization. *Inequality monitoring in sexual, reproductive, maternal, newborn, child and adolescent health: a step-by-step manual*. Geneva: World Health Organization; 2022.

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Appendix A6. Timeline of WHO-led activities related to monitoring of SDH and government actions to address them.

Year(s)	Activity
2006-2008	In 2006, WHO formed the Commission on Social Determinants of Health, and in its final report published in 2008, the Commission called for action on the SDH to “close the gap in a generation”. The final report laid out a comprehensive analysis of the causes of health inequities as a result of inequalities in social determinants, and provided recommendations across all of society to address these inequalities and thus reduce health inequities. The Commission recommended SDH-focused monitoring in its final report: “measure and understand the problem and assess the impact of action”. The final report proposes a comprehensive national health equity surveillance framework with the following categories for determinants: (1) daily living conditions; (2) health behaviors (e.g., smoking, alcohol, diet and nutrition); (3) physical and social environment (e.g., water and sanitation, housing conditions, urban design, air quality, social capital); (4) working conditions (e.g., material working hazards, stress); (5) health care (e.g., coverage, health-care system infrastructure); (6) social protection (e.g., coverage, generosity); (7) structural drivers of health inequity; (8) gender (e.g., norms and values, economic participation, sexual and reproductive health); (9) social inequities (e.g., social exclusion, income and wealth distribution, education); (10) sociopolitical context (e.g., civil rights, employment conditions, governance and public spending priorities, macroeconomic conditions).
2007	Global health inequality monitoring on an annual basis started with the launch of the 2007 World Health Statistics report and it was a direct impact/outcome of the work that WHO had undertaken with the CSDH. At an organizational level, the staff responsible for developing the area of measurement and monitoring of health inequalities, starting with the program of Health Systems Performance Assessment, and moved into the Health Equity Team responsible for the Secretariat of the Commission on Social Determinants of Health and this team worked on the development of equity measures and statistics. This team was transferred to the WHO central data team in 2007 as part of the core statistics of the organization.
2009	62 nd World Health Assembly adopted the Commission’s recommendation in Resolution 62.14.
2010	53 countries recommended monitoring environmental interventions for reducing inequities in the Parma Declaration on Environment and Health.
2010	WHO developed and launched the Urban Health Equity Assessment and Response Tool (Urban HEART) to help city leaders and their communities address health and social inequities. A simple, practical, and user-friendly tool for policy- and decision-makers, Urban HEART adopts a framework that takes into account health determinants and risk factors and their intersections across multiple levels and sectors. It combines research evidence, partners’ organizational data, and community knowledge to assess urban equity in relation to five policy domains, including: (1) physical environment and infrastructure; (2) social and human development; (3) economic opportunity; (4) governance; and (5) general population health. Thus, through a SDH approach, the tool provides a platform for intersectoral action and community involvement. The tool has been implemented in cities across the world, including Barcelona (Spain), Bogota (Colombia), Detroit (United States), Guarulhos (Brazil), Tehran (Iran), and Toronto (Canada).
2011	During the World Conference on Social Determinants of Health held in Rio de Janeiro, Brazil, 125 countries recommended strengthening of social determinants of health-focused monitoring in the Rio Political Declaration on Social Determinants of Health: “monitor progress”.
2012	65 th World Health Assembly adopted the recommendation of the Rio Political Declaration in Resolution 65.8. Determinants of Health adopted by the World Health Assembly.
2012-2013	From 2012/3 to 2016, the Rockefeller Foundation funded a project that aimed to advance a more inclusive Universal Health Coverage (UHC) concept, including prevention and health promotion with a focus on equity, and tried to do this through proposing indicators on SDH

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	<p>that traced how inequities in SDH acted as barriers to access to medical services—beyond pure financial health protection coverage, as well as barriers to maintaining or promoting health. WHO, in collaboration with experts and researchers from several countries, led this project entitled equity-oriented analysis of linkages between health and other sectors (EQuAL) to identify possible approaches to complement the monitoring of equitable progress toward universal health coverage, focusing on intersectoral barriers and specific social determinants affecting health. This project led to the development of the EQuAL-WHO framework that summarized the SDH pathways and proposed a set of currently feasible indicators, but also discussed aspirational indicators, some of which have become increasingly more feasible through the equity drive of the international community with the UN SDG indicators (e.g., affordable basic food indicators). The three groupings of domains of this framework were: (1) Environment Quality; (2) Accountability and Inclusion; and (3) Livelihoods and Learnings. The final set of 12 measurement domains aligned with typical national sectoral ministries and their policy mandates (and different SDGs): (1) Income and poverty (SDG 1, 2); Knowledge and education (SDG 4); (3) Housing and infrastructure (SDG 6, 7, 11); (4) Travel (SDG 11); (5) Community and infrastructure (SDG 9, 12); (6) Social protection and employment (SDG 1, 8); (7) Early child development (SDG4); (8) Gender norms (SDG5); (9) Participation (SDG 16); (10) Registration (institutional constraints) (SDG 16); (11) Accountability (institutional constraints/corruption) (SDG 10, 16); and (12) Discrimination (SDG 5, 10).</p>
2014	<p>The WHO European Regional Office renewed its commitment to advancing SDH-focused monitoring in its European Review of Social Determinants of Health and the Health Divide</p>
2015	<p>The 68th World Health Assembly approved the framework for country action across sectors for health and health equity that requires establishment of mechanisms for monitoring, evaluation, and reporting in Resolution 68.17. This work inspired the development of the HiAP measurement framework developed by PAHO (PAHO, 2017). The Regional HiAP Plan includes 12 indicators for the period 2014–2019. These are linked to nine framework objectives, and, in turn to six strategic lines of action, coinciding with those of the Global HiAP Framework: (1) establish the need and priorities for HiAP; (2) Frame planned action; (3) identify supportive structures and processes; (4) facilitate assessment and engagement; (5) ensure monitoring, evaluation, and reporting; (6) build capacity. Some of the indicators proposed have relevance to and were incorporated in the 2016/17/18 work sponsored initially by Canada. They are also used as aspirational indicators in the measurement framework for PHC and the current HiAP action areas of SDH.</p>
2016-2017/18	<p>Canada sponsored the first meeting on a project aimed at reporting on action on social determinants of health related to pledges made in the Rio Political Declaration on Social Determinants of Health. The WHO, the Public Health Agency of Canada, and the Canadian Institutes of Health Research - Institute of Population and Public Health, and the Working Group they formed, developed a background paper for the meeting, which took place in June 2016, proposing core basket of social determinants of health action indicators, reflecting the structure of the Rio Political Declaration (Working Group for Monitoring Action on Social Determinants of Health, 2018). Representatives of the Working Group consisting of world experts from countries across WHO’s six regions reviewed this framework in Ottawa. The revised framework was consulted on through a public web-consultation between November 2016 and January 2017 (WHO, 2017). 41 organizational representatives (including 18 responses from governments or government agencies) responded to the web consultation. The framework was further revised to form a final framework, which married the structure of the Rio pledges with the evidence of the Commission on Social Determinants of Health and took into account available indicators for the SDGs (WHO, 2020). The final measurement domains were aligned with 14 objectives for action on SDH as follows:</p> <ul style="list-style-type: none"> • Objective 1. Improve intersectoral action for health and health equity • Objective 2. Improve early childhood health and develop lifelong education • Objective 3. Promote fair employment and decent work

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	<ul style="list-style-type: none"> • Objective 4. Improve social protection across the life course • Objective 5. Improve participation and transparency in policy making on determinants of health, particularly form vulnerable groups • Objective 6. Promote gender equity for women • Objective 7. Improve the provision of legalization guaranteeing universal human rights with attention to human rights of vulnerable and discriminated populations • Objective 8. Improve equity in financing of health services • Objective 9. Improve equity in access to health services • Objective 10. Improve the integration of equity considerations into health systems, policies, and programs and to improve human resource capacities for addressing SDH and universal health coverage • Objective 11. Protect population health from harmful and unhealthy products, environments and trade and lending agreements • Objective 12. Strengthen international cooperation for promoting health equity and improving participation of developing countries in global social and economic decision making • Objective 13. Improve the monitoring of health inequalities and the SDH and action on theses determinants and access to information on the SDH • Objective 14. Improve financial investment in monitoring, research, and evaluation of action on the SDH and health equity.
<p>2015-2019</p>	<p>The WHO European Office for Investment for Health and Development led the European Health Equity Status Report Initiative (HESRi), which developed the Health Equity Policy Tool—a framework to track policies for increasing health equity in the WHO European Region. The project also identified and quantified the impact of five conditions on health equity within a country - health systems, income security, living conditions, social and human capital and employment and work. The report and associated tools was developed to support WHO Member States and partners to strengthen the implementation of commitments and strategies to advance health equity through specific policy actions. The final report documents a snapshot of trends in health inequities over a decade for more than 30 countries across the European region as well as the underpinning trends in SDH (WHO EURO, 2019). Key categories of adverse SDH include (in negative terms were):</p> <ul style="list-style-type: none"> • Absence of free or affordable health services of decent quality. • Financial insecurity – not being able to make ends meet. • Poor-quality housing and underdeveloped and unsafe neighborhoods • Inadequate sense of belonging, safety, and trust in others. • Lack of employment and job security, poor terms, and conditions at work, and higher levels of social exclusion.

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