Operational framework for monitoring social determinants of health equity

World Health Organization

Operational framework for monitoring social determinants of health equity

World Health Organization

Operational framework for monitoring social determinants of health equity

ISBN 978-92-4-008832-0 (electronic version)
ISBN 978-92-4-008833-7 (print version)

Suggested citation. Operational framework for monitoring social determinants of health equity. Geneva: World Health Organization; 2024. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at https://iris.who.int/.

Design and layout by Hopgood Creative

Contents

Figures

Tables

Boxes

Foreword

Dr Etienne Krug
Director, Department of Social Determinants of Health
World Health Organization

Social determinants of health – that is, the conditions in which people are born, grow, live, work and age, and people's access to power, money and resources – impact health outcomes and drive widening health inequities within and across countries.

Nearly two decades ago, the World Health Organization (WHO) Commission on Social Determinants of Health set out an agenda to support countries in addressing social determinants of health. Despite a number of high-level commitments by many governments, progress in implementing the Commission's recommendations remains insufficient. Recent interlinked crises, including the COVID-19 pandemic, climate change and conflict, have exacerbated inequities in health and have highlighted the urgent need for governments to rebuild societies in ways that benefit everyone.

To ensure that actions taken to address the social determinants of health achieve their objectives, governments need accurate, timely and comparable data in order to develop and implement evidence-based policies, allocate resources and prioritize interventions. However, many countries lack the necessary data, information systems and capacity to do so. In this context, in 2021, the Seventy-fourth World Health Assembly adopted resolution WHA74.16, which encouraged Member States to take action to address the social determinants of health and requested WHO to prepare an operational framework to measure social determinants of health and health inequities.

This publication, along with the forthcoming *World report on social determinants of health equity*, spearheads renewed efforts to address the social determinants of health to advance health equity. This *Operational framework for monitoring social determinants of health equity* provides countries with critical guidance on monitoring the social determinants of health and actions addressing them, and using data for policy action across sectors to improve health equity. The document is meant as a resource for national governments and their partners. We look forward to working with countries to use and adapt the operational framework to their own national contexts.

We hope this publication will support data-driven decision-making for policy-makers and practitioners to improve the health of *all* populations, and thus be an important tool towards creating fairer societies and healthier lives.

Acknowledgements

The development of this operational framework was led by Julia Berenson, Technical Officer, Equity and Health at the World Health Organization (WHO), under the guidance of Kumanan Rasanathan, Director, Alliance for Health Policy and Systems Research; Sudhvir Singh, Unit Head, Equity and Health; and Etienne Krug, Director, Social Determinants of Health. Julia Berenson and Kumanan Rasanathan wrote the operational framework. Nicole Valentine, Technical Officer, Equity and Health, WHO, provided scientific review advice and served as an internal reviewer for the operational framework.

An ad hoc expert group of stakeholders was convened to support development of the scope of and provide inputs on the operational framework. WHO thanks the following members of the expert group: Pascale Allotey (Director, SRH/HRP, WHO, Geneva, Switzerland); John Ataguba (Canada Research Chair in Health Economics, University of Manitoba, Winnipeg, Canada); Mickey Chopra (Global Lead, Service Delivery, World Bank, Washington DC, United States of America); Ana Diez Roux (Dean, Drexel University, Dornsife School of Public Health, Philadelphia, United States of America); Carlos Dora (President, International Society for Urban Health, Geneva, Switzerland); Rajae El-Aouad (Professor, Hassan II Academy of Science and Technology, Rabat, Morocco); Tim Evans (Director, McGill School of Population and Global Health, Montreal, Canada); Sharon Friel (Professor of Health Equity and Director, Menzies Centre for Health Governance School of Regulation and Global Governance (RegNet), Australian National University, Canberra, Australia); Sandro Galea (Dean, Boston University School of Public Health, Boston, United States of America); Peter Goldblatt (Senior Advisor, UCL Institute of Health Equity, London, United Kingdom); Ebenezer Owusu-Addo (Senior Research Fellow, Bureau of Integrated Rural Development (BIRD), College of Agriculture and Natural Resources, Kwame Nkrumah University of Science and Technology Kumasi, Ghana); Hoda Rashad (Director, Social Research Center, American University in Cairo); and Srinath Reddy (Honorary Distinguished Professor, Public Health Foundation of India (former President), Delhi, India).

WHO extends grateful appreciation to Member States who reviewed and commented on the draft, and endorsed it at the Seventy-sixth World Health Assembly.

Thanks are also extended to WHO colleagues at global, regional and national levels who reviewed drafts and provided examples of monitoring work in regions and countries for the boxes that are included throughout the main text of the operational framework. WHO appreciates the following WHO regional offices (and colleagues from each office) who reviewed the draft and provided written comments: WHO Regional Office for Africa (Peter Phori, Doris Gatwiri); WHO Regional Office for the Americas/Pan American Health Organization (Orielle Solar Hormazabal); WHO Regional Office for South-East Asia (Suvajee Good); WHO Regional Office for Europe (Chris Brown); WHO Regional Office for the Eastern Mediterranean (Samar ElFeky, Zahra Ahmed); and WHO Regional Office for the Western Pacific (Shogo Kubota).

WHO also gratefully acknowledges the contributions of WHO colleagues who reviewed and provided inputs on technical monitoring and equity, including Ahmad Reza Hosseinpoor; Katherine Kirkby; Nicole Bergen; and Theadora Swift Koller.

WHO thanks all the organizations and individuals who reviewed and provided written comments on the text and who participated in consultations that contributed to the operational framework. A full description of the consultation process is provided in the main text of this document.

Abbreviations

BMI	Body Mass Index
CDC	Centers for Disease Control and Prevention
CONNECT	Community Network Engagement for Essential Health Care and COVID-19 Responses through Trust
EQuAL	Equity-oriented Analysis of Linkages between Health and Other Sectors
HESRi	Health Equity Status Report Initiative
IAEG-SDGs	Inter-Agency & Expert Group on Sustainable Development Goal Indicators
JAHEE	Joint Action Health Equity Europe
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PM	Particulate Matter
PROGRESS	Place of residence (urban/rural), Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status, and Social capital/resources
SDG	Sustainable Development Goal
SDH	Social Determinants of Health
SDHE	Social Determinants of Health Equity
UHC	Universal Health Coverage
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization

Executive summary

Background

Health inequities – that is, unfair and avoidable or remediable systematic differences in health among population groups defined socially, economically, demographically or geographically – persist globally, despite the commitments of many national and international actors to reduce them. While health care plays a role, social determinants of health (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 inequities. Interventions and policies addressing SDH, such as early childhood education programmes and social protection policies, can have positive effects on health and reduce health inequities. This evidence underscores the need for policy action on SDH to reduce inequities in health.

Since the World Health Organization (WHO) established the Commission on Social Determinants of Health in 2005, many countries have committed to addressing SDH and improving health equity. Despite this, policy action has been slow and uneven, with limited focus on key structural determinants, such as inequitable economic systems, structural discrimination including intersecting racism and gender inequality, and weak societal infrastructure. A key challenge facing governments is the development and implementation of effective policies and interventions and the assessment of their impact on health equity. This requires monitoring of SDH and their association with health inequities, as well as monitoring of policies and interventions addressing SDH and health equity. However, many countries lack the data, information systems and capacity to monitor progress on SDH and related policies.

Hence, guidance for monitoring social determinants of health equity (SDHE) – that is, SDH and actions (such as policies and interventions) addressing SDH that improve health equity – and using data for action is urgently needed.

Rationale and aims

Monitoring SDHE is critical to create healthier and more equitable communities. It makes injustices in SDH and related policies visible, reveals factors affecting health gaps, tracks progress in addressing SDH, and enhances government and whole-of-society accountability. Recognizing the importance of monitoring SDHE, stakeholders at global, national, subnational and local levels have committed to SDHE-related monitoring (for examples, see ***Box ES.1***).

Despite previous efforts, few countries systematically monitor SDH and actions to improve health equity and use the data generated to develop policies aimed at closing health gaps. In 2016, 20 national systems in 15 countries had monitoring

that included at least one aspect of SDH monitored routinely. Efforts specifically focused on monitoring government processes and policies to address the SDH have only recently received increased attention.

In this context, in 2021, the Seventy-fourth World Health Assembly adopted resolution WHA74.16 on addressing SDH, which encouraged Member States to integrate SDH into public policies and programmes and adopt multisectoral approaches. The resolution requested WHO to prepare an updated report on the impact of SDH on health and health equity, progress made so far in addressing SDH, and recommendations for further action. The resolution also asked 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". This document is the outcome of efforts to develop an operational framework in response to the request in resolution WHA74.16. The result of that process – the *Operational framework for monitoring social determinants of health equity* – aims to provide countries with globally applicable and harmonized guidance for monitoring SDHE, using data for action to improve health equity.

Operational framework for Monitoring Social Determinants of Health Equity

The operational framework consists of two main components: (a) a universal menu of indicators for monitoring SDHE adaptable to different settings (***Table ES.1***); and (b) areas and actions for implementation (***Table ES.2***).

Component A. Menu of indicators for monitoring SDHE

The operational framework provides a globally applicable and harmonized menu of indicators for monitoring SDHE through a systematic process, emphasizing the importance of disaggregated data to identify population groups experiencing marginalization and track their conditions and needs or health equity improvement.

The operational framework proposes a menu of SDH and action indicators based on previous models and research, covering six SDH domains: (a) economic security and equality, (b) education, (c) physical environment, (d) social and community context, (e) health behaviours, and (f) health care. The SDH domains span a range of sectors. Each domain includes subdomains with recognized impacts on health equity.

The menu also lists indicators for actions (such as policies and interventions) that correspond to each SDH domain. For example, under education, it lists policies for quality education. These indicators align with evidence-based interventions and policies categorized by the Commission on Social Determinants of Health framework, including governance, macroeconomic policies, social policies, public policies and cultural values. These indicators align broadly with the recommendations of the forthcoming *World report on the social determinants of health equity*.

Table ES.1 presents the proposed menu of indicators, categorized by SDH and actions, with domains, subdomains, indicators, data sources and disaggregation dimensions. Countries are encouraged to use and adapt these indicators based on their specific priorities and contexts.

Component B. Areas and actions for implementation

The operational framework provides guidance on areas and actions for monitoring SDHE, including lessons from countries to support the operationalization of SDHE monitoring and the implementation of actions (***Table ES.2***).

Area 1: Process for technical monitoring of SDHE at national and subnational levels

The operational framework proposes several implementation actions and sub-actions to support areas for monitoring SDHE, building upon existing work, including WHO tools for health inequality monitoring.

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

Countries should assess their contexts, priorities, data availability and capacities. This involves stakeholders from various sectors across national, subnational and local levels. The sub-actions are:

1.1. Conduct mapping of scientific and policy literature to identify level, scope and priorities for monitoring SDHE.
1.2. Map data sources, systems and platforms.
1.3. Identify and select appropriate indicators from the proposed menu.

Action 2. Analyse data

After selecting indicators, countries need to systematically analyse data, considering disaggregated estimates by relevant dimensions of inequity. Summary measures should be calculated to quantify SDH and actions for comparisons. The sub-action is:

2.1. Prepare disaggregated data.

Action 3. Report results

Communicating the state of SDH and actions is crucial. Reporting should align with the goal of informing policies, programmes and practices that improve health equity. The sub-actions are:

3.1. Create standardized national and global SDH and SDH action monitoring reports for data disaggregated by equity dimensions.
3.2. Ensure quality checks and routine updates.

Action 4. Strengthen capacity-building and training for monitoring

Capacity-building and training in data collection, analysis, communication and dissemination of results are essential at national and subnational levels. The sub-action is:

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

Area 2: Using data to inform policy for health equity at national and subnational levels

The next area of the operational framework discusses the cross-cutting approaches required to support monitoring of SDHE. To support this key area, several implementation actions and sub-actions are proposed.

Action 1. Scope the policy landscape, map the policy cycle and conduct stakeholder mapping

To address the interdependence of policies affecting SDH, countries should map their policy landscape and stakeholders. This will facilitate alignment of monitoring efforts with national and global plans, with the involvement of various sectors and stakeholders.

Action 2. Strengthen political will, commitment and leadership

Addressing SDHE requires strong political will and leadership. Mobilizing related multisectoral data initiatives is equally challenging. Many sectors have data norms and conventions that discourage data sharing. Mobilizing leaders from various sectors, including government, civil society and the private sector, is crucial to overcome these barriers and to prioritize and finance the monitoring of SDHE.

Action 3. Support multisectoral governance

Effective governance is essential for multisectoral action on SDH and for regulating the use of data. Sub-actions for operationalizing monitoring in support of multisectoral governance include linking SDHE monitoring with existing governance initiatives, scanning governance policies for data sharing, establishing legal frameworks, securing budgets and enhancing accountability. The sub-actions are:

3.1. Ensure linkages for monitoring SDHE with existing multisectoral policy collaboration initiatives (such as Health in All Policies).
3.2. Ensure appropriate and agreed-upon data governance rules and ethics.
3.3. Scan governance policies and frameworks to enable data sharing and transparency across sectors.
3.4. Establish, strengthen and reform legal frameworks for monitoring SDHE.
3.5. Secure and establish objectives, roles and responsibilities across departments and agencies for monitoring SDHE.
3.6. Increase accountability, transparency and responsiveness for monitoring SDHE.

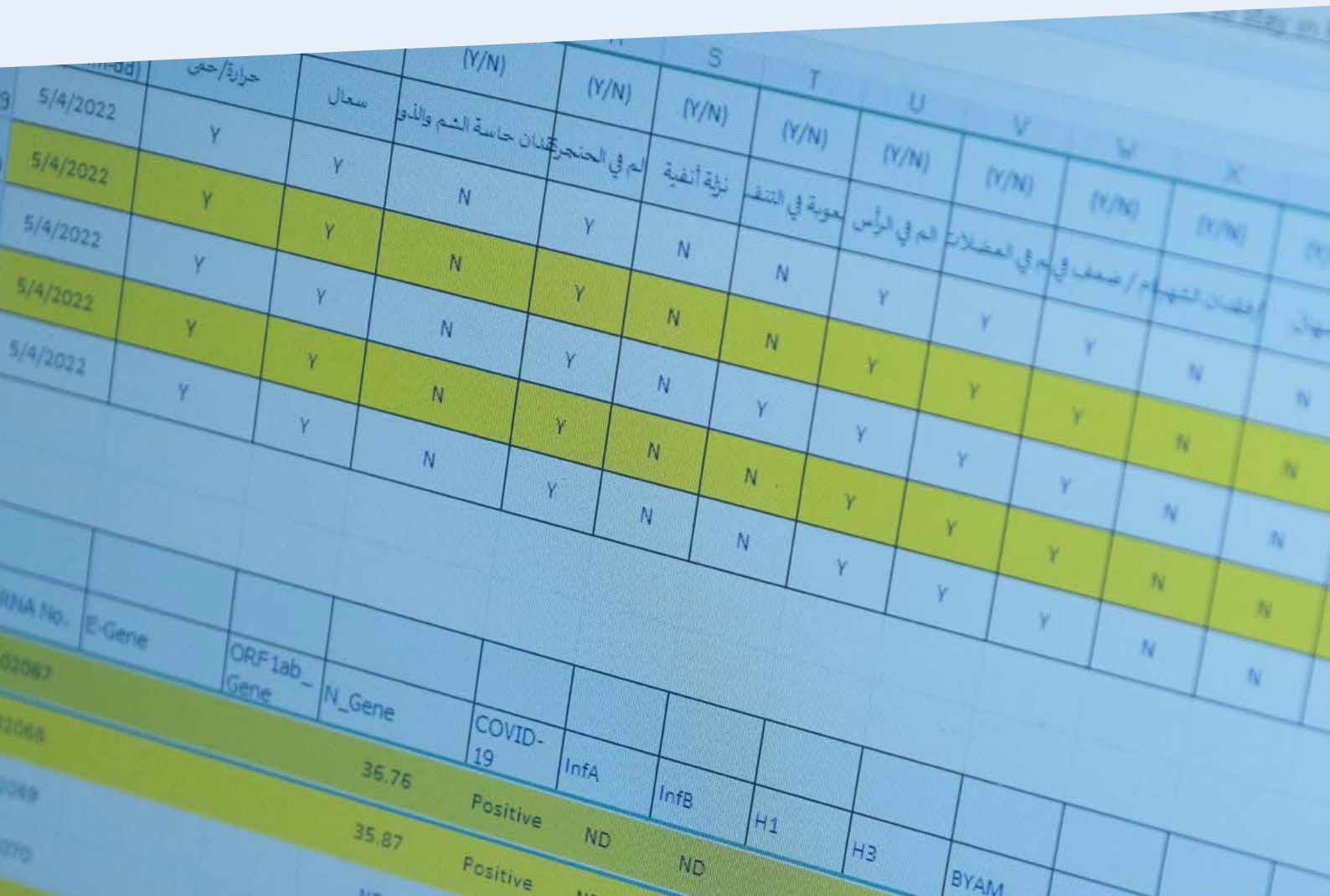
Action 4. Bring together multisectoral policy-makers to translate data into action

Policy-makers across different sectors should collaborate to translate data into action. This involves regular translation processes, policy dialogues and incorporating data into policy-making to address SDH across sectors. The sub-actions are:

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

Action 5. Foster community leadership and multisectoral and multistakeholder collaboration that is accountable and transparent

Engaging communities is vital for achieving health equity. Building collaborative relationships and accountability frameworks that empower communities to identify solutions and prioritize actions is essential to address the SDH. Accountability frameworks that include community monitoring of SDHE make an important contribution to transparency and assessment of impacts.



Area 3: Harmonization of monitoring of SDHE at regional and global levels

The final area of the operational framework focuses on harmonizing monitoring of SDH and actions for health equity at regional and global levels.

Action 1. Collaborate with WHO, United Nations organizations, intergovernmental agencies and stakeholders in regional and global monitoring of SDHE, human rights, sustainability, and other relevant issues across multiple sectors

WHO plays a pivotal role in leading global efforts for monitoring SDHE. It can provide technical support and set normative standards for this vital monitoring. Collaborating with other United Nations organizations, intergovernmental agencies and stakeholders enhances the global commitment to SDH monitoring, making it a collective effort.

Action 2. Embed monitoring of SDHE across multiple sectors within existing processes to monitor progress towards the Sustainable Development Goals (SDGs)

The 2015–2030 Agenda for Sustainable Development, adopted by all United Nations Member States, aims to "leave no one behind" and is closely related to SDH and health equity. By aligning SDH monitoring with the SDGs and their extensive indicator framework, the operational framework improves efficiency and links multisectoral actions to sustainable development and health equity. Including SDG indicators in the operational framework can facilitate global and multisectoral efforts, connecting SDGs, SDH and health equity.

Agenda for areas and actions to support monitoring of SDHE and using data to inform policy for health equity

Despite extensive research highlighting the impact of SDH on health inequities and the potential for SDH-focused policies to create healthier and more equitable communities, few countries regularly monitor SDH and translate data into actionable policies. To address this gap, a new agenda is proposed, as presented in *Table ES.2*. This agenda aims to guide monitoring efforts and leverage data for policy actions to reduce health inequities worldwide, especially in response to crises such as the COVID-19 pandemic, climate change, and other crises that disproportionately impact disadvantaged population subgroups experiencing marginalization, who on average live shorter and unhealthier lives.

BOX ES.1 Stakeholders at global, regional, national and local levels for SDHE-related monitoring

WHO Member States have endorsed monitoring SDH through resolutions, frameworks and recommendations. WHO has also developed monitoring frameworks, tools, resources and training to support governments with monitoring health inequalities (for example, WHO Health Inequality Monitor), SDH (for example, Urban HEART), and government actions to address them (for example, Equity-oriented Analysis of Linkages between Health and Other Sectors, or EQuAL).

At the regional level, WHO has also launched monitoring initiatives to reduce health inequities. The Pan American Health Organization (PAHO) adopted the Plan of Action on Health in All Policies, which includes a framework for monitoring governance processes for 35 countries across the PAHO region. The WHO Regional Committee for the Eastern Mediterranean has endorsed a list of regional core indicators that include monitoring health determinants and risk, including SDH-related indicators. Recognizing that intersectoral action for health is required to tackle health challenges because policies and factors outside the health sector – that is, SDH – influence health and well-being, the WHO European Region has published guidance on intersectoral monitoring for health.

Other United Nations agencies have undertaken monitoring work relevant to SDHE. The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, underscores the importance of measuring progress on the SDGs and targets, many of which relate to SDH and health equity. To address these priorities, the United Nations adopted the Global SDG Indicator Framework and launched the Global SDG Indicators Data Platform to aid countries in monitoring SDGs.

National and local governments have also undertaken SDHE-related monitoring efforts. In the United States of America, the Healthy People 2030 initiative of the Department of Health and Human Services monitors SDH indicators, including education, occupation and income. In Colombia, guided by data from monitoring, the government has taken steps to implement policies addressing SDH during generational transitions to reduce health inequities. On a more local level, Public Health England launched the Wider Determinants of Health tool with regularly updated indicators across six SDH-related domains, namely built and natural environment; work and the labour market; vulnerability; income; crime; and education.

TABLE ES.1 Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
SDH			
Economic security and equality			
Employment	Unemployment rate (%)	Age, disability, sex	United Nations (UN) Department of Economic and Social Affairs Statistics Division SDG Indicators Database (UN SDG Indicators Database). Available at https://unstats.un.org/sdgs/dataportal
	Employment to population ratio (female, male, total) (modeled ILO estimate)	Age, sex	International Labour Organization (ILO). "ILO Modelled Estimates and Projections database (ILOEST)" ILOSTAT. Available at: https://ilostat.ilo.org/data
	Vulnerable employment, total (% of total employment) (modeled ILO estimate)	Sex	World Bank, World Development Indicators database. Estimates are based on data obtained from International Labour Organization, ILOSTAT at https://ilostat.ilo.org/data
	Children aged 5–17 years engaged in child labour (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average hourly earnings of employees (local currency)	Occupation, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Fatal occupational injuries among employees (per 100 000 employees)	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Non-fatal occupational injuries among employees (per 100 000 employees)	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Food insecurity	Moderate or severe food insecurity in the population (%)	If applied at household level, disaggregation is possible based on household characteristics such as: location, household income, composition (including for example presence and number of small children, members with disabilities, elderly members, etc.), sex, age and education of the household head, etc. If applied at individual level, disaggregation by sex is possible	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Severe food insecurity (%)	If applied at household level, disaggregation is possible based on household characteristics such as: location, household income, composition (including for example presence and number of small children, members with disabilities, elderly members, etc.), sex, age and education of the household head, etc. If applied at individual level, disaggregation by sex is possible	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Income inequality	Gini index	-	World Bank, Poverty and Inequality Platform. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. Data for high-income economies are mostly from the Luxembourg Income Study database. Available at: http://pip.worldbank.org.
	Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Poverty	Population living below international poverty line (%)	Age, employment status, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population living below national poverty (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population living in multidimensional poverty (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Households living in multidimensional poverty (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average share of weighted deprivations of total households (intensity) (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Multidimensional deprivation for children (% of population under 18)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Education			
Education access	Participation rate in organized learning (one year before official primary entry age) (%)	Age, sex (administrative sources) Age, geographic location, income, sex (household surveys)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Net school enrollment rate (preprimary, primary, secondary, tertiary) (%)	Level of education, sex	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months (%)	Age and sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Education quality	Pupil-trained teacher ratio by education level (pre-primary, primary, lower and upper secondary education)	Education level and type of institution (public/private)	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
	Teachers with the minimum required qualifications (%)	Education level, sex, and type of institution (public/private)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Education outcomes	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 (% of children aged 36–59 months) (%)	Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Education outcomes	Children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics (%)	Education level and sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills (%)	Age, geographic location (rural/urban), income, type of skill	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Completion rate (primary, lower secondary, upper secondary)	Education level, geographic location (rural/urban), sex, and wealth quintile	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Educational attainment rate, at least completed (primary, lower secondary, upper secondary, Master's or equivalent, Doctoral or equivalent)	Age, economic status, and education level	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
Physical environment			
Air quality and climate	Average mean levels of air pollution of particulate matter (PM10 and PM2.5) in cities (population weighted)	National, regional and global data are disaggregated into cities, towns, urban and rural areas	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population experiencing droughts, floods, extreme temperatures (% of population, average 1990–2009)	-	EM-DAT: The OFDA/CRED International Disaster Database: www.emdat.be, Université Catholique de Louvain, Brussels (Belgium), World Bank.
Disasters	Number of deaths, missing persons and directly affected persons attributed to disasters* (per 100 000 population)	Number of deaths attributed to disasters, number of missing persons attributed to disasters, number of directly affected people attributed to disaster Desirable disaggregation: hazard, geography (administrative unit), sex, age, disability, income	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Energy, fuels and technologies	Population with access to electricity (%)	Geographic location (rural/urban)	IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution—NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).
	Population with primary reliance on clean fuels and technologies for cooking (%)	Geographic location (rural/urban)	IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution—NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).
Housing	Households that live in overcrowded dwellings (%)	Income quintile	Organisation for Economic Co-operation and Development (OECD) Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
	Homeless as a percent of total population (%)	Age, sex (where data are available)	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Housing	Households that own their homes (%)	Age, income quintile	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
	Housing price-to-income ratio (housing affordability)	-	OECD "Housing prices" indicator. Available at: https://data.oecd.org/price/housing-prices.htm
	Population spending more than 40% of disposable income on mortgage and rent (housing cost overburden) (%)	Income quintile, tenure (Rent (private), Rent (subsidized), Own with mortgage)	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
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 (%)	Sex (note: only for both sexes and female, not male) and local communities	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Road safety	Death rate due to road traffic injuries (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Water, Sanitation and Hygiene (WASH)	Population using basic sanitation services (%)	Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene from diarrhoea, intestinal nematode infections, malnutrition and acute respiratory infections (deaths per 100,000 population)	Age (under 5), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population practicing open defecation (%)	Service level (i.e. no services/open defecation, unimproved, limited, basic, and safely managed services) Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population with basic handwashing facilities on premises (%)	Service level (i.e. no facility, limited, and basic facility Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population using safely managed drinking water services (%)	Geographic location (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Water, Sanitation and Hygiene (WASH)	Population using safely managed sanitation services (%)	Service level (i.e. no services/ open defecation, unimproved, limited, basic, and safely managed services) Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Urbanization	Urban population living in slums, informal settlements or inadequate housing (%)	Desirable disaggregation: hazard, geography (administrative unit), sex, age, disability, income	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Ratio of land consumption rate to population growth rate in urban areas	Potential disaggregation: Geographic location (operational urban area vs administratively defined urban area, urban wide vs intra-urban growth trends); Type of growth (infill, expansion, leapfrogging); City type (large vs medium sized vs small); Type of land use consumed by the urbanization process	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average share of the built-up area of cities that is open space for public use for all (%)	Age, disability, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities (%)	Data for this indicator can be disaggregated at various levels in accordance with the country's policy information needs. For instance: • Location (intra-urban • Source of waste generation (e.g., residential, industrial, office, or MSW material received by recovery facilities) • Type of final treatment and disposal • MSW generation rate of different income level (high, middle, low) • MSW generation rate in different cities	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population that has convenient access to public transport in urban areas (%)	Age, disability, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Social and community context			
Conflict, crime and violence	Total conflict-related deaths per 100 000 population (per 100 000 population)	Recommended disaggregation: • Sex of person killed • Age of person killed • Cause of death (e.g., heavy weapons, explosive munitions, denial of access to/destruction of objects indispensable to survival, etc.) • Status of person killed (e.g., civilian, other protected person, member of armed forces, person directly participating in hostilities, unknown)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
	Number of victims of intentional homicide per 100 000 population (victims per 100 000 population)	Recommended disaggregation: • Sex and age of the victim and the perpetrator (suspected offender) • Relationship between victim and perpetrator (intimate partner, other family member, acquaintance, etc.) • Means of perpetration (firearm, sharp object, etc.) • Situational context/motivation (organized crime, inter-personal violence, etc.)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months (%)	Age, citizenship, education, ethnicity, income, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Number of victims of human trafficking (per 100 000 population)	Age, form of exploitation, sex	UN Office on Drugs and Crime (UNODC) data portal. Available at: https://dataunodc.un.org
	Population that feel safe walking alone around the area they live after dark (%)	Recommended disaggregation: • Age • Citizenship • Disability status • Ethnicity • Migration background • Sex • Time of day (perception of safety "during the day" and "after dark")	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Discrimination	Population reporting having felt discriminated against (%)	Disability, grounds of discrimination, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Forced displacement and migration	Internally displaced persons, total displaced by conflict and violence (number of people)	-	The Internal Displacement Monitoring Centre. Available at: http://www.internal-displacement.org
	Refugee population by country or territory of origin (%)	Recommended disaggregation: • Age (esp. % of children) • Geographical location (urban/rural) • Place of residence (in camps/out of camps) • Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	International migrant stock (% of population)	Age, sex	UN Population Division. Trends in Total Migrant Stock: 2008 Revision.
Forced displacement and migration	Net migration	Age, sex	UN Population Division. Trends in Total Migrant Stock: 2008 Revision.
Gender equality and women's empowerment	Gender inequality index	-	UN Development Programme (UNDP). Human development data. Available at http://hdr.undp.org/en/data
	Women who were first married or in a union before age 15 and before age 18 (% of women ages 20–24) (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Women making their own informed decisions regarding sexual relations, contraceptive use and reproductive health care (% of women age 15–49)	Age, education, geographic location, place of residence, wealth quintile	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Healthy ageing	Proportion of older people living in age-friendly cities and communities (%)	-	WHO Maternal, Newborn, Child and Adolescent Health and Ageing Data portal. Available at https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/mca/proportion-of-older-people-living-in-age-friendly-cities-and-communities
Incarceration	Persons held in prisons, penal institutions or correctional institutions (persons held per 100 000)	Age, category, sex	UN Office on Drugs and Crime (UNODC) data portal. Available at: https://dataunodc.un.org
Social support	Population who report having friends or relatives whom they can count on in times of trouble (%)	Age	OECD database. Available at https://stats.oecd.org
Health behaviours			
Alcohol	"Alcohol per capita consumption (aged 15 years and older) within a calendar year in Litres of pure alcohol"	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Physical activity	Insufficiently physically active persons (adults aged 18 years and older, adolescents aged 11–17 years) (%)	Age, sex, other relevant sociodemographic stratifiers where available	World Health Organization (WHO) Global Health Observatory. Available at https://www.who.int/data/gho
Tobacco	Current tobacco use among persons aged 15 years and older (age-standardized rate) (%)	Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Nutrition	Children under 5 years who are stunted (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Children under 5 years who are wasted (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Children under 5 years who are overweight (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population experiencing undernourishment (%)	Place of residence (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Adults who are overweight (BMI>=25) and obese (BMI>=30) (% adult population)	Age, sex, other relevant sociodemographic stratifiers where available	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Health care			
Health care access and affordability	Population that skipped a medical consultation due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/
	Population that skipped medical tests, treatment or follow-up due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/
	Population that skipped prescribed medicines due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Health care access and affordability	Households with out-of-pocket payments greater than 40% of capacity to pay for health care (catastrophic health spending) (%)	Consumption quintile Disaggregation by place of residence (urban and rural), age or employment status of the head of the household, household composition and other factors is included in country-level and regional-level analysis where relevant	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Population spending more than 10% of household consumption or income on out-of-pocket health care expenditure (%)	Age, place of residence (rural/urban), sex	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Population spending more than 25% of household consumption or income on out-of-pocket health care expenditure (%)	Age, place of residence (rural/urban), sex	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Health system	Physicians per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Nurses and midwives per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Health workers per capita: physicians, nursing/midwifery personnel, dentistry personnel, pharmaceutical personnel (per 10 000 population)	Geographic area, occupation	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Community health workers per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Health facilities per capita (per 10 000 population) (health facility density and distribution)	Density of specific services, facility ownership, location (district, province, national), type	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Hospital beds per capita (per 10 000 population)	Provider type (public/private)	WHO Global Health Workforce Statistics, OECD, supplemented by country data
Actions			
Policies to promote economic security and equality			
Employment: social policies	Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization textual sources and national legislation	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Coverage of unemployment benefits and active labour market policy (ALMP) (% of population)	Economic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Employment: governance	Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Food insecurity: public policies	"Population supported by food and/or social assistance programmes (%)"	Category of vulnerable groups (e.g., children, families, young people, indigenous, elderly, disabled, unemployed, etc.) Type of food or social assistance programme and by numbers of people benefiting from the different types	Food and Agricultural Organization of the United Nations. Milan Urban Food Policy Pact Monitoring Framework.
Income inequality: macroeconomic policies	Redistributive impact of fiscal policy (note: defined as the Gini Index of pre-fiscal per capita (or equivalized) income less the Gini Index of post-fiscal per capita (or equivalized) income)	Age, disability status, ethnic grouping, gender, geographic location (rural/urban), income (note: can be disaggregated for as many subgroups as are represented in the surveys or micro-data from which the indicator is drawn)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Poverty: public policies	Coverage of social safety net programmes (% of population)	Economic status	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Coverage of social insurance programmes (% of population)	Economic status	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Population covered by at least one social protection benefit (%)	Sex	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Children/households receiving child/family cash benefit (%)	Sex	World Bank Open Data (original source: UNESCO Institute for Statistics)
Policies to ensure access to quality of education			
Education: public policies	Government expenditure on education, total (% of GDP)	-	UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Available at https://apiportal.uis.unesco.org/bdds
	Government expenditure on education, total (% of government expenditure)	-	UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Available at https://apiportal.uis.unesco.org/bdds
	Government expenditure per student, primary, secondary, tertiary (% of GDP per capita)	-	UNESCO Institute for Statistics. Available at http://uis.unesco.org
Policies to protect the physical environment			
Air quality and climate: social policies	Environmental Policy Stringency Index	-	OECD database. Available at https://stats.oecd.org
	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. Available at https://unstats.un.org/sdgs/dataportal
Disasters: 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. Available at https://unstats.un.org/sdgs/dataportal
	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. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Energy, fuels, and technologies: social policies	Regulatory Indicators for Sustainable Energy (RISE) policy scorecard	-	World Bank. Regulatory Indicators for Sustainable Energy (RISE). Available at https://rise.esmap.org
Housing: social policies	Social rental dwellings as a share of total dwellings (%)	-	OECD database. Available at https://stats.oecd.org
	Public spending on housing allowance as % of GDP		OECD database. Available at https://stats.oecd.org
Housing: social policies	Measures to finance housing improvements and regeneration		OECD database. Available at https://stats.oecd.org
Land tenure: social policies	International property rights index	-	Property rights alliance. Avalable at https://www.landinternationalpropertyrightsindex.org/
Road safety: public policies	Existence of national seat belt laws	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Urban planning: governance	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. Available at https://unstats.un.org/sdgs/dataportal
Water, sanitation and hygiene (WASH): governance	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Policies to strengthen social and community context			
Civic engagement and trust: governance	Positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups (%)	Age, persons with disabilities, population subgroup (country specific), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Conflict, crime and violence: governance	Existence of independent national human rights institutions in compliance with the Paris Principles	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Discrimination: governance	Legal frameworks in place to promote, enforce and monitor equality and non-discrimination on the basis of sex	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Forced displacement and migration: social policies	Migration policies that facilitate orderly, safe, regular and responsible migration and mobility of people (%)	Six policy domains: (i) migrant rights; (ii) whole-of-government/evidence-based policies; (iii) cooperation and partnerships; (iv) socioeconomic well-being; (v) mobility dimensions of crises; and (vi) safe, orderly and regular migration	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Gender equality and women's empowerment: governance	Seats held by women in (a) national parliaments and (b) local governments (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE ES.1 continued, Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Healthy ageing: governance	National plans, policies or strategies on ageing and health	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Incarceration: governance	Unsentenced detainees as a proportion of overall prison population (%)	Age, length of pre-trial (unsentenced) detention, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Social support: governance	National strategy for social connection	-	National data sources (note: a global dataset does not yet exist)
Policies to shift health behaviors			
Alcohol: social policies	Written national policy or strategy on alcohol, year adopted	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Physical activity: governance	Global action plan on physical activity	-	National data sources (note: a global dataset does not yet exist)
Tobacco: social policies	Average price of cigarettes ($)	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Nutrition: social policies	Sugar sweetened tax	-	Wolrd Bank. Global SSB Tax Database. Available at https://ssbtax.worldbank.org
Policies to achieve access to quality essential health care			
Health: public policies	Coverage of essential health services (Universal health coverage (UHC) service coverage index)	Geographic location (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

BMI: body mass index: PM: particulate matter; SDG: Sustainable Development Goal; UHC: universal health coverage; UN: United Nations; UNDP: United Nations Development Programme; UNESCO: United Nations Educational, Scientific and Cultural Organization; WHO: World Health Organization.

TABLE ES.2 Areas and actions for monitoring SDHE

1. Process for technical monitoring of SDHE at national and subnational levels	
1. Map priorities, data sources, systems and platforms	
1.1	Conduct mapping of scientific and policy literature to identify level, scope and priorities for monitoring SDHE
1.2	Map data sources, systems and platforms
1.3	Identify and select appropriate indicators from the proposed menu
2. Analyse data	
2.1	Prepare disaggregated data
3. Report results	
3.1	Create standardized national and global SDH and SDH action monitoring reports for data disaggregated by equity dimensions
3.2	Ensure quality checks and 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
2. Using data to inform policy for health equity at national and subnational levels	
1. Scope the policy landscape, map the policy cycle and conduct stakeholder mapping	
2. Strengthen political will, commitment and leadership	
3. Support multisectoral governance	
3.1	Ensure linkages for monitoring SDHE with existing multisectoral policy collaboration initiatives (such as Health in All Policies)
3.2	Ensure appropriate and agreed-upon data governance rules and ethics
3.3	Scan governance policies and frameworks to enable data sharing and transparency across sectors
3.4	Establish, strengthen and reform legal frameworks for monitoring SDHE
3.5	Secure and establish objectives, roles and responsibilities across departments and agencies for monitoring SDHE
3.6	Increase accountability, transparency and responsiveness for monitoring SDHE
4. Bring together multisectoral policy-makers to translate data into action	
4.1	Conduct regular processes for translation of data to guide priority setting, actions, interventions and investment across multiple sectors for addressing SDHE
4.2	Convene policy dialogues on data on SDHE
4.3	Incorporate data into policy-making to tackle SDH and adopt actions to advance health equity across multiple sectors
5. Foster community leadership and multisectoral and multistakeholder collaboration that is accountable and transparent	
3. Harmonization of monitoring of SDHE at regional and global levels	
1. Collaborate with WHO, United Nations organizations, intergovernmental agencies and stakeholders in regional and global monitoring of SDHE, human rights, sustainability, and other relevant issues across multiple sectors	
2. Embed monitoring of SDHE across multiple sectors within existing processes to monitor progress towards the Sustainable Development Goals (SDGs)	

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 colour, 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, progress on many dimensions of health equity has stagnated or even reversed, especially within countries *(1)*.

While health care has a significant influence on health gaps, the major causes of health inequities lie in factors beyond the direct control of the health system. The social determinants of health (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)*. Studies suggest that SDH account for as much as 50% of health outcomes and are the major driver of health inequities *(6, 7)*. Research has also shown that interventions and policies addressing SDH, such as early education programmes and social protection policies, can have positive effects on health and reduce health inequities *(8)*. This evidence underscores the need for policy action on SDH to reduce inequities in health. For more information on SDH, see ***Box 1*** and ***Annex 1***.

In 2005, the World Health Organization (WHO) established the Commission on Social Determinants of Health to support countries and global health partners in addressing SDH and reducing health inequities across the world *(4)*. The Commission published a final report in 2008 that set out an agenda for change with three overarching

BOX 1. Overview of social determinants of health (SDH)

SDH refer to the wider set of social, commercial, cultural, economic, environmental and political determinants that drive patterns of health inequities. These determinants are the conditions in which people are born, grow, live, work and age, and people's access to power, money, and resources *(2, 4, 5, 9)*. Determinants include employment, education, exposure to the physical environment, occupational hazards, housing, chemicals, air and water quality, sanitation and hygiene, and climate change. They also pertain to the forces and systems shaping the conditions of daily life, including economic policies and systems, development agendas, social norms, social policies and political systems – for example, the education system, the labor market, and the welfare state and its redistributive policies (or the absence of such policies).

SDH converge and accumulate over the life course to shape the health of population groups according to their social status. This is defined by, for example, education, ethnicity (including Indigenous or migrant status), gender, gender identity, income, occupation and sexual orientation. Hence, a fundamental root cause of health inequities is the unequal allocation or distribution of power and resources, which manifest in unequal SDH *(10)*.

SDH encompass both intermediary determinants of health (for example, living and working conditions) and structural determinants of health (for example, economic inequality, structural racism), commonly referred to as "downstream" and "upstream" factors, respectively *(11)*. The structural determinants of health equity refer to the societal factors that generate social stratification of populations by income, education, occupation, sex *(12)*,[a] gender *(13)*,[b] race and ethnicity, place of residence, and other factors, giving rise to social positions, and the association of social positions (and access to power, money and resources) with health impacts. The structural determinants include the formal and informal rules of institutions (including commercial drivers), policies, culture and values including classism, racism, sexism, ableism, xenophobia and homophobia. They are influenced by historical context and operate over the life span. Structural determinants drive the distribution of intermediate determinants – physical exposures, material and psychosocial pathways, biological vulnerability, behaviours, and access to health services – across social groups and have the largest influence on the patterns of health equity observed. Therefore, structural determinants are also known as the social determinants of health equity.

---

a Sex refers to the biological and physiological characteristics of female, male and intersex persons, such as chromosomes, hormones or reproductive organs *(12)*.

b Gender describes socially constructed characteristics, such as norms, roles and relations of and between women and men *(13)*.

The social determinants of health have a powerful influence on health and health inequities.

recommendations: to improve daily living conditions; to tackle the inequitable distribution of power, money and resources; and to measure and understand the problem and assess the impact of action. This was accompanied by three ambitious targets to achieve by the year 2040 from a year 2000 baseline: to close the gap in life expectancy between countries and between social groups within countries; to halve adult mortality rates in all countries; and to achieve 90% and 95% reductions in child and maternal mortality, respectively.

In the period since the Commission's report, WHO Member States have repeatedly committed to addressing SDH and actions to improve health equity, for example through adoption of the 2011 Rio Political Declaration on Social Determinants of Health *(14)* and World Health Assembly resolutions on SDH in 2009, 2012 and 2021 *(15, 16, 17)*. 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 or Health Equity in All Policies approaches that integrate considerations of health and health equity, respectively, in policies across sectors and at multiple levels *(18, 19)*.

Despite the evidence, political commitment, and approaches for addressing SDH and reducing health inequities, there has been slow and uneven policy action in countries, and while some progress has been made against all three targets of the Commission, the current rates of improvement are insufficient to meet the Commission's targets by 2040. Inequity persists between countries, and, within countries for which there are available data, the trends are often disconcerting. Disadvantaged population subgroups, characterized by lower incomes, education levels, and socioeconomic status, as well as marginalized racial, ethnic, and caste groups, experience shorter and unhealthier lives.

There has not been widespread adoption of policies or interventions addressing SDH and health inequities across countries, even within the same region *(20)*. Countries have not acted sufficiently on the Commission's proposed remedies: tackling the inequitable distribution of power, money and resources; improving daily living

conditions; and enhancing monitoring of social determinants of health and health equity. In particular, there has been insufficient attention to and action on key structural determinants such as inequitable economic systems, structural discrimination (including intersecting racism and gender inequality), and weak societal infrastructure.

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; the complexity of implementing actions that require sustained and coordinated change across many sectors; and the lack of political will *(21, 22)*. However, there are some positive examples of outlier countries that have made progress in addressing the SDH to tackle health inequities, including during the COVID-19 pandemic *(23)*, 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.

In addition, interlinked crises, including climate change, the COVID-19 pandemic, and conflict, have uncovered, exacerbated, and revealed new inequities in health and SDH *(24, 25, 26)*. The health, social, economic and other impacts of these crises have disproportionately impacted racial and ethnic minorities, indigenous people, poorer populations, migrants, older adults, people with disabilities, and other disadvantaged populations (for instance, see ***Box 2*** for more information on the COVID-19 pandemic and inequities in health and SDH). These crises cause systemic and cascading risks, whereby the impacts of one crisis exacerbate another, creating a spiral of worsening health, social, economic, and other conditions for those who were already falling behind. The confluence of crises is creating negative impacts in a number of areas, including health, education, poverty reduction, the environment, peace and security, and food and nutrition, thereby limiting progress towards achievement of the United Nations Sustainable Development Goals (SDGs) by 2030 *(27, 28, 29)*. 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 *(4)*.

Major societal transitions are also occurring in population structures, the environment, and how societies and economies function. These transitions include the impacts of and responses to climate change, urbanization, migration, demographic shifts, digitalization and the increasing influence of commercial entities on economies. While current trends suggest that these transitions will exacerbate health inequities, they may also provide opportunities for positive action.

Despite the evidence, political commitment, and approaches for addressing SDH and reducing health inequities, there has been slow and uneven policy action in countries.

BOX 2. The COVID-19 pandemic is revealing and exacerbating inequities in SDH and health

The COVID-19 pandemic exposed and worsened inequities in health and SDH in countries across the world. During the pandemic, at least 6.9 million people died from COVID-19 and billions of people had their lives disrupted *(30)*. While nearly everyone witnessed the negative consequences of the pandemic, its health, social, and economic impacts have fallen unequally on disadvantaged populations. Compared with advantaged groups, disadvantaged groups experienced higher rates of COVID-19 infection, hospitalization, morbidity, and mortality, and greater barriers to health care, including lower rates of vaccination *(24)*.

In addition to health inequities, the pandemic exacerbated inequities in SDH, which contribute to widening of gaps in health outcomes between advantaged and disadvantaged groups *(31)*. The pandemic instigated the largest global economic crisis in more than a century, and led to a dramatic increase in global poverty and inequality within and across countries, hitting the most vulnerable the hardest *(32)*. The crisis affected global trade, investment, production, consumer behaviour, employment and livelihoods, and its impacts have been unduly borne by the most vulnerable, both within and across countries, including low-income households, migrants, informal workers and women *(33)*. In addition, during the pandemic, countries worldwide implemented social distancing, self-isolation, and travel restrictions, which led to school and workplace closures and other social and economic disruptions, disproportionately worsening SDH for disadvantaged groups, including lower education outcomes, greater social isolation, unemployment and underemployment, and reduced income levels, which have a powerful influence on health *(34, 35, 36)*.

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 *(37)*. The confluence of rising inflation, higher food prices, and the war in Ukraine has further derailed progress in poverty reduction *(37)*.

The evidence on the large and unequal health, social, economic and other impacts of the pandemic and other recent crises highlights the need for countries to pay greater attention to SDH for prevention of, preparedness for, response to, and recovery from pandemics and other crises, which will help to manage crises, "build back fairer" societies, and prepare for future crises *(38)*.

Monitoring social determinants of health equity is critical to create healthier and more equitable communities.

As countries recover from, rebuild following, and prepare for interlinked crises and experience major societal transitions, 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 *(38)*. 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) in addressing the many SDH that impact health and health equity, as well as the uptake of interventions and policies that advance health equity.

Monitoring social determinants of health equity (SDHE) – that is, SDH and actions (such as, interventions and policies) addressing SDH that improve health equity – is critical to create healthier and more equitable communities. Monitoring SDHE involves systematically collecting, analysing and reporting data on SDH and action indicators across multiple sectors. It also includes identifying inequities between subpopulations by disaggregating SDH and action indicators using equity stratifiers – that is, characteristics of social groups that may be more or less disadvantaged in terms of SDH and health outcomes, such as income, education, occupation, sex, gender, race and ethnicity, and place of residence. By measuring and assessing SDH and actions addressing SDH, as well as any inequities between subpopulations, monitoring SDHE can help governments and other stakeholders to track progress and prioritize actions to advance health equity.

Recognizing the importance of monitoring SDHE, over the past several decades, international, regional, national and other stakeholders have developed 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 policy-making that can close health gaps. In 2016, 20 national systems in 15 countries had SDH-focused monitoring,[1] and efforts specifically focused on monitoring government actions to address the social gradient in health have only recently received attention *(39)*. To address this gap, countries require guidance and support on the latest SDH evidence, national monitoring of SDHE, and translation of data to policy action that improves health equity.

In this context, in 2021, the Seventy-fourth World Health Assembly adopted resolution WHA74.16 on addressing SDH *(17)*. Pursuant to previous resolutions and work on SDH, the resolution encourages Member States to address SDH by integrating them into public policies and programmes and adopting

1 See ***Table 2*** for further information on countries that have undertaken monitoring related to 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 policy-making that can close health gaps.

a multisectoral approach. The resolution requests the Director-General, inter alia, to prepare, building on the 2008 report of the Commission on Social Determinants of Health, an updated report on SDH, their impact on health and health equity, progress made so far in addressing them and recommendations for further action.

At the Seventy-sixth World Health Assembly, the Director-General was requested to submit the report to the Seventy-seventh World Health Assembly in 2024, through the Executive Board at its 154th session. For more information on the upcoming WHO *World report on social determinants of health equity*, see ***Box 3***.

BOX 3. WHO *World report on social determinants of health equity*

In Resolution 74.16 (2021), the 74th World Health Assembly requested the Director-General, inter alia, to prepare an updated report on social determinants of health, their impact on health and health equity, progress made so far in addressing them and recommendations for further action. At the Seventy-sixth World Health Assembly, the Director-General was requested to submit the report to the Seventy-seventh World Health Assembly in 2024, through the Executive Board at its 154th session.

The WHO *World report on social determinants of health equity* is being developed in response to that request, and will build upon the report of the Commission on Social Determinants of Health. It will present an overview of the progress made to date in addressing the recommendations of the Commission, as well as an update of the latest scientific evidence, knowledge and experience from countries in addressing the social determinants of health equity. The report will also present a set of broad recommendations for Member States to guide future action to improve health equity.

Building on the gathered evidence, the *World report on social determinants of health equity*, in its current draft, identifies the need to take concerted action on three key structural determinants to significantly improve health equity, by (a) creating more equitable economic systems that address the health effects of hierarchies of power and resource distribution; (b) addressing systems and policies driving structural discrimination; and (c) rebuilding weak societal infrastructure leading to improved living and working conditions and greater social connection. The report suggests entry points organized around sectoral themes where the health sector can act as an enabler and driver of action at the structural level, with specific recommendations for countries to consider.

The resolution also requests 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" *(17)*, and it is in response to that request that the present *Operational framework for monitoring social determinants of health equity* (operational framework) has been developed. The goal of the operational framework is to provide countries with a comparable framework and guidance, which is globally applicable and harmonized, to support national monitoring of SDH and actions that improve health equity. In particular, the operational framework aims to:

- strengthen knowledge of conceptual frameworks and existing work that informs monitoring of SDHE;
- highlight key indicators and their data sources for monitoring SDHE;
- provide guidance in the process of technical monitoring of SDHE at national and subnational levels;
- describe approaches to support using data to inform policy for health equity at national and subnational levels;
- consider harmonization of monitoring of SDHE at regional and global levels, including linking to monitoring efforts for the SDGs;
- show key challenges, ways to overcome them, and examples of monitoring of SDHE that improve health equity from regions and countries;
- propose an agenda for areas for action to support monitoring of SDHE and using data to inform policy for health equity.

The operational framework achieves these aims through the following chapters:

- ***Chapter 1*** provides an introduction to the operational framework.
- ***Chapter 2*** presents background information on monitoring SDHE.
- ***Chapter 3*** describes the rationale, guiding principles, target audience, and methods of the operational framework.
- ***Chapter 4*** reviews conceptual frameworks and existing work for monitoring SDHE.
- ***Chapter 5*** presents a proposed menu of indicators for monitoring SDHE.
- ***Chapter 6*** provides guidance on the process of technical monitoring of SDHE at national and subnational levels.
- ***Chapter 7*** describes approaches to support using data to inform policy for health equity at national and subnational levels.
- ***Chapter 8*** discusses opportunities for harmonization of monitoring SDHE at regional and global levels.
- ***Chapter 9*** concludes with a proposed agenda for areas for action to support monitoring of SDHE and using data to inform policy for health equity.

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.

2. Background

2.1 What is monitoring SDHE?

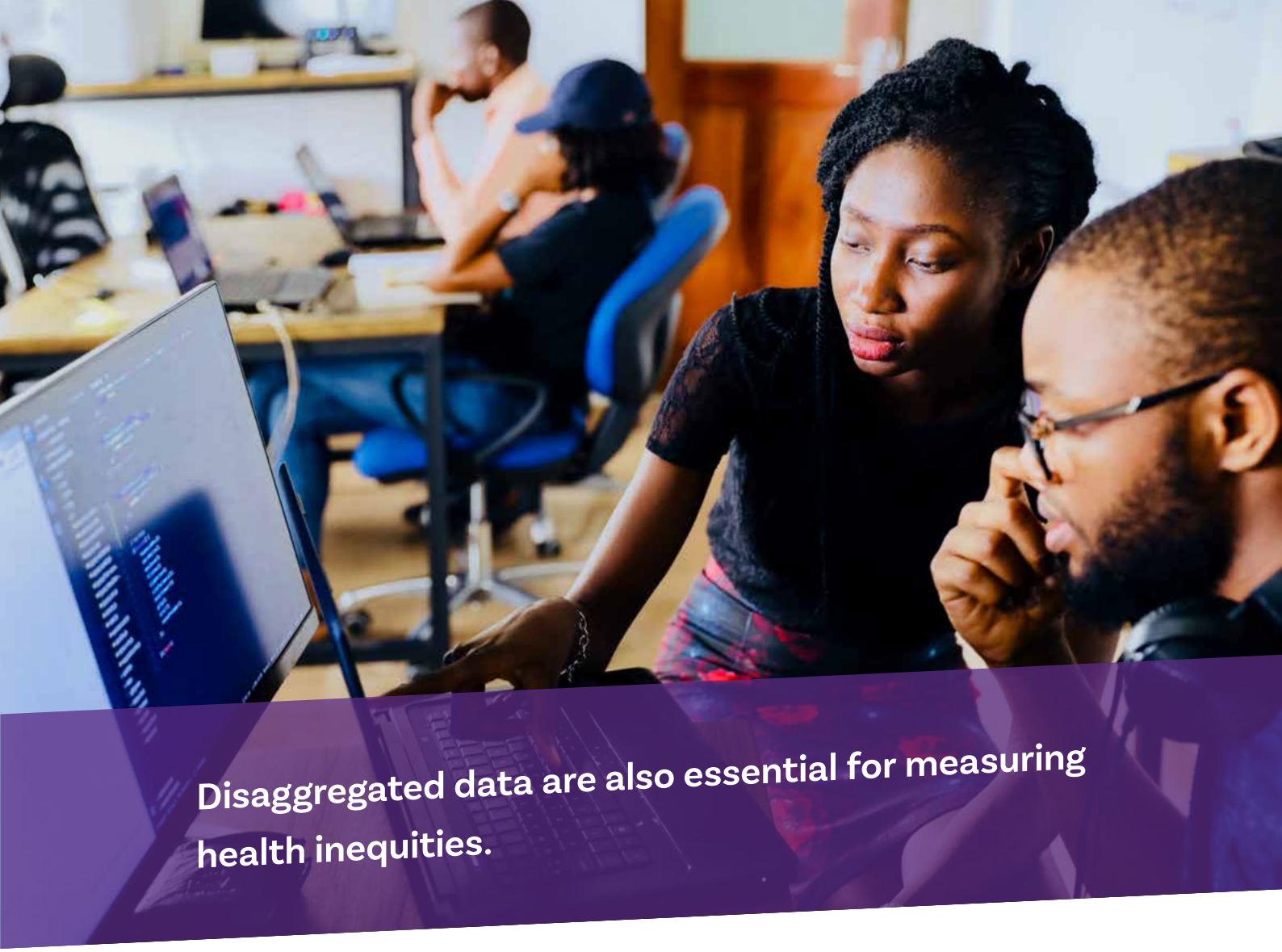
Monitoring SDHE, as characterized in this document, is a type of public health surveillance that focuses on data on SDH and actions addressing SDH (such as interventions and policies) that improve health equity. Public health surveillance is defined as "the ongoing, systematic collection, analysis and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice, loosely integrated with the timely dissemination of these data to those responsible for prevention and control" *(40)*.

Integrating the term "health equity" in monitoring of SDH helps to make the connection between SDH and actions addressing SDH that ultimately influence health equity. It also helps to attract the attention of many policy-makers who have made political commitments to advancing health equity. For instance, in 2015, 191 United Nations Member States adopted the 2030 Agenda for Sustainable Development and its 17 SDGs to be achieved by 2030, including SDG 3, on good health and well-being, which calls on countries to ensure healthy lives and promote well-being *for all (28)*.

Monitoring SDHE entails collecting data on SDH that evidence shows have an influence on health equity, such as income, education level, employment, and access to safe and affordable housing and nutritious foods. It also involves collecting data on policies and interventions addressing SDH, such as universal early education and social protection, which can enhance or hinder health equity. These data need to be available at different geographical levels – such as global, regional, national and local levels – and across multiple sectors beyond health – such as agriculture, education, finance, housing and transportation. Multi-level and multisectoral data can inform planning activities for partners across sectors and geographical levels who have the shared goal of creating healthier and more equitable communities.

Besides collecting data, monitoring SDHE involves analysing those data. Aggregate data are used to estimate summary statistics for indicators of SDH and actions addressing SDH, such as national averages. This information can be used to monitor the progress of countries over time, identifying

Integrating the term "health equity" in monitoring SDH helps to make the connection between SDH and actions addressing SDH that ultimately influence health equity.



Disaggregated data are also essential for measuring health inequities.

the performance of countries in terms of addressing SDH and implementing actions that improve health equity. With these data findings, lower-performing countries can look to higher-performing countries to see what is possible in terms of addressing SDH and implementing actions.

In addition to aggregate data, monitoring SDHE entails disaggregating data on SDH and actions that improve health equity indicators. Data disaggregation is the process by which indicators are separated into subgroups, typically reflective of sociodemographic characteristics, such as race, ethnicity, gender, disability, age and other key demographic variables. Disaggregating indicators can help to reveal levels and trends for subgroups of interest (for example, a programme to increase child literacy for low-income children may be particularly interested in disaggregating by household income to determine if the literacy rates of the poorest children are in fact improving). It can also facilitate comparison across subgroups (for example, a programme with the aim of reducing inequities in education between people residing in rural and urban areas may be disaggregated by rural and urban residence, revealing whether the programme has been successful in closing the gap in access to quality education between rural and urban areas).

Disaggregated data – that is, data that can be broken down and analysed by race, ethnicity, gender, disability, income, age and other key demographic variables – are also essential for measuring health inequities. Inequalities between subpopulations can be

Monitoring SDHE involves adopting crosscutting approaches at various geographic levels and across sectors that strengthen the use of multisectoral, multi-level data in policy development and other key decision areas.

identified by disaggregating indicators using equity stratifiers – that is, characteristics of social groups that may be more or less disadvantaged, such as income, education, occupation, sex, gender, race and ethnicity, or place of residence. Disaggregated data on SDH can be used to track progress in addressing SDH for different social groups. Hence, monitoring inequalities in SDH assesses the inequitable distribution of SDH within countries, which can help to identify structural drivers and mechanisms of health inequities. For policies and interventions addressing SDH, disaggregated data can offer insights into who can and cannot access government programmes, and whether benefits and services are reaching underserved and underrepresented communities. Therefore, monitoring inequalities in policies and interventions addressing SDH within countries uncovers whether or not countries ensure equal opportunities, guard against differentiated impacts, and adopt proportional universalism to respond to differential needs. Results from monitoring SDHE can be used to report progress and prioritize actions for advancing health equity.

Finally, monitoring SDHE entails using data on SDH and actions addressing SDH for decision-making to improve health equity. This includes the presentation and dissemination of data, and translation of data into policy. However, there are often challenges in communicating clearly about SDH as an all-encompassing concept, and conveying to policy-makers the importance of data on SDH, and their relevance to policies and interventions addressing SDH, presents an additional challenge. Presenting a clear and concise synthesis of data and using framing techniques, such as storytelling, can help policy-makers to better understand the importance of addressing SDH and enacting policies and interventions that improve health equity. In addition, there are numerous barriers to the use of data for decision-making, including poor governance to support the translation of data into

effective policy changes, the complexity of implementing policies and interventions across multiple sectors, and weak political will. Monitoring SDHE involves adopting cross-cutting approaches at various geographical levels and across sectors that strengthen the use of multisectoral, multi-level data in policy development and other key decision areas to ensure multiple partners are working together to use data for decision-making that creates healthier and more equitable communities.

2.2 Monitoring SDHE is critical to achieve health equity

Needless to say, but important to reiterate, monitoring SDHE is critical to achieve health equity *(41)*. This is for a number of reasons. First, monitoring SDHE makes the extent of injustices in SDH and 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 towards 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 whether governments are in fact improving SDH and enacting policies and interventions to address SDH that close unacceptable health gaps.

2.3 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 made political commitments to monitoring SDH and actions that improve health equity, for example through adoption of the 2011 Rio Political Declaration on Social Determinants of Health *(14)* and World Health Assembly resolutions WHA62.14, WHA65.8, WHA74.16 and WHA76.71 Rev. 1 Add. 1 *(15, 16, 17, 42)*. Monitoring is also often included in policy recommendations, including in the third umbrella recommendation of the final report of the Commission on Social Determinants of Health *(4)*.

In addition to political commitments and policy recommendations, over the past several decades, WHO, other United Nations 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 (for example, WHO Health Inequality Monitor), social determinants of health (for example, Urban HEART), and government actions to address them (for example, Equity-oriented Analysis of Linkages between Health and Other Sectors, or EQuAL) *(39, 43, 44)*.

Other United Nations agencies have monitoring work that is relevant to SDHE. For instance, the 2030 Agenda for Sustainable Development, adopted by United Nations Member States in 2015, underscores the importance of measuring progress on the SDGs and targets – many of which

pertain to SDH and health equity – and emphasizes the need for quality, timely and reliable disaggregated data to help ensure that no one is left behind *(28)*. To address these priorities, the United Nations adopted a Global SDG Indicator Framework and launched the Global SDG Indicators Data Platform, which includes the Global SDG Indicators Database, SDG country profiles, and resources, such as an SDG monitoring and reporting toolkit for United Nations country teams to support national governments in the monitoring and reporting of SDGs *(45)*.

National governments, as well as more local-level governments, have also undertaken SDHE-related monitoring efforts. For example, in the United States of America, the Healthy People 2030 initiative of the Department of Health and Human Services monitors progress to improve population health and includes measures of SDH, including education, occupation, and income *(46)*. ***Chapter 4*** of this document provides further information about previous work to advance monitoring of 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.

3. Operational framework

3.1 Rationale: why is there a need for the operational framework?

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

3.1.1 No common framework or standards for national monitoring of SDHE

No common 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 of 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 EQuAL framework. Testing revealed that 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 *(47, 48)*.

At the regional level, in Europe, the WHO European Office for Investment for Health and Development led the European Health

Few countries currently explicitly and systematically monitor SDH and interventions and policies to address them. In 2016, 20 national systems in 15 countries had SDH-focused monitoring, and efforts specifically focused on monitoring government actions to address the social gradient in health have only recently received attention.

Differences exist across countries in resources and capacities that influence the collection, analysis, interpretation, and reporting of data for monitoring SDHE.

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, replication of the tool at the national level is still in the process of development *(49)*.

Hence, few countries currently explicitly and systematically monitor SDH and interventions and policies to address them. In 2016, 20 national systems in 15 countries had SDH-focused monitoring,[2] and efforts specifically focused on monitoring government actions to address the social gradient in health have only recently received attention *(39)*. While some countries collect and monitor data on SDH, they more often focus on "downstream" SDH, for example by collecting indicators on education or income, rather than "upstream" or structural SDH, for example by undertaking measures of political economy or structural racism (or other forms of discrimination). Also, countries do not often routinely collect and monitor data on interventions and policies that address SDH, such as indicators of social protection or education and early childhood development policies.

Even if data and indicators on SDH and actions addressing SDH are available, countries are likely to face challenges in identifying and selecting the most

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

appropriate indicators and data sources for them, as there are a range of options. 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 the teacher-to-primary student ratio. There are also indicators of policy adoption, enactment and implementation – each important, but different processes in policy-making. Even for what seems to be a single indicator, such as poverty, there are numerous indicators and data sources with different characteristics – such as frequency of data collection, geographical level of analysis, and equity stratifiers for disaggregation – with implications for analysis.

Therefore, countries not only need to be provided with a common set of indicators, but also require further guidance for national monitoring of SDH and actions addressing them that improve health equity.

3.1.2 Challenges in capacity and resources to collect, analyse and report data on SDHE

Differences that exist across countries in resources and capacities influence the collection, analysis, interpretation and reporting of data for monitoring SDHE. Some countries face challenges regarding their capacities and resources for monitoring SDHE; other countries are more advanced in monitoring SDHE. Therefore, countries need a spectrum of monitoring approaches that span the feasible to aspirational, recognizing their different capacities and resources.

Governments often do not have a capable and qualified team of statisticians and other researchers to support the collection, analysis and reporting of data on SDH and actions addressing SDH that improve health equity. Given the time and budget constraints of many governments, it may be challenging to allocate sufficient resources to hire and train the staff needed to monitor SDHE, let alone contracting out such work to researchers in academic institutions or elsewhere. However, shifting existing staff from urgent health issues, such as health emergencies and COVID-19, to SDHE may not be feasible or desirable.

There is also substantial variation across countries in data and information systems for monitoring SDHE. Traditionally, ministries of health rely on a variety of data sources for public health monitoring, such as household surveys (for example, Demographic and Health Surveys), vital records (for example, death certificates, birth certificates), registries (for example, chronic disease registries), and administrative data systems (for example, hospital records of patient visits). However, monitoring SDHE entails collecting data from sources across multiple sectors beyond health that traditionally do not share data with one another, such as agriculture, education, finance, housing and transportation. It is challenging for countries to build data and information systems that facilitate the collection, analysis, interpretation and dissemination of data across multiple sectors. Yet, there are no global norms or standards to increase the ease and security of data sharing across sectors to drive actions on SDH that improve health equity. Even if data are shared, a public health data analyst in the ministry of health is likely to experience challenges in analysing, interpreting and understanding the nuances of data from other sectors. Therefore, many countries, particularly those with fewer resources, have not developed data and information systems that routinely collect, analyse and report data on the full range of SDH and actions that improve health equity.

Countries also often do not have data and information 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 *(50)*. Many countries have incomplete and unreliable race and ethnicity data, making it difficult to undertake the data disaggregation that is needed to understand risk and outcomes by race and ethnicity. Most recently, during the COVID-19 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 data and information systems, depending on how they are set up and utilized, can perpetuate health inequities by not measuring them appropriately. The challenges in developing and maintaining data and information systems for monitoring SDHE 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 interest in highlighting inequities between population groups or existing power dynamics and histories that lead to socioeconomic stratification of society.

Beyond capacity issues and political reluctance, the reasons why data and information systems often lack data on race and ethnicity may be more nuanced, reflecting subtle distinctions depending on the country context. Sweden, for example, draws many 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 included, 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 information systems so that they are equity oriented in order to monitor SDHE. 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.

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.

3.1.3 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. This entails a government department working with other sectors towards a coherently stated objective, and reconciling the action in one sector with that in other sectors. The importance of multisectoral action to improve population health and reduce health inequities has long been recognized – it was highlighted in the Declaration of Alma-Ata on Primary Health Care in 1978, and more recently in the 2011 Rio Political Declaration on Social Determinants of Health *(14, 51)*. However, historically, governments have tended to adopt a sectoral approach when undertaking action, so working across sectors has proved difficult in practice. Yet, the United Nations SDGs provide impetus for countries to take a multisectoral approach – to make progress on SDG goals, targets, and indicators, complex challenges must be addressed across a broad range of sectors.

A helpful tool for encouraging multisectoral action is to adopt a Health in All Policies approach that ensures considerations of health in relevant public policies across sectors *(18)*. Also, more relevant to monitoring SDHE, a Health Equity in All Policies 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 *(19)*. However, engaging other sectors has proven difficult in practice *(52)*.

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 for underresourced countries. 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 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 cross-cutting approaches required to support monitoring SDHE. Finally, countries need help in coordinating efforts with monitoring and policy development at regional and global levels.

The United Nations SDGs provide impetus for countries to take a multisectoral approach – to make progress on SDG goals, targets, and indicators, complex challenges must be addressed across a broad range of sectors.

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

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

- strengthen knowledge of conceptual frameworks and existing work that informs monitoring SDHE;
- highlight key indicators and their data sources for monitoring SDHE;
- provide guidance in the process of technical monitoring of SDHE at national and subnational levels;
- describe approaches to support using data to inform policy for health equity at national and subnational levels;
- consider harmonization of monitoring SDHE at regional and global levels, including linking to monitoring efforts for the SDGs;
- show 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.

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

TABLE 1. Guiding principles of the operational framework

GUIDING PRINCIPLE	DESCRIPTION
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 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 United Nations Global 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 of SDHE, the operational framework describes the processes involved, 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 the feasible to the aspirational	Differences exist across countries in resources, capacities, political economy environments, cultures and other characteristics that influence monitoring of 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 highlights a variety of monitoring SDHE approaches that are taking place in several regions and countries 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 policy-makers to help encourage action. A long list of indicators for monitoring SDHE could be impractical for policy-makers, 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 multisectoral action on SDH across countries with different resources and capacities. In addition, it describes the governance mechanisms to encourage such 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, emerging evidence, with a plan to carefully expand this work	The operational framework does not "reinvent the wheel", but builds on previous conceptual frameworks, evidence and monitoring work led by WHO and others. Previous evidence and monitoring work has tested and recommended indicators for monitoring SDH and actions. 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.

3.3 Target audience: who should use the operational framework?

Key audiences for the operational framework are governments and policy-makers across sectors and at all levels of policy-making, 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 United Nations 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 regard to holding governments accountable for their actions to address SDH and improve health equity.

3.4 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 ***Annex 2*** for more information on the expert group). It also builds on existing literature, including peer-reviewed journal articles, reports, evidence briefs, manuals, toolkits and policy documents. See ***Annex 3*** for further description of the approach and methods adopted for development of the operational framework.

4. Review of previous research and work related to 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.

4.1 Previous conceptual models, frameworks and research providing a basis for monitoring SDHE

There are multiple complex mechanisms and pathways that explain why SDH shape health inequities. Measuring the relationships between different SDH, actions addressing SDH, and health is critical to understanding and acting on health equity. Numerous conceptual frameworks and models help to describe the wide variety of social mechanisms affecting health and health equity, which are based on evidence of causal pathways and mechanisms that contribute to population health and health equity. Examples of conceptual frameworks and models for SDH include the Dahlgren and Whitehead "rainbow" model (***Figure 1***) *(5)*, the Diderichsen model of "mechanisms of health inequality" *(53)*, the conceptual framework for action on social determinants of health (the Commission's 2008 framework) (***Figure 2***) *(4)*, and the monitoring framework for Equity-oriented Analysis of Linkages between Health and Other Sectors (EQuAL framework) *(47)*.

Numerous conceptual frameworks and models help to describe the wide variety of social mechanisms affecting health and health equity, which are based on evidence of causal pathways and mechanisms that contribute to population health and health equity.

FIGURE 1. Dahlgren-Whitehead model

Source: Dahlgren and Whitehead *(5)*.

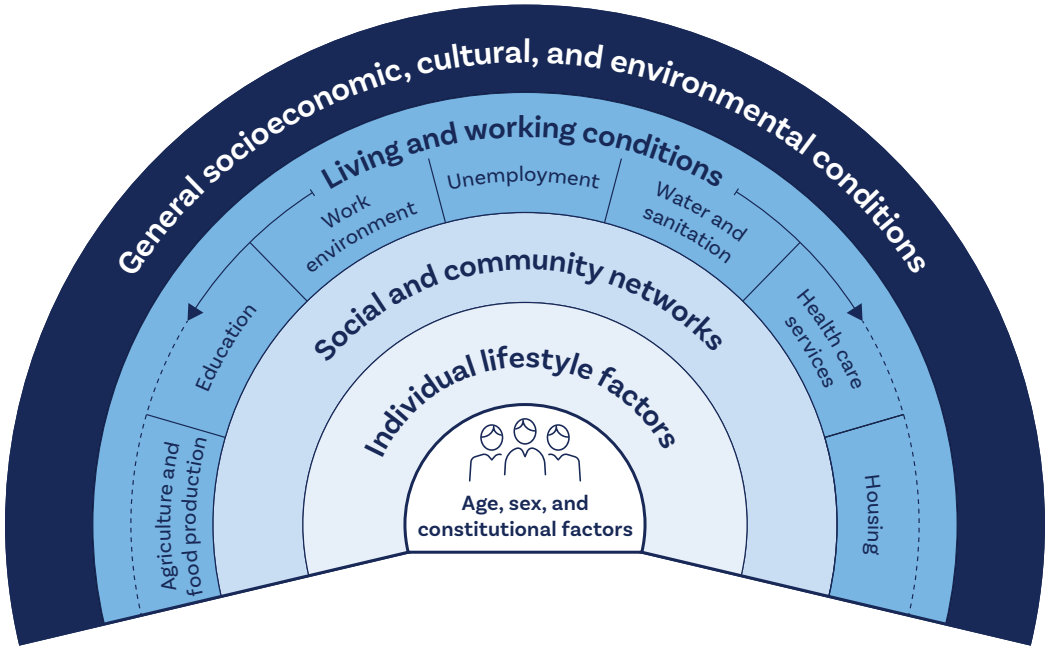
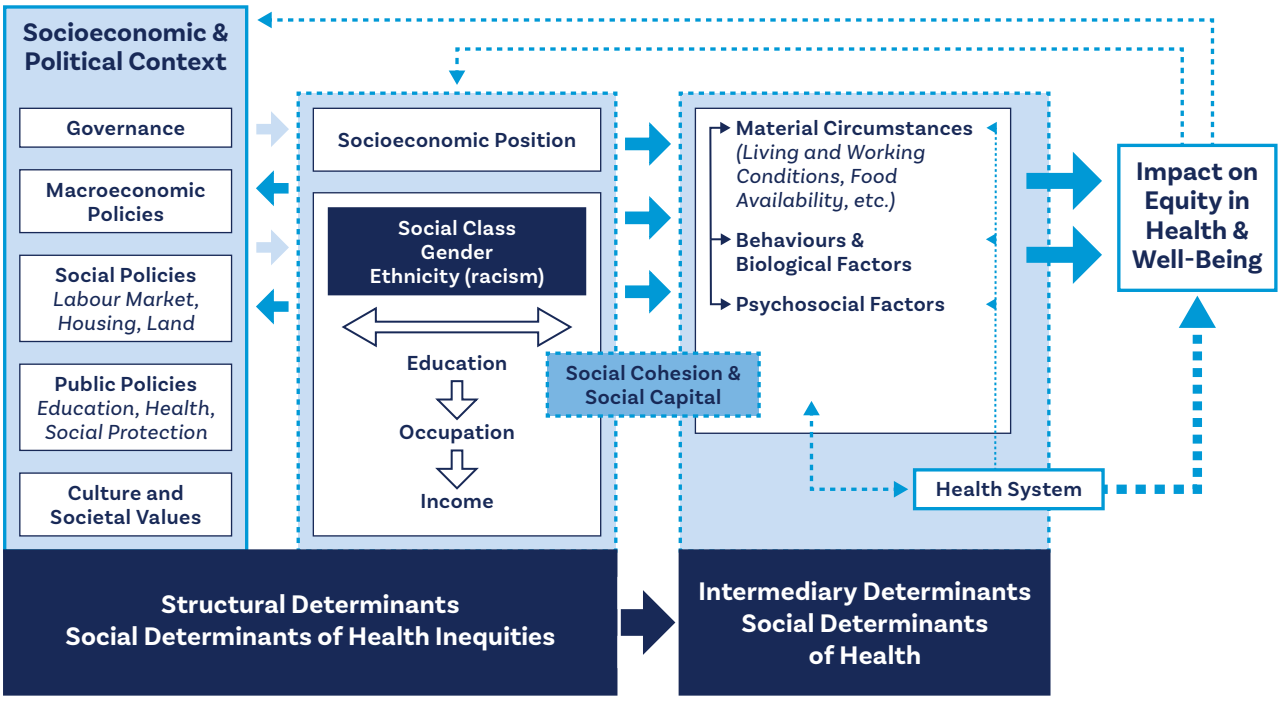


FIGURE 2. Commission's 2008 conceptual framework on SDH

Source: Commission on Social Determinants of Health *(4)*.



Guided by the Commission, the 2008 framework *(11)* was designed to enhance the understanding of determinants and mechanisms and guide policy-making 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 or ethnicity. Together, context,[3] structural mechanisms,[4] and the resultant socioeconomic position of individuals encompass "structural determinants of health". These 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 (for example, physical living and working conditions, such as housing, food, water, air quality and sanitation), psychosocial circumstances (for example, psychosocial stressors, stressful living circumstances and relationships, and social support and coping mechanisms), behavioural or biological factors (for example, nutrition, physical activity, tobacco consumption, alcohol consumption and genetic factors), and the health system itself (for example, health coverage). This framework has served to illustrate the pathways of SDH and identify actions to reduce health inequities.

Beyond conceptual frameworks and models, decades of research have documented the influence of SDH on population health and health inequities *(2, 3, 4, 5)*. The list of potential SDH is expansive and evolving, including income and poverty, education, employment, housing, air and water quality, neighbourhood conditions, gender inequality and social context *(2, 54)*. Newer work has highlighted other determinants, including accountability and inclusion (47), income inequality *(47, 55, 56)*, structural racism *(57)*, commercial determinants of health *(58)*, and digital determinants of health *(59)*. For example, a growing body of research documents the powerful influence of race- and ethnicity-based stigma, racism and discrimination on health *(57, 60)*. The COVID-19 pandemic raised awareness of the importance of addressing structural racism and ethnicity-based discrimination, including by investing in data disaggregation by race or ethnicity, as well as other determinants that can help to unpack the compounding and intersecting drivers of exclusion *(61)*. 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 *(59)*. 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

3 "Context" includes all social and political mechanisms that generate, configure and maintain social hierarchies, including governance, macroeconomic policies, social policies (such as labour market, housing, land), public policies (education, health, social protection), and culture and societal values.

4 Structural mechanisms are those that generate stratification and social class divisions in 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.

Research has also shown that interventions and policies addressing SDH can have positive effects on health and health equity.

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 *(62, 63)*.

Research has also shown that interventions and policies addressing SDH can have positive effects on health and health equity *(8)*. 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 well-being and health equity, and that programmes that close gaps in education between the disadvantaged and advantaged are needed to advance health equity *(64)*. In addition, evidence shows that social protection programmes, such as cash transfers, have significant positive impacts for poor and vulnerable individuals, children and families, including on health and health equity *(65)*. Emerging research also finds that cash transfer programmes are effective in tackling SDH, with positive impacts on financial status, education, household resilience, child labour, social capital and social cohesion, civic participation, and birth registration *(66)*. There is also sound evidence regarding the importance of other social protection policies for a wide range of SDH, including the areas of gender equality in political leadership, unemployment coverage, universal access to health and social services, social inclusion, engagement with community, and cultural continuity and support for self-determination among indigenous communities *(67)*. The widespread awareness of the evidence on SDH and policies to address them underscores the need for action.

4.2 Work of WHO and other international, regional, national and local stakeholders in advancing monitoring of SDHE

The operational framework builds on previous work led by WHO, other United Nations agencies, and international, regional, national and more local-level stakeholders on monitoring SDH, and existing international frameworks for monitoring equity more broadly, including within the United Nations SDGs.

As noted above, WHO Member States have made political commitments and policy recommendations for monitoring SDH and actions that influence health equity. In addition, WHO – at global and regional levels – has developed monitoring frameworks, tools, resources and training to support governments with monitoring health inequalities and social determinants of health, and government actions to address them. For more information on global WHO health inequality monitoring work and resources, see ***Annex 4***.

At the WHO 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, replication of the tool at the national level is still in the process of development *(49)*. 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 of SDHE is in the Plan of Action on Health in All Policies of the Pan American Health Organization (PAHO), which includes a framework for monitoring for 35 countries across the WHO Region of the Americas *(68)*. Another regional example comes from the WHO Regional Office for the Eastern Mediterranean. In 2014, the WHO Regional Committee for the Eastern Mediterranean endorsed a list of regional core indicators, some of which included monitoring health determinants and risk. In 2016, the core indicator list was expanded in consultation with countries to add a set of additional SDG-related indicators *(69)*. While countries have started to adopt and report on the indicators, there are still limitations in data availability and reporting in countries across the region, as described in the report of the Commission on Social Determinants of Health in the Eastern Mediterranean Region, which includes in its recommendations the importance of developing data and monitoring systems to inform evidence-based action on health equity, transparency and accountability *(70)*.

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 of this monitoring work. For instance, Urban HEART *(44)* sets forth a monitoring framework to be used at the local level for urban centres across the world. On the other hand, the PAHO Plan of Action on Health in All Policies proposes a framework for monitoring at the regional level, for 35 countries across the region of the Americas *(68)*. Regarding scope, Urban HEART 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 *(39)*. Over the years, WHO-led monitoring work has introduced many different domains, measurement concepts, indicators and data sources. ***Annex 5*** provides a detailed timeline of WHO-led work related to monitoring SDHE and government actions to address them.

Beyond WHO, other United Nations 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 *(28)*. The agenda includes 17 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 and implies a concern for equity – SDG 3, on ensuring healthy lives and promoting well-being *for all at all ages* – and many SDGs will not be fully attainable without action on the SDH. The agenda also pledges to "leave no one behind", and one of the SDGs – SDG 11 – specifically focuses on reducing inequalities. The implementation of the 2030 Agenda for Sustainable Development requires a framework of indicators and statistical data to monitor progress, inform policy and ensure accountability of all stakeholders.

Recognizing the importance of a framework of indicators, the Global SDG Indicator Framework was adopted by the General Assembly in 2017, as contained in General Assembly resolution 71/313 on the work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development *(71, 72)*. Indicators at the regional and national levels complement the Global SDG Indicator Framework. The Global SDG Indicator Framework is reviewed and refined annually. As of 2022, the Global SDG Indicator Framework included 231 unique indicators. The Global SDG Indicators Database is a publicly available online platform that contains global, regional and country data and metadata on more than 210 SDG indicators *(45)*. There is also an online SDG monitoring and reporting toolkit for United Nations country teams to support national governments in the monitoring and reporting of SDGs *(73)*. 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 United Nations monitoring system indicators and included a number of these indicators in the recommended framework *(39)*.

At the regional level, in 2011, the European Community's Seventh Framework Programme funded the SOPHIE project, [5] which aims to generate new evidence on the impact of structural policies on health inequities and their structural determinants, and to develop innovative methodologies for the evaluation of these policies in Europe *(74)*. In 2010, the Spanish Ministry of Health and Social Policy, during the Spanish Presidency of the European Union, made monitoring SDH and the reduction of health inequities a priority, and commissioned an independent expert report on monitoring SDH and the reduction of health inequities *(75)*. The Organisation for Economic Co-operation and Development (OECD) also monitors trends in health inequities, and assesses the extent to which OECD countries are successful at providing equal access to health care based on need *(76)*. In

5 Full project name: Evaluating the Impact of Structural Policies on Health Inequalities and Their Social Determinants, and Fostering Change.

addition, the OECD advises governments on the potential benefits and costs of policy interventions to reduce inequities. Recognizing that tackling health inequities requires taking a wider perspective, the OECD monitors and analyses data on SDH. For instance, current OECD analysis highlights the importance of income, education and health behaviours to life expectancy gains. More recently, Joint Action Health Equity Europe (JAHEE) – a European Union-based project that ran from 2018 to 2021 – developed a standard for monitoring health inequities and health conditions. The Public Health Agency of Sweden, on behalf of the Government of Sweden, led a subproject on improving monitoring of health inequities in 12 countries with the aim of supporting member countries to develop monitoring of health inequities and indicators at policy level.

National governments and 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 *(77)*. 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 behaviours, participation, and health care *(78)*. In the United States, the Healthy People 2030 initiative of the Department of Health and Human Services – which monitors progress and encourages action to improve the health of the nation – recently added measures on SDH, including education, occupation and income *(46)*. In Colombia, guided by data, the government has taken steps to implement policies focused on SDH during generational transitions to reduce health inequities, focusing on five SDH: early childhood development; opportunities for education and first employment; improved housing conditions; social protection for families; and vulnerable populations *(79)*.

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 local public health authorities in England with information on SDH and actions to help improve population health and reduce health inequities *(80)*. In 2017, Public Health England launched the Wider Determinants of Health tool with regularly updated indicators across six domains: built and natural environment; work and the labour market; vulnerability; income; crime; and education *(81)*. At the municipality level, Thimphu in Bhutan recently started implementing its Healthy City Action Plan, whereby an integrated monitoring framework will be used to measure progress on SDH action (urban governance, urban planning and health equity) *(82)*.

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.[6]

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

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. Review of previous SDHE monitoring-related work (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 (global; all regions)	Annual	2005–2015	–	Education, economic status, gender (Note: the listed SDH are not systematically monitored in all World Health Statistics reports, and not for all indicators)
Regional monitoring						
Health in the Americas	PAHO, WHO	45 countries (regional and national; Americas)	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 PAHO Regional Action Plan on Health in All Policies	PAHO	35 countries (regional; Americas)	Annual	Piloting phase	Action on PAHO Regional Action Plan on Health in All Policies	–
European Observatory on Health Systems and Policies	Partnership of governments and nongovernmental organizations	31 countries (regional; Europe)	Updated as changes occur	Latest year in which the health reform occurred	Multisectoral action	–
Health 2020 Monitoring Framework	WHO Regional Office for Europe	31 countries (regional; Europe)	Annual	2010–2016	SDH-focused governance intervention	Education, income, employment, social cohesion
Health Systems in South America	South American Institute of Government in Health – Union of South American Nations	12 countries (national; Americas)	Unclear	2012	Action on SDH	–
Regional Office for the Western Pacific core indicators in the country health information profiles	WHO Regional Office for the Western Pacific	37 countries and areas	Every 2 years	2014–2015		Sex, age, urban–rural
Indicators in *Healthy islands: the journey in the first 20 years 1995–2014*	WHO Regional Office for the Western Pacific, Division of Pacific Technical Support	21 Pacific island countries	Unclear	2015		Environment, age
National monitoring						
Brazilian Observatory on Health Inequities	Ministry of Health, Brazil	Brazil (national, state; Americas)	Annual	2001–2009	–	Education, income, occupation
Observatory for measuring health inequalities and equity analysis in Colombia (Observatorio para Medición de Desigualdades y Análisis de Equidad en Salud)	Ministry of Health and Social Protection, Colombia	Colombia (national; Americas)	Annual	2012 to current		Education, gender, income, occupation, ethnicity

TABLE 2. continued, Review of previous SDHE monitoring-related work (as of 2016)

NAME OF MONITORING SYSTEM	OPERATOR	COUNTRY (REPORTING LEVEL; WHO REGION)	REPORTING PERIODICITY	REPORTING YEARS	ACTION ON SDH MONITORED	SDH MONITORED
Health Equity Surveillance System (Sistema de Vigilancia de la Equidad en Salud)	Ministry of Health, Uruguay	Uruguay (national; Americas)	Unclear	2015	–	Education, income, housing, occupation
Social Determinants of Health Monitor (Monitoreo de Determinantes Sociales de la Salud)	Ministry of Health, Peru	Peru (national; Americas)	Every 5 years	2014	–	Education, gender, income, housing
Social Determinants of Health Monitoring System	Public Health Foundation of India	India (national, state; South-East Asia)	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; Americas)	Annual	Different for different indicators	Health-promoting social policy intervention	Education, occupation, income
Behavioural Risk Factor Surveillance System		United States (national, state; Americas) Guam	Annual	1984 to current Guam 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; Europe)	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; Europe)	Annual	2014, 2015	–	Education, occupation, income, gender
Healthy North Carolina 2020	Governor's Task Force for Healthy Carolinians	North Carolina, United States (state; Americas)	Annual	2009 (baseline year), 2013	–	Income, education, housing
Urban HEART 1 and 2	Ministry of Health, Islamic Republic of Iran	Teheran, Islamic Republic of Iran (city; Eastern Mediterranean)	Every 3 years	2009, 2012 (Pilot)	Health-promoting social policy intervention	Education, income, social capital

5. Menu of indicators for monitoring SDHE

A crucial first step for national monitoring of SDHE is to identify a menu of indicators that is globally applicable and harmonized across countries. Based on a review of previous conceptual frameworks and models, research, and work related to monitoring SDHE, the *Operational framework for monitoring social determinants of health equity* first proposes a menu of SDH and action indicators. The menu of indicators for monitoring SDHE has been developed while keeping the operational framework's guiding principles in mind. In particular, the indicators reconcile global with national monitoring objectives (principle 1) and span the feasible to the aspirational (principle 2).

5.1 Conceptual model for monitoring SDHE

A conceptual model that shows the multiple and complex causal pathways of SDH and SDH actions on health equity serves as the foundation for developing a menu of indicators for monitoring SDHE. While there are several existing conceptual frameworks and models, as reviewed in the previous chapter, many of these on their own do not capture the complexity of SDH and SDH actions and their impact on health equity. Hence, a conceptual model needs to be developed that describes the multitude of SDH and SDH actions in a causal framework. Such a conceptual model can be used to guide monitoring SDHE, including informing the domains, measurement concepts and indicators.

The process of developing a conceptual model for monitoring SDHE is based on a framework synthesis, which involved integrating existing frameworks and models as well as previous research related to SDH and health equity. Rather than develop a new conceptual model, it is most feasible to select one that comes from existing literature focused on SDH.

The operational framework first builds on the 2017 Pega et al. conceptual model, which is a bifurcated classification of SDH-focused

A conceptual model that shows the multiple and complex causal pathways of SDH and SDH actions on health equity serves as the foundation for developing a menu of indicators for monitoring SDHE.

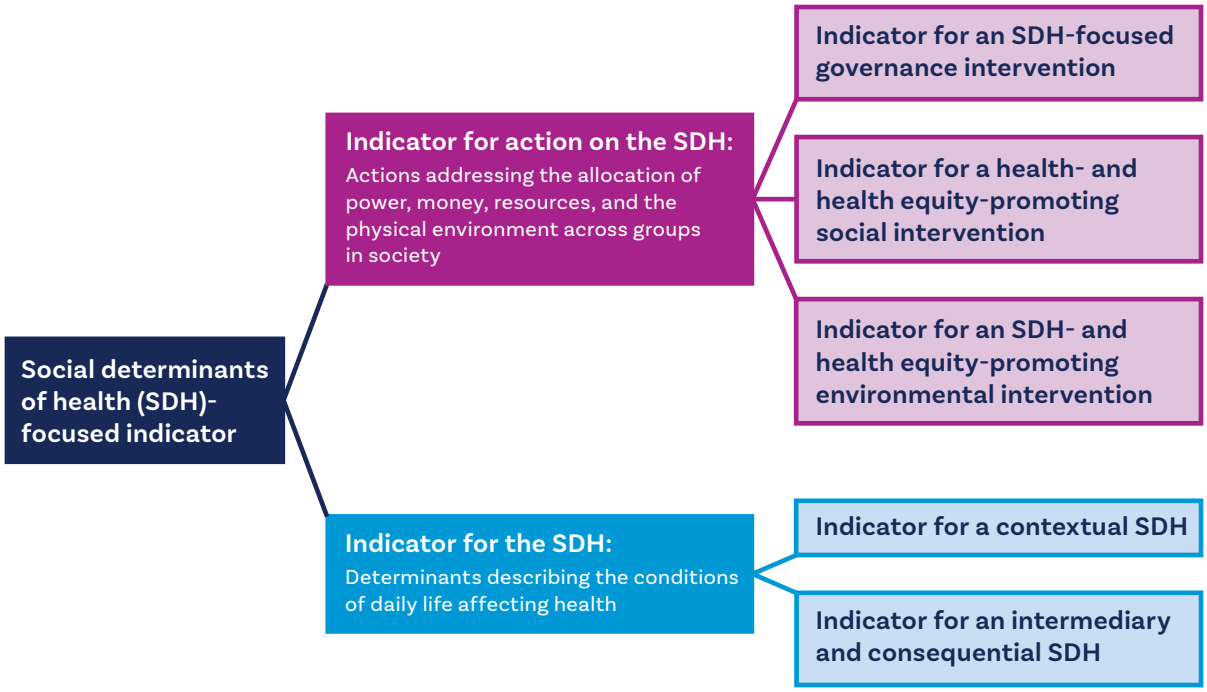
indicators *(83)*. The Pega et al. conceptual model is vetted, serving as the foundation for the 2018 final core basket of indicators for SDH action monitoring developed by WHO, the Public Health Agency of Canada, and the Canadian Institutes of Health Research–Institute of Population and Public Health in consultation with a group of international experts *(39)*. The 2018 final core basket of indicators for SDH action monitoring 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 Pega et al. conceptual model categorizes SDH-focused indicators into two types of indicators: (a) indicator for an SDH; and (b) indicator for a multisectoral intervention on an SDH that improves health equity (***Figure 3***).

For SDH, Pega et al. use the definitions of the Commission on Social Determinants of Health, which refer to the wider set of social, commercial, cultural, economic, environmental and political determinants that drive patterns of health inequalities *(4)*. These determinants are the daily conditions in which people grow, live, work and age; they are the forces and systems shaping living conditions. Determinants include population exposure to the physical environment, occupational hazards, housing, chemicals, air and water quality, sanitation and hygiene, and climate change. The determinants converge and accumulate over time to shape the health of population groups according to their social status. This is defined by, for example, education, ethnicity including indigenous and migrant status, gender, gender identity, income, occupation and sexual orientation.

Using the Commission's evidence-based recommendations for multisectoral action, Pega et al. classify groups of multisectoral interventions that focus on the determinants that are relevant to the SDGs *(4)*.The first subtype includes indicators for governance structures and mechanisms, including human rights frameworks focused on SDH. The second subtype encompasses indicators

FIGURE 3. Proposed classification of SDH-focused indicators

Source: Pega et al. *(83)*.



for social policies and programmes that promote health and health equity, such as social protection and early childhood education interventions. Finally, the third subtype comprises indicators for environmental policies and programmes that improve health and health equity, such as 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 are thus performance indicators for inputs, outputs and outcomes (that is, coverage) of relevant government interventions.

The operational framework uses the Pega et al. conceptual model, which bifurcates the classification of SDH-focused indicators into two types of indicators: (a) indicator for an SDH; and (2) indicator for an action (for example, policy or intervention) addressing SDH that improves health equity.

The menu of indicators also stems from other conceptual models of SDH, which classify SDH domains that influence health equity – see ***Figure 4*** for the SDH model from the Centers for Disease Control and Prevention (CDC) *(84)*. We use such models to identify six measurable SDH condition domains: (a) economic security and equality; (b) education; (c) physical environment; (d) social and community context; (e) health behaviours; and (f) health care. Each SDH domain contains multiple subdomains. For instance, physical environment entails subdomains including affordable and quality housing, green or open spaces, water and sanitation, and air and water quality.

Notably, the proposed menu of indicators includes two domains that are not always considered to be SDH, but are included in the Commission's 2008 framework *(4)*. First, the operational framework uses the domain of health care, recognizing that health care plays a powerful role in advancing health equity. Issues around affordability and access to health care contribute to health inequities. Timely access to safe, quality and affordable health care and policies that

FIGURE 4. CDC conceptual model of SDH

Source: CDC *(84)*.

address this (for example, universal health coverage) play an important role in mediating the differential consequences of illness in people's lives. Multisectoral action on SDH that improve health equity is also often led from within the health sector, underscoring the importance of including health care as a domain in the proposed menu of indicators for monitoring SDHE. The proposed menu of indicators also includes health behaviours, such as nutrition, physical activity, tobacco consumption and alcohol consumption, which, although traditionally not considered to be SDH, are distributed differently among different social groups and thus play an important role in social inequities in health.

The six SDH domains span a range of sectors. They also reflect conditions and opportunities that are important for people's health and well-being 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 identify 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.

The operational framework also includes indicators for action on SDH. Each action domain corresponds to an 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 economic security and equality, 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 Commission's 2008 framework, which includes the following categories: governance; macroeconomic policies; social policies (labour market, housing, land); public policies (education, health, social protection); and culture and societal values.

It is recommended to start with select, feasible indicators, while also considering aspirational indicators. We envisioned a comprehensive yet manageable menu of indicators.

5.2 Methods for the menu of indicators for monitoring SDHE

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

5.2.1 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 (for example, *Handbook on health inequality monitoring*; and *National health inequality monitoring: a step-by-step manual*) (see ***Annex 4***). 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 and standardization across countries is important. Third, the menu of indicators should build on previous or existing data and monitoring systems, structures and platforms, and avoid "reinventing the wheel". For instance, indicators can build on previous health equity and SDH monitoring work led by WHO and other stakeholders. Indicators can also come from monitoring systems, structures and platforms from other sectors, such as the Global SDG Indicator Framework or the International Monetary Fund Climate Change Indicators Dashboard.

Fourth, it is recommended to start with select, feasible indicators, while also considering 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 percentage of the eligible population who participated in voting, recognizing that resource-constrained countries are likely to experience challenges with such aspirational indicators, while at the same time such aspirations can stimulate improvement.

Fifth, it is critical to consider the intersectionality of indicators for SDHE affecting populations, rather than trying to force people into 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 few to no data to monitor, such as undocumented migrants and populations affected by emergencies, homeless people, or incarcerated populations.

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.

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

With these considerations in mind, we undertook 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 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 and implementation of the "health for all" strategy in the European Region, the United Nations Framework Convention on Tobacco Control, and country core public health capacities under the International Health Regulations. We also examined monitoring work in other sectors, such as the United Nations Global SDG Indicator Framework and indicators for the United Nations Framework Convention on Climate Change. With regard to the latter example, using such an existing framework can help to ensure that 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 when designing 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 *(85)*. 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, labelling "gold standard" examples of where monitoring worked well, and also examples of 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 (high), 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 programmes". Third, for each measurement concept, we searched for and documented relevant SDH and action 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.

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 were (a) quality and reliable data sources; (b) publicly available data; (c) data available at national level; (d) comparable statistical unit across different settings; (e) data available for 2015 or later; and (f) data available for at least 10 countries.

Another criterion was that indicators could be disaggregated using equity stratifiers, because this can help to identify inequities in SDH and actions that are the root of health inequities. However, for some SDH and several SDH action indicators, there is a lack of disaggregated data. For instance, many data sources with indicators for policies and interventions do not yet use equity stratifiers. Finally, we numerically ranked indicators on a scale of 1 (low) to 3 (high) 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.

Disaggregated data are crtitical for examining inequities in SDH and SDH actions to reduce health inequities.

Countries are encouraged to use the indicators listed in *Table 3* to support SDH and SDH action measurement and monitoring. They can also adapt the indicators to meet country-specific needs, acknowledging that indicators might be appropriate in different contexts.

5.3 Menu of indicators

Table 3 lists the proposed menu of indicators for monitoring SDHE. The table is divided into SDH and SDH actions, and comprises domains and corresponding subdomains. For each subdomain, the table lists indicators, data sources, and disaggregation dimensions. Countries are encouraged to use the indicators listed in ***Table 3*** to support SDH and SDH action measurement and monitoring. They can also adapt the indicators to meet country-specific needs, acknowledging that indicators might be appropriate in different contexts.

Many indicators in ***Table 3*** come from the United Nations Global SDG Indicator Framework and use its corresponding Global SDG Indicators Database. The Global SDG Indicators Database is a publicly available online platform that contains global, regional and country data and metadata on more than 210 SDG indicators *(45)*. The database includes many indicators on SDH and SDH actions that improve health equity, offering policy-makers the opportunity to link monitoring SDHE to the SDGs, as national governments undertake their SDG implementation *(83)*. Many national governments are currently using such indicators for monitoring and reporting progress towards implementation of the SDGs based on available data and statistical capacities in their country. Therefore, using many of the indicators from the Global SDG Indicators Database will help to reduce the burden of monitoring SDHE.

Table 3 also includes information on disaggregated data – for each indicator, the table lists available disaggregation dimensions or equity stratifiers. Disaggregated data are critical for examining inequities in SDH and SDH actions to reduce health inequities. Disaggregated data help to identify vulnerable populations (for example, youths, elderly persons, women, people with disabilities, indigenous people, racial and ethnic minorities, and refugees) and track their conditions and needs to improve health equity. Disaggregation of indicators by population subgroup can also help to ensure that all groups in a society have an equitable chance to achieve positive outcomes and take advantage of policies and interventions that improve health equity. Recognizing the importance of and need for using data to achieve the 2030 Agenda for Sustainable Development pledge to "leave no one behind", the Global SDG Indicators Database includes information on disaggregated data. For more information on the Global SDG Indicators Database and data disaggregation, see ***Box 4***.

BOX 4. Disaggregated data to achieve the pledge to "leave no one behind": the Global SDG Indicators Database and disaggregated data

With the adoption of the 2030 Agenda for Sustainable Development, its SDGs, and corresponding targets, Member States pledged to "leave no one behind". High-quality disaggregated data are imperative for achieving this principle. Several SDGs – including no poverty (SDG 1), zero hunger (SDG 2), gender equality (SDG 5), and reduced inequalities (SDG 10) – focus on improving the conditions for those left behind (for example, vulnerable populations) and tackling inequality. Other goals – including good health and well-being (SDG 3), quality education (SDG 4), clean water and sanitation (SDG 6), affordable and clean energy (SDG 7), and decent work and economic growth (SDG 8) – aim to strengthen universality and inclusion. Disaggregated data can help to track progress on how specific demographic groups are performing for the SDGs, and consider whether policies are narrowing gaps and leaving no one behind.

Recognizing the importance of and need for disaggregated data, the Global SDG Indicator Framework includes data disaggregation as a priority, following the precept that "Sustainable Development Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics" *(86)*. Disaggregation of SDG indicators by equity stratifiers entails considerable data and statistical requirements for countries. To support this, the United Nations Statistical Commission requested the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) to develop the necessary statistical standards and tools and build capacity on disaggregated data to measure progress for those who are vulnerable or in vulnerable situations, including recommendations for data disaggregation dimensions and categories.[c] In response to these requests, the IAEG-SDGs created a dedicated work stream on data disaggregation and set out to define and compile the necessary standards and tools for disaggregating data *(87)*. This includes identifying disaggregation dimensions or equity stratifiers (such as age, sex, income) and their corresponding categories (for example, 5-year age groups from 15+; male or female; income quartiles) for SDG indicators *(88)*. Based on this work, the Global SDG Indicators Database lists the availability of disaggregated data.

Despite this work, there is still a lack of disaggregated SDG data in many regions and countries. Several countries do not have the necessary data systems to enable disaggregation of data. This is especially true for indicators of SDH actions, few of which have disaggregation dimensions that are available globally across many countries. Also, available disaggregation dimensions or equity stratifiers are often not linked to structural discrimination, such as race or ethnicity, class, and caste. Improving data disaggregation is fundamental for the full implementation of the Global SDG Indicator Framework as well as monitoring SDHE.

c Statistical Commission decisions 47/101, 48/101, 49/101, 50/101, 51/101.

Table 3 lists disaggregation dimensions for each proposed indicator for monitoring SDHE, including those from the Global SDG Indicators Database. The recommendations for disaggregation in *Table 3* are a good start for what is required for monitoring SDHE. However, there is a need for much greater disaggregation, including on race or ethnicity, class, caste, and other stratifiers linked to structural discrimination. Also, countries are encouraged to develop or disaggregate data to match their own country priorities and needs.

TABLE 3. Menu of indicators for monitoring SDHE

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
SDH			
Economic security and equality			
Employment	Unemployment rate (%)	Age, disability, sex	United Nations (UN) Department of Economic and Social Affairs Statistics Division SDG Indicators Database (UN SDG Indicators Database). Available at https://unstats.un.org/sdgs/dataportal
	Employment to population ratio (female, male, total) (modeled ILO estimate)	Age, sex	International Labour Organization (ILO). "ILO Modelled Estimates and Projections database (ILOEST)" ILOSTAT. Available at: https://ilostat.ilo.org/data
	Vulnerable employment, total (% of total employment) (modeled ILO estimate)	Sex	World Bank, World Development Indicators database. Estimates are based on data obtained from International Labour Organization, ILOSTAT at https://ilostat.ilo.org/data
	Children aged 5–17 years engaged in child labour (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average hourly earnings of employees (local currency)	Occupation, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Fatal occupational injuries among employees (per 100 000 employees)	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Non-fatal occupational injuries among employees (per 100 000 employees)	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Food insecurity	Moderate or severe food insecurity in the population (%)	If applied at household level, disaggregation is possible based on household characteristics such as: location, household income, composition (including for example presence and number of small children, members with disabilities, elderly members, etc.), sex, age and education of the household head, etc. If applied at individual level, disaggregation by sex is possible	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Food insecurity	Severe food insecurity (%)	If applied at household level, disaggregation is possible based on household characteristics such as: location, household income, composition (including for example presence and number of small children, members with disabilities, elderly members, etc.), sex, age and education of the household head, etc. If applied at individual level, disaggregation by sex is possible	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Income inequality	Gini index	-	World Bank, Poverty and Inequality Platform. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. Data for high-income economies are mostly from the Luxembourg Income Study database. Available at: http://pip.worldbank.org.
	Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Poverty	Population living below international poverty line (%)	Age, employment status, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population living below national poverty (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population living in multidimensional poverty (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Households living in multidimensional poverty (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average share of weighted deprivations of total households (intensity) (%)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Multidimensional deprivation for children (% of population under 18)	Age, geographic location (rural/urban), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Education			
Education access	Participation rate in organized learning (one year before official primary entry age) (%)	Age, sex (administrative sources) Age, geographic location, income, sex (household surveys)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Net school enrollment rate (preprimary, primary, secondary, tertiary) (%)	Level of education, sex	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months (%)	Age and sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Education quality	Pupil-trained teacher ratio by education level (pre-primary, primary, lower and upper secondary education)	Education level and type of institution (public/private)	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
Education quality	Teachers with the minimum required qualifications (%)	Education level, sex, and type of institution (public/private)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Education outcomes	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 (% of children aged 36–59 months) (%)	Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics (%)	Education level and sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills (%)	Age, geographic location (rural/urban), income, type of skill	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Completion rate (primary, lower secondary, upper secondary)	Education level, geographic location (rural/urban), sex, and wealth quintile	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Educational attainment rate, at least completed (primary, lower secondary, upper secondary, Master's or equivalent, Doctoral or equivalent)	Age, economic status, and education level	UNESCO Institute for Statistics. Available at: http://uis.unesco.org
Physical environment			
Air quality and climate	Average mean levels of air pollution of particulate matter (PM10 and PM2.5) in cities (population weighted)	National, regional and global data are disaggregated into cities, towns, urban and rural areas	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population experiencing droughts, floods, extreme temperatures (% of population, average 1990–2009)	-	EM-DAT: The OFDA/CRED International Disaster Database: www.emdat.be, Université Catholique de Louvain, Brussels (Belgium), World Bank.
Disasters	Number of deaths, missing persons and directly affected persons attributed to disasters* (per 100 000 population)	Number of deaths attributed to disasters, number of missing persons attributed to disasters, number of directly affected people attributed to disaster Desirable disaggregation: hazard, geography (administrative unit), sex, age, disability, income	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Energy, fuels and technologies	Population with access to electricity (%)	Geographic location (rural/urban)	IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution—NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Energy, fuels and technologies	Population with primary reliance on clean fuels and technologies for cooking (%)	Geographic location (rural/urban)	IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution—NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).
Housing	Households that live in overcrowded dwellings (%)	Income quintile	Organisation for Economic Co-operation and Development (OECD) Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
	Homeless as a percent of total population (%)	Age, sex (where data are available)	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
	Households that own their homes (%)	Age, income quintile	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
	Housing price-to-income ratio (housing affordability)	-	OECD "Housing prices" indicator. Available at: https://data.oecd.org/price/housing-prices.htm
	Population spending more than 40% of disposable income on mortgage and rent (housing cost overburden) (%)	Income quintile, tenure (Rent (private), Rent (subsidized), Own with mortgage)	OECD Affordable Housing Database. Available at: https://www.oecd.org/housing/data/affordable-housing-database
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 (%)	Sex (note: only for both sexes and female, not male) and local communities	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Road safety	Death rate due to road traffic injuries (%)	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Water, Sanitation and Hygiene (WASH)	Population using basic sanitation services (%)	Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene from diarrhoea, intestinal nematode infections, malnutrition and acute respiratory infections (deaths per 100,000 population)	Age (under 5), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population practicing open defecation (%)	Service level (i.e. no services/open defecation, unimproved, limited, basic, and safely managed services) Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Water, Sanitation and Hygiene (WASH)	Population with basic handwashing facilities on premises (%)	Service level (i.e. no facility, limited, and basic facility Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population using safely managed drinking water services (%)	Geographic location (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population using safely managed sanitation services (%)	Service level (i.e. no services/ open defecation, unimproved, limited, basic, and safely managed services) Geographic location (urban/rural, sub-national regions, etc.) and socioeconomic characteristics (wealth, education, ethnicity, etc.) is possible in a growing number of countries Individual characteristics (age, sex, disability, etc.) may also be made where data permit	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Urbanization	Urban population living in slums, informal settlements or inadequate housing (%)	Desirable disaggregation: hazard, geography (administrative unit), sex, age, disability, income	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Ratio of land consumption rate to population growth rate in urban areas	Potential disaggregation: Geographic location (operational urban area vs administratively defined urban area, urban wide vs intra-urban growth trends); Type of growth (infill, expansion, leapfrogging); City type (large vs medium sized vs small); Type of land use consumed by the urbanization process	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Average share of the built-up area of cities that is open space for public use for all (%)	Age, disability, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities (%)	Data for this indicator can be disaggregated at various levels in accordance with the country's policy information needs. For instance: • Location (intra-urban • Source of waste generation (e.g., residential, industrial, office, or MSW material received by recovery facilities) • Type of final treatment and disposal • MSW generation rate of different income level (high, middle, low) • MSW generation rate in different cities	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population that has convenient access to public transport in urban areas (%)	Age, disability, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Social and community context			
Conflict, crime and violence	Total conflict-related deaths per 100 000 population (per 100 000 population)	Recommended disaggregation: • Sex of person killed • Age of person killed • Cause of death (e.g., heavy weapons, explosive munitions, denial of access to/destruction of objects indispensable to survival, etc.) • Status of person killed (e.g., civilian, other protected person, member of armed forces, person directly participating in hostilities, unknown)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Number of victims of intentional homicide per 100 000 population (victims per 100 000 population)	Recommended disaggregation: • Sex and age of the victim and the perpetrator (suspected offender) • Relationship between victim and perpetrator (intimate partner, other family member, acquaintance, etc.) • Means of perpetration (firearm, sharp object, etc.) • Situational context/motivation (organized crime, inter-personal violence, etc.)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months (%)	Age, citizenship, education, ethnicity, income, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Number of victims of human trafficking (per 100 000 population)	Age, form of exploitation, sex	UN Office on Drugs and Crime (UNODC) data portal. Available at: https://dataunodc.un.org
	Population that feel safe walking alone around the area they live after dark (%)	Recommended disaggregation: • Age • Citizenship • Disability status • Ethnicity • Migration background • Sex • Time of day (perception of safety "during the day" and "after dark")	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Discrimination	Population reporting having felt discriminated against (%)	Disability, grounds of discrimination, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Forced displacement and migration	Internally displaced persons, total displaced by conflict and violence (number of people)	-	The Internal Displacement Monitoring Centre. Available at: http://www.internal-displacement.org
	Refugee population by country or territory of origin (%)	Recommended disaggregation: • Age (esp. % of children) • Geographical location (urban/rural) • Place of residence (in camps/out of camps) • Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
	International migrant stock (% of population)	Age, sex	UN Population Division. Trends in Total Migrant Stock: 2008 Revision.
Forced displacement and migration	Net migration	Age, sex	UN Population Division. Trends in Total Migrant Stock: 2008 Revision.
Gender equality and women's empowerment	Gender inequality index	-	UN Development Programme (UNDP). Human development data. Available at http://hdr.undp.org/en/data
	Women who were first married or in a union before age 15 and before age 18 (% of women ages 20–24) (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Women making their own informed decisions regarding sexual relations, contraceptive use and reproductive health care (% of women age 15–49)	Age, education, geographic location, place of residence, wealth quintile	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Healthy ageing	Proportion of older people living in age-friendly cities and communities (%)	-	WHO Maternal, Newborn, Child and Adolescent Health and Ageing Data portal. Available at https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/mca/proportion-of-older-people-living-in-age-friendly-cities-and-communities
Incarceration	Persons held in prisons, penal institutions or correctional institutions (persons held per 100 000)	Age, category, sex	UN Office on Drugs and Crime (UNODC) data portal. Available at: https://dataunodc.un.org
Social support	Population who report having friends or relatives whom they can count on in times of trouble (%)	Age	OECD database. Available at https://stats.oecd.org
Health behaviours			
Alcohol	"Alcohol per capita consumption (aged 15 years and older) within a calendar year in Litres of pure alcohol"	Age, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Physical activity	Insufficiently physically active persons (adults aged 18 years and older, adolescents aged 11–17 years) (%)	Age, sex, other relevant sociodemographic stratifiers where available	World Health Organization (WHO) Global Health Observatory. Available at https://www.who.int/data/gho
Tobacco	Current tobacco use among persons aged 15 years and older (age-standardized rate) (%)	Sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Nutrition	Children under 5 years who are stunted (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Children under 5 years who are wasted (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Children under 5 years who are overweight (%)	Age, place of residence, sex, socioeconomic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Nutrition	Population experiencing undernourishment (%)	Place of residence (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Adults who are overweight (BMI>=25) and obese (BMI>=30) (% adult population)	Age, sex, other relevant sociodemographic stratifiers where available	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Health care			
Health care access and affordability	Population that skipped a medical consultation due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/
	Population that skipped medical tests, treatment or follow-up due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/
	Population that skipped prescribed medicines due to costs (%)	Age, sex	OECD database. Available at https://stats.oecd.org/
Health care access and affordability	Households with out-of-pocket payments greater than 40% of capacity to pay for health care (catastrophic health spending) (%)	Consumption quintile Disaggregation by place of residence (urban and rural), age or employment status of the head of the household, household composition and other factors is included in country-level and regional-level analysis where relevant	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Population spending more than 10% of household consumption or income on out-of-pocket health care expenditure (%)	Age, place of residence (rural/urban), sex	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Population spending more than 25% of household consumption or income on out-of-pocket health care expenditure (%)	Age, place of residence (rural/urban), sex	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Health system	Physicians per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Nurses and midwives per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Health workers per capita: physicians, nursing/midwifery personnel, dentistry personnel, pharmaceutical personnel (per 10 000 population)	Geographic area, occupation	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Community health workers per capita (per 1 000 people)	Age, location (urban/rural), occupational specialization, main work activity, provider type (public/private), sex	WHO Global Health Workforce Statistics, OECD, supplemented by country data
	Health facilities per capita (per 10 000 population) (health facility density and distribution)	Density of specific services, facility ownership, location (district, province, national), type	WHO Global Health Observatory. Available at https://www.who.int/data/gho
	Hospital beds per capita (per 10 000 population)	Provider type (public/private)	WHO Global Health Workforce Statistics, OECD, supplemented by country data

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Actions			
Policies to promote economic security and equality			
Employment: social policies	Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization textual sources and national legislation	Migrant status, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Coverage of unemployment benefits and active labour market policy (ALMP) (% of population)	Economic status	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Employment: governance	Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Food insecurity: public policies	"Population supported by food and/or social assistance programmes (%)"	Category of vulnerable groups (e.g., children, families, young people, indigenous, elderly, disabled, unemployed, etc.) Type of food or social assistance programme and by numbers of people benefiting from the different types	Food and Agricultural Organization of the United Nations. Milan Urban Food Policy Pact Monitoring Framework.
Income inequality: macroeconomic policies	Redistributive impact of fiscal policy (note: defined as the Gini Index of pre-fiscal per capita (or equivalized) income less the Gini Index of post-fiscal per capita (or equivalized) income)	Age, disability status, ethnic grouping, gender, geographic location (rural/urban), income (note: can be disaggregated for as many subgroups as are represented in the surveys or micro-data from which the indicator is drawn)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Poverty: public policies	Coverage of social safety net programmes (% of population)	Economic status	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Coverage of social insurance programmes (% of population)	Economic status	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Population covered by at least one social protection benefit (%)	Sex	World Bank Open Data (original source: UNESCO Institute for Statistics)
	Children/households receiving child/family cash benefit (%)	Sex	World Bank Open Data (original source: UNESCO Institute for Statistics)
Policies to ensure access to quality of education			
Education: public policies	Government expenditure on education, total (% of GDP)	-	UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Available at https://apiportal.uis.unesco.org/bdds
	Government expenditure on education, total (% of government expenditure)	-	UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Available at https://apiportal.uis.unesco.org/bdds
	Government expenditure per student, primary, secondary, tertiary (% of GDP per capita)	-	UNESCO Institute for Statistics. Available at http://uis.unesco.org

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Policies to protect the physical environment			
Air quality and climate: social policies	Environmental Policy Stringency Index	-	OECD database. Available at https://stats.oecd.org
	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. Available at https://unstats.un.org/sdgs/dataportal
Disasters: 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. Available at https://unstats.un.org/sdgs/dataportal
	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. Available at https://unstats.un.org/sdgs/dataportal
Energy, fuels, and technologies: social policies	Regulatory Indicators for Sustainable Energy (RISE) policy scorecard	-	World Bank. Regulatory Indicators for Sustainable Energy (RISE). Available at https://rise.esmap.org
Housing: social policies	Social rental dwellings as a share of total dwellings (%)	-	OECD database. Available at https://stats.oecd.org
	Public spending on housing allowance as % of GDP		OECD database. Available at https://stats.oecd.org
Housing: social policies	Measures to finance housing improvements and regeneration		OECD database. Available at https://stats.oecd.org
Land tenure: social policies	International property rights index	-	Property rights alliance. Avalable at https://www.landinternationalpropertyrightsindex.org/
Road safety: public policies	Existence of national seat belt laws	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Urban planning: governance	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. Available at https://unstats.un.org/sdgs/dataportal
Water, sanitation and hygiene (WASH): governance	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
	Local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Policies to strengthen social and community context			
Civic engagement and trust: governance	Positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups (%)	Age, persons with disabilities, population subgroup (country specific), sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

TABLE 3. continued, Review of previous SDHE monitoring-related work (as of 2016)

SUBDOMAIN	INDICATOR	DISAGGREGATION DIMENSION	DATA SOURCE
Conflict, crime and violence: governance	Existence of independent national human rights institutions in compliance with the Paris Principles	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Discrimination: governance	Legal frameworks in place to promote, enforce and monitor equality and non-discrimination on the basis of sex	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Forced displacement and migration: social policies	Migration policies that facilitate orderly, safe, regular and responsible migration and mobility of people (%)	Six policy domains: (i) migrant rights; (ii) whole-of-government/ evidence-based policies; (iii) cooperation and partnerships; (iv) socioeconomic well-being; (v) mobility dimensions of crises; and (vi) safe, orderly and regular migration	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Gender equality and women's empowerment: governance	Seats held by women in (a) national parliaments and (b) local governments (%)	-	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Healthy ageing: governance	National plans, policies or strategies on ageing and health	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Incarceration: governance	Unsentenced detainees as a proportion of overall prison population (%)	Age, length of pre-trial (unsentenced) detention, sex	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal
Social support: governance	National strategy for social connection	-	National data sources (note: a global dataset does not yet exist)
Policies to shift health behaviors			
Alcohol: social policies	Written national policy or strategy on alcohol, year adopted	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Physical activity: governance	Global action plan on physical activity	-	National data sources (note: a global dataset does not yet exist)
Tobacco: social policies	Average price of cigarettes ($)	-	WHO Global Health Observatory. Available at https://www.who.int/data/gho
Nutrition: social policies	Sugar sweetened tax	-	Wolrd Bank. Global SSB Tax Database. Available at https://ssbtax.worldbank.org
Policies to achieve access to quality essential health care			
Health: public policies	Coverage of essential health services (Universal health coverage (UHC) service coverage index)	Geographic location (rural/urban)	UN SDG Indicators Database. Available at https://unstats.un.org/sdgs/dataportal

BMI: body mass index: PM: particulate matter; SDG: Sustainable Development Goal; UHC: universal health coverage; UN: United Nations; UNDP: United Nations Development Programme; UNESCO: United Nations Educational, Scientific and Cultural Organization; WHO: World Health Organization.

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 using 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.

6. Process for technical monitoring of SDHE at national and subnational levels

The first key area of the operational framework is the process for technical monitoring of SDHE at national and subnational levels. Building on existing monitoring work, including WHO tools and resources for health inequality monitoring *(85)*, we propose several implementation actions and sub-actions, specific components to support each key area.

6.1 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 well-being, as well as from different administrative levels, including national, subnational and more local levels. A multilevel, multistakeholder 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. *Box 5* illustrates mapping priorities and data sources in Colombia.

6.1.1 Sub-action 1.1: Conduct mapping of scientific and policy literature to identify level, scope and 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 of their national monitoring system. Consolidation and review of scientific and policy writings provides an opportunity for countries to identify priority SDH, actions and equity stratifiers 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 action 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 ***Chapter 4*** of this document.

Once the level and scope have been determined, multilevel, multistakeholder

BOX 5. Mapping priorities and data sources in Colombia

During 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 undertaken to map priorities and data sources in Colombia.

A first consultancy entailed mapping of policies, plans, initiatives and programmes that address the social determinants of health in the various government sectors, which can help to identify priorities for monitoring SDHE. As a finding, a focus on equity is evident at different levels. For instance, 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. In addition, the mapping exercise revealed a commitment to populations living in vulnerable conditions, and a differential approach expressed in different lines of action for these different populations.

A study was also carried out on the status of the social determinants of health and health equity in the country, based on a panoramic review of literature. The study revealed social determinants of health research gaps and advances over the last 15 years. For instance, the study identified advances in the development of public policies, programmes, interventions and observatories that have contributed to the understanding of the social determinants of health and equity in health.

In addition, an evaluation of existing population surveys was carried out, which enabled the identification and description of the main domains of 24 surveys in Colombia. This information will contribute to the development of a monitoring system of social determinants and the strengthening of the monitoring and evaluation of multisectoral work.

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 by mapping priorities and data sources, which has helped the WHO Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity to establish a starting point and baseline to plan for the actions of the second year.

engagement is needed to identify priority SDH, actions and equity stratifiers for the new national monitoring system.

For equity stratifiers 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 *(89)*. Updating, adapting and developing something more current or relevant might help countries to make sure they are not missing key axes along which health and other opportunities are inequitably stratified. Equity stratifiers that are frequently applied in monitoring (and recommended by the 2030 Agenda for Sustainable Development as bases for

data disaggregation) include income; sex; gender; age; race; ethnicity; migratory status; disability; and geographical 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 of resources that are less visible and accessible, such as writings from local governments, civil society and other sectors. 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 or 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 well-being of its population. For instance, in many countries, the ministry of health publishes a strategic 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, targeting 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, programme 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 on health and well-being, 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-centred 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 relevant for monitoring SDHE, where considerations around power and resources are critical.

6.1.2 Sub-action 1.2: Map data sources, systems and platforms

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 (90)*.

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. Decentralized implementation can help to improve responsiveness to local communities' needs, especially marginalized communities, such as migrant populations, where there is often 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 policy-makers to link SDH and action monitoring to existing monitoring of progress towards realization of SDG targets. As is becoming the norm and a gold standard with most United Nations monitoring initiatives, a system for monitoring SDHE should be linked explicitly with the 2030 Agenda for Sustainable Development, ideally

through the use of relevant SDG indicators from the SDG monitoring framework, both to ensure global policy and monitoring alignment and – importantly – 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 an 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 and Health Surveys and Multiple Indicator Cluster Surveys have been 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 – as 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 or electronic

health records, economic, market, commerce, and consumer data, social network data, mobile phone data, internet and social media content, and geographical information system data.

During data mapping, it can be helpful to include notes with additional information, for example on data type (quantitative, qualitative), level of indicators (global, regional, national, 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 equity stratifiers that were identified as priorities in sub-action 1.1. 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 1.1. 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 SDGs. Over the past five years, there have been considerable investments in strengthening statistical infrastructure and capacity for monitoring progress towards the SDGs. Before monitoring of the SDGs began, the United Nations Statistical Commission found that collection, analysis and reporting of SDG indicators may be difficult for countries. However, as at the end of 2022, there are monitoring reports and dashboards providing regional, subregional 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, modelling 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 modelled and estimated, these are often limited to age and sex, not other equity stratifiers.

6.1.3 Sub-action 1.3: Identify and select appropriate indicators from the proposed menu

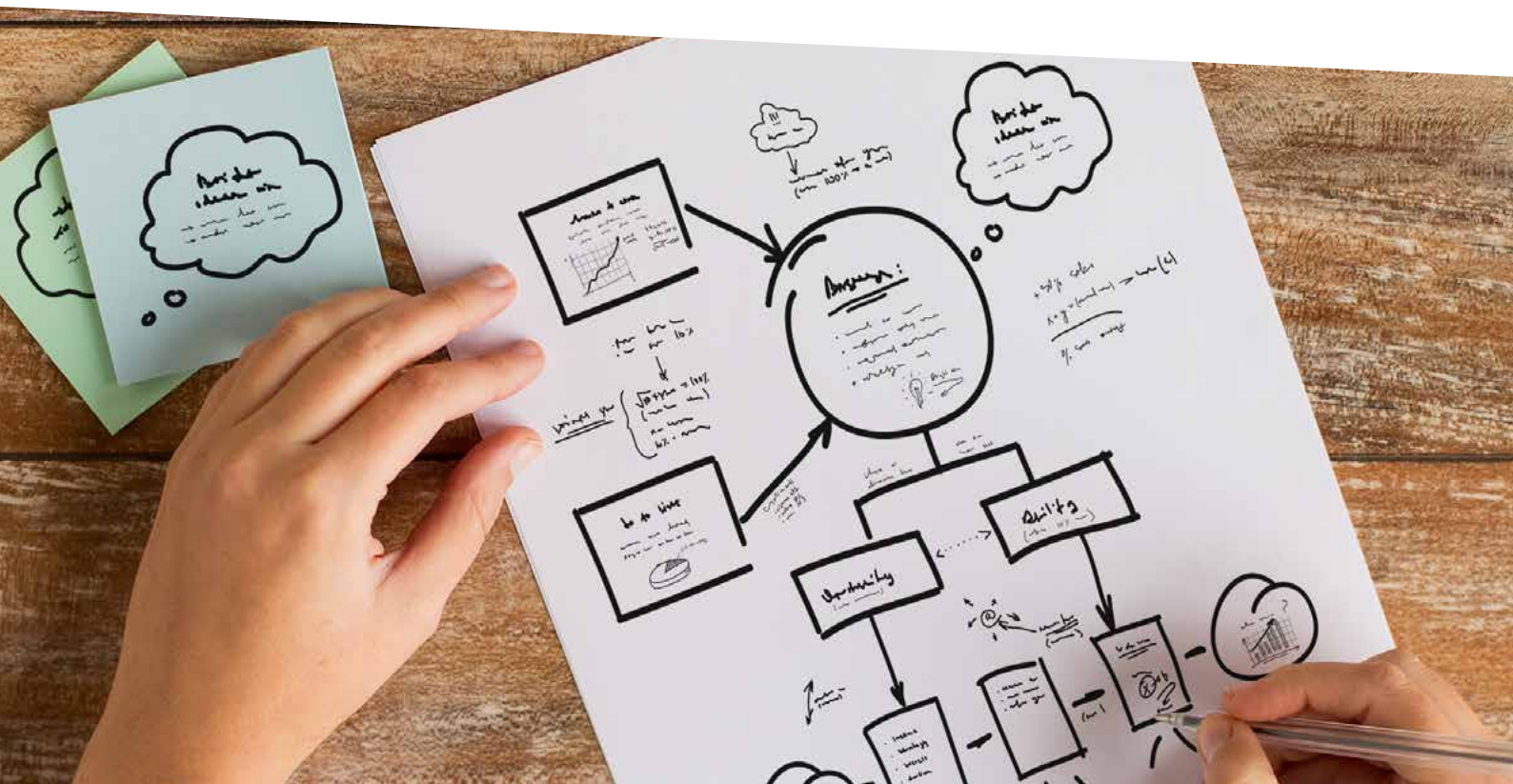
After mapping priorities and data sources, systems and platforms for monitoring of SDH and actions to address them, the next step for countries is to identify and select the most appropriate indicators from the menu of indicators in the previous chapter. The menu of indicators proposed will form the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

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 (for example, measurability or feasibility, validity, and relevance or 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 1.1.

6.2 Action 2: Analyse 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 (90)*.

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 are essential to assess patterns of inequity.



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 is the sub-action that needs to be taken to implement this action area.

6.2.1 Sub-action 2.1: Prepare disaggregated data

Data analysis begins with the disaggregation of SDH and action 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 to that indicated by either single dimension of inequity. Double disaggregation entails considering two dimensions of inequity simultaneously when forming subgroups for monitoring. Comparisons of two subgroups may be much more striking than comparisons based on either dimension considered separately.

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

6.3 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 (90)*.

For this action area, it is important to keep in mind the goal of monitoring SDHE – to help inform policies, programmes 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).

6.3.1 Sub-action 3.1: Create standardized national and global SDH and SDH action monitoring reports 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 chapter will form the core of the global, regional and national monitoring and reporting systems for action on SDH. However, different regions and countries require different actions on 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 macrolevel and microlevel factors. Macrolevel factors could be captured by indicators for a country's political economy, for example. Microlevel 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 (for example, national strategies or plans for the action), the intervention itself (for example, design and implementation) and evidence of the intervention's effectiveness in improving outcomes of interest (for example, evidence from governmental and independent impact research and evaluations).

In addition to national reports, global reports will be needed. A global report can 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.

6.3.2 Sub-action 3.2: Ensure quality checks and 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.

6.4 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.

6.4.1 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 analyse data and influence actions on the ground. However, many countries lack sufficient capacity for monitoring health outcomes, let alone SDH and government actions to address them.

There are numerous capacity challenges for monitoring 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. Inequities in COVID-19 exposure, illness and death exposed the need for transforming public health data and monitoring systems so that they are equity oriented. Now there is an unprecedented opportunity to invest in and create public health data and monitoring systems centred on SDHE that can help to track progress and prioritize actions to promote health and well-being 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, and priority actions to move forward. In addition, it is important to consider examples of partnership to overcome capacity challenges, for example between ministries of health and research agencies in countries to build capacity for analysing data and conducting health impact assessments. There is also a need to support in-country and intercountry exchange visits between key actors to facilitate learning and scale-up. Finally, investment in training of policy-makers, 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.

Existing WHO work and resources in this area include resources and training for health inequality monitoring, as well as for civil registration and vital statistics and routine health information systems, which countries can leverage for monitoring SDHE.

7. Using data to inform policy for health equity at national and subnational levels

The second key area of the operational framework is cross-cutting 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.

7.1 Action 1: Scope the policy landscape, map the policy cycle and conduct stakeholder mapping

As a result of the multisectoral, complex and interdependent nature of SDH, policies that advance health equity are commonly interlinked. For instance, policies to ensure affordable and safe housing, which research shows improve health and reduce health inequities, are often interrelated with policies that reduce exposure to harmful air, water and other pollutants with a powerful influence on health and health equity. Often the success or failure of one policy depends on other, related policies.

The policy-making process involves a series of stages or phases, commonly known as the policy cycle. The stages include agenda setting (that is, identifying a problem that requires government intervention, and proposing it as an issue to the public), policy formulation (setting objectives based on a problem defined in agenda setting and consideration of actions to achieve those objectives), decision-making (the bargaining process by those with interests in the problem with the decision-making levels of government in order to advance those interests), policy implementation (proposed actions to solve the policy problem), and monitoring and evaluation (measuring success in addressing the issue).

Multisectoral action – that is, collaboration between diverse stakeholders across sectors – is key to addressing SDH that improve health equity. Different sectors play a role in improving (or worsening) SDH that can reduce (or exacerbate) health inequities. Multisectoral collaboration requires partners to build a mutual vision and share common goals, and this can be achieved when partners see tangible benefits or co-benefits of multisectoral actions for health equity. Understanding the priorities and needs of multiple stakeholders and identifying synergies across them is important to identify co-benefits for policies that improve health equity. Multisectoral actions for health equity also require strong governance – that is, mechanisms and processes through which different actors articulate their interests, exercise their rights and obligations, and mediate their differences.

Scoping the policy landscape, mapping the policy cycle, and conducting stakeholder mapping are crucial, and if the monitoring process is not aligned with these steps, there is little chance of data leading to policy change to advance health equity. Scoping the policy landscape can help to provide an understanding of the different

policies that influence health equity and their interrelations in search of synergies and entry points. This exercise can also help to understand the implications of trying to change one policy for other policies that influence health equity.

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.

7.2 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 policy-making 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 to be 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 data and translating it into 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 of 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 (such as declarations), highlighting it in key documents (such as national development plans), regularly communicating its importance, providing adequate financing, and, ultimately, focusing on the implementation of efforts to strengthen monitoring SDH and actions (such as training programmes).

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.

7.3 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, and deliberations on 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 on Primary Health Care in 1978 and more recently in the 2011 Rio Political Declaration on Social Determinants of Health. More recently, the United Nations 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 may operate in different sectors. 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 (such as Health in All Policies).
- Sub-action 3.2: Ensure appropriate and agreed-upon data governance rules and ethics.
- Sub-action 3.3: Scan governance policies and frameworks to enable data sharing and transparency across sectors.
- Sub-action 3.4: Establish, strengthen and reform legal frameworks for monitoring SDHE.
- Sub-action 3.5: Secure and establish objectives, roles and responsibilities across departments and agencies for monitoring SDHE.
- Sub-action 3.6: Increase accountability, transparency and responsiveness for monitoring SDHE.

Across the world, there are several examples of countries implementing the above sub-actions to support multisectoral governance.

In Australia, the government has put in place 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 to and drivers of health and well-being, as described in ***Box 6***.

BOX 6. Multiple domestic policy frameworks recognizing the importance of data and multisectoral governance to address SDHE in Australia

Australia has numerous domestic policy frameworks that recognize SDH as barriers to and drivers of health and well-being, including the National Women's Health Strategy 2020–2030, National Men's Health Strategy 2020–2030, National Preventive Health Strategy 2021–2030, 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, and National Aboriginal and Torres Strait Islander Health Plan 2021–2031.

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 National Preventive Health Strategy. The strategy is underpinned by an equity lens and emphasizes that preventive action must focus on SDH to address the increasing complexity of health issues and the interconnected causes of poor health and well-being. In addition, Australia's Disability Strategy 2021–2031 recognizes that ensuring people with disability attain the highest possible health and well-being requires addressing social, cultural and economic determinants of health.

Box 7 describes how the Ministry of Health in Ethiopia has recently put forth a new National Health Equity Strategic Plan that adopts a Health in All Policies approach backed by equity data.

BOX 7. National Health Equity Strategic Plan using a Health in All Policies approach backed by extensive equity data expansion in Ethiopia

In Ethiopia, the Ministry of Health developed the National Health Equity Strategic Plan 2021–2025. This plan has 10 strategic directions, one of which, strategic direction 7 (Health equity in all policies, strategies and programmes), focuses on addressing the social determinants of health equity through a Health in All Policies approach. The overall objective of the National Health Equity Strategic Plan is to support the narrowing of current health inequities related to access, uptake and quality, and contribute towards addressing SDH by 2025. Under strategic direction 7, enhancing mechanisms and capacities for multisectoral collaboration across government and review of the inclusion of equity in policies in other sectors are important Health in All Policies activities. In addition, specific activities related to data and information management are to develop an equity index dashboard and update it regularly in order to monitor the health equity status; conduct continuous and regular health equity analyses; disseminate the findings for intervention and policy decision-making; and encourage joint monitoring and evaluation. The initial primary focus on social determinants of health is related to barriers to equity in access, uptake and quality of care, where rural health care inequities were of high significance.

Increasingly, the Health in All Policies approach under the leadership of the Ministry of Health is being used to provide information and evidence for policy decision-making, contributing to three leading multisectoral initiatives: ending stunting of children aged under 2 years (Seqota Declaration), transformational development for the SDGs (Woreda Transformation) and access to water and sanitation (One WASH National Programme). In the Woreda Transformation, different sectors perform baseline analyses to determine progress towards common goals aligned with the SDGs for 2030 and contextualized for Ethiopia. Woreda Transformation is a social development strategic plan that puts people's health and well-being at the core. The Woreda Transformation strategic plan's theory of change noted that the Human Inequality Coefficient for Ethiopia had been widening between 2017 and 2019. Information on the monitoring indicators of the four themes of household transformation – decent income (livelihoods), habitable living environment and housing, literacy, and life expectancy – are being used to assess progress *(91)*.

Box 8 describes work in the Region of the Americas to develop a portfolio of work with the aim of learning from the multisectoral response to COVID-19, including case studies, dashboard, course, and monitoring guide for multisectoral work.

BOX 8. Learning from the multisectoral response to the COVID-19 pandemic in the Region of the Americas

A line of work with the aim of learning from the multisectoral response to COVID-19 has been established in the Region of the Americas. A database of experiences from 16 countries in the region has been developed, and seven in-depth case studies have been prepared with national, subnational 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 characterize the type of multisectoral work that has been developed in the response to the COVID-19 pandemic; the associated actors; the coordination modality; the use of previous structures and mechanisms or the construction of new organizational mechanisms; the role of civil society; and the financing method. At the same time, a proposal for indicators has been established to monitor the initiative that is under way, aligned where feasible with the monitoring and evaluation framework, and to develop indicators for monitoring post-pandemic multisectoral initiatives that are under review or ready for validation.

Based on the information that has been collected, a multisectoral 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. A multisectoral course has been developed for local governments, which was installed on the PAHO virtual platform. It is made up of six 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 two or three cohorts per year. Also, a monitoring guide has been prepared for multisectoral work at the level of local governments in the validation process to be used by the countries and in the selected municipalities.

In Cameroon, with support from WHO and the Swiss Agency for Development and Cooperation, the Urban Governance for Health and Well-being initiative was launched in the city of Douala in 2021 with the goal of improving health status and well-being of the population in urban settings through participatory, multisectoral and multistakeholder urban governance (Box 9).

BOX 9. Urban Governance for Health and Well-being initiative 2021–2028 uses Health in All Policies to address SDH in Douala city in Cameroon

Douala has continued to implement many public health intervention projects as part of the Urban Governance for Health and Well-being initiative, which started in 2021 with support from WHO and the Swiss Agency for Development and Cooperation. The initiative aims to promote urban governance that puts equitable health and well-being for all at the centre. The main goal is to improve the health status and well-being of the population in urban settings through participatory, multisectoral and multistakeholder urban governance. Douala city has three main areas of concern contributing to SDH inequities: informal settlements, basic public services, and social cohesion in cities. The Mayor of Douala is committed to tackling these inequities by prioritizing enhancement of current mechanisms for participatory urban governance for health and well-being through a Health in All Policies approach involving multisectoral and multistakeholder collaboration, community engagement, and promotion of social innovation and dialogue at local levels.

The Mayor recognizes that good municipal and local governance is critical for achieving the United Nations 2030 Agenda for Sustainable Development. Countries must strive to ensure that their cities continually build and improve physical infrastructure and public spaces, and expand community resources, enabling people to mutually support each other and develop to their maximum potential. A Health in All Policies approach focuses on four essential aspects to achieve multisectoral action and ultimately to achieve health equity by addressing the structural determinants of health: governance and accountability; leadership at all levels; ways of working for Health in All Policies action; and resources, financing, and capabilities. These pillars encompass key factors that need to be considered and acted upon to work towards the goal of good urban governance, which relates directly to the leadership at all levels pillar, given the collaborative nature of establishing and implementing these interventions.

A major intervention implemented in Douala during the initiative was the Brazzaville SIP water project. The Brazzaville SIP water project incorporated a multisectoral and community-based approach and responded to the community's priorities. Since November 2022, this project has established six water management committees that continue to be operational. They oversee the management and treatment of 1500 public water points that meet the daily drinking and domestic usage needs of the community. This project has successfully built another five additional water points, which has improved access to safe drinking water for the population of Douala.

7.4 Action 4: Bring together multisectoral policy-makers to translate data into action

In this increasingly complex world where multiple factors impact health and well-being, 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 using an integrated, people-centred and equitable approach. Establishing multisectoral and multistakeholder responses will require development of effective multisectoral 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 and for sharing 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, who will drive any multisectoral initiative, articulating the case for inclusion of the inputs of different sectors. But such leadership is only the first step.

Below are sub-actions required for bringing together multisectoral policy-makers to translate data into action:

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

Box 10 describes work in the Eastern Mediterranean Region to move from reporting to planning and action on SDH to advance health equity, including at the country level.

BOX 10. Moving from reporting to planning and action on SDHE in the Eastern Mediterranean Region

WHO launched the final report of the Commission on Social Determinants of Health in the Eastern Mediterranean Region in 2021, with support of the initiative core partner, University College London Institute of Health Equity *(70)*. Workshops on the report were held. A resolution supporting implementation of the regional commission's recommendations was passed in October 2021.

The WHO Regional Office developed a toolkit for policy-makers to guide their planning and action on SDHE to take necessary action to implement the recommendations of the report and resolution. The toolkit was introduced to the countries of the region during the regional workshop that took place in Cairo, Egypt, on 14–15 November 2022. During the workshop, the toolkit was discussed and used during the hands-on scenario-based working groups. At the country level, under the multicountry WHO Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity, funded by the Swiss Agency for Development and Cooperation, action plans and working teams have been formed in the occupied Palestinian territory and in Morocco. The work in the occupied Palestinian territory builds on the country office's advocacy project on the Right to Health, which monitors 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. The first national workshop on analysis of national health inequities was held in July 2021, and a network of researchers to support monitoring of and action on SDH has been developed. Both countries also benefit from strong partnership with academic institutions at national level to support their respective work on SDH.

7.5 Action 5:
Foster community leadership and multisectoral and multistakeholder 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 behaviours. Considering these human and social dimensions is critical to a people-centred 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.

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. In Australia, for example, Indigenous Data Sovereignty refers to the inherent right of Aboriginal and Torres Strait Islander peoples 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, which can help to ensure the collection and analysis of data for indigenous peoples.

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

Governments and partners can work together to strengthen community engagement in a common effort to develop 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 citizens' media, can complement this. Although often overlooked, adolescents and youths constitute a key group that can actively engage as agents of social change to contribute to more effective policies and programmes 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, the Ministry of Health and Ministry of Home Affairs, with support by WHO, developed the nationwide initiative CONNECT – Community Network Engagement for Essential Health Care 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 the COVID-19 pandemic, 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 Sam Sang, a decentralized multisectoral policy (***Box 11***).

BOX 11. CONNECT: an initiative to foster community engagement to enhance COVID-19 responses and primary care in Lao People's Democratic Republic

Lao People's Democratic Republic is rolling out and scaling up CONNECT – Community Network Engagement for Essential Health Care and COVID-19 Responses through Trust. In the country, long-standing challenges in community health were highlighted and exacerbated by the pandemic. Weak relationships between villagers and the health system result in limited health care access or demand, vaccine hesitancy, poor maternal and child health outcomes, and low levels of trust – in both health systems and health care providers. Similarly, limited local ownership regarding health decision-making hindered 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 the COVID-19 pandemic, CONNECT brings together representatives from communities, government agencies, health care 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 involvement in 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 neighbours, 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 roll out CONNECT nationwide.

In directly supported communities there has been an increase in births at health care facilities and use of antenatal care, higher vaccination rates (reflecting increase in trust and engagement of local authorities), improved communication and coordination between village authorities and health centres, and better psychosocial support for and decreased stigmatization of families isolated during the COVID-19 pandemic. 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 (including delivery with a skilled birth attendant), health knowledge, and vaccination at a local level.

8. Harmonization of monitoring of 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.

8.1 Action 1: Collaborate with WHO, United Nations organizations, intergovernmental agencies and stakeholders in regional and global monitoring of SDHE, human rights, sustainability, and other relevant issues across multiple sector

WHO can serve in a leadership and transformative role globally, supporting monitoring and action to address SDHE 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 SDHE 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 was launched, including some SDH indicators. WHO can also help provide insights into how countries are performing, such as publishing national scorecards on SDHE, which 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 policy-making to improve SDHE.

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

WHO also plays an important role in in facilitating multisectoral engagement in monitoring of and action on SDHE 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 of and action on SDHE. 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 of and action on SDHE 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 or development partners. Leveraging

its relationships with many research institutions, WHO can partner with academia and create a network of researchers that collect and analyse data and publish papers and reports on monitoring SDHE in countries. In addition, WHO can partner with civil society, including religious bodies and nongovernmental organizations, which are key stakeholders in moving the needle on SDH 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.

Beyond WHO, other United Nations 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 undertake monitoring work that can be informative for monitoring SDHE. For instance, the International Organization for Migration 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.

8.2 Action 2: Embed monitoring of SDHE across multiple sectors within existing processes to monitor progress towards the 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 SDHE and achieving many SDGs. The United Nations monitors the realization of the SDGs, and the monitoring framework includes several relevant indicators for SDHE. 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. Linking indicators from this operational framework to the Global SDG Indicator Framework 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 United Nations 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 *(39)*. 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 operational 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 progress on climate and health equity.

9. Agenda for areas and actions to support monitoring of SDHE and using data to inform policy for 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* presents the new agenda for key areas and actions to support monitoring SDHE and using data to inform policy action to close unacceptable health gaps that persist in countries across the world.

TABLE 4. Areas and actions for monitoring SDHE

1. Process for technical monitoring of SDHE at national and subnational levels	
1. Map priorities, data sources, systems and platforms	
1.1	Conduct mapping of scientific and policy literature to identify level, scope and priorities for monitoring SDHE
1.2	Map data sources, systems and platforms
1.3	Identify and select appropriate indicators from the proposed menu
2. Analyse data	
2.1	Prepare disaggregated data
3. Report results	
3.1	Create standardized national and global SDH and SDH action monitoring reports for data disaggregated by equity dimensions
3.2	Ensure quality checks and 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

TABLE 4. continued, Areas and actions for monitoring SDHE

2. Using data to inform policy for health equity at national and subnational levels
1. Scope the policy landscape, map the policy cycle and conduct stakeholder mapping
2. Strengthen political will, commitment and leadership
3. Support multisectoral governance
3.1 Ensure linkages for monitoring SDHE with existing multisectoral policy collaboration initiatives (such as Health in All Policies)
3.2 Ensure appropriate and agreed-upon data governance rules and ethics
3.3 Scan governance policies and frameworks to enable data sharing and transparency across sectors
3.4 Establish, strengthen and reform legal frameworks for monitoring SDHE
3.5 Secure and establish objectives, roles and responsibilities across departments and agencies for monitoring SDHE
3.6 Increase accountability, transparency and responsiveness for monitoring SDHE
4. Bring together multisectoral policy-makers to translate data into action
4.1 Conduct regular processes for translation of data to guide priority setting, actions, interventions and investment across multiple sectors for addressing SDHE
4.2 Convene policy dialogues on data on SDHE
4.3 Incorporate data into policy-making to tackle SDH and adopt actions to advance health equity across multiple sectors
5. Foster community leadership and multisectoral and multistakeholder collaboration that is accountable and transparent
3. Harmonization of monitoring of SDHE at regional and global levels
1. Collaborate with WHO, United Nations organizations, intergovernmental agencies and stakeholders in regional and global monitoring of SDHE, human rights, sustainability, and other relevant issues across multiple sectors
2. Embed monitoring of SDHE across multiple sectors within existing processes to monitor progress towards the Sustainable Development Goals (SDGs)

References

1 GBD 2015 Healthcare Access and Quality Collaborators. Healthcare access and quality index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990–2015: a novel analysis from the Global Burden of Diseases Study 2015. Lancet. 2017;390(10091):15–21.

2 Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. Annu Rev Public Health. 2011;32:381–98.

3 Marmot M. Social determinants of health inequalities. Lancet. 2005;365(9464):1099–104.

4 Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization; 2008.

5 Dahlgren G, Whitehead M. 1991. Policies and strategies to promote social equity in health. Stockholm: Institute for Future Studies; 1991.

6 Hood CM, Gennuso KP, Swain GR, Catlin BB. County health rankings: relationships between determinant factors and health outcomes. Am J Prev Med. 2016;50(2):129–135. doi:10.1016/j.amepre.2015.08.024.

7 McGinnis JM, Williams-Russo P, Knickman J. The case of more active policy attention to health promotion. Health Aff. 2002;21:78–93.

8 Thornton RLJ, Glover CM, Cené CW, Glik DC, Henderson JA, Williams DR. Evaluating strategies for reducing health disparities by addressing the social determinants of health. Health Aff (Millwood). 2016; 35(8):1416–23.

9 Marmot M, Wilkinson R, editors. Social determinants of health, second edition. New York: Oxford University Press; 2005.

10 National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States; Baciu A, Negussie Y, Geller A et al., editors. Communities in action: pathways to health equity. Washington (DC): National Academies Press (US); 2017.

11 Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2. Geneva: World Health Organization; 2010.

12 Gender and health. Geneva: World Health Organization (https://www.who.int/health-topics/gender#tab=tab_1, accessed 29 December 2023).

13 Gender mainstreaming for health managers: a practical approach. Geneva: World Health Organization (https://www.who.int/publications/i/item/9789241501057, accessed 31 December 2023).

14 Rio Political Declaration on Social Determinants of Health. World Conference on Social Determinants of Health, Rio de Janeiro, 19–21 October 2011. Geneva: World Health Organization; 2011.

15 Resolution WHA62.14: Reducing health inequities through action on the social determinants of health. In: Sixty-second World Health Assembly, May 2009. Geneva: World Health Organization; 2009 (https://apps.who.int/iris/rest/bitstreams/6228/retrieve, accessed 29 December 2023).

16 Resolution WHA65.8: Outcome of the World Conference on Social Determinants of Health. In: Sixty-fifth World Health Assembly, May 2012. Geneva: World Health Organization; 2012 (https://apps.who.int/gb/ebwha/pdf_files/WHA65/A65_R8-en.pdf, accessed 29 December 2023).

17 Resolution WHA74.16: Social determinants of health. In: Seventy-fourth World Health Assembly, 2021. Geneva: World Health Organization; 2021.

18 Health in All Policies: seizing opportunities, implementing policies. Finland: Ministry of Social Affairs and Health; 2013.

19 Scheele C, Little I, Diderichsen F. Governing health equity in Scandinavian municipalities: the inter-sectorial challenges. Scand J Public Health. 2018;46(1):57–67.

20 Saunders M, Barr B, McHale P, Hamelmann C. Key policies for addressing the social determinants of health and health inequities. Health Evidence Network (HEN) Synthesis Report No. 52. Copenhagen: World Health Organization Regional Office for Europe; 2017.

21 Rasanathan K, Diaz T. Research on health equity in the SDG era: the urgent need for greater focus on implementation. Int J Equity Health. 2016;15(1):202.

22 Baum F, Townsend B, Fisher M, Browne-Yung K, Freeman T, Ziersch A et al. Creating political will for action on health equity: practical lessons for public health policy actors. Int J Health Policy Manag. 2022;11(7):947–60. doi:10.34172/ijhpm.2020.233.

23 Solar O, Valentine N, Castedo A, Brandt GS, Sathyandran J, Ahmed Z et al. Action on the social determinants for advancing health equity in the time of COVID-19: perspectives of actors engaged in a WHO Special Initiative. Int J Equity Health. 2022;21(3):1–10.

24 Bambra C, Riordan R, Ford J, Matthews F. The COVID-19 pandemic and health inequalities. J Epidemiol Community Health. 2020;74(11):964–8.

25 Krieger N. Enough: COVID-19, structural racism, police brutality, plutocracy, climate change – and time for health justice, democratic governance, and an equitable, sustainable future. Am J Public Health. 2020;110(11):1620–3.

26 Paremoer L, Nandi S, Serag H, Baum F. Covid-19 pandemic and the social determinants of health. BMJ. 2021;372:n129.

27 The Sustainable Development Goals Report 2022. New York: United Nations; 2022 (https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf, accessed 30 December 2023).

28 Transforming our world: the 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015. New York: United Nations; 2015.

29 Naidoo R, Fisher B. Reset Sustainable Development Goals for a pandemic world. Nature. 2020;583(7815):198–201.

30 WHO Health Emergencies Programme. WHO COVID-19 dashboard. Geneva: World Health Organization (https://covid19.who.int/data, accessed 30 December 2023).

31 COVID-19 and the social determinants of health and health equity: evidence brief. Geneva: World Health Organization; 2021.

32 Chapter 1: The economic impacts of the COVID-19 crisis. In: World development report 2022: finance for an equitable recovery. Washington (DC): World Bank; 2022 (https://www.worldbank.org/en/publication/wdr2022/brief/chapter-1-introduction-the-economic-impacts-of-the-covid-19-crisis, accessed 30 December 2023).

33 Impact of the COVID-19 pandemic on trade and development: transitioning to a new normal. New York: United Nations Conference on Trade and Development; 2020 (https://unctad.org/system/files/official-document/osg2020d1_en.pdf, accessed 31 December 2023).

34 Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C et al. The socio-economic implications of the coronavirus pandemic (COVID-19): a review. Int J Surg. 2020;78:185–93. doi:10.1016/j.ijsu.2020.04.018.

35 Douglas M, Katikireddi SV, Taulbut M, McKee M, McCartney G. Mitigating the wider health effects of covid-19 pandemic response. BMJ. 2020;369:m1557.

36 Brown EM, Fernald LC, Hamad R, Hoskote M, Jackson KE, Gosliner W. Pandemic-related socioeconomic disruptions and adverse health outcomes: a cross-sectional study of female caregivers. BMC Public Health. 2022;22(1):1893.

37 SDG 1 – No poverty. End poverty in all its forms, everywhere. New York: United Nations (https://unstats.un.org/sdgs/report/2022/goal-01/, accessed 31 December 2023).

38 Marmot M, Allen J, Goldblatt P, Herd E, Morrison J. Build back fairer: the COVID-19 Marmot review. Institute of Health Equity; 2020.

39 Working Group for Monitoring Action on the Social Determinants of Health. Towards a global monitoring system for implementing the Rio Political Declaration on Social Determinants of Health: developing a core set of indicators for government action on the social determinants of health to improve health equity. Int J Equity Health. 2018;17(1):136.

40 Thacker SB, Birkhead GS. Surveillance. In: Gregg MB, editor. Field epidemiology. Oxford, United Kingdom: Oxford University Press; 2008.

41 Evans T, Whitehead M, Diderichsen F, Bhuiya A, Wirth M, editors. Challenging inequities in health: from ethics to action. United Kingdom: Oxford University Press; 2001.

42 Resolution WHA76.7 Rev.1 Add.1: Social determinants of health. In: Seventy-sixth World Health Assembly, May 2023. Geneva: World Health Organization; 2023.

43 Health Inequality Monitor. Geneva: World Health Organization (https://www.who.int/data/inequality-monitor, accessed 2 January 2024).

44 Urban HEART: Urban Health Equity Assessment and Response Tool. Kobe, Japan: WHO Centre for Health Development; 2010.

45 SDG Indicators Database. United Nations, Department of Economic and Social Affairs, Statistics Division (https://unstats.un.org/sdgs/dataportal/, accessed 2 January 2024).

46 Healthy People 2030: priority areas – social determinants of health. United States Department of Health and Human Services, Office of Disease Prevention and Health Promotion (https://health.gov/healthypeople/priority-areas/social-determinants-health, accessed 2 January 2024).

47 Valentine NB, Koller TS, Hosseinpoor AR. Monitoring health determinants with an equity focus: a key role in addressing social determinants, universal health coverage, and advancing the 2030 sustainable development agenda. Glob Health Action. 2016;9:10.3402/gha.v9.34247.

48 Blas E, Ataguba JE, Huda TM, Bao GK, Rasella D, Gerecke MR. The feasibility of measuring and monitoring social determinants of health and the relevance for policy and programme: a qualitative assessment of four countries. Glob Health Action. 2016;9:10.3402/gha.v9.29002.

49 WHO Health Equity Policy Tool. Copenhagen: WHO Regional Office for Europe; 2019.

50 Krieger N, Testa C, Hanage WP, Chen JT. US racial and ethnic data for COVID-19 cases: still missing in action. Lancet. 2020;396(10261):e81.

51 The Declaration of Alma-Ata. International Conference on Primary Health Care: Alma-Ata, Kazakhstan, 12 September 1978. Geneva: World Health Organization; 1988.

52 Shankardass K, Muntaner C, Kokkinen L, Shahidi FV, Freiler A, Oneka G et al. The implementation of Health in All Policies initiatives: a systems framework for government action. Health Res Policy Syst. 2018;16(1):26.

53 Diderichsen F. Towards a theory of health equity. Unpublished manuscript, 1998.

54 Braveman P, Gottlieb L. The social determinants of health: it's time to consider the causes of the causes. Public Health Reports. 2014;129:19–31.

55 Zimmerman FJ, Anderson NW. Trends in health equity in the United States by race/ethnicity, sex, and income, 1993–2017. JAMA Network Open. 2019;2:e196386.

56 Pickett KE, Wilkinson RG. Income inequality and health: a causal review. Soc Sci Med. 2015;128:316–26.

57 Bailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. Lancet. 2017;389(10077):8–14.

58 Maani N, Collin J, Friel S, Gilmore AB, McCambridge J, Robertson L et al. Bringing the commercial determinants of health out of the shadows: a review of how the commercial determinants are represented in conceptual frameworks. Eur J Public Health. 2020;30(4):660–4.

59 The Lancet Digital Health. Digital technologies: a new determinant of health. Lancet Digit Health. 2021;3(11):e684.

60 Krieger N. Discrimination and health inequities. Int J Health Serv. 2014;44(4):643–710.

61 Linos N, Bassett MT, Salemi A, Matache M, Tararas K, Kort R et al. Opportunities to tackle structural racism and ethnicity-based discrimination in recovering and rebuilding from the COVID-19 pandemic. Nat Commun. 2022;13(1):3277.

62 Lyles CR, Wachter RM, Sarkar U. Focusing on digital health equity. JAMA. 2021;326(18):1795–6.

63 Sieck CJ, Sheon A, Ancker JS, Castek J, Callahan B, Siefer A. Digital inclusion as a social determinant of health. NPJ Digit Med. 2021;4:52.

64 Hahn RA, Truman BI. Education improves public health and promotes health equity. Int J Health Serv. 2015;45(4):657–78.

65 Pega F, Liu SY, Walter S, Lhachimi SK. Unconditional cash transfers for assistance in humanitarian disasters: effect on use of health services and health outcomes in low- and middle-income countries. Cochrane Database of Systematic Reviews. 2015;(9):CD011247.

66 Owusu-Addo E, Renzaho AM, Smith BJ. The impact of cash transfers on social determinants of health and health inequalities in sub-Saharan Africa: a systematic review. Health Policy Plan. 2018;33(5):675–96.

67 Lundberg O, Yngwe MA, Stjärne MK, Elstad JI, Ferrarini T, Kangas O et al. The role of welfare state principles and generosity in social policy programmes for public health: an international comparative study. Lancet. 2008;372(9650):1633–40.

68 Plan of Action on Health in All Policies. Washington (DC): Pan American Health Organization; 2014.

69 Monitoring health and health system performance in the Eastern Mediterranean Region: core indicators and indicators on the health-related Sustainable Development Goals, 2021. Cairo: WHO Regional Office for the Eastern Mediterranean; 2022.

70 Commission on Social Determinants of Health in the Eastern Mediterranean Region. Build back fairer: achieving health equity in the Eastern Mediterranean Region: report of the Commission on Social Determinants of Health in the Eastern Mediterranean Region. Cairo: WHO Regional Office for the Eastern Mediterranean; 2021.

71 Resolution adopted by the General Assembly on 6 July 2017. 71/313: Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development. In: Seventy-first session of the United Nations General Assembly. New York: United Nations; 2017 (https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F71%2F313&Language=E&DeviceType=Desktop&LangRequested=False, accessed 3 January 2024).

72 Resolution 68/632: Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development. In: Sixty-eighth session of the United Nations General Assembly. New York: United Nations; 2017.

73 SDG monitoring and reporting toolkit for UN country teams. United Nations, Department of Economic and Social Affairs, Statistics Division (https://unstats.un.org/sdgs/unct-toolkit/, accessed 3 January 2024).

74 Borrell C, Malmusi D, Muntaner C. Introduction to the "Evaluating the Impact of Structural Policies on Health Inequalities and Their Social Determinants and Fostering Change" (SOPHIE) project. Int J Health Serv. 2017;47(1):10–17.

75 Moving forward equity in health: monitoring social determinants of health and the reduction of health inequalities. Madrid: Ministry of Health and Social Policy of Spain; 2010.

76 Health inequalities. Paris: Organisation for Economic Co-operation and Development (https://www.oecd.org/els/health-systems/inequalities-in-health.htm, accessed 3 January 2024).

77 Phillips RL, Liaw W, Crampton P, Exeter DJ, Bazemore A, Vickery KD et al. How other countries use deprivation indices – and why the United States desperately needs one. Health Aff (Millwood). 2016;35(11):1991–8.

78 Lundberg O. The renewed public health policy in Sweden. Department of Public Health Services (https://actionsdg.ctb.ku.edu/wp-content/uploads/2020/12/OLundberg-HiAP-COVID-Webinar-Jan2021.pdf, accessed 3 January 2024).

79 Rivillas JC, Colonia FD. Reducing causes of inequity: policies focused on social determinants of health during generational transitions in Colombia. Glob Health Action. 2017;10(1):1349238.

80 Marmot Health Indicators for local authorities in England. Office for Health Improvement and Disparities and Institute of Health Equity (https://www.instituteofhealthequity.org/resources-reports/marmot-health-indicators-for-local-authorities-in-england---update-2014, accessed 3 January 2024).

81 Wider Determinants of Health. Office for Health Improvement and Disparities (https://fingertips.phe.org.uk/profile/wider-determinants, accessed 3 January 2024).

82 Healthy City Action Plan: a multi-stakeholder framework for action 2022–2026. Bhutan: Thimphu Thromde, in collaboration with Ministry of Health and Ministry of Works and Human Settlement; 2016 (https://www.moh.gov.bt/wp-content/uploads/ict-files/2022/09/B5_HCAP_updated_May_2022-5.pdf, accessed 3 January 2024).

83 Pega F, Valentine NB, Rasanathan K, Hosseinpoor AR, Torgersen TP, Ramanathan V et al. The need to monitor actions on the social determinants of health. Bull World Health Organ. 2017;95(11):784–7.

84 Social determinants of health. Centers for Disease Control and Prevention (https://www.cdc.gov/publichealthgateway/sdoh/index.html, accessed 3 January 2024).

85 Health Inequality Monitor: tools and resources for health inequality monitoring. Geneva: World Health Organization (https://www.who.int/data/inequality-monitor/tools-resources, accessed 3 January 2024).

86 Resolution adopted by the General Assembly on 29 January 2014. 68/261: Fundamental principles of official statistics. In: Sixty-eighth session of the United Nations General Assembly. New York: United Nations; 2014 (https://unstats.un.org/unsd/dnss/gp/fp-new-e.pdf, accessed 3 January 2024).

87 IAEG-SDGs: data disaggregation for the SDG indicators. United Nations Statistical Commission (https://unstats.un.org/sdgs/iaeg-sdgs/disaggregation/, accessed 3 January 2024).

88 Annex I of data disaggregation for the SDG indicators: compilation on data disaggregation dimensions and categories for global SDG indicators. IAEG-SDGs; 2019 (https://unstats.un.org/sdgs/files/Annex%201%20-%20Disaggregation%20Compilation.xlsx, accessed 3 January 2024).

89 Evans T, Brown H. Road traffic crashes: operationalizing equity in the context of health sector reform. Inj Control Saf Promot. 2003;10(1–2):11–2.

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

91 Multisectoral Woreda Transformation: the 2030 Agenda for Sustainable Development in Ethiopia. Addis Ababa: Government of Ethiopia; 2019 (https://www.moh.gov.et/site/sites/default/files/2021-09/Multisectoral%20Woreda%20Transformation%20%28MSWT%29%20.pdf, accessed 4 January 2023).

Annex 1. SDH and actions addressing SDH that improve health equity

Social determinants of health (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. More specifically, SDH encompass both intermediary determinants of health and structural determinants of health, commonly referred to as "downstream" and "upstream" factors, respectively.

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

Structural determinants of health refer to the interplay between the socioeconomic and political context and structural mechanisms 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. Studies suggest that SDH account for as much as 50% of health outcomes and are significantly associated with health inequities.

Interventions and policies that address SDH and inequities in them can have positive effects on health and reduce health inequities. 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. Also, early childhood education programmes 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. Workplace policies that address occupational health and safety, job security, and fair wages can also impact health equity by improving working conditions and economic stability for disadvantaged populations. The growing evidence of the powerful influence of SDH and actions to advance health equity underscores the need for policy action.

Annex 2. WHO Expert Group on the operational framework for monitoring social determinants of 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, SRH/HRP, WHO
Geneva, Switzerland

Professor John Ataguba
Canada Research Chair in Health Economics,
University of Manitoba
Winnipeg, Canada
Executive Director, African Health Economics
and Policy Association
Accra, Ghana

Dr Mickey Chopra
Global Lead, Service Delivery, World Bank
Washington (DC), United States of America

Professor Ana Diez Roux
Dean, Drexel University, Dornsife School of Public Health
Philadelphia, United States of America

Dr Carlos Dora
President, International Society for Urban 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
Canberra, Australia

Professor Sandro Galea
Dean, Boston University School of Public Health
Boston, United States of America

Dr Peter Goldblatt
Senior Advisor, UCL Institute of Health Equity
London, United Kingdom

Professor Ebenezer Owusu-Addo
Senior Research Fellow
Bureau of Integrated Rural Development (BIRD)
College of Agriculture and Natural Resources
Kwame Nkrumah University of Science and Technology
Kumasi, Ghana

Professor Hoda Rashad
Director, Social Research Center
American University in Cairo
Cairo, Egypt

Professor Srinath Reddy
Honorary Distinguished Professor, Public Health
Foundation of India (former President)
Delhi, India

Annex 3. 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 was carried out of scientific and policy writings on data and monitoring related to health inequities, SDH, and actions to improve health equity. The types of writings included peer review papers, 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 inequities", "health inequalities", "social determinants of health", "policies", "interventions", "health equity", and iterations of these terms, and snowballing – that is, using the reference list of a paper or the citations to the paper – to identify additional papers. Abstracts and publication sources of writings were reviewed 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 triangulation and understand the previous work led by WHO in this area, WHO grey literature, consisting of project documents, reports, draft journal papers, and websites, was reviewed as well as related peer-reviewed publications developed through WHO projects on SDH monitoring between 2013 and 2018. This material was reviewed in depth and cross-checked with information from the rapid review using PubMed, Google Scholar, and Google. Selected writings were collected and saved in a Zotero library. The selected writings informed 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 that the World Health Assembly 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: management of conflict of interests and convening

In November 2021, WHO formed 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.

Following identifying and inviting experts to participate in the expert group, WHO underwent a formal process for the collection, assessment, and management of conflict of interests for these external contributors who acted on their individual capacity. To ensure the highest integrity and public confidence in the expert group's activities, WHO required that experts disclose any circumstances that could give rise to a potential conflict of interest (i.e., any interest that may affect, or may reasonably be perceived to affect the expert's objectivity and independence).

All experts serving in an advisory role were required to disclose any circumstances that could represent a potential conflict of interest (i.e., any interest that may affect, or may reasonably be perceived to affect, the expert's objectivity and independence). They were asked disclose on a Declaration of Interests (DOI) form any financial, professional or other interest relevant to the subject of the work or meeting in which they have been asked to participate in or contribute towards and any interest that could be affected by the outcome of the meeting or work. They were also requested to declare relevant interests of their immediate family members, and, if they are aware of it, relevant interests of other parties with whom they have substantial common interests and which may be perceived as unduly influencing their judgement (e.g. employer, close professional associates, administrative unit or department). Experts were asked to complete the DOI form and submit it to WHO Secretariat if possible at least 4 weeks but no later than 2 weeks before the expert meeting. They were also required to promptly inform the Secretariat if there is any change in this information prior to, or during the course of, the meeting or work. All experts were required to complete the DOI form before their participation in the expert meeting could be confirmed. The Secretariat concluded there were no potential conflict exists or that the interest is irrelevant or insignificant, so all experts were able to participate in the meeting.

Following the process for the collection, assessment, and management of conflict of interests, the expert group meeting was convened and occurred virtually on 6 December 2021 and 7 December 2021. During the 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 inequities, SDH, and actions to improve health equity was conducted. The types of writings included peer-reviewed papers, WHO and other United Nations 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 inequities”, “health inequalities”, “social determinants of health”, “policies”, “interventions”, “health equity”, and iterations of these terms, and snowballing – that is, using the reference list of a paper or the citations to the paper – to identify additional papers. Abstracts and publication sources of writings were reviewed 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 selected writings were used as 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 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 commenced. 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 policy-makers working in government and in the public policy arena more generally. The peer reviewers came 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 written 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 written 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 inequities, 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.

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 to 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 that took place at the end of May 2023.

Discussion and endorsement at the Seventy-sixth World Health Assembly.

During the Seventy-sixth World Health Assembly, the *Operational framework for monitoring social determinants of health equity* was discussed as part of the SDH agenda item. Member States expressed strong support for the framework and endorsed it.

8. Prepare the operational framework for publication and launch

After the endorsement by Member States, the operational framework was prepared for publication and launch, including copyediting, design and layout, executive clearance and production clearance and web validation.

Annex 4. 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 geographical characteristics. 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 an area of work around health inequality monitoring to strengthen and build capacity for the practice. The three main pillars of work, as articulated in the 2022–2027 Inequality Monitoring and Analysis Strategy, are centred 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. 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). 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 analysing, interpreting and reporting inequality data. 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.
- WHO *State of inequality* and *Explorations of inequality* 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. 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 monitoring. 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 monitoring, and the topics of immunization and sexual, reproductive, maternal, newborn, child and adolescent health.

Annex 5. 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 behaviours (e.g., smoking, alcohol, diet and nutrition); (3) physical and social environment (e.g., water and sanitation, housing conditions, urban design, air equality, 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, which was a direct outcome of the work that WHO had undertaken with the Commission. At an organizational level, the staff responsible for developing the area of measurement and monitoring of health inequalities, starting with the programme of Health Systems Performance Assessment, moved into the Health Equity Team responsible for the Secretariat of the Commission on Social Determinants of Health. This team worked on the development of equity measures and statistics. The team was transferred to the WHO central data team in 2007 as part of the core statistics of the organization.
2009	The Sixty-second World Health Assembly adopted the Commission's recommendation in resolution WHA62.14.
2010	Fifty-three 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: (1) physical environment and infrastructure; (2) social and human development; (3) economic opportunity; (4) governance; and (5) general population health. Thus, through an SDH approach, the tool provides a platform for multisectoral 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 (Islamic Republic of 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	Sixty-fifth World Health Assembly adopted the recommendation of the Rio Political Declaration in resolution WHA65.8. Determinants of health adopted by the World Health Assembly.

YEAR(S)	ACTIVITY
2012-2013	From 2012/3 to 2016, the Rockefeller Foundation funded a project that aimed to advance a more inclusive universal health coverage concept, including prevention and health promotion with a focus on equity. The project tried to do this through proposing indicators on SDH 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 towards universal health coverage, focusing on multisectoral 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 feasible through the equity drive of the international community with the United Nations 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 (SDG 4); (8) gender norms (SDG 5); (9) participation (SDG 16); (10) registration (institutional constraints) (SDG 16); (11) accountability (institutional constraints/ corruption) (SDG 10, 16); and (12) discrimination (SDG 5, 10).
2014	The WHO Regional Office for Europe renewed its commitment to advancing SDH-focused monitoring in its *European review of social determinants of health and the health divide*.
2015	The Sixty-eighth 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 WHA68.17. This work inspired the development of the Health in All Policies (HiAP) measurement framework developed by 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 primary health care and the current HiAP action areas of SDH.
2016-2017/18	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. WHO, the Public Health Agency of Canada, and the Canadian Institutes of Health Research–Institute of Population and Public Health, and the Working Group for Monitoring Action on Social Determinants of Health they formed, developed a background paper for the meeting, which took place in June 2016, proposing a core basket of social determinants of health action indicators, reflecting the structure of the Rio Political Declaration. Representatives of the working group, consisting of world experts from countries across WHO's six regions, reviewed this framework in Ottawa. Consultations on the revised framework took place through a public web consultation between November 2016 and January 2017. Forty-one 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. The final measurement domains were aligned with 14 objectives for action on SDH, as follows: Improve intersectoral action for health and health equity • 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 • Objective 4. Improve social protection across the life course • Objective 5. Improve participation and transparency in policy-making on determinants of health, particularly from 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 programmes and 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 these 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.

YEAR(S)	ACTIVITY
2015-2019	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 were 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. Key categories of adverse SDH included: • 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 neighbourhoods; • 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.

Equity and Health Unit
Department of Social Determinants of Health
World Health Organization
20, Avenue Appia
1211 Geneva 27
Switzerland

Email: equityandhealth@who.int
Website: https://www.who.int/teams/social-determinants-of-health/equity-and-health

9789240088320