

The Social Determinants of Health Equity

Fact Sheet

Everyone Has the Right to the Highest Attainable Level of Health

A person's health is not only determined by access to medical care. Rather, health is greatly dependent on our conditions of daily life. Inequalities in social conditions result from the unequal distribution of money, power, and resources in society. Different social conditions, or determinants of health, in turn create differences in health status within and between population groups. In many cases these differences are unfair and avoidable, which represent "health inequities", and persist alongside a vision for health equity.

This fact sheet provides a summary of the social determinants of health equity (SDHE), including the factors that contribute to health and its inequities, models for understanding the SDHE, and policy actions to address them. All sectors of society have a role to play in reducing health inequities through action on their overarching and structural causes.

Defining Key Terms of the SDHE

Social Determinants of Health (SDH)

The social, economic and environmental conditions in which people are born, grow, live, work, learn, play, and age that impact health and well-being across the life course, directly and indirectly, through the distribution of power, money and resources in society.¹

Health Equity (HE)

The absence of unfair and avoidable differences in health within and between population groups, defined by social, economic, demographic, or geographic factors. Based on social justice and fairness, health equity envisions a future where everyone is provided a fair opportunity to attain their full health potential.

Structural Determinants

The historical, socioeconomic, political, and cultural factors that shape social hierarchies and access to resources, influenced by historical context and which operate over the life course.

Intermediary Determinants

Conditions of daily life that support health, such as education, income, and living conditions.

Social Determinants of Health Equity (SDHE)

The societal factors that shape social position and influence access to power, money, and resources, leading to health disparities across different population groups. These disparities often reflect systemic disadvantages and inadequate policies that disproportionately impact certain communities.

Health Inequality

Differences in resources, opportunities, or outcomes among people which can be measured and used to identify pathways through which health inequities are arising.

VS.

Health Inequity

Differences that arise through inequality that are avoidable through reasonable action on the SDH and are thus deemed to be unfair.

The 'Rainbow Model' of the SDH

Otherwise known as the Dahlgren and Whitehead's *Social Determinants of Health Framework*, the "Rainbow Model" (Figure 1) highlights the layers of influence that shape the health of individuals and populations.² The outermost layers of the model show the overarching impact of general socioeconomic, cultural and environmental conditions, as well as living and working conditions. This model presents a wider understanding of the causes of health inequities and highlights the importance of targeted interventions beyond the individual level.

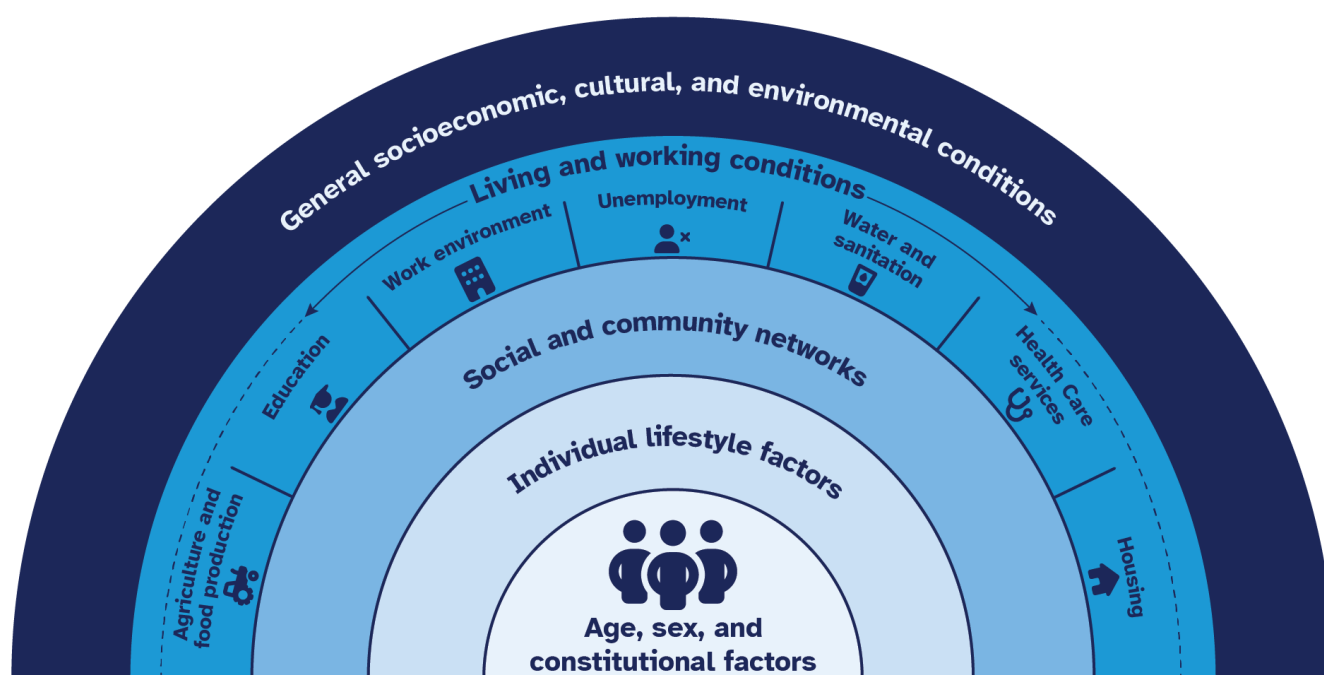


Figure 1: The Rainbow Model of the SDH

Source: Dahlgren G, Whitehead M. *Policies and Strategies to Promote Social Equity in Health Background Document to WHO – Strategy Paper for Europe*. 1991 Sep p. 11.

At least 50% of health outcomes and health inequities are influenced by the SDH⁵

Commission on Social Determinants of Health Framework

Otherwise known as the Solar & Irwin model, and used by the Commission on Social Determinants of Health (CSDH), this conceptual framework (Figure 2) is the most descriptive conceptual framework in terms of social theories and the analysis of power.⁴ The CSDH framework illustrates how one social group can gain power over another through socioeconomic and political contexts that provide opportunities and resources for better education, occupations and income. This model presents a hierarchy of determinants and is best known for its distinction between structural and intermediary pathways in the SDHE. This distinction is important when planning actions to address health inequities and can help identify which areas to target for intervention. For example, when planning to address how food and nutrition impact health, one may consider only food quality standards; whereas when planning to address inequities in access to food and nutrition, one will need to consider what policies are determining greater availability, affordability and choice for some

social groups relative to others. Both aspects of healthy public policy are needed, but they address fundamentally different questions – the former addresses the question of whether the right institutions are in place to deliver a safe, healthy food supply; the latter addresses the question of what other policies in society predispose some social groups to access healthy food relative to others.

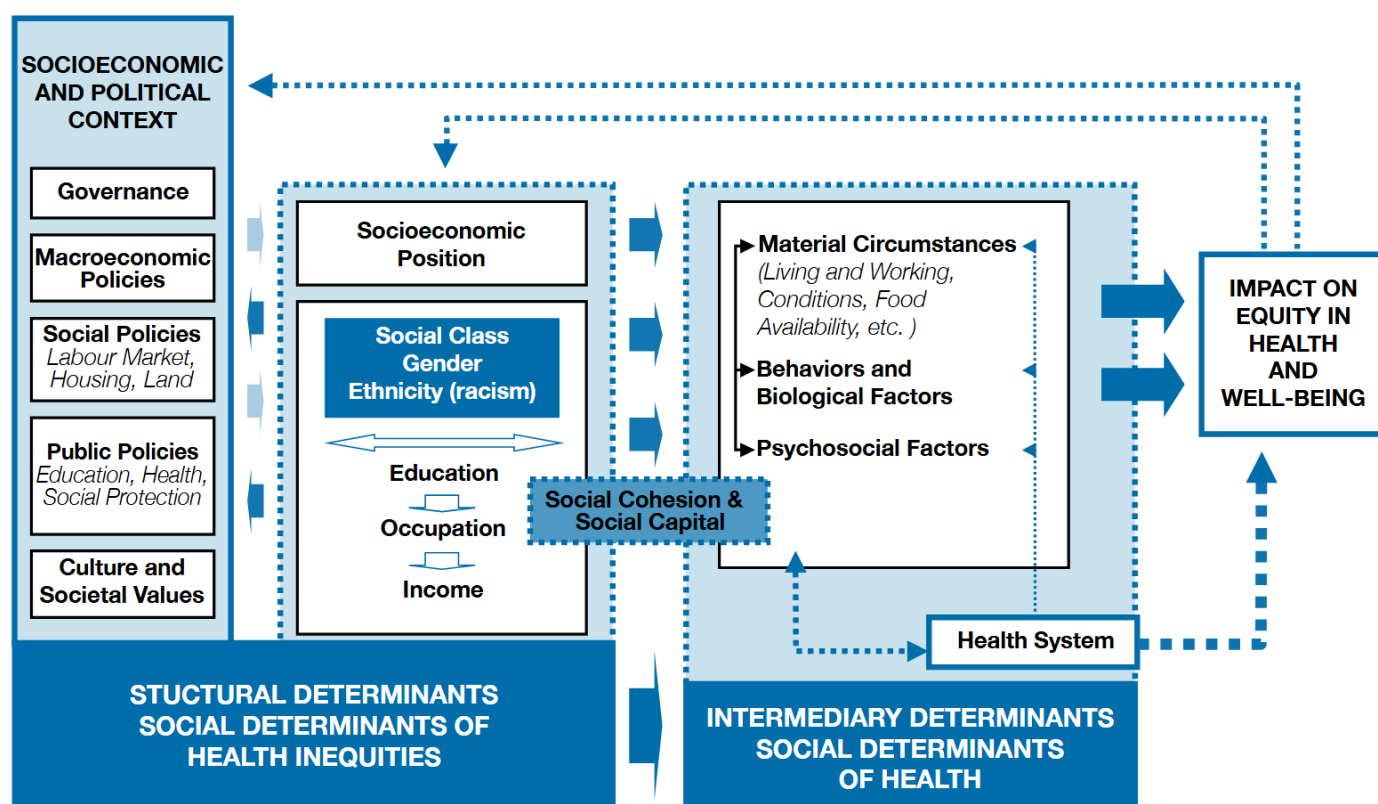


Figure 2: The CSDH Conceptual Framework

Source: Solar O, Irwin A. A conceptual framework for action on the social determinants of health. *Social Determinants of Health Discussion Paper 2 (Policy and Practice)*.

The CSDH framework visually maps the pathways of the SDHE, beginning with the socioeconomic and political contexts, which shapes social and economic positions (structural determinants). These, in turn, influence intermediary determinants, such as living conditions, behaviours, and access to resources, ultimately impacting equity in health and well-being. The feedback loop structure of the framework highlights the interconnected nature of these determinants, illustrating how health equity both influences and is influenced by structural determinants. For example, having inadequate access to mental health support can predispose a person to poorer job or education performance which in turn can lead to worsened mental health. The framework's design simplifies the complex, interwoven concept of the SDHE to provide a visual representation of the dynamic relationships within the SDHE.

Social Stratification, Chronic Stress and a Life Course Approach

Social stratification refers to the mechanisms that categorise people into social groups based on factors such as wealth, income, occupation, place of residence, education level, sex, age, and geographical location, which determine their access to power, money, and resources. Pathways of health inequities can be identified by measuring these social indicators alongside health outcome indicators and developing and testing theories of change.

Chronic stress from adverse living conditions and lack of power further exacerbates health inequities, which can lead to unhealthy coping mechanisms and long-term physiological and psychological harm.

A life course approach is a temporal and societal approach to health and well-being that recognises how stages of one's life, and those of others, are intertwined. It aims to maximise functional ability and independence throughout life, through health promotion action in the early year of life and in every transitional stage thereafter. Factors like family, community, and environment are interconnected and influence health, with critical periods, especially childhood, having lasting effects. Addressing the SDHE at all life stages (particularly for families in the context of childhood) offers potential for improving health equity.⁵

The Commission on Social Determinants of Health

The CSDH (2005-2008) was a global collaboration of policymakers, researchers, and members of civil society who gathered evidence and shared experiences about what can be done to promote health equity and foster a global movement to achieve it.⁶ The Commission was tasked with collecting, collating, and synthesising global evidence on the SDHE and the impact of these determinants on health inequity, to make recommendations for action.

The CDSH recommendations were structured into three strategic areas of action:

1

Improve Daily Living Conditions

Measures included improving the well-being of women and children, enhancing the conditions in which children are born, investing in early childhood education, implementing supportive social policies for all, and creating environments that promote a thriving older life.

2

Tackle the Inequitable Distribution of Power, Money and Resources

Measures included governance dedicated to equity at all levels, emphasising HE in all policies, creating a capable public sector, ensuring financing for SDH action, encouraging corporate accountability, reinforcing state roles in health services, and fostering a robust governance system that supports civil society and collective action.

3

Measure and Understand the Problem and Assess the Impact of Action

Measures included establishing SDHE surveillance systems, assessing the HE impacts of policy and action, building organisational capacity, enhancing public understanding of the SDH, and investing in research on the SDH.

While there have been advances in the progression of health equity since the Commission, significant challenges remain in addressing structural determinants. Global crises like climate change, conflict and war, and the COVID-19 pandemic have further exacerbated inequities. During the period following the CSDH, there were several initiatives to champion actions on the SDH occurring at global, regional, national and subnational levels. A key


global event marking this work was the World Conference on the SDH (2011), which produced the Rio Political Declaration on the Social Determinants of Health – a global political commitment for implementation of a SDH approach to reduce health inequities.

Societal Challenges and the SDHE

Global instability caused by climate change, conflict and war, pandemics, widening socio-economic inequalities, and rising populism, are all contributing to social, ecological, economic, and political instability. Understanding how these broader societal forces influence health is crucial for developing effective strategies to promote health equity and address the root causes of health inequities. Below is a summary of the evidence in relation to these factors derived from the World Report on the Social Determinants of Health Equity³:

Economic Systems

Health and economic policies are interlinked, but some economically focused policies can exacerbate inequalities, leaving people with lower incomes behind and increasing health inequities. Economic growth often benefits the wealthy more, widening the gap between rich and poor. The commercial determinants of health (CDH) sit within economic systems and have a critical impact on health.



More than 700 million people live in extreme poverty ^{7, 8}

Cuts to social protection are linked to lower life expectancy ^{9, 10}

4 Industries account for 1/3 of all global preventable deaths ^{11, 12}



Countries with more expansive welfare states have better health and less health inequality ¹³


The public sector's share of GDP globally has dropped by ~10% over the past 20 years ¹⁴

Societal Infrastructure

Strong public institutions and social support mechanisms reinforce social cohesion and social capital which positively impact the SDHE. Historically, governments building societal infrastructure and providing universal education, social protection, and health coverage have had relatively higher standards of living and health, with fewer health inequities.

Urbanisation

Large population shifts to cities, which can be driven by structural forces such as climate factors, transform urban environments. These changes often strain infrastructure, which can lead to poor living conditions, inadequate access to education and services, pollution, rising health risks, and disease.



As of 2022, more than 1 billion people lived in urban slums and this figure is expected to triple by 2050 ¹⁵




Indigenous Peoples globally experience higher rates of physical illness, disease, food insecurity and poor living standards associated with the negative impacts of colonialism ¹⁶⁻¹⁸

Structural Discrimination

Structural discrimination against individuals for characteristics such as race or gender occurs systematically across society and is embedded in prevailing cultural norms, legal frameworks, institutional policies, and economic structures. It creates conditions of vulnerability and disadvantage for many population subgroups.

Conflicts

Conflicts disrupt livelihoods, health services, and social systems, which cause direct and indirect health impacts. Ongoing conflicts lead to significant health inequalities within and between countries, displacing millions and worsening living conditions for affected populations.



Overall forced displacement rose to 120 million by May 2024. This is the 12th consecutive annual increase ¹⁹

Digitalisation


Digitalisation can transform societies and health outcomes but a lack of access in low-income and marginalised communities' risks exacerbating inequalities. Digital technologies can influence mental health, social isolation, and addiction, and poses the challenge of misinformation and algorithmic biases.



1/3 of the world's population don't have digital access, these are those with the lowest incomes ²⁰⁻²³

Climate Change and Environmental Degradation

Climate change and environmental degradation can exacerbate health inequities and cause death through increased pollution, unsafe water, and extreme weather events, among other direct and indirect impacts. Climate change historically most effects marginalised communities who contribute the least global emissions.



Approximately 3.3 - 3.6 billion people are highly vulnerable to climate change ²⁴

Action Concepts for Addressing the SDHE

Intersectoral/Multisectoral Action

Intersectoral/multisectoral action (MSA) refers to the coordination of action between health and other sectors for overall social development and is an essential aspect of working to address the SDHE. Hierarchical organisations or structures require capacity (and capacity building) to enable conditions that promote a culture of collaboration. Operational processes, such as governance structures, are often needed to undertake effective collaborative, intersectoral, and multidisciplinary work. MSA necessitates broadening the traditional scope of 'health' (i.e., medical) policy to other areas (e.g., social, economic, environmental), to address the SDHE.

Health in All Policies

Health in All Policies (HiAP) is a recognised multisectoral approach to public policy for action on the determinants of health. It seeks to systematically consider the health implications of decisions within all government sectors, seek synergies, and avoid harmful health impacts to improve health and health equity.²⁵ In other words, HiAP is designed to promote health, health security, sustainability and well-being through all policies that address health determinants. An overall aim of HiAP approaches is to strengthen systems of governance and decision-making for to be more collaborative and inclusive of health, equity, and well-being considerations. Recently, the Four Pillars Model of HiAP has been developed which emphasises the elements necessary to sustain collaboration. The four pillars are: 'governance and accountability', 'leadership at all levels', 'ways of working and work methods', and 'resources, financing, and capabilities'.²⁶

Community Engagement and Social Participation

Community engagement, social participation and empowerment are crucial to the success of interventions on social determinants. Community engagement is fundamental to the sustainability of action, aiding individuals and communities to shape their own health determinants and be part of policy development, which can result in improved sense of control, self-efficacy, and improved psychological outcomes. Involvement of communities in core policy processes (e.g., budgeting) can also improve the accountability of the government and reduce corruption and mismanagement of resources through increased demand for transparency.

Relational community engagement emphasises improving the network of relationships among health care workers and how health services are designed and delivered rather than which services are provided.



Open information-sharing has been shown to have positive health effects³

Primary Health Care

Primary Health Care (PHC) is a whole-of-society approach to health that seeks to provide accessible and equitable medical care. PHC focuses on addressing people's needs as early as possible, offering a wide and varied range of services and intervention spanning from health promotion and disease prevention to treatment, rehabilitation, and palliative care, while also providing an initial filter to lessen the burden faced by tertiary healthcare services (e.g., hospitals).

Monitoring and Surveillance of SDHE

Governments, international organisations and other sectors (including communities) need to be able to measure and track progress of both the social determinants underlying health inequities and the impacts of policy and programs on health equity.

Data helps identify and prioritise issues related to the SDHE and track policies and investments addressing them, driving accountability and improvement.

In monitoring the SDHE, it is important to distinguish three broad categories of indicators:

1	Indicators on equity-focused policies and actions, including governance.
2	Indicators on the conditions in which people are living and working.
3	Indicators on health inequalities and equity outcomes related to health and healthcare, including the social and economic consequences.

Action Frameworks for Addressing the SDHE:

The World Health Organisation (WHO) World Report on the Social Determinants of Health Equity's Action Areas

Each of the four main strategic action areas (Figure 3) from the World Report on the Social Determinants of Health Equity is accompanied by corresponding sub-recommendations.³ These include promoting the SDHE in development financing and investment, addressing and protecting the SDHE in emergencies, migration, and conflict, highlighting the health equity co-benefits of climate action and biodiversity preservation, supporting community engagement and civil society, and achieving Universal Health Coverage through progressive health financing and PHC approaches.



Figure 3: The Four Action Areas of the WHO World Report on the Social Determinants of Health Equity Action

Operational Framework for Monitoring the SDHE

The 2024 WHO Operational Framework for Monitoring the Social Determinants of Health Equity provides countries with globally applicable and harmonised guidance to support national monitoring of SDHE and actions (e.g., policies and interventions) that improve health equity.²⁷

The operational framework presents a menu of indicators for SDH conditions and actions and provides advice on disaggregating data and presenting information in a stratified manner. The operational framework for monitoring also provides guidance on the process of monitoring SDHE across sectors and using data to inform policy to improve health equity, including crosscutting approaches and coordination at regional and global levels. This framework can be used to guide action and strengthen data for policy.

Supporting Multi-Level Action

Although strategies to address the SDHE vary across contexts, the literature shows that health professionals often use similar approaches to support collaborative policy action:

- Multiple policy frames to appeal to a wide range of actors beyond health
- The formation of broad coalitions beyond the health sector
- Moving the evidence, research, and debate into more popular policy forums that are not health focused
- Transformation and change management within the health sector
- Local government and action from local to national levels

Health systems play a crucial role in driving the change towards multi-level action by building on PHC and removing barriers to quality services across sectors. Public health actors can collaborate to advocate for policy changes that improve social determinants of health. Yet to achieve health equity, coordinated actions and sustained political will are needed at many levels and areas across sectors.

Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity launched in 2021 by WHO with partners and is an action learning initiative for advancing HE. It has assembled a cohort of early country adopters to gather insights on implementation of the World Report recommendations and to champion action.

Further Resources:

World Report on the Social Determinants of Health Equity:

Due to be published in the first quarter of 2025. Refer to the [World Health Organization website](#)

Working together for Equity and Healthier Populations:

Working together for equity and healthier populations: sustainable multisectoral collaboration based on Health in All Policies approaches. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

The Operational Framework for Monitoring the Social Determinants of Health Equity:

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

Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity:

<https://www.who.int/initiatives/action-on-the-social-determinants-of-health-for-advancing-equity>

Appendix A: Policy Actions that Influence the SDHE

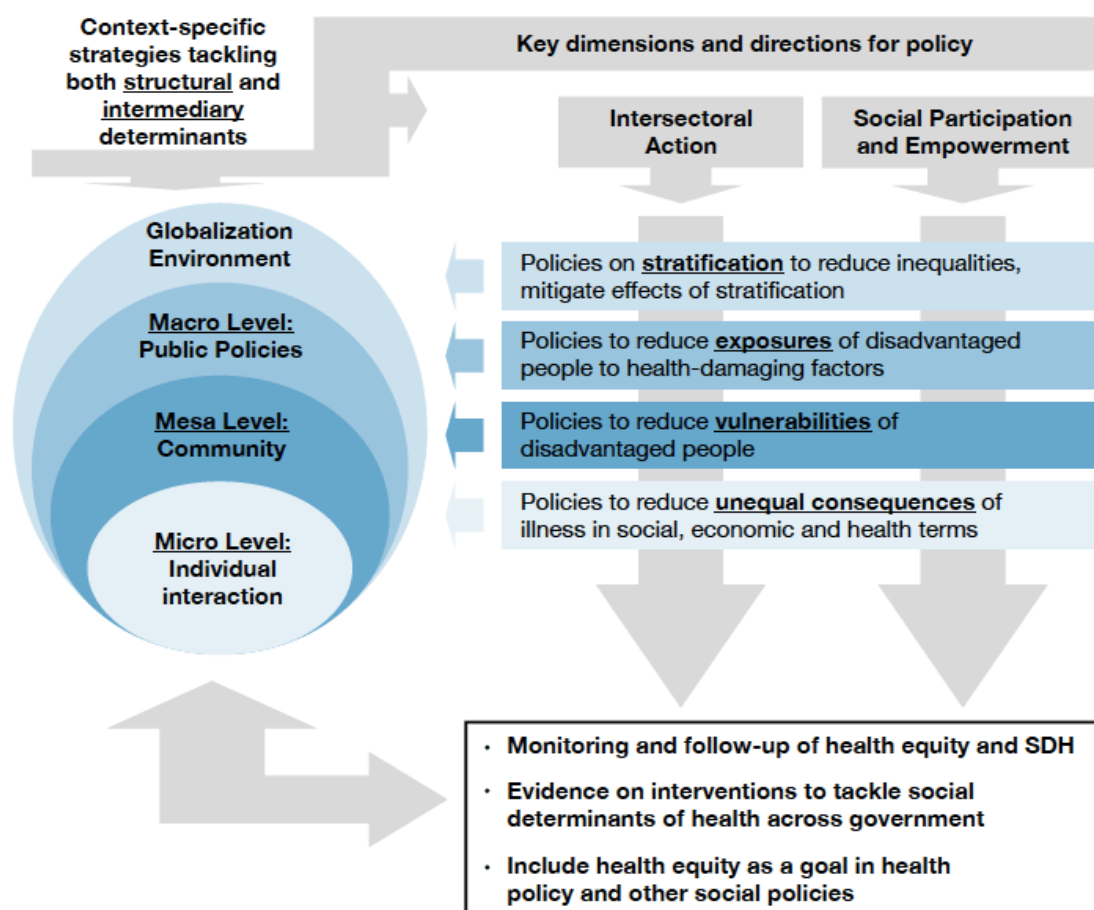
The social determinants of health (SDH) can impact health both positively and negatively. Therefore, the policymaking process must adopt an inclusive and holistic understanding of these factors, ensuring that focus is not solely placed on their negative impacts. This approach is particularly important in Health in All Policies (HiAP) frameworks. How an issue is framed—who defines it and how—shapes perceptions of the problem, the stakeholders involved, and potential solutions. This framing also influences the understanding of the underlying causes, which are often linked to a wider set of forces and systems that shape daily life.

Some SDH to Consider in Policy Development Are:

- Income and social protection
- Education
- Unemployment and job insecurity
- Working life conditions
- Food insecurity
- Housing, basic amenities, and the environment
- Early childhood development
- Social inclusion and non-discrimination
- Structural conflict
- Access to affordable, quality health services
- Social cohesion and capital

Framework for Tackling SDH Inequities

The following diagram illustrates key policy directions and entry points for addressing social determinants of health (SDH). It highlights the need for context-specific strategies targeting both structural and intermediary determinants through intersectoral policies that empower communities. Policy action can occur at three levels—individual interactions (micro), community conditions (mesa), and universal public policies and the global environment (macro)—moving from immediate health interventions to addressing root causes of inequality.



Framework For Tackling SDH Inequities

Source: Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice).

References:

1. World Health Organization. Social Determinants of Health [Internet]. Who.int. World Health Organization: WHO; 2019. Available from: https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1
2. Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Background document to WHO - Strategy paper for Europe [Internet]. ResearchGate; 1991. Available from: <https://www.researchgate.net/publication/5095964>
3. World Health Organization. World Report on the Social Determinants of Health Equity
4. Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice); 2010. Available from: <https://www.who.int/publications/i/item/9789241500852>
5. World Health Organization. The life-course approach: from theory to practice. Case stories from two small countries in Europe [Internet]. 2018. Available from: <https://iris.who.int/bitstream/handle/10665/342210/9789289053266-eng.pdf?sequence=1>
6. 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. Available from: <https://www.who.int/publications/i/item/WHO-IER-CSDH-08.1>
7. United Nations Department of Economic and Social Affairs, 2020. The Sustainable Development Goals Report 2020. New York: United Nations. Available at: <https://unstats.un.org/sdgs/report/2020/> [Accessed 23 October 2024].
8. United Nations Department of Economic and Social Affairs, 2024. The Sustainable Development Goals Report 2024. New York: United Nations. Available at: <https://unstats.un.org/sdgs/report/2024/> [Accessed 25 September 2024].
9. Simpson, J., Albani, V., Bell, Z., Bambra, C., and Brown, H., 2021. Effects of social security policy reforms on mental health and inequalities: A systematic review of observational studies in high-income countries. *Social Science & Medicine*, 272, p.113717.
10. Seaman, R., Walsh, D., Beatty, C., McCartney, G., and Dundas, R., 2023. Social security cuts and life expectancy: a longitudinal analysis of local authorities in England, Scotland and Wales. *Journal of Epidemiology and Community Health*, 78, pp.82–87.
11. The Lancet, 2023. Series from the Lancet Journals: Commercial Determinants of Health. Available at: <https://www.thelancet.com/series/commercial-determinants-health> [Accessed 25 September 2024].
12. World Health Organization, 2024. Commercial Determinants of Noncommunicable Diseases in the WHO European Region. Copenhagen: World Health Organization Regional Office for Europe. Available at: <https://iris.who.int/handle/10665/376957> [Accessed 23 July 2024].
13. Rubin, J., Taylor, J., Krapels, J., Sutherland, A., Felician, M.F., Liu, J.L., et al., 2016. Are better health outcomes related to social expenditure?: A cross-national empirical analysis of social expenditure and population health measures. Santa Monica, Calif., and Cambridge, UK: RAND Corporation. Available at: https://www.rand.org/pubs/research_reports/RR1252.html [Accessed 13 March 2024]
14. World Health Organization Council on the Economics of Health for All, 2022. Strengthening public sector capacity, budgets, and dynamic capabilities towards Health for All. Geneva: World Health Organization,

Council Brief No. 4. Available at: https://cdn.who.int/media/docs/default-source/council-on-the-economics-of-health-for-all/who_council4a_councilbrief4.pdf [Accessed 27 September 2024].

15. United Nations, Department of Economic and Social Affairs, 2018. 2018 Revision of World Urbanization Prospects. Available at:
https://population.un.org/wup/?_gl=1*6hfjx5*_ga*MjA0NDA3MzI5OS4xNzA5ODA3MTMz*_ga_TK9BQL5X7Z*MTcxNzU5NDgwOC43LjAuMTcxNzU5NDgwOC4wLjAuMA. [Accessed 5 June 2024].
16. Axelsson, P., Kukutai, T., and Kippen, R., 2016. The field of Indigenous health and the role of colonisation and history. *Journal of Population Research*, 33, pp.1–7. doi:10.1007/s12546-016-9163-2.
17. Pan American Health Organization, 2019. Just Societies: Health Equity and Dignified Lives. Executive Summary of the Report of the Commission of the Pan American Health Organization on Equity and Health Inequalities in the Americas. Revised Edition. Available at:
<https://iris.paho.org/handle/10665.2/51571>.
18. Rodríguez-Díaz, C.E., Ramos, J.G.P., and Garriga-López, A., 2022. How Is Colonialism a Sociostructural Determinant of Health in Puerto Rico? *AMA Journal of Ethics*, 24, pp.E305–E312. doi:10.1001/amajethics.2022.305.
19. United Nations High Commissioner for Refugees, 2024. Mid-Year Trends 2024. Copenhagen, Denmark: United Nations High Commissioner for Refugees.
20. Ahmed, A.I., Soliman, A., Han, Y., Qureshi, W.T., and Al-Mallah, M.H., 2021. Racial disparities of internet access in the United States: a multiyear analysis of the National Behavioral Risk Factors Surveillance System. *European Heart Journal*, 42, p.ehab724.3084.
21. OECD, 2024. Going Digital Toolkit: Share of individuals who live in households with income in the lowest quintile who use the Internet | Society Indicators. Available at:
<https://goingdigital.oecd.org/en/indicator/51> [Accessed 5 June 2024].
22. Thomas, J., McCosker, A., Parkinson, S., et al., 2023. Measuring Australia's digital divide: The Australian Digital Inclusion Index 2023. RMIT University. doi:10.25916/528S-NY91.
23. International Telecommunication Union, 2023. Measuring digital development: Facts and Figures 2023. Available at: <https://www.itu.int:443/en/ITU-D/Statistics/Pages/facts/default.aspx> [Accessed 5 June 2024].
24. Intergovernmental Panel on Climate Change (IPCC), 2023. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H. Lee and J. Romero (eds.). IPCC, Geneva, Switzerland, 184 pp. doi:10.59327/IPCC/AR6-9789291691647.
25. World Health Organization & Finland Ministry of Social Affairs and Health. (2014). Health in All Policies: Helsinki statement, framework for country action: The 8th Global Conference on Health Promotion. https://iris.who.int/bitstream/10665/112636/1/9789241506908_eng.pdf
26. World Health Organization. Working together for equity and healthier populations: sustainable multisectoral collaboration based on Health in All Policies approaches. Geneva: World Health Organization; 2023. Available from: <https://www.who.int/publications/i/item/9789240067530>
27. World Health Organization Operational framework for monitoring social determinants of health equity. Geneva: World Health Organization; 2024. Available from: <https://www.who.int/publications/i/item/9789240088320>

The Social Determinants of Health Equity

Fact Sheet

AUTHORS

Jacquelyn Fyfe
Nadia (Wei Ee) Lai
Carmel Williams
Centre for Health in All Policies Research
Translation (CHiAPRT)

REVIEWERS

Nicole Valentine
World Health Organization

Marianne Jacques
National Institute of Public Health of
Quebec

IN COLLABORATION WITH

The Global Network for Health in All Policies
Kelsey Lucyk
Intersectoral Partnerships and Initiatives,
Health Equity Policy
Directorate, Strategic Policy Branch, Public
Health Agency of Canada

Julian Fisher
Zero Water Day Partnership

Kelsey Lucyk
Public Health Agency of Canada

SUGGESTED CITATION

Fyfe, J., Lai, N. & Williams, C. (2025). *The Social Determinants of Health Equity*. The Centre for Health in All Policies Research Translation.



Public Health
Agency of Canada

Agence de la santé
publique du Canada



Global Network for Health in All Policies



CHiAPRT
Centre for Health in All Policies
Research Translation