Global monitoring of action on the social determinants of health: a proposed framework and basket of core indicators

|CONSULTATION PAPER|

Please email feedback to actionsdh@who.int by 31 December 2016

World Health Organization

Contents

1. Background 1
2. Introduction of the proposed monitoring system under consultation 1
2.1 Action on the social determinants of health 1
2.2 Implementation of the *Rio Political Declaration on the Social Determinants of Health* 2
2.3 Timeline of development of the proposed monitoring system under consultation 3
3. Proposed monitoring framework and core basket of indicators 4
3.1 Proposed monitoring framework 4
3.1.1 Guiding principles 4
3.1.2 Guiding structure: domains, objectives, and measurement concepts 5
3.2 Proposed core basket of indicators 6
3.2.1 Systematic indicator selection 6
3.2.2 Scope of basket of indicators 7
References 19

Figures

Figure 1: Action areas of the *Rio Political Declaration on the Social Determinants of Health* 2

Figure 2: Timeline of technical development of global monitoring system for action on the social determinants of health 3

Tables

Table 1: Proposed basket of core indicators 8

Table 2: Summary of key rationales, evidence and studies for measurement concepts 14

1. Background

The World Health Organization (WHO) is holding a global consultation on its proposed global monitoring system for action on the social determinants of health (SDH) (see http://www.who.int/social_determinants/monitoring-consultation/en/). To support submissions on the monitoring system, this consultation paper aims:

- To introduce the monitoring of action on the SDH (pp 1-4);
- To present the proposed monitoring framework (pp 4-6);
- To present the proposed core basket of indicators (pp 6-13); and
- To present the rationale and evidence base for the measurement concepts (pp 14-18).

Member States and any other organizations or individuals are invited to comment on any aspect of the proposed framework and indicators that are presented in this consultation paper. However, WHO especially welcomes feedback on the following questions:

- Do the framework objectives cover the pledges made in the *Rio Political Declaration on the Social Determinants of Health*[1] (hereafter the *Rio Political Declaration*)?
- Do you recommend other indicators – either as preferred indicator or place-holder indicators?
- Do you recommend other data sources for proposed indicators?

Participants can submit their feedback by 31 December 2016 to the following email address: actionsdh@who.int.

2. Introduction of the proposed monitoring system under consultation

2.1 Action on the social determinants of health

Persistent and rising health inequities (i.e., unfair, remedial inequalities in health)[2] within and between countries are a major challenge that Member States, WHO, and other United Nations (UN) agencies are working to reduce.[3] Within-and between-country inequities in under-five mortality, for example, have risen over the past decade,[4] and national governments, international organizations, and civil society have joined forces to reduce these concerning inequities, including through the *2016-2030 Global Strategy for Women's', Children's and Adolescents' Health*.[5]

The social determinants of health (SDH) are the conditions in which people are born, work, and grow old, and the power and resources that shape these daily living conditions.[3] The inequitable distribution of the underlying SDH is the root cause of inequities in health.[3] Action on the SDH especially among the most disadvantaged populations is therefore required to improve health equity. Reducing the persistent inequalities in under-five mortality,[4] for example, requires effective action on the drivers of this social stratification, such as strengthening of the level (i.e., coverage with and depths of) social protection and early child development interventions especially for disadvantaged children, to ensure that adequate income and educational opportunities equitably become available to all children.

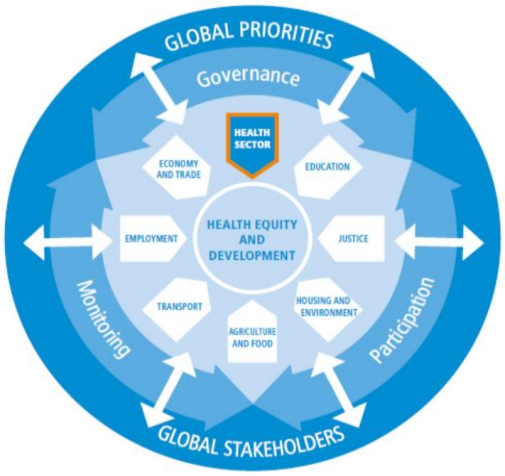
As emphasised already by the WHO Commission on Social Determinants of Health in its final recommendations, action on the SDH to improve health equity requires strong national governance, public participation in policy-making, health sector orientation, and strong global leadership, always maintaining the focus on improving health equity. Importantly, dedicated SDH-focused monitoring

systems are also required.[3] More specifically, monitoring of the SDH is crucial and is being advanced,[6] but monitoring systems for action on the SDH are also required to strengthen accountability, transparency, and the implementation and evaluation of prioritised interventions.

2.2 Implementation of the *Rio Political Declaration on the Social Determinants of Health*

In 2011, 124 Member States of WHO adopted the *Rio Political Declaration*[1] as their guiding policy framework for action on the SDH in five areas. Subsequently in 2012, the declaration was endorsed by all 194 Member States in the 65th World Health Assembly.[7] The *Rio Political Declaration*'s five "action areas" are presented in **Figure 1**. The interlinkages between the international, national, and local levels, between health and other sectoral actors, and between the diverse SDH addressed by the declaration are also shown.[1]

Figure 1: Action areas of the *Rio Political Declaration on the Social Determinants of Health*



Action area 1: Adopt better governance for health and development

Action area 2: Promote participation in policy-making and implementation

Action area 3: Further reorient the health sector towards reducing health inequities

Action area 4: Strengthen global governance and collaboration

Action area 5: Monitor progress and increase accountability

Source: WHO 2011, p6 [8]

Member States, WHO, and other UN agencies have widely implemented the *Rio Political Declaration* and similar other national and international policy frameworks for addressing the SDH, reducing inequalities, and pursuing intersectoral action for health. The *Rio Political Declaration*'s implementation has strengthened human rights frameworks; improved governance structures and mechanisms; extended universal health coverage; and increased the level of social and environmental policies and programs that improve health equity. Moreover, national monitoring systems for health inequalities have been developed and improved, as well as systems for monitoring either or both of the SDH themselves and action on these determinants.

The *2030 Sustainable Development Agenda*[9] (hereafter the *SDG Agenda*), the UN's new development framework for the period 2016–2030, pledges to reduce inequalities across all of its 17 Sustainable Development Goals (SDGs) and to "leave no one behind". As with the *Rio Political Declaration*, the *SDG Agenda* also includes several goals for strengthening diverse government interventions that improve the SDH and, consequently, health equity. Moreover, progressively achieving the ambitious goal 3, "Ensure healthy lives and promote well-being for all at all ages", also requires action on the SDH. Therefore, several of the 161 SDG indicators of the global system for monitoring progress on the *SDG*

Agenda[10] measure action on the SDH, and these SDG indicators can be used to monitor action on the SDH.

2.3 Timeline of development of the proposed monitoring system under consultation

In May 2015, the 68th World Health Assembly in Resolution WHA68.1 committed WHO to monitoring action on the SDH in the WHO Programme Budget 2016 under Output 3.4.3, "Trends in, and progress on, action on social determinants of health and health equity monitored, including under the universal health coverage framework and the proposed sustainable development goals". The WHO global SDH action monitoring system is part of the broader WHO initiative to strengthen both national and global SDH-focused monitoring and associated intersectoral governance capacities.[11] Since June 2015, WHO has advanced the technical development of the required system for monitoring action on the SDH, including with two Canadian partners: the Public Health Agency of Canada (PHAC), and the Canadian Institutes of Health Research - Institute of Population and Public Health (CIHR-IPPH). A timeline of the technical development of the monitoring system to this date is presented in **Figure 2**.

Figure 2: Timeline of technical development of global monitoring system for action on the social determinants of health

May 2015	68th WHA commits WHO to monitor action on the social determinants of health
Jun 2015	WHO commences technical work on monitoring system
Feb-Jun 2016	WHO with Canadian partners (PHAC and CIHR-IPHH) convenes the *Working Group for Monitoring Action on the Social Determinants of Health*
Jun 2016	Working Group publishes initial proposed monitoring system as background paper for Technical Meeting
Jun 2016	WHO, PHAC, and CIHR-IPHH hold *Technical Meeting on Measuring and Monitoring Action on the Social Determinants of Health* in Ottawa, Canada
Jul-Oct 2016	Based on recommendations from the Technical Meeting, WHO secretariat further develops initial proposed monitoring system
Nov-Dec 2016	WHO holds global consultation on core components of monitoring system: framework and core basket of indicators
Jun-Jul 2017	Expert meeting to review report analyses and country case studies
Dec 2017	Approval of final report
Jan-Mar 2018	Launch of first global monitoring report on action on SDH, commemorating 10 years since the *Final Report of the Commission on Social Determinants of Health*

A first milestone was the initial proposal for the monitoring system by the *Working Group for Monitoring Action on the Social Determinants of Health*, which comprised 18 technical experts with representation from all six WHO regions.[12] A second important milestone was the global *Technical Meeting on Measuring and Monitoring Action on Social Determinants of Health* in Ottawa, Canada, on June 20-22, 2016 (see: http://www.who.int/social_determinants/ottawa-meeting/en/ for meeting agenda, presentations, and summary report). The Technical Meeting was co-hosted by WHO, PHAC, and CIHR-IPPH. The meeting gathered over 30 representatives of Member States and technical experts nominated by WHO, including its six regional offices, and its Canadian partners. The WHO secretariat used the recommendations collected at the global Technical Meeting (*WHO 2016*[13] for meeting summary report) to develop the proposed monitoring framework and core basket of indicators for the open, web-based global consultation.

Using the feedback from the open, web-based global consultation, and working with key WHO collaborating centres, the WHO secretariat will finalise the framework and its core indicators for purposes of producing its first global report. It will: (1) collate the SDH action indicator dataset; (2) work on cross-country presentations of the indicators for the global monitoring report; and (3) work with volunteer countries on specific in-depth studies.

WHO plans to finalize the first global monitoring report by the end of 2017, with the launch scheduled in early 2018, commemorating the 10 year anniversary since the launch of the *Final Report of the WHO Commission on Social Determinants of Health*[3]. Global reports will be produced every three years thereafter. Reports will focus on presenting an overview of national and global stakeholder progress towards the progressive realization of the *Rio Political Declaration*[1] using core and contextual national indicators, presented together with country case studies of best practice, and of intervention implementation.

3. Proposed monitoring framework and core basket of indicators

Global SDH action monitoring reports will be based on a solid framework that determines its focus. The core basket of indicators used will be drawn from existing data sets or data collection efforts for existing initiatives (e.g. tier III SDG indicators and WHO programme assessment indicators). Overall, the four aims of the global action monitoring system are:

- To monitor national and international action on the SDH in response to the *Rio Political Declaration*;
- To monitor action on the SDH by the health sector and by other sectors;
- To inform Member States' and the UN system's continuous improvement in action on the SDH by providing regular reports on the status of and trends in such action; and
- To further interlink accountability systems for the implementation of the *Rio Political Declaration* and the *SDG Agenda*.

3.1 Proposed monitoring framework

3.1.1 Guiding principles

Alignment with the Rio Political Declaration: The monitoring system measures the implementation of the *Rio Political Declaration* across its five action areas. The *Rio Political Declaration* built directly on and aligned with the recommendations of the Commission on Social Determinants of Health,[3] and therefore monitoring the implementation of actions taken in response to the organizing policy framework of the *Rio Polilitical Declaration* is in harmony with the long-term efforts on SDH that Member States have pursued. The structure and content of the proposed monitoring system reflects those of the *Rio Political Declaration*, with the five domains of the monitoring system mirroring the five action areas of the declaration, and each objective and its associated measurement concept and indicator mirroring one or a combination of prioritized pledges.

Alignment with the SDG Agenda: WHO seeks strong alignment and interlinkages between its monitoring systems and the *SDG Agenda*, to ensure cost-effectiveness of monitoring efforts and to place the smallest possible burden on national and international data and reporting systems, in accordance with fundamental

principles of official statistics. For the most part, SDG indicators with readily available data from many countries therefore form the foundation of the SDH action monitoring system. However, if more suitable indicators were identified from other sources, then those were prioritized over SDG indicators. The same approach has also been pursued in other major global health monitoring initiatives, such as the indicator set for the *Global Strategy for Women's, Children's and Adolescents' Health*.[14]

Focus on prioritized, evidence-based interventions: The monitoring system is SDH-action oriented in that it puts SDH action indicators, which are input, output and outcome indicators, at its centre. Therefore, the monitoring system tracks progress on key SDH-focused actions of governments: the use of human rights frameworks, governance structures and mechanisms (in the past often referred to as "processes"), and social and environmental policies and programmes that improve health equity. A balance is sought between input and output indicators that measure governance interventions and outcome indicators measuring population coverage with crucial interventions, such as social protection for people living below the national poverty line. The selection of interventions was influenced by *Rio Political Declaration* pledges and reviews of evidence on the effectiveness of the interventions and evidence on the causal pathways from the intervention to health outcomes via the SDH.

Focus on both level of an intervention and inequalities in the level of the intervention: An equity focus is enhanced by capturing indicators measuring both level of intervention provision, as well as measures of absolute and relative inequality in the level of intervention provision. Absolute inequalities are generally measured using mean differences, and relative inequalities are measured using parity indices[15] (e.g., intervention coverage among the disadvantaged group divided by intervention coverage among the advantaged group).

Focus on both current level and progress over time of level of intervention: The global monitoring report will report on both current levels of SDH-focused interventions and progress over time. Similarly, it will report on absolute and relative inequalities, as well as progress in the absolute and relative inequalities over time. These progress measures avoid penalising countries starting from low bases.

3.1.2 Guiding structure: domains, objectives, and measurement concepts

From broad to narrow, the structure of the SDH action monitoring system comprises five domains, comprising 23 measurement concepts (and associated objectives), within which the core basket of 15–25 indicators is nested. Domains correspond to the five *Rio Political Declaration* action areas. Domain 1: National governance captures "Action area 1: Adopt better governance for health and development". Pledges within this action area pertain to government structures and mechanisms, and the development of social and environmental policies and programmes that improve health equity. Domain 2: Participation captures "Action area 2: Promote participation in policy-making and implementation". Pledges within this action area related to participation of communities, and especially the most disadvantaged communities, in policy-making. Pledges in Domain 3: Health sector reorientation, which captures "Action area 3: Further reorient the health sector towards reducing health inequities" pertain to consideration of mainstreaming action on the SDH to reduce health inequities specifically within the health sector. Domain 4: Global governance relates to "Action area 4: Strengthen global governance and collaboration" which pledges international action and collaboration on the SDH. Domain 5: Monitoring and accountability captures pledges in "Action area 5: Monitor progress and increase accountability" to monitor and improve transparency and accountability, including by providing access to data disaggregated by key social stratifiers and to data on SDH trends, sharing evidence among different sectors to inform policy and action and strengthening capacity for research and knowledge translation.

Measurement concepts (and the associated objectives) in the monitoring system correspond with and mirror prioritized pledges in the *Rio Political Declaration*, ensuring the monitoring of actions that Member States have endorsed and committed to implement in the World Health Assembly's *Resolution WHA 65.8: Outcomes of the World Conference on the Social Determinants of Health*[7]. Measurement concepts were systematically identified, assessed, and prioritized by the Working Group, using pre-specified criteria and standards (*Working Group for Measuring and Monitoring Action on the Social Determinants of Health 2016*[12] for details). The measurement concepts were then reviewed, critiqued, and refined by the participants of the Technical Meeting (*WHO 2016*[13] for details), with some additional measurement concepts proposed in this process. Finally, the WHO secretariat in its revision of the monitoring system in preparation for the global consultation implemented the suggested recommendations for change to and further refinement of measurement concepts. The final proposed set of measurement concepts consists of evidence-based interventions on human rights, governance, as well as social and environmental interventions that improve equity in the societal distribution of health determinants and health outcomes.

3.2 Proposed core basket of indicators

3.2.1 Systematic indicator selection

Indicators in the proposed core basket of indicators were systematically selected from a large pool of potential candidate SDH action indicators, and they were thoroughly assessed and evaluated with regards to their feasibility, availability, and overall suitability for global monitoring. For this purpose, the Working Group first developed inclusion criteria for systematically screening indicators and quality assessment criteria for systematically selecting the most suited SDH action indicators (*Working Group for Measuring and Monitoring Action on the Social Determinants of Health 2016*[12] for details). Second, the Working Group members and external experts applied the inclusion criteria to all indicators in 21 sources (i.e., databases, reports, and other indicator sets, including the 161 SDG indicators[10]) and compiled eligible, potentially suitable candidate indicators in the long indicator list. Third, to identify the most suitable candidate indicator or indicators for each measurement concept, several Working Group members numerically rated candidate indicators according to the quality assessment criteria. WG members also scanned indicators on the long indicator list, including the foundational SDG indicators, to match with the measurement concept, and then applied the quality assessment criteria to the indicators considered most suitable. Finally, the most suitable indicators were compiled into the core basket of indicators. Some indicators were minimally refined to optimally suit the monitoring system.

Following the Technical Meeting, the WHO secretariat further developed the core basket of proposed indicators, relying on the feedback provided by meeting participants (*WHO 2016*[13] for meeting summary report). This included proposing a few additional measurement concepts and indicators, especially in Domain 4. It also included developing or further refining, together with consultants, composite indices that combine several binary indicators into a quantitative measure with greater depth. It further included the WHO secretariat adding more details regarding several novel indicators that WHO will produce specifically for the monitoring system (e.g., indicators on whether the country has a monitoring system for health inequalities and for the SDH or action on these determinants, respectively).

3.2.2 Scope of basket of indicators

Table 1 presents the basket of indicators that forms the core of the proposed monitoring system for action on the SDH. This includes a formulation of key pledges in terms of objectives and extracted measurement concepts, and the identification of relevant indicators. This proposed core basket of indicators is the key product that will be refined following feedback from the public consultation.

The 20 objectives, measurement concepts, and indicators in the proposed core basket of indicators are approximately equally spread across the monitoring system's five domains. At the global level, just under one third of all proposed indicators (6 out of 20) are SDG indicators, and just over one third (8 out of 20) will be constructed by the WHO specifically for this monitoring system, drawing, in most cases, from existing programme assessment initiatives. The remaining third already form part of routine information reported by WHO (e.g. national health accounts). At national levels, proposed indicators for monitoring action on the SDH would be produced by the health sector, as well as by a range of other relevant sectors such as the social protection, education, labour, and human rights sectors.

For several measurement concepts, preferred indicators have been identified, but these preferred indicators are still being developed and are therefore not yet available at this point in time. Where possible, "placeholder" indicators are proposed that can be used until the preferred indicator has become available. However, for three measurement concepts with an unavailable preferred indicator, no "placeholder" indicators has yet been identified, and WHO welcomes and appreciates suggestions for suitable candidate indicators.

Table 2 describes the rationales and evidence for the core measurement concepts proposed for tracking the implementation of the *Rio Political Declaration.* Key studies, largely concentrated on evidence of effectiveness, are listed for each measurement concept. Systematic review evidence was prioritised and cited where feasible. Evidence from individual intervention studies were also sought out and cited where feasible. Other types of evidence included were qualitative case studies of best practice and realistic evaluations.

Table 1: Proposed basket of core indicators

No.	Objective (from *Rio Political Declaration on the SDH*)[1]	Measurement concept	**Indicator**[i] (reference to the definition, method, and international standard for the indicator)[ii] Inequalities measures	**Indicator source and availability**
	Domain 1: national governance			
1	To improve social protection among the lowest household wealth quintile	Coverage with and depth of social protection among the lowest household wealth quintile	**Proportion of the population covered with social protection floors or systems among the lowest household wealth quintile** [iii, 16] Absolute[iv] and relative[v] inequalities in the indicator by prioritized stratifiers[vi] (household wealth quintile suggested)	Sustainable Development Goal (SDG) Indicator 1.3.1; SDG indicator Database; 79-175 countries;[vii] annually 1998-2014
2	To improve early childhood education	Coverage with early childhood education	**Participation rate in organized learning one year before the official primary (school) entry age** [16] Absolute and relative inequalities in the indicator by prioritized stratifiers (household wealth quintile, sex,	SDG Indicator 4.2.2; SDG Indicator Database; 165 countries; annually 2000-2015

[i] For indicators that measure level of an SDH-focused intervention, the table only presents the indicator for the current status of the indicator (e.g., current coverage with and depths of social protection), but the monitoring report will also report progress over time on the level of the intervention (e.g., change in coverage with and depth of social protection over a specified time period) to avoid penalising countries starting from low bases.

[ii] For each indicator, a numerical reference is provided to the key document that describes the definition, method, and international standard (if any) for the indicator, and this reference appears in the References section at the end of this document.

[iii] Social protection floors and systems covered are income benefits for children; unemployed people; people with disabilities; pregnant women; work injury victims; and older people.

[iv] Absolute inequality will be measured using the means difference, calculated as the proportion in the advantaged group (i.e., the highest household wealth quintile) minus either the proportion in the disadvantaged group (e.g., the lowest household wealth quintile) or, if data on the disadvantaged group are unavailable, that in the total population.

[v] Relative inequalities will be measured using a ratio, i.e. coverage rate in the disadvantaged group (e.g., the lowest household wealth quintile) divided by either the proportion in the advantaged group (i.e., the highest household wealth quintile), or, if data on the advantaged group is unavailable that in the total population.

[vi] The prioritized stratifiers for inequality measures are: household wealth quintile; educational attainment; place of residence (e.g., rural vs. urban); sex; and age (WHO 2016).

[vii] Availability varies by type of benefit for: children, 109 countries; unemployed people, 79 countries; people with disabilities, 171 countries; pregnant women, 139 countries; and work injury victims, 172 countries; and older people, 175 countries;.

			and their intersection, urban/rural suggested)	
3	To improve the provision of legislation guaranteeing the human rights of vulnerable populations	Coverage with and depth of public laws guaranteeing the human rights of vulnerable populations	Until the preferred indicator[viii] becomes available:	
			Whether the country has national laws that guarantee (a) non-discrimination in financial services on the basis of gender;[17] and (b) non-discrimination orientation in marriage or civil partnerships by gender identity and sexual orientation[ix, 18]	WHO; SDH Action Indicator Database; composite index[x] newly constructed from (a) Women, Business, and the Law Database; 173 countries; annually 2009-16; and (b) UNDP LGBTI Inclusion Index Database; number of countries unclear; years to be determined (available from mid 2017)
4	To improve intersectoral action for health and health equity	Coverage with and depth of intersectoral action for health and health equity	Until the preferred indicator[xi] becomes available:	
			Option 1:	
			Number of national policies for health and well-being that address at least two priority determinants of health (and involve at least two sectors) in target populations [19]	Pan American Health Organization (PAHO) Indicator 2.1.1; PAHO Regional Health in All Policies Indicators; number of countries and years unclear (baseline 2014)
			Option 2:	
			Composite index combing four assessed aspects of Health in All Policies[xii, 19] **in a country: Whether a country has (a) favourable conditions for Health in All Policies development; (b) policy implementation (see above); (c) monitoring and**	WHO; SDH Action Indicator Database; composite index newly constructed from PAHO Regional Health in All Policies Indicators: 2.2.1, 2.1.1, 5.1.1, 6.1.1; number of countries and years unclear (baseline 2014)

[viii] Preferred indicator: "Whether national human rights laws prohibit discrimination on the basis of gender, gender identity, disability status, race/ethnicity, and sexual orientation in areas such as education, employment, and housing".

[ix] This composite index will be calculated from two binary indicators, and its score will from 0 (country has neither of the two human rights protections) to 2 (country has both human rights protections). To work towards the preferred indicator, data on other vulnerable groups will gradually be added, as these data become available over time. Note that UNDP's consultations to develop the UNDP LGBTI Inclusion Index have not yet involved the necessary technical work or consultations to prioritize and develop indicators for each dimension of LGBTI inclusion, and additional consultations are forthcoming.

[x] For each composite index, the monitoring report will present the index score together with the individual scores of all of the index's component indicators.

[xi] Preferred indicator: "WHO Intersectoral Action for Health Equity Index", which aims to capture coverage with key intersectoral interventions on the social and environmental determinants of health.

[xii] The four indicators can weighted in the composite index as follows: a = 1, b=2, c=2, d=1, for a total possible score range from 0 to 6. Alternatively, each component can be equally weighted (total possible score 0-4)

			evaluation; and (d) training and capacity-building	
	Domain 2: participation			
5	To improve transparency in policy making on determinants of health	Mechanisms for guaranteeing transparency in policy-making	Until the preferred indicator[xiii] becomes available:	
			Option 1	
			Improve in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization textual sources and national legislation [16]	SDG Indicator 8.8.2; ILO data; number of countries and years unclear
			Option 2	
			Proportion of the working population covered by collective bargaining [20]	ILO; ILOSTAT Database (Industrial Relations); 79 countries; annually 2000-2013
6	To improve participation of civil society in policy-making on determinants of health	Coverage with and depth of implementation of mechanisms for participation of civil society in policy-making	Until the preferred indicator[xiv] becomes available:	
			Option 1	
			Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management [16]	SDG 6.b.1; SDG Indicator Database; 94 countries; 2016 or 2017
			Option 2	
			Whether the country has (a) mechanisms exist to engage communities and civil society in the policy development process across all sectors and (b) accountability mechanisms that support civil society engagement in health impact decisions [19]	WHO; SDH Action Indicator Database; composite index newly constructed from PAHO Regional Health in All Policies Indicators; number of countries and years unclear
7	To improve participation of vulnerable populations in policy-making on health determinants	Mechanisms for participation of vulnerable populations in policy-making	Until the preferred indicator[xv] becomes available:	
			Whether the country (a) recognizes in its national legal framework the duty to consult with Indigenous Peoples before adopting or	WHO; SDH Action Indicator Database; composite index newly constructed from (a) database, number of countries, and years unclear;

[xiii] Preferred indicator: "Whether country has adopted and implemented constitutional, statutory and/or policy guarantees for public access to information" (SDG Indicator 16.10.2).
[xiv] Preferred indicator: "Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically" (SDG Indicator 11.3.2).
[xv] Preferred indicator: "Whether mechanisms exist for participation in policy-making of vulnerable populations defined by gender, gender identity, disability status, indigeneity, race/ethnicity, and sexual orientation."

			implementing legislative or administrative measures that may affect them;[xvi] **and (b) permits sexual and gender minority people to form organizations and participate in political parties and social movements**[xvii] [18]	years; and (b) UNDP LGBTI Inclusion Index Database; years to be determined (available from mid 2017)
	Domain 3: health sector reorientation			
8	To improve provision of basic amenities and services fundamental to promoting health	Coverage with and depth of comprehensive, equitable basic services (including the primary health care intersectoral approach to the right to health)	**Option 1**	
			Until the preferred indicator[xviii] becomes available:	
			Proportion of households (a) using safely managed drinking water services; (b) safely managed sanitation services, including a hand-washing facility with soap and water; and (c) primarily rely on clean fuels and technology[xix, 16] Absolute and relative inequalities in the indicator by prioritized stratifiers (all five prioritized stratifiers and ethnicity suggested)[xx]	WHO; SDH Action Indicator Database; composite index newly constructed from (a) SDG Indicator 6.1.1; SDG Indicator Database; 193 countries; annually 2000-15; (b) SDG Indicator 6.2.1; SDG Indicator Database; 193 countries; annually 2000-15; and (c) SDG Indicator 7.1.2; SDG Indicator Database; 193 countries, 2005, 2010, 2012, and 2014
			Option 2	
			Proportion of total government health expenditure spent on preventive care [21]	OECD; OECD Health Spending Database; 34 countries; annually 2000-2014.
9	To improve equity in financing of health services	Coverage with financial health protection as an aspect of universal health coverage	**Proportion of the population not financially protected against the costs of health services** [22] Absolute and relative inequalities in the indicator by prioritized stratifiers (household wealth quintile and educational attainment of head of household suggested)	WHO; Health Systems Governance and Financing Department data; 110 countries; years to be determined (available from spring 2017)
10	To improve equity in access to health services	Equity in coverage with health services	**Relative wealth inequality score for reproductive, maternal, newborn and child health intervention coverage** [22]	WHO; World Health Statistics 2016; 83 countries; at least one year in 2005-2013

[xvi] Indicator source unclear. *We invite suggestions for indicators that can be used as a placeholder.*
[xvii] Note that UNDP's consultations to develop the UNDP LGBTI Inclusion Index have not yet involved the necessary technical work or consultations to prioritize and develop indicators for each dimension of LGBTI inclusion, and additional consultations are forthcoming.
[xviii] Preferred indicator: "Proportion of population living in households with access to basic amenities for health" (SDG Indicator 1.4.1).
[xix] This composite index will be constructed from three continuous indicators, calculating the average of the three proportions of the three component indicators.
[xx] The inequality measures can be produced for at least one component indicator, i.e. "Proportion of the population using safely managed drinking water services".

11	To improve the integration of equity considerations into health systems, policies, and programs	Mechanisms for ensuring the integration of equity into health systems, policies, and programs	**Whether a national and/or subnational policy addressing the reduction of health inequities has been established and documented** [23]	WHO; European Health Information Gateway; 36 countries; 2010 and 2013
	Domain 4: global governance			
12	For WHO to protect population health from harmful trade and lending agreements	WHO-implemented mechanisms to protect population health from harmful trade and lending agreements	The preferred indicator, "WHO-implemented mechanisms to protect population health from the harmful impacts of unhealthy products in trade and lending agreements", is currently unavailable. *We invite suggestions for indicators that can be used as a placeholder.*	
13	For WHO to protect population health from harmful and unhealthy products and environments	WHO-implemented mechanisms to protect population health from harmful and unhealthy products and environments	**Option 1:**	
			International Health Regulations core capacity index[xxi, 16]	SDG Indicator 3.d.1; SDG Indicator Database; 192 countries; annually 2010-2014
			Option 2:	
			Number of countries with tax policies have been implemented to reduce tobacco demand[xxii 24]	WHO, WHO Global Health Observatory; 107 countries, Every two years 2008-14
14	For WHO to improve its funding for action on the SDH	Generosity of WHO programme budget for action on the SDH	**Proportion of WHO programme budget allocated to the SDH** [25]	WHO; WHO Programme Budget Reports; 6 Regional Offices, every two years 2008-2017
15	For the global community to improve participation of developing countries in global social and economic decision-making	Participation of developing countries in international policy making	**Proportion of members or voting rights of developing countries in international organizations**[xxiii, 16]	SDG Indicator 10.6.1/16.8.1, SDG Indicator Database; number countries and years varies by international organization

[xxi] The International Health Regulations take into account key biological, chemical, radiological, and nuclear public health risks.
[xxii] This indicator is expected to be expanded to include other actions to address additional determinants of noncommunicable diseases, such as sugar taxation.
[xxiii] International organizations covered are the African Development Bank, Asian Development Bank, Inter-American Development Bank, International Bank for Reconstruction and Development, International Finance Corporation, International Monetary Fund, UN Economic and Social Council, UN General Assembly, UN Security Council, and World Trade Organisation.

	Domain 5: monitoring and accountability			
16	To improve global visibility of health inequities through global e-platforms and publications	Disaggregation of health data by prioritized startifiers in WHO databases	**Number of health and health-related SDG indicators recorded in the Health Equity Monitor by one or more of the prioritized stratifiers (household wealth quintile, educational attainment, place of residency, and sex)**[xxiv]	WHO; SDH Action Indicator Database; newly constructed from Global Health Observatory (Health Equity Monitor) data; 193 countries; annually 2005-2016
17	To improve the monitoring of health inequalities	Implementation of health inequalities monitoring systems	**Proportion of countries that have at dedicated systems for monitoring health inequalities (as per the WHO definition to be developed)** [xxv]	WHO; SDH Action Indicator Database; newly constructed from Public Health, Environmental and SDH Department and Health Statistics and Informatics Department data; 193 countries; 2016 and 2017
18	To improve the monitoring of SDH and actions on these determinants	Implementation of SDH-focused monitoring systems	**Whether the country has a dedicated SDH action monitoring system (as per the WHO definition to be developed)** [xxvi]	WHO; SDH Action Indicator Database; newly constructed from Public Health, Environmental and SDH Department data; 193 countries; 2016 and 2017
19	To improve financial investment in research on and evaluation of action (i.e., interventions) on the SDH to improve health equity	Financial investment in research and evaluations of action on the SDH to improve health equity	The preferred indicator, "Proportion of health research spending related to action on SDH", is currently unavailable. *We invite suggestions for indicators that can be used as a placeholder.*	
20	To improve access to information on the SDH	Mechanism for guaranteeing access to information as a key component of research, monitoring, and evaluations to ensure accountability and justice	The preferred indicator, "Whether country has adopted and implemented constitutional, statutory and/or policy guarantees for public access to information" (SDG Indicator 16.10.2),[16] is currently unavailable. *We invite suggestions for indicators that can be used as a placeholder.*	

[xxiv] Another stratifier covered for relevant indicators is type of governance.
[xxv] Working definition: A health inequalities monitoring system is defined as either or both of (1) a regular dedicated report on health inequalities and (2) standard reporting of health inequalities in the national health reports with disaggregated data.
[xxvi] Working definition: An SDH action monitoring system is defined as either or both of (1) a regular report on the SDH and action on the SDH and (2) an up-to-date database of SDH action indicators.

Table 2: Summary of key rationales, evidence and studies for measurement concepts

No	Measurement concept	Rationale and evidence description
1	Coverage with and depth of social protection among the lowest household wealth quintile	Social protection over the life course provides additional income to recipients, especially before, during, and after critical income and health shocks, but also to those living in poverty. This additional income from various social protection benefits can prevent or reduce detrimental effects on health from poverty or major shocks, by improving the social determinants of health including income, improving financial access to health care and reducing the risk of catastrophic health expenditure, and through causal pathways that directly improve mental and physical health, such as reducing psychosocial stress and improving nutrition. *Systematic review evidence:* Lagarde 2009[26]; Ranganthan 2012 [27]; Pega 2013[28]; Pega 2015 [29]
2	Coverage with early childhood education	Early child development (ECD) consists of several highly interrelated domains, including physical, social/emotional, and language/ cognitive domains of development. A poor start in life limits children's ECD, and thus abilities to benefit from education leading to poor school progress and development, lower productivity, and later poorer health and life chances in adulthood. The strong evidence base linking adverse ECD to later inequalities and long-term consequences for adult health, educational and social outcomes provides a strong economic justification for investment in early childhood. Early learning and cognitive development can be improved by the early learning environment and provision of structured education and care. In particular, the provision of publicly offered early education programmes, that offer a combination of education and care, can help populations with lower incomes or living in remote areas to better prepare their children for formal school. *Evidence compilations:* Engle 2011 [30]; Britto 2016 [31]
3	Coverage with and depth of public laws guaranteeing the human rights of vulnerable populations	Laws that protect from discrimination, including those that remove discrimination through guaranteeing legal recognition of a minority status that would otherwise be discriminated, improve social determinants of health, health care use, and health outcomes. Such laws have been shown to improve access to healthcare by reducing stigma, prejudice, and discrimination in health care, enabling clients from disadvantaged groups to better access health care and to access health care that is of a relatively higher quality. Direct effects of these laws on health outcomes have also been shown, including reductions in either or both of risk factors for and prevalence of mental disorders and sexually transmitted diseases, amongst other diseases. *Evidence from individual intervention studies:* Hatzenbuehler 2009[32]; Hatzenbuehler 2012[33]; Schwartz 2015[34]; Oldenburg 2016[35]; Everett 2016 [36] // *Evidence compilation:* World Health Organization 2015 [37]
4	Coverage with and depth of intersectoral action for health and health equity	Population health and health inequities are socially determined by factors outside the operational sphere of the health sector. Therefore sectors must work together to address the (intermediate) determinants of health and (structural) determinants of health inequities. Given the critical importance of intersectoral action for achieving health objectives, well-being, and equity, WHO promotes capacities that permit public policies systematically to take into account the health implications of decisions, seek synergies and avoid harmful health impacts, using WHO conceptual and operational guidance. Guidance includes the Health in All Policies Country Frameworks of 2014 and 2015. The Pan American Health Organization, through expert consultation, developed a set of 12 qualitative indicators to monitor progress towards intersectoral action at national and regional levels, covering four key areas that allow for country and context specific adaptation: a) favourable conditions for developing Health in All Policies such as the identification of key determinants and the sectors that should align; b) implementation of intersectoral policy initiatives aimed at addressing priority social determinants; c) monitoring and evaluation oriented at measuring impact and generating evidence to further health equity efforts; and d) training and capacity-building oriented at knowledge

		and capacity needs to sustain intersectoral policies. These four areas form part of a progression showing the coverage and depth of intersectoral action for health and health equity, moving from a recognition of intersectoral determinants of health equity to implementation of policies, monitoring and evaluation of results and sustainability through capacity-building. A similar proposal was developed for the European Region in 1988. System-wide, cross-sectoral policy strategy mechanisms, often accommodated within existing cross-government mechanisms, have the capacity to cover the widest range of health determinants. Mechanisms focusing on specific issues and combining a smaller numbers of public sectors with joint or allocated budgets are also effective in addressing health equity if the social or environmental interventions focus upstream. There is evidence that weak intersectoral working relations at national level hinder intersectoral collaboration for local government agencies. *Systematic review evidence:* Ndumbe-Eyoh 2013 [38] // *Compiled evidence:* WHO & PHAC 2008 [39]; Hunter 2011 [40]; Lin 2014 [41]; WHO EURO 2016 [42] // *Evidence from individual evaluation studies:* Baum 2013 [43] // *Evidence from individual case studies (qualitative):* WHO 2013 [44]; de Andrade 2015 [45] // *Evidence for intersectoral indicators, nationally and globally:* Thuriaux 1988 [46]; Pan American Health Organization 2015 [47]
5	Mechanisms for guaranteeing transparency in policy-making	The focus here is on policy-making in the work setting, given the important role of working conditions for health. The ILO's four core labour standards stress the implementation of free association, collective bargaining, elimination of economic discrimination by gender, and the elimination of forced labour in order to empower workers to negotiate for better working conditions. Among these, coverage by collective bargaining mechanisms, improves workers' power and is important for ensuring greater transparency in employer decision-making and company / organization-wide policies affecting worker's control over working conditions and workers' health. Bargaining councils and employee committees allow workers to voice concerns and demand improved working environments. Unions have been able to advance assessments of workplace symptoms, hazards and equipment and to improve working conditions by reducing exposure to hazards. *Systematic review evidence:* Kuper 2005 [48]; Egan 2007 [49] ; Clayton 2011 [50]; Lorenc 2013 [51]; Mischke 2013 [52]; Galvao 2016 [53] *Evidence from individual intervention studies:* Pechter 2009 [54]
6	Coverage with and depth of implementation of mechanisms for participation of civil society in policy-making	Participation of civil society in policy processes affects the priorities that are identified and resources allocated to address determinants of health. It also enables citizens to be informed about proposed government policies and projects that may influence their health and underlying determinants e.g., related to housing, transport, education, and basic amenities. Involvement of citizens in core processes (e.g. budgeting, participatory budgeting) related to the policy cycle can also improve accountability of government and reduce corruption and waste of resources. Some studies at the sub-national level have shown that counties with participatory budgeting polices have been more efficiently managed, gaining citizen trust, with less corruption than similar counties without participatory budgeting. For social participation mechanisms in the health sector (*see also measurement concept 20)* mechanisms supporting public involvement in health-decision making processes have been shown to improve health behaviours, health consequences, self-efficacy, adherence, and perceived social support across various health conditions. Public participation has also been shown to influence choice of health technologies and prioritization of research. *Currently systematic review studies are underway to assess the effectiveness evidence for general civil society participation interventions.* *Evidence from individual intervention studies:* Zamboni 2007 [55] // *Systematic review evidence(health):* Oakley 2009 [56]; Gagnon 2011 [57]; Liverani 2013 [58]; O'Mara-Eves 2013 [59]; Gandhi 2015 [60]

7	Mechanisms for participation of vulnerable populations in policy-making	Mechanisms that enable vulnerable population to actively participate in policy making processes are expected to improve empowerment, sense of control, and self-efficacy, and these improved psychological outcomes can be expected to improve mental health outcomes. Participation of women in groups that improve empowerment, for example, has been shown to considerably improve maternal and child health outcomes. *Systematic review evidence:* Prost 2013 [61]
8	Coverage with and depth of comprehensive, equitable basic services (including the primary health care intersectoral approach to the right to health)	Primary health care traditionally promotes health through coverage with interventions that improve access of populations to basic amenities that include water, sanitation, clean energy and disease prevention, and access to health promotion (and disease prevention) services. Poor water, waste and air quality are linked to higher rates of exposure to disease vectors and harmful chemicals, maternal mortality and higher disease transmission rates. Interventions to improve coverage with safely managed drinking water, safely managed sanitation and clean indoor energy, improve health, health equity and also influence behaviours (e.g. washing, safe food preparation, brushing teeth, etc.), the ability to adhere to health treatments, and reduce stigma associated with lack of cleanliness. Broadly, individual and collective health sector prevention services are important for improving population health but have to be designed appropriately to ensure they reach more disadvantaged populations. Specifically, outreach, immunization, incentive interventions (e.g. taxes), inspection and compliance services are important types of interventions for improving equity in population health outcomes. In particular, systematic reviews have found evidence of their positive impacts on equity in access, risk factors. There is evidence of the positive impacts on equity in health outcomes for school health programmes and social-nurse home visits, inspections for toxic and and other occupational health exposures, and for many types of tax incentives. *Systematic review evidence (basic amenities):* Turley 2013 [62]; Rehfuess 2014 [63]; Benova 2014 [64] *Systematic review evidence (prevention and promotion services):* Tompa 2007 [65]; Lewin 2007 [66]; Lorenc 2013 [51]; Langford 2014 [67]; Ejemot-Nwadiaro 2015 [68]; Bambra 2015 [69] // *Evidence from individual intervention studies:*Howard 2009 [70]; Johnson 2013 [71]
9	Coverage with financial health protection as an aspect of universal health coverage	Financial outlays, related to out-of-pocket payments for direct medical expenditures are an enormous obstacle to the utilization of health services. Financial barriers create disincentives to seek care early, or regularly, and are accompanied by other indirect costs and constraints. Without financial protection, a single, serious or on-going, chronic health events can lead to impoverishment and further illness, affecting not only the patient concerned but the larger family. Financial constraints affect household budget allocation decisions that can result in lower food security and additional budget trade-offs between direct health care costs and other essential expenses. *Systematic review evidence:* Målqvist 2013 [72]; Resayatmand 2013 [73] // *Evidence from individual intervention studies:* Johnson 2013 [71] // *Evidence compilation:* Lagarde 2008 [74]; O'Donnell 2007 [75]
10	Equity in coverage with health services	Equity in access is a matter of concern for health care delivery across many essential health services (MDG: (Family planning met by modern method; Four antenatal care visits; Skilled birth attendance; 3 doses of DTP containing vaccine; Antiretroviral therapy for HIV; Treatment of TB Sleeping under an insecticide treated bed net). Overall, disadvantaged populations, including rural residents, low-income populations and discriminated groups have lower coverage rates for even essential services. Without having appropriate, timely access, and conditions promoting completion of treatments, patients are not receiving many of the potential benefits of treatments and resources are used ineffectively. Populations may not either seek needed services or use them most efficiently. Governance, service and health programme redesign initiatives (e.g. quality improvement; programme tools, *Innov8;* health systems responsiveness/people-centred approaches including outreach (*see measurement concept 8*)) are interventions used to overcome deficiencies in delivery systems and health care services and which improve coverage. These interventions work through addressing human resource quality, interpersonal

		communication, and health service organization to meet users' needs in the context of their specific illnesses, stage of life and living and working conditions. *Systematic review evidence:* Rao 2007 [76]; Beswick 2008 [77]; Hastings 2014 [78]; Schwapp 2014 [79]; Barnes 2016 [80] // *Evidence from individual intervention studies:* Ferrer 2014 [81] // *Evidence compilation:* McEvoy 2008 [82] ; WHO 2015 [83]
11	Mechanisms for ensuring the integration of equity into health systems, policies, and programs	Priority-setting processes, as well as and resource allocation mechanisms, play a crucial role in determining how groups with different health conditions, different population groups, and geographic areas benefit from services. Having national health policies (including specific action plans for health equity) that set goals of reducing health inequities are cited in some literature as an effective mechanism for orientating the health sector to address the social determinants of health equity. *Qualitative evidence from specific cases:* Howard 2012 [84]; WHO (EURO) 2014 [42]
12	WHO-implemented mechanisms to protect population health from harmful trade and lending agreements	Trade agreements may favour corporate or strategic interests at the expense of the population health. There are several different pathways by which trade agreement can impact health. Reductions in tariffs increase unemployment rates for import-competing sectors and long periods of unemployment are associated with poorer health. Reduced tariffs can reduce taxation revenue and create the need to find revenue from other sources. Trade agreements can also impact on food security and nutrition - by allowing the importation of inferior quality food, undermining local livelihoods and agricultural, and leading to nutrition-related diseases. Preliminary systematic review evidence on food security identifies a large number of studies concluding that food security increases with removal of tariffs but other studies show mixed results. Financial conditions attached to lending agreements impose austerity budgets, in particular implementing cuts to social protection and education programmes important for population health and health equity. *Systematic review evidence:* Cirera 2011 [85]; McCorriston 2013 [86]; Dangour 2013 [87] // *Evidence compilation:* Moodie 2014 [88] // *Evidence from individual panel study:* Laliotis 2016 [89]
13	WHO-implemented mechanisms to protect population health from harmful and unhealthy products and environments	Human health is affected by the adequacy and quality of food and other substances ingested. The allocation of household budgets to food and other consumption expenditures, after other basic needs (shelter, water), is a household budgeting activity that is highly sensitive to prices. Evidence shows that price-based interventions are the most effective in reducing demand for groups with lower socio-economic status. Higher prices of unhealthy and harmful products create higher disincentives for poorer populations relative to better off-groups because of the lower levels of discretionary income in poorer households. Place-based interventions are also judged as unlikely to widen inequalities. Taxes used to reduce meat consumption also shows co-benefits for environment. *Systematic review evidence:* Eyles 2012 [90]; Powell 2013 [91]; Throw 2010 [92]; Yip 2013 [93]; *:* McGill 2015 [94]
14	Generosity of WHO programme budget for action on the SDH	The WHO programme budget is a central policy document of the Organization, showing its priorities and how it plans to achieve its biannual objectives. Organizational budgets and budget audits provide an indication of how well WHO is orientated towards addressing the SDH. The Commission on Social Determinants of Health recommended WHO institutionalizes a social determinants of health approach, from headquarters to country level. The budget allocation to SDH provides one assessment of the commitment to this continued work. *Evidence compilation:* Commission on Social Determinants of Health 2008[3]; McCoy 2013 [95]
15	Participation of developing countries in international policy making	Actions at the global level that affect the SDH are implemented through diverse existing decision-making structures and organizations including international banks, regional development organizations, and multi-lateral trade organizations. Greater representation of developing countries in these entities can orient international agreements to improve health. The evidence shows that when developing countries are oriented towards addressing population health needs, their increased participation in these entities improves the focus of the

		impacts of the decisions of these entities on health. *Systematic review evidence:* Harmer 2013 [96] // *Evidence citation (association):*Sridhar 2013 [97]
16	Disaggregation of health data by prioritized stratifiers in WHO databases	Politicians/policy-makers, the media and civil society leaders use systematic monitoring, or "tracking" of inequalities across different population groups to track the state of health inequalities, and to determine the scope of and priorities for action. Reviews show that increasing numbers of countries are undertaking monitoring of health inequalities; several governments have national inequality monitoring observatories, and issue national and sub-national reports showing the situation of inequalities in health outcomes and health service access outcomes. *Evidence of existing monitoring systems, nationally and globally:* Hosseinpoor 2015 [98]
17	Implementation of health inequalities monitoring systems	
18	Implementation of SDH-focused monitoring systems	Politicians/policy-makers, the media and civil society leaders use systematic monitoring, or "tracking" of factors across different domains affecting health to engage in intersectoral action and public debates on health determinants. In particular, monitoring actions (governance or specific policy interventions), as for this proposed global monitoring framework, are useful for intersectoral debates and ensure greater accountability of the health sector and other sectors to the population. There is evidence that an increasing number of countries are considering SDH-focused monitoring to be important. Several systems already use some of the proposed indicators from this framework into their national databases and public health reports on health inequalities and determinants. *Evidence of existing monitoring systems:* Buzeti 2011 [99]; .Blas 2016 [100]; Kilpeläinen 2016 [101]; Martinez-Valle 2016 [102]; Goldblatt 2016 [103] Pedrana 2016 [104]; Pega (forthcoming) [105]
19	Financial investment in research and evaluations of action on the SDH to improve health equity	Research on SDH and action on SDH need to have an explicit focus on public goods and equity to ensure that evidence and solutions are generated that promote equitable universal health systems and better distribution of health determinants. There are particular challenges related to SDH interventions, in particular the intersectoral nature of interventions. Financial incentives are useful instruments to promote research on the social determinants of health and health equity. *Systematic review evidence:* Ghandi 2015 [60] // *Evidence compilation:* Ostlin 2013 [106]
20	Mechanism for guaranteeing access to information as a key component of research, monitoring, and evaluations to ensure accountability and justice	Making available health-related information in the form of key statistics and research evidence, through web sites, databases, reports, and public information initiatives provides a basis for health providers and policy-makers from across sectors to learn and improve their policies and programmes. Tools and mechanisms can assist policy-makers and the population in evaluating and implementing policy choices. For example, multifaceted interventions, focussed on physician and public education, improve health care practices. Mechanisms promoting open information on pricing are also essential in the provision of essential medicines for all and in managing private-public mix. However, information-sharing also require safeguards against being captured by private interests. Mechanisms for guaranteeing access to information provide the basis for populations to call for political action and redress where health or determinants of health are negatively affected by the programmes of government and non-state actors. Some evidence shows that democratisation processes, which include mechanisms for ensuring open information-sharing, have positive health effects. The use of reports and results of public information meetings enables patient organizations to address the needs of their consistencies. Local communities provided with information on contaminants in water have also used these reports to act. There is evidence that mechanisms for information-sharing are critical to address malnutrition. *Systematic review evidence:* Lucas 2011 [107]; Boaz 2011 [108]; DeCourcey 2012 [109]; Liverani 2013 [58]; McPake 2016 [110]; Shawar 2016 [111] //*Evidence compilation:* Gillespie 2013 [112] // *Evidence from specific cases:* McCambridge 2013 [113]

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