INEQUALITY MONITORING IN SEXUAL, REPRODUCTIVE, MATERNAL, NEWBORN, CHILD AND ADOLESCENT HEALTH

A STEP-BY-STEP MANUAL

World Health
Organization

The cycle of health inequality monitoring

STEP ①
Determine the scope of monitoring

STEP ②
Obtain data

STEP ③
Analyse data

STEP ④
Report results

STEP ⑤
Knowledge translation

STEP ①

Determine the scope of monitoring

A

Decide on the population

B

Identify relevant indicators

C

Identify relevant dimensions of inequality

STEP ②

Obtain data

A

Conduct data source mapping

B

Determine whether sufficient data are currently available

STEP ③

Analyse data

A

Prepare disaggregated data

B

Calculate summary measures of inequality

STEP ④

Report results

A

Define the purpose of reporting and its target audience

B

Select the scope of reporting

C

Define the technical content

D

Decide on the methods of presenting the data

E

Adhere to the best practices of reporting

STEP ⑤

Knowledge translation

Identify priority areas for action

Contextualize findings

Consider the dissemination strategy

Identify opportunities for intersectoral collaboration

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World Health Organization

Inequality monitoring in sexual, reproductive, maternal, newborn, child and adolescent health: a step-by-step manual

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Contents

Foreword . . . v

Acknowledgements . . . viii

Abbreviations . . . x

Introduction . . . 1
    Using this manual . . . 1

An overview of health equity and health inequality monitoring . . . 4
    What is health equity? . . . 4
    Monitoring inequalities in sexual, reproductive, maternal, newborn, child and adolescent health . . . 4
    Advancing equity through inequality monitoring . . . 9

STEP ❶ Determine the scope of monitoring . . . 11
    Overview . . . 13
    1A. Decide on the population . . . 15
    1B. Identify relevant indicators . . . 17
    1C. Identify relevant dimensions of inequality . . . 20
    Best practices . . . 22
    Examples and resources . . . 23
    Additional reading . . . 27

STEP ❷ Obtain data . . . 29
    Overview . . . 31
    2A. Conduct data source mapping . . . 33
    2B. Determine whether sufficient data are currently available . . . 36
    Examples and resources . . . 39
    Additional reading . . . 40

STEP ❸ Analyse data . . . 41
    Overview . . . 43
    3A. Prepare disaggregated data . . . 45
    3B. Calculate summary measures of inequality . . . 47
    Best practices . . . 48
    Examples and resources . . . 49
    Additional reading . . . 50

STEP ④ Report results . . . 51
Overview . . . 53
4A. Define the purpose of reporting and its target audience . . . 55
4B. Select the scope of reporting . . . 56
4C. Define the technical content . . . 58
4D. Decide on the methods of presenting the data . . . 60
4E. Adhere to the best practices of reporting . . . 62
Best practices . . . 63
Examples and resources . . . 64
Additional reading . . . 68

STEP ❺ Knowledge translation . . . 69
Overview . . . 71
Identify priority areas for action . . . 73
Contextualize findings . . . 74
Consider the dissemination strategy . . . 75
Identify opportunities for intersectoral collaboration . . . 76
Best practices . . . 76
Examples and resources . . . 77
Additional reading . . . 77

Featured resources and readings . . . 79

Glossary of terms . . . 80

Foreword

The Constitution of the World Health Organization (WHO) states that the enjoyment of the highest attainable standard of health is a fundamental right for every human being without distinction of race, religion, political belief, or economic or social condition. Accordingly, every person should have access to the high-quality health services and care they need throughout their life without facing any discrimination or hardship.

As part of a rights-based approach to improve sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH), health policies and programmes must prioritize measures that ensure the needs of the most vulnerable are fully and equitably met, while upholding the core human rights principles of accountability, equality and non-discrimination, and participation. These are the basis of the WHO Thirteenth General Programme of Work, which promotes gender equality, human rights and equity. Inequalities affecting access to SRMNCAH services remain a particularly pressing concern as the world continues to respond to the COVID-19 pandemic and other health emergencies. While these crises have restricted access to and the provision of vital SRMNCAH services and psychosocial support, they have also resulted in increased exposure of women and children to violence, mental health and well-being issues, reduced nutritional status and impaired social development. The recent crisis has stretched health systems and compromised the livelihoods of people worldwide. Amid widespread uncertainty, WHO calls on countries to commit to "build back better" for a fairer and healthier world. WHO remains committed to developing tools and resources that will help countries and partners to be better prepared, including strengthening universal health coverage and people-centred primary health care.

Monitoring inequalities provides critically important evidence to drive SRMNCAH policies and programmes that are oriented to equity and rights, while contributing key inputs to programme reviews and planning activities. The findings of these monitoring exercises provide insights into who is being left behind and which health systems and services can be improved and targeted for accelerated impact.

This step-by-step manual describes the process of health inequality monitoring for SRMNCAH using a five-step cycle. This manual and its companion workbook are valuable resources to guide the work of people undertaking monitoring and evaluation, programme planning and/or policy development. Through technical guidance, examples, links to additional resources, and application exercises, this resource clearly explains the key concepts of inequality monitoring with a special consideration of how they apply to SRMNCAH topics.

Strong health information systems, and the data they generate, are the backbone of robust and comprehensive health inequality monitoring. To improve the quality and impact of health inequality monitoring, countries, provinces and districts need to be ambitious in building capacity and strengthening systems across all the steps involved. Through these processes, we can promote the meaningful participation and improved health of all affected populations and ensure that health systems are prepared to respond to their needs.

Dr Zsuzsanna Jakab
Deputy Director-General
World Health Organization

Dr Samira Asma
Assistant Director-General
Division of Data, Analytics and Delivery
World Health Organization

“Far too many women, children and adolescents remain left behind and unreached by information, services, and legal, social and policy changes that have benefited millions of others. . . Equity analyses are core to accountability. The variations in progress underscore that strategies to achieve success must be adapted to the widely divergent realities at both regional and country levels. This adaptation process must involve a focus on subnational patterns to determine which population groups are missing out and where they are located. Sensitivity to local context and history is essential for developing effective and relevant policies and programmes in all countries.”

2020 progress report on the *Every Woman Every Child global strategy for women’s, children’s and adolescents’ health (2016–2030)*

“The poor health of the poor, the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services, globally and nationally, the consequent unfairness in the immediate, visible circumstances of people’s lives – their access to health care, schools, and education, their conditions of work and leisure, their homes, communities, towns, or cities – and their chances of leading a flourishing life.”

“Acknowledging that there is a problem and ensuring that health inequity is measured – within countries and globally – is a vital platform for action. National governments and international organizations, supported by WHO, should set up national and global health equity surveillance systems for routine monitoring of health inequity and the social determinants of health and should evaluate the health equity impact of policy and action.”

Final report of the Commission on Social Determinants of Health, 2008

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Abbreviations

AIDS	acquired immune deficiency syndrome
COVID-19	coronavirus disease 2019
DHS	Demographic and Health Surveys
HEAT	Health Equity Assessment Toolkit
HIV	human immunodeficiency virus
MICS	Multiple Indicator Cluster Surveys
RHS	Reproductive Health Surveys
SDG	Sustainable Development Goal
SRMNCAH	sexual, reproductive, maternal, newborn, child and adolescent health
UHC	universal health coverage
WHO	World Health Organization

Introduction

Inequities in sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) throughout the world mean that certain population subgroups have systematically worse health outcomes and poorer access to services and interventions. Addressing inequities in SRMNCAH is central to achieving universal health coverage, protecting human rights, advancing gender equality, combating discrimination and improving the social determinants of health. Doing so aligns with the mandate of the World Health Organization (WHO) to support countries to achieve the health-related United Nations Sustainable Development Goal (SDG) of ensuring healthy lives and promoting well-being for all at all ages, leaving no one behind.

Health inequality is a measured difference in health between population subgroups and is one metric used to assess **health equity** (the absence of unjust, unfair and avoidable or remediable health inequalities).

Monitoring inequalities in SRMNCAH entails assessing and comparing the levels of key health indicators across population subgroups defined by social, economic, demographic or geographical characteristics. It can help to inform policy and programme efforts to promote equity for the benefit of women, men, gender-diverse people, adolescents and children[1] who are disadvantaged or underserved by health systems. Although there has been much work to identify SRMNCAH inequalities in the peer-reviewed literature and some efforts to address them through policies and programmes, there remains much more to be done to institute regular SRMNCAH inequality monitoring. Practical tools to build capacity for the process of this inequality monitoring are lacking.

Using this manual

The development of this *Inequality monitoring in sexual, reproductive, maternal, newborn, child and adolescent health: a step-by-step manual* and its *Companion workbook* has been guided by a vision for good health and well-being for all through more equitable SRMNCAH service access and use. The manual is a practical introductory guide to strengthen and build capacity for quantitative inequality monitoring in SRMNCAH. It guides users through the processes of setting the scope for inequality monitoring, deciding on the best available data for monitoring, performing data analysis, and reporting findings. Concepts related to knowledge translation are introduced for readers to gain an appreciation of how the results of inequality monitoring can be taken forward to drive impact and change. This workbook encourages users to consider how each step of the inequality monitoring cycle can be adapted to SRMNCAH in a particular context.[2]

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[1] The terminology used by the WHO Departments of Maternal, Newborn, Child and Adolescent Health and Ageing, and of Sexual and Reproductive Health and Research to describe population groups is under discussion; the language used throughout this resource is intended to be inclusive of all people.

[2] The companion workbook is available for download at https://www.who.int/data/health-equity/manual_srmncah.

Regular monitoring and review of inequalities in SRMNCAH by stakeholders at regional, national and subnational levels is a critical input for evidence-based decision-making for equity-oriented SRMNCAH programming. This should be integrated into the health sector's ongoing monitoring activities and conducted regularly as new SRMNCAH data become available: depending on the data source, this may be annually (in the case of routine data from health systems) or every three to five years (in the case of many population-based surveys). The outputs of inequality monitoring are particularly relevant to integrated SRMNCAH programme review and planning activities, and therefore inequality monitoring activities may be coordinated with these processes.

While many examples in this manual reference inequality monitoring at the national level, the steps outlined are also applicable at regional and subnational levels. Ideally, SRMNCAH inequality monitoring should be undertaken across multiple levels to gain a nuanced picture of the state of inequality. Throughout this manual and workbook, users are prompted to identify entry points for activities that, while important, are not the primary focus of this manual, such as strengthened data collection, opportunities for collaborations and partnerships, and considerations for the effective, anti-discriminatory dissemination of results. Wherever possible, additional resources are suggested to direct users to specialized guidance to further enhance and strengthen the impact of SRMNCAH inequality monitoring.

The technical content of these resources is designed primarily for people involved in national SRMNCAH monitoring and evaluation efforts, including officers, plus programme managers who have basic knowledge and experience working with SRMNCAH data. Other interested stakeholders, such as district managers, may find certain sections useful to strengthen their capacity in targeted ways, such as in the interpretation and use of inequality data. These resources encourage the broad participation of affected populations, civil society groups and multisectoral stakeholders in different capacities across the health inequality monitoring cycle, as highlighted throughout.

The manual and workbook are organized around the five steps of the health inequality monitoring cycle: determining the scope of monitoring, obtaining data, analysing data, reporting results, and knowledge translation. The manual's five chapters correspond to each of these steps and highlight how they can be applied to SRMNCAH. Best practices are identified for each step to showcase the highest standards for monitoring. To illustrate the application of key concepts and give links to external materials for more detailed information, each chapter also has an "Examples and resources" section. Finally, the glossary at the end of this workbook (see page 80) is a quick reference on the terminology relevant to SRMNCAH and monitoring inequality.

The workbook consists of a series of questions and exercises to encourage a deeper consideration of the application of the concepts within a particular context. While users are encouraged to engage with these resources comprehensively to gain an appreciation for the full health inequality monitoring cycle, the structure of the workbook also facilitates a more selective approach.

This manual and the workbook complement other WHO resources for health inequality monitoring (Box 1). Further WHO and United Nations tools and resources relevant to health equity and SRMNCAH can also be used in synergy with this manual (see "Featured resources and reading", page 79), including the *WHO Handbook for conducting an adolescent health services barriers assessment (AHSBA) with a focus on disadvantaged adolescents*, the WHO *Innov8 approach for reviewing national programmes to leave no one behind: technical handbook* and the EQUIST platform for strengthening health systems (developed by the United Nations Children's Fund).

Box 1. Other WHO resources for health inequality monitoring

The following WHO resources can be accessed through the Health Equity Monitor theme page: https://www.who.int/data/gho/health-equity.

The *Handbook on health inequality monitoring with a special focus on low- and middle-income countries* introduces the cycle of health inequality monitoring and is a resource for countries to establish and strengthen health inequality monitoring.

National health inequality monitoring: a step-by-step manual outlines the general step-by-step approach to monitoring that is the foundation of this SRMNCAH manual. *Inequality monitoring in immunization: a step-by-step manual* applies this approach to the topic of immunization.

The two series of reports, *State of inequality* and *Explorations of inequality*, provide examples of detailed reports of health inequalities, covering the latest situation and changes over time and integrating digital data visualization technology to present data interactively.

The Health Equity Assessment Toolkit (HEAT) and HEAT Plus are interactive applications that allow users to explore patterns of inequality in disaggregated data, calculate summary measures of inequality and create customized visuals.

The Health Equity Monitor Database, a component of the WHO Global Health Observatory, is a repository for disaggregated data. It includes data about more than 35 reproductive, maternal, newborn and child health indicators, disaggregated by six dimensions of inequality and representing surveys conducted in 115 countries.

A series of eLearning courses guide learners through key concepts and implications of health inequality monitoring, including applications to diverse health topics. Learners can attain records of achievement for the courses.

An overview of health equity and health inequality monitoring

What is health equity?

Health equity is defined by WHO as the absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically.[3] It is emphasized as an underlying principle of the Sustainable Development Goals (SDGs), including SDG 3 to ensure healthy lives and promote well-being for all at all ages, and it is a fundamental part of the Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) and core human rights and gender equality treaties (Box 2). Most countries specify equity as a cross-cutting priority in their national SRMNCAH plans, policies and programmes.

In practice, health equity is a concept related to promoting justice and eliminating all forms of discrimination. Advancing health equity entails a broad reorientation of many parts of society to elevate the health and social status of the population subgroups that have historically been marginalized and/or disempowered. It requires action within the health sector to make high-quality health services available, accessible (which includes affordability) and acceptable to all. This may include, for example, ensuring that high-quality culturally appropriate and gender-sensitive reproductive health services are available in remote rural areas. Other examples are improving the timely diagnosis and treatment of sick children in households in situations of poverty, and creating non-discriminatory environments for adolescents to obtain rights-based information about sexual and reproductive health. Advancing health equity necessitates intersectoral action (i.e. coordinated actions with non-health sectors) to improve the social determinants of health – the circumstances in which people are born and where they grow, live and work – including economic, political, environmental, cultural and commercial determinants of health. Actions to promote, for example, gender equality, early childhood development, educational opportunities, food security, supportive public policy and conflict-free environments have direct and indirect benefits on SRMNCAH.

Monitoring inequalities in sexual, reproductive, maternal, newborn, child and adolescent health

Monitoring inequalities in a quantitative manner for SRMNCAH entails using disaggregated data about an SRMNCAH indicator to compare health indicators between population subgroups. For example, whereas the national average for a given SRMNCAH indicator provides a sense of how a country is doing overall, disaggregated data show the discrepancies between defined groups of people. The results of inequality monitoring can be used as an input (alongside other forms of knowledge and evidence) to determine where efforts are needed to accelerate improvements for disadvantaged subgroups.

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[3] Social determinants of health. In: World Health Organization [website]. Geneva: World Health Organization; no date (https://www.who.int/health-topics/social-determinants-of-health, accessed 8 December 2021).

Box 2. SRMNCAH equity and international commitments

Actions to advance greater equity in sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) align with wider commitments by countries to global development and human rights. Sustainable Development Goals (SDGs)[4] that seek to achieve sustainable global economic, social and environmental development by 2030 will not be realized without investment in SRMNCAH and well-being, and dedicated efforts for the reduction of inequality.

- SDG 1, to end poverty everywhere, calls for the reduction of child poverty according to national poverty lines and with regards to multidimensional child poverty (indicator 1.2).
- SDG 2 seeks to end hunger in all its forms, addressing stunting and wasting in children and the nutritional needs of adolescent girls, pregnant and lactating women, and older people (indicator 2.2).
- As part of SDG 3, to ensure good health and well-being for all:
  - SDG indicators 3.1 and 3.2 call, respectively, for the reduction of global maternal mortality and an end to the preventable deaths of newborns and children under 5 years.
  - SDG indicator 3.7 specifies universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.
  - Through SDG indicator 3.8, countries are committed to achieve universal health coverage so that all people have access to the full range of essential health services when they need them, without financial hardship.
- SDG 4 is to provide access to quality education.
- As part of SDG 5 to achieve gender equality and empower all women and girls:
  - SDG indicator 5.1 necessitates the advancement of legal frameworks to eliminate all forms of gender-based discrimination;
  - SDG indicator 5.2 calls for the elimination of violence against women and girls;
  - SDG indicator 5.3 calls for the abandonment of harmful practices, such as female genital mutilation and child marriage;
  - SDG indicator 5.5 targets women's economic and political empowerment and rights;
  - SDG indicator 5.6 seeks universal access to sexual and reproductive health and reproductive rights.
- SDG 6 aims to achieve universal access to clean water and sanitation.
- SDG indicator 7.1 is to ensure access to affordable, reliable and modern energy services, including clean fuels and technology.
- SDG 10 is to reduce inequality within and among countries.
- SDG indicator 16.9 is to provide legal identity for all, including birth registration.
- SDG indicator 17.18 spotlights the importance of data disaggregation, specifying more data pertaining to income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.

The Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) was launched in 2015 to support the SDGs and accelerate progress towards them through a multisectoral approach.[5] The Global Strategy envisions a world in which every woman, child and adolescent realizes their rights to physical and mental health and well-being, has social and economic opportunities and is able to fully participate in shaping prosperous, sustainable societies. To achieve this vision, the Global Strategy upholds a focus on the most disadvantaged people, prioritizing the importance of monitoring with an equity lens. The indicator and monitoring framework for this strategy[6] emphasizes disaggregated data: "For many indicators the disaggregation by age, sex, socioeconomic status and other dimensions is critical to

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[4] Global indicator framework for the sustainable development goals and targets of the 2030 agenda for sustainable development (A/RES/71/313). New York: United Nations Statistics Division (https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202021%20refinement_Eng.pdf, accessed 9 December 2021).

[5] Global strategy for women's, children's and adolescents' health data portal. In: World Health Organization [website]. Geneva: World Health Organization; no date (https://www.who.int/data/maternal-newborn-child-adolescent-ageing/global-strategy-data, accessed 8 December 2021).

[6] Every Woman Every Child. Indicator and monitoring framework for the global strategy for women's, children's and adolescents' health (2016–2030). Geneva: World Health Organization; 2016 (https://www.who.int/life-course/publications/gs-Indicator-and-monitoring-framework.pdf, accessed 8 December 2021).

Box 2 (continued)

ensure that no one is left behind, including in humanitarian and other fragile settings. This will require special attention to data collection, analysis and communication for most indicators."

Countries have legal obligations and duties to protect human rights, described in the International Bill of Human Rights and other international human rights instruments.*74*These rights include that to the highest attainable standard of health and that to a standard of living adequate for health, upholding the principle of non-discrimination. Human rights are recognized in national constitutions, laws and court decisions and should be reinforced through legislative and regulatory frameworks. For example, health-care providers and institutions should not be legally allowed to impede people's access to health services on the basis of ethnic, religious, moral or political grounds. Respecting and upholding civil, political, economic, social and cultural human rights, which are indivisible, contributes to health equity.

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[7] Including the Convention on the Elimination of All Forms of Discrimination against Women, the Convention on the Rights of Persons with Disabilities, the Convention on the Rights of the Child and the International Convention on the Elimination of All Forms of Racial Discrimination. The Office of the United Nations High Commissioner for Human Rights has listed nine core international human rights instruments – see https://www.ohchr.org/EN/ProfessionalInterest/Pages/CoreInstruments.aspx.

When SRMNCAH inequality monitoring is conducted for multiple time points, it can demonstrate the trends of how inequality may be changing over time. In addition, when disaggregated data are used to illustrate multiple or compounding dimensions of inequality experienced by subpopulation groups (e.g. indigenous women living in situations of poverty) in conjunction with other data on related barriers, such as those related to gender inequalities, these serve as important inputs for planning targeted policies, programmes and practices to improve SRMNCAH service access and health outcomes.

Disaggregated data show the level of a health indicator separately for defined groups of people, providing a nuanced picture of how a particular health situation is experienced by different subgroups within a population.

The general process of health inequality monitoring can be simplified as a cycle of five steps, and this can be applied to the topic of SRMNCAH (**Figure 1**). These five steps form the structure of this manual. As a result of proceeding through the five steps, ongoing monitoring may be required to track the impact of these changes over time, or new priorities for inequality monitoring may be identified. Thus, the cycle begins again.

In reality, health inequality monitoring is a complex process, as the five steps are iterative and interconnected, with different resource requirements across different contexts. In some contexts, there may already be established resources or protocols for SRMNCAH monitoring (such as indicator frameworks and reliable and representative data sources), while in other contexts, extensive inputs may be needed to initiate and strengthen SRMNCAH inequality monitoring. Often, decisions taken at one step of the cycle may need to be revisited and revised at a subsequent step. For example, if data are not

Figure 1. The cycle of health inequality monitoring

STEP ①

Determine the scope of monitoring

Consider the purpose and scope of monitoring, including determining the population, health indicators and dimensions of inequality that will be the focus of inequality monitoring

STEP ②

Obtain data

Assess the availability of quantitative data for both the health indicators and the dimensions of inequality and ensure that the data are sufficient to proceed with monitoring

STEP ③

Analyse data

Prepare disaggregated data and calculate summary measures of inequality

STEP ④

Report results

Clarify the audience and purpose of reporting, select the scope for reporting, define the technical content of the report, decide on the methods of data presentation and adhere to the best practices of reporting

STEP ⑤

Knowledge translation

Facilitate the uptake of the results of monitoring to inform changes that accelerate, and enhance accountability for, improvements among affected populations and population subgroups

available (STEP 2) for the desired scope of monitoring (STEP 1), the rest of the monitoring cycle cannot proceed as planned. Either more data need to be collected or the scope of monitoring needs to be reconsidered and redefined. Engagement with knowledge users and affected populations is needed for success and impact in STEP 5 (knowledge translation). This is enhanced by their consideration, consultation and/or collaboration across all steps of the cycle (Box 3).

Box 3. The importance of consultation and engagement throughout the cycle of inequality monitoring

Knowledge translation bridges the processes of generating evidence about sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) inequalities and taking action on them to effect change. When knowledge translation happens effectively, the needs and concerns of the people who are involved in making policy decisions and of the people who are affected by these decisions are considered early in the process and are reflected in the monitoring outputs. This includes ensuring institutionalized decision-making processes, such as policy development, resource allocation and programme improvement, are linked to such engagement. The impact of monitoring is thereby enhanced because knowledge users can clearly recognize how the results can be applied to their area of work. In turn, the changes implemented in response to health inequality monitoring are more likely to be successful because they accurately account for the realities of how affected populations live their lives and they avoid perpetuating stigma and discrimination or other unintended harmful effects.

What does it look like to integrate knowledge translation considerations into all steps of SRMNCAH inequality monitoring?

- The purpose and scope of monitoring are determined in collaboration, consultation and/or consideration of knowledge users (including affected populations, such as civil society and patient advocacy groups) to ensure that the scope of monitoring is relevant to participatory and effective policy and programme development, and that the monitoring activities are sensitive to the priorities, needs and preferences of all members of the population and their specific cultural and social contexts.
- Regular data collection efforts are expanded to include more relevant and better-quality data about segments of the population who are typically underrepresented (so they are captured in inequality monitoring) and aspects of their lives relevant to inequality monitoring. Data collection instruments and practices are designed to account for gender and cultural sensitivities and to minimize stigma, discrimination and legal concerns.
- The limitations and biases inherent in measuring inequality are understood, acknowledged and accounted for in a transparent way.
- Reporting decisions are made with the knowledge of the audience to whom the reporting is targeted, prioritizing their needs and abilities. Reporting outputs are pretested with relevant groups to promote their impact. Care is taken to avoid potential misrepresentation, stigmatization and discrimination.
- Multiple forms of knowledge are consulted to contextualize and adequately respond to the results of inequality monitoring. The results of monitoring are shared with diverse audiences through appropriate channels and formats to have impact within and beyond the health sector.

Advancing equity through inequality monitoring

The overarching goal of monitoring inequality in SRMNCAH is to use the results to inform the implementation of changes that advance equity and improve the health of disadvantaged populations, and to enhance accountability for these changes. Put simply, health inequality monitoring is a warning system and a diagnostic tool for guided improvements. The results of health inequality monitoring show where there are gaps affecting population subgroups, thus helping policy-makers and programme managers to ensure that interventions are targeted to those with greatest needs. The findings of inequality monitoring also indicate entry points for closer study. These investigations will enable targeted interventions to be tailored against specific areas of concern within the topic of SRMNCAH and/or particular sources of disadvantage or discrimination within the affected populations. When the monitoring of inequalities in SRMNCAH is conducted regularly, time trends can suggest where policies and programmes have been successful (or unsuccessful) in alleviating health inequity.

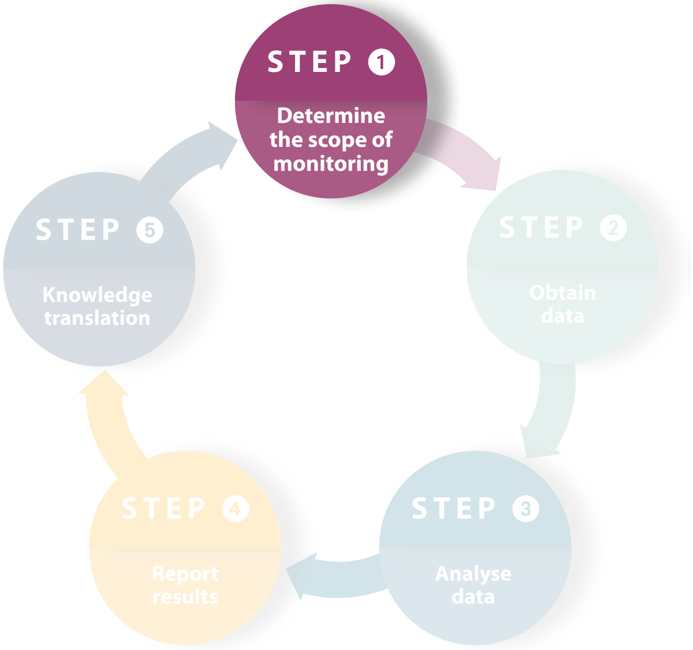
When the results of health inequality monitoring are contextualized by the findings of quantitative and qualitative studies and expertise about the monitoring context – including the viewpoints and experiences of the affected populations – they can provide a powerful impetus for equity-oriented change. To ensure the results of inequality monitoring have the desired impact, it is important to cultivate an understanding of the underlying political context, including understanding the people who are part of decision-making processes and the people who are left out or even actively discriminated against. Anticipating the challenges and opportunities of presenting the results to multiple sectors and actors with diverse interests can help to proactively inform strategies to promote their engagement.

Opportunities to assert health equity are embedded throughout the process of inequality monitoring. For example, mapping the availability of SRMNCAH data for inequality monitoring reveals how certain population subgroups may be underrepresented in data collection activities (either because data are not collected or because those that are collected lack corresponding information about dimensions of inequality). This would be an opportunity to advocate more comprehensive data collection practices and health information systems that inclusively represent all groups of people. Moreover, mutual learning and collaborating with marginalized communities as part of the SRMNCAH inequality monitoring process can generate awareness about the lived realities of diverse population groups and be a mechanism to improve the reporting of SRMNCAH inequalities in an impactful and empowering way. In turn, this may effect change to reduce inequality and discrimination within and beyond the health sector.

STEP

1

Determine the scope of monitoring



STEP 1

Determine the scope of monitoring

A

Decide on the population

KEY QUESTION

Which general population will the monitoring activity encompass?

CHECKLIST

- ☐ Identify the populations that are prioritized in key strategies, programmes, policies and legislation for sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH).
- ☐ Take stock of current and recent monitoring activities and identify priority populations as well as those that are underrepresented.
- ☐ Decide whether monitoring will be done at the regional, national or subnational level.

B

Identify relevant indicators

KEY QUESTION

Which range of indicators is best suited to inequality monitoring?

CHECKLIST

- ☐ Determine the desired breadth of the health topics to be captured.
- ☐ Select a package of those SRMNCAH indicators that have relevance within the population.
- ☐ Include, at a minimum, indicators of health outcomes and intervention coverage.
- ☐ If appropriate, consider using tracer and composite indicators.

C

Identify relevant dimensions of inequality

KEY QUESTION

Which dimensions of inequality are relevant for monitoring SRMNCAH?

CHECKLIST

- ☐ Select common dimensions of inequality, as applicable.
- ☐ Select other context-specific dimensions of inequality.
- ☐ Explore application of double or multiple disaggregation.

Overview

STEP ① of the cycle of monitoring inequalities in SRMNCAH establishes the general purpose and scope of the monitoring exercise. It is the most conceptual part of the cycle, putting in place the parameters that will guide the subsequent steps of monitoring. Asking broad questions helps to establish the rationale behind the monitoring and its intended purpose. Why is inequality monitoring being undertaken at this time? Which health situation is it ultimately seeking to improve? How and by whom are the results of monitoring intended to be used? For example, inequality monitoring may be conducted because targets for reducing maternal mortality are off track. The findings about inequalities in maternal health service coverage and outcomes will help to identify the most-at-risk population subgroups requiring targeted interventions.

In this manual, STEP 1 is broken down into three sub-steps:

- STEP 1A: deciding on the population
- STEP 1B: identifying relevant indicators
- STEP 1C: identifying the relevant dimensions of inequality.

Although these sub-steps are presented sequentially, they can be approached concurrently, guided by the overarching purpose of monitoring and with consideration of existing priorities and resources.

This initial step of the cycle can benefit from a thorough understanding of the barriers to health faced by women, men, gender-diverse people, adolescents and children. Decisions about the purpose and scope of monitoring should be made with the engagement of the knowledge users and the affected populations. This helps to promote the uptake of health inequality monitoring results by ensuring that the population, SRMNCAH indicators and dimensions of inequality selected for monitoring are relevant to policy and programme development and sensitive to the priorities, needs and preferences of the population affected. Consulting the relevant SRMNCAH policies, strategies, reports and other qualitative and quantitative literature can be helpful to get a sense of how inequality monitoring can be best oriented for impact within the landscape of SRMNCAH-related priorities and activities. Consider where there is the necessary funding, political will and public support to act on the recommendations that may arise from the monitoring results (including to support further studies to generate additional contextual evidence on inequalities to formulate effective interventions).

Inequality monitoring may also call attention to issues that are not prioritized in SRMNCAH policies and programmes but should be. For example, in areas where sexual and reproductive health services are primarily focused on women of reproductive age, an assessment of the state of inequality by age and sex may reveal lower access and use among other population subgroups, such as adolescents, men of all ages, gender-diverse people and older women. The findings of inequality monitoring may be useful to advocating greater visibility and the investigation of such issues, and driving actions for equity-oriented change.

1A. Decide on the population

STEP 1

Determine the scope of monitoring

A
Decide on the population

B
Identify relevant indicators

C
Identify relevant dimensions of inequality

KEY QUESTION

Which general population will the monitoring activity encompass?

CHECKLIST

- ☐ **Identify the populations that are prioritized in key strategies, programmes, policies and legislation for SRMNCAH.**
- ☐ **Take stock of current and recent monitoring activities and identify priority populations as well as those that are underrepresented.**
- ☐ **Decide whether monitoring will be done at the regional, national or subnational level.**

A starting point for monitoring inequalities in SRMNCAH is to consider the general population (or populations) that the monitoring activity will cover. Populations – groups of people – are often defined based on geographical or administrative boundaries: regional, national, provincial, district, municipal and so on. Monitoring should encompass all members of the affected population within the area, such as all women of reproductive age in a country, all children under 5 years of age in a province, or all adolescents in a municipality. For instance, if one is interested in monitoring health inequalities related to women's migratory status in a province, the general population might consist of all women in that province (including both migrant and non-migrant women).

Note that the general population for monitoring does not reflect the dimension of inequality (addressed in STEP 1C) or the division of the population into subgroups (addressed in STEP 3A).

Having a comprehensive understanding of SRMNCAH issues will assist with decisions about the monitoring population. There are likely to be multiple populations that could be of interest for monitoring, and these will need to be prioritized. Existing SRMNCAH priorities (as evident in policies, plans, programmes, strategies, commitments and legislation) can serve as useful entry points to assess which populations are currently the focus at centralized levels of decision-making.

Aligning monitoring activities with ongoing priorities and accountability mechanisms, such as reporting or budgetary requirements, if they exist, is one way to promote the uptake and impact of the results at later stages of the monitoring cycle. Engaging with stakeholder and advisory groups, as well as consulting documentation around SRMNCAH issues, can help to get a sense of topical issues and the

See
"Prominent global SRMNCAH initiatives" on page 23

See
"Community engagement" on page 23

affected populations. For example, increasing rates of a sexually transmitted infection in a province may warrant closer exploration of inequalities among sexually active adults in that province.

In some instances, the aim of SRMNCAH inequality monitoring may be to shed light on the state of inequality in populations who are underrepresented in current monitoring efforts. Thus, it is also important to identify where there is a need to conduct monitoring that encompasses populations, health issues and dimensions of inequality that have been excluded. In this case, inequality monitoring might be used for greater representation and consideration of particular populations and issues in the development of SRMNCAH policies and plans.

1B. Identify relevant indicators

STEP 1

Determine the scope of monitoring

A
Decide on the population

B
Identify relevant indicators

C
Identify relevant dimensions of inequality

KEY QUESTION

Which range of indicators is best suited to inequality monitoring?

CHECKLIST

- ☐ **Determine the desired breadth of the health topics to be captured.**
- ☐ **Select a package of those SRMNCAH indicators that have relevance within the population.**
- ☐ **Include, at minimum, indicators of health outcomes and intervention coverage.**
- ☐ **If appropriate, consider using tracer and composite indicators.**

In selecting SRMNCAH indicators for monitoring inequality, an initial consideration is the desired breadth of the health topic. Will the topic be narrowly defined, and therefore include indicators that are directly linked with that topic? Or will a broad lens be adopted, incorporating a wider selection of health indicators across aspects of the health sector and other health-related indicators?

At this stage, it is important to consider the intended impact of monitoring, keeping in mind the audience with whom the results are to be shared and their scope of influence. For example, a more narrowly defined SRMNCAH topic, such as adolescent pregnancy, might focus on health indicators related to contraceptive use, access to safe abortion, antenatal care contacts, skilled birth attendance, institutional delivery, postnatal care contacts, rates of complications, birth outcomes and maternal mortality among adolescents. Monitoring activities that aim to capture inequalities across SRMNCAH more broadly might encompass a variety of indicators across the continuum of SRMNCAH care, and include indicators related to the health system more generally. These might include tracer and composite indicators (Box 4).

Box 4. Tracer and composite indicators

Tracer indicators are specific indicators chosen to stand in for a broader health topic. For example, the coverage of births attended by skilled health personnel is frequently used as a tracer indicator of health service coverage. Areas that report higher coverage of skilled birth attendance are understood to have better health service coverage more generally.

Composite indicators are those that combine multiple indicators, sometimes across different health topics, into an index, thus generating an overall picture of the health topic. For example, the universal health coverage (UHC) service coverage index is made up of 14 tracer indicators related to: sexual, reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access. The UHC service coverage index is measured as a unitless score between 0 and 100, where lower scores indicate lower average coverage of essential health services. Another example, widely used in sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH), is the composite coverage index. This index is a weight score reflecting the coverage of eight SRMNCAH interventions along the continuum of care: (i) demand satisfied for family planning (modern methods), (ii) antenatal care coverage (at least four visits), (iii) births attended by skilled health personnel, (iv) bacille Calmette–Guérin immunization coverage among 1-year-olds, (v) measles immunization coverage among 1-year-olds, (vi) coverage of three doses of diphtheria–tetanus–pertussis vaccine among 1-year-olds, (vii) children under 5 years of age with diarrhoea receiving oral rehydration therapy and continued feeding, and (viii) children under 5 years of age with pneumonia symptoms taken to a health facility.

Whereas tracer indicators are straightforward to understand and report, they may not be representative of the broader picture, especially if special efforts are dedicated to a specific intervention or programme simply because it is being monitored. Composite indicators integrate multiple aspects of the health topic, though they tend to be more complex to report and understand. Composite indicators can help to overcome the limitations of small sample sizes, as data from multiple indicators are combined.

In general, SRMNCAH inequality monitoring should encompass, at a minimum, health intervention indicators (such as intervention coverage) and outcome indicators (such as morbidity and mortality). This gives insight into how policies and programmes are reaching the population and into the distribution of outcomes across different subgroups. Additional indicators related to health-system inputs, processes and outputs (e.g. service access and readiness) might also be included to capture an array of health-system factors that are indirectly related to SRMNCAH outcomes.

Similarly, health indicators to measure and assess gender inequalities that are also indirectly related to SRMNCAH outcomes might be included. This may encompass indicators on child marriage, violence against women and female genital mutilation, which address human rights violations and markers of inequality (with indicators in the Sustainable Development Goals, SDGs). High prevalence of these experiences in a particular setting is indicative of deep-rooted inequalities. In some countries, data about these topics are collected through special modules of large-scale population health surveys, which are common data sources for health inequality monitoring. These include Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and the Reproductive Health Surveys (RHS).

Ideally, health indicators selected for monitoring should have a strong scientific basis and be aligned with what is considered appropriate or relevant to the monitoring population. Information pertaining to the epidemiological and demographic profile of the population can help assess whether certain indicators occur frequently enough to make inequality monitoring meaningful. A relatively rare occurrence, such as a maternal death, may preclude monitoring maternal mortality in smaller subnational populations (where a maternal death review or maternal death audit may be carried out to investigate the circumstances and cause of death).

Existing global monitoring frameworks of recommended SRMNCAH indicators are a good starting point for selecting indicators that have broad relevance across settings and for which consensus has been reached on the metadata (that is, technical specifications for how the indicator is defined and calculated). Other existing global monitoring frameworks may also be useful when selecting broader indicators on indirect factors such as those noted above. For example, SDG indicators also have similar broad relevance and consensus on the technical specifications. Using an indicator with a standardized definition can enable benchmarking at later stages of monitoring, as other populations may have comparable data about the indicator. In other cases, context-specific definitions may be appropriate to reflect the unique situation of the monitoring population. If the results of monitoring are intended for use by national SRMNCAH programmes, for instance, the indicators most relevant to the country’s disease profile or priorities should take precedence. Note that STEP 2 and the assessment of data availability may influence the choice of SRMNCAH indicators.

See
“Indicator frameworks and toolkits” on page 24

1C. Identify relevant dimensions of inequality

STEP 1

Determine the scope of monitoring

A
Decide on the population

B
Identify relevant indicators

C
Identify relevant dimensions of inequality

KEY QUESTION

Which dimensions of inequality are relevant for monitoring SRMNCAH?

CHECKLIST

☐ **Select the common dimensions of inequality.**
☐ **Select other context-specific dimensions of inequality.**
☐ **Explore the application of double or multiple disaggregation.**

The dimensions of inequality are the categorizations on which subgroups are formed for inequality monitoring. They generally reflect sources of discrimination or social exclusion that negatively impact health, including social, economic, demographic and geographical factors. Common dimensions of inequality are a useful starting point for consideration, as they have widespread applicability across health topics and contexts, and tend to offer greater data availability (although this does not necessarily reflect their level of importance for a given population and topic). Common dimensions of inequality include sex, economic status, education level, place of residence, age and subnational region. Examples of where they might apply to aspects of SRMNCAH include the following.

- Sex: Are female or male children more likely to be taken to a health-care centre when sick?
- Economic status: Are vaccination rates among children from poorer households lower than those among children from richer households?
- Education level: Do women with lower levels of education receive fewer antenatal care contacts than women with higher levels of education?
- Place of residence: Do maternal deaths occur more frequently among women living in rural areas compared with urban areas?
- Age: Are individuals denied access to contraceptives based on age?
- Subnational region: Does the availability of basic emergency obstetric care vary between provinces?

Although these are common dimensions of inequality, certain factors may not be applicable to all populations or SRMNCAH topics. Sex, of course, is not an applicable factor for indicators related to pregnancy and childbirth.

In addition to these common factors, other context-specific dimensions of inequality that are relevant to the setting, population and SRMNCAH topic should be identified and included. These factors may not have relevance to all populations and topics (and data availability across populations may be more limited), but they are relevant within the specified monitoring context. Identifying these factors requires contextual familiarity with the monitoring population and the health topic.

Context-specific dimensions of inequality may encompass factors such as caste/tribe, criminal status, disability status, indigenous status, health insurance coverage, language spoken at home, marital status, migratory status, occupation, other status (i.e. status based on health conditions such as HIV/AIDS), race/ethnicity, religion, residence in an informal settlement, sexual orientation and gender identity (**Box 5**), substance use or abuse, and others. In some cases, it may also be important to consider risk factors that reflect the circumstances and experiences of members of affected populations (**Box 6**).

Box 5. Sexual orientation and gender identity

Across many aspects of sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH), sexual orientation and gender identity constitute relevant dimensions of inequality. Because of the views surrounding "non-conforming" sexual orientation and gender identities, some individuals face barriers to accessing care, stigma and discrimination when they receive care, and particular health risks. Further explorations are needed across all settings to better understand how attitudes and responses to sexual orientation and gender identity affect aspects of SRMNCAH experiences, though data are currently lacking in many settings.

Box 6. Risk factors as dimensions of inequality

While social, economic, demographic or geographical characteristics are typically the basis for identifying subgroups for inequality monitoring in sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH), risk factors emanating from certain experiences may also be applied as dimensions of inequality. In the same way that SRMNCAH indicators are monitored between districts, they may also be monitored, for example, based on rates (or experiences) of violence against women, female genital mutilation or child marriage. Similarly, gender-inequality factors, such as social independence, decision-making autonomy and attitudes to violence against women and girls could be applied as dimensions of inequality to monitor differences in health interventions and outcomes.

To help understand the challenges faced by the population and inform the selection of the relevant dimensions of inequalities, rigorous assessments of these barriers can be applied following systematic methodologies. Protocols for such barrier assessments may entail some or all of the following: key informant interviews, literature review, quantitative data mining, qualitative data collection, and stakeholder workshops. These processes can provide rich insight into experiences of stigma or discrimination, which can help ensure that dimensions of inequality are selected to uphold gender and cultural sensitivity, appropriateness and anti-discrimination. Barrier assessments may also be revisited at other steps of the monitoring cycle. For example, they may be further developed following data analysis (STEP 3) to understand why inequalities exist and why certain population subgroups are left behind. They can help inform the development of health and intersectoral policies and interventions to address these factors (STEP 5).

See
"Assessing barriers and sources of disadvantage" on page 26

A single dimension of inequality may not always be sufficient to meaningfully capture inequality within a population. Intersectionality – the coexistence of multiple characteristics and identities that together compound disadvantage due to the interactions among them – may warrant consideration. Double or multiple disaggregation is a starting point of exploring intersectionality through health inequality monitoring. Double disaggregation involves applying two dimensions of inequality simultaneously, while multiple disaggregation applies more than two dimensions (**Box 7**).

Box 7. Double or multiple disaggregation

Double or multiple disaggregation is the practice of filtering data according to two or more dimensions of inequality at the same time. This helps to account for experiences of compounding forms of inequality that, when combined, can generate increased risk. For example, data may be doubly disaggregated by place of residence plus economic status to compare richer and poorer households in urban and rural areas. For adolescent populations (defined by WHO as people between the ages of 10 and 19 years), data may need to be disaggregated first by age (the circumstances at the younger end of the range may differ from those at the older end) and then by other dimensions of inequality, to facilitate more meaningful explorations of health experiences and inequalities.

Best practices

- Create an inventory of SRMNCAH policies, strategies, reports and action plans for reference throughout the cycle of health inequality monitoring. Also include monitoring reports, annual statistical reports or progress updates on SRMNCAH topics (published by many countries).
- Liaise with SRMNCAH technical working groups, which often represent SRMNCAH stakeholders across multiple governmental and nongovernmental agencies, to become aware of current and forthcoming monitoring activities and populations that require more in-depth inequality analyses.
- Establish an advisory committee of diverse stakeholders, including diverse members of the affected populations (including the equitable participation of women), to provide regular input and advice across the inequality monitoring cycle, where appropriate according to their skills, interests and time availability. If this is not feasible, pursue other means of consulting with diverse stakeholders or considering their needs and concerns.
- Justify the selection of SRMNCAH indicators based on their scientific merit (is there strong evidence that a given intervention contributes to better outcomes?) and their relevance and appropriateness within the monitoring population. If relevant to the purpose and intended impact of monitoring, select standardized indicators that are recommended in global monitoring frameworks and so come with agreed metadata and evidence of validity.
- Develop an understanding of the barriers and challenges faced by the population and the groups that are being left behind. If feasible, conduct a systematic barrier assessment for the population of interest using qualitative and quantitative methodologies.
- Use existing strategies, plans, frameworks and policies to inform the selection of the dimensions of inequality. Consult with stakeholders to ensure that the dimensions of inequality are sensitive to gender and culture and non-discriminatory.

Examples and resources

Prominent global initiatives on sexual, reproductive, maternal, newborn, child and adolescent health

- *Nurturing care for early childhood development* (2018) presents a framework and evidence of how child development unfolds and of the effective policies and interventions that can improve early childhood development.
  https://nurturing-care.org/resources/Nurturing_Care_Framework_en.pdf

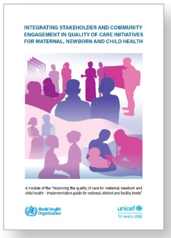
- The *Global strategy for women's, children's and adolescents' health* (2016) is a roadmap for ending all preventable maternal, newborn and child deaths, including stillbirths, by 2030, and improving their overall health and well-being.
  https://www.who.int/data/maternal-newborn-child-adolescent-ageing/global-strategy-data

- *Strategies toward ending preventable maternal mortality* (2015) specifies targets and strategies grounded in a human rights approach to maternal and newborn health and focuses on eliminating significant inequities that lead to inequalities in access, quality and outcomes of care within and between countries.
  https://www.who.int/reproductivehealth/topics/maternal_perinatal/epmm/en/

- The Every Newborn Action Plan, endorsed by 194 Member States at the Sixty-Seventh session of the World Health Assembly in 2014, presents evidence-based solutions to prevent newborn deaths and stillbirths.
  https://www.who.int/initiatives/every-newborn-action-plan

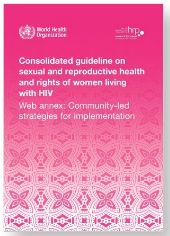
- *Ending preventable child deaths from pneumonia and diarrhoea by 2025: the integrated global action plan for pneumonia and diarrhoea (GAPPD)* (2013) is a cohesive approach to ending preventable deaths from pneumonia and diarrhoea, highlighting critical services and interventions to create healthy environments, promote practices known to protect children from disease and ensure that every child has access to proven and appropriate preventive and treatment measures.
  https://www.who.int/publications/i/item/the-integrated-global-action-plan-for-prevention-and-control-of-pneumonia-and-diarrhoea-(gappd)

Community engagement



Integrating stakeholder and community engagement in quality of care initiatives for maternal, newborn and child health (2020) provides policy makers and programme implementers with resources on how stakeholder and community engagement can be incorporated into quality improvement initiatives for maternal, newborn and child health.

https://www.who.int/publications/i/item/9789240006317



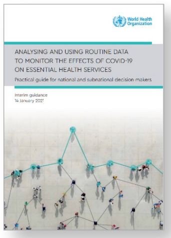
Consolidated guideline on sexual and reproductive health and rights of women living with HIV: web annex: community-led strategies for implementation (2019) describes best practices for meaningful engagement with communities on sexual and reproductive health issues, including monitoring and evaluation processes.

https://apps.who.int/iris/handle/10665/330034

Other resources and tools to support the integration of stakeholder and community engagement in quality-of-care initiatives for maternal, newborn and child health are available from:

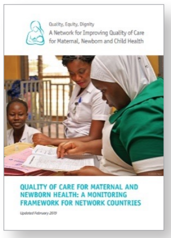
https://www.who.int/groups/Quality-of-care-network/tools-to-support-the-integration-of-stakeholder-and-community-engagement-in-quality-of-care-initiatives-for-maternal-newborn-and-child-health

Indicator frameworks and toolkits



Analysing and using routine data to monitor the effects of COVID-19 on essential health services: practical guide for national and subnational decision-makers (2021) helps countries monitor and analyse the impact of COVID-19 on essential health services. It provides a list of recommended key indicators for monitoring SRMNCAH topics in the context of the pandemic.

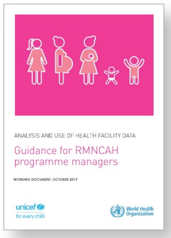
https://www.who.int/publications/i/item/who-2019-nCoV-essential-health-services-monitoring-2021-1



Quality of care for maternal and newborn health: a monitoring framework for network countries (2019) provides guidance on the monitoring and evaluation of quality improvement measures in the area of maternal and newborn health, including 15 quality indicators related to maternal and newborn health care process and outcomes.

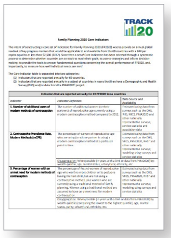
https://www.who.int/publications/m/item/quality-of-care-for-maternal-and-newborn--a-monitoring-framework-for-network-countries

Indicator frameworks and toolkits (continued)


ANALYSIS AND USE OF HEALTH FACILITY DATA
Guidance for RMNCAH programme managers
WORKING DOCUMENT, OCTOBER 2019

Analysis and use of health facility data: guidance for RMNCAH programme managers (2019) includes a core set of reproductive, maternal, newborn, child and adolescent health indicators for programme monitoring, derived from health facility data.

https://www.who.int/publications/m/item/analysis-and-use-of-health-facility-data-guidance-for-rmncah-programme-managers


TRACK 20
Family Planning 2020 Core Indicators

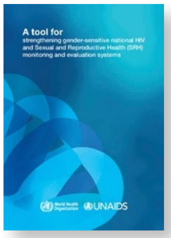
Family planning 2020 core indicators (2019) was developed to provide an annual read-out of key progress markers in 69 countries. It specifies 18 family planning indicators that are reported annually by countries.

http://track20.org/download/pdf/FP2020_Core_Indicators_Table_October_2019.pdf


EVERY WOMAN EVERY CHILD
INDICATOR AND MONITORING FRAMEWORK FOR THE GLOBAL STRATEGY FOR WOMEN'S, CHILDREN'S AND ADOLESCENTS' HEALTH (2016-2030)

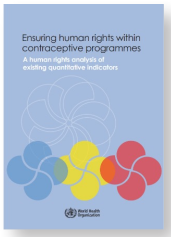
Indicator and monitoring framework for the global strategy for women's, children's and adolescents' health (2016–2030) includes a monitoring framework of 60 indicators (with 16 key indicators) related to four themes: "survive" (ending preventable deaths), "thrive" (ensuring health and well-being), "transform" (expanding enabling environments) and "leave no one behind" (seeing all women, children and adolescents reach their full potential). The framework aligns with the indicators of the SDGs.

https://www.who.int/life-course/publications/gs-Indicator-and-monitoring-framework.pdf


A tool for strengthening gender-sensitive national HIV and Sexual and Reproductive Health (SRH) monitoring and evaluation systems

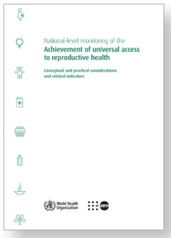
A tool for strengthening gender-sensitive national HIV and sexual and reproductive health (SRH) monitoring and evaluation systems (2016) aims to ensure that programmes and policies to address the health of women and girls, particularly their sexual and reproductive health and HIV status, are informed by evidence and address gender inequality.

https://apps.who.int/iris/handle/10665/251903


Ensuring human rights within contraceptive programmes
A human rights analysis of existing quantitative indicators

Ensuring human rights within contraceptive programmes: a human rights analysis of existing quantitative indicators (2014) aims to link human rights and health concerns and determine their combined impact on the effectiveness and outcomes of health policies and programmes in the context of contraceptive programmes. The resource provides a methodology for identifying indicators that can be used in a rights analysis of contraceptive programmes, highlighting 12 prioritized indicators.

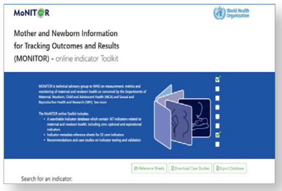
https://www.who.int/reproductivehealth/publications/family_planning/contraceptive-programmes-hr-analysis/en/


National-level monitoring of the Achievement of universal access to reproductive health
Conceptual and practical considerations and related indicators

National-level monitoring of the achievement of universal access to reproductive health: conceptual and practical considerations and related indicators (2008) contains a monitoring framework and recommends indicators for sexual and reproductive health, spanning five priority areas: improving antenatal, delivery, postpartum and newborn care; providing high-quality services for family planning, including infertility services; eliminating unsafe abortion; combating sexually transmitted infections, including HIV, reproductive tract infections, cervical cancer and other gynaecological morbidities; and promoting sexual health.

http://apps.who.int/iris/bitstream/handle/10665/43920/9789241596831_eng.pdf?sequence=1

Indicator frameworks and toolkits (continued)


MoNITOR

World Health Organization

Mother and Newborn Information for Tracking Outcomes and Results (MONITOR) - online indicator Toolkit

MONITOR is technical advisory group to WHO on measurement, metrics and monitoring of maternal and newborn health co-convened by the Departments of Maternal, Newborn, Child and Adolescent Health (MCA) and Sexual and Reproductive Health and Research (SRH). See more

The MoNITOR online Toolkit includes:

- A searchable indicator database which contain 167 indicators related to maternal and newborn health, including core, optional and aspirational indicators
- Indicator metadata reference sheets for 25 core indicators
- Recommendations and case studies on indicator testing and validation

Search for an indicator:

WHO *Mother and newborn information for tracking outcomes and results* (MONITOR) is an online indicator toolkit of 167 indicators related to maternal and newborn health including core, optional and aspirational indicators, plus indicator metadata reference sheets for 25 core indicators.

https://monitor.srhr.org/

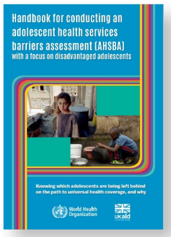
The Global Action for Measurement of Adolescent health (GAMA) initiative aims to harmonize measurement efforts and improve the quality and coverage of adolescent health data, including reviewing, compiling and validating indicators.

https://www.who.int/data/maternal-newborn-child-adolescent-ageing/advisory-groups/gama/

The Child Health Accountability Tracking Technical Advisory Group (CHAT) provides guidance and standards for data collection tools and analysis, recognizing the value of harmonized indicators for child health.

https://www.who.int/groups/child-health-accountability-tracking-technical-advisory-group

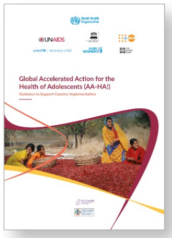
Assessing barriers and sources of disadvantage


Handbook for conducting an adolescent health services barriers assessment (AHSBA) with a focus on disadvantaged adolescents

Knowing which adolescents are being left behind on the path to universal health coverage, and why

Handbook for conducting an adolescent health services barriers assessment (AHSBA) with a focus on disadvantaged adolescents (2019) includes guidance for national and subnational governments to assess adolescent health services barriers. It emphasizes the use of qualitative and participatory methods to identify priority groups of adolescents and describe barriers they face in obtaining effective health services.

https://apps.who.int/iris/handle/10665/310990


Global Accelerated Action for the Health of Adolescents (AA-HA!)

Global accelerated action for the health of adolescents (AA-HA!): guidance to support country implementation (2017) supports governments to respond to the health needs of adolescents. It provides a systematic approach to understanding the health needs of adolescents, prioritizing these in the country context, and planning, monitoring and evaluating the programmes.

https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1

Additional reading

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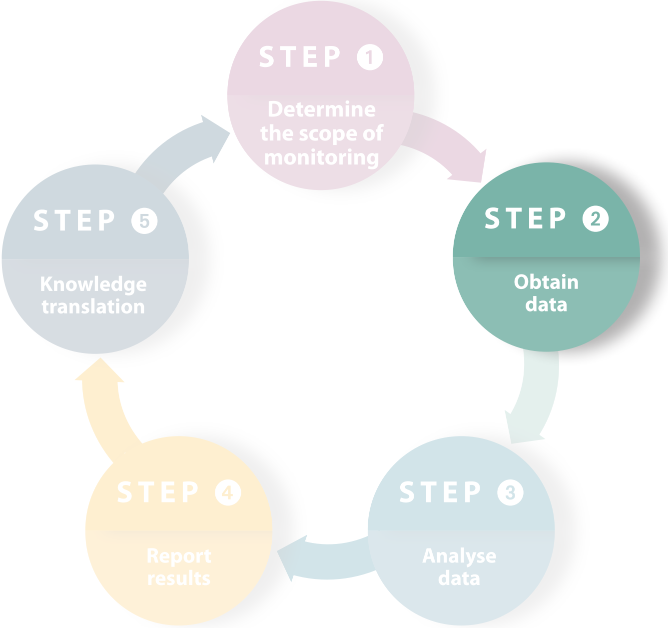
STEP

❷

Obtain data



STEP 2

Obtain data

A

Conduct data source mapping

KEY QUESTION

Which sources contain data about relevant health indicators and dimensions of inequality?

CHECKLIST

☐ List available data sources by type (including name, year etc.).
☐ For each source, determine the availability of data for dimensions of inequality.
☐ For each source, determine the availability of data about SRMNCAH indicators.
☐ Determine possible sources of data availability for inequality monitoring by collating the above information.

B

Determine whether sufficient data are currently available

KEY QUESTION

Are sufficient data available to proceed with inequality analysis?

CHECKLIST

☐ Assess the findings of the data source mapping.
☐ Weigh the strengths and limitations of different data sources.
☐ Consider whether data from different sources could be linked.
☐ Identify gaps in data availability and ways forward.

Overview

STEP ② of inequality monitoring on sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) requires obtaining two streams of data: data about SRMNCAH indicators and data about dimensions of inequality. Initially, it is important to take stock of the data sources that contain information about the population. Using data that have already been collected should be pursued to the extent possible: drawing from existing data will help avoid delays in inequality monitoring, as primary data collection is both costly and time-intensive. For example, population-based household surveys conducted across many low- and middle-income countries – including the Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and the Reproductive Health Surveys (RHS) – are rich sources of data about both SRMNCAH and dimensions of inequality, and are well suited for inequality analyses. Administrative data sources are other key sources for SRMNCAH indicators. In cases where existing data are inadequate, further data collection may be warranted. Although guidance on primary data collection is not within the scope of this manual, an understanding of the data requirements for SRMNCAH inequality monitoring is helpful to guide the planning and development of forthcoming data collection activities.

The process of mapping data sources provides a systematic approach to assessing data availability for SRMNCAH inequality monitoring (STEP 2A). The results of this mapping indicate whether data are available to proceed with inequality monitoring (STEP 2B). In some situations, there may be multiple sources that contain relevant data. Weighing the pros and cons of the different options can help decide which source to use. If data are limited, non-representative, unavailable or of poor quality, other action will be needed to reassess the scope of monitoring (returning to STEP 1) and/or to advocate expanded or improved data collection.

As a foundation of robust SRMNCAH inequality monitoring practice, data sources should include populations that are typically underrepresented. In the case of population-based surveys, this may require data collection strategies that oversample smaller disadvantaged subgroups to ensure that there are sufficient numbers for inclusion in the analysis. For certain population groups, including transgender people, people who use drugs, sex workers, criminal populations, marginalized ethnic groups, and people who live on the street or in informal settlements, SRMNCAH data are often lacking in quality or quantity. Data should be collected in a manner that is sensitive to gender and culture, respects ethical concerns (especially with respect to sensitive issues such as violence against women, sexual orientation and gender identity) and does not reinforce stigma, discrimination or other harms (intentional or unintentional). The design and implementation of data collection efforts should be done with input from affected populations and the groups that represent them, to ensure that data collection practices protect their rights and interests, such as by establishing adequate data protection protocols and the safe storage of data.

2A. Conduct data source mapping

STEP ②

Obtain data

A

Conduct data source mapping

B

Determine whether sufficient data are currently available

KEY QUESTION

Which sources contain data about relevant health indicators and dimensions of inequality?

CHECKLIST

- ☐ **List available data sources by type (including name, year etc.).**
- ☐ **For each source, determine the availability of data for dimensions of inequality.**
- ☐ **For each source, determine the availability of data about SRMNCAH indicators.**
- ☐ **Determine possible sources of data availability for inequality monitoring by collating the above information.**

The mapping of data sources is a systematic process of cataloguing and describing the data that are available for SRMNCAH inequality monitoring for a given population. This process involves preparing a series of four sheets that describe the different aspects of data sources.[8] These sheets are linked together, with the final sheet indicating which data sources contain information about the two necessary streams of data: SRMNCAH indicators and dimensions of inequality. These are the data sources that can be considered for monitoring.

See
"Multi-country population household surveys" on page 38

The first sheet is a list of all the potential data sources by type, with space to record the name of the data source, the year(s) of data collection and pertinent notes (see the partial **Sheet 1**). Depending on the population and SRMNCAH topic, the most common types of data source that have relevance for SRMNCAH include population-based surveys and administrative data. Other data sources to consider include facility surveys, censuses and civil registration and vital statistics (which may have information about certain dimensions of inequality but limited information about SRMNCAH). In addition to details about the data source and year of collection, it may be useful to make a note of details such as representativeness, population, data accessibility and the geographical scope of the data source (national, subnational etc.). See STEP 2B for more discussion about the strengths and limitations of data source types.

See
"Mapping data sources" on page 38

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[8] Full templates for the sheets are part of the *Companion workbook* and are also available for download in spreadsheet format from https://www.who.int/data/health-equity/manual_srmncah.

Sheet 1. List data sources by type

Data source type	Name of data source	Year(s) of data collection	Notes
Survey	Demographic and Health Surveys	2015	Nationally representative data
Administrative	Ministry of Heath	2020	National data; available on request

Sheet 2 is an expanded version of **Sheet 1**, focusing on dimensions of inequality (as identified in STEP 1C). For each data source identified in **Sheet 1**, the availability of disaggregated data for specified dimensions of inequality is noted. The dimensions of inequality form columns in the sheet. For easy reference at the next step of mapping data sources, each source can be listed in a separate row and assigned a number.

Sheet 2. List data sources next to a unique data source number and indicate corresponding dimensions of inequality

		List dimensions of inequality						
No.	Data source (year)	Sex	Economic status	Education level	Place of residence	Age	Subnational region	[Others]
1	Demographic and Health Surveys (2015)	x	x	x	x	x	x	
2	Ministry of Health (2020)	x				x	x	

Sheet 3 compiles information about SRMNCAH indicators (as per STEP 1B). The SRMNCAH indicators are listed as rows, along with the numbers of the data sources (from **Sheet 2**) with corresponding data about that indicator. The indicator definition can be included in the notes column. Note that the definition of an indicator may differ between data sources, in which case the indicators should be listed as separate rows.

Sheet 3. List indicators and corresponding unique data source numbers

Indicator	Unique data source numbers	Notes
Children under 5 years of age with pneumonia symptoms taken to a health facility	1, 2	

Sheet 4 combines the information in **Sheets 2** and **3**, demonstrating where the two streams of data for SRMNCAH inequality monitoring correspond to one another. Retaining the SRMNCAH indicators in **Sheet 3** as rows, the dimensions of inequality are listed as columns. The data source numbers that appear in **Sheets 2** and **3** are inserted in the cells to show where data sources contain information about the corresponding SRMNCAH indicator and dimension of inequality, which are the possible sources of data for SRMNCAH inequality monitoring.

Sheet 4. Collate information about data sources (insert unique data source numbers in cells)

	List dimensions of inequality						
Indicator	**Sex**	**Economic status**	**Education level**	**Place of residence**	**Age**	**Subnational region**	**[Others]**
Children under 5 years of age with pneumonia symptoms taken to a health facility	1, 2	1	1	1	1	1, 2	

2B. Determine whether sufficient data are currently available

STEP 2

Obtain data

A

Conduct data source mapping

B

Determine whether sufficient data are currently available

KEY QUESTION

Are sufficient data available to proceed with inequality analysis?

CHECKLIST

- ☐ **Assess the findings of the data source mapping.**
- ☐ **Weigh the strengths and limitations of different data sources.**
- ☐ **Consider whether data from different sources could be linked.**
- ☐ **Identify gaps in data availability and ways forward.**

The findings of the exercise to map data sources (STEP 2A) indicate possible data sources for SRMNCAH inequality monitoring. In some cases, several possible data sources could be used. Examining their characteristics and weighing their strengths and weaknesses can help determine which sources are most appropriate for the current application.

Population-based household surveys such as DHS, MICS and RHS are rich sources of information about SRMNCAH. They are often representative of national populations and tend to collect data about an array of dimensions of inequality. Many surveys are conducted regularly (every three to five years), providing comparable data across multiple time points.[9] Such household surveys are conducted in multiple countries using standardized indicators. Other surveys such as the Global School-based Student Health Survey collect data about health behaviours and protective factors among school-aged children. While global population-based surveys allow for benchmarking, the extent to which context-specific considerations can be taken into account is limited. There may be cases where existing data from these sources are inadequate because the dimension of inequality is not captured in data collection instruments (e.g. categories of sexual orientation and gender identity), a particular sub-category is not reflected in the response option (e.g. ethnic minorities), a particular region is inaccessible due to conflict or other humanitarian crises, or data collection did not occur in a timely manner. Surveys may not be representative of smaller population subgroups or geographical areas relevant for inequality monitoring (i.e. yielding estimates with high levels of uncertainty). Some surveys may not allow for double or multiple disaggregation because of inherent sample size and sampling frame considerations.

Administrative data sources contain information about people who interact with the health system and for whom records are kept. These data tend to be a good reflection of the relevant SRMNCAH services provided in health facilities and of the outcomes in a particular setting. Administrative data are generated more frequently than surveys, allowing for close tracking of trends over time. Data from administrative

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[9] In some settings, surveys have been cancelled or postponed as a result of the COVID-19 pandemic and other crises.

sources, however, are not representative of the whole population in a particular catchment area, do not include people who do not have contact with the health system, may not capture people using private or community-based facilities, and may not record complete information about individuals who do not have a health card or other required form of identification. (The possession of official or appropriate identification can be problematic for specific marginalized or stigmatized populations, such as indigenous peoples and transgender men and women.) Administrative data sources collect data only about numerators (e.g. the number of people who received a service) but not denominators (e.g. the number of people eligible to receive a service) and may be fragmented or of poor quality, especially in settings where the health information system is weak. While the reporting of socioeconomic data, such as economic status or education level, tends to be limited, these data tend to include information about geographical location (namely, the location of the health facility).

On a practical note, it is important to consider whether the data are available and accessible in a format that will enable analysis. For example, are special permissions required to access the data set? Are data available in a format that is compatible with analysis software? Do data require "cleaning" to remove values that are incorrect, unreliable, duplicated, outlying or otherwise unsuitable?

In the event that there are no data sources that contain information about both streams of data for SRMNCAH inequality monitoring, there may still be options to enable monitoring to proceed. Linking data from two sources is possible if there are common identifiers in both sources (see **Sheet 5**). Identifiers may be at the individual level (such as personal identity numbers) or the small-area level (such as postal codes). For example, if both health facility data and census data are available by postal code, the two sources may be linked. Experienced data managers or analysts may be consulted to assist with merging data sources using statistical software. If data availability is limited, it may be necessary to revisit STEP 1 to consider proceeding with an amended selection of SRMNCAH indicators and/or dimensions of inequality.

Sheet 5. List common identifiers to assess the possibility of linking data

Common identifier	Unique data source number
Personal identity number	
Postal code	

In the absence of the necessary quantitative data, the monitoring process described in this manual is simply not possible. Limited data availability for SRMNCAH inequality monitoring should be flagged as an area for attention during the planning and design of subsequent data collection. Likewise, sources that contain data of poor quality or incomplete data require strengthening. Often, groups that experience discrimination or exclusion are not adequately captured in data collection efforts. Depending on the setting, this may include people living in remote areas or conflict-affected areas, people who are engaged in sex work, people who use drugs, people in prisons, migrant and refugee populations living outside camps, and people for whom aspects of their lives are criminalized, undocumented or hidden.

Situations in which quantitative data about disadvantaged populations are not available should be noted and reported as a limitation in STEP 4 (report results). An overview of other existing evidence (such as qualitative studies) may be provided. Efforts to advocate expanded and improved data collection can drive changes that make the entire practice of SRMNCAH inequality monitoring more relevant and impactful. This an opportunity for engagement with stakeholders to ensure that data collection practices are inclusive and respectful.

Best practices

- Before starting the mapping of data sources, become familiar with all the sources of SRMNCAH data and all the sources of data on dimensions of inequality that pertain to the population. It may be useful to create a comprehensive list that details all sources, plus their respective strengths and limitations for use in health inequality monitoring, and their scope and frequency of data collection. Data sources may include:
  - international household surveys such as DHS, MICS and RHS;
  - national or subnational household surveys and health facility surveys (these will vary by country);
  - administrative data, namely those collected through national health management;
  - health management information systems such as District Health Information Software 2 (DHIS2);
  - censuses;
  - civil registration and vital statistics.
- In mapping data sources, fill out the sheets as comprehensively as possible and retain them for future reference. They can be a type of "living document" that can be expanded as new data become available.
- Use the best available data from reputable sources. If similar data are available from different sources, delve into the details of the metadata to understand the underlying assumptions and methodologies of each.
- Identify gaps in data availability and quality and acknowledge the need for expanded and improved data collection (for example, as part of reporting and dissemination activities).

Examples and resources

Multicountry population household surveys

For many low- and middle-income countries, DHS, MICS and RHS are prominent sources of data for SRMNCAH inequality monitoring. These are the largest global household survey programmes that collect data about SRMNCAH using standardized data collection protocols across countries.

- The DHS Program, supported by United States Agency for International Development (USAID), has conducted over 400 surveys across more than 90 countries since 1984. The DHS cover a wide range of health topics, including SRMNCAH and dimensions of inequality. Data, country reports, interactive dashboards and other resources are available from:

  https://dhsprogram.com

- The MICS programme, supported by the United Nations Children's Fund, has carried out more than 300 surveys across more than 100 countries over the past 26 years. MICS collect data on key indicators on the well-being of children and women. Tools, surveys, publications and methodological information are available from:

  https://mics.unicef.org/

- The RHS, funded by USAID and conducted by the United States Centers for Disease Control and Prevention, have been conducted since 1975 (originally called the "Contraceptive Prevalence Surveys" but known as RHS since the late 1980s). RHS cover topics such as fertility, family planning, infant and child mortality, maternal and child health and general health practices. More information about RHS is available from:

  https://www.cdc.gov/reproductivehealth/global/resources-tools/reproductive-health-surveys/index.htm

Mapping data sources

Data source mapping: an essential step for health inequality monitoring

Hosseinpoor and others (2018) detail the process of data source mapping, with an example of its application in Indonesia. Available from:

https://www.tandfonline.com/doi/full/10.1080/16549716.2018.1456743

Additional reading

Al-Ansary L, Paranietharan N, Siswanto. Monitoring within-country health inequalities: the example of Indonesia. Glob Health Action. 2018;11(sup1):1–2.

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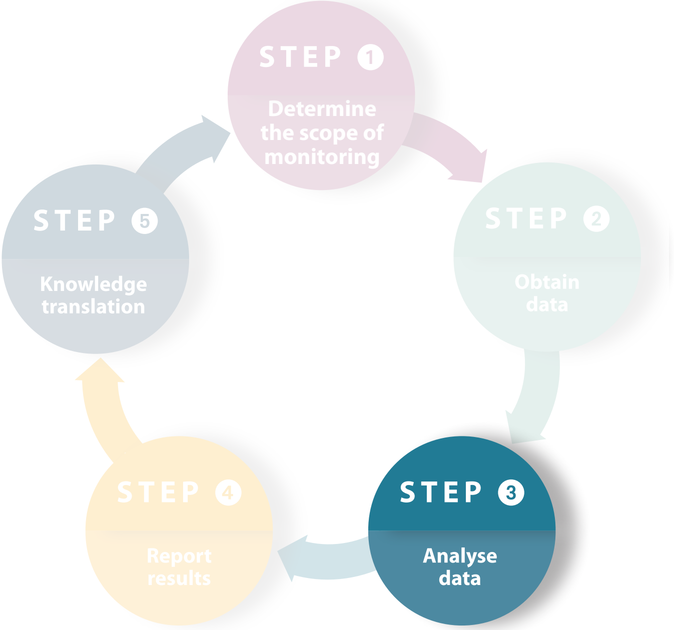
STEP

3

Analyse data



STEP 3

Analyse data

A

Prepare disaggregated data

KEY QUESTION

What is the sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) indicator value in each population subgroup?

CHECKLIST

☐ Prepare the data set for analysis.
☐ Define how SRMNCAH indicators are calculated.
☐ For each dimension of inequality, determine the criteria for how to define subgroups.
☐ Calculate disaggregated data by subgroup.

B

Calculate summary measures of inequality

KEY QUESTION

What are the absolute and relative levels of SRMNCAH inequality?

CHECKLIST

☐ For each SRMNCAH indicator and dimension of inequality combination, calculate absolute inequality.
☐ For each SRMNCAH indicator and dimension of inequality combination, calculate relative inequality.

Overview

STEP ❸ in the inequality monitoring cycle on sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH)– data analysis – generates numerical descriptions of the patterns and magnitude of inequality. Preparing disaggregated data is the first step of data analysis, as it allows for an initial inspection of patterns in the data across the subgroups of a dimension of inequality (STEP 3A). Then, summary measures of inequality are calculated to concisely represent the level of inequality across these subgroups (STEP 3B). There are numerous summary measures of inequality, ranging from simple pairwise measures that compare two subgroups, to complex measures that take into account data from multiple subgroups. STEP 3B introduces the general categories of summary measure, with an emphasis on simple pairwise measures of inequality, which are adequate in most situations.

Additional background reading and/or training may be warranted to gain advanced skills with unfamiliar methods of analysis, and suggested resources are provided at the end of the section. Note that this manual does not cover analysis techniques to identify drivers of inequalities. More advanced quantitative data analysis techniques (such as regression analysis and decomposition), qualitative studies and barrier assessments may be needed to do this. STEP 5 discusses the need to contextualize the findings within other types of evidence, including the possibility of extended analyses to explore the drivers of inequality.

Data analysis is the most technical step of SRMNCAH inequality monitoring and often does not involve the direct participation of knowledge users and affected populations. Their interests, however, should remain front of mind. For instance, the preparation of disaggregated data entails determining criteria for categorizing population subgroups. For some dimensions of inequality, the labels and groupings of individuals should be sensitive to their interests and preferences (in particular for marginalized groups such as indigenous peoples and in relation to sexual orientation and gender identity).

The limitations and biases inherent in summary measures of inequality should be fully understood and taken into account. This involves, for example, calculating and comparing the results of a range of summary measures to capture different aspects of inequality, rather than relying on a single measure. The analysis methods used in STEP 3 should be carefully documented, so that they are transparent and reproducible and can be accurately interpreted and reported, and repeated or refined in subsequent inequality monitoring efforts.

3A. Prepare disaggregated data

KEY QUESTION

What is the SRMNCAH indicator value in each population subgroup?

CHECKLIST

- ☐ **Prepare the data set for analysis.**
- ☐ **Define how SRMNCAH indicators are calculated.**
- ☐ **For each dimension of inequality, determine the criteria for how to define subgroups.**
- ☐ **Calculate disaggregated data by subgroup.**

In the context of SRMNCAH inequality monitoring, disaggregated data show the SRMNCAH indicator values for each population subgroup (in contrast, aggregated data show the SRMNCAH indicator value across multiple subgroups or for the whole population). In STEP 3A, disaggregated data values for SRMNCAH indicators are calculated for each subgroup. If starting with a raw data set, the data will need to be cleaned and prepared for analysis. This entails accounting for outlying or missing values, removing irrelevant parts of the data and formatting the data to be uploaded into the analysis software. Publicly available databases of disaggregated SRMNCAH data have been prepared for inequality monitoring.

See

"Data disaggregation and analysis tools" on page 49

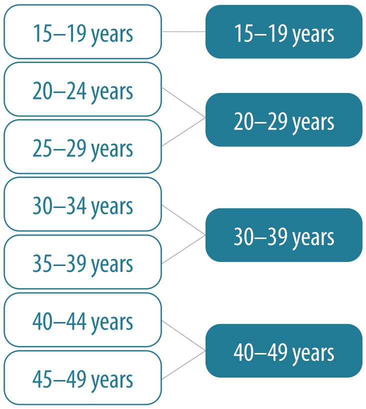
The SRMNCAH indicators selected for monitoring should be defined in as much detail as possible, including specifying how numerator and denominator values are calculated. The data source(s) selected in STEP 2 should contain information about the indicator definitions.

Dimensions of inequality, the basis on which subgroups are defined, divide the population into two or more subgroups. The criteria for categorizing individuals must be clearly established, and the number of subgroups determined. While dividing a population into subgroups may seem like a straightforward task, nuanced issues may arise when determining how to categorize subgroups. For example, examining inequalities related to education level may specify educational attainment by the individual, the head of household or a child's parent/caregiver. It may be determined based on the highest level of education attained or the number of years of schooling, and may entail dividing the population into two subgroups (commonly into no schooling or primary school and secondary school or higher education), three subgroups (commonly into no schooling, primary school and secondary school or higher education) or more. The decision of how to construct the groupings is influenced by the characteristics of the available data (what information is collected in the data source?) and the share of the population belonging to each subgroup (is there a large enough sample size in each subgroup to generate reliable estimates?) (Box 8). In constructing subgroups, care should be taken not to impose positional assumptions in relation to the categorization of individuals where such information is not available (for example, making gendered assumptions about the sex of the primary caregiver or household head, or about an equitable distribution of wealth in the household).

Box 8. Constructing subgroups to overcome small sample sizes

If the sample size of some subgroups is very small, the groups may need to be recategorized, if possible, to form larger subgroups to ensure adequate numbers for analysis. For example, proposed age groupings of women of reproductive age (15–49 years) by five-year intervals (seven subgroups, with smaller sample sizes) could be recategorized using 10-year intervals in the age groups above 20 years (four subgroups with larger sample sizes) (**Figure 2**).

Figure 2. Reducing the number of subgroups



The issue of small sample sizes is particularly relevant if using household survey data, as surveys may not be designed to be representative of certain population subgroups. Some surveys recommend minimum sample sizes for an estimate to be quoted (for the Demographic and Health Surveys, DHS, this applies to a sample size of 25 for estimates pertaining to a given indicator and subgroup).

Once the criteria for the population subgroups are determined, the disaggregated estimates for each subgroup can be prepared for the SRMNCAH indicators. The preparation of disaggregated data estimates should consider the specifications of the data source. The sampling design of household surveys, for example, may incorporate clustering, weighting and stratification. WHO has prepared statistical codes that demonstrate how complex sampling design can be taken into account (see: https://www.who.int/data/gho/health-equity/statistical_codes).

3B. Calculate summary measures of inequality

STEP ③

Analyse data

A

Prepare disaggregated data

B

Calculate summary measures of inequality

KEY QUESTION

What are the absolute and relative levels of SRMNCAH inequality?

CHECKLIST

☐ **For each SRMNCAH indicator and dimension of inequality combination, calculate absolute inequality.**

☐ **For each SRMNCAH indicator and dimension of inequality combination, calculate relative inequality.**

Summary measures of inequality yield a single number that represents the level of inequality between two subgroups (simple pairwise measures) or two or more subgroups (complex measures). They provide a concise way to measure, assess and compare the level of inequality. Summary measures of inequality can be classified as absolute measures, showing the magnitude of difference between subgroups, or relative measures, showing the proportional difference between subgroups. At this stage in the inequality monitoring cycle, it is important to calculate both absolute and relative measures of inequality to gain a fuller understanding of the state of inequality and to inform the reporting decisions made in STEP 4.

Absolute and relative measures of inequality represent two ways of capturing inequalities in SRMNCAH. While absolute inequality refers to the magnitude of difference in health between population subgroups (retaining the unit of measure), relative inequality is the proportional difference (unitless).

Summary measures of inequality can also be characterized based on whether they are simple or complex, whether they are weighted or unweighted, whether they accommodate ordered or non-ordered dimensions of inequality, and which reference group they use. All summary measures of inequality have certain strengths and limitations in how they represent inequality, so multiple measures should be calculated and considered. For example, unweighted measures treat all subgroups equally, leading to small minority groups being given the same weight as larger groups, effectively highlighting their situation. Weighted measures give greater emphasis to larger subgroups. A detailed description of all the summary measures of inequality and their pertinent considerations falls outside the scope of this introductory manual; however, an overview of difference and ratio, two common pairwise measures of inequality, is provided in Table 1.

See

"Summary measures of inequality" on page 49

Table 1. Overview of difference and ratio measures of inequality

Characteristics	Description	Interpretation	Example*
Difference			
Difference shows the absolute gap between subgroups: -absolute inequality -simple pairwise measure -unweighted measure.	The indicator value in one subgroup is subtracted from the value in a second subgroup, showing the magnitude of difference.	If there is no inequality, the difference equals zero. A greater absolute value indicates more inequality between the two subgroups.	Coverage in the richest quintile: 96% Coverage in the poorest quintile: 46% Difference: 96%–46% = 50 percentage points
Ratio			
Ratio shows how much better (or worse) one subgroup is doing in relation to the other: -relative inequality -simple pairwise measure -unweighted measure.	The indicator value in one subgroup is divided by the value in a second subgroup, showing the proportional difference.	If there is no inequality, the ratio equals one. A ratio value of 2 is equivalent to a value of 0.5, where health in one subgroup is twice (or half) the level in the other subgroup.	Coverage in the richest quintile: 96% Coverage in the poorest quintile: 46% Ratio: 96%/46% = 2.1

*The example is taken from the 2014 Ghana Demographic and Health Survey, showing facility delivery by richest and poorest wealth quintiles

If comparable data are available across multiple time points, change over time may be calculated to determine whether inequalities have narrowed or widened. A straightforward way to assess change over time is to calculate and compare the same summary measures of inequality at different time points for a given SRMNCAH indicator and dimension of inequality. Another approach, applied in the 2015 WHO report, *State of inequality: reproductive, maternal, newborn and child health*, is to measure the absolute excess change, which compares the pace of change in two population subgroups over a number of years, showing whether the health indicator improved faster in one subgroup than another.

Best practices

- Keep detailed records of the decisions made during data analysis, including their rationales, so that reporting can be comprehensive and transparent. If possible, make the data and statistical codes available to others to promote computation reproducibility (the ability to reproduce results, tables and figures).
- Assess the sample sizes of the subgroups and the population shares: if needed and appropriate, redefine the criteria for the subgroups to ensure adequate sample sizes.
- Become familiar with the characteristics of the disaggregated data that will inform the choice of appropriate summary measures of inequality. Do the data consist of two subgroups or more than two? Are the subgroups ordered or non-ordered?
- Calculate both absolute and relative measures of inequality using a variety of suitable summary measures.
- Use the most recent data to determine the latest situation of inequality and, if available, use data from an older time point to assess change in inequality over time.

Examples and resources

Data disaggregation and analysis tools

The WHO Health Equity Monitor Database, a component of the WHO Global Health Observatory, is a repository for disaggregated data. It features more than 35 reproductive, maternal, newborn and child health indicators, disaggregated by six dimensions of inequality. It includes data from more than 450 household surveys – including the DHS, Multiple Indicator Cluster Surveys (MICS) and the Reproductive Health Surveys (RHS) – conducted in 115 countries since 1991.

https://www.who.int/data/gho/health-equity/health-equity-monitor-database

The WHO Health Equity Assessment Toolkit (HEAT) is a software application that facilitates health inequality assessment. It is available in two editions:

- HEAT, the built-in database edition, is pre-installed with the WHO Health Equity Monitor database.
- HEAT Plus, the upload database edition, allows users to upload and work with their own database.

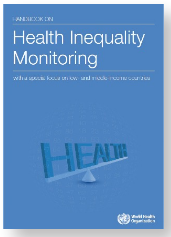
HEAT and HEAT Plus enable users to explore disaggregated data, generate summary measures of inequality and assess the latest situation of inequality and the change in inequality over time. The toolkit also permits benchmarking to compare inequality between settings of interest.

https://www.who.int/data/gho/health-equity/assessment_toolkit

STATcompiler is a tool that allows users to access and compare disaggregated data from surveys administered by the DHS Program (including DHS, Malaria Indicator Surveys, the Service Provision Assessment Survey and others). The tool enables users to create customized tables, figures and maps.

https://www.statcompiler.com/en/

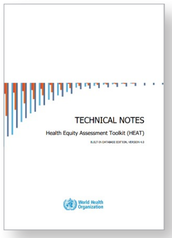
Summary measures of inequality



HANDBOOK ON
Health Inequality Monitoring
with a special focus on low- and middle-income countries

Handbook on health inequality monitoring: with a special focus on low- and middle-income countries aims to build capacity for all stages of the health inequality monitoring cycle and provides descriptions and examples of several summary measures of inequality.

https://www.who.int/docs/default-source/gho-documents/health-equity/handbook-on-health-inequality-monitoring/handbook-on-health-inequality-monitoring.pdf



TECHNICAL NOTES
Health Equity Assessment Toolkit (HEAT)
BUILT-IN DATABASE EDITION, VERSION 4.0

Technical notes: Health Equity Assessment Toolkit (HEAT) has detailed information about disaggregated data and the calculation of summary measures of inequality.

https://cdn.who.int/media/docs/default-source/gho-documents/health-equity/health-equity-assessment-toolkit/heat_4.0_technical_notes.pdf?sfvrsn=24a0e227_3

Additional reading

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Harper S, King NB, Meersman SC, Reichman ME, Breen N, Lynch J. Implicit value judgments in the measurement of health inequalities. Milbank Q. 2010;88(1):4–29.

Harper S, Lynch J. Methods for measuring cancer disparities: using data relevant to Healthy People 2010 cancer-related objectives. Bethesda: National Cancer Institute; 2005 (https://seer.cancer.gov/archive/publications/disparities/measuring_disparities.pdf, accessed 2 December 2021).

Hosseinpoor AR, Bergen N, Schlotheuber A, Grove J. Measuring health inequalities in the context of sustainable development goals. Bull World Health Organ. 2018;96(9):654–9.

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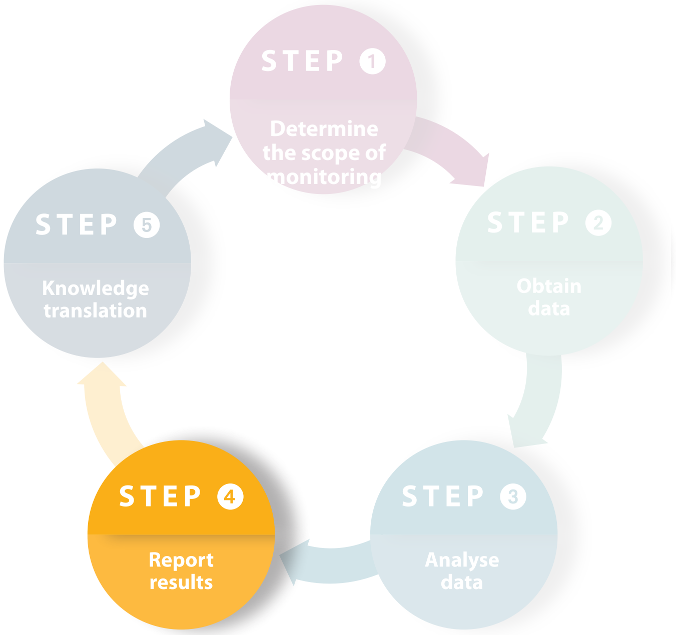
O'Donnell O, Van Doorslaer E, Wagstaff A, Lindelow M. Analyzing health equity using household survey data: a guide to techniques and their implementation. Washington (DC): World Bank; 2008 (https://openknowledge.worldbank.org/handle/10986/6896, accessed 23 September 2021).

World Health Organization (WHO). State of inequality: reproductive, maternal, newborn and child health. Geneva: WHO; 2015 (https://www.who.int/docs/default-source/gho-documents/health-equity/state-of-inequality/state-of-inequality-reproductive-maternal-new-born-and-child-health.pdf, accessed 9 December 2021).

STEP

4

Report results



STEP 4

Report results

A

Define the purpose of reporting and its target audience

KEY QUESTION

Which parameters guide the approach to reporting?

CHECKLIST

☐ Clarify the goals and objectives of reporting.
☐ Identify the main target audience for whom the report is prepared.
☐ Determine the skills, prior knowledge, needs, priorities and interests of the audience.

B

Select the scope of reporting

KEY QUESTION

Which aspects of the state of inequality should be covered by the report?

CHECKLIST

☐ Determine which data reflect the latest status of inequality.
☐ Assess whether it is feasible to report trends over time.
☐ Assess whether it is feasible to report benchmarking.

C

Define the technical content

KEY QUESTION

Which data analysis results will be reported?

CHECKLIST

☐ Assess data analysis results to characterize patterns in the data and determine the most salient conclusions.
☐ Interpret and report disaggregated data.
☐ Consider whether simple measures and complex measures would lead to the same conclusions.

D

Decide on the methods of presenting the data

KEY QUESTION

How will the data be presented to convey key messages?

CHECKLIST

☐ Identify appropriate tools to present results:
  - text
  - tables
  - figures
  - maps.
☐ Consider using interactive visualizations and other technologies.

E

Adhere to the best practices of reporting

KEY QUESTION

What does the audience need to know to fully contextualize the results?

CHECKLIST

☐ Provide background information about the population, including relevant SRMNCAH policies, programmes and practices.
☐ Define the SRMNCAH indicators and inequality dimensions.
☐ Report the methods, including data sources, data analysis and interpretation, and discuss pertinent limitations.
☐ Include details to contextualize the results.
  - Report both absolute and relative inequality.
  - Indicate the overall value of the SRMNCAH indicator in the whole population.
  - Indicate the population shares of subgroups.
  - Flag results that are based on small sample sizes (if applicable).
  - Assess whether to report statistical significance or confidence intervals.

Overview

STEP ④ focuses on reporting the results of inequality monitoring on sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH). Reporting reflects aspects of all the previous steps of the inequality monitoring cycle, conveying information about the overarching purpose and scope of monitoring, the data sources and the key results. Depending on the purpose of reporting, it may be a precursor to knowledge translation activities or be embedded within knowledge translation processes (discussed in STEP 5).

Reporting activities should begin with a thorough understanding of the results from the data analysis (STEP 3). Interpreting results, identifying key findings and deriving conclusions and recommendations are iterative and often collaborative processes, necessitating deep knowledge of the technical aspects of analysis as well as broad knowledge about the population, context and target audience. Bear in mind that the data analysis approaches described in this manual yield descriptive information about inequalities and should not be used to draw conclusions about the causes or drivers of inequalities. SRMNCAH programme experts and technical experts should be consulted to understand the programmatic considerations and applicability of the analysis results more fully. There should also be consultation with the affected individuals and communities themselves. The use of other sources of data, including qualitative data, is strongly encouraged.

The specifics of reporting should be guided by a defined purpose (goals and objectives) and the intended audience for the reporting activity (STEP 4A). Multiple reporting outputs may be prepared with different purposes and audiences in mind. Once these parameters are established for a specific reporting output, the scope of reporting (STEP 4B), technical content (STEP 4C) and method of data presentation (STEP 4D) can be determined. Adhering to a checklist of best practices for reporting and ensuring the iterative engagement of knowledge users and affected communities both help ensure that the audience has the information it needs to appropriately contextualize the results (STEP 4E).

Reporting the results of health inequality monitoring requires familiarity with the target audience so that outputs can be tailored to their needs and preferences.

Traditional forms of SRMNCAH inequality monitoring reporting include peer-reviewed articles (for academic and highly technical audiences), technical reports (for technical audiences) and policy briefs (for policy-makers). Reporting that makes use of interactive components and visual media (such as infographics designed to be shared through social media) is increasingly being used as an effective way to convey key messages about SRMNCAH inequalities to more diverse audiences.

Where possible, pilot-testing SRMNCAH inequality monitoring outputs with members of the intended audience can enhance the final presentation of results. Developing messaging in consultation with affected populations can help align the key messages and conclusions with their interests. This is part of a human rights-based approach that is essential for understanding and unpacking the findings of the data analysis.

4A. Define the purpose of reporting and its target audience

STEP ④

Report results

A
Define the purpose of reporting and its target audience

B
Select the scope of reporting

C
Define the technical content

D
Decide on the methods of presenting the data

E
Adhere to the best practices of reporting

KEY QUESTION

Which parameters guide the approach to reporting?

CHECKLIST

- ☐ **Clarify the goals and objectives of reporting.**
- ☐ **Identify the main target audience for whom the report is prepared.**
- ☐ **Determine the skills, prior knowledge, needs, priorities and interests of the audience.**

Recall that the overarching reason for monitoring inequalities in SRMNCAH is to advance equity and improve the health of disadvantaged populations. The goals and objectives for reporting should be aligned with this broader vision, though they will be much narrower and more focused. Developing clear goals and objectives for reporting will help ensure that the reporting activities are designed to achieve them. For example, reporting might present an overview to national policy-makers of the state of inequality in SRMNCAH in a country over the past decade, with the aim of integrating equity into the goals and targets of a forthcoming national health strategy. As another example, reporting might provide an in-depth picture to programme managers of the current status of inequality in sexual and reproductive health among transgender people, aiming to inform resource allocation and programme activities to reach people who are disadvantaged or have been underserved by the health system.

At this stage of the inequality monitoring cycle, it may be useful to revisit the considerations to determine the scope of monitoring (STEP 1), to identify the audience that is best positioned to support the intended outcome of reporting. In some instances, the audience may be very targeted – a specific department within the Ministry of Health, for example, or members of an SRMNCAH policy advisory group. In other instances, the audience may encompass diverse groups of individuals, such as SRMNCAH researchers, technical experts, community advocates, politicians and policy-makers, including people from a variety of sectors outside the health sector. Being familiar with the prior knowledge, skills, needs, priorities and interests of the audience will help guide reporting decisions and enhance the overall impact of the report.

4B. Select the scope of reporting

STEP ④

Report results

A
Define the purpose of reporting and its target audience

B
Select the scope of reporting

C
Define the technical content

D
Decide on the methods of presenting the data

E
Adhere to the best practices of reporting

KEY QUESTION

Which aspects of the state of inequality should be covered in the report?

CHECKLIST

- ☐ **Determine which data reflect the latest status of inequality.**
- ☐ **Assess whether it is feasible to report trends over time.**
- ☐ **Assess whether it is feasible to report benchmarking.**

The next stage of reporting, selecting the scope, requires a consideration of the general components of the report. At a minimum, the reporting should present the latest status of inequality in SRMNCAH, showcasing the most recent available data. Reporting the latest status of inequality addresses questions such as:

- What is the level of SRMNCAH indictors across population subgroups?
- Where are inequalities more pronounced and less pronounced?
- How is the performance by subgroup against SRMNCAH targets and policy priorities?
- What are the priority areas for further action?

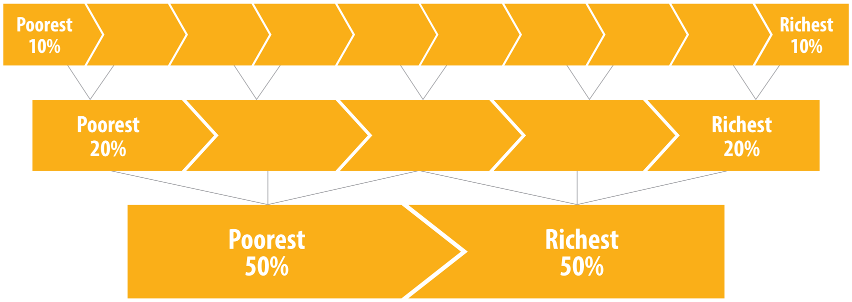
Time trends and benchmarking should also be reported if data availability allows. Information about time trends gives an overall picture of how inequalities have changed, and whether the situation is improving or worsening. It helps discover to what extent levels of inequality are being addressed effectively over time. Reporting time trends may entail comparing the latest status with data from a single previous period or multiple periods.

Benchmarking, the process of comparing inequalities across similar areas, shows how one area performs in relation to others. Benchmarking may be conducted between countries (for example, comparing the level of economic-related inequality in skilled birth attendance across countries in a geographical region) or between indicators (for example, comparing economic-related inequality in skilled birth attendance versus child health indicators in a single setting). Comparisons between dimensions of inequality should be undertaken with caution and presented accurately, especially if the dimensions represent different numbers of subgroups (Box 9).

Box 9. What are resolution issues in inequality monitoring

Resolution issues in inequality monitoring in sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) arise when making comparisons between pairwise summary measures that involve varying numbers of subgroups. For a given dimension of inequality, the number of subgroups influences the degree of inequality that is observed. For a dimension of inequality such as household economic status, dividing the population into deciles means that pairwise comparisons for the SRMNCAH indicator can be made between the richest 10% of households and the poorest 10%. Having 10 subgroups of economic status captures more of the extreme wealth and extreme poverty than having five subgroups (i.e. quintiles, where pairwise summary measures compare the richest 20% and poorest 20%) or two subgroups (where pairwise summary measures compare the richest 50% and poorest 50%). Therefore, a pairwise measure of inequality based on a larger number of subgroups may yield higher inequality than a measure of inequality based on a smaller number of subgroups (noting that some situations may necessarily be limited to fewer subgroups based on low numbers available for analysis) (**Figure 3**).

Figure 3. Economic status subgroupings with different resolution



Many countries collect data about SRMNCAH topics periodically through population-based household surveys that use standardized procedures and methodologies. Demographic and Health Surveys (DHS), for instance, have been conducted every three to five years, with smaller-scale interim surveys on focused topics being conducted between these rounds. These household survey data are particularly well suited for assessing time trends and benchmarking, as they are designed to be comparable over time and across settings.

4C. Define the technical content

STEP 4

Report results

A

Define the purpose of reporting and its target audience

B

Select the scope of reporting

C

Define the technical content

D

Decide on the methods of presenting the data

E

Adhere to the best practices of reporting

KEY QUESTION

Which data analysis results will be reported?

CHECKLIST

☐ **Assess data analysis results to characterize patterns in the data and determine the most salient conclusions.**

☐ **Interpret and report disaggregated data.**

☐ **Consider whether simple measures and complex measures would lead to the same conclusions.**

See
"Visualizing disaggregated data" on page 64

The major findings and conclusions of inequality reporting should derive from the results of inequality monitoring and be supported by the technical content of the report. Disaggregated data and summary measures of inequality should be examined closely to ascertain patterns in the data and develop salient messaging. Disaggregated data are a good starting point for reporting, as they present information in a straightforward and transparent manner. Identifying patterns in disaggregated data, such as gradients across socioeconomic subgroups, can be a powerful way to describe inequalities.

See
"Visualizing summary measures of inequality" on page 66

Summary measures can also be useful in understanding and presenting findings, keeping in mind their interpretation and limitations. If simple and complex measures of inequality support the same conclusions, it is preferable to report the more straightforward and easy-to-understand simple measures. If they do not, a deeper analysis of the data is needed to determine the reason for the discrepancy. The reporting of complex measures may be warranted to present a more nuanced depiction of the situation, as appropriate for the audience and the scope of reporting. For example, population attributable risk, a complex measure of inequality, can be reported to provide a concise overview of the potential impact of eliminating inequalities. Additional details about the overall average or level of health, the population share, the subgroup sample size and other contextual information may be presented alongside disaggregated data and summary measures, to facilitate a more complete understanding of the results.

While it is important to have a sound justification for the conclusions that are reported, the level of detail about the underlying methodology and results that is presented should reflect the purpose and scope of reporting. The needs, interests and abilities of the target audience should guide decisions about the technical information, so that the technical content is appropriately transparent, accurate and easy to understand. For example, peer-reviewed articles and technical reports require more detailed methods and results, as they are targeted to people with more technical expertise. Other forms of reporting, such as policy briefs and non-technical reports, tend to include a greater focus on the application and use of the findings and may be particularly impactful with audiences such as policy-makers, civil society and SRMNCAH advocates. In cases where reporting is of a less technical nature, additional details about the methods and results may be provided as supplementary material or appendices.

4D. Decide on the methods of presenting the data

STEP 4

Report results

A
Define the purpose of reporting and its target audience

B
Select the scope of reporting

C
Define the technical content

D
Decide on the methods of presenting the data

E
Adhere to the best practices of reporting

KEY QUESTION

How will the data be presented to convey key messages?

CHECKLIST

☐ **Identify appropriate tools to present results:**
  - text
  - tables
  - figures
  - maps.

☐ **Consider using interactive visualizations and other technologies.**

The effective presentation of data in inequality reporting is important to ensure that products are appealing to the intended audience and enable easy comprehension. Decisions surrounding reporting should be tailored to the needs, interests and knowledge of the intended audience, while accounting for the nature of the underlying data and key messages. When possible, consulting members of the audience to get feedback on data presentation can help to further refine reporting and enhance its impact.

See
"Country equity profiles" on page 66

The common tools for presenting data include text, tables, figures and maps. Interactive visualization and other technologies, including video and web-based applications, are increasingly popular ways to enable user-driven data exploration and to engage with audiences. Ideally, reporting applies these tools in a deliberate and balanced way that appeals to the intended audience.

- Text is useful to explain nuances and patterns in data narratively, often complementing other data presentation approaches. Effective text is direct and concise, targeted at a reading level below that of the intended audience.
- Tables can present data precisely and comprehensively. They tend to demand effort from the reader to derive conclusions though, as patterns in the data may not be immediately apparent.
- Figures, when well designed, can be effective in simplifying complex messages in the data (including trends over time), and in a manner that is visually appealing. While a variety of figures can be used to show data in different ways, it is generally best to adopt one or two types of figure

to maintain consistency throughout the reporting. Equiplots are commonly used in SRMNCAH reporting to present disaggregated data.

- Maps are appropriate to show data that have a geographical component; however, the size of the areas on the map may not correspond to the population size or density. Maps may be particularly impactful for non-technical audiences.
- Interactive visualization technology offers possibilities for audiences to explore data digitally. Various software programs help to produce data visuals, including open-source options.

Tables, figures and maps are sometimes extracted from reports and used in other contexts. They should therefore be self-explanatory with descriptive titles, labels, legends and footnotes.

4E. Adhere to the best practices of reporting

STEP 4

Report results

A
Define the purpose of reporting and its target audience

B
Select the scope of reporting

C
Define the technical content

D
Decide on the methods of presenting the data

E
Adhere to the best practices of reporting

KEY QUESTION

What does the audience need to know to fully contextualize the results?

CHECKLIST

- ☐ **Provide background information about the population, including relevant SRMNCAH policies, programmes and practices.**
- ☐ **Define the SRMNCAH indicators and inequality dimensions.**
- ☐ **Report the methods, including data sources, data analysis and interpretation, and discuss pertinent limitations.**
- ☐ **Include details to contextualize the results.**
  - Report both absolute and relative inequality.
  - Indicate the overall value of the SRMNCAH indicator in the whole population.
  - Indicate the population shares of subgroups.
  - Flag results that are based on small sample sizes (if applicable).
  - Assess whether to report statistical significance or confidence intervals.

STEP 4

See

"Case study: reporting the state of inequality in reproductive, maternal, newborn and child health" on page 67

Adhering to the following best practices of reporting promotes high standards of SRMNCAH inequality reporting and is a way to check that the audience has all the necessary technical and non-technical information underlying the main messages, recommendations and conclusions of the report. These practices make reporting more transparent and thorough, thereby strengthening the case for remedial action to address SRMNCAH inequities. Reporting activities should be developed with the input of relevant stakeholder groups, so that they may enhance the impact of the reporting outputs and ensure these are sensitive to the needs and interests of disadvantaged groups.

Keeping detailed notes at all steps of the inequality monitoring cycle makes reporting easier.

Background information about the population and context selected as the focus for monitoring, and about the SRMNCAH indicators and dimensions of inequality featured in the report, helps audiences understand why monitoring has been undertaken and what it has set out to accomplish. Depending on the audience, including qualitative information, photos or personal stories about the population can help to humanize the report and make it more compelling. Providing details about the methods (and their limitations) in an upfront and accurate manner is also important to establish the parameters of monitoring, and this permits a replication of the analysis.

When reporting the results of data analysis, there are several components that should be included to allow for a more complete interpretation of the results. Absolute and relative inequality provide complementary perspectives on the situation of inequality and should both be reported, along with the overall level of the SRMNCAH indicator in the population (e.g. national average). Population subgroups may be different in size, so the population share (the percentage of the monitoring population represented by each subgroup) should be indicated. For example, assessing inequality in health service use among pregnant women by place of residence entails reporting the percentage of pregnant women who are urban residents and the percentage who are rural residents.

Household surveys may not be designed to be representative of population subgroups, and therefore may not have adequate numbers in each subgroup to permit reliable estimates. If this is the case, results based on small sample sizes should be flagged (see STEP 3A). Reporting measures of uncertainty for disaggregated estimates, such as 95% confidence intervals or standard errors, can help audiences understand whether there are statistically significant differences between population subgroups. In cases where subgroup estimates are based on small sample sizes, the results may show statistical non-significance. There may be cases, however, where small differences show statistical significance solely because they are based on a large sample size, yet the difference may not be meaningful from a public health perspective. Therefore, consideration should be given to whether reporting uncertainty measures is appropriate, or whether it could contribute to false conclusions or misinformed policy. Given that household measures can mask inequalities within households (e.g. due to gender or age), care should also be taken when drawing policy conclusions that rely on the extrapolation of characteristics about individual women (e.g. access to assets and income) from household-level data.

Best practices

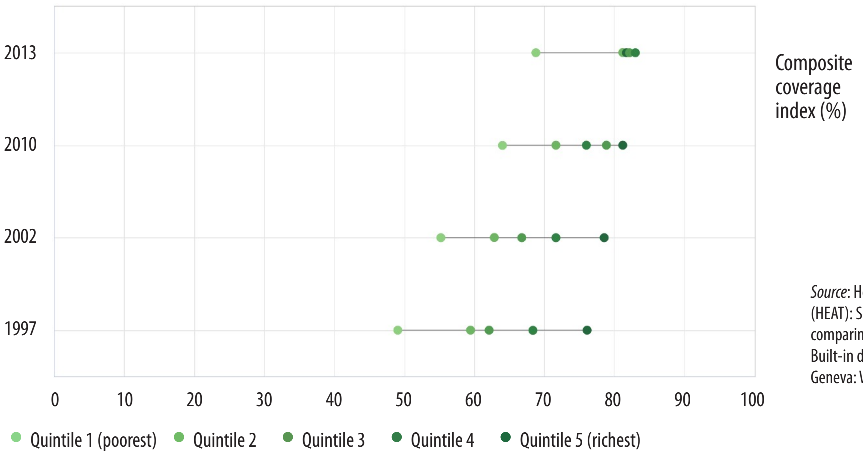
- Review results and reporting approaches with diverse relevant stakeholder groups (e.g. including the equal participation of women and girls) to ensure that conclusions and recommendations are relevant, sensitive to gender and culture and do not perpetuate stigma, discrimination or recrimination against disadvantaged groups.
- Reporting different types of information will give a more complete picture of inequalities. Reporting should include the most recent data available on the state of inequality and, whenever possible, trends to show the change over time. Benchmarking will allow comparisons against the standard or best-performing results for continuous improvement.
- Use the most straightforward and simple measures and methods to convey key findings. More complex methods can be used to confirm or disconfirm impressions based on simpler measures, but if the simple measures seem valid, select those to present to the intended audience.
- Tools for presenting key messages should complement each other and avoid simply repeating the same content in different formats. Care should be taken to ensure that the messaging is accurate and that sufficient supporting information about the details of the analysis is provided through, for example, labels, titles, footnotes and appendices. Interactive visualization of data is recommended to enable the audience to explore large data sets, especially if diverse audiences can benefit from customized views.

Examples and resources

Visualizing disaggregated data

Equiplots (also called circle plots) present disaggregated data using circles (to show the level of health in each subgroup) and lines (to show the gaps between subgroups). Equiplots are commonly used in SRMNCAH reporting to compare across indicators, between populations and over time (**Figure 4**). They provide a straightforward and compelling illustration of inequalities. The WHO Collaborating Centre for Health Equity Monitoring – the Federal University of Pelotas International Center for Equity in Health – hosts an equiplot creator tool (see: https://www.equidade.org/equiplot_creator).

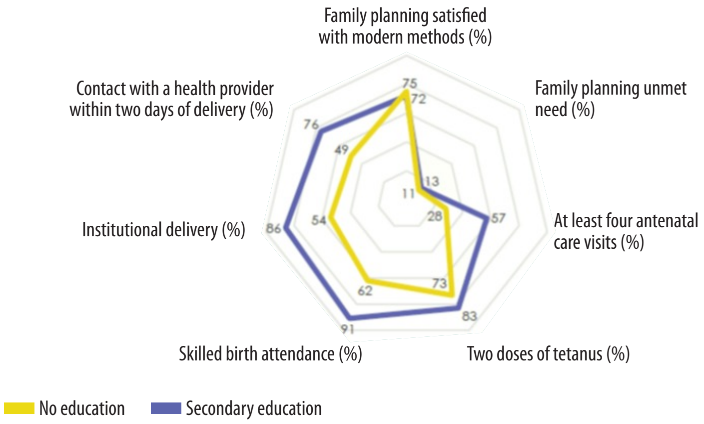
Figure 4. Equiplot: composite coverage index, disaggregated by economic status in Viet Nam (Demographic and Health Surveys, 1997 and 2002, and Multiple Indicator Cluster Surveys, 2010 and 2013)



Source: Health Equity Assessment Toolkit (HEAT): Software for exploring and comparing health inequalities in countries. Built-in database edition. Version 4.0. Geneva: World Health Organization; 2021.

Radar charts visualize data disaggregated by a single dimension of inequality across numerous indicators. They are an effective way to illustrate inequality between two subgroups, for SRMNCAH indicators measured on a common scale (e.g. as a percentage of coverage), where the desired situation is 100% in all subgroups. The distance of the inner line from the outer perimeter reflects the level of coverage in the subgroup for the corresponding indicator, while the gap between the two inner lines shows the extent of absolute inequality between the two subgroups (**Figure 5**).

Figure 5. Radar chart: reproductive and maternal health indicator coverage by education status in the World Health Organization South-East Asia Region (Demographic and Health Surveys, Multiple Indicator Cluster Surveys and National Family Health Survey)



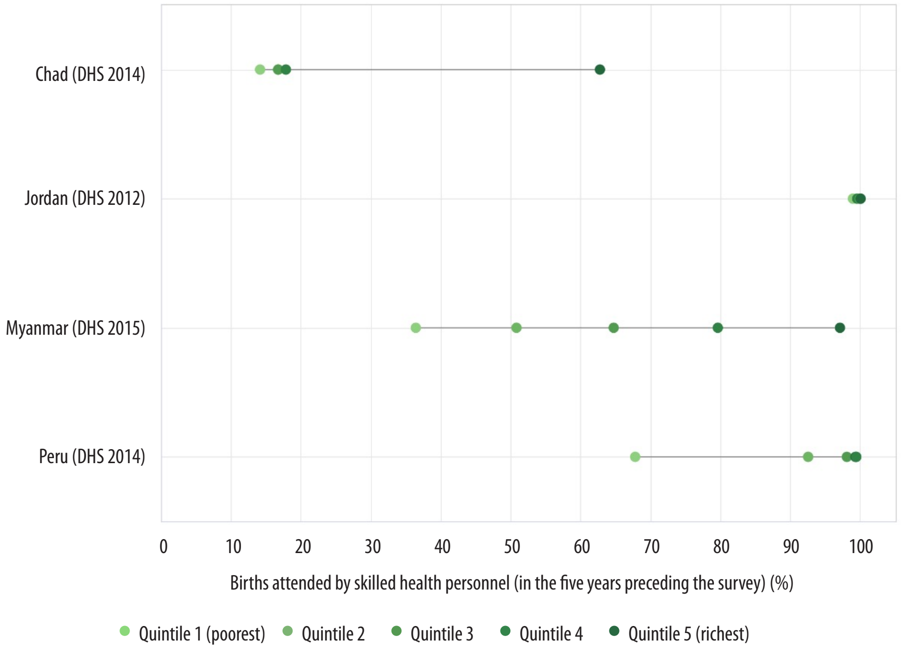
Source: Progressing towards SDG targets: sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) SEAR 2020. New Delhi: World Health Organization Regional Office for South-East Asia; 2021 (https://apps.who.int/iris/handle/10665/347423, accessed 10 December 2021).

Visualizing disaggregated data (cont'd)

Characterizing patterns of inequality across disaggregated data and using these patterns to frame reporting messages can help target audiences get a sense of how to interpret and understand the results of inequality analyses. For instance, **Figure 6** demonstrates four distinct patterns of economic-related inequality in births attended by skilled health personnel.

- Mass deprivation is evident in Chad, where all quintiles except the richest report low levels of coverage (less than 20%). In this situation, population-level responses may be required to reach all (or most) of the population.
- Universal coverage is evident in Jordan, where all subgroups report high levels of coverage. This situation may not necessitate further intervention or response, though ongoing monitoring is warranted to ensure that all subgroups continue to have high coverage.
- A linear gradient is evident in Myanmar, where there are roughly equal increases in coverage across the quintiles. A combination response may be needed, with differentiated targeting across the population subgroups.
- Marginal exclusion is evident in Peru, where the poorest quintile has much lower coverage than the four richer quintiles. A targeted response may be needed, emphasizing the most disadvantaged subgroup.

Figure 6. Characteristic patterns of inequality: births attended by skilled health personnel, disaggregated by economic status in Chad, Jordan, Myanmar and Peru (Demographic and Health Surveys, 2012–2015)



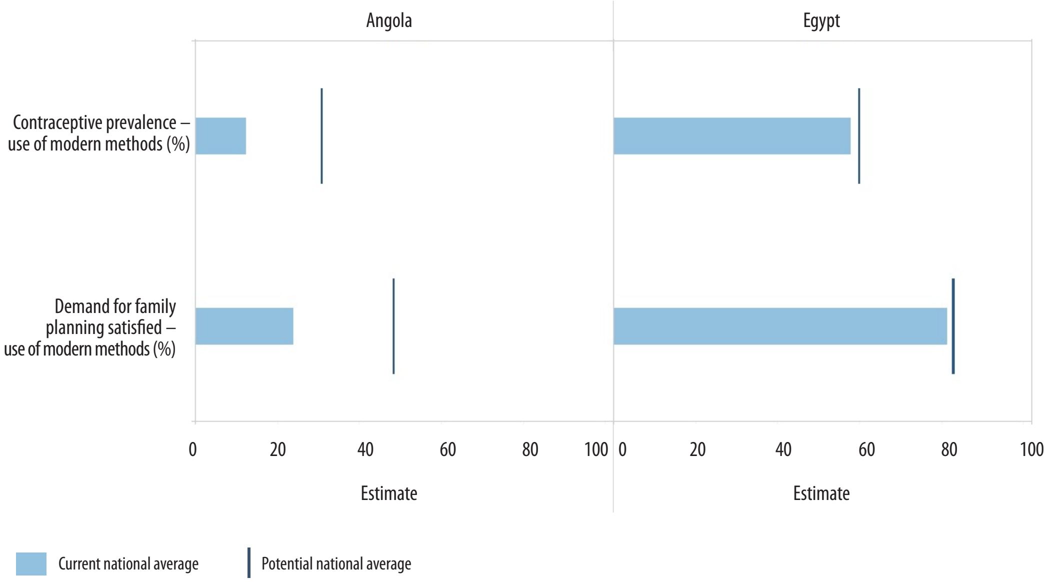
DHS = Demographic and Health Survey

Source: Health Equity Assessment Toolkit (HEAT): Software for exploring and comparing health inequalities in countries: built-in database edition. Geneva: World Health Organization; 2021 (https://whoequity.shinyapps.io/heat, accessed 10 December 2021).

Visualizing summary measures of inequality

Population attributable risk shows the potential for improvement across the population if all subgroups had the same level of health as a reference group. The reference group may be, for example, the best-performing subgroup (such as the province with the highest health intervention coverage) or the most-advantaged subgroup (such as the wealthiest or most educated). **Figure 7** shows the potential for improvement in two reproductive health indicators in Angola and Egypt if the whole population had the same level of coverage as the richest quintile.

Figure 7. Population attributable risk: potential for improvement in reproductive health intervention coverage by eliminating within-country economic-related inequality in Angola (Demographic and Health Survey, 2015) and Egypt (Demographic and Health Survey, 2014)



Country equity profiles

Health Equity Monitor country profiles are available for 115 study countries with data from the DHS, Multiple Indicator Cluster Surveys (MICS) and the Reproductive Health Surveys (RHS). The online country profiles are interactive, allowing users to select the country, survey, indicator and dimension of inequality.

https://www.who.int/data/gho/health-equity/country-profiles

Countdown to 2030 has prepared equity profiles for all low- and middle-income countries with a recent DHS or MICS. The country profiles feature maps, figures, tables and text to show the magnitude and trend in health inequalities across the continuum of care in reproductive, maternal, newborn, child and adolescent health and nutrition indicators by economic status, education, place of residence, subnational region and sex.

https://www.countdown2030.org/equity-profiles

Case study: reporting the state of inequality in reproductive, maternal, newborn and child health

The WHO *State of inequality* report series highlights key findings derived from inequality analyses across different health topics and settings. The 2015 report *State of inequality: reproductive, maternal, newborn and child health* is an illustration of high-quality reporting of within-country inequalities (**Table 2**).

Table 2. An example of high-quality reporting: how *State of inequality: reproductive, maternal, newborn and child health* applies the sub-steps recommended in this manual

Sub-step of reporting	Application in the *State of inequality* report
4A. Define the purpose of reporting and its target audience	The purpose of this 2015 WHO report was to demonstrate best practices in reporting the results of health inequality monitoring, and to introduce innovative, interactive ways for audiences to explore inequality data. The primary audience was people who work with health information systems and have basic skills in interpreting health-related data.
4B. Select the scope of reporting	The scope of reporting encompassed the latest situation of inequality (during the previous eight years) and the change in inequality over time (over the preceding period of about 10 years) for 86 countries. Benchmarking was done to compare results between countries and across indicators. Twenty-three indicators were included across seven health topics: reproductive health interventions, maternal health interventions, care-seeking for sick children, childhood immunization, child malnutrition, child morality and composite coverage index. The report featured four dimensions of inequality: economic status, education, place of residence and sex.
4C. Define the technical content	The report presented disaggregated data, using two statistical measures (interquartile range and median) to describe patterns in disaggregated data across countries. Four summary measures were applied: difference, ratio, population attributable risk and absolute excess change.
4D. Decide on the methods of presenting the data	The report used text, tables, maps and figures to communicate key messages. A series of stories provided insight into key messages. Complementary conventional and interactive data visuals were developed to showcase the findings, with video clips (linked in the report) to facilitate a deeper understanding and exploration of the results.
4E. Adhere to the best practices of reporting	A chapter of the report was devoted to background information, including an overview of health inequality, reproductive, maternal, newborn and child health in the Sustainable Development Goals and key initiatives and publications. An overview of the methods, health indicators and dimensions of inequality was included in the main report, with additional details (including methodological considerations, guidance for interpreting visuals, and detailed definitions) in appendices. Users were directed towards online resources containing metadata.

Source: State of inequality: reproductive, maternal, newborn and child health. Geneva: World Health Organization; 2015 (https://www.who.int/docs/default-source/gho-documents/health-equity/state-of-inequality/state-of-inequality-reproductive-maternal-new-born-and-child-health.pdf, accessed 9 December 2021).

Additional reading

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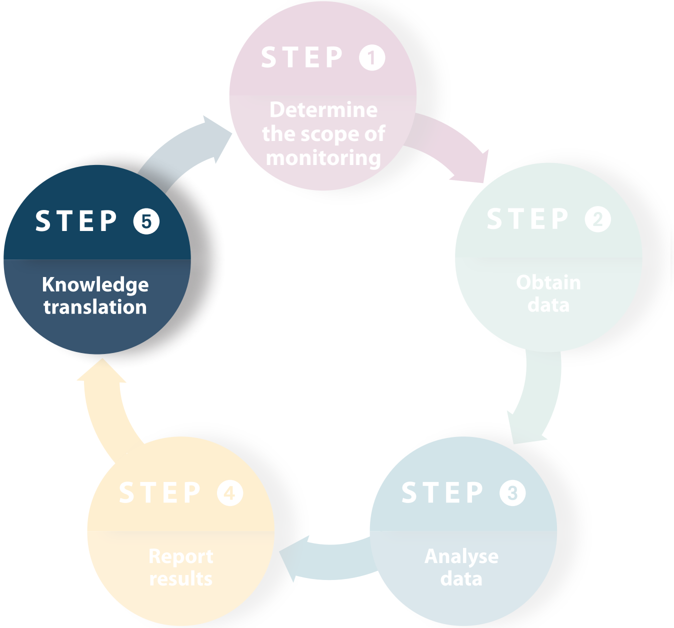
STEP

5

Knowledge translation



STEP 5

Knowledge translation

- Identify priority areas for action
- Contextualize findings
- Consider the dissemination strategy
- Identify opportunities for intersectoral collaboration

Overview

STEP ⑤ of the inequality monitoring cycle on sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) pertains to knowledge translation. Knowledge translation is the synthesis, exchange and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health. When knowledge translation happens effectively, the evidence generated from monitoring inequalities in SRMNCAH is taken up to effect change and achieve greater equity. As discussed in the overview section of this manual, knowledge translation considerations should be accounted for across all steps of the cycle so that inequality monitoring activities are carried out in a manner that enhances the relevance and applicability of the results.

See
See Box 3 on page 8

Knowledge translation is facilitated by knowledge exchange between the people who lead monitoring activities, make policy decisions and belong to affected populations. It relies on close engagement and partnership with stakeholder groups to promote the uptake of the results of monitoring and advocate, implement and promote accountability for changes. In sharing the quantitative results of SRMNCAH inequality monitoring, knowledge translation should present key messages supported by the simplest possible measures and methods.

Monitoring and evaluation results are important inputs to programme reviews and subsequent planning activities, such as integrated SRMNCAH programme reviews. The findings of health inequality monitoring can add value to these processes by indicating potential focal areas for targeted responses to accelerate improvement. If district-level inequality monitoring has been conducted, the findings can be used for situation analysis and prioritizing local problems, followed by actions to tackle these priorities in annual district workplans and budgets.

Ideally, multiple forms of knowledge and evidence – including qualitative and quantitative studies, lived experiences, programme and policy expertise and practitioner perspectives – should be considered alongside the results of inequality monitoring. This helps to identify where changes are warranted within and beyond the health sector to advance equity in SRMNCAH, and how best to formulate responses in meaningful ways. This requires a broader consideration of determinants of SRMNCAH, including analyses that either qualitatively or quantitatively capture how human rights are protected, promoted, enforced or violated and how gender and other intersecting socioeconomic inequalities influence SRMNCAH outcomes. The triangulation of qualitative data and of evidence from health and other sectors can shed light on the social, cultural, economic and political factors shaping SRMNCAH behaviours, health outcomes and inequalities.

The knowledge translation process should be highly collaborative, context-dependent and iterative. Knowledge translation is often extensive, spanning long time periods from the production of monitoring data and evidence and their uptake into policy and practice, helping to address the knowledge-to-action gap. A full discussion of knowledge translation activities, strategies and approaches is outside the scope of this manual. Instead, this section briefly introduces a few components of knowledge translation and provides additional resources for more in-depth information on the topic.

Identify priority areas for action

The results of inequality monitoring can be used as a starting point to determine priority areas for action. Consulting with stakeholders who are familiar with the results of inequality monitoring and the monitoring context can help to ensure that forthcoming recommendations are evidence-informed, feasible and appropriate.

One systematic approach for assessing the results of monitoring, outlined in the *Handbook on health inequality monitoring with a special focus on low- and middle-income countries*, involves assigning scores across all combinations of SRMNCAH indicators and dimensions of inequality to get a sense of where follow-up action is needed most. In this approach, a table is created, listing the SRMNCAH indicators as rows and the inequality dimensions (and overall averages) as columns. The inequality dimension columns can be further divided into absolute and relative inequality. Then, based on the results of monitoring, each cell of the table is assigned a score from one to three and colour-coded: one (green) indicates no or low inequality and that no further action is currently needed; two (yellow) indicates some inequality and that action may be warranted; and three (red) indicates high inequality and the need for urgent action. The overall average for each SRMNCAH indicator can also be scored from one to three. The average scores are calculated for each indicator (by row) and each dimension (by column), and then ranked to show the overall level of priority for action. An example of how this approach has been applied in the Philippines is provided in Table 3.

Table 3. Example scoring system to determine priority areas for action across three indicators

Indicator	Wealth		Education		Sex		Place of residence		Region		Average score	National average
	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative		
Antenatal care: at least one visit	1	1	2	2			1	1	1	1	1.3	1
Births attended by skilled health personnel	3	3	3	3			3	2	3	3	2.9	3
Measles immunization among 1-year-olds	2	2	3	3	1	1	1	1	3	2	1.9	2

Source: Handbook on health inequality monitoring: with a special focus on low- and middle-income countries. Geneva: World Health Organization; 2013 (https://apps.who.int/iris/handle/10665/85345, accessed 10 November 2021).

Using this approach, the criteria for scoring can be established at the discretion of the people carrying out the exercise (what is considered to be high or low inequality will vary); however, these criteria should be well thought out and clearly stated. The results of this exercise are not intended to be definitive. Rather, they should be part of wider discussions about appropriate entry points and mechanisms for addressing SRMNCAH inequities.

See

"Equity-oriented policy and programme development" on page 77

Contextualize findings

The findings of SRMNCAH inequality monitoring constitute one form of evidence about a situation of inequality and should be interpreted and contextualized alongside other quantitative and qualitative evidence. Qualitative evidence, in particular, is an important complement to understand the findings of SRMNCAH inequality monitoring more fully and to develop policy recommendations that reflect how people live their lives. Qualitative studies provide rich information about how inequities are experienced, for instance the barriers faced by women in accessing SRMNCAH services. Using methods such as key informant interviews, focus group discussions and literature reviews gains a greater depth of knowledge of underrepresented or marginalized groups that may not otherwise be captured by traditional household surveys or administrative data sources. These methods can reflect new insights, or information about diverse cultural world views beyond the knowledge of researchers, policy-makers and health providers that nonetheless affect the perceptions of SRMNCAH. Qualitative studies can help to illustrate what is or is not working well in a specific context, give information about the accessibility, affordability and equitability of services and provide insight on opportunities for intervention.

In-depth quantitative studies can also help to further characterize inequalities in SRMNCAH using available data. The approaches to data analysis described in this manual (namely, inspection of disaggregated data and summary measures of inequality) yield descriptive data about inequalities. More advanced methods, such as multiple regression analysis and decomposition, allow a more sophisticated examination of the strength of the relationships between health indicators and dimensions of inequalities and the drivers of inequality. While quantitative studies relevant to SRMNCAH inequalities in certain contexts may already be published, the results of inequality monitoring may suggest novel topics for exploration.

Community-led monitoring includes any type of monitoring that is led by or in collaboration with communities, in which service users are at the forefront of assessing the effectiveness, quality, accessibility and impact of the health programmes and services they receive. Communities decide what to monitor and how to act on the results, and there is an emphasis on advocacy and accountability. Community-led monitoring helps to ensure that the perspectives of women, children, adolescents and other affected populations are part of the efforts to drive changes to policies, programmes and practices that seek to benefit them. The outputs of community-led monitoring are important for informing and strengthening the recommendations generated from SRMNCAH inequality monitoring, especially when they include a focus on disadvantaged subgroups. Seeking input from groups engaged with community-led monitoring across the earlier stages of the SRMNCAH inequality monitoring cycle can help to align the monitoring activities with their needs.

Consider the dissemination strategy

Creating reports of the results of SRMNCAH inequality monitoring is the first step towards disseminating the findings, but further effort is needed to ensure the impact of reporting outputs. For example, publishing a report about the state of inequality in SRMNCAH should be paired with its promotion through blogs, short policy notes, slide packs, social media, mailing lists, press releases, webinars, workshops and events. It can also be accompanied by strategic distribution to members of the target audience. A focal point and means of contact should be provided for audience members who wish to follow up, such as by email, post or telephone.

A dissemination strategy details the approaches and activities to target the distribution of key messages to the intended audiences. Such a strategy may involve widening the exposure of the messages, increasing the audiences' abilities to understand and apply the messages, or motivating audiences to act on them. It is important to determine the objective, the appropriate audience, effective channels to reach the audience, key messages and "asks" (i.e. what the audience is requested to do with the information) and ways to follow up and track the use of the information. Consideration should be given to the role of community organizations (particularly women's organizations) and affected populations in developing and implementing the dissemination strategy.

Identify opportunities for intersectoral collaboration

Intersectoral collaborations involve coordinated actions across health and non-health sectors to improve the conditions that affect health. The SDGs, for example, underscore the importance of intersectoral action to achieve the 17 goals. The 2030 Agenda for Sustainable Development emphasizes the integrated and indivisible nature of health and development and calls for greater attention to the social determinants of health related to, among other factors, gender equality, poverty alleviation, education, clean water and sanitation, clean energy, sustainable natural environments, and peace and justice. The protection and fulfilment of human rights to health and health care (rights that are indivisible and interdependent with respect to other relevant rights) require the application of multisectoral approaches in securing the health and well-being of women, children and adolescents, with legal obligations for various sectors.

Intersectoral approaches are central to addressing situations of SRMNCAH inequality, which benefit from synergistic actions on both health and non-health fronts. The results of SRMNCAH inequality monitoring, together with other forms of evidence, can be a basis for establishing common priorities or goals, which are then reflected in the activities of different sectors. Health in All Policies[10] and Healthy Public Policy[11] approaches advocate the consideration of health and its determinants in policies put forward by all sectors of government.

Intersectoral collaborations are complex, as sectors may have different priorities, resources, management systems and structures. They may also have different levels of power and political influence. Intersectoral collaborations are ideally established from the mutual interests of the different sectors, benefiting from their unique strengths, scopes of influence, networks and resources. Strategies to promote enhanced intersectoral collaboration to advance equity in SRMNCAH include encouraging frequent interaction among stakeholder groups, articulating the need and motivation for collaboration, establishing a common understanding of the barriers and enablers to advancing equity in SRMNCAH, and creating accountability mechanisms. Engagement with human rights institutions and the judiciary, for instance, is important to ensure that populations have access to remedial mechanisms as part of accountability.

Best practices

- Key messages should be supported by the simplest possible measures and methods.
- Multiple forms of knowledge and evidence – including qualitative and quantitative studies, lived experiences, programme and policy expertise, and practitioner perspectives – should be considered alongside the results of inequality monitoring to identify where changes are warranted within and beyond the health sector to advance equity in SRMNCAH.
- The knowledge translation process should be highly collaborative, context-dependent and iterative. Engagement with knowledge users and affected populations should span all steps of the inequality monitoring cycle.

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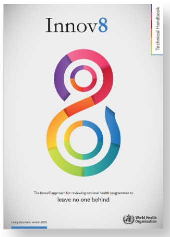
[10] See https://www.who.int/social_determinants/publications/health-policies-manual/key-messages-en.pdf.
[11] See the Adelaide recommendations on Healthy Public Policy at https://apps.who.int/iris/handle/10665/59559.

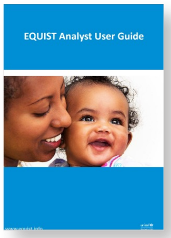
Examples and resources

Equity-oriented policy and programme development



Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook is a systematic and comprehensive approach to integrating the results of health inequality monitoring into national health programmes.

https://www.who.int/publications/i/item/9789241511391



EQUIST is an online platform developed by the United Nations Children's Fund that encourages and facilitates the uptake of evidence from health inequality monitoring by policy-makers. With a focus on reproductive, maternal, newborn and child health, EQUIST was designed to assist health policy-makers and programme managers in strengthening health systems. EQUIST provides stakeholders with access to the best available global evidence, data and tools and aims to help them devise strategies and approaches to reduce health inequalities.

https://www.equist.info/

Additional reading

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Featured resources and readings

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Glossary of terms

Absolute inequality: A measure of the magnitude of difference in health between population subgroups; absolute measures of inequality retain the same unit of measure as the health indicator.

Affected population: The individuals, population groups and communities (typically defined by geographical area, age or life stage) that are the focus of inequality monitoring analyses, and for whom equity-oriented actions seek benefit.

Benchmarking: Comparisons of inequality across similar areas or populations to get a sense of how one area or population performs in relation to others. Benchmarking promotes a broader understanding of the state of inequality.

Community-led monitoring: The mechanism by which affected populations are at the forefront of assessing the health programmes and services they receive, and acting to improve their equity, effectiveness, quality, accessibility and impact.

Complex measure of inequality: A measure that draws on disaggregated data from all population subgroups, yielding a single number that expresses the level of inequality. For example, complex measures of inequality can express inequality across all five wealth quintiles, or across all districts in a country.

Composite indicator: An index composed of several indicators within a health topic to represent that topic; a composite indicator may combine indicators from across several health topics to represent a broader concept, such as universal health coverage.

Dimensions of inequality: Categorizations of subgroups for inequality monitoring encompassing characteristics that are reasonably likely to reflect unfair differences between them, which could be corrected through changes to policies, programmes or practices.

Disaggregated estimates: Data that are broken down by population subgroups (as opposed to overall averages).

Double disaggregation: The practice of filtering data according to two dimensions of inequality simultaneously. Double disaggregation permits a quantitative exploration of intersectionality.

Ethnicity: A social concept that refers to the characteristics common to a group of people that differentiate it from another group. Acquired through learning that begins in childhood, these characteristics are normally related to cultural practices, language, history or ancestry. Members of a particular ethnic group view themselves as culturally different from those of other social groups, and are likewise viewed as different by others.

Evidence-informed policy-making: A consultative and iterative approach to using evidence for decision-making that relies on the consideration of and debate about multiple types of knowledge. For example, new knowledge or evidence from health inequality monitoring is considered alongside qualitative findings, professional knowledge and expertise, tacit knowledge and situational knowledge.

Gender: Socially constructed norm, stereotype, role, expression and identity of women, men, boys, girls and gender-diverse people. Gender inequalities result from the inequitable power relations and discrimination that these constructions generate, and which place certain groups (usually women, girls and gender-diverse people) in positions of societal disadvantage.

Health equity: The absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically. Health inequity is rooted in the unfair distribution of, and access to, power, wealth and other social resources, and is linked to forms of disadvantage that are socially produced, such as poverty, discrimination and lack of access to services or goods.

Health inequality: A measured difference in health between population subgroups. Health inequalities can be measured and monitored.

Health outcome: A change in health status that results from measures or specific investments or interventions.

Indicator: A quantitative metric that can be used to monitor performance, measure results against targets and assess accountability.

Intersectionality: A concept describing the overlap of interconnected social identities (especially race/ethnicity, income/wealth and gender) and how this results in systemic discrimination or disadvantage.

Intersectoral action: Coordinated action across a range of sectors to generate benefits that extend well beyond health. Intersectoral action can reduce health inequities by addressing and improving the social determinants of health.

Intervention: An action or programme that aims to bring about identifiable outcomes or changes.

Knowledge exchange: Multidirectional, interactive communication between stakeholders where ideas are discussed, questions are asked and different forms of evidence are considered to reflect on the implications of the knowledge on the current issues.

Knowledge translation: The synthesis, exchange and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health.

Knowledge users: Individuals or groups who are likely to use the results of health inequality monitoring to make informed decisions about policies, programmes or practices.

Linking data: Merging information about health indicators and dimensions of inequality from different data sources using individual or small-area identifiers.

Metadata: Specific technical information about the data ("data about the data"), such as the definition, data unit, source and method of estimation.

Population share: The percentage of the total population included in monitoring that is represented in a given population subgroup. The total population included in monitoring may not encompass the entire population in an area: for example, it may consist of all women of reproductive age or all children under 5 years of age.

Relative inequality: A measure of the proportional difference in health among population subgroups; measures of relative inequality are unitless.

Resolution issues: A misleading situation that arises when comparing summary measures of inequality that are based on disaggregated data with variable numbers of subgroups.

Simple measure of inequality: A pairwise comparison of health between two subgroups, such as difference or ratio. Typically unweighted, these are the most used measures in inequality reporting, as they are easily understood.

Social determinants of health: The conditions, including economic, political, environmental, cultural and commercial factors, in which people are born, and where they grow, live, work and age.

Summary measure of inequality: A measure of the level of inequality between two or more subgroups, expressed as a single number. Summary measures of inequality can be characterized as absolute or relative, and weighted or unweighted, and can draw from two subgroups (simple pairwise comparisons) or more than two subgroups (complex measures).

Tracer indicator: A specified indicator chosen as an example to represent a broader health topic. Tracer indicators are easy to understand and report because they pertain to a single aspect of the topic. The use of tracer indicators may, however, lead to more resources being dedicated to an area simply because it is being monitored.

Unweighted measure of inequality: A simple or complex measure of inequality that treats each subgroup as equally sized.

Weighted measure of inequality: A complex measure of inequality that takes into account the population size of each subgroup.

STEP ①

Determine the scope of monitoring

A

Decide on the population

KEY QUESTION

Which general population will the monitoring activity encompass?

CHECKLIST

☐ Identify the populations that are prioritized in key strategies, programmes, policies and legislation for sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH).
☐ Take stock of current and recent monitoring activities and identify priority populations as well as those that are underrepresented.
☐ Decide whether monitoring will be done at the regional, national or subnational level.

B

Identify relevant indicators

KEY QUESTION

Which range of indicators is best suited to inequality monitoring?

CHECKLIST

☐ Determine the desired breadth of the health topics to be captured.
☐ Select a package of those SRMNCAH indicators that have relevance within the population.
☐ Include, at a minimum, indicators of health outcomes and intervention coverage.
☐ If appropriate, consider using tracer and composite indicators.

C

Identify relevant dimensions of inequality

KEY QUESTION

Which dimensions of inequality are relevant for monitoring SRMNCAH?

CHECKLIST

☐ Select the common dimensions of inequality.
☐ Select other context-specific dimensions of inequality.
☐ Explore the application of double or multiple disaggregation.

STEP ②

Obtain data

A

Conduct data source mapping

KEY QUESTION

Which sources contain data about relevant health indicators and dimensions of inequality?

CHECKLIST

☐ List available data sources by type (including name, year etc.).
☐ For each source, determine the availability of data for dimensions of inequality.
☐ For each source, determine the availability of data about SRMNCAH indicators.
☐ Determine possible sources of data availability for inequality monitoring by collating the above information.

B

Determine whether sufficient data are currently available

KEY QUESTION

Are sufficient data available to proceed with inequality analysis?

CHECKLIST

☐ Assess the findings of the data source mapping.
☐ Weigh the strengths and limitations of different data sources.
☐ Consider whether data from different sources could be linked.
☐ Identify gaps in data availability and ways forward.

STEP ③

Analyse data

A

Prepare disaggregated data

KEY QUESTION

What is the SRMNCAH indicator value in each population subgroup?

CHECKLIST

☐ Prepare the data set for analysis.
☐ Define how SRMNCAH indicators are calculated.
☐ For each dimension of inequality, determine the criteria for how to define subgroups.
☐ Calculate disaggregated data by subgroup.

B

Calculate summary measures of inequality

KEY QUESTION

What are the absolute and relative levels of SRMNCAH inequality?

CHECKLIST

☐ For each SRMNCAH indicator and dimension of inequality combination, calculate absolute inequality.
☐ For each SRMNCAH indicator and dimension of inequality combination, calculate relative inequality.

Flow chart

STEP ④

Report results

A

Define the purpose of reporting and its target audience

KEY QUESTION

Which parameters guide the approach to reporting?

CHECKLIST

- ☐ Clarify the goals and objectives of reporting.
- ☐ Identify the main target audience for whom the report is prepared.
- ☐ Determine the skills, prior knowledge, needs, priorities and interests of the audience.

B

Select the scope of reporting

KEY QUESTION

Which aspects of the state of inequality should be covered by the report?

CHECKLIST

- ☐ Determine which data reflect the latest status of inequality.
- ☐ Assess whether it is feasible to report trends over time.
- ☐ Assess whether it is feasible to report benchmarking.

C

Define the technical content

KEY QUESTION

Which data analysis results will be reported?

CHECKLIST

- ☐ Assess data analysis results to characterize patterns in the data and determine the most salient conclusions.
- ☐ Interpret and report disaggregated data.
- ☐ Consider whether simple measures and complex measures would lead to the same conclusions.

D

Decide on the methods of presenting the data

KEY QUESTION

How will the data be presented to convey key messages?

CHECKLIST

- ☐ Identify appropriate tools to present results:
  - o text
  - o tables
  - o figures
  - o maps.
- ☐ Consider using interactive visualizations and other technologies.

E

Adhere to the best practices of reporting

KEY QUESTION

What does the audience need to know to fully contextualize the results?

CHECKLIST

- ☐ Provide background information about the population, including relevant SRMNCAH policies, programmes and practices.
- ☐ Define the SRMNCAH indicators and inequality dimensions.
- ☐ Report the methods, including data sources, data analysis and interpretation, and discuss pertinent limitations.
- ☐ Include details to contextualize the results.
  - o Report both absolute and relative inequality.
  - o Indicate the overall value of the SRMNCAH indicator in the whole population.
  - o Indicate the population shares of the subgroups.
  - o Flag results that are based on small sample sizes (if applicable).
  - o Assess whether to report statistical significance or confidence intervals.

STEP ⑤

Knowledge translation

Identify priority areas for action

Contextualize findings

Consider the dissemination strategy

Identify opportunities for intersectoral collaboration

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