

# Sustainable Development Goals Realisation: A National Indicator Framework for Iranian Health Monitoring

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## Abstract

Sustainable Development Goals (SDGs) provide a global inclusive indicator framework for improving the population's health, adapted to each country's socio-political context. This study aimed to propose a national indicator framework for Iran as a reference list toward SDGs realisation in health and health-related. SDGs and three additional complementary frameworks (WHO Core Health Indicators, Action on Social Determinants of Health Core Indicators and Iranian National Health Equity Indicators) were selected to provide the theoretical base for the National Indicator Framework and to identify, compare, and select the potential indicators based on the country's contextual needs and capacities. WHO's "result chain pattern for health core indicators classification" was used as a conceptual basis to facilitate identifying indicators and to link those to underlying country data systems and data gathering methods. After identifying the initial list of 181 indicators, senior informants from the Ministry of Health and Medical Education-related departments and other health-related organisations were consulted to reduce and verify the initial list. A National Indicator Framework for health monitoring in Iran has been developed to contain 101 indicators (including 12 input/ process indicators, 13 output indicators, 44 outcome indicators, and 32 impact indicators) organised within four domains of "health status", "risk factors", "service coverage" and "the health system". This framework addresses the health core indicators gap identified in paragraph No. 3 under article NO.7 of the Law on Permanent Provisions of Country Development Programs. It will be used to notify policies and programs to improve the health system and population health status at the national level.

**Keywords:** Iran, national indicator framework, sustainable development goals, systematic mapping

## 1. Introduction

A comprehensive, health-oriented and contextually-adjusted set of indicators is essential to monitor population health and guide national health and health-related policies accordingly toward Sustainable Development Goals (SDGs) realisation (Schirnding, 2002).

The trajectory of the development of public health policies started with the Alma-Ata Primary Health Care (PHC) Policy Collection entitled "Health for All" in 1978 (WHO, 1998) and reached "All for Health" in 1988 (Mahler, 1988). This trend continued in developing its theoretical and practical foundations, leading to the "quality assessment of data on social determinants of health" in 2005 (WHO, 2010) and finally to "Health for All by All" in 2017 (Al-Mandhari, El-Adawy, Khan, & Ghaffar, 2019).

In recent years, special attention has been paid to the SDGs for human development as the newest and the most comprehensive framework for improving the quality of life. Moreover, it is evident that almost all international agencies and institutions, such as the World Health Organisation (WHO), align their indexes with SDG indices

(FAO, 2018; UNICEF, 2018; WHO, 2015). Given this paradigm shift from a uni-lens approach to health in the 1980s (WHO, 1981) to a multi-lens approach of sustainable development in 2015, countries need to integrate their health indicators with health-related sustainable development indicators to provide an adapted list of 21st-century health indicators at the national level (Mohammadi et al., 2019) as it is getting an accepted trend at the international level (EC, 2018; OECD, 2019; WHO-EMRO, 2016). All countries committed to achieving the SDGs in the health sector must develop their National Indicator Framework (NIF) that is perfectly proportioned and in line with their local health priorities and socio-political context (Mohammadi et al., 2019).

Three significant considerations have resulted in developing the NIF for health monitoring in Iran. The first is related to the growing political commitment among United Nations Member States, including Iran, to sustainable development through improving their population health status and reporting the achievements. Second, since the Millennium Development Goals (MDGs), Iran's health system has been shifting gradually from a purely medical approach to health (Etches, Frank, Di Ruggiero, & Manuel, 2006) to a social approach to health (Mohammadi et al., 2019). This transition has necessitated health reconceptualisation to underlie the social, economic and environmental determinants of health (Marmot & Wilkinson, 2005). Developing a NIF present an opportunity to promote this transition toward SDGs realisation, as health plays an essential role in sustainable development by reducing disease burden and producing equitable and sustainable health outcomes (Acharya, Lin, & Dhingra, 2018; Buch, Masuku, & Mathee, 2002). Furthermore, a significant national regulation called the executive regulation of the Supreme Council for Health and Food Security (SCHFS) has made it necessary to develop a set of core indicators for monitoring health (*Minutes 15th: Supreme Council for Health and Food Security*, 2017). SCHFS is a council for multisectoral policy making chaired by the country's president. As a result, a concern for having a set of high-priority major indicators was formed to propose a NIF to monitor SDGs realisation of health status. This article presents how we developed a proposed NIF based on four nationally and internationally authorised health-centric indicator frameworks. We also present the final set of indicators proposed to be adopted at the national level.

## 2. Methods

### 2.1 Study Context

There are various data sources for collecting health data in Iran. Based on the Health Transformation Plan (HTP) in 2011, the improvement of the electronic health records was one of the priorities in this program for outpatients and inpatients services. Currently, near to 98% of PHC facilities are using electronic health information system and more than 95% of the population are registered in PHC electronic health records, 100 % of public and private hospitals have eHIS, and 89 % of all deaths were registered in 2018 (WHO-EMRO, 2020). Despite such systems in the health system of Iran, their poor interconnection and fragmentation between registry systems reduce their efficiency.

### 2.2 Study Design

We used a set of criteria to design the methodology of the present NIF. First, we considered the national commitment to achieving SDGs. Second, there was a need to consider the current framework of key indicator framework being worked on and reported by various national institutions. Third, there was a need to consider the legal requirement to monitor national health equity indicators. Moreover, there was a need to integrate health indicators with health-related sustainable development indicators to provide a reliable list of 21st-century health indicators at the national level. The model for developing the framework consisted of two main phases illustrated in figure 1.

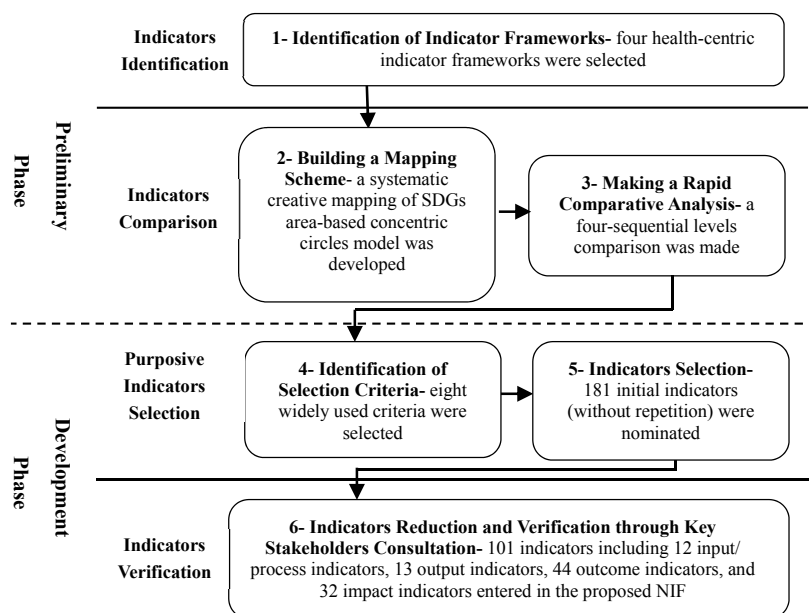


Figure1. Descriptive model for developing the NIF

### 2.3 Preliminary Phase

#### 2.3.1 Identification of Indicator Frameworks

With regards to criteria as mentioned above, we took into consideration four health (note 1) and health-related (note 2) indicator frameworks (Valentine, Koller, & Hosseinpoor, 2016): SDGs indicators (SDGIs) (UN, 2017), WHO Core Health Indicators (CHIs) (WHO, 2018), Action on SDH Core Indicators (AoSDHCIs) (WHO, 2016) and Iranian National Health Equity Indicators (INHEIs) (*Minutes 15th: Supreme Council for Health and Food Security*, 2017). All contain high-priority indicators developed to monitor the international or national progress toward population health promotion (see table 1).

Table 1. Selected indicator frameworks and their description

Indicator Frameworks	Description
Health and health-related SDGs indicators	Comprises 43 health & health-related targets, of which 13 are in SDG 3 for health, and 30 are divided between 12 other SDGs (1, 2, 4, 5, 6, 7, 8, 9,11, 13, 16, 17), with 66 indicators (of which 26 are in this health goal, 14 are confirmed by WHO as health-related (WHO, 2017, 2018) and 26 are recognised health-related based on the technical opinions of the study team)
WHO Core Health Indicators	Comprises four domains, comprising 27 subdomains within which 121 indicators are nested, 52 indicators of which are chosen among health-related SDGs indicators;
Action on SDH core indicators	Comprises five domains, comprising 23 measurement concepts within which the core basket of 27 indicators is nested, 15 indicators of which are chosen among health-related SDGs indicators;
Iranian National Health Equity indicators	Comprises five domains, comprising 69 Indicators developed in 2016 based on Urban Health Equity Assessment and Response Tool (Urban Heart);

### 2.3.2 Building a Mapping Scheme

The study team developed a systematic creative mapping approach to explore each framework compared to others; this approach could help us consider overlapping between the different collections of indicators and to what extent. Thus, after considering the different plausible mapping schemes, the team agreed on the “SDGs area-based concentric circles model”. A model on which each circle represents each indicator framework. SDGs thematic areas are situated at the centre of the model, showing the thematic areas of each collection’s focus set around it. These areas, marked with a specific colour, helps to pinpoint the areas addressed in each framework located in different circles. The position of circles from the centre out was arranged according to their conceptually historical development. Hence the AoSDHCIs, INHEIs, SDGIs and CHIs formed the layers, respectively. For depicting the common and unique indicators among the frameworks, the team agreed on a set of pre-defined guiding signs (see Figure 2). All selected frameworks were compared with the SDGs health and health-related indicators due to being the most inclusive and globally accepted reference.

### 2.3.3 Making a Rapid Comparative Analysis

In this stage, we analysed each set of indicators comparatively for within- and across- indicator frameworks’ variation and overlaps (one to multi or multi to one indicator), as each set were developed historically and methodologically different. The aim was to see how much they overlap or differ. Due to being the most inclusive and globally latest accepted reference, the SDGs health and health-related indicators were considered as the central and fixed comparator in case of binary comparison. This comparison included four sequential levels: (1) SDGIs versus INHEIs; (2) SDGIs versus AoSDHCIs; (3) SDGIs versus CHIs; and (4) SDGIs versus all the other selected indicator frameworks; (see figure 3)

## 2.4 Development Phase

### 2.4.1 Identification of Selection Criteria

The study team used eight selection criteria to select the candidate frameworks’ indicators and prioritise them for inclusion in the proposed NIF (see table 2). The definitions adopted for these criteria are widely used to assess indicators (Hall, Correa, Yoon, Braden, & Prevention, 2012).

Table 2. Criteria for choosing among selected reference indicator frameworks

Criteria	Definition
Prominence	Well-known enough and used extensively at international level by different major UN agencies or reference organisations (UN, 2015a; WHO, 2015)
Robustness	Strong enough to be representative of major health status (health system or population) (UN, 2015a; WHO, 2015)
Actionable/ Usefulness	Being useful in making evidence-informed policy decisions or interventions (Orpana, Vachon, Dykxhoorn, McRae, & Jayaraman, 2016; UN, 2015a; WHO, 2015)
Accessible	Easy enough to access to data needed for its calculation (Orpana et al., 2016; UN, 2015a; WHO, 2015)
Understandable	Easy enough to comprehend the way it is calculated (UN, 2015a; WHO, 2015)
Measurable	Easy enough to quantify the data needed for its calculation (UN, 2015a; WHO, 2015)
Achievable	Easy enough to change the current undesirable status toward the targeted desirable one (Orpana et al., 2016; UN, 2015a; WHO, 2015)
Necessity	Necessary to be measured according to the developmental need of the country (Zeijl-Rozema & Martens, 2010)

### 2.4.2 Indicators Selection

Among the potential indicators mapped in Bound Master Goals’ Indicators (BMGI) (see figure 2), and based on comparative analysis results, with the criteria on hand, a preliminary list of 181 initial indicators (without repetition) was nominated. WHO’s “result chain pattern for health core indicators classification” including four main areas of “health status”, “risk factors”, “service coverage” and “the health system” (WHO, 2018) was used to (1) get the

conceptually similar indicators into groups based on the main areas as well as the results chain and (2) to facilitate identifying indicators and to link those to underlying country data systems and data gathering methods.

### 2.4.3 Indicators Reduction and Verification through Key Stakeholders Consultation

To reduce the initial list of 181 indicators to a more concise list, the study team conducted repetitive counselling sessions with senior informants from the Ministry of health and medical education (MOHME) related departments and other health-related organisations in a multisectoral collaboration. In doing so, the team invited each technical field’s key informants according to the determined custodians and reference organisation to a face-to-face meeting. In each session, they reviewed relevant initial indicators, discussed each indicator’s concepts, and provided feedback. They were asked to decide if any of the indicators in question were unnecessary or missing. They came to a consensus on a set of indicators based on the pre-defined selection criteria. According to the informants’ collective agreement, this selection process directed one indicator to be replaced and 80 indicators removed from the initial list because they did not meet the criteria (stated in table 2). This resulted in a complete list of 101 indicators (see table 3), including 12 input/ process indicators, 13 output indicators, 44 outcome indicators, and 32 impact indicators entered in the proposed NIF (for more information on indicators’ general characteristics, see appendix B).

### 3. Result

The attempt to propose the NIF led to the approval and agreement on 101 indicators. Table 3 presents these indicators by results chain and distribution pattern among the indicator frameworks.

Table 3. Division pattern of NIF by indicator frameworks and results chain

Distribution Pattern	Indicator Frameworks	National Indicators by Results Chain			
		Inputs and Processes	Output	Outcome	Impact
18	SDGIs, CHIs	Ir <sup>a</sup> .1.4.3. Health worker density and distribution Ir.2.4.4. Birth registration Ir.3.4.4. Death registration Ir.4.4.5. Total net ODA on health	Ir.13.4.2. Access to a core set of relevant essential medicines	Ir.26.2.1. Under-5 overweight Ir.27.2.4. Alcohol per capita (15+) Ir.28.2.5. domestic violence Ir.29.2.5. Sexual violence against children Ir.30.3.1. Skilled birth attendance Ir.31.3.2. Immunisation coverage Ir.32.3.6. Cervical cancer screening Ir.33.3.8. Coverage of essential health services	Ir.70.1.2. Unintentional poisoning MR <sup>b</sup> Ir.71.1.2. Disasters casualties Ir.72.1.2. Homicide MR Ir.73.1.4. HIV IR <sup>d</sup> Ir.74.1.4. HB incidence
16	SDGIs, CHIs, INHEIs			Ir.34.2.1. Under-5 stunting Ir.35.2.1. Under-5 wasting Ir.36.2.4. Tobacco use (15+) Ir.37.2.4. Adult BP Ir.38.2.4. Adult BG/diabetes Ir.39.2.5. Occupational injuries	Ir.75.1.1. Under-5 MR Ir.76.1.1. NMR Ir.77.1.2. MMR Ir.78.1.2. Premature MR (NCD) Ir.79.1.2. Suicide Ir.80.1.2. RTIs MR Ir.81.1.2. Conflict-related MR Ir.82.1.3. Adolescent FR <sup>c</sup> Ir.83.1.4. TB-IR Ir.84.4.5. Catastrophic health expenditures

Distribution Pattern	Indicator Frameworks	National Indicators by Results Chain			
		Inputs and Processes	Output	Outcome	Impact
11	SDGIs, CHIs, AoSDHCIs	Ir.5.4.8. Effective monitoring frameworks	Ir.14.4.8. Rese diarrhoea arch and development expenditure Ir.15.4.6. IHR	Ir.40.2.3. Population with primary reliance on clean fuels and technologies Ir.41.3.1. ECD Ir.42.3.1. Antenatal care coverage Ir.43.3.1. Postpartum care coverage Ir.44.3.1. Postnatal care coverage Ir.45.3.1. Care-seeking for pneumonia Ir.46.3.1. Coverage of diarrhea treatment Ir.47.3.1. Vitamin A supplementation coverage	
2	SDGIs, CHIs, INHEIs, AoSDHCIs			Ir.48.2.3. Population using safely managed drinking-water services Ir.49.2.3. Population using safely managed sanitation services	

Distribution Pattern	Indicator Frameworks	National Indicators by Results Chain			
		Inputs and Processes	Output	Outcome	Impact
43	CHIs	Ir.6.4.2. Health facility density and distribution Ir.7.4.2. Hospital bed density Ir.8.4.3. Output training institutions Ir.9.4.4. Completeness of reporting by facilities Ir.10.4.5. THE Ir.11.4.5. Public domestic sources of current spending on health as % of CHE Ir.12.4.7. Existence of national health sector policy/strategy/plan	Ir.16.1.4. TB notification rate Ir.17.3.4. HIV test results for TB patients Ir.18.4.1. Perioperative mortality rate Ir.19.4.1. Admissions owing to abortion Ir.20.4.1. Institutional maternal mortality ratio Ir.21.4.1. Maternal death reviews Ir.22.4.1. ART retention rate Ir.23.4.1. TB treatment success rate Ir.24.4.1. Service-specific availability and readiness Ir.25.4.1. Outpatient service utilisation	Ir.50.2.1. EIBF Ir.51.2.1. Aneamia prevalence in children Ir.52.2.1. Aneamia in WRA Ir.53.2.2. HIV prevention Ir.54.2.4. Salt intake Ir.55.3.3. HIV-infected who knows their status Ir.56.3.3. Prevention of mother-to-child transmission Ir.57.3.3. (ART) coverage Ir.58.3.3. HIV viral load suppression Ir.59.3.4. Coverage of treatment for LTBI Ir.60.3.4. HIV-positive new and relapse TB patients on ART during TB treatment Ir.61.3.5. Drug susceptibility testing coverage for TB Ir.62.3.5. TB treatment coverage Ir.63.3.5. Treatment coverage for drug-resistant TB Ir.64.3.7. Services for severe mental health disorders	Ir.85.4.5. Population with impoverishing expenditure Ir.86.1.1. Adolescent MR Ir.87.1.1. Stillbirth rate Ir.88.1.2. TB MR Ir.89.1.2. AIDS-MR Ir.90.1.4. New cases of vaccine-preventable diseases Ir.91.1.4. New cases of IHR-notifiable diseases and other notifiable diseases Ir.92.1.4. HBsAg prevalence Ir.93.1.4. STIs-IR Ir.94.1.4. TB-PR <sup>e</sup> Ir.95.4.5. OOP
11	CHIs, INHEIs			Ir.65.2.1. Exclusive breastfeeding Ir.66.2.1. LBW Ir.67.2.3. Air pollution level Ir.68.2.4. Overweight/obesity in adult Ir.69.2.4. Insufficient PA in adults	Ir.96.1.1. Life expectancy Ir.97.1.1. Adult MR Ir.98.1.1. Infant MR Ir.99.1.3. TFR Ir.100.1.4. HIV PR Ir.101.1.4. Cancer-IR

Note: <sup>a</sup>Ir: Iran; <sup>b</sup>MR: mortality rate; <sup>c</sup>FR: fertility rate; <sup>d</sup>IR: incidence rate, <sup>e</sup>PR: prevalence rate.

The names of the indicators are summarised. However, the full names are available in appendix B.

In indicator codes, the first number indicates the indicator’s exclusive number, the second number indicates the area code and the third number indicates the issue code.

Area and issues codes: 1: Health Status (1: Mortality by age and sex, 2: Mortality by cause, 3: Fertility, 4: Morbidity), 2: Risk Factor (1: Nutrition, 2: Infections, 3: Environmental risk factors, 4: Non-communicable diseases, 5: Injuries/ harmful traditional practices), 3: Service Coverage (1: Reproductive, maternal, newborn, child and adolescent, 2: Immunisation, 3: HIV, 4: HIV/TB, 5: Tuberculosis, 6: Screening and preventive care, 7: Mental Health, 8: Essential health services), 4: Health Systems (1: Quality and safety of care, 2: Access, 3: Health workforce, 4: Health information, 5: Health financing, 6: Health security, 7: Governance, 8: Health policy)

The ultimate goal of the NIF was developing a management tool of localised indicators to have a comprehensive and strategic picture of the health situation through monitoring the (1) population's health -affected by health and non-health sectors, and (2) the health system performance toward SDGs. It could help determine the strategic orientations and interventions and facilitate international accountability. Nevertheless, some additional indicators were adopted from other indicator frameworks for the following reasons.

First, it is essential to note that although the monitoring focus for SDGs is at the national level, its indicators are typically concerned with worldwide public health issues and consider the outcome of priority problems in this field at the international level. Therefore, SDGs' collection has insufficient knowledge and attention to different regions' specific socio-cultural conditions (UN, 2015b). It was necessary for the study team to selectively look at local needs in selecting and adopting the national indicators within a locally coherent framework. Second, as the institutions involved in developing SDGs and indicators strongly recommend, it is necessary to adopt complementary national indicators tailored to the country's needs and capacity to collect and analyze data (UN, 2015b). Finally, the legal requirement to develop a set of core health indicators at the national level and the possibility of final approval of these indicators in the country's policy making venues required the study team to have an indigenous perspective in the review and selection of indicators. As a result, out of 101 proposed indicators, 54 indicators (43 indicators of CHIs and 11 indicators common between CHIs and INHEIs) were considered complementary indicators.

Conversely, based on consultancy meeting results, the study team removed 30 health and health-related SDGs indicators from the final framework based on the criteria listed in table 2, however the main reasons in detail for removing these indicators were as follow: (1) security-political consequences of providing public access to official data through their publications (e.g. indicators related to "violence" and "access to information"), (2) incompatibility of the indicators' values with the core values underlying the country's health system (e.g. indicators related to "family planning"), (3) lacking for significant priority to be considered at the national level due to encompassing minor populations in limited geographical areas (e.g. indicators related to "malaria" (note 3) and "treatment of tropical diseases"), (4) High sociocultural sensitivity of some statistics and the impossibility of reporting them, especially at the international level (e.g. "gender -related indicators") and (5) the novelty of some indicators at the international level and lack of capacity and a coherent and specific system for collecting and analysing data across the country (e.g. indicators related to "climate change", "civil society participation", and "government spending on essential services"). It is worth mentioning that eliminating these indicators will not contradict the efforts of the health system to create the necessary capacity to calculate these indicators.



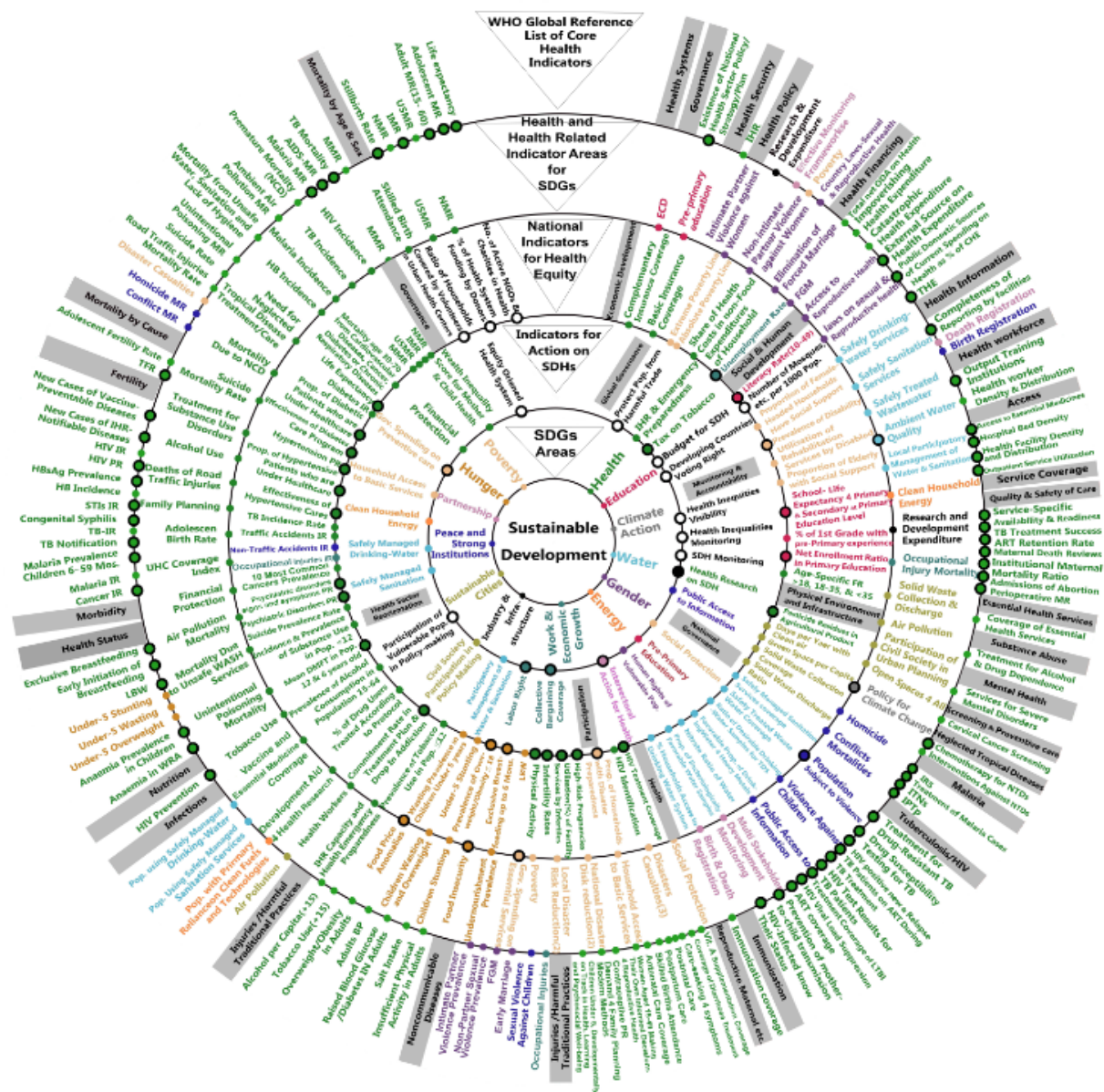


Figure 2. Bound Master Goals' Indicators (BMGI)

- On the SDGs circle: indicators mapped at least with one indicator from at least one of the other indicator frameworks.
- On the other circles are indicators mapped with one indicator from the SDGs framework.
- On the SDGs circle: indicators that are not mapped with any indicator from any other indicator framework.
- On the other circles: indicators that are not mapped with any indicator from SDGs framework.
- On the other circles: indicators that are not mapped with any thematic areas of SDGs framework.

The study team also used the following criteria in the selection of complementary indicators: (1) addressing high-priority public problems related to population health and the country's health system, (2) having the data collection and analysis system, and (3) regarding the country's sociopolitical constraints and capacities. In doing so, without considering the overlapping indicators with sustainable development indicators, 9, 12, and 29 indicators were removed from CHIs, AoSDHCIs, and INHEIs, respectively. The main reasons for the elimination of these

indicators were (1) lacking for significant priority to be considered at the national level (e.g. indicators related to the mortality, treatment, and control of “malaria”, “syphilis” and, “tropical diseases”), (2) not being useful and necessary to represent the health status at the national level (e.g. “infertility rate” and “the number of mosques and prayer rooms”), (3) lack of meaningfulness examples in the country (e.g. “external source of current spending on health”), or (4) lack of capacity to collect and analyse the required data nationwide (for instance, the “mean number of Decayed, Missing, and Filled Permanent Teeth (DMFT) in the population aged 6 and 12”, “the participation of vulnerable populations in policy making” or the indicators related to “extending the equity in health”). As illustrated in figure 3, the initial comparison between indicator frameworks indicates the comprehensiveness of the approach adopted in the SDGs framework in terms of overlapping with stakeholders’ concerns in developing other selected frameworks. However, due to the broader level of sustainable development indicators, composite indicators and indexes have been used more in developing its target monitoring system, e.g. the Universal Health Coverage (UHC) index, which covers a significant number of indicators related to “maternal and child health”, “infectious diseases”, “non-communicable diseases”, and “capacity and access to services” within the framework of CHIs, INHEIs, and AoSDHCIs.

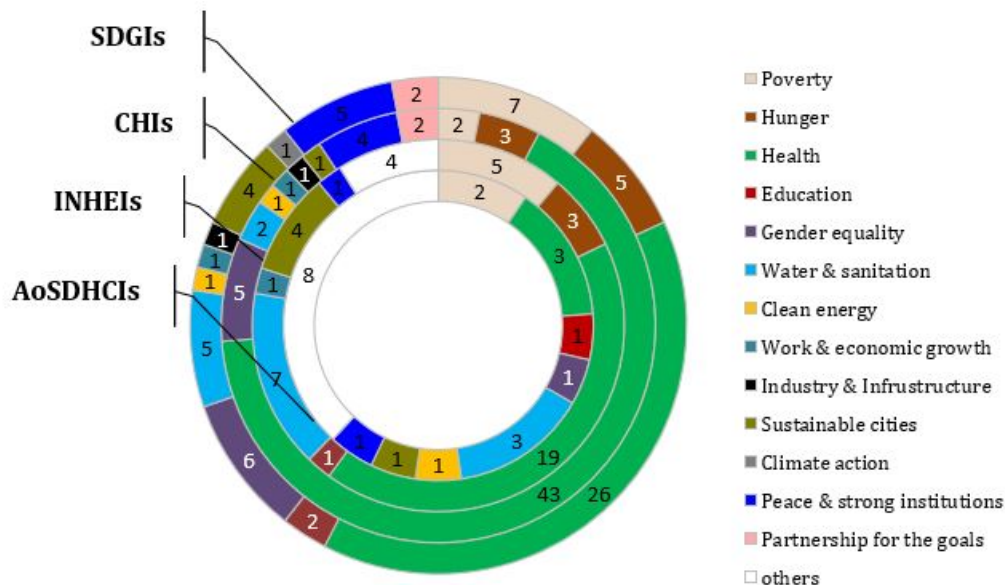


Figure 3. Comparative exploration of health and health-related SDGs versus CHIs, INHEIs and AoSDHCIs

As it is shown in figure 2, except for six indicators related to domains of “water” (one indicator), “hunger” (two indicators), “poverty” (one indicator), “climate change” (one indicator) and “peace and strong institutions” (one indicator), other indicators of SDGs matched with at least one indicator from the selected frameworks of the study. However, it was impossible to establish one-to-one correspondence for all indicators due to these frameworks’ different origins and goals.

The comparison between the frameworks in the final list showed a significant overlap between the indicators adopted from SDGs (47) and the indicators adopted from other frameworks studied in the present study. This overlap is well illustrated in table 3. The highest overlap was with CHIs (100%), followed by INHEIs (38%) and AoSDHCIs (28%), respectively.

As shown in appendix B, out of 101 proposed indicators, the data custodians of 26 indicators are non-health sector organisations. It means that the data related to these indicators are produced outside the health sector, but the health system reports them.

Among these organisations, the Statistical Centre of Iran (SCI) has the highest number of indicators to answer in terms of verifying the accuracy of the indicators (13 indicators), followed by the Forensic Medicine Organisation (six indicators), Ministry of Cooperatives, Labor and Welfare (MCLS) [Welfare organisation] (two indicators), MCLS, Ministry of Interior (MI) [municipalities], Ministry of Petroleum (MOP), police force, Ministry of Energy (ME) [Iran Water Resources Management Company (IWRMC)], ME [Water and Wastewater Engineering Company (NWWEC)] (one indicator each) which have the highest responsiveness respectively. However, some indicators such as “domestic violence” or “violence against children” have more than one official custodian for

data reporting in the country.

The responsibility for collecting and aggregating data related to these 26 indicators, in most cases, lies with the custodians themselves, except for three indicators of “life expectancy”, “the adult mortality rate of 15-60 years”, and “total fertility rate”, which lie on the MOHME. The two indicators of “reporting progress in multi-stakeholder development effectiveness monitoring frameworks” and “the existence of national health sector policy/strategy/plan” are among the indicators for which there is no single custodian in charge of collecting and integrating data at the ministry level. Nonetheless, the Secretariat of SCHFS, the highest authority for multisectoral policy making in the country, located in the MOHME and responsible for coordinating health-related agencies and organisations, can be the custodian of both indicators. The MOHME, especially the deputy for public health (DPH), is responsible for the remaining indicators, data collection, aggregation and reporting.

Regarding the data collection system, data related to more than half of the proposed indicators (61 indicators) are among the routine data and thus have a routine gathering system (see appendix B). These data mainly related to the population’s health are generated inside or outside the health sector, regularly collected and annually reported. Such a system for most indicators shows the significant capacity for health data collection at the national level in Iran so that there is the routine data for three following indicators of “coverage of diarrhoea treatment”, “Care-seeking for symptoms of pneumonia” and “population using safely-managed drinking water services”, which their gathering relies on periodic surveys according to WHO recommendations.

Another standard system for population health indicators is the survey, which covers 26 indicators and runs over two to five years. A routine gathering system can be run for three indicators of “early initiation of breastfeeding”, “antenatal care coverage”, and “raised blood glucose/ diabetes among adults” in the short term and with the cooperation of technical deputies and the Statistics and Information Technology Department of MOHME. Nevertheless, we still rely on periodic surveys for 22 other indicators; including “tobacco use among persons (age 15+ years)”, “total alcohol per capita consumption (age 15+ years)”, “sexually transmitted infections incidence rate”, and the like which are addressed in **appendix B**. Although there is a surveillance system for collecting the data on “sexually transmitted infections incidence rate”, the data are not reliable, making it necessary to either develop it or gather required data through surveys.

There are complementary or alternative methods for some population’s health-related indicators, such as “outpatient service utilisation” or “overweight among children under five years of age”, in case of not having access to the required data from the primary method, which is mainly the system.

Another type of data collection system, which primarily includes health system performance indicators, is dedicated registry systems. These systems are used for data gathering on four indicators, including “health workers density and distribution”, “births and deaths”, “tuberculosis incidence”, and “mortality rate for children under five years and infants”. However, data on the latest indicator is gathered and recorded routinely.

There are other categories of performance indicators (eight indicators), including “total current expenditure on health as % of gross domestic product” and “International Health Regulations (IHR) core capacity index”, which relies on administrative reporting systems and the like which are addressed in appendix B.

There is another category of proposed indicators that are considered essential. However, their reporting at the national level is challenging due to their novelty. These include “Proportion of children under five years of age who are developmentally on track in health, learning and psychosocial well-being”, “coverage of essential health services”, “services-specific availability and readiness”, and “reporting progress in multi-stakeholder development effectiveness monitoring frameworks”.

## 5. Discussion

This study was principally involved in developing an integrated consensus-based NIF for monitoring health status. In this regard, we moved toward SDGs realisation as it is becoming an acceptable trend in different levels in the world to take an adaptive approach to SDGs. [See European Union (EC, 2018), Organisation for Economic Co-operation and Development (OECD) countries (OECD, 2019), as well as WHO Regional Office for the Eastern Mediterranean (EMRO) (WHO-EMRO, 2018; WHO, 2018), which have their adaptive health indicator frameworks]. Moreover, some countries like Canada have defined their first nations and Inuit health and wellness indicators (CanadaGov., 2017).

This framework is assumed to detect problems and thus identify areas that would profit from being addressed through good governance and evidence-informed responses.

The effort made in developing the set of indicators proposed in the present study showed that even though health has a substantial and decisive role in sustainable national development (Acharya et al., 2018; Buch et al., 2002),

monitoring its status is associated with significant limitations and challenges in Iran (WHO, 2018). Here we discuss some of the most prominent ones.

The breadth of the concept of health, especially with the introduction of the new paradigm of “health in all policies” (Puska, 2007), makes the health sector’s responsibilities heavier. These responsibilities include the continual redefinition of institutional boundaries, regulating relations with other institutions involved in the health sector, and the development of structural and cultural governance mechanisms. The dispersion of responsibility for the indicators included in the proposed framework among non-health organisations is indicative of this issue. Access to information on these indicators, such as “population using safely-managed drinking water services” and “air pollution level in cities”, requires close cooperation between the MOHME and the institutions producing these indicators. This interaction is especially true in the case of multidimensional indicators, the calculation of which requires the broader interplay of several governmental bodies. To perform this, it is necessary that information-gathering systems and monitoring of cross-sectoral cooperation have a proper and coherent infrastructure. One effective measure in this direction is to strengthen the position of the Secretariat of the SCHFS as the authority for multisectoral policy making in the field of health. This unit will act as the custodian to follow and monitor the proposed indicators with all stakeholder organisations and executive bodies’ maximum participation. This fact is especially significant in the case of indicators that do not have a single custodian inside or outside the MOHME.

The current data gathering system in the health sector, especially on indicators related to the population’s health, is not robust and reliable, so in some cases, we have to perform costly surveys to provide the information we need. This issue is essential because there is yet no robust data as a baseline for some of our national health indicators in Iran. So, it is not easy to strictly judge the trend changing of some indicators (Attaran, 2005). However, considering the country’s health care network’s potential capacities, a significant part of the information needed to calculate the proposed indicators such as “immunisation coverage rate” “birth and death registration” can be extracted from routine data. The recent paradigm shift to orthodox medicine has weakened the health network and the lack of funding and manpower required. As a result, the performance of this system has deteriorated in some cases.

Therefore, except for the indicators that still require periodic surveys, for data needed to assess the health system’s health and functions, it is better to strengthen the existing data gathering system and/ or design a stable and reliable system for unsystematic data. Another challenge is the multiplicity of data gathering systems and custodians on some of the proposed indicators. “Domestic violence” and “violence against children” are examples that question the reliability of information for judgment in practice. Addressing this challenge also requires integrating data gathering systems and, if possible, the appointment of a single custodian for such indicators.

Extraction of some indicators is associated with difficulties due to the social stigma. This problem exists in many countries (Schomerus et al., 2011), such as “tobacco use among persons aged 15+ years” (Stuber, Galea, & Link, 2008) and “total alcohol per capita consumption (age 15+ years)” (Lankarani & Afshari, 2014) and “sexually transmitted infection incidence” (Newton & McCabe, 2005). Therefore, a way must be found to calculate such indicators. For example, in the field of this study, Iran, it is not possible to calculate the indicator of “women or girls subjected to violence by intimate or non-intimate partner” due to cultural and social considerations. Instead, the study team replaced it with a “domestic violence” indicator by reaching a consensus with consultants. Although this indicator may not show all partner violence cases, it will reflect this indicator.

Some indicators, including “Proportion of children under five years of age who are developmentally on track in health, learning and psychosocial well-being, coverage of essential health services”, “services-specific availability and readiness” and “reporting progress in multi-stakeholder development effectiveness monitoring frameworks” are among novel complex indicators (WHO, 2018). These do not have specific data sources in the health sector, requiring an effective data gathering and aggregating system.

Another noteworthy point is the considerable weight of the indicators related to the Deputy of Public Health's (DPH) specialised area in the proposed framework. However, the policies adopted in recent decades indicate the health system's orientation towards treatment-centeredness and the apparent dominance of medical interventions instead of promoting the prevention and public health interventions (Doshmangir, Moshiri, Mostafavi, Sakha, & Assan, 2019; Mousavi & Sadeghifar, 2016). The consequences have been proven in the form of weakness of the management and expertise of this field. While reemphasising the importance and role of this specialised area in providing and protecting society's health, the proposed framework strengthens the information infrastructure and redefines its functions in the new culture of governance for health. At the same time, the pandemic of the Covid-19 in the course of developing this framework showed that the emergence of non-communicable diseases in recent decades and significant progress of countries, especially in Iran, in the fight against these diseases and risk factors

attributed to them should not lead to neglect of structures and mechanisms for coping with and managing communicable diseases and widespread epidemics (Huttner, Catho, Pano-Pardo, Pulcini, & Schouten, 2020). In particular, Iran has lost a significant portion of its organisational capacity to deal strategically with such diseases following the health system's weakening (Yektadoost et al., 2018). Therefore, adding indicators to the proposed framework (related to managing such diseases) associated with the needs can increase this framework's effectiveness.

In addition to the limitations and challenges, selecting some of the proposed framework indicators from the study's selected frameworks as complementary indicators provides the possibility of assessing the health status from those frameworks' perspective and provides a comprehensive platform for multiple responses to national and international regulatory authorities including WHO. However, this proposed framework does not contradict the specific indicators of the health system's technical deputies. Each deputy will report its indicators. However, the responsibility for compiling and analysing the NIF's indicators will be borne by a reference that deals with policy making at the supra-deputy level like SCHFS.

### *5.1 Lessons Learned*

Although this study was conducted for Iran, we believe that there are lessons about the outcome or method of doing this study that could be instructive for other similar countries and beyond, especially for countries that have not yet developed their framework at the regional or beyond to practice the same experience and then share their knowledge and values.

#### *5.1.1 The Need for a Multi-dimensional Perspective of Sustainable Development*

Sustainable development is a synchronous idea that will affect many aspects of health policies (Bohlooli, 2011). We are in the age of transitioning from a one-dimensional view to a multi-dimensional perspective to address all human needs based on sustainable development. Countries and communities need to use comprehensive and reliable indicators to evaluate policies and measure development sustainability.

#### *5.1.2 The Need for Reducing the Burden of Indicators by Moving Toward Integration*

Over the past few decades, introduced indicators in different frameworks have put much burden on the system due to the focus on recording more technical details and a one-dimensional look. These micro-indicators cannot provide a holistic picture of the development view. On the other hand, development indicators alone cannot go into detail. Countries need an interconnected set of meaningful indicators structures that, while creating a logical link between macro-development and micro-technical data, impose fewer burdens on the country's development management system.

#### *5.1.3 The Importance of Cooperation and Consultation in the Development of the NIF*

Multisectoral cooperation and active participation of experts and managers from different development fields to create a framework of national indicators to evaluate policies and achievements are necessary. This partnership allows participants to transfer the knowledge and experience of different technical and geographical sectors and effectively help in the logical development of indicators, accept the final result, and not block or ignore it in data collection.

#### *5.1.4 The Importance of Considering Politico-economic Constraints and Socio-cultural Determinants*

Each country and region can have its own set of cultural values, socio-political determinants, and economic constraints that must be considered while designing or communicating indicators. Sometimes it is necessary to replace some indicators with other suitable less-sensitive indicators.

#### *5.1.5 Developing a National Health Platform for Constant Monitoring of Health Situations Can Help to Reduce Health Inequalities.*

As countries try to improve the health situation and its determinants in the SDGs era, national health monitoring will be prioritised. Developing an indicator framework at the national level is the first step towards closing the health inequalities gap embedded well in the SDGs framework's heart (UNICEF, 2018).

## **6. Conclusion**

The sustainable development approach makes it possible to bring all parts of the country's development together in a joint development path. In this regard, having a localised framework of indicators as the backbone of progress towards achieving SDGs from a health perspective is a fundamental necessity but not sufficient. The health system and the MOHME need a paradigmatic policy shift to adapt to sustainable development in the country. In doing so, it needs to continually redefine its communication borders with all the other sectors affecting communities' health



and expand its influence over their behaviours in the interest of community health. This NIF adapts to sustainable development in the country and will notify policies and programmes to improve the health system and population health status. It also will form the basis for governance for health by addressing the potential role of each sector and their behaviours' impact on health outcomes, and MOHME as the central coordinator. To put this shifting in effect, legitimising the framework by passing it through a multisectoral policy venue like SCHFS will be the conventional path. However, some indicators may be removed or added to the proposed list in the approved version of the framework. Continuous participatory updating of the framework following the laws of the country and the population's needs changes, especially in the face of widespread socio-economic consequences of the pandemic, is another essential requirement in this direction.

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## Notes

Note 1. By health, we mean indicators that explicitly reference reductions in morbidity, mortality, or burden of disease.

Note 2. By health-related, we mean indicators that make explicit reference to improving the coverage of health services and reducing harmful physical exposures related to water, pollution, chemicals, violence, and climate change, to health status (e.g. malnutrition) and health and health service events (e.g. coverage, births).

Note 3. The proposed NIF in this article includes only the core macro-indicators at the national level. Therefore, excluding micro-indicators such as malaria, syphilis, tropical diseases, and those related to technical departments does not mean that they are not reported at the provincial or national level if necessary. Hence all such indicators will be reported like before.

## Appendix A

### Abbreviations

SDGs: Sustainable Development Goals

NIF: National Indicator Framework

CHIs: Core Health Indicators

AoSDHCIs: Action on SDH Core Indicators

INHEIs: Iranian National Health Equity Indicators

BMGI: Bound Master Goals' Indicators

MOHME: Ministry of Health and Medical Education

WHO: World Health Organisation

SCHFS: Supreme Council for Health and Food Security

## Appendix B

### General Characteristics of proposed indicators for national level

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.1.4.3	Health worker density and distribution	MOHME	MOHME-DMDRP	Health worker registry	Annual
Ir.2.4.4	Birth registration	SCI	SCI	Civil registration, vital statistics systems	Annual
Ir.3.4.4	Death registration	SCI	SCI	Civil registration, vital statistics systems	Annual
Ir.4.4.5	Total net official development assistance (ODA) to medical research and basic health sectors	MOHME	MOHME-DRT	Administrative reporting systems	Annual
Ir.5.4.8	Multi-stakeholder development effective monitoring frameworks	MOHME	MOHME	Administrative reporting systems	Annual
Ir.6.4.2	Health facility density and distribution	MOHME	MOHME-DMDRP	Routine facility information system	Annual



Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.7.4.2	Hospital bed density	MOHME	MOHME- DT	Routine facility information system	Annual or Biannual
Ir.8.4.3	Output training institutions	MOHME	MOHME- DE	Administrative reporting systems	Annual
Ir.9.4.4	Completeness of reporting by facilities	MOHME	MOHME- DMDRP	Routine facility information systems	annual
Ir.10.4.5	Total current expenditure on health as % of gross domestic product (THE)	SCI	SCI	Administrative reporting systems	Annual
Ir.11.4.5	Public domestic sources of current spending on health as % of current health expenditure (CHE)	SCI	SCI	Administrative reporting systems	Annual
Ir.12.4.7	Existence of national health sector policy/strategy/plan	MOHME	MOHME	Administrative reporting systems	Every 5 years
Ir.13.4.2	Access to a core set of relevant essential medicines	MOHME	MOHME- DFD	Surveys	Every 3–5 years
Ir.14.4.8	Research and development expenditure as a proportion of GDP	MOHME	MOHME- DMDRP	Administrative reporting systems	Annual
Ir.15.4.6	International Health Regulations (IHR) core capacity index	MOHME	MOHME- DPH- Center for Disease Control WHO	Administrative reporting systems- Internal and external evaluation	Annual
Ir.16.1.4	TB notification rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.17.3.4	HIV test results for TB patients	MOHME	MOHME - DPH	Routine data	Annual
Ir.18.4.1	Perioperative mortality rate	MOHME	MOHME - DT	Hospital routine data	Annual
Ir.19.4.1	Obstetric and gynecological admissions owing to abortion	MOHME	MOHME - DPH	Routine data	Annual
Ir.20.4.1	Institutional maternal mortality ratio	MOHME	MOHME - DPH	Routine data	Annual
Ir.21.4.1	Maternal death reviews	MOHME	MOHME - DPH	Routine data	Annual
Ir.22.4.1	Antiretroviral therapy (ART) retention rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.23.4.1	TB treatment success rate	MOHME	MOHME - DPH	Electronic TB registers	Annual
Ir.24.4.1	Service-specific availability and readiness	MOHME	MOHME- DPH	Health facility assessments	Annual or Biannual
Ir.25.4.1	Outpatient service utilisation	MOHME	MOHME- DT	Routine facility information systems Survey*	Annual Every 3–5 years
Ir.26.2.1	Prevalence of overweight among children under 5 years of age	MOHME	MOHME - DPH	Routine data, Survey*	Annual Every 1–5 years

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.27.2.4	Total alcohol per capita consumption (age 15+ years)	MOHME	MOHME - DPH	Surveys	Every 3–5 year
Ir.28.2.5	Domestic violence	Forensic medicine MCLS [Welfare organisation]	Police force MCLS [Welfare organisation]	Population-based surveys	Every 3–5 year
Ir.29.2.5	Sexual violence against children	Forensic medicine, Police force MCLS [Welfare organisation]	Forensic medicine, Police force, MCLS [Welfare organisation]	Surveys	Every 3–5 year
Ir.30.3.1	Births attended by skilled health personnel	MOHME	MOHME - DPH	Routine data	Annual
Ir.31.3.2	Immunization coverage rate by vaccine for each vaccine in the national schedule	MOHME	MOHME - DPH	Routine data	Annual
Ir.32.3.6	Cervical cancer screening	MOHME	MOHME - DPH	Surveys	Every 3–5 years
Ir.33.3.8	Coverage of essential health services	MOHME	MOHME - DPH	Surveys	Every 3–5 years
Ir.34.2.1	Prevalence of stunting among children under 5 years of age	MOHME	MOHME - DPH	Routine Data, Survey*	Annual Every 1–5 years
Ir.35.2.1	Prevalence of wasting among children under 5 years of age	MOHME	MOHME - DPH	Routine Data, Survey*	Annual Every 1–5 years
Ir.36.2.4	Tobacco use among persons aged 15+ years	MOHME	MOHME - DPH	Surveys	Every 3–5 year
Ir.37.2.4	Raised blood pressure among adults	MOHME	MOHME - DPH	Surveys	Every 3–5 year
Ir.38.2.4	Raised blood glucose/diabetes among adults	MOHME	MOHME - DPH	Surveys	Every 3–5 year
Ir.39.2.5	Frequency rates of occupational injuries	MCLS	MCLS	Routine data Administrative records	Annual
Ir.40.2.3	Population with primary reliance on clean fuels and technologies	MOP SCI	MOP SCI	Household surveys	Every 3–5 year
Ir.41.3.1	Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being (ECD)	MOHME	MOHME - DPH	Surveys	Every 3–5 year

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.42.3.1	Antenatal care coverage	MOHME	MOHME- DPH	Survey, Routine Data*	Every 3-5 year Annual
Ir.43.3.1	Postpartum care coverage- women	MOHME	MOHME- DPH	Survey, Routine Data*	Every 3-5 year Annual
Ir.44.3.1	Postnatal care coverage- newborn	MOHME	MOHME- DPH	Survey, Routine Data*	Every 3-5 year Annual
Ir.45.3.1	Care-seeking for symptoms of pneumonia	MOHME	MOHME- DPH	Surveys	Every 3-5 year Annual
Ir.46.3.1	Coverage of diarrhea treatment	MOHME	MOHME- DPH	Routine Data, Survey*	Every 1-5 years Annual
Ir.47.3.1	Vitamin A supplementation coverage	MOHME	MOHME- DPH	Surveys	Every 3-5 years Annual
Ir.48.2.3	Population using safely managed drinking-water services	ME [IWRMC]	ME [IWRMC]	Routine data	Annual
Ir.49.2.3	Population using safely managed sanitation services	ME [NWVEC]	ME [NWVEC]	Linear regression	Every 2-5 years Annual
Ir.50.2.1	Early initiation of breastfeeding (EIBF)	MOHME	MOHME - DT	Surveys	Annual
Ir.51.2.1	Anemia prevalence in children	MOHME	MOHME - DPH	Routine Data, Survey*	Every 1-5 years Annual
Ir.52.2.1	Anemia prevalence in women of reproductive age (WRA)	MOHME	MOHME - DPH	Routine Data, Survey*	Every 1-5 years Annual
Ir.53.2.2	Prevention of HIV in key populations	MOHME	MOHME - DPH	Surveys	Every 2-5 years Annual
Ir.54.2.4	Salt intake	MOHME	MOHME - DPH	Surveys	Every 3-5 year Annual
Ir.55.3.3	People living with HIV who know their status	MOHME	MOHME - DPH	Routine Data, Survey*	Every 1-5 years Annual
Ir.56.3.3	Prevention of mother-to-child transmission	MOHME	MOHME - DPH	Routine data	Annual
Ir.57.3.3	ART coverage	MOHME	MOHME - DPH	Routine data	Annual
Ir.58.3.3	HIV viral load suppression	MOHME	MOHME - DPH	Routine data	Annual

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.59.3.4	Coverage of treatment for latent TB infection (LTBI)	MOHME	MOHME - DPH	Routine data	Annual
Ir.60.3.4	HIV-positive new and relapse TB patients on ART during TB treatment	MOHME	MOHME - DPH	Routine data	Annual
Ir.61.3.5	Drug susceptibility testing coverage for TB patients	MOHME	MOHME - DPH	Routine data	Annual
Ir.62.3.5	TB treatment coverage	MOHME	MOHME - DPH	Routine data	Annual
Ir.63.3.5	Treatment coverage for drug-resistant TB	MOHME	MOHME - DPH	Routine data	Annual
Ir.64.3.7	Services for severe mental health disorders	MOHME	MOHME - DPH	Population-based surveys, Routine facility information systems*	Every 3–5 years Annual
Ir.65.2.1	Exclusive breastfeeding rate 0–5 months of age	MOHME	MOHME - DPH	Surveys	Every 1–5 years
Ir.66.2.1	Incidence of low birth weight (LBW) among newborns	MOHME	MOHME - DPH	Routine data	Annual
Ir.67.2.3	Air pollution level in cities	MI [Municipality]	MI [Municipality]	Routine data, Data integration from satellite remote sensing, Population estimates, Topography and ground measurements	Annual
Ir.68.2.4	Overweight and obesity in adults	MOHME	MOHME - DPH	Surveys	Every 3–5 year
Ir.69.2.4	Insufficient physical activity (PA) in adults	MYS	MOHME - DPH	Population-based surveys	Every 3–5 year
Ir.70.1.2	Mortality from unintentional poisoning	MOHME	MOHME - DPH	Routine data, Population census	Annual
Ir.71.1.2	Number of deaths, missing persons and persons affected by disaster per 100 000 people	MOHME	MOHME - DPH	Routine data	Annual
Ir.72.1.2	Mortality rate due to homicide	Forensic medicine	MOHME- Mental health dept.	Routine data	Annual
Ir.73.1.4	HIV incidence rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.74.1.4	Hepatitis B incidence	MOHME	MOHME - DPH	Routine data	Annual
Ir.75.1.1	Under-five mortality rate	MOHME	MOHME - DPH	Routine data, Civil registration	Annual
Ir.76.1.1	Neonatal mortality rate	MOHME	MOHME - DPH	Routine data, Civil registration	Annual
Ir.77.1.2	Maternal mortality ratio	MOHME	MOHME - DPH	Routine data	Annual

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.78.1.2	Premature non-communicable disease (NCD) mortality	MOHME	MOHME - DPH	Routine data	Annual
Ir.79.1.2	Suicide rate	Forensic medicine	MOHME - DPH	Routine data	Annual
Ir.80.1.2	Mortality rate from road traffic injuries (RTIs)	Forensic medicine	MOHME - DPH	Routine data	Annual
Ir.81.1.2	Conflict-related deaths per 100000 population	Forensic medicine	MOHME - DPH Forensic medicine	Routine data	Annual
Ir.82.1.3	Adolescent fertility rate	SCI	MOHME - DPH	Routine data	Annual
Ir.83.1.4	TB incidence rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.84.4.5	Proportion of the population with large household expenditure on health as a share of total household consumption or income (catastrophic health expenditures)	SCI	SCI	Surveys	Every 1–5 years
Ir.85.4.5	Proportion of the population with impoverishing health expenditure	SCI	SCI	Surveys	Every 1–5 years
Ir.86.1.1	Adolescent mortality rate	SCI	MOHME - DPH	Routine data	Annual
Ir.87.1.1	Stillbirth rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.88.1.2	TB mortality rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.89.1.2	AIDS-related mortality rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.90.1.4	New cases of vaccine-preventable diseases	MOHME	MOHME - DPH	Routine data	Annual
Ir.91.1.4	New cases of IHR-notifiable diseases and other notifiable diseases	MOHME	MOHME - DPH	Routine data	Annual
Ir.92.1.4	Hepatitis B surface antigen prevalence	MOHME	MOHME - DPH	Routine data	Annual
Ir.93.1.4	Sexually transmitted infections (STIs) incidence rate	MOHME	MOHME - DPH	Surveillance Surveys*	Annual Every 3–5 years
Ir.94.1.4	TB prevalence rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.95.4.5	Out of Pocket (OOP) rate	SCI	SCI	Routine data, Household survey*	Annual Annual
Ir.96.1.1	Life expectancy at birth	SCI	MOHME - DPH	Routine data, Population census*	Annual Annual
Ir.97.1.1	Adult mortality rate between 15 and 60 years of age	SCI	MOHME - DPH	Routine data, Population census*	Annual Annual
Ir.98.1.1	Infant mortality rate	MOHME	MOHME - DPH	Routine data, Civil registration	Annual

Indicator Code	National Indicator	Custodian	Gathering/ Aggregating Reference	Method for Data Collection/ Iran	Period of Reporting
Ir.99.1.3	Total fertility rate	SCI	MOHME - DPH	Routine data	Annual
Ir.100.1.4	HIV prevalence rate	MOHME	MOHME - DPH	Routine data	Annual
Ir.101.1.4	Cancer incidence, by type of cancer	MOHME	MOHME - DPH	Routine data	Annual

Note: \* indicates complementary/ alternative methods for data collection in case the needed data from the main method are not available.

MOHME: Ministry of Health and Medical Education, DPH: Deputy of Public Health, DT: Deputy of Treatment, DMDRP: Deputy of Management Development, Resources and Planning, DRT: Deputy of Research and Technology, DFD: Deputy of Food and Drug, DE: Deputy of Education, SCI: Statistical Centre of Iran, MYS: Ministry of Youth Affairs and Sport, MCLS: Ministry of Cooperatives, Labour, and Social Welfare, MI: Ministry of Interior, ME: Ministry of Energy, IWRMC: Iran Water Resources Management Company, NWWEC: National Water and Waste water Engineering Company, MOP: Ministry of Petroleum.

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