

National Health Performance Framework 2018



Management, Development & Planning Unit
Ministry of Health, Nutrition & Indigenous Medicine, Sri Lanka



National Health Performance Framework



Ministry of Health, Nutrition and Indigenous Medicine
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2018

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Message from the Hon. Minister of Health, Nutrition and Indigenous Medicine

I take pride in sending this message at the launch of the National Health Performance Framework for Sri Lanka. Monitoring and evaluation of health performance is essential in providing efficient and satisfactory health services for the citizens of the country.

As the Government of Sri Lanka is the main provider and financier of health services in Sri Lanka, this approach to measure outcomes and impacts of health interventions is important. It helps to ensure that people receive the real benefits from the investments in health which is in line with the government policy on good governance to establish transparency and accountability in the discharge of services to the people.

Sri Lanka has gained tremendous improvements in the delivery of public health services due to the commitment of successive governments to uphold the health status of the population. This framework provides a country specific set of indicators to monitor and evaluate the health system performance in Sri Lanka. The approach related to equity analysis is helpful in measuring and planning for equitable distribution of healthcare services for the people.

I would like to thank all the policy makers, clinicians and other partners who have come together in providing valuable inputs to the development of this landmark Framework which will contribute immensely to the betterment of the health system in Sri Lanka. I wish this endeavor every success.

Hon. Dr. Rajitha Senarathne

Minister of Health, Nutrition and Indigenous Medicine



Message from the Secretary to the Ministry of Health, Nutrition and Indigenous Medicine

A key determinant of Sri Lanka's achievements in health is the government's commitment to invest in healthcare. Successive governments over the years have striven to uphold the health status of people by ensuring equal access to quality healthcare delivered through a publicly financed health system. With the emergence of new challenges to the health of people such as the rising epidemic of non-communicable diseases and the aging of the population coupled with continuing threats from communicable diseases, it has become crucial to maximize the gains on investment. To this end, monitoring of performance has become indispensable.

I congratulate the Management, Development and Planning Unit for taking the initiative to fill the long-felt need for a performance monitoring framework for the health system. It is my fervent hope that this endeavor would yield the much-needed critical information to assess performance of different units and institutions under the purview of the ministry of health. I hope that this National Performance Framework will serve as a useful tool to evaluate our work and will indicate the areas for further improvement to better orient health service delivery in the future.

Janaka Sugathadasa
Secretary
Ministry of Health, Nutrition and Indigenous Medicine



Message from the Director General of Health Services

It is with much pleasure that I write this message for this publication of the National Health Performance Framework. This publication is most timely, considering the growing need to ensure sustainability and equity in achieving universal health coverage in the post 2015 agenda for sustainable development.

Sri Lanka has been appreciated globally as a model for good health at a low cost. This is attributable to successive governments' commitment to provide health services free at the point of delivery through a vast network of healthcare institutions, both preventive and curative, that span the island, and a diverse team of dedicated and capable health staff. To better these achievements, the health system must overcome numerous challenges, working with other stakeholders to ensure efficient, effective and equitable use of the available resources.

Public health programmes are rigorously monitored through a strong surveillance system that relies on data collected regularly from the grassroot level and programme specific indicators that measure the outcomes of individual programmes and units. Indicators that measure system-wide performance are not as regularly monitored. This requires expansion of the performance measurement of curative services as well as to provide a broader overview of the national health system. Certain indicators may be difficult to measure, and require inputs from a range of sources, both inter and intra sectoral. The Ministry is committed to developing the necessary health information systems to support measurement of health performance in future.

The National Health Accounts, 2013 reported that preventive health services accounted for just 4.5% of the current health expenditure for that year, and 91% was spent on fulfilling the curative healthcare needs of Sri Lankans. Thus, it is important to measure performance of the curative sector at the national level as well. This much-felt need has long been expressed by both health planners as well as those working in the curative sector.

The National Health Performance Framework is the result of the concerted effort of a team comprising of experts from a range of disciplines, representing both preventive and curative sectors, and health planners. I take this opportunity to appreciate their invaluable contribution. This must be a dynamic document, reviewed in a timely manner to adapt to future changes and requirements in the health system as well as in demography, epidemiology and technology.

Dr. Anil Jasinghe

Director General of Health Services



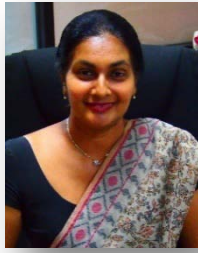
Message from the Deputy Director General (Planning)

I take much pride in sending this message on the launch of the first National Performance Framework document for Sri Lanka. The Management, Development and Planning Unit is dedicated to fostering results based monitoring to achieve and sustain the optimal health status of the people. In this direction, the implementation of the National Health Performance Framework is vital for obtaining an overall perspective of the achievement of key health sector targets.

The highlight of this Framework is the inclusion of indicators for monitoring the performance of both preventive and curative sectors. Up to date, the performance of the preventive health services has been carried out by the respective Public Health Units and the performance in the curative sector has largely been overlooked. This Framework aims to fill that gap whilst providing a scoping review of the performance of the health sector in general at the National level.

I acknowledge with gratitude the contribution of the multi-disciplinary panel of experts in selecting and refining the indicators included in this document. I sincerely congratulate Dr Susie Perera and the team of the Organization Development Unit of the Management, Development and Planning Unit for their commitment towards making this venture a success.

Dr S.Sridharan
Deputy Director General (Planning)



Message from the Director/Organization Development

Monitoring and evaluation is a core function in governance for health, pointing directions in health sector development. Sri Lanka has had a good track record for implementing comprehensive monitoring for the public health programs that were considered important such as maternal care, child health care, communicable diseases that were vaccine preventable, control of malaria, tuberculosis, leprosy, filariasis, rabies etc. Today due to monitoring systems being in place we have been able to understand realistically the current situation where interventions can be targeted.

Many public health programs that also include curative patient care through hospital services and multi sector responses that are considered as important requisites for health system performance had not been addressed adequately in health system performance monitoring. This document is an initial effort to incorporate a wider list of health system performance indicators which are currently not available. The development of this performance framework preceded the developments for sustainable development goals, but has incorporated selected indices that would be important for sustainable development. Several experts contributed to the process and finalization of the document. No doubt this should be considered a dynamic process and following suit of countries with well-developed health systems and health performance mechanisms, Sri Lanka too will need to improve this list of indicators in coming years. A start is required and this document should serve useful as an initial guide and also be an impetus for organization change in the Health Ministry planning functions to strengthen capacities and set up a functioning body for continuous monitoring and evaluation.

A considerable effort was taken by the Organization Development unit, all directorates within the Ministry and several experts who have been consistently following up on this effort. Whilst appreciating their effort it is time to put this performance development framework to action.

Dr. H.S.R. Perera
Director/Organization Development

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| AEFI | Adverse Events Following Immunization |
| AFB | Anti-filariasis Campaign |
| AHB | Annual Health Bulletin |
| AIDS | Acquired Immunodeficiency Syndrome |
| ALC | Anti-leprosy Campaign |
| BH | Base Hospital |
| CHE | Current Health Expenditure |
| CKD | Chronic Kidney Disease |
| CRS | Congenital Rubella Syndrome |
| CVA | Cerebrovascular Accident |
| DALY | Disability Adjusted Life Years |
| DCS | Department of Census & Statistics |
| DGH | District General Hospital |
| DHS | Demographic & Health Survey |
| eIMMR | electronic Indoor Morbidity & Mortality Return |
| EPI | Expanded Programme for Immunisation |
| FHB | Family Health Bureau, Ministry of Health |
| FSW | Female Sex Worker |
| GoSL | Government of Sri Lanka |
| Hb | Haemoglobin |
| HIV | Human Immunodeficiency Virus |
| HQS | Healthcare Quality and Safety |
| HRH | Human Resources for Health |
| ICD | International Classification of Diseases |

| | |
|--------|--|
| IDU | Injecting Drug Users |
| IHR | International Health Regulations |
| IMR | Infant Mortality Rate |
| IMMR | Indoor Morbidity & Mortality Return |
| IPF | Individual Patient Form |
| OECD | Organization for Economic Co-operation and Development |
| OOP | Out-of-pocket |
| OPV | Oral Polio Vaccine |
| LTC | Long term care |
| MARP | Maximum at risk population |
| MCH | Maternal and child health |
| MDG | Millennium Development Goals |
| MDPU | Management, Development and Planning Unit |
| MDR TB | Multi Drug Resistant Tuberculosis |
| Mf | Microfilaria |
| MMR | Maternal Mortality Ratio |
| MOH | Medical Officer of Health |
| MoH | Ministry of Health |
| MRSA | Methicillin Resistant Staphylococcus aureus |
| MSD | Medical Supplies Division |
| MSM | Men having sex with men |
| MSU | Medical Statistics Unit |
| M, T&S | Medical Technologies & Supplies |
| NCCP | National Cancer Control Programme |
| NCD | Non-communicable diseases |

| | |
|--------|---|
| NPTCCD | National Programme for Tuberculosis & Control of Chest Diseases |
| NSACP | National STD/AIDS Control Program |
| OECD | Organization for Economic Cooperation and Development |
| OOPE | Out of pocket expenditure |
| OPD | Outpatient department |
| PGH | Provincial General Hospital |
| PHI | Public Health Inspector |
| PHM | Public Health Midwife |
| PHVS | Public Health Veterinary Services |
| PMCU | Primary Medical Care Unit |
| QMU | Quality Management Unit |
| RGD | Registrar General's Department |
| RTA | Road Traffic Accident |
| SDG | Sustainable Development Goals |
| SEAR | South-East Asia Region |
| SMI | School Medical Inspection |
| STEPS | STEPwise approach to Surveillance |
| TB | Tuberculosis |
| TH | Teaching Hospital |
| UHC | Universal Health Coverage |
| WHO | World Health Organization |
| WRCD | Weekly Return on Communicable Diseases |
| XDR TB | Extremely Drug Resistant Tuberculosis |
| YLD | Years Lost due to Disability |
| YLL | Years of Life Lost |

BACKGROUND

Measurement of health performance seeks to understand the extent to which the health system achieves its overall goals of improved health status, financial risk protection and responsiveness to people's expectations, and the factors that contribute to it. The development of the National Health Performance Framework commenced in late 2013, in response to a much-felt need to measure health system performance at a national level and to facilitate achievement of national health policy objectives.

The National Strategic Framework for development of health services 2016 – 2025 attempts to facilitate equity through ease of access to health services, improve productivity and ensure that resources allocated to health will contribute to the vision of the Ministry of Health: 'A healthier Nation that contributes to its economic, social, mental and spiritual development'.

Central to National Strategic Framework implementation is the need for the establishment of a functional monitoring system to supervise and evaluate the performance of health services. A requirement for this would be the availability of more and better data by way of a well-designed Management Information System, linking institutional data to community, clinical and epidemiological information. Health is influenced by other determinants, and thus consideration of social determinants of health is necessary, more so in the context of the post 2015 agenda: the Sustainable Development Goals based on principles of Universal Health Coverage(UHC).

The National Health Performance Framework was developed giving due consideration to the above. This process was coordinated by the Organization Development Unit of the Management Development and Planning Unit of the Ministry of Health, Nutrition and Indigenous Medicine of Sri Lanka.

PURPOSE OF THE NATIONAL HEALTH PERFORMANCE FRAMEWORK

The key purpose of the National Health Performance Framework (NHPF) is *to measure health system performance*.

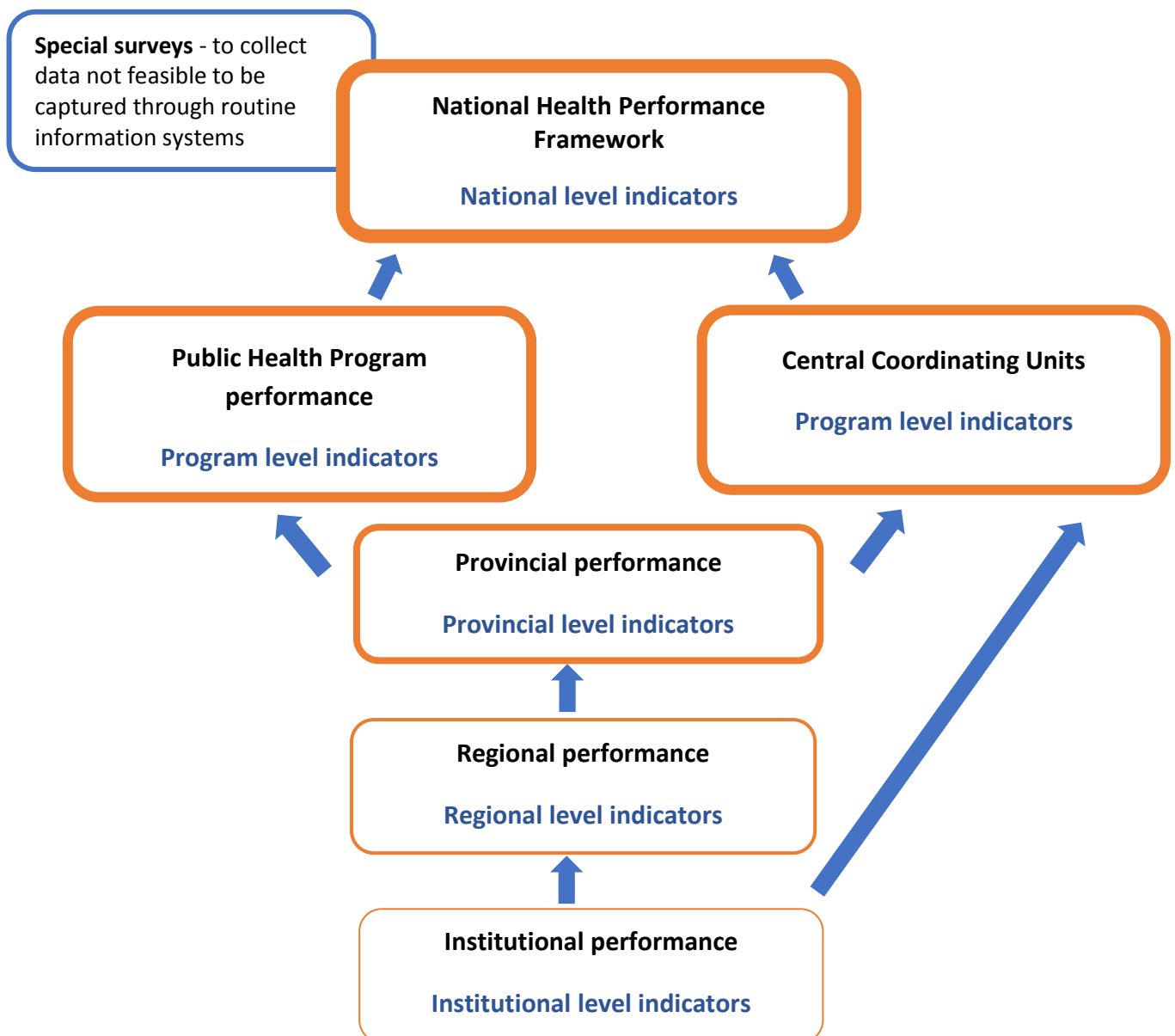
In addition to indicators that specifically measure health sector performance, the framework recognizes the importance of social determinants of health through selected indicators. Coherence with the Sustainable Development Goals was considered to facilitate international reporting on the SDGs.

In relation to health sector performance, the NHPF will act as a tool to facilitate the achievement of strategic objectives of the health sector by stimulating and guiding improvements in health service delivery. It will allow policy makers a broad analysis of national trends of performance which could be used to ascertain the effectiveness of

existing policies and guide development of necessary policy changes. Indicators chosen are nationally consistent and locally relevant, taking into consideration their utility, sensitivity and specificity. Detailed reporting would allow comparison of performance of different organizations and communities within the health system, identification of gaps for required actions and guide development of programmes.

A wide array of programme specific indicators is frequently used to monitor the outcomes of individual programmes and units. Indicators that measure system wide performance are not as commonly analyzed. Performance is often hard to measure, and often dependent on contribution from other sectors. Much can be gathered from existing information, and gaps should be filled by strengthening the information system to provide more and better data.

Figure 1: Schematic diagram on the information flow to support the National Health Performance Framework



THE PROCESS TO IDENTIFY THE NATIONAL HEALTH PERFORMANCE FRAMEWORK

A preliminary series of technical discussions commenced in November 2013, with inputs from over a hundred professionals from the national programmes, professional colleges as well as development partners. The objective of these discussions was to identify suitable national level indicators for regular review of health sector performance by the Ministry of Health.

These early workshops were grouped into the following categories:

- Public Health – including
 - Epidemiology Unit
 - Family Health Bureau
 - Health Education Bureau
 - Anti-Malaria Campaign
 - Anti-Filariasis Campaign
 - Anti-Leprosy Campaign
 - National Cancer Control Programme,
 - Dengue Control Programme,
 - National Programme for Tuberculosis Control & Chest Diseases
 - National STD/AIDS Control Programme
 - Public Health Veterinary Services
 - Nutrition Coordination Unit
 - Mental Health Unit
 - Youth Elderly & Disabled persons unit
 - Environmental & Occupational Health
 - Estate & Urban Health unit
 - Non-communicable Disease Unit
 - Primary Care Services unit
- Clinical effectiveness/outcomes of health services
- Quality and patient safety
- Medical support services and other supplies
- Dental services
- Human Resources for Health

A master list of all indicators suggested was prepared and analyzed in subsequent meetings. A core group reached consensus on the key areas for the National Health Performance Framework, and appropriate indicators were selected and refined accordingly. It was decided to initially prioritize the selected indicators based on feasibility of data collection.

This document gives a description of the selected indicators with the indicator definitions, rationale for selection, interpretations and data collection methods

THE NATIONAL HEALTH PERFORMANCE FRAMEWORK

The primary focus of the Framework is to **measure health system performance**.

The health system has three main goals as shown below:

1. To improve health status
2. To improve responsiveness
3. To improve financial risk protection

The health performance framework will seek to capture these goals through assessing three key parameters of the health system: effectiveness, efficiency and equity.

THE FRAMEWORK

The Performance Framework identifies the three domains of

- Effectiveness
- Efficiency
- Equity

The indicators are further classified as

1. Health service structure / process related indicators
2. Outcome indicators
3. Impact indicators

Table 1: National Health Performance Framework

| | Process | Outcomes | Impact |
|----------------|---------------|--|---------------------------------|
| Domains | Effectiveness | Availability | Health status |
| | | Governance | Patient experience/satisfaction |
| | | Service quality | Financial risk protection |
| | Efficiency | | Hospital bed utilization |
| | | | Reducing wastage |
| | | | Reduction of waiting time |
| | | | Financial performance |
| | | | Staff skill mix |
| | Equity | Disaggregation of selected effectiveness indicators by dimensions of equity: Demographic characteristics (age, sex), geography, socioeconomic status (education, income) and other (vulnerable populations, migrants) | |

EFFECTIVENESS

Indicators under this domain aim to measure the effectiveness of the health services in

- Providing access to a full array of needed services that can accomplish our goals including continuity of care
- Achieving improved health status
- Responsiveness
- Risk protection (minimizing financial burden on people)

Measurement of national health performance with respect to **continuity of care** can be made through two types of indicators; utilization and availability indicators. These have been included in indicators such as availability of essential drugs at primary level institutions, percentage of hospitals with access to morphine for pain management and availability of long term care beds and utilization based on follow up care visits.

EFFICIENCY

Indicators in this domain aim to measure the efficiency of the health system.

- Allocative efficiency: Are resource allocated to interventions or services that address a significant health burden?
- Technical efficiency: Are we using optimum resource/ skill mix to deliver health care?

EQUITY

Indicators under equity seek to measure the extent of provision of equitable health care:

Have needs of vulnerable groups been adequately addressed?

- Have disparities related to dimensions of effectiveness and efficiency minimized across different groups of people, locations/ institutions
- How are social determinants affecting health distributed?

Note that this is a framework for national performance tracking. For any specific health program achievement, program specific results frameworks should be used to verify the reasons for achieving the results.

Sometimes the health care delivery institutions cannot be held entirely responsible for some indicators. The health system at large is significantly influenced by outside elements often referred to as the **social determinants of health**. Most indicators listed under outcome and impact are affected by these determinants. It is important that these performance indicators are shared with responsible sectoral agencies and are monitored through a participatory approach.

Performance indicators are further classified according to the subheadings identified in the above matrix.

Table 2: List of indicators according to the classification

| Domains | Process/structure | Outcomes | Impact |
|----------------------|---|---|---|
| Effectiveness | <p>Availability</p> <ol style="list-style-type: none"> 1. Health workforce 2. Availability of rehabilitation hospitals at district level 3. Availability of doctors at primary level hospitals 4. Hospitals with access to morphine for pain management for patients with cancer 5. Availability of essential drugs at primary level hospitals 6. Estate hospitals providing basic primary care services 7. Availability of long term care beds 8. Hospitals with disability access 9. Availability of services for people with substance use disorders | <p>Utilization/ Coverage</p> <ol style="list-style-type: none"> 1. OPD visits to primary level hospitals 2. Medical clinic attendance at primary level hospitals 3. Annual per capita medical clinic visits 4. Hypertension treatment coverage 5. Diabetes treatment coverage 6. Use of health services by persons with severe mental disorders 7. Immunization coverage (Penta3/OPV3) 8. Unmet need for family planning | <p>Health status</p> <ol style="list-style-type: none"> 1. Life expectancy at birth 2. Life expectancy at age 65 years 3. Maternal Mortality Ratio 4. Infant Mortality Rate 5. Neonatal Mortality Rate 6. Under Five Mortality Rate 7. Anaemia among pregnant mothers 8. Microfilaria rate 9. Wasting among children under 5 years of age 10. Stunting among children under 5 years of age 11. Low birth weight among newborns 12. Patients undergoing dialysis in the population 13. Mortality due to alcoholic liver disease 14. Mortality due to road traffic accidents 15. Mortality between 30 and 70 years of age from chronic NCDs 16. Total fertility rate 17. Adolescent fertility rate 18. Diabetes among pregnant mothers 19. Confirmed cases of Malaria in a year |

| | | | |
|--|--|--|---|
| | <p>Governance</p> <ul style="list-style-type: none"> 10. Hospitals conducting clinical audits 11. Hospitals conducting death reviews 12. Hospitals with functional Quality Management Units 13. Hospitals with adverse event reporting mechanism 14. Hospitals conducting customer satisfaction surveys 15. Yearly consumption of antiseptic hand rub products 16. Hospitals monitoring Healthcare Associated Infections 17. Percentage completion of factory inspections | <p>Risk factor reduction</p> <ul style="list-style-type: none"> 9. Overweight and obesity in persons aged 18 to 69 10. Tobacco use (including smoking, oral tobacco) among adolescents 11. Alcohol use among youth 12. Physical activity among school children 13. Salt intake among adults 14. Low consumption of fruits and vegetables among adults 15. Edentulousness among 65-74 age group 16. Dental caries among children aged 12 years | <ul style="list-style-type: none"> 20. Suicide mortality rate 21. Incidence of Dengue (DF/DHF) 22. Incidence of leptospirosis 23. Child cases of leprosy 24. HIV among most at risk population 25. Mother to child transmission of HIV 26. Incidence of congenital rubella syndrome 27. Incidence of human rabies 28. Preventable blindness in the population aged over 60 years 29. Incidence of common preventable cancers (oral, lung and cervical) 30. Amputations due to diabetic foot disease 31. Retinopathy in diabetic patients <p>Patient experience</p> <ul style="list-style-type: none"> 32. Institutions' responsiveness <p>Financial risk protection</p> <ul style="list-style-type: none"> 33. Out of pocket expenditure on health 34. Catastrophic health expenditure 35. Impoverishment due to ill health |
|--|--|--|---|

| | | | |
|--------------------------|---|--|--|
| | <p>Service Quality</p> <p>18. Hospital admissions due to asthma</p> <p>19. Case detection rate of tuberculosis</p> <p>20. IHR core capacity index</p> <p>21. Hospitals with less than 1% readmission rate</p> <p>22. Surgical site infection rate</p> <p>23. Hospital onset MRSA bacteraemia rate</p> <p>24. Serious AEFI Rate</p> <p>25. Caesarian Section rate</p> <p>26. Dengue case fatality rate</p> <p>27. Percentage of water samples tested from public water sources</p> | | |
| <p>Efficiency</p> | <ol style="list-style-type: none"> 1. Number of drug quality failures (events) reported during a quarter 2. Cost of discarded drugs 3. In- patient hospital utilization indicators 4. Utilization of annual financial allocation 5. Allocation of government current health expenditure for preventive care 6. Hospitals that provide specified laboratory services 7. Completion rate of preliminary investigations of complaints within one month of reporting | | |
| <p>Equity</p> | <p>Disaggregation of selected effectiveness indicators by dimensions of equity: geographical location, sector (urban/rural/estate), income groups, specific vulnerable groups and general community, gender as per relevance and requirement.</p> | | |

PERFORMANCE INDICATORS AND DATA AVAILABILITY

The performance indicators selected can be grouped in to 3 categories based on data availability.

Group 1: Data currently available through the routine system

Group 2: Data can be made available through small system changes

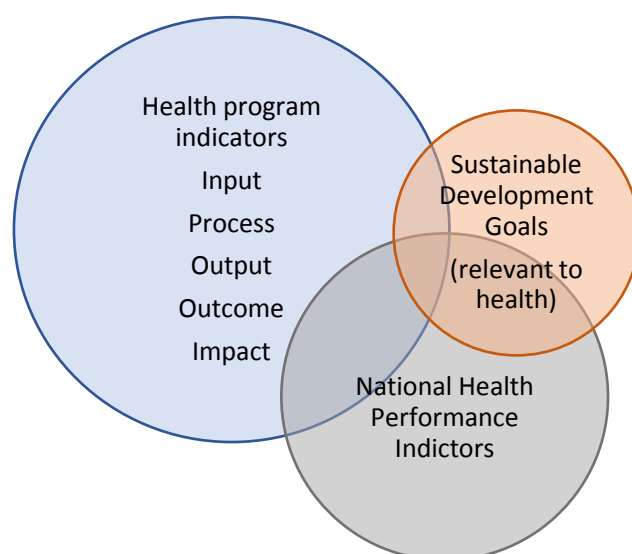
Group 3: New data required for which pilot testing of data collection is required

Whilst information for some indicators are available through the routine health information system and through surveys currently conducted, for other indicators the required data may be obtained through special surveys or modification of existing surveys.

HEALTH PERFORMANCE AND SUSTAINABLE DEVELOPMENT

Whilst developing the National Health Performance Framework, due consideration was given to coherence with the Sustainable Development Goals (SDGs), in particular with Goal 3: Ensure healthy lives and promote well-being for all at all ages. The development of this framework took place over a period where SDGs were being formulated and several revisions were observed. The National Health Performance Framework has a specific objective to measure how well the health system performs and all indicators of the Sustainable Development Goals are not included in this framework. It is noteworthy that several of the SDG indicators are included and emphasis is given to capture specifically areas of health service delivery that are important to Sri Lanka in addressing critical areas of health burden.

Figure 2: Relationship among different indicator groups



NATIONAL HEALTH PERFORMANCE INDICATORS



EFFECTIVENESS

1. Impact

1.1. Health status

1. Life Expectancy at birth

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| Indicator definition | The average number of years that a newborn could expect to live if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year (World Health Organization, 2015). |
| Calculation | Life expectancy at birth is calculated from the life table constructed for the population. <i>Source: Life tables prepared by DCS</i> |
| Rationale | Life expectancy is a measure of overall mortality in a population. Sri Lanka has witnessed a significant increase in its life expectancy since the 1920's. This reflects an improvement in the general health status and a reduction of mortality rates across all age groups due to investments in human development—health, education and other social welfare measures. |
| Interpretation | <p>An increase in the life expectancy of the population will reflect an improvement in social determinants of health coupled with advances in healthcare and improved access to health services.</p> <p>A critical aspect that may be masked with a positive overall trend is the gender gap in life expectancy. Male life expectancy has stagnated whilst female life expectancy has rapidly increased resulting in a wide gap. The life expectancy has gradually increased from 32.7 to 72.0 years for males and from 30.7 to 78.6 years for females since the period of 1920-1922 to 2011-2013. The gender gap has narrowed by 1.8 years between 2000-2002 to 2011-2013 (Department of Census and Statistics, 2016).</p> <p>Life expectancy should be analyzed for gender disparity, which may highlight any need for gender based interventions.</p> |
| Feasibility of data collection | Group 1 |

2. Life expectancy at age 65

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| Indicator definition | Life expectancy at age 65 measures how long on average a person of 65 years can expect to live, if sex and age-specific mortality rates prevailing at the time of her/his 65th birthday continue to apply (OECD, n.d.). |
| Calculation | Life expectancy at 65 is calculated from the life tables constructed for the population. <i>Source: Life tables prepared by DCS</i> |
| Rationale | Life expectancy at age 65 measures the overall health status of those over 65, and is a general indicator of the access to and quality of health services for the elderly in a country. It has increased significantly for both men and women. Some of the factors explaining these gains in life expectancy at age 65 include greater access to advanced medical care, healthier lifestyles and improved living conditions before and after people reach age 65. The Indicator is useful to gauge the adequacy of meeting health challenges for survival of those 65 and above. |
| Interpretation | Trend analysis is useful. Gender and sub national comparisons would also reflect on equity in health care access together with influence of other social determinants affecting survival. However, the indicator does not capture the quality of life of those surviving beyond 65 years as more people may continue to live with disabilities. |
| Feasibility of data collection | Group 3 |

3. Maternal Mortality Ratio

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| Indicator definition | The number of maternal deaths per 100,000 live births in a given year. A maternal death is defined as the death of a woman from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy (World Health Organization, 2015). |
| Numerator | Number of confirmed maternal deaths in a given year *100 000 <i>Numerator Source: Maternal Mortality surveillance system of the FHB</i> |
| Denominator | Number of live births during the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Maternal mortality ratio (MMR) represents the risk of dying associated with each pregnancy and is one of the leading causes of death among women of reproductive age in developing countries. Ensuring safe motherhood is a social responsibility and a fundamental human right. It is monitored as an SDG indicator. The Sri Lankan maternal care program has been recognized globally as a model of a highly effective system at a relatively low cost. MMR is a useful indicator that reflects the government's commitment for maternal health. The indicator is also seen as reflecting the outcome of several health programs and social determinants on health. |
| Interpretation | Sri Lanka has achieved considerable success in maternal care by prioritizing maternal health early on in the development of health services. The MMR seem to stagnate over the past few years and further reductions will require improving the quality of both curative and preventive services. A maternal death is the result of a breakdown in the interactions of a pregnant woman with the health system, resulting from a cascade of events which may at times be due to circumstances beyond the individual's control. Further reduction of MMR needs interpretation of trends at subnational level. The causes for MMR higher than the national average should be addressed at district level. Sub-national disaggregation by district, urban, rural, estate sector is required as the indicator is sufficiently sensitive to identify sub-national variations at present. |
| Feasibility of data collection | Group 1 |

4. Infant Mortality Rate

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| Indicator definition | The probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that period, expressed as a rate per 1000 live births (World Health Organization, 2015). |
| Numerator | The number of infant deaths in a given year * 1000 <i>Numerator Source: FHB</i> |
| Denominator | Number of live births during the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | This is a useful indicator of the health and wellbeing of children and the overall health of a community as factors affecting the health of the general population throughout the life cycle can impact the mortality of infants. It reflects the effect of economic and social conditions on the health of mothers and newborns and the effectiveness of health systems. The indicator captures interventions directly addressed to improve survival as well as interventions throughout the life cycle that have an effect to improve the health status of the newborn. It monitors the Government's commitment for public health on starting well through early intervention and prevention. The indicator is also a global health development indicator used for comparisons and benchmarking. |
| Interpretation | A reduction will indicate improvements in economic and social conditions that impact on the health of mothers and newborns and the effectiveness of life cycle interventions delivered through the health system. Infant mortality should be interpreted using trend analysis at national and sub-national level (district). The sub-national variations and causes for increase of IMR should be addressed to further reduce national IMR. IMR can however be subject to under reporting. Further analysis of neonatal and post neonatal mortality is useful as neonatal mortality contributes significantly to IMR. |
| Feasibility of data collection | Group 1 |

5. Neonatal Mortality Rate

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| Indicator definition | Probability that a child born in a specific year or period will die during the first 28 completed days of life if subject to age-specific mortality rates of that period, expressed per 1000 live births (World Health Organization, 2015). |
| Numerator | Number of neonatal deaths in a given year * 1000 <i>Numerator Source: RGD</i> |
| Denominator | Number of total live births during the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Neonatal deaths account for approximately two thirds of child deaths (Family Health Bureau, 2016). Mortality during neonatal period is considered a useful indicator of both maternal and newborn health status and reflects the adequacy and quality of prenatal, intra-partum and postnatal care. Neonatal mortality has been declining but the rate of decline has been low. Interventions to improve survival of the neonate needs to be monitored as this is a key contributor to infant mortality. |
| Interpretation | <p>The reliability of the neonatal mortality estimates depends on accuracy and completeness of reporting and recording of births and deaths. Underreporting and misclassification are common, especially for deaths occurring early in life. More stringent measures should be taken to improve the coverage of death reporting. As some early neonatal deaths may be reported as stillbirths, comparison with trends in perinatal mortality will be useful.</p> <p>Increases in NMR should be interpreted carefully. Whilst it may reflect a high reporting of deaths, it could also be a due to improved pregnancy outcomes resulting from advances in technology and improved survival of the foetus. This indicator is monitored globally under the goal 3 of the SDGs: Ensure healthy lives and promote well-being for all at all ages.</p> <p>Disaggregate by: district, sector (urban/rural/estate)</p> |
| Feasibility of data collection | Group 1 |

6. Under Five Mortality Rate

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| Indicator definition | The probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period, expressed per 1000 live births (World Health Organization, 2015). |
| Numerator | Number of deaths in children under 5 years in a specific year * 1000 <i>Numerator Source: RGD</i> |
| Denominator | Number of live births during the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | <p>This is a sensitive indicator of child health. It was considered in the Millenium Development Goals (reducing under-5 mortality by two thirds between 1990 and 2015) and its emphasis continues as a sustainable development indicator.</p> <p>Sri Lanka has made considerable progress in addressing childhood mortality. Most deaths occurring in children under 5 are neonatal deaths. In 2013, the leading causes of death among children under 5 years of age were congenital abnormalities, followed by accidents and respiratory diseases (Family Health Bureau, 2015).</p> |
| Interpretation | <p>A decrease in this indicator is desirable.</p> <p>Disaggregate by: district, sector (urban/rural/estate) and socio-economic status</p> |
| Feasibility of data collection | Group 1 |

7. Anaemia among pregnant mothers

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| Indicator definition | Percentage of pregnant women with a haemoglobin level \leq 11 g/dl during a defined period |
| Numerator | Number of pregnant mothers with anaemia (haemoglobin levels of \leq 11 g/dl) during a given year * 100 <i>Numerator Source: FHB</i> |
| Denominator | Total number of pregnant mothers registered during the year under consideration <i>Denominator Source: FHB</i> |
| Rationale | <p>Maternal anaemia increases the risk of maternal and neonatal adverse outcomes including risk of miscarriages, stillbirths, prematurity and low birth weight. It also has intergenerational impacts leading to impaired development and learning of children and impaired economic productivity in countries.</p> <p>Achieving a 50% reduction in the prevalence of anaemia among women of reproductive age by 2025 is one of the six global nutrition targets for 2025 and pregnant women constitute a significant proportion within the reproductive age group (World Health Organization, 2014).</p> <p>Iron deficiency anaemia is one of the main micro nutrient deficiencies in Sri Lanka. All mothers are routinely investigated for Hb level at the booking visit. This can also be considered as a proxy indicator of anaemia of women in the reproductive age group. This would be a useful reflection of the outcome of population level interventions to reduce anaemia in the absence of a routine method to survey the iron status in the community.</p> <p>The commonest cause of anaemia is iron deficiency.</p> |
| Interpretation | <p>This indicator is useful for monitoring trends over time. However, periodic validation may be required through community level studies.</p> <p>As iron deficiency is mainly due to inadequate nutrient intake, an increase in the indicator would alert the need for targeted nutrition interventions for pregnant women as well as general nutritional interventions for the whole population.</p> <p>Disaggregate by: district, sector (urban/rural/estate)</p> |
| Feasibility of data collection | Group 1 |

8. Microfilaria rate

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| Indicator definition | The percentage of people positive for microfilaria (mf) on blood film among the total screened. |
| Numerator | Number of people positive for mf on the blood film * 100 <i>Numerator Source:</i> Anti Filariasis Campaign |
| Denominator | Total number of people screened <i>Denominator Source:</i> Anti Filariasis Campaign |
| Rationale | Lymphatic filariasis is a disfiguring, endemic vector borne disease, which causes permanent disability leading to social stigma for the affected individual. The economic loss imparts a heavy burden on health systems. Sri Lanka received the World Health Organization certification for elimination of lymphatic filariasis in 2016 (Anti-filariasis campaign, 2016). It is necessary to continuously monitor the mf rate although the elimination target has been reached. The incidence of lymphatic filariasis is measured through the MF rate. |
| Interpretation | Disaggregate by: districts. This would help to identify high risk pockets to carry out targeted interventions. |
| Feasibility of data collection | Group 1 |

9. Wasting among children under 5 years of age

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| Indicator definition | Percentage of wasted (moderate and severe) children aged 0–59 months (moderate = weight-for-height below -2 standard deviations of the WHO Child Growth Standards median; severe = weight-for-height below -3 standard deviations of the WHO Child Growth Standards median) (World Health Organization, 2015). |
| Numerator | Number of children under 5 years with wasting (below minus two standard deviations from median weight for height of reference population) * 100 <i>Numerator Source: Annual Nutrition Month Data, FHB</i> |
| Denominator | Total number of children under 5 years <i>Denominator Source: Annual Nutrition Month Data, FHB</i> |
| Rationale | <p>Wasting is an acute form of malnutrition caused by disease or food shortages and is linked with under-5 mortality. It can have potentially irreversible impacts on the physical, mental and emotional development of children. The Ministry of Health has invested on improving the health and nutrition of children under 5 years through the maternal and child health program.</p> <p>Control of diseases such as diarrhea and respiratory tract infections have helped to reduce wasting among children. Successful interventions are known for their comprehensiveness in including not only treatment but also health promotion and appropriate diet during and after illness. Short term results can be achieved with targeted interventions.</p> <p>The monitoring of this indicator is also required by the global commitment for SDG monitoring.</p> |
| Interpretation | <p>The effectiveness of growth monitoring and other nutrition interventions will be reflected in this indicator. A decrease in this indicator is desirable. Analysis by district is required considering the regional disparities in nutrition indicators.</p> <p>Disaggregate by: district, sector (urban/rural/estate), socio-economic status</p> |
| Feasibility of data collection | Group 1 |

10. Stunting among children under 5 years of age

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| Indicator definition | Percentage of stunted (moderate and severe) children aged 0–59 months (moderate = height-for-age below -2 standard deviations from the WHO Child Growth Standards median; severe = height-for-age below -3 standard deviations from the WHO Child Growth Standards median) (World Health Organization, 2015). |
| Numerator | Number of children under 5 with stunting (below minus two standard deviations from median height for age of reference population) <i>Numerator Source: Annual Nutrition Month Data, FHB</i> |
| Denominator | Total number of children under 5 years <i>Denominator Source: Annual Nutrition Month Data, FHB</i> |
| Rationale | <p>Stunting reflects chronic under-nutrition. This is considered as an important high-level nutrition related indicator in many countries. It reflects a process of failure to reach linear growth potential because of suboptimal health or nutrition conditions including an increased risk of frequent and early exposure to adverse conditions such as illness or inappropriate feeding practices. Poor nutrition early in life can have adverse impacts on long term health of the individual including increased risk of chronic illness and non-health consequences such as limited educational achievement and decreased lifelong economic opportunity.</p> <p>Stunting is a well-established child health indicator for chronic malnutrition related to environment and socio-economic circumstances.</p> |
| Interpretation | <p>A decrease indicates an improvement in the overall socioeconomic conditions. The indicator is less sensitive to rapid change. The effects of overall socioeconomic development on prevalence of stunting are therefore seen after a lag period. This indicator is also monitored under the SDG goal 3.</p> <p>Comparisons between geographical areas and other social groups would be useful to understand changes required if any to national policies affecting such social determinants.</p> |
| Feasibility of data collection | Group 1 |

11. Low birth weight among newborns

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| Indicator definition | Percentage of live born neonates with weight less than 2500 g at birth |
| Numerator | Number of newborns with a weight at birth of <2500 g during the year (singleton pregnancies) * 1000 <i>Numerator Source: FHB</i> |
| Denominator | Total number of live births in the given year <i>Denominator Source: FHB</i> |
| Rationale | <p>Strong indicator of maternal health and nutritional status but also a newborn's chances for survival, growth, long-term health and psychosocial development (World Health Organization, 2015).</p> <p>LBW is an important indicator of infant health because of the close relationship between birth weight and infant morbidity and mortality. Low birth weight infants have a greater risk of morbidity and mortality and pose a significant burden on health services due to a longer period of hospitalization after birth. LBW is closely associated poor cognitive development and chronic NCDs later in life. It is an important public health problem in Sri Lanka with an incidence of 16.3% (Ministry of Health, 2012).</p> |
| Interpretation | <p>A decrease in this indicator would reflect effective care and management from the preconception stage right through to the delivery.</p> <p>A trend analysis of this indicator is useful when carried in conjunction with trends of other indicators such as anaemia in pregnancy, maternal diabetes and maternal weight gain.</p> |
| Feasibility of data collection | Group 1 |

12. Patients undergoing dialysis in the population

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| Indicator definition | Number of patients with chronic kidney disease currently undergoing dialysis per 100000 population in a given year |
| Numerator | Number of patients with CKD undergoing dialysis in a given year * 100,000 <i>Numerator Source: CKD register, Epidemiology Unit</i> |
| Denominator | Midyear population in the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | <p>CKD is a major public health problem in the country, requiring a multi-sectoral strategy. CKD is caused by chronic NCDs such as diabetes mellitus and hypertension. The focus on CKD has been intensified after the reporting of new cases of the disease in selected areas of the country due to causes still not identified. Facilities for management of CKD are still insufficient and premature mortality remains high. Management of CKD poses a significant burden on the health system.</p> <p>As end stage patients would access health services the likelihood of those requiring dialysis being counted is higher. Measurement of CKD prevalence itself is more difficult as earlier stages may be undiagnosed or not reported.</p> |
| Interpretation | <p>Duplication of patients would inflate this indicator. Consistency of the guidelines used on dialysis is important when interpreting trends. Data from the private sector is needed to obtain a comprehensive picture as dialysis services are available both in public and private sectors.</p> <p>The indicator also reveals the changing disease burden. A decrease would represent the effectiveness of interventions to slow the progression of disease and to prevent the disease where specifically multi sector inputs are needed. However, this indicator may be biased if patients do not access services for dialysis.</p> |
| Feasibility of data collection | Group 3 |

13. Mortality due to alcoholic liver disease

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| Indicator definition | Number of deaths due to alcoholic liver disease per 100000 population in a given year |
| Numerator | Number of deaths due to alcoholic liver disease in a given year <i>Numerator Source: MSU</i> |
| Denominator | Midyear population for the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | <p>Alcohol use is among the top ten risk factors that drive the most death and disability in Sri Lanka (Institute for Health Metrics and Evaluation, n.d.). Deaths represent the tip of the iceberg and alcoholism present a wide spectrum of other social challenges together with disease manifestations requiring several episodes of hospitalization.</p> <p>Control of alcoholism is also important to address the burden on NCDs. Sri Lanka has a National Alcohol and Tobacco Act and has a policy on alcohol control. The impact of their implementation can be evaluated through this indicator.</p> |
| Interpretation | A declining trend can be interpreted as effective control on social determinants relevant to consumption of alcohol. Alcohol related diseases have a long latent period for its manifestation and effects of intervention may not be reflected for years. Trend analysis is suitable. |
| Feasibility of data collection | Group 2 |

14. Mortality due to Road Traffic Accidents (RTA)

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| Indicator definition | The number of registered deaths due to road traffic accidents (RTA) per 100000 population per year |
| Numerator | Total number of deaths due to RTAs in a given year X 100,000 <i>Numerator Source: RGD</i> |
| Denominator | Midyear population of the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Deaths due to road traffic accidents are a major public health concern. Road injuries were among the ten leading causes of DALYs in Sri Lanka in 2013 (Institute for Health Metrics and Evaluation, n.d.). Deaths are largely preventable if effective measures are introduced to address the principal risk factors through the concerted efforts of institutions and civil society to create a comprehensive and safe road traffic system. The indicator reflects on the degree of health system response (pre-hospital care and emergency care) that is needed in managing victims of accidents. |
| Interpretation | Distribution of mortality statistics by location will throw light on the requirements for service improvement. Statistics can be used effectively to see the short-term results of interventions. This indicator is monitored globally as an SDG indicator under the goal 3. The indicator is however subject to bias due to failure to ensure exact coding of underlying causes where complications arising due to injury are cited as the immediate cause of death. |
| Feasibility of data collection | Group 2 |

15. Mortality between 30 and 70 years of age from chronic NCDs

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| Indicator definition | Unconditional probability of dying between the exact ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases |
| Numerator | Number of deaths due to chronic NCDs among those aged between 30-70 years of age in a given year * 100 <i>Numerator Source: MSU</i> |
| Denominator | All deaths of those between the ages of 30 to 70 years in the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | <p>The burden of disease is shifting from infectious diseases to non-communicable diseases, with chronic conditions such as ischaemic heart disease, cerebrovascular disease, diabetes and COPD being among the top five causes of premature mortality in Sri Lanka (Institute for Health Metrics and Evaluation, 2016). It is important to track if interventions aimed at preventing premature deaths are producing the desired results.</p> <p>Age 30 has been selected as the lower limit as the mortality risk starts to rise from very young ages. Considering the high life expectancy in Sri Lanka and that age is a risk factor for NCDs it is acceptable to use seventy years as the cut off for addressing premature deaths.</p> <p>The indicator reflects the results of interventions delivered through the health system as well as those that address the social determinants that contribute to the development of NCDs.</p> |
| Interpretation | <p>The upper limit of the age is subject to change over time with the advancement of life expectancy. Age specific mortality rates within the 30- 70 age group would be useful to decide if further lower age limit is to be set. This indicator is monitored at global level as an SDG indicator. Disaggregation by age, sex, location and income levels would be useful.</p> <p>A reduction in the indicator would reflect success of interventions across the spectrum of promotion, prevention, treatment and rehabilitation as lowering the incidence of disease and effective clinical management of cases can both contribute to a decrease in the indicator.</p> |
| Feasibility of data collection | Group 3 |

16. Total fertility rate

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| Indicator definition | Average number of children that a hypothetical cohort of women would have at the end of their reproductive period if they were subject during their whole lives to the fertility rates of a given period and if they were not subject to mortality. It is expressed as children per woman. |
| Method of measurement | Total fertility rate is directly calculated as the sum of age-specific fertility rates (usually referring to women aged 15-49 years), or five times the sum if data are given in five-year age groups. |
| Rationale | <p>Rapid population growth attributable to high fertility accentuates a range of social, economic and environmental problems, that are scaled by the size of the population, ranging from urbanization, poverty to climate change (UN Population Division, 2011).</p> <p>Family size in Sri Lanka has decreased over the past few decades. Improved access to family planning, increased infant and child survival, greater access to health and education especially for women and greater participation of women in the workforce have contributed to decreasing fertility. Decreasing fertility has contributed to improved maternal health and reductions in child mortality.</p> <p>Measurement of Total Fertility Rate is useful to understand the effectiveness of reproductive health programs. A decline in fertility results in a lower dependency ratio. This demographic bonus is favourable for sustainable development, economic growth and poverty reduction. However, with further decline in fertility level and in the case of below replacement fertility (less than 2.1 children per woman), population ageing accelerates, leading to an increase in the dependency ratios.</p> <p>Disaggregated fertility rates by age group are relevant to assess the impact of targeted reproductive health programs for women of specific age groups. E.g. adolescent fertility rates to assess the impact of the adolescent health program.</p> |
| Interpretation | <p>High fertility: Total fertility levels above 5 children per woman.</p> <p>Replacement-level fertility: Total fertility levels of about 2.1 children</p> |

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| | <p>per woman. Below-replacement fertility: Total fertility levels below 2.1 children per woman. Very low fertility: Total fertility levels below 1.3 children per woman (United Nations, 2015).</p> <p>The indicator is influenced by factors such as education, societal beliefs affecting access to reproductive health services.</p> <p>Any achievement in reducing total fertility may demonstrate a commitment to empower women to exercise their right to make informed and free choices over if, when, and how many children they would like to have.</p> <p>Disaggregation by: District, sector (urban, rural, estate)</p> |
| Feasibility of data collection | Group 1 |

17. Adolescent fertility rate

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| Indicator definition | Annual number of births to women aged 15 years per 1000 women in that age group. It is also referred to as the age-specific fertility rate for women aged 15–19 years. |
| Numerator | Number of live births to women aged 15–19 years in a given year. <i>Source: DCS</i> |
| Denominator | Exposure to childbearing by women aged 19 years in a given year. <i>Source: DCS</i> |
| Rationale | This indicator reflects on the access to reproductive health services for adolescents. There is an elevated risk of maternal death and disability in adolescent pregnancies. The children of adolescent mothers are also at a higher risk of low birth weight and mortality. Measurement of this indicator is useful to understand the effectiveness of reproductive health programs aimed at reducing unintended pregnancies among adolescents. |
| Interpretation | A reduction in adolescent birth rate will indicate the effectiveness of interventions for prevention of unintended adolescent pregnancies. However, it can also be influenced by the population of adolescents exposed to the risk of pregnancy when determinants such as the age at marriage changes. Disaggregation: Marital status, place of residence, socioeconomic status |
| Feasibility of Data Collection | Group 1 |

18. Diabetes among pregnant mothers

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| Indicator definition | Percentage of pregnant mothers diagnosed with diabetes |
| Numerator | No of pregnant mothers with a diagnosis of diabetes mellitus in a given year * 100 <i>Numerator Source: FHB</i> |
| Denominator | Total number of pregnant women registered in the year under consideration <i>Denominator Source: FHB</i> |
| Rationale | <p>The chronic NCD burden is a significant health system challenge in Sri Lanka. Gestational diabetes mellitus affects the health of mothers negatively by increasing the risk of pregnancy complications and increasing the likelihood of type 2 diabetes later in life. Infants of mothers with GDM are at a higher risk of congenital birth defects, overall neonatal mortality and type 2 diabetes in adult life.</p> <p>Lifestyle interventions through the life cycle aimed at preventing chronic illness will help to lower this indicator value.</p> <p>This is also a proxy indicator to identify diabetes in the population and the projection of potential diabetes in the future. The use of the indicator is also justified due to similarity of prevalence of diabetes by sex (Ministry of Health Nutrition and Indigenous Medicine, 2015).</p> <p>The indicator data can be readily available as all pregnant mothers are expected to get screened for diabetes and it is reported in the routine information system.</p> |
| Interpretation | Trend analysis and disaggregation by location and age is important. The indicator is subject to vary depending on the changes in efforts for screening and diagnosis. |
| Feasibility of data collection | Group 2 |

19. Confirmed cases of malaria

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| Indicator definition | <p>The Number of confirmed cases of malaria in a given year</p> <p><i>Source:</i> Anti Malaria Campaign</p> |
| Rationale | <p>No indigenous cases of malaria have been reported from any district in the country since November 2012. Sri Lanka was certified as Malaria free in 2016. Elimination of indigenous cases of Malaria has been achieved ahead of the target year of achievement and the focus is now on maintaining zero mortality and prevention of reintroduction. As the numbers have drastically reduced and as the risk is no longer confined to geographical areas, counting individual cases is important.</p> <p>Re-orienting public and private health sector staff towards the new goals of malaria elimination is vital. As the disease becomes rarer, it runs the risk of being forgotten in clinical practice.</p> |
| Interpretation | <p>A single case reported requires a detailed investigation and would reflect on adequacy of health system for containing the disease. This indicator is monitored as an SDG indicator.</p> |
| Feasibility of data collection | <p>Group 1</p> |

20. Suicide mortality rate

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| Indicator definition | <p>Suicides per 100,000 population in a given year</p> <p>The World Health Organization defines suicide as an act deliberately initiated and performed by a person in the full knowledge or expectation of its fatal outcome (World Health Organization, 2001).</p> |
| Numerator | <p>Number of suicides registered in a given year * 100,000</p> <p><i>Numerator Source: Police Statistics Unit</i></p> |
| Denominator | <p>Midyear population in the given year</p> <p><i>Denominator Source: RGD</i></p> |
| Rationale | <p>Rate of suicide reflects the overall mental wellbeing in the population. Suicide is a significant public health concern in Sri Lanka. Prevention of suicides is one of the strategic objectives of the Mental health program and requires a multi sector commitment. This indicator reflects the outcome of sustained efforts to promote mental health of the population.</p> |
| Interpretation | <p>Overall trend should be interpreted with age specific rates.</p> <p>Disaggregation by gender and other social determinants is useful. Such analysis will provide direction on specific target groups that need specific interventions. This indicator has global relevance as an SDG indicator.</p> |
| Feasibility of data collection | <p>Group 2</p> |

21. Incidence of Dengue (Dengue Fever/ Dengue Haemorrhagic Fever)

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|--------------------------------|---|
| Indicator definition | Number of cases of dengue (DF/DHF) per 100,000 population per year |
| Numerator | Number of cases of dengue reported during a given year * 100 000 <i>Numerator Source: Epidemiology unit</i> |
| Denominator | Mid-year population of the year under consideration <i>Denominator: RGD</i> |
| Rationale | <p>Dengue is a major public health concern and is largely preventable. Multiple stakeholders are required to prevent dengue although the public perceives it mainly as a responsibility of the health sector. This indicator is useful to focus attention on multi stakeholder contribution.</p> <p>The Ministry of Health has put a significant thrust on dengue prevention activities and effectiveness of such investment need to be understood.</p> |
| Interpretation | Comparison should be made between different years and different districts. Cross analysis should be made with the multi-sectoral response to dengue prevention. |
| Feasibility of data collection | Group 1 |

22. Incidence of leptospirosis

| | |
|--------------------------------|---|
| Indicator definition | Number of cases of leptospirosis per 100 000 population in a given year |
| Numerator | Number of leptospirosis cases reported during the year *100 000 <i>Numerator Source: Epidemiology Unit</i> |
| Denominator | Mid-year population of the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Leptospirosis incidence has increased over the past decade to become a major communicable disease affecting the population. There is a rise in cases reported from non- endemic areas. Both the occurrence of disease and mortality are preventable. In Sri Lanka, the disease occurs predominantly among farming communities. The disease has a high case fatality rate ranging from 5% to 30% (Epidemiology Unit, 2016). Several interventions are carried out to prevent seasonal outbreaks that take the form of prophylaxis, promotion of early treatment seeking and pest control activities. Whilst agriculture sector can play a role, the major thrust is with the community health staff. |
| Interpretation | Due to seasonal bias in interpretation the same month should be compared in two consecutive years. Disaggregation by district is useful to identify the high-risk areas. It can be subject to bias due to any increases in health seeking behavior as interventions directed at disease control also aim at early health seeking behavior. Disaggregate by: district |
| Feasibility of data collection | Group 1 |

23. Child cases of leprosy

| | |
|--------------------------------|--|
| Indicator definition | Percentage of child cases of leprosy among newly detected cases of leprosy in a given year |
| Numerator | Number of new cases of leprosy in children under 15 years of age reported within a year * 100 <i>Numerator Source: Anti-Leprosy Campaign</i> |
| Denominator | Total number of new cases of leprosy reported within the year under consideration <i>Denominator Source: Anti-Leprosy Campaign</i> |
| Rationale | Child cases of leprosy indicate active foci of infection and recent transmission of leprosy in the community. These can be spot mapped to identify pockets of high transmission. Considering the long incubation period most children get the disease from the family members/ caregivers and it is necessary to do contact tracing. Child cases are the result of deficiencies in measures for leprosy control. |
| Interpretation | The percentage of child cases is dependent on the total number of new cases; the indicator may be seen to decrease because of detection of large numbers of new adult cases in previously undetected pockets. Overall declining child rates are indicative of effective control measures taken to reduce transmission of leprosy. However, its interpretation is subject to bias in the event of poor case detection among children. Disaggregate by: district, sex |
| Feasibility of data collection | Group 1 |

24. HIV among the most at risk population

| | |
|--------------------------------|--|
| Indicator definition | Percentage of people living with HIV among most at risk population (MARP) |
| Numerator | Number positive for HIV /AIDS from the sample survey * 100 <i>Numerator Source: NSACP</i> |
| Denominator | Number of MARP sampled by the survey <i>Denominator Source: NSACP</i> |
| Rationale | <p>The HIV prevalence in Sri Lanka is currently low, being less than 1% (National STD/AIDS control programme, 2015). Data among MARP is required to evaluate and guide national HIV responses. Risk behaviours are believed to be more concentrated amongst key populations such as female sex workers, men having sex with men, beach boys and narcotic drug users. This indicator is useful both to measure the strategic objective of prevention and to evaluate the effectiveness of interventions for MARP.</p> <p>An increase in this indicator would be a red flag for timely focused interventions to prevent further transmissions.</p> |
| Interpretation | <p>Surveying key at risk populations in Sri Lanka, as well as globally, poses distinct challenges as these individuals are not easily accessible due to fear of being stigmatized, harassed, detained or even arrested. As obtaining an accurate and complete sampling frame is challenging actual burden may be underestimated.</p> <p>Disaggregate by: district, by group of MARP</p> |
| Feasibility of data collection | Group 1 |

25. Mother to child transmission of HIV

| | |
|--------------------------------|--|
| Indicator definition | <p>Number of children with HIV due to mother to child transmission in a given year</p> <p><i>Numerator Source: NSACP</i></p> |
| Rationale | <p>Sri Lanka has a low prevalence of HIV currently. Perinatal transmission accounts for approximately 3% (National STD/AIDS control programme, 2015). There are growing numbers of women living with HIV/AIDS. The indicator exhibits comprehensiveness of maternal care. Zero mother to child transmission is indicative of effective antenatal, natal and postnatal care from primary prevention to treatment.</p> |
| Interpretation | <p>Absolute number is taken. At sub-national level case occurrence by divisional level is important for program management</p> <p>Disaggregate by: district</p> |
| Feasibility of data collection | <p>Group 1</p> |

26. Incidence of Congenital Rubella Syndrome (CRS)

| | |
|--------------------------------|---|
| Indicator definition | Number of children diagnosed with congenital rubella syndrome per 100 000 live births in a given year |
| Numerator | Total number of congenital rubella syndrome cases in the given year * 100 000 <i>Numerator Source: Epidemiology Unit</i> |
| Denominator | Total number of live births in the year under consideration <i>Denominator Source: MSU</i> |
| Rationale | Rubella vaccine was introduced to the national EPI in 1996 targeting all females of 11-44 years, with the objective of preventing congenital rubella syndrome. The number of CRS cases was markedly reduced and in 2005, surveillance of CRS was intensified and laboratory confirmation was made available for all suspected cases of CRS. Monitoring trend for CRS is important as Sri Lanka has set the goal of elimination of Measles, Rubella and CRS by 2018 (Epidemiology Unit, 2016). The indicator reflects on effective coverage of the immunization program. |
| Interpretation | Elimination target: <1 CRS case/100,000 live births by 2018 (Epidemiology Unit, 2016) All suspected CRS cases must be reported to the Epidemiology unit immediately, so accuracy of reporting is high. |
| Feasibility of data collection | Group 1 |

27. Incidence of human rabies

| | |
|--------------------------------|---|
| Indicator definition | Number of cases of human rabies per 100 000 population in a given year |
| Numerator | Number of new cases of human rabies in a given year * 100 000 <i>Numerator source: PHVS</i> |
| Denominator | Midyear population of the year under consideration <i>Denominator source: RGD</i> |
| Rationale | The national goal is to eliminate human rabies. In 2015, 24 deaths were reported (Public health veterinary services, 2016). Efforts for primary and secondary prevention are reflected through this indicator. As the number of human rabies cases are small, it is appropriate to have the number itself as the indicator. |
| Interpretation | This is indicative of the current situation of the disease. As the number decreases, the indicator should be reviewed in conjunction with other indicators in prevention strategies such as dog vaccination rate and dog sterilization rate. |
| Feasibility of data collection | Group 1 |

28. Preventable blindness in the population aged over 60 years

| | |
|--------------------------------|---|
| Indicator definition | Prevalence of preventable blindness due to un-operated cataract and uncorrected refractory errors amongst the population aged over 60 years |
| Numerator | No of people aged over 60 years with blindness due to un-operated cataract and uncorrected refractory errors * 1000 <i>Numerator Source: to be identified</i> |
| Denominator | Midyear population aged over 60 years <i>Denominator Source: RGD</i> |
| Rationale | Avoidable sight loss is recognized as a critical and modifiable public health issue which is particularly important in the context of Sri Lanka's rapidly ageing population. Prevention of sight loss will help people maintain independent lives as far as possible and reduce the need for social care support, which would be necessary if sight was lost permanently. Majority of cases of blindness and serious sight loss could be prevented if detected and treated in time. The indicator reflects effectiveness of eye care services in the country. |
| Interpretation | A reduction in preventable blindness reflects improved availability and access to eye care services. Disaggregate by: sex, district, sector (urban/rural/estate) and income group |
| Feasibility of data collection | Group 3 |

29. Incidence of common preventable (oral, lung and cervical) cancers

| | |
|--------------------------------|--|
| Indicator definition | Incidence of common preventable cancers (oral, lung and cervical cancers) |
| Numerator | Number of newly detected preventable cancers (oral, lung and cervical cancers) in a given year * 100 000 <i>Numerator Source: NCCP</i> |
| Denominator | Midyear population of the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Cancers are a leading cause of morbidity and mortality in Sri Lanka. At least one third of cancers are preventable (World Health Organization, 2016). Oral, Lung and cervical cancers are included as these are the most common types of preventable cancers in Sri Lanka (National Cancer Control Programme, 2016). The indicator reflects on the effectiveness of cancer prevention strategies in the country. |
| Interpretation | A declining rate is a sign of effectiveness of prevention strategies. However, as public awareness on early screening and health care seeking improves with initiatives taken by the national cancer control programme the incidence may initially seem to increase due to increased detection. Disaggregate by: district, sex, sector (urban/rural/estate) |
| Feasibility of data collection | Group 1 |

30. Amputations due to diabetic foot disease

| | |
|--------------------------------|--|
| Indicator definition | Percentage of amputations due to diabetic foot disease among people with diabetes |
| Numerator | Number of major (above or below knee) amputations in patients with diabetes in a given year * 100 <i>Numerator Source: source to be identified</i> |
| Denominator | Total estimated number of patients with diabetes <i>Denominator Source: Estimated prevalence from population surveys</i> |
| Rationale | <p>Two major long-term complications of poorly controlled diabetes are peripheral vascular disease and peripheral neuropathy, which together put patients with diabetes at a greater risk for lesions of the lower extremities.</p> <p>In addition to health implications, amputations affect the quality of life and cause substantial financial costs for rehabilitation, prostheses and managing disability.</p> <p>This indicator would reflect well on management and follow up of diabetic patients particularly on education of diabetic patients on safe foot care behaviours. It reflects on overall health system response through service availability, accessibility, utilization of services and service quality.</p> |
| Interpretation | <p>A declining trend indicates the positive health system response towards tertiary prevention</p> <p>Disaggregate by: district, sex, sector (urban/rural/estate), age</p> |
| Feasibility of data collection | Group 3 |

31. Retinopathy in diabetic patients

| | |
|--------------------------------|---|
| Indicator definition | Proportion of patients with diabetes with a diagnosis of retinopathy |
| Numerator | Number of patients with diabetes diagnosed with retinopathy * 100 <i>Numerator Source: source to be identified</i> |
| Denominator | Total number of diabetic patients registered in medical clinics in government institutions during the given year <i>Denominator Source: source to be identified</i> |
| Rationale | Diabetic retinopathy is an important cause of preventable adult blindness and visual impairment. It causes significant socio-economic burden on the individual, family and society. Diabetic retinopathy is largely preventable through proper management of patients with diabetes to achieve good glycemic control and control of other risk factors. Prevention of blindness is through early detection by regular retinal screening. The indicator reflects on overall availability, accessibility, utilization and quality of care of services provided to patients with diabetes. |
| Interpretation | Declining or low prevalence of retinopathy in patients with diabetes would reflect an improvement in the quality of their management including adherence to clinical guidelines, a continuous supply of drugs and patient education. A rapid increase, if seen initially, would be a result of improved awareness of health personnel and rigorous screening for retinopathy in patients. Disaggregate by: District, sector (urban/rural/estate), sex, age and income group |
| Feasibility of data collection | Group 3 |

1.2. Patient experience

32. Institutions' responsiveness

| | |
|--------------------------------|---|
| Indicator definition | Percentage of institutions rated as having good/ very good level of responsiveness |
| Numerator | <p>Number of institutions with a patient rated score above 75% on the domains of responsiveness (above 75%)</p> <p>(Domains - Prompt attention, confidentiality, patients' choice, communication, environment, dignity and autonomy. For inpatient services, the domain on family involvement is also included.)</p> <p><i>Numerator Source: to be identified</i></p> |
| Denominator | <p>Total number of institutions surveyed</p> <p><i>Denominator Source: QMU</i></p> |
| Rationale | <p>Many of the indicators assess the medical or technical aspects of care. There needs to be an assessment on the non-medical aspects of care as these may influence the health seeking pattern of patients and the overall trust in the system. Health system responsiveness has been identified as a key health system goal in the 2000 World Health Report (World Health Organization, 2000).</p> <p>Responsiveness measures the extent to which the non-medical expectations of people are met during their encounters with the health care providers.</p> <p>The eight domains refer to: respect for the dignity of the person and protection of basic human rights, maintaining confidentiality of the personal health information, autonomy to participate in choices about one's own health, prompt attention to patient needs, amenities of adequate quality such as cleanliness, space in waiting rooms, access to family and friends for people receiving care and the ability to seek care from the provider of one's choice (World Health Organization, 2000).</p> |
| Interpretation | <p>The institutional responsiveness needs to improve as a percentage over time. This must be through regular assessment and instituting required improvements to the delivery of health services.</p> <p>Disaggregate by: level of hospital</p> |
| Feasibility of data collection | Group 3 |

1.3. Financial risk protection

33. Out-of-pocket expenditure on health

| | |
|--------------------------------|---|
| Indicator definition | Out-of-pocket expenditure (OOPE) on health as a percentage of total health expenditure in a country |
| Numerator | Total out of pocket expenditure incurred by individuals at the time of service utilization in a given year * 100 <i>Numerator Source: National Health Accounts</i> |
| Denominator | Total health care expenditure in the year under consideration <i>Denominator Source: National Health Accounts</i> |
| Rationale | <p>Direct payments made to healthcare providers by individuals at the time of service utilization is considered for calculation i.e. payments to medical professionals, for health centers for diagnosis, services and medicines, payments for informal healers, payments in-kind, gratuities (excludes prepayment for health services) (World Health Organization & World Bank, 2015).</p> <p>The indicator helps to capture financial consequences of seeking healthcare in the absence of full financial coverage. Increase in OOP expenditure impedes access to health care. The regional strategy for UHC states that for countries to be able to achieve UHC, direct household payments for health must be reduced to 30% of total health expenditure (Southeast Asia Regional Office-World Health Organization, 2015). Currently Sri Lanka experiences 40% OOP expenditure (Health Economics Cell, 2016). This indicator is useful to assess the impact of interventions to achieve universal health coverage (UHC) and captures the government financial commitment towards the national health services.</p> |
| Interpretation | <p>Declining rate indicates positive achievements towards universal financial protection. OOP expenditure can also be assessed according to disease. Diseases with high OOP expenditure emphasize the need to increase financing or change the financing strategies for management of these conditions.</p> <p>Disaggregate by: district, income groups</p> |
| Feasibility of data collection | Group 1 |

34. Catastrophic health expenditure

| | |
|--------------------------------|---|
| Indicator definition | The percentage of households experiencing catastrophic expenditure for health. |
| Numerator | <p>The number of households that spend more than a specified percentage of total household expenditure on health care * 100</p> <p>Proportion of the population with large household expenditure > 10% and >25% of the total household expenditure can be considered as subject to catastrophic expenditures (World Health Organization & World Bank, 2015).</p> <p><i>Source: Household Income and Expenditure Survey, DCS</i></p> |
| Denominator | <p>Total number of households surveyed</p> <p><i>Source: Household Income and Expenditure Survey, DCS</i></p> |
| Rationale | <p>Paying out of pocket when a family member falls ill to purchase medical care would disrupt the capacity of a household to maintain daily living and if this disruption is large relative to the resources available to the household, it is considered as “catastrophic”. Fairness in health financing emphasizes on protecting households against such catastrophic medical expenses (World Health Organization 2000).</p> |
| Interpretation | <p>In many countries, the quintile with the lowest income has a lower incidence of catastrophic payments than richer quintiles. When people are very poor, they do not pay to obtain health services and do not suffer financial catastrophe. As income level increases people tend to pay out of pocket for services and become at risk of incurring catastrophic expenditures. Therefore, lower levels of catastrophic spending may not always indicate a better outcome for people unless interpreted with service coverage data.</p> <p>The incidence of catastrophic payments in the lowest income group, if considerably high, should alert the health care providers to institute measures to provide financial risk protection to this group.</p> <p>The monitoring of this indicator is important at the global level as an SDG indicator. Disaggregate by: district, income level</p> |
| Feasibility of data collection | Group 2 |

35. Impoverishment due to ill health

| | |
|--------------------------------|---|
| Indicator definition | The percentage of households being pushed below the poverty line due to OOP payments. |
| Numerator | Number of households that are pushed below the poverty line * 100 <i>Numerator Source: to be identified</i> Department of Census and Statistics poverty line index or the WHO poverty line of US\$ 2 a day is used to make comparisons with other countries |
| Denominator | Total number of households surveyed <i>Denominator Source: to be identified</i> |
| Rationale | Spending a large proportion of the household budget on healthcare payments deprives the household of spending on other goods and services and can push some households into poverty. It assesses the extent to which households are made poor or poorer by making OOP payments for healthcare. It reflects the government's commitment to protect the lower socioeconomic groups from financial hardship due to health care expenditures. |
| Interpretation | A decline in this indicator would reflect a decrease in out-of-pocket payments by households due to increase in the availability of health services provided by the government health services or through insurance. It could also mean that advancement in economic level has not lead to impoverishment despite OOP expenditure. |
| Feasibility of data collection | Group 3 |

2. Outcome

2.1. Utilization/ Coverage

36. OPD visits to primary level hospitals

| | |
|--------------------------------|---|
| Indicator definition | Percentage of OPD visits to primary level hospitals during a given year |
| Numerator | Number of OPD attendees in primary level hospitals (divisional hospitals and primary medical care units) in a given year * 100 <i>Numerator Source: MSU</i> |
| Denominator | Total number of OPD attendees in all hospitals in the year under consideration <i>Denominator Source: MSU</i> |
| Rationale | The Ministry of Health envisages improving primary care to improve universal health access. It is expected that people will use primary level services as first contact for their primary health needs. This indicator would reflect the utilization of primary level services to obtain general OPD service. |
| Interpretation | An increase may show improved access and better utilization of primary healthcare for common conditions closer to their homes. Policy interventions aimed at improving primary care access can be compared with trend analysis. Shifts in utilization of care at different levels would be a useful interpretation. Disaggregation by region can be used to compare performance in efforts for strengthening primary care in different regions as management of primary level services is under the purview of regional health services. |
| Feasibility of data collection | Group 1 |

37. Medical clinic attendance at primary level hospitals

| | |
|--------------------------------|---|
| Indicator definition | Percentage clinic attendance at primary level hospitals in a given year |
| Numerator | Total number of medical clinic attendees in primary level hospitals in a given year * 100 <i>Numerator Source: MSU</i> |
| Denominator | Total number of medical clinic attendees in all hospitals in the same year <i>Denominator Source: MSU</i> |
| Rationale | Primary care access is indicative of opportunity for universal coverage. Currently significant number of patients access higher level institutions for their primary care needs. In view of the government strategy for improving primary care, this indicator would reflect the utilization of primary level medical clinics for screening, initial treatment and follow up care for NCDs. |
| Interpretation | An increase would reflect increased utilization of primary level services for continuing care needs in comparison with other institutions above the primary level. Disaggregate by: district |
| Feasibility of data collection | Group 1 |

38. Annual per capita medical clinic visits

| | |
|--------------------------------|---|
| Indicator definition | Number of medical clinic visits per person per year |
| Numerator | Total number of medical clinic visits during the year <i>Numerator Source: MSU</i> |
| Denominator | Midyear population aged 13 years and above for the given year <i>Denominator Source: RGD</i> |
| Rationale | Clinic services are provided from primary to tertiary care level through the government sector. The change in disease burden to chronic non-communicable diseases would lead to accessing more clinic services for continuing lifelong care which would be captured through this indicator. |
| Interpretation | At present only data from the government sector is available for this indicator. Private sector data if included, would give a more complete understanding. To overcome these biases a trend analysis of data from government services would give reasonable information on the pattern of continuing care. As the general OPD utilization between government and private sector has been fluctuating around a mean of 50%, there is reasonable justification for use of government sector data for trend analysis. Furthermore, as patients are required to come regularly to obtain medicines, where the regulation is to provide medicines only for a specified period in the government sector, any change in this policy would be reflected in the indicator in the long term. |
| Feasibility of data collection | Group 1 |

39. Hypertension treatment coverage

| | |
|--------------------------------|---|
| Indicator definition | Percentage of population aged 18 years and above who are currently on antihypertensive medication among population aged 18 and above who are currently taking treatment for hypertension and those with elevated blood pressure ($\geq 140/90$ mmHg) |
| Numerator | Number on treatment for hypertension * 100 <i>Numerator Source: STEPS survey</i> |
| Denominator | Total number of people on treatment and who have elevated blood pressure ($\geq 140/90$ mmHg) <i>Denominator Source: STEPS survey</i> |
| Rationale | Hypertension is a major intermediate risk factor for non-communicable diseases. Inappropriate management of high blood pressure leads to major complications such as stroke, coronary heart disease resulting in increased premature morbidity and mortality in Sri Lanka. The prevalence of hypertension is high with latest STEPS survey reporting a prevalence of 26.1% (Ministry of Health Nutrition and Indigenous Medicine, 2015). Therefore, proper management of hypertension among Sri Lankans should be a priority. |
| Interpretation | There are large numbers of unknown hypertensive patients as regular monitoring of individual blood pressure is not common in Sri Lanka. Interventions to improve health seeking behaviours will help to reduce the untreated population if services are made accessible to the population in need. Disaggregate by: district, sex, age, socio-economic status |
| Feasibility of data collection | Group 1 |

40. Diabetes treatment coverage

| | |
|--------------------------------|--|
| Indicator definition | Percentage of population aged 18 years and above who are currently on oral hypoglycemic agents or insulin among the population aged 18 and above who are currently taking treatment for diabetes and those with fasting blood glucose $\geq 7\text{mmol/l}$. |
| Numerator | Number on treatment for diabetes * 100 <i>Numerator Source: STEPS survey</i> |
| Denominator | Total number of people on treatment for diabetes and who have elevated blood sugar levels ($\geq 7\text{mmol/l}$) <i>Denominator Source: STEPS survey</i> |
| Rationale | Diabetes mellitus is a major intermediate risk factor for non-communicable diseases. Inappropriate management may lead to severe complications such as stroke, coronary heart disease, retinopathy and nephropathy resulting in premature morbidity and mortality. In Sri Lanka, prevalence of diabetes mellitus is high: 7.3%. Therefore, proper management of diabetes mellitus is a priority. |
| Interpretation | There are many undetected diabetes patients as regular screening of fasting blood glucose is not a common practice in Sri Lanka. Currently screening services are provided through Healthy Lifestyle Centers (HLCs). Scaling up of these interventions may lead to an increase in the indicator if appropriate referrals are made and services are accessible for treatment. |
| Feasibility of data collection | Group 1 |

41. Use of health services by persons with severe mental disorders

| | |
|--------------------------------|---|
| Indicator definition | Percentage use of health services by persons with a severe mental disorder (psychosis, bipolar affective disorder, moderate-severe depression) |
| Numerator | Number of patients registered to obtain treatment for severe mental disorders * 100 <i>Numerator Source: Directorate of Mental Health</i> |
| Denominator | Total number of patients with severe mental disorders(Estimated) <i>Denominator Source: (WHO estimates 1-2 % of the general population to have severe mental disorders (World Health Organization, 2001)</i> |
| Rationale | <p>Severe mental disorders cause considerable suffering to the individuals affected as well as their caregivers. People with these illnesses are often subjected to negative social outcomes, poor quality of life and increased mortality. Cost-effective treatment is available for most of these disorders. Making necessary treatment available to those in need can avert significant social and economic costs.</p> <p>Improving access to mental health services is a priority. Standard patient care is one of the strategic objectives of the mental health programme of the country (Mental Health Directorate, 2005). This indicator measures the treatment gap, which is high for most mental disorders worldwide and massive for the poor population.</p> |
| Interpretation | <p>Reduction in the treatment gap indicates good coverage of the secondary prevention program, i.e. early detection and treatment and elimination of health system and demand side barriers to access.</p> <p>Disaggregate by: district, sex, age socio-economic status</p> |
| Feasibility of data collection | Group 2 |

42. Immunization coverage (Pentavalent vaccine 3/OPV 3)

| | |
|--------------------------------|--|
| Indicator definition | Percentage of children immunized with Pentavalent vaccine 3/OPV 3 |
| Numerator | Total no of children immunized with Pentavalent vaccine 3/OPV 3 (at 6 months) in a given year *100 <i>Numerator Source: Epidemiology Unit</i> |
| Denominator | Total number of children in the age cohort in the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Sri Lanka has achieved near 100% vaccination coverage. It is noted that sub nationally some districts are underperforming. It is important that pockets of low immunity do not build up to ensure maintenance of expected herd immunity. Hence it is critical to monitor district wise vaccine coverage. |
| Interpretation | Ideally all districts should have a vaccine coverage above 90% (Penta3/OPV). An increase in the number of districts with immunization coverage over 90% would show an improvement. Disaggregate by: district |
| Feasibility of data collection | Group 1 |

43. Unmet need for family planning

| | |
|--------------------------------|--|
| Indicator definition | The number of women with unmet need for family planning expressed as a percentage of women of reproductive age who are married or in a union. |
| Numerator | <p>Number of eligible couples with unmet need for family planning in a given year * 100</p> <p>Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of their next child (World Health Organization, Programs, 2017).</p> <p><i>Numerator Source: FHB</i></p> |
| Denominator | <p>Total number of eligible couples in the year under consideration</p> <p><i>Denominator Source: FHB</i></p> |
| Rationale | This indicates the gap between a couple's reproductive intentions and their contraceptive behavior. It indicates the progress towards universal access to reproductive health services. Unmet need for family planning is also a significant contributor towards maternal mortality. |
| Interpretation | A decrease indicates an improvement in the access to reproductive health services. Sub national trend analysis is important for improving health services and client behavior. Interpretation of this indicator with the percentage use of modern family planning methods over time will give better insight in to the effectiveness of the reproductive health programme. |
| Feasibility of data collection | Group 1 |

2.2. Risk Factor Reduction

44. Overweight and obesity in persons aged 18-69 years

| | |
|--------------------------------|---|
| Indicator definition | Percentage of adults (18-69 years) who are overweight (defined as having a BMI ≥ 25 kg/m ²) and obese (defined as having a BMI ≥ 30 kg/m ²). |
| Numerator | Number of respondents aged 18-69 years who are overweight and obese * 100 <i>Numerator Source: STEPS</i> |
| Denominator | All respondents of the survey aged 18-69 years <i>Denominator Source: STEPS</i> |
| Rationale | <p>The prevalence of overweight and obesity in adults has been increasing globally. Overweight and obesity are major risk factors for many chronic diseases including diabetes, cardiovascular diseases and cancer. The BMI reflects the populations' life style practices related to diet and physical exercise. BMI is easily understood and people can be empowered to measure and monitor their progress. The measurement itself is practical and cost effective.</p> <p>Health advocacy, interventions throughout the life course, individual lifestyle guidance and health regulations play a vital role in modifying this risk factor.</p> |
| Interpretation | <p>A decrease in this indicator reflects effective primordial and primary prevention interventions.</p> <p>Disaggregation by gender and socio-economic groups is useful to identify further targeted interventions for prevention. Trend analysis for new cohorts as well as the follow up of the same cohort will be useful in assessing the effectiveness and sustainability of prevention strategies over time.</p> |
| Feasibility of data collection | Group 1 |

45. Tobacco use (including smoking, oral tobacco) among adolescents

| | |
|--------------------------------|--|
| Indicator definition | Percentage use of tobacco (including smoking, oral tobacco) among 13-15-year-old adolescents. |
| Numerator | No of 13-15-year adolescents currently using tobacco * 100 <i>Numerator Source: Global Youth Tobacco Survey, Sri Lanka</i> |
| Denominator | No of 13-15-year adolescents surveyed <i>Denominator Source: Global Youth Tobacco Survey, Sri Lanka</i> |
| Rationale | <p>Smoking is a modifiable risk factor for non-communicable diseases. There is a large body of evidence showing that smoking behaviour in early adulthood affects health behaviours later in life. The risk of chronic diseases starts early in childhood and such behaviour continues to adulthood. Tobacco is an addictive substance and smoking often starts in adolescence, before the development of risk perception. Smoking in children is a good indicator of the effectiveness of early lifestyle modification interventions, as well as the enforcement of the government policy on the banning of sale of cigarettes to children.</p> <p>The Government of Sri Lanka has taken several measures in this direction that are executed through the National Alcohol and Tobacco Authority (NATA).</p> <p>The adolescents not attending school are not captured and is a limitation. However, as school attendance is relatively high the majority in the age group will be included.</p> |
| Interpretation | Trends for this indicator should be interpreted along with other Government policies that would affect supply and demand for Tobacco. |
| Feasibility of data collection | Group 1 |

46. Alcohol use among youth

| | |
|--------------------------------|--|
| Indicator definition | Percentage of youth (18 to 24 years) who self-report alcohol consumption |
| Numerator | Number of youth (18 to 24 years) who self-report alcohol consumption * 100 <i>Numerator Source: STEPS</i> |
| Denominator | Total number of youth (18 to 24 years) surveyed <i>Denominator Source: STEPS</i> |
| Rationale | <p>Prevalence of current alcohol consumption was 23.7% among adults age ≥ 18 years in 2005/06 (Katulanda, et al., 2014). Excessive consumption of alcohol in youth has both immediate and long-term consequences. It is associated with a range of social, physical and mental health problems. It is a major risk factor for NCDs. The indicator will reflect the effectiveness of interventions aimed at empowering youth as targeting interventions for abstinence early on in life is more beneficial.</p> <p>Several measures in this direction are executed through the National Alcohol and Tobacco Authority (NATA).</p> <p>The per capita alcohol consumption is also a useful indicator to analyze the situation of alcohol consumption in a country and is considered under the SDGs. However, disaggregated data for this indicator are currently not available.</p> |
| Interpretation | <p>Trends for this indicator should be interpreted along with other Government policies that would affect supply and demand for alcohol.</p> <p>As the data is self-reported in the survey, there is a potential for under estimation of the results. The time series information will capture the success or failure of the interventions directed at youth empowerment.</p> |
| Feasibility of data collection | Group 2 |

47. Physical activity among school children

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|--------------------------------|--|
| Indicator definition | Percentage of students who were physically active for a total of at least 60 minutes per day on all 7 days during the past 7 days |
| Numerator | Number of students who were physically active for a total of at least 60 minutes per day on all 7 days during the past 7 days * 100 <i>Numerator Source: Global School Health Survey</i> |
| Denominator | Total number of students surveyed <i>Denominator Source: Global School Health Survey</i> |
| Rationale | <p>Physical activity in adolescence plays a role in development, learning and wellbeing as well as in the prevention of various health conditions. It can influence health outcomes later in life by setting standards for adult physical activity levels. It is recommended that children participate in at least 60 minutes of moderate to vigorous physical activity daily (World Health Organization, 2011).</p> <p>Practices initiated early enough can have longer lasting positive attitudes towards maintaining a physically active lifestyle.</p> <p>Promotion of physical activity has been integrated into several health interventions of the school health programme and requires effective intersectoral partnerships for successful implementation.</p> |
| Interpretation | Interpretation of this indicator is useful in conjunction with other indicators in time series. E.g. age standardized prevalence of overweight and obesity in adults |
| Feasibility of data collection | Group 1 |

48. Salt intake among adults

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|--------------------------------|---|
| Indicator definition | Age standardized mean population intake of salt (Sodium Chloride) per day in grams in persons aged 18+ years |
| Numerator | Salt intake among those aged 18 years surveyed <i>Numerator Source: MRI survey</i> |
| Denominator | Population aged 18 years and above surveyed <i>Denominator Source: MRI Survey</i> |
| Rationale | Salt is a common ingredient in the Sri Lankan diet and is identified as one of the major contributors to the development of high blood pressure. It is important to measure the level of consumption of salt as it is a modifiable risk factor for non-communicable diseases. It will reflect the success of population level prevention strategies to reduce salt consumption in the population. |
| Interpretation | Trend analysis is useful to assess the effectiveness of interventions to reduce dietary salt consumption in the population. It is informative to assess this indicator with the prevalence of hypertension in the population overtime. |
| Feasibility of data collection | Group 3 |

49. Low consumption of fruits and vegetables among adults

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|--------------------------------|---|
| Indicator definition | Percentage of adults (aged 18-69 years) who eat less than five servings of fruit and/or vegetables (400 grams) on average per day (age-standardized) |
| Numerator | Number of adults (aged 18-69 years) who eat less than five servings of fruit and/or vegetables (400 grams) on average per day * 100 <i>Numerator source: STEPS</i> |
| Denominator | Number of adults (aged 18-69 years) surveyed <i>Denominator Source: STEPS</i> |
| Rationale | Proper nutrition, including the adequate consumption of fruits and vegetables in place of foods high in salt, fat and sugar has been found to be protective against non-communicable diseases like cardiovascular diseases and diabetes. The fruit and vegetable consumption is affected by factors such as family income, availability of fresh fruit and vegetables, cultural practices, lifestyle and family habits and the cost of alternatives. Multi-sector interventions are needed for improvement of this indicator. |
| Interpretation | Trend analysis by place of residence, socio-economic status and sex are useful to assess the impact of multi-sector interventions for behavior change. This indicator is also useful to assess the impact of health promotion interventions aimed at improving fruit and vegetable consumption in the population. |
| Feasibility of data collection | Group 1 |

50. Edentulousness among 65-74 age group

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|--------------------------------|---|
| Indicator definition | Percentage edentulous among 65-74-year age group |
| Numerator | Number of people who are fully edentulous in the 65-74-year age group of the survey population * 100 <i>Numerator Source: National oral health survey</i> |
| Denominator | Total number of people in the 65-74-year age group in the survey population <i>Denominator Source: National oral health survey</i> |
| Rationale | Oral health is an essential part of general health. This is a socio dental indicator which quantifies the impact of oral health on everyday activities. Considering the rapidly ageing population in Sri Lanka, due consideration must be given to edentulousness in the elderly. Edentulousness leads to poor nutrition in the elderly population. The indicator reflects on both health seeking behaviors of people as well as the treatment practices of dentists to preserve teeth. |
| Interpretation | Rising percentage of edentulousness indicates dental healthcare needs that require action towards improving oral health of people. A decrease in trend suggests success of oral health promotion programmes in the country. Disaggregate by: district, socio-economic status |
| Feasibility of data collection | Group 1 |

51. Dental caries among children aged 12 years

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|--------------------------------|--|
| Indicator definition | Percentage of children ages 12 years with dental caries in a given year |
| Numerator | Number of children with dental caries * 100 <i>Numerator Source: FHB</i> |
| Denominator | Total number of 12-year-old children <i>Denominator Source: FHB</i> |
| Rationale | <p>Dental caries is predominantly preventable; however, it is a significant problem which results in pain, sleep loss, time off school, need for treatment and in a few cases treatment under general anesthesia.</p> <p>Baseline of the dental caries level of a country is measured by the 12 year olds (Permanent dentition completes at this age) (World Health Organization, Oral Health, 2017).</p> <p>This indicator reflects the effectiveness of school dental services as well as health promotion interventions aimed at children. It also indirectly indicates the dietary pattern of children. Inclusion of this indicator will promote prioritisation of oral health in health programmes.</p> |
| Interpretation | <p>A decrease in this indicator would reflect the effectiveness of school dental services and indicate better oral hygiene in children. It may indirectly reflect a decrease in the sugar consumption pattern amongst children.</p> <p>Disaggregate by: district, sector (urban/rural/estate)</p> |
| Feasibility of data collection | Group 1 |

3. Process/Structure

3.1. Availability

52. Health workforce

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|----------------------|--|
| Rationale | <p>This indicator will consider the availability of some key health personnel required to ensure good access to healthcare. Universal healthcare is dependent on optimum availability and distribution of the health workforce.</p> <p>All health staff except medical officers are trained by the ministry of health. Availability and equitable distribution of health staff within the health care delivery structure depends on human resource policies relevant to recruitment, training, deployment and retention.</p> |
| Interpretation | <p>Effective HRH policies will result in the population per health worker category declining over time. The indicator is best described according to sub national values among districts/ provinces to highlight the sub national disparities in distribution.</p> <p>Sub national needs for health workforce may differ according to variations in health burden and other socio demographic factors and equity analysis may be confounded.</p> <p>This indicator is measured globally to assess commitment towards achieving the SDGs.</p> |
| Indicator definition | <p>Medical Specialists per 100,000 population (Includes general specialties and critical sub-specialties: VOGs, physicians, surgeons, psychiatrists, child psychiatrists, ophthalmologists, geriatricians, nephrologists, rehabilitation specialists)</p> |
| Numerator | <p>Total number of medical specialists * 100,000</p> <p><i>Numerator Source: Directorate of TCS, MoH</i></p> |
| Denominator | <p>Mid-year population for the year under consideration</p> <p><i>Denominator Source: RGD</i></p> |
| Indicator definition | <p>Medical officers per 100,000 population</p> |
| Numerator | <p>Total number of medical officers * 100,000</p> <p><i>Numerator Source: Directorate of MS, MoH</i></p> |
| Denominator | <p>Mid- year population for the year under consideration</p> <p><i>Denominator Source: RGD</i></p> |

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|--------------------------------|---|
| Indicator definition | Dental Surgeons per 100,000 population |
| Numerator | Total number of dental surgeons * 100,000 <i>Numerator Source: DDG (Dental Services) Unit, MoH</i> |
| Denominator | Mid- year population for the year under consideration <i>Denominator Source: RGD</i> |
| Indicator definition | Nursing Officers per 100,000 population |
| Numerator | Total number of nursing officers * 100,000 <i>Numerator Source: D/Nursing Unit, MoH</i> |
| Denominator | Mid- year population for the year under consideration <i>Denominator Source: RGD</i> |
| Indicator definition | Professions Supplementary to Medicine per 100,000 population (Pharmacist, Medical Laboratory Technicians, Radiographers, Physiotherapists, Occupational Therapist) |
| Numerator | Total number of Professions Supplementary to Medicine * 100,000 <i>Numerator Source: DDG (ET&R) Unit, MoH</i> |
| Denominator | Mid-year population for the year under consideration <i>Denominator Source: RGD</i> |
| Indicator definition | Public Health Midwives per 100,000 population |
| Numerator | Total number Public Health Midwives * 100,000 <i>Numerator Source: MDPU</i> |
| Denominator | Mid-year population for the year under consideration <i>Denominator Source: RGD</i> |
| Indicator definition | Public Health Inspectors per 100,000 population |
| Numerator | Total number of Public Health Inspectors * 100,000 <i>Numerator Source: MDPU</i> |
| Denominator | Mid-year population for the year under consideration <i>Denominator Source: RGD</i> |
| Feasibility of data collection | Group 2 |

53. Availability of rehabilitation hospitals at district level

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|--------------------------------|---|
| Indicator definition | Percentage of rehabilitation hospitals available at district level |
| Numerator | Number of districts with rehabilitation hospitals * 100 <i>Numerator Source: Directorate of Youth Elderly and Disabled</i> |
| Denominator | Number of districts in the country |
| Rationale | Development of rehabilitation services is vital to address the present health burden. The need for rehabilitation services range from acute and long-term disability management, aged care services, management of cerebral palsy, management of dementia and several other conditions. The services provided through a rehabilitation hospital include physiotherapy, occupational therapy, speech and language therapy, social work, clinical psychology and provision of assistive devices. Equitable distribution of rehabilitation services is envisaged in the national guidelines for rehabilitation services in Sri Lanka where it is specified that each district should have at least one smaller rehabilitation hospital (Directorate for youth elderly and disabled persons, 2015). |
| Interpretation | All districts should have rehabilitation hospitals and this indicator will reflect the ministry commitment to implement the national guidelines for rehabilitation services island wide. |
| Feasibility of data collection | Group 2 |

54. Availability of doctors at primary level hospitals

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|--------------------------------|--|
| Indicator definition | Doctors at primary level hospitals per 10 000 population |
| Numerator | Number of doctors at Divisional hospitals, Primary Medical Care Units in a given year * 10 000 <i>Numerator Source: MSU</i> |
| Denominator | Midyear population of the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | In a context of an increased burden due to non-communicable diseases, providing continuing care closer to home becomes important by strengthening primary level services. The doctor-population ratio for primary care institutions needs to be reduced to improve universal access to essential health services. More doctors need to be deployed at this level. Although the absolute number of medical officers has increased, there is mal-distribution between the levels of care (i.e. an increase in medical officers in secondary and tertiary care institutions) that hinder access to primary care institutions closer to homes. This leads to people accessing higher levels of care for primary care needs resulting in unnecessary cost for the patient and burdening the service provision at secondary and tertiary levels of care due to overcrowding. |
| Interpretation | A decrease in the ratio of doctors at primary level institutions to population indicates an improvement in the primary care workforce and potential strengthening of primary care health service provision. This indicator can be interpreted subsequently with improved health outcomes, preventable morbidity and mortality. The indicator trend should be compared with trends for availability of doctors in hospitals above primary care level. Disaggregate by: province, district |
| Feasibility of data collection | Group 1 |

55. Hospitals with access to morphine for pain management for patients with cancer

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|--------------------------------|--|
| Indicator definition | Percentage of hospitals with access to morphine for pain management for patients with cancer |
| Numerator | Number of hospitals with access to morphine for pain management for patients with cancer * 100 <i>Numerator Source: NCCP</i> |
| Denominator | Total number of hospitals that should have access to morphine (Initially pain management with morphine should be available at least at NHSL, TH, PGH, DGH, BH A & B) <i>Denominator Source: MoH</i> |
| Rationale | The WHO has defined palliative care as care that improves the quality of life of patients and families who face life-threatening illness, by providing pain and symptom relief, spiritual and psychosocial support from diagnosis to the end of life and bereavement (World Health Organization, 2017). Providing palliative care closer to home is a strategy adopted by the National Cancer Control program. Availability of morphine for pain management is an intervention under this strategy (Ministry of Health and Indigenous Medicine, 2015). |
| Interpretation | Availability of morphine does not necessarily reflect the actual access to pain management. This is dependent on other factors such as awareness and training of health staff on pain management, availability of guidelines, adherence to guidelines and on health seeking patterns of individuals with a need. Disaggregate by: level of hospital, district |
| Feasibility of data collection | Group 3 |

56. Availability of essential drugs at primary level hospitals

| | |
|--------------------------------|---|
| Indicator definition | Percentage of primary level hospitals with all the essential drugs for management of chronic NCDs (16) without stock out situations in a given period |
| Numerator | Number of primary level hospitals with all the essential drugs for management of chronic NCDs (16) without stock out situations during a given period * 100 <i>Numerator Source: MSD</i> |
| Denominator | Total number of primary level curative institutions <i>Denominator Source: MSU</i> |
| Rationale | Availability of essential drugs for chronic illness care at primary level curative institutions helps to improve the utilization of these institutions. A recent policy decision was taken by the ministry of health to make available all 16 essential drugs at all primary level institutions (Ministry of Health, Priority Drug list to manage Non COmmunicable Diseases at Primary Care Level Hospitals -Circular No-02-135/2011, 2011). Availability of drugs without stock outs should be monitored. A redistribution of drugs among a group of hospitals may occur to ensure availability. |
| Interpretation | An increase reflects the improved availability of essential drugs at primary level institutions and thus the improved access to chronic care for the population at these institutions closer to their homes. This indicator should be analyzed with utilization indicators to assess the impact on health care access for the population. Disaggregate by: province, district |
| Feasibility of data collection | Group 2 |

57. Estate hospitals providing basic primary care services

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|--------------------------------|--|
| Indicator definition | Percentage of estate hospitals that provide a package of primary care services (essential NCD drugs, basic lab tests, HLCs, use of Personal Health Records). The basic package of services has to be defined for this purpose. |
| Numerator | Number of estate hospitals that provide the basic primary care package * 100 <i>Numerator Source: Estate and Urban Health unit, MoH</i> |
| Denominator | Total number of estate hospitals <i>Denominator Source: Estate and Urban Health unit, MoH</i> |
| Rationale | Estate hospitals serve a relatively vulnerable population. Primary care hospitals contribute to universal access to health care through making available basic primary care services that include essential NCD drugs, basic laboratory tests, a functioning HLC and the use of personal health records that provide continuity of care. |
| Interpretation | All primary care hospitals should have similar services. Primary care facilities serving estate communities can be compared with those in other areas. The comparison reflects on equitable services for vulnerable populations. |
| Feasibility of data collection | Groups 3 |

58. Availability of long term care beds

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|--------------------------------|--|
| Indicator definition | Availability of long term care beds per 100,000 population |
| Numerator | <p>Number of long-term care beds * 100,000</p> <p><i>Long term care beds need to be defined for the country. OECD definition – “Long-term care beds in hospitals are hospital beds accommodating patients requiring long-term care due to chronic impairments and a reduced degree of independence in activities of daily living (Organization for Economic Cooperation and Development, 2007)”</i></p> <p><i>Numerator Source: to be identified</i></p> |
| Denominator | <p>Midyear population of the year under consideration</p> <p><i>Denominator Source: RGD</i></p> |
| Rationale | <p>Thus far, the Sri Lankan health system has mainly focused on delivering short term health care for acute conditions. However, with the demographic trend of ageing populations as well as the increased burden of non-communicable diseases, emphasis must also be given to long term care. This aims to help chronically ill and disabled people to live a relatively normal life for as long as possible, and can be provided in both institutions as well as in the home or community environment.</p> <p>With policy changes and financial commitment, the facilities for long-term care (LTC) are expected to improve. The number of beds in LTC and in LTC departments in hospitals provides a measure of the resources available for delivering LTC services to individuals outside of their home.</p> |
| Interpretation | <p>An increase in the availability of long-term care beds would indicate strong commitment to strengthening long-term care facilities by the health services. This should not be restricted to only the main towns, but should be available down to the smaller institutions. The trend for this indicator should be interpreted in comparison with trends for bed occupancy rates and average lengths of stay.</p> <p>Disaggregate by: type of hospital, district</p> |
| Feasibility of data collection | Group 3 |

59. Hospitals with disability access

| | |
|--------------------------------|--|
| Indicator definition | Percentage of hospitals with disability access |
| Numerator | Number of hospitals with disability access * 100 <i>Numerator Source: Youth, Elderly & Disabled unit, MoH</i> |
| Denominator | Total number of government hospitals in Sri Lanka <i>Denominator Source: MSU, MoH</i> |
| Rationale | Increasing life expectancy requires hospitals services that are elderly and disabled friendly. Elderly and the disabled can be disadvantaged if suitable access is denied. The indicator signifies equity in access to vulnerable populations. |
| Interpretation | Making changes to existing institutions require capital allocation. Institutions that belong to the line ministry can be compared with provincial institutions. Similarly, district level information can be compared. This can be included into the hospital facility survey in the future. Disaggregate by: governance of the institution/ district |
| Feasibility of data collection | Group 3 |

60. Availability of services for people with substance use disorders

| | |
|--------------------------------|--|
| Indicator definition | The number of institutions providing interventions to address substance use per 100 000 population |
| Numerator | The number of institutions (both government and private) providing interventions to address substance use * 100 000 <i>Source: Mental Health Unit, MoH</i> |
| Denominator | Mid-year population for the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | Availability of services is essential to support people with substance use disorders. These may be provided through the government, private sector or non-governmental organizations. Service providers should be aware of availability of these services and refer accordingly. |
| Interpretation | Disaggregation by district and sector, as well as by government and non-government run services will help to identify gaps in availability of services. |
| Feasibility of data collection | Group 2 |

3.2. Governance

61. Hospitals conducting clinical audits

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|--------------------------------|--|
| Indicator definition | Percentage of hospitals (Base hospitals and above) that have carried out at least 2 clinical audits per month (excluding death audits) |
| Numerator | Number of hospitals that have carried out at least 2 clinical audits per month (excluding death audits) * 100 <i>Numerator Source: Directorate of Healthcare Quality and Safety, MoH</i> |
| Denominator | Total number of hospitals (Base hospitals and above) <i>Denominator Source: Management, Development and Planning Unit, MoH</i> |
| Rationale | The aim of clinical audits is to assess current processes/systems and allow quality improvements to take place where needed to improve patient outcomes. Clinical audit is an important tool to use in clinical governance. The indicator is a measure of involvement in processes that lead to improving quality of care. |
| Interpretation | The indicator is useful to see the trend in adopting practices towards quality improvement and must be interpreted along with indicators of clinical outcomes. |
| Feasibility of data collection | Group 1 |

62. Hospitals conducting death reviews

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|--------------------------------|--|
| Indicator definition | Percentage of hospitals (Base hospital upwards) which conduct a death review once a month |
| Numerator | Number of healthcare institutions conducting at least one death review per month (excluding dengue, maternal and perinatal deaths) * 100 <i>Numerator Source: to be identified</i> |
| Denominator | Total number of hospitals (Base Hospital upwards) <i>Denominator Source: MDPU, MoH</i> |
| Rationale | Death review or death audit is a useful discussion amongst the medical team to review if the death could have been prevented and if recommendations can be made to prevent any further deaths from occurring. Death reviews form useful case studies that bring attention to policy practices that could be made at institutional or national level to improve health outcomes of patients. |
| Interpretation | The indicator is useful to see the trend in adopting practices towards quality improvement. The qualitative information in the form of case reports or death review reports would be more useful in informing policy decisions regarding health service improvement. Feedback reports generated to share review recommendations are useful. |
| Feasibility of data collection | Group 3 |

63. Hospitals with functional Quality Management Units

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|--------------------------------|---|
| Indicator definition | Percentage of hospitals with functional Quality Management Units (QMUs) (BH upwards) |
| Numerator | Number of hospitals with functional QMUs * 100 <i>Numerator Source: Directorate Healthcare Quality and Safety, MoH</i> |
| Denominator | Total number of secondary and tertiary care hospitals <i>Denominator Source: MDPU, MoH</i> |
| Indicator definition | Percentage of divisional hospitals reporting to the district Healthcare Quality and Safety Units (HQS). |
| Numerator | No of divisional hospitals providing regular reports to the district HQS Units* 100 <i>Numerator Source: Directorate Healthcare Quality and Safety, MoH</i> |
| Denominator | Total no of divisional hospitals/MOH units <i>Denominator Source: MDPU, MoH</i> |
| Rationale | This indicator is a measure of the governance for quality and safety in healthcare – establishment of units is a proxy for availability of a quality assurance mechanism at healthcare institutions. |
| Interpretation | The indicator is useful to see the trend in adopting practices towards quality improvement and is useful at the initiation of the quality program and needs to be reviewed as saturation point is reached. The process availability must be interpreted with outcomes of interventions aimed at improving the quality of health service delivery. |
| Feasibility of data collection | Group 1 |

64. Hospitals with adverse event reporting mechanism

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|--------------------------------|---|
| Indicator definition | Percentage of hospitals with adverse event reporting mechanism |
| Numerator | <p>Number of secondary and tertiary care hospitals with adverse event reporting mechanism * 100</p> <p><i>Numerator Source: Directorate of Healthcare Quality and Safety, MoH</i></p> |
| Denominator | <p>Total number of secondary and tertiary care hospitals</p> <p><i>Denominator Source: MDPU, MoH</i></p> |
| Rationale | <p>Reporting of adverse events is an accepted intervention to improve the quality and patient safety in hospitals. The government health system recently adopted the quality and safety policy and the clinical quality care program has been prioritized for strengthening. The indicator is useful to monitor this process (Ministry of Health Nutrition and Indigenous Medicine, General Circular No: 01-38/2016, 2016).</p> <p>Although a mechanism itself may not indicate that adverse events are under control interim assessment of coverage of institutions adopting the mechanism would be a useful starting point.</p> |
| Interpretation | <p>Coverage of institutions that have adopted the mechanism is useful as a management indicator by district and level of hospital.</p> <p>It would be useful to compare this with other indicators on clinical outcomes to assess if those adopting such mechanisms have better clinical outcomes.</p> <p>Disaggregate by: district, level of hospital</p> |
| Feasibility of data collection | Group 1 |

65. Hospitals conducting customer satisfaction surveys

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|--------------------------------|--|
| Indicator definition | Percentage of healthcare institutions performing at least one customer satisfaction survey per year with scoring system according to national guidelines (Management Development and Planning Unit, 2010). |
| Numerator | Number of healthcare institutions conducting at least one customer satisfaction survey per year * 100 <i>Numerator Source: Directorate Healthcare Quality and Safety, MoH</i> |
| Denominator | Total number of healthcare institutions in the country <i>Denominator Source: MDPU, MoH</i> |
| Rationale | This indicator reflects upon the responsiveness of healthcare service provision and patient experience and customer orientation in delivering healthcare services. |
| Interpretation | The indicator is useful to see the trend in adopting practices towards quality improvement. Disaggregate by: level of hospital |
| Feasibility of data collection | Group 1 |

66. Yearly consumption of antiseptic hand rub products

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|--------------------------------|---|
| Indicator definition | Yearly consumption of antiseptic hand rub products per 1000 hospital days |
| Numerator | Volume of antiseptic hand-wash products consumed per year * 1000 <i>Numerator Source: to be identified</i> |
| Denominator | Number of hospital days for the year under consideration <i>Denominator Source: MSU, MoH</i> |
| Rationale | Many studies have demonstrated the effect of hand cleansing on health care associated infection rates or the reduction in cross-transmission of antimicrobial resistant pathogens. The alcohol-based hand rubs remove organisms more effectively, require less time, and irritate skin less often than hand washing with soap or other antiseptic agents and water (World Health Organization, 2009). |
| Interpretation | When the hand hygienic practices are improving, the volume of antiseptic hand wash consumed per 1000 hospital days should increase. This is subject to availability of anti-septic hand wash. The indicator trend should be compared with rates for hospital acquired infections. |
| Feasibility of data collection | Group 3 |

67. Hospitals monitoring Healthcare Associated Infections (HAI)

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|--------------------------------|--|
| Indicator definition | Percentage of hospitals monitoring HAI |
| Numerator | Number of hospitals (BH and above) monitoring and reporting on HAI* 100 <i>Numerator Source: Directorate of Healthcare Quality and Safety, MoH</i> |
| Denominator | Total number of hospitals BH and above <i>Denominator Source: MDPU, MoH</i> |
| Rationale | Establishing mechanisms to monitor HAI ensures incorporating safety measures in practice. An HAI is a localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) that was not present on admission (Horan, Andrus, & Dudeck, 2008). Therefore, reduction of HAI indicates the adherence to proper infection prevention and control guidelines by the health staff. |
| Interpretation | The indicator should be analyzed to review sub national performance. It would be useful to compare this process indicator with outcome indicators such as the rate of HAI over time. Disaggregate by: level of hospital, district |
| Feasibility of data collection | Group 2 |

68. Percentage completion of factory inspections

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|-----------------------------|---|
| Indicator definition | Percentage of factories inspected during a year |
| Numerator | Number of factories inspected for occupational and environmental hazards * 100 <i>Numerator Source: Directorate of Environment and Occupational Health, MoH</i> |
| Denominator | <i>Total number of factories registered by regional health authorities</i> <i>Denominator Source: Directorate of Environment & Occupational Health, MoH</i> |
| Rationale | There are two major objectives in conducting factory inspections: identifying and addressing any public health issues caused by the factory, minimizing occupational risks and hazards experienced by the health workers. Proper maintenance of factories will help to improve the health status of the workers. |
| Interpretation | Factory inspections should be 100% for each PHI area. The denominator will depend on the completeness of the registration of the factories by the PHIs. It is important to note that some areas have larger number of factories compared to other areas due to the location of industrial zones within these areas. |
| Feasibility data collection | Group 3 |

3.3. Service Quality

69. Hospital admissions due to asthma

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|--------------------------------|---|
| Indicator definition | Percentage of total hospital admissions due to asthma |
| Numerator | Number of hospital admissions confirmed as asthma * 100 <i>Numerator Source: MSU</i> |
| Denominator | Total number of hospital admissions during the year under consideration <i>Denominator Source: MSU</i> |
| Rationale | <p>Hospital admissions due to asthma can be reduced with appropriate management in most cases. This indicator reflects the quality of continuing care for asthma.</p> <p>Specific interventions that would impact on the outcome of ambulatory care would be the availability of lifestyle guidance, medications and adherence to clinical protocols.</p> <p>Barriers to successful management include economic (poverty, poor education, lack of sanitation, or infrastructure), cultural (beliefs), environmental (tobacco smoking, air pollution, occupational exposure, nutrition) and availability and accessibility of drugs and devices.</p> |
| Interpretation | <p>There may be a seasonal increase in asthma admissions.</p> <p>Prevalence of asthma may be seen to rise in the future with urbanization and changing lifestyles. With proper management admissions should not rise concurrently.</p> <p>A change (reduction) in admissions due to asthma should also be interpreted with case fatality due to asthma.</p> |
| Feasibility of data collection | Group 2 |

70. Case detection rate of tuberculosis

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|--------------------------------|--|
| Indicator definition | <p>Percentage of estimated new and relapse TB cases detected in a given year</p> <p>The term “case detection”, as used here, means that TB is diagnosed in a patient and is reported within the national surveillance system, and then to WHO.</p> |
| Numerator | <p>Number of cases detected (of all forms of tuberculosis) in a given year * 100</p> <p><i>Numerator Source: NPTCCD</i></p> |
| Denominator | <p>Estimated number of tuberculosis cases in the same year</p> <p><i>Denominator Source: NPTCCD</i></p> |
| Rationale | <p>The proportion of estimated tuberculosis cases detected provides an indication of how effective the national tuberculosis programme is in finding people with tuberculosis and diagnosing the disease. Case finding will depend on public awareness of the disease, health seeking patterns of the population and provider behavior to suspect, screen and detect cases of disease.</p> |
| Interpretation | <p>A time series analysis will demonstrate the effectiveness of the processes established within the healthcare delivery structure to reduce the gap in case detection. It is however subject to proper estimations done of the countries health burden due to tuberculosis</p> <p>Disaggregate by: district, sex, sector, wealth quintile</p> |
| Feasibility of data collection | <p>Group 1</p> |

71. International Health Regulations (IHR) core capacity index

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|--------------------------------|---|
| Indicator definition | <p>Percentage of attributes of 13 core capacities that have been attained at a specific point in time. The 13 core capacities are:</p> <ul style="list-style-type: none"> (1) National legislation, policy and financing; (2) Coordination and National Focal Point communications; (3) Surveillance; (4) Response; (5) Preparedness; (6) Risk communication; (7) Human resources; (8) Laboratory; (9) Points of entry; (10) Zoonotic events; (11) Food safety; (12) Chemical events; (13) Radio nuclear emergencies |
| Numerator | <p>Number of capacities that have been attained at a specific point in time * 100</p> <p><i>Numerator Source: IHR Focal Point</i></p> |
| Denominator | <p>Total number of core capacities to be achieved (13)</p> <p><i>Denominator Source: IHR Focal Point</i></p> |
| Rationale | <p>Adequate implementation of IHR would result in the country being able to overcome possible threats due to pandemic/ declared emergency situations. Thirteen core capacities have been identified by the WHO to assist countries to effectively implement the IHR. This indicator is based on the IHR core capacities monitoring framework 2013 and is also identified as an important component of the SDGs (World Health Organization, Strengthening health security by implementing the International Health Regulations (2005), 2016). The composite nature of the indicator reflects that different processes need to be strengthened.</p> |
| Interpretation | <p>This is a composite indicator where 13 core capacities need to be assessed. The compilation of the indicator will depend on qualitative and quantitative assessments that reflect the implementation of IHR in the country. Biannual review is recommended.</p> |
| Feasibility of data collection | <p>Group 2</p> |

72. Hospitals with less than 1% readmission rate

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|--------------------------------|--|
| Indicator definition | <p>Percentage of hospitals (BH upwards) with annual readmission rate less than 1%</p> <p>A readmission is defined as an unplanned subsequent hospital admission in the same or a different hospital within 30 days after discharge from hospital due to the same illness (Ministry of Health Nutrition and Indigenous Medicine, 2016).</p> |
| Numerator | <p>No of healthcare institutions with less than 1% annual readmissions * 100</p> <p><i>Numerator Source: Directorate of Healthcare Quality and Safety</i></p> |
| Denominator | <p>Total number of secondary and tertiary care hospitals</p> <p><i>Denominator Source: MDPU, MoH</i></p> |
| Rationale | <p>Readmissions are associated with high healthcare costs. Improved hospital care and well-planned patient discharges following admission especially of high risk patients reduce the probability of readmissions.</p> <p>Readmissions may be unavoidable and may be necessary and pre-determined by the treating physician. Some unplanned readmissions are unavoidable, such as readmission for a new condition that is unrelated to the diagnosis of the previous admission or for readmissions for delivery. Measures should be taken to reduce the readmissions due to lapses on the part of the patient or the physician or both. Hospital readmission is an indicator of quality of care delivered to the patient.</p> <p>The indicator reflects on processes within the healthcare delivery structure that contribute to providing quality health services aimed at reducing readmissions due to the same cause.</p> |
| Interpretation | <p>A reducing trend both nationally and institutionally indicates improving quality of care.</p> <p>Patient related factors such as severity of illness, co morbidities, functional disability and dissatisfaction with the previous hospital stay also influence the chance of readmission.</p> <p>Disaggregate by: type of hospital, district</p> |
| Feasibility of data collection | Group 2 |

73. Surgical site infection rate

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| Indicator definition | Percentage of surgical site infections in clean surgeries performed during a defined period of time |
| Numerator | Reported number of surgical site infections in clean surgeries * 100 <i>Numerator Source: to be identified</i> |
| Denominator | Total number of clean surgeries performed <i>Denominator Source: to be identified</i> |
| Rationale | Surgical site infections (SSI) remain a significant cause of morbidity, extended hospital stays, increased health care costs and even death. SSIs consist of one of the commonest forms of hospital acquired infections (European Center for disease prevention and control, 2016). Many advances have been made in reducing the incidence of SSI including infection control practices, sterilization methods, surgical techniques and use of antimicrobial prophylaxis. Guidelines and objective measurements should be in place to ascertain if there is any post-operative infection. |
| Interpretation | The indicator reflects on adequacy of processes instituted to reduce the risk of post-operative infections within the hospital setting. SSI in clean surgeries should be brought down to zero. If there is no effective surveillance programme of SSI in the hospital, this indicator may appear to be low. This indicator will help to identify hospitals which need more stringent infection prevention and control practices. |
| Feasibility of data collection | Group 3 |

74. Hospital onset Methicillin Resistant Staphylococcus aureus (MRSA) bacteriaemia rate

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| Indicator definition | <p>Number of patients with hospital onset MRSA positive blood cultures per 10000 patient days per year</p> <p>Hospital onset MRSA bacteriaemia is defined as MRSA isolated from blood cultures collected > 3 days after admission to the hospital</p> |
| Numerator | <p>Number of patients with hospital onset MRSA positive blood cultures in a given year * 100</p> <p><i>Numerator Source: Directorate of Healthcare Quality and Safety, MoH</i></p> |
| Denominator | <p>Number of patient days reported from hospitals* for the year under consideration</p> <p>Denominator source: <i>Directorate of Healthcare Quality and Safety</i></p> <p><i>*for the calculation of the denominator patient days accrued from hospitals that report the data for the numerator should be considered</i></p> |
| Rationale | <p>MRSA is part of a group of bacteria called <i>Staphylococcus aureus</i> and is resistant to common antibiotics. MRSA strains have been identified as a major source of nosocomial infections and outbreaks in the healthcare environment.</p> <p>MRSA infections increase the risk of morbidity and mortality and leads to lengthening of hospital stays increasing health care costs.</p> <p>Control of MRSA infections requires a multifaceted approach comprising interventions such as ensuring antibiotic stewardship, adherence to infection control practices and screening of high risk patients.</p> |
| Interpretation | <p>The indicator reflects on the effectiveness of processes within the healthcare delivery structure for control of HAIs. MRSA is a sensitive indicator and trends in different hospitals can be studied. This may vary with the type of hospital and level of sophistication of care.</p> <p>Disaggregate by: type of hospital, district</p> |
| Feasibility of data collection | Group 1 |

75. Serious Adverse Events Following Immunization (AEFI) rate

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| Indicator definition | Percentage of serious AEFI reported during a year |
| Numerator | Total number of serious AEFI in a given year * 100 <i>Numerator Source: Epidemiology Unit</i> |
| Denominator | Total number of vaccinations performed in all age groups in the year under consideration <i>Denominator Source: Epidemiology Unit</i> |
| Rationale | Sri Lanka has a very successful immunization program with high coverage of the target population. Monitoring of serious AEFI is a quality assurance mechanism embedded to the current immunization program to ensure quality. An adverse event following immunization is defined as “any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine” (World Health Organization, 2016) Monitoring becomes important as the incidence of vaccine-preventable infectious diseases continue to decrease and people become more concerned about the risks associated with vaccination. In the event of an adverse event it is essential to rapidly respond, investigate and appropriately communicate with the public to prevent erosion of public confidence in the program. As AEFIs affect healthy individuals it is imperative to promptly identify and treat. |
| Interpretation | This indicator will reflect the effectiveness of the quality assurance mechanisms of the immunization program. The indicator should be calculated for sub national levels and by institution to take corrective action. Delayed reporting and under reporting are barriers for performance assessment when using this indicator. Disaggregate by: district |
| Feasibility of data collection | Group 1 |

76. Caesarian Section rate

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| Indicator definition | Percentage of Caesarian sections performed per 100 live births in a given year |
| Numerator | Number of caesarean sections performed in a given year * 100 <i>Numerator Source: Maternal statistics return from hospitals</i> |
| Denominator | Number of live births in the year under consideration <i>Denominator Source: RGD</i> |
| Rationale | <p>Caesarian sections, when performed for medically indicated reasons, have the potential of saving maternal and infant lives. Every woman requiring a caesarian section should have access to services of appropriate quality. Rates higher than 10% at the population level are not found to be related to reductions in maternal and newborn mortality rates (Betran A. P, 2015). Caesarian sections are associated with significant short and long-term risk and can affect the mother, her child, and future pregnancies.</p> <p>The indicator reflects on the access to a lifesaving procedure for women in need and on the adequacy of processes in place to avoid medically unnecessary Caesarian sections.</p> |
| Interpretation | <p>Interpretation should consider the level of institution. Higher rates can be seen in referral institutions that care for high risk mothers where caesarian section would be necessary.</p> <p>Trend Interpretation is useful. District level and institutional level rates would be useful to assess quality of care (risk identification, management of labor)</p> <p>Disaggregate by: age, district, level of institution, socioeconomic status</p> |
| Feasibility of data collection | Group 2 |

77. Dengue case fatality rate

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| Indicator definition | Number of deaths caused by dengue out of the total cases of dengue reported within a year |
| Numerator | Number of deaths due to dengue fever /dengue hemorrhagic fever reported for a year * 100 <i>Numerator Source: MSU</i> |
| Denominator | Total number of dengue fever/dengue hemorrhagic fever admissions reported for the year under consideration <i>Denominator Source: MSU</i> |
| Rationale | Although considered a neglected tropical disease in the global context, the ministry of health has made dengue control a priority area where prevention of mortality is an important health service response. Reduction in mortality reflects the effectiveness of health system interventions for improving the clinical quality of care: adherence to clinical protocols and guidelines, training of clinical staff, establishment of dengue management centres and purchase of equipment to manage patients with dengue etc. |
| Interpretation | The denominator should include all probable and confirmed cases of dengue. Trend analysis is important to assess the adequacy of patient management. The indicator is useful if coupled with audits i.e. of patients who died with fever more than 3 days on random basis. Disaggregate by: age, level of hospital and district |
| Feasibility of data collection | Group 1 |

78. Water samples tested from public water sources

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| Indicator definition | Percentage of water samples tested from public water sources |
| Numerator | Water samples sent for testing from public water sources during a defined period * 100 <i>Numerator Source: Epidemiology unit</i> |
| Denominator | Total number of water samples expected to be tested during the period under consideration The denominator is a fixed number (6 per MOH per month) <i>Denominator Source: Epidemiology unit</i> |
| Rationale | Access to safe drinking water is considered a fundamental need and a human right which is essential to ensure the dignity and health of people. The mandate of the preventive health sector in the ministry of health is to assure the safety of water supplied to the people. PHIs are expected to send water samples from public water sources for microbial testing. The indicator reflects on the practices at MOH level to ensure biological safety of drinking water. |
| Interpretation | Access to improved water sources reduces the susceptibility to water borne diseases. Access can be affected by geographical location and socio-economic factors. Therefore, disaggregation by these determinants would be beneficial to address inequality. This indicator can be cross checked locally through sanitation register of the PHIs. A limitation is that the chemical safety is not checked. Disaggregate by: district |
| Feasibility of data collection | Group 1 |

NATIONAL HEALTH PERFORMANCE INDICATORS



EFFICIENCY

79. Number of drug quality failures (events) reported during a quarter

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|--------------------------------|---|
| Indicator definition | Number of drug quality failures (events) reported during a quarter <i>Source: National Medicines Regulatory Authority</i> |
| Rationale | The ministry of health spends a considerable amount for purchase of medical supplies: Rs 31.7 billion in 2015 (Ministry of Health Nutrition and Indigenous Medicine, 2017). Quality failures affect availability and patient safety and efficacy of treatment. It can also adversely affect people's trust in the health sector. |
| Interpretation | These are the quality failures reported from post market surveillance. Reporting will not capture the entire problem of failures. Visually obvious and other known side effects when presented will be captured. There will be many failures that would not be reported. Hence this can reflect the problem as a 'tip of the iceberg'. Economic loss due to withdrawal of quality failed drugs should be considered. |
| Feasibility of data collection | Group 2 |

80. Cost of discarded drugs

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|--------------------------------|--|
| Indicator definition | Percentage cost of discarded drugs by the total expenditure for drugs in a year |
| Numerator | Total cost of discarded drugs during the year * 100 <i>Numerator Source: MSD</i> |
| Denominator | Total expenditure on drugs during the year under consideration <i>Denominator Source: MSD</i> |
| Rationale | The government spent 23.6% of current health expenditure on drugs in 2013 (Health Economics Cell, 2016). The State Pharmaceutical Corporation is responsible for procuring drugs and medical supplies for the ministry of health according to national procurement guidelines and other stringent procedures for evaluation and selection laid down by the ministry of health. The National Drug Quality Assurance Laboratory (NDQAL) operates the pharmaceutical quality assurance system in Sri Lanka. The system should be efficient to ensure that safe medicines are provided to the patients while maximizing resource use for purchase of drugs. Quality failures and expired drugs are reasons to discard. |
| Interpretation | A trend analysis is useful to assess the effectiveness of the quality assurance system in the ministry of health. Although the cost of discarded drugs would depend on the types of drug discarded, an increasing trend would indicate the need to make the system more stringent to promote efficient use of the health ministry allocation for drugs procurement. |
| Feasibility of data collection | Group 2 |

81. In-patient hospital utilization indicators

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| Indicator definition | Length of hospital stay |
| Numerator | Total number of inpatient days for the year Inpatient day refers to a day of inpatient care provided to a patient in a hospital. This can be derived by adding the midnight total in the hospital for the defined period. <i>Numerator Source: MSU</i> |
| Denominator | Total number of discharges (including deaths) <i>Denominator source:MSU</i> |
| Indicator definition | Bed Occupancy Rate |
| Numerator | Total number of inpatient days for the year * 100 Inpatient day refers to a day of inpatient care provided to a patient in a hospital. This can be derived by adding the midnight total in the hospital for the defined period. <i>Numerator Source: MSU</i> |
| Denominator | Total number of beds x number of days in the year <i>Numerator Source: MSU</i> |
| Indicator definition | Bed Turnover Rate |
| Numerator | Total number of discharges (including deaths) for the year <i>Numerator Source: MSU</i> |
| Denominator | Total bed count in the institution during the year <i>Numerator Source: MSU</i> |
| Rationale | These 3 indicators only apply to hospitals with inpatient care facilities. Bed occupancy rate, average length of stay and bed turnover rate are useful indicators to judge how efficiently hospitals are utilized. A patient should receive optimum care requiring a length of stay in hospital. This should not be irrationally short or longer than what is required for optimum care. Patients should be hospitalized at the level of hospital that can address care needs. Optimum level of resources when available and rational admission and discharge policies as well as ward management policies would enable a length of stay that is appropriate to the care that is |

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| | <p>required. Efficiency in clinical management as well as resource management would result in lengths of stay that are suitable to care levels.</p> <p>Bed occupancy reflects on utilization of the hospital. Hospitals with large number of beds that are not occupied indicate inefficiency in bed utilization. It is noted that Primary level hospitals have low bed occupancy whilst hospitals with specialists have sometimes close to or above 100% occupancy. There could be several reasons for this situation and overall over or underutilization reflects efficiency gaps in the system. Generally, 85% occupancy should be the optimum level of occupancy around which other resources should be managed with effective institutional policies in admission and discharge.</p> |
| <p>Interpretation</p> | <p>The length of hospital stay should be interpreted according to level of hospital, and different type of care that is provided. Disaggregation can be done to ward level at institution level to review internal management. Hospitals providing rehabilitation services would have longer average length of stay.</p> <p>Bed Occupancy rates should be analyzed according to level of care, type of institution and within an institution should be applied to ward/unit level.</p> <p>Rates should be interpreted to understand the efficiency level and other critical factors that are affecting occupancy e.g. human resource availability, availability of laboratory facilities, admission and discharge procedures</p> <p>Different scenarios can exist with varying levels of occupancy, bed turnover rate and length of stay. Specialist hospitals such as those above BH level having good occupancy rate with high patient turnover and shorter length of stay would indicate that although well utilized it is not performing specialized care to the extent that can be expected. Specialized care may need longer stay but with technology advancement admissions too can be averted by providing more ambulatory procedures.</p> <p>Interpretation on efficiency can be done using trend data where changes could be reasoned with availability of different resources, technology and management practices.</p> |
| <p>Feasibility of data collection</p> | <p>Group 1</p> |

82. Utilization of annual financial allocation

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|--------------------------------|--|
| Indicator definition | Percentage utilization of annual financial allocation to the ministry of health |
| Numerator | Total expenditure (actual) on health during the year * 100 <i>Numerator Source: Finance Division, MoH</i> |
| Denominator | Total allocation for health for the given year <i>Denominator source: Department of National Treasury</i> |
| Rationale | Health sector receives a competitive allocation from the National budget. Factors affecting this indicator range from fund flow to ministry, cash flow management and to technical decisions relevant to capital expenditures. This indicator reflects the efficiency of financial utilization within the MoH. |
| Interpretation | Disaggregation by institutions and type of expenditure is important to identify gaps and strengths in the utilization of financial allocation. Financial utilization should be interpreted together with physical progress and achievement of physical targets/ results. Disaggregate by: Institution, type of expenditure |
| Feasibility of data collection | Group 1 |

83. Allocation of government current health expenditure for preventive care

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|--------------------------------|---|
| Indicator definition | Percentage allocation of government current health expenditure for preventive care |
| Numerator | Allocation of government current health expenditure for preventive care *100 <i>Numerator source: Sri Lanka National Health Accounts</i> |
| Denominator | Total GoSL current health expenditure for the year <i>Denominator source: Sri Lanka National Health Accounts</i> |
| Rationale | It is important that sufficient emphasis be given to development of the preventive sector and provision of preventive services to lessen the burden on the curative sector. Investment in preventive services is shown to be highly cost effective and contribute to extending life expectancy and improving the quality of life. Policy makers must balance the demands for funding of preventive health services with the increasing expenditure for curative services. |
| Interpretation | This would be a time trend analysis which could be compared with key events and achievements in preventive health sector. Other sectoral contribution that will indirectly promote health and prevent illness may need to be considered. |
| Feasibility of data collection | Group 1 |

84. Hospitals that provide specified laboratory services

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| Indicator definition | Percentage of hospitals that provide specified laboratory services |
| Numerator | Number of hospitals (by level) that provide specified laboratory services * 100 <i>Numerator source: DDG/Laboratory Services</i> |
| Denominator | Total number of hospitals by level of care <i>Denominator source: MDPU, MoH</i> |
| Rationale | Access to laboratory services is a key determinant of health care expenditure for patients. Poor availability results in high out of pocket expenditure. Improving availability of essential laboratory services is important in achieving universal health coverage. A minimum set of laboratory tests that can support service delivery at each level of hospital is needed to provide rational delivery of health services. |
| Interpretation | Laboratory test availability depends on several factors such as availability of equipment, reagents and human resources. Disaggregation at the district level will give an idea of equitable service provision. This indicator is a sensitive indicator and regular analysis at shorter interval is useful. Disaggregate by: district |
| Feasibility of data collection | Group 3 |

85. Completion rate of preliminary investigations of complaints within one month of reporting

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| Indicator definition | Percentage of complaints for which preliminary investigations have been completed within a month of reporting to the Investigation and flying squad division of the ministry of health. |
| Numerator | Number of complaints for which preliminary investigations have been completed within a month of reporting for a given year * 100 <i>Numerator source: DDG (Investigations), MoH</i> |
| Denominator | Total number of complaints received by the investigation branch during the year <i>Denominator source: DDG (Investigations), MoH</i> |
| Rationale | Investigation of inquiries is beneficial in that whilst pointing to potential gaps it provides evidence to strengthen the healthcare services. This will contribute to improving the quality of services delivered to people. The timely investigation and initiation of action on all complaints received improve the institutional responsiveness to the public. This helps to reinforce their trust in the system which is a key determinant of subsequent health seeking behaviours. |
| Interpretation | Timely investigation of complaints depends on the expediency of institutional procedures adopted in addition to the availability of human resources to instigate the procedures. An increase in the indicator would result from institutional commitment to strengthen the responsiveness of the system. |
| Feasibility of data collection | Group 2 |

NATIONAL HEALTH PERFORMANCE INDICATORS



EQUITY

Indicators given above can be analyzed according to dimensions of equity: geographical location, sector (urban/rural/estate), income groups, specific vulnerable groups and general community, gender as per relevance and requirement.

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ANNEXURE 1: AVAILABILITY OF DATA

The indicators have been grouped according to present data availability as follows (refer Annexure 2):

1. data currently available through the routine system,
2. data is available but not routinely reported or analyzed in the manner specified
3. new data required for which pilot testing of data collection is required

Table 3: Performance indicators by availability of data

| | |
|---------|---|
| Group 1 | <ul style="list-style-type: none"> • Life Expectancy at birth • Maternal Mortality Ratio • Infant Mortality Rate • Neonatal Mortality Rate • Under five mortality rate • Prevalence of anaemia among pregnant mothers • Microfilaria rate • Prevalence of wasting among children under 5 years of age • Prevalence of stunting among children under 5 years of age • Prevalence of low birth weight • Total Fertility Rate • Adolescent fertility rate • Number of confirmed cases of Malaria in a year • Incidence of Dengue (DF/DHF) • Incidence of Leptospirosis • Child cases of Leprosy • Percentage of most at risk population living with HIV • Number of children with HIV due to mother to child transmission • Incidence of Congenital Rubella syndrome • Incidence of Human Rabies • Incidence of common preventable (oral, lung and cervical) cancers • Out of pocket expenditure on health • Percentage of OPD visits to primary level hospitals • Percentage of medical clinic attendees at primary level hospitals • Annual per capita medical clinic visits • Hypertension treatment coverage • Diabetes treatment coverage • Immunization coverage (Pentavalent vaccine 3/OPV3) • Unmet need for family planning • Age-standardized prevalence of overweight and obesity in persons aged 18- 69 yrs • Prevalence of tobacco use (including smoking, oral tobacco) among adolescents |
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| | <ul style="list-style-type: none"> • Percentage of school children engaging in physical activity • Percentage of adults consuming less than five servings of fruits and vegetables/day • Prevalence of edentulousness among 65-74 age group • Prevalence of dental caries among children aged 12 years • Availability of doctors at primary level hospitals • Percentage of hospitals conducting clinical audits • Percentage of hospitals with functional quality management units • Percentage of hospitals with adverse event reporting mechanism • Percentage of hospitals conducting customer satisfaction surveys • Case detection rate of tuberculosis • Hospital onset MRSA bacteremia rate • Serious AEFI rate • Dengue case fatality rate • Percentage of water samples tested from public water sources • In-patient hospital utilization indicators • Percentage utilization of annual financial allocation • Percentage allocation of government CHE for preventive care |
| Group 2 | <ul style="list-style-type: none"> • Mortality due to alcoholic liver disease • Mortality due to RTA • Prevalence of diabetes among pregnant mothers • Suicide mortality rate • Percentage use of health services by persons with severe mental disorders • Prevalence of alcohol use among youth • Health work force indicators • Availability of essential drugs at primary level hospitals • Availability of services for people with substance use disorders • Percentage of hospitals monitoring healthcare associated infections • Percentage of hospitals admissions due to asthma • International Health Regulations (IHR) core capacity index • Percentage availability of rehabilitation hospitals at district level • Percentage hospitals with less than 1% readmission rate • Caesarian section rate • Number of drug quality failures (events) reported during a quarter • Percentage cost of discarded drugs • Percentage completion of preliminary investigations of complaints within a month • Catastrophic health expenditure |

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| Group 3 | <ul style="list-style-type: none"> • Life expectancy at age 65 • Patients undergoing dialysis in the population • Mortality due to 30-70 years of age from chronic NCD • Prevalence of Preventable blindness in population aged over 60 years • Percentage of amputations due to diabetic foot disease • Prevalence of retinopathy in diabetic patients • Institutions responsiveness • Impoverishment due to ill health • Mean population intake of salt among adults • Percentage of hospitals with access to morphine for pain management for cancer patients • Percentage of estate hospitals providing basic primary care services • Availability of long term care beds • Percentage of hospitals with disability access • Percentage of hospitals which conducting death reviews • Yearly consumption of antiseptic hand rub products • Percentage completion of factory inspections • Surgical site infection rate • Percentage of hospitals that provide specified laboratory services |
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ANNEXURE 2: LIST OF CONTRIBUTORS

| Officials from the Ministry of Health | |
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| Dr. J.M.W. Jayasundara Bandara | Deputy Director General (Dental Services) and acting Deputy Director General (Planning) |
| Dr. Sunil de Alwis | Deputy Director General (Education, Training & Research) |
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| Dr. A.M. S.B. Mahamithawa | Director/ Nutrition Division |
| Dr. S.R.U. Wimalaratne | Director /Health Information |
| Dr. Indrakumari Fernando | Director / Primary Care Services |
| Dr. P.M. Rathnayake | Director/ Estate & Urban Health Unit |
| Dr. Vijith Gunesekara | Director/ Laboratory Services |
| Dr. H.S.R. Perera | Director/Organization Development |
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| Dr. Dilantha Dharmagunawardene | Registrar/Medical Administration |
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| Dr. Samiddhi Samarakoon | Registrar/Medical Administration |
| Dr. A.I. Jagoda | Registrar/Medical Administration |
| Dr. Sampath Indika Kumara | Registrar/Medical Administration |
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| Dr. J. Hamsananthy | Registrar/Community Medicine |
| Dr. M.P. Kumbukage | Registrar/Community Medicine |
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