



**Technical Report on the  
Self-Assessment of Availability and Quality of Data  
Sources and Capacity to Generate and Utilize  
Burden of Disease Data for Policy  
in ASEAN Member States**

**International Health Policy Program  
Ministry of Public Health, Thailand  
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## **Abbreviation**

BOD	Burden of disease
SDG	Sustainable Development Goals
LE	Life expectancy
HALE	Healthy Life expectancy
AMS	ASEAN Member States
IHPP	International Health Policy Program
ACCF	ASEAN-China Cooperation Fund
ASEC	ASEAN Secretariat Economic Community

## Executive summary

This technical report summarizes the findings of self-assessment on the availability and quality of data sources and capacity to generate and utilize burden of disease data for policy in ASEAN Member States (AMS).

The self-assessment was conducted using the pre-workshop questionnaire developed by the International Health Policy program (IHPP), Ministry of Public Health, Thailand. The 10 AMS representatives who participated in the Burden of Disease Networking Workshop reached a consensus on the self-assessment in pre-workshop questionnaires and return completed questionnaire by 10 November 2021. All analyses were conducted using the Microsoft Excel 365. The findings of this technical report, in terms of regularity report and available country data sources for BOD and SDG, including frequency and percentages, were used to calculate for quality of birth and death. The average, min, and max scores were calculated for each item to indicate capacities in generating and utilizing BOD information for policy implementation.

## Findings

### **Self-assessment of the availability and quality of data sources for BOD and SDGs**

The findings showed many AMS have a limitation in the regularity of reporting most indicators, such as basic demography, life expectancy and healthy life expectancy, maternal and child health, communicable diseases, mortality, key risk factors, and sexual and reproductive health care services. Most of the AMS rely on primary data sources to monitor SDG3 and BOD. There are only two surveys available in every country: a population census in the last 10 years and cancer registry data. 3-5 of AMS have a birth and death registry with 91-100% coverage.

### **Self-assessment of capacity to generate and utilize BOD information for policy implementation**

The overall average score for capacities of analysis, synthesis, and validation of health data was 3.4 (with the range of minimum 1 to maximum 5). The average score for the question on the importance of the BOD study for health system performance assessment was high (average score 4.5), while the accessibility of quality data, institutional capacity to produce BOD and competency to perform a BOD study within last 5 years had the lowest average scores of 3.2, 3 and 2.8, respectively.

Utilization of BOD evidence for policy implementation. The questionnaire included fifteen-questions under three main factors such as: 1) organization capacity, system and infrastructure, 2) accessibility and availability of relevant evidence, and 3) networking and collaboration between technical/research personnel and policy makers. The overview results of the main factors showed that networking and collaboration between technical/research personnel and policy makers had the lowest average score of 2.6, while the accessibility and availability of relevant evidence also scored low, with an average of 2.8. Organizations, system, and infrastructure had the highest average score of 3.4. The average scores for the questions 'recommendations are not policy relevant', 'policy makers do not value evidence', 'the evidence produced is not relevant to policy questions,' and 'policy recommendations are not practical and feasible' were low with the scores of 2.2, 2.3, 2.5 and 2.5 respectively.

## **Recommendations**

1) Where data are available for BOD and SDG, recommended to collect data every 3-5 years. And if the actual data is available, it should be used. However, if the data is unavailable, proxy data is acceptable because BOD and SDG data is essential in many respects, including decision making, intervention monitoring and assessment as well as comparing the benefits of interventions.

2) To improve the systematic assessment of the quality of BOD data, recommended to conduct systematic assessments of mortality data in terms of availability and quality.

3) AMS should promote country capacity, provide national stakeholders with the knowledge to conduct a BOD study and promote synthesis and effective communication of reliable and relevant research results between different institutions and information sources within the country and within the region.



## Introduction

As ASEAN economics steadily progress, many ASEAN member states (AMS) are undergoing economic and epidemiologic transition demonstrated by increasing longevity, urbanization, and prevalence of non-communicable diseases (NCDs). The consumption of tobacco and alcoholic products are among the most significant preventable risk factors which contribute to disparities in NCDs across AMS. Therefore, AMS must address these risk factors and the burden of NCDs as part of upcoming work on strengthening NCD governance capacity in the South-East Asia region.

During the Sustainable Development Goals (SDGs) era, health policy makers need substantial evidence to support priority setting for health planning and resource allocation to achieve Universal Health Coverage. BOD represents a summary measure of population health which combines information on fatal and non-fatal health loss. Moreover, it is an influential tool for quantifying the impact of various health risk factors on population health and for prioritizing major health outcomes for specific age groups. Understanding the true burden on each country is essential in order to track health progress, assess the impact of public health interventions, and support evidence-based policy decisions.

BOD data is essential for decision making, intervention monitoring and assessment as well as comparing the benefits of intervention, although it requires a lot of resources, such as human resources, costs, and time. Therefore, WHO recommend that data is collected every 3-5 years. If the actual data is available, it should be used, but, if the data is unavailable, proxy data is acceptable.

Although BOD studies have already been fully or partially conducted in some AMS, the published research output, especially in resource-limited countries, is disproportionately low. Through synergistic collaboration among AMS, capacity for health research and development will be enhanced to collectively progress towards achieving SDGs. In terms of ASEAN health cooperation, these networking activities can contribute to the “ASEAN 2025 Forging Ahead Together” as well as the Plan of Action (POA) to Implement the Joint Declaration on ASEAN-China Strategic Partnership for Peace and Prosperity (2016-2020) section 3.1 on Public Health.

Thus, the online workshop on Burden of Diseases Networking Workshop was conducted on November 10,17, 24 and December 2021. The workshop objective was to establish a regional BOD network in South-East Asia and China to address the burden of emerging NCDs, increase the awareness of BOD studies and encourage evidence-based priority setting for country health policy. The workshop was organized by the Burden of Diseases research unit, International Health Policy Program (IHPP), Ministry of Public Health, Thailand.

The self-assessment of availability and quality of data sources and capacity in generating and utilizing burden of disease data for policy in AMS is a part of Burden of Diseases Networking Workshop. The self assessment concludes with recommendations as to where work should focus, including capacity development and technical assistance needed for BOD study in AMS, and to continue the ASEAN network for capacity building for BOD studies and utilization for policy development between networking countries.

## Objective

1. To self-assess the availability and quality of data sources essential for producing evidence on burden of disease (BOD) which contribute to monitoring achievement of Sustainable Development Goals (SDGs) in ASEAN Member States (AMS).
2. To self-assess capacity in generating and utilizing BOD data for policy in AMS.

## Methodology

The self-assessment began with Burden of Diseases Networking Workshop on 10, 17, 24 November and 1 December 2021. The International Health Policy program (IHPP) circulated a pre-workshop questionnaire to 10 participating ASEAN Member States (AMS) representatives. 10 AMS representatives reached consensus on their the self-assessment in pre-workshop questionnaires and returned their completed questionnaires by 10 November 2021. 10 AMS representatives participated in four rounds of workshops, and each AMS will produce one self-assessment report.

The self-assessment was finalized in December 2021, and was up-dated in January 2022 to reflect recent developments.

### Pre-workshop questionnaires

The self-assessment was conducted using the pre-workshop questionnaire developed by the International Health Policy program (IHPP), Ministry of Public Health, Thailand. The questionnaire was composed of four main parts: (1) Availability of national statistics which contribute to BOD estimation, notably basic demographic, health expectancy and health-related SDG indicators; (2) Self-assessment of the availability, coverage, frequency and quality of national data sources; (3) Self-assessment of capacity for analysis, synthesis, and validation of health data; and (4) Self-assessment of utilization of BOD evidence for policy implementation (Pre-workshop questionnaire, see Annex III).

1) Availability of national statistics which contribute to BOD estimation, notably basic demographic, health expectancy and health-related SDG indicators. This section collected basic demographic, life and healthy life expectancy and health-related SDG indicators using country data sources from the past 5 years (2016-2020), did not use international data sources, and use ND for no data.

The measures of basic demographic included: (a) total population (by sex); (b) total number of population aged 60+ (by sex); and (c) total number of under 5 population (by sex).

The measures of life and healthy life expectancy included: (a) Life expectancy (by sex); and Healthy life Expectancy (by sex).

The measures of health-related SDG indicators included all of SDG goal 3.

2) Self-assessment of the availability, coverage, frequency and quality of national data sources.

This section assesses the availability and quality of country data sources required for the BOD and SDGs estimation. There are 2 parts including 1) country data sources including current census, surveys, and data collection systems, and 2) Quality of Births and deaths data (Coverage of birth and death registration, Quality of death registration data).

### 3) Self-assessment of capacity for analysis, synthesis, and validation of health data.

This section surveys the current situation of the AMS capacity for analysis, synthesis, and validation of health data, covering twelve questions (Annex III). The measures are rated in a five-point Likert scale ranging from 1 representing “strongly disagree to 5 “strongly agree”.

### (4) Self-assessment of utilization of BOD evidence for policy implementation

This section included of fifteen-structured-question under three main factors such as 1) organization capacity, system and infrastructure, 2) accessibility and availability of relevant evidence, and 3) networking and collaboration between technical/research personnel and policy makers (Annex III). The measures are rated in a five-point Likert scale ranging from 1 representing “strongly disagree to 5 “strongly agree”.

### **Respondents**

Each of the 28 AMS selected 2-4 participants (for List of AMS representative see Annex II) meeting the following criteria:

- Responsible for managing health information in one of the following fields: BOD, Health/Vital Statistics, Summary Measure of Population Health (SMPH), NCDs monitoring and evaluation.
- Background and work experience at the mid-level or higher in one of the following fields: Medical/Health professional, Statistics/Biostatistics, Public Health research.
- Currently working in a government organization or academic institution.

### **Analysis**

The pre-workshop questionnaires were pooled for each item. All analyses were conducted using the Microsoft Excel 365.

Descriptive statistics were calculated for the results, frequency for regularity of report on availability and quality of data sources for BOD and SDGs between 2016-2020, regularity of report comprise “Regularly reporting”, “Limitation on regularity of reporting”, and “No countries data source”, including frequency for country data sources available for BOD and SDG.

The percentages were calculated for completeness of birth and death registration, including frequency for each item of quality of cause of death. The average, min, and max score were calculated for each item for capacities in generating and utilizing BOD information for policy implementation.

The technical report summarizes the finding of ASEAN countries’ self-assessment of the availability and quality of data sources and capacity in generating and utilizing burden of disease data for policy. For each country’s self-report assessment please see Annex I Country self-report assessment.

## Findings

The findings are divided into two parts: 1) Self-assessment of the availability and quality of data sources for BOD and SDGs, and 2) Self-assessment of capacity to generate and utilize BOD information for policy implementation.

### 1. Self-assessment of the availability and quality of data sources for BOD and SDGs

This section outlines the current availability and quality of data sources for BOD and SDGs across AMS. There are 4 parts:

1.1 Availability of demographic data (Total populations, mortality, and other health-related SDG indicators).

1.2 Availability of epidemiological data (Life expectancy and Healthy Life expectancy, quality of birth and death data).

1.3 Country data sources available for BOD and SDG.

1.4 Summary of knowledge gap on availability and quality of data for BOD and SDGs.

#### 1.1 Availability of demographic

For the results presented in term of regularity of report on total populations and total mortality of AMS between 2016-2020 shown in Table 1.

##### 1) Total populations

Total populations are number of populations by sexes and age groups, we found that Brunei, Indonesia, Malaysia, and Singapore reported regularly between 2016-2020 (total populations by sexes, total number of population aged 60+ by sex, and total number of under 5 population by sexes). Six out of 10 AMS have limitations on reporting regularity.

Three in 10 AMS use census and 7 AMS use health statistics report as data sources for population reporting. However, 10 AMS report conducting a population census in the last 10 years.

##### 2) Total mortality

Mortality indicators of SDGs include a) Maternal, Newborn and child mortality; b) Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease; c) other mortality.

**a) Maternal, Newborn and child mortality** include SDG 3.1.1 Maternal mortality ratio (per 1,000 live births); SDG 3.2.1 Under-five mortality rate (per 1,000 live births); and SDG 3.2.2 Neonatal mortality rate (per 1,000 live births).

Brunei, Laos, Malaysia, Vietnam reported regularly between 2016-2020. Six in 10 AMS record limited reporting regularity.

For Maternal, Newborn and child mortality reporting, 10 AMS use Health statistics report as a data source. However, many AMS have limited reported data for newborn and child mortality.

**b) Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease**, SDG 3.4.1, presented a probability of dying between age 30 and 70.

Brunei, Singapore, and Thailand reported regularly between 2016-2020. Three in 10 AMS note limited regularity of reporting.

For Mortality Rates, 4 countries used NCDs reporting, while 6 AMS use Health statistics report and NCD report.

**c) Other mortality** includes SDG 3.4.2 Suicide mortality rate (per 100,000 population), SDG 3.6.1 Death rate due to road traffic injuries, SDG 3.9.1 Mortality rate attributed to household and ambient air pollution, SDG 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene, and SDG 3.9.3 Mortality rate attributed to unintentional poisoning.

10 AMS demonstrate limited reporting regularity between 2016-2020. Many AMS have limited data for SDG 3.9.1 and 3.9.2.

For mortality reporting, 10 AMS use as data sources the health statistics report, MoH/MOPH data, and other sources such as Ministry of Natural Resources and Environment.

*Table 1 Regularity report on demographic between 2016-2020*

Indicators	Cambodia	Brunei	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Vietnam	Thailand
<b>Total population</b>										
Total population by sexes, by age groups. <sup>1</sup>	Yellow	Green	Green	Yellow	Green	Yellow	Yellow	Green	Yellow	Yellow
<b>Total mortality</b>										
Maternal and child health mortality <sup>2</sup>	Yellow	Green	Yellow	Green	Green	Yellow	Yellow	Yellow	Green	Yellow
Mortality Rate Attributed to 4NCDs	Red	Green	Yellow	Red	Yellow	Red	Yellow	Green	Red	Green
Other Mortality <sup>3</sup>	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

**Note:**

Regularly reporting	Limitation on regularity of reporting	No countries data source
---------------------	---------------------------------------	--------------------------

1. Total population by sexes, by age groups included total populations by sexes, total number of population aged 60+ by sex, and total number of under 5 population by sexes.
2. Maternal and child health mortality included SDG 3.1.1 Maternal mortality ratio (per 1,000 live births); SDG 3.2.1 Under-five mortality rate (per 1,000 live births); and SDG 3.2.2 Neonatal mortality rate (per 1,000 live births).
3. Other Mortality included SDG 3.4.2 Suicide mortality rate (per 100,000 population), SDG 3.6.1 Death rate due to road traffic injuries, SDG 3.9.1 Mortality rate attributed to household and ambient air pollution, SDG 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene, and SDG 3.9.3 Mortality rate attributed to unintentional poisoning.

**3) Other Health-related SDG indicators**

Other Health-related SDG indicators including prevalence of exposure to key risk factors, sexual and reproductive health care services, financial risk protection, prevention and treatment, and other SDG3. The results are shown in Table 2.

**a) Prevalence of exposure to key risk factors**

The 4 key risk factors are 1) Prevalence of alcohol drinking among adults aged 15 years and older, 2) Prevalence of tobacco smoking among persons 15 years and older 3) Prevalence of physical inactivity among persons 15 years and older 4) Prevalence of unhealthy diet among persons 15 years and older.

The results found that Brunei, Indonesia, Malaysia, Philippines, Singapore, Vietnam, and Thailand report within the 5-year interval, Cambodia and Laos report irregularly within the 5 years interval. Myanmar had data source reporting on the prevalence of exposure to key risk factors.

For prevalence of exposure to key risk factors reporting, most AMS use a national survey (STEP survey, NHES, Health welfare survey).

**b) Sexual and reproductive health care services** including SDG 3.7.1 Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods and SDG 3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group.

The results found that 9 in 10 AMS report annually (Cambodia did not). For sexual and reproductive health care services reported, AMS use MoH/MOPH and national surveys as a data source.

**c) Financial risk protection** including SDG 3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population) and SDG 3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income.

The results found that Thailand and Malaysia reported regularly between 2016-2020. While 2 AMS (Indonesia and Singapore) reported with some limitations. However, 5 AMS had no data source for financial risk protection.

For financial risk protection AMS use MoH/MOPH and national surveys.

**d) Prevention and treatment** including SDG 3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders and SDG 3.5.2 Harmful use of alcohol, defined according to the national context as per capita alcohol consumption (aged 15 years and older) within a calendar year, in litres of pure alcohol.

The results found that Brunei, Indonesia, Malaysia, Philippines, and Thailand reported regularly between 2016-2020. while 5 AMS had no data source for prevention and treatment.

AMS countries use MoH/MOPH and national surveys as data sources for prevention and treatment reporting.

**e) Other SDG goal 3** including SDG 3.b.1 Proportion of the target population covered by all vaccines included in their national programme, SDG 3.b.2 Total net official development assistance to medical research and basic health sectors, SDG 3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis, SDG 3.c.1 Health worker density and distribution, SDG 3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness, SDG 3.d.2 Percentage of bloodstream infections due to selected antimicrobial-resistant organisms.

The results found that Brunei, Indonesia, Malaysia, Philippines, and Singapore reported regularly between 2016-2020. 3 AMS (Laos, Vietnam, and Thailand) reported with some limitations. Cambodia and Myanmar had no data source for other SDG3 as above.

AMS countries use MoH/MOPH and national surveys as data sources.

Table 2 Regularity report on other health-related SDG indicators between 2016-2020

Indicators	Cambodia	Brunei	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Vietnam	Thailand
Key risk factors <sup>1</sup>	Yellow	Green	Green	Yellow	Green	Red	Green	Green	Green	Green
Sexual and reproductive health care services <sup>2</sup>	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green
Financial risk protection <sup>3</sup>	Red	Red	Yellow	Red	Green	Red	Red	Yellow	Red	Green
Prevention and treatment <sup>4</sup>	Red	Yellow	Yellow	Red	Yellow	Red	Yellow	Red	Red	Yellow
Other SDG <sup>5</sup>	Red	Green	Green	Yellow	Green	Red	Green	Green	Yellow	Green

**Note:**

Regularly reporting	Limitation on regularity of reporting	No countries data source
---------------------	---------------------------------------	--------------------------

- 1: Regular reporting in 5 years interval, including Prevalence of alcohol drinking among adults aged 15 years and older, tobacco smoking among persons 15 years and older, physical inactivity among persons 15 years and older, and unhealthy diet among persons 15 years and older.
- 2: annually reporting, including SDG 3.7.1 Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods and SDG 3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group.
- 3: including SDG 3.8.1 Coverage of essential health services and SDG 3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income.
- 4: including SDG 3.5.1 Coverage of treatment interventions and SDG 3.5.2 Harmful use of alcohol.
- 5: SDG 3.b.1 Proportion of the target population covered by all vaccines included in their national programme, SDG 3.b.2 Total net official development assistance to medical research and basic health sectors, SDG 3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis, SDG 3.c.1 Health worker density and distribution, SDG 3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness, SDG 3.d.2 Percentage of bloodstream infections due to selected antimicrobial-resistant organisms.

## 1.2 Availability of epidemiology

The results are as 1) Regularity of report on life expectancy (LE) and Healthy Life expectancy (HALE) 2) Quality of birth and death data.

### 1) Life expectancy and Healthy Life expectancy

Regularly reported regularity on life expectancy and Healthy Life expectancy from 2016-2020 of AMS shown in Table 3.

#### a. Life expectancy (LE)

Indonesia, Malaysia, Myanmar, and Thailand reported regularly between 2016-2020. 6 AMS reported with some limitations.

All 10 AMS use Health statistics reports as a data source for reported life expectancy.

#### b. Healthy Life expectancy (HALE)

Malaysia, Singapore, and Thailand reported with some limitations. Seven AMS countries had no data source for healthy life expectancy.

Of those who have a data source to measure healthy life expectancy, 3 AMS use health statistics reports.



Table 3 Regularity report on Life expectancy and Healthy Life expectancy between 2016-2020

Indicators	Cambodia	Brunei	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Vietnam	Thailand
Life expectancy	Yellow	Yellow	Green	Yellow	Green	Green	Yellow	Yellow	Yellow	Green
Healthy life expectancy	Red	Red	Red	Red	Yellow	Red	Red	Yellow	Red	Yellow

Note:

Regularly reporting	Limitation on regularity of reporting	No countries data source
---------------------	---------------------------------------	--------------------------

## 2) Quality of birth and death data

### a) Completeness of birth and death reporting

10 AMS report that birth and death registration is mandatory by law. Seven AMS (Cambodia, Brunei, Indonesia, Malaysia, Singapore, Vietnam, and Thailand) report 81-100% of birth registration. In the Philippines, birth registration was 61-80%. Two AMS (Laos and Myanmar) report no available or no country data source for completeness of birth in 2020. (Figure 1).

Six AMS (Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand) report 81-100% of death registration, Vietnam was 61-80 %, Cambodia was 30-61 % and 2 AMS (Laos and Myanmar) also report no available or no country data source for death registration in 2020 (Figure 1).

### b) Quality of cause of death

Figure 2 shows quality of cause of death. The results show that 9 in 10 AMS (except Indonesia), there is a standard medical certificate to record cause of death, and in 4 AMS (Philippines, Singapore, Vietnam, and Thailand) is it an electronic record.

Seven in 10 AMS (Brunei, Indonesia, Malaysia, Myanmar, Philippines, Vietnam, and Thailand) use an interview of the relatives of deceased person or verbal autopsy to verify the cause of death. And 9 AMS (all except Laos) used the ICD-10 as the disease classification tool.

Nine in 10 AMS (all except Myanmar) health and population data are disaggregated by sex and age group, and upper age cut off. Three in 10 AMS (Laos, Vietnam, and Thailand) used an upper age cut off of 80 years. Other AMS use upper age cut offs such as 70+, 75+, 85+, and 90+.

The questionnaires found that the range of proportion of ill-defined were between 3-40%



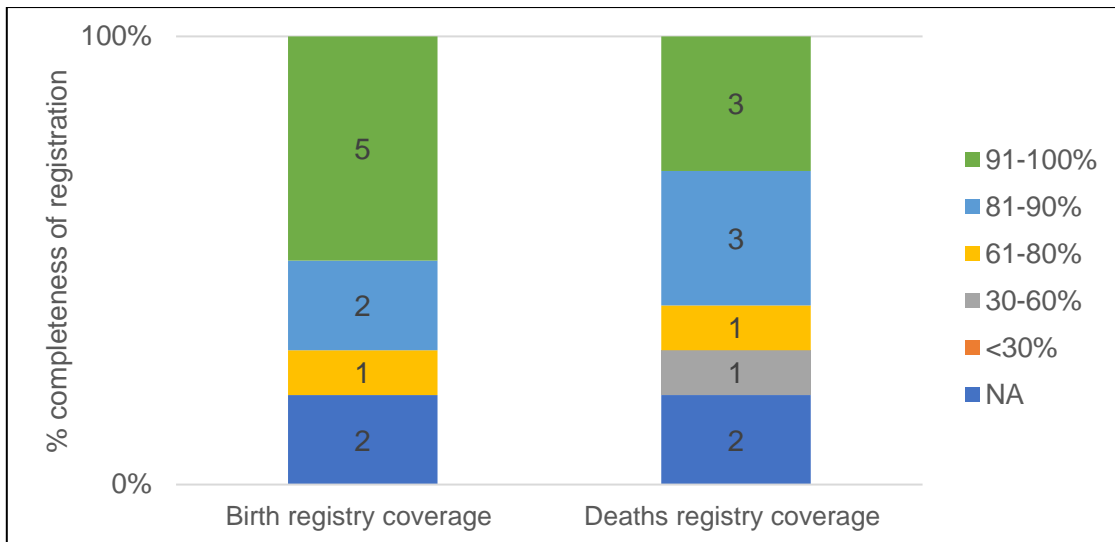


Figure 1 Completeness of birth and death registration in 2020

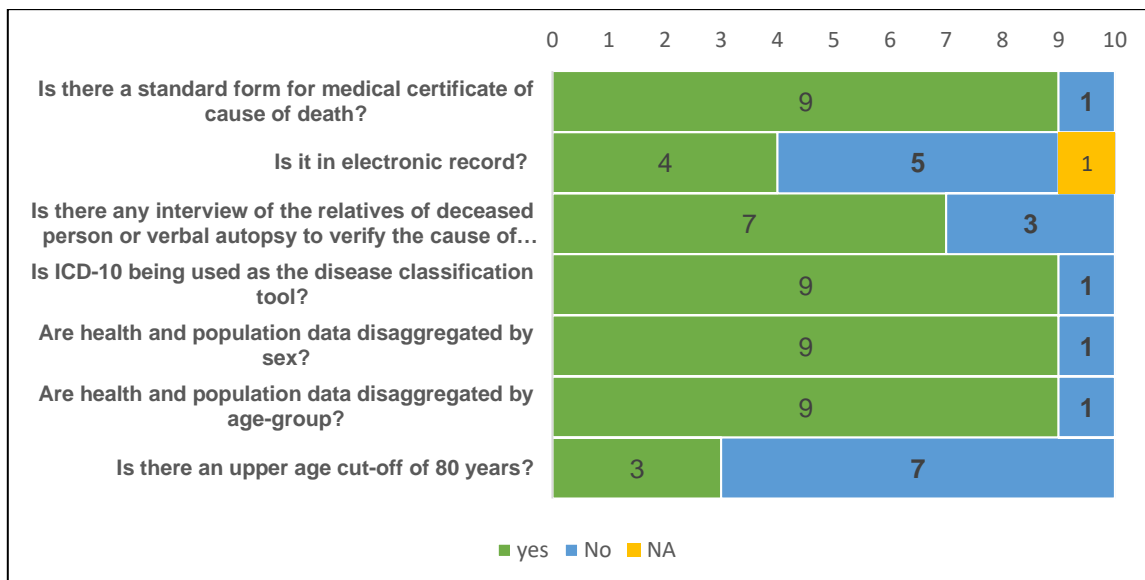


Figure 2 Quality of cause of death by questionnaires

### 1.3 Country data source available for BOD and SGD

Country data source available for BOD and SDG including population census, surveys population, disease surveillance, disease registers, and health facility data are shown in Table 4.

#### Population census

All 10 AMS, had carried out a population census in the last 10 years.

#### Surveys Population

Surveys population in this part including health Interview through household /special survey, health exam survey, socioeconomic survey, and risk factor survey. 5 in 10 AMS (Indonesia, Malaysia, Singapore, Vietnam, and Thailand) conducted health Interviews through household /special survey. 6 in 10 AMS (Cambodia, Indonesia, Malaysia, Myanmar, Philippines, and

Vietnam) used a demographic and Health Survey (DHS) or other equivalent. 6 in 10 AMS (Cambodia, Indonesia, Malaysia, Philippines, Vietnam, and Thailand) used a socioeconomic survey.

We found that only 2 in 10 AMS (Laos and Thailand) had a health exam survey, 9 in 10 AMS except Laos had a Risk factor survey.

#### Disease surveillance

Found that 8 in 10 AMS except Laos and Myanmar there are disease surveillance. these countries, there is least one disease surveillance.

#### Disease registers

We found that all 10 AMS had a cancer registry data source. 7 in 10 AMS (Brunei, Indonesia, Laos, Malaysia, Myanmar, Singapore, and Thailand) had disease records from clinical settings and compiled these into statistics, for example electronic health service / Hospital discharges.

#### Health facility data

We found that 10 AMS used at least one electronic health service / hospital discharges.

Table 4 Available of country data sources for BOD and SDG in 5 years (between 2016-2020)

Major sources	Cambodia	Brunei	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Vietnam	Thailand
Population census	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Population surveys</b>										
Health Interview through household /special survey	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
Health exam survey	No	No	No	Yes	No	No	No	No	No	Yes
Demographic and Health Survey (DHS) /other equivalent	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	No
Socioeconomic survey	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes
Risk factor survey	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
<b>Epidemiological studies</b>										
Diseases surveillance	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
<b>Disease registers</b>										
Cancer registry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diseases records from clinical settings and compile into statistics	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
<b>Health facility data</b>										
Electronic health service / Hospital discharges	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Yes  
NO

#### 1.4 Summary of availability and quality of data sources for BOD and SDGs

The findings showed that many AMS have limitations in their reporting of most indicators such as basic demography, life expectancy and Healthy life expectancy, maternal and child health, communicable diseases, mortality, key risk factors, and sexual and reproductive health care services. Most of the countries use primary data sources to monitor SDG3 and BOD study in AMS. There are only two surveys available in every country; population census in last 10 years and cancer registry data. So, it is important to advocate for the countries in ASEAN to collect data every 3-5 years, using actual data where available. However, if the data is unavailable, proxy data is acceptable.

The findings show that 3-4 AMS have birth and death registration at 91-100% coverage. Therefore, it is urgently needed to improve the availability and quality of mortality data, and the systematic assessment of the quality of data for BOD is absolute essential in ASEAN Countries.

#### 2. Self-assessment of capacities in generating and utilizing BOD information for policy implementation

This section provides the current capacity of the AMS' to generate and use health statistics, including BOD information, for policy implementation.

##### 2.1 Capacities for analysis, synthesis, and validation of health data

Current situation of the AMS's capacities for analysis, synthesis, and validation of health data Twelve questions (shown in table 5) were asked to explore the capacity to analyse, synthesise and validate health statistics from all ASEAN countries. The overall average score for these capacities was 3.4 (with the range of minimum 1 to maximum 5).

The average score for the existence of designated and functioning institutional mechanisms tasked with analysis, synthesis and validation of health statistics data from various sources (average score 4) and average score for the question to the important of the BOD study for health system performance assessment was high (average score 4.5). However, quality data accessibility, institutional capacity to produce BOD and competency to perform a BOD study within last 5 years were the lowest average scores of 3.2, 3 and 2.8, respectively. Detailed information regarding these capacities are shown in the following Figure 3 and Table 5.

*Table 5 Average, minimum and maximum scores to each question related to the capacity to analysis, synthesis, and validation of BOD and other health data from 10 AMS*

Questions	Scores		
	Average	Minimum	Maximum
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	4	2	5
2) The designated institutes have adequate capacity to fulfill these mandates	4	2	5

Questions	Scores		
	Average	Minimum	Maximum
3) There is a national set of indicators with targets for regular monitoring	4.2	2	5
4) There is an annual or biennial report to inform health policy and planning	3.8	3	5
5) There is a national data archives system for health surveys and census that are operational and accessible in electronic platform	3.6	2	5
6) There is institutional capacity in the country to produce burden of diseases e.g., DALY, YLL, YLD, Healthy Life Expectancy at birth	3	1	5
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	3.2	1	5
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	2.8	1	5
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	3.8	2	5
10) BOD is important element of the health systems performance assessment	4.5	2	5
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	3.9	3	5
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	4.1	2	5
<b>Average score:</b>	<b>3.4</b>		

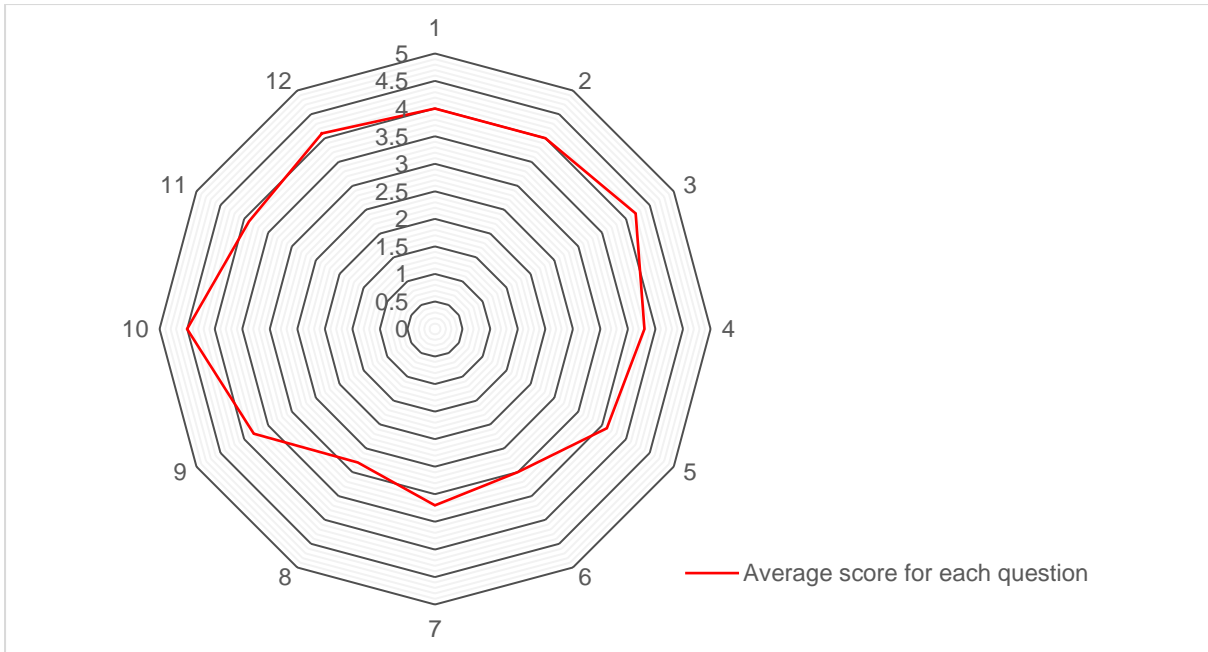


Figure 3 The average scores of capacities for analysis, synthesis, and validation of health data by 12 questions

Regarding the capacity for generating health statistics including BOD information within AMS, there are differences among ASEAN countries: capacity weakness was seen in some countries such as Brunei, Laos and Myanmar with the average score of 2.8, 2.7 and 3, respectively shown in Figure 4.

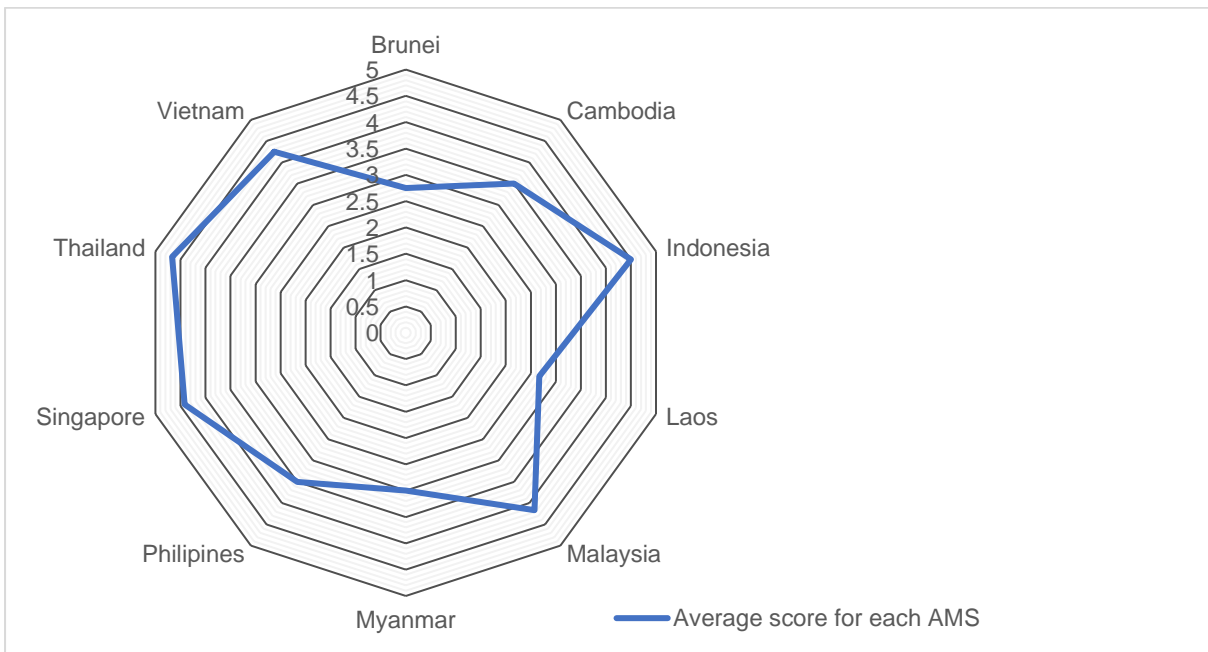


Figure 4 The average scores of all assessed capacities for analysis, synthesis, and validation of health data by 10 AMS.

## 2.2 Utilization of BOD evidence for policy implementation

The questionnaire included fifteen structured questions under three main factors: 1) organization's capacity, system and infrastructure, 2) accessibility and availability of relevant evidence, and 3) networking and collaboration between technical/research personnel and policy makers. These were used to explore the 10 AMS utilization of BOD evidence for policy application. The respondent country had to choose the most representative score for the country's current condition with the range of score 1 (the lowest) to score 5 (the highest). The average score was calculated for each question and overall score was also calculated for each main factor.

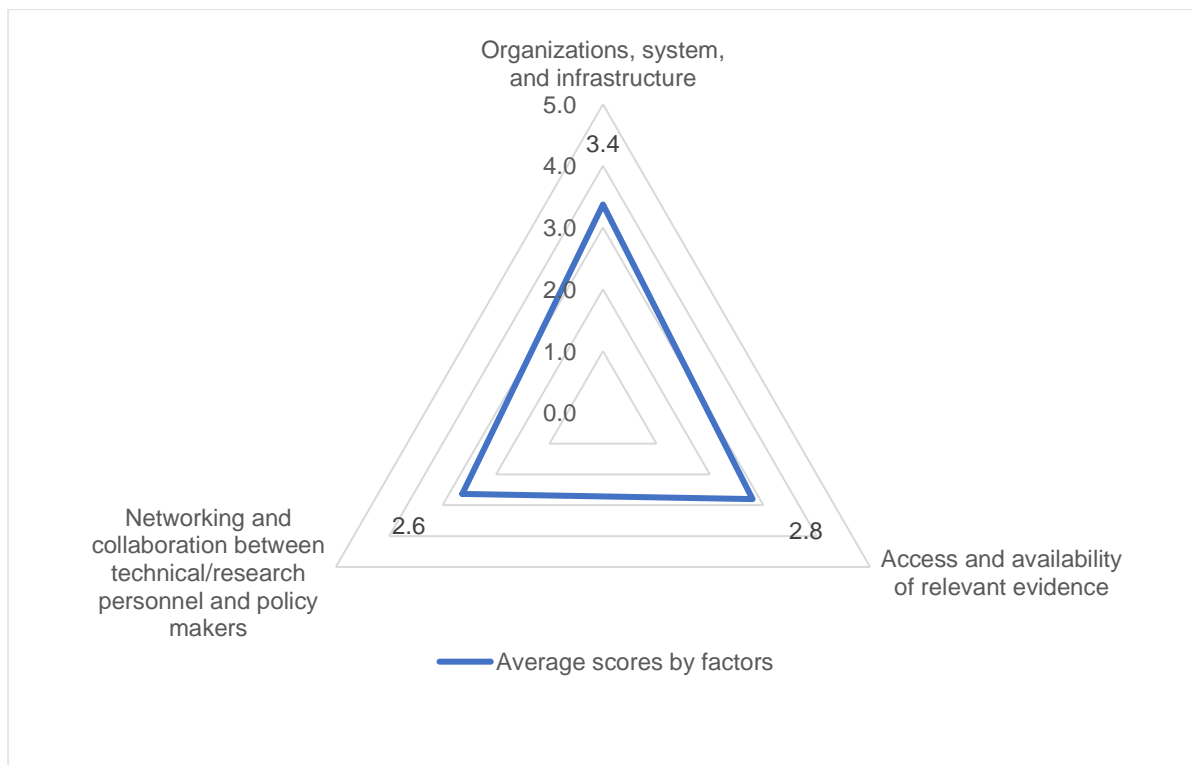
The findings show that the average scores for the questions suggest that 'recommendations are not policy relevant', 'policy makers do not value evidence', 'the evidence produced is not relevant to policy questions', and 'policy recommendations are not practical and feasible' were low with the scores of 2.2, 2.3 and 2.5 respectively. The detailed findings for each question related to factors for utilizing BOD data for policy making are shown in the following Table 6.

*Table 6 Average, minimum, and maximum scores of each factor that hamper the effective use of BOD evidence for policy implementation.*

Questions	Scores		
	Average	Minimum	Maximum
<b>Organizations, system, and infrastructure</b>	<b>3.4</b>	<b>1</b>	<b>5</b>
1) Evidence is not produced on time for policy decision	3.4	1	5
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker	3.3	1	5
3) Lack of financial resource to staff capacity	3.4	1	5
4) Lack of human resource capacity to analyze or interpret data	3.4	1	5
<b>Accessibility and availability of relevant evidence</b>	<b>2.8</b>	<b>1</b>	<b>5</b>
5) Lack of available evidence for specific contexts	3.4	1	5
6) The evidence produced is not relevant to policy questions	2.5	1	4
7) Recommendations are not policy relevant	2.2	1	4
8) Evidence is not timely available for policy use	3.1	1	5
9) Ineffective communication by researchers	2.8	1	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>2.6</b>	<b>1</b>	<b>5</b>
10) Limited channels to directly link evidence to policymakers	2.9	1	5

Questions	Scores		
	Average	Minimum	Maximum
11) Policy recommendations are not practical and feasible	2.5	1	4
12) Weak linkage with policy makers	2.7	1	4
13) Political interests and scientific evidence do not complement each other	2.7	1	5
14) Lack of culture of using evidence for decision among policy makers	2.7	1	5
15) Policy makers do not value merits of evidence	2.3	1	5

The result showed that networking and collaboration between technical/research personnel and policy makers was the lowest average score of 2.6 and the score of accessibility and availability of relevant evidence also low, averaging 2.8 (see Figure 5). Differences between the 10 AMS was seen by observing the minimum score 1 that showed the lowest capability and the maximum score 5 with the highest capability to utilize BOD data for policy decision.



*Figure 5 Average scores by main factors that hamper the effective use of BOD evidence for policy implementation.*

### **2.3 Summary of knowledge gap on capacity of BOD data utilization for policy and actionable approaches**

To improve the health system and the health of the population, evidence-informed policy making has been receiving increased attention from all countries. The findings show that there is often limited capacity to produce BOD estimation and also use this data for policy making among 10 AMS. It is important to promote country capacity and provide national stakeholders with the knowledge for BOD study: methodology, concept and also to promote synthesis and effective communication of reliable and relevant research results between different institutions and information sources within the country and also within the region. Therefore, it is urgently needed to facilitate the development of key strategic activities to fill the above mentioned knowledge gaps: strengthen BOD capacity by providing technical assistance, capacity building workshops, mentorships and exchanges; support knowledge translation networks by establishing reliable platforms to strengthen and facilitate interaction among academia, researchers and policy-makers; encourage the use of evidence-based health statistics for policy making by promoting awareness of the important of BOD data; and foster a commitment to improving health systems and health outcomes of the population.

It is important to note that, as the findings described in this report are based on the response of each AMS representative, it is necessary to be careful while interpreting the findings.

#### **Recommendations**

1) Where data are available for BOD and SDG, recommended AMS to collect data every 3-5 years. And if the actual data is available, it should be used. However, if the data is unavailable, proxy data is acceptable because BOD and SDG data is essential in many respects, including decision making, intervention monitoring and assessment as well as comparing the benefits of interventions.

2) To improve the systematic assessment of the quality of BOD data, recommended AMS to conduct systematic assessments of mortality data in terms of availability and quality.

3) AMS should promote country capacity, provide national stakeholders with the knowledge to conduct a BOD study and promote synthesis and effective communication of reliable and relevant research results between different institutions and information sources within the country and within the region.



## Annex



## **Annex I The country' self-report assessment**



## The country' self-report assessment of Brunei Darussalam

### 1. Basic demographic, health expectancy and health-related SDG indicators

#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
2020	2020	2020	2020	2020
453,600	45,200	30,700	ND	ND

**Note:** ND; no data, **Primary data source:** Department of Economic Planning and Statistics (DEPS), Ministry of Finance and Economy (MOFE)

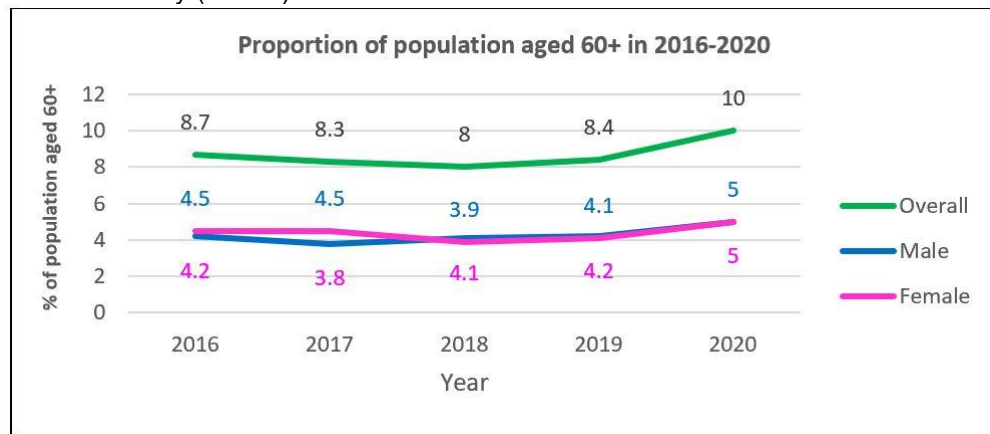


Fig. 1 Proportion of population aged 60+ in 2016-2020

Primary data source: DEPS, MOFE

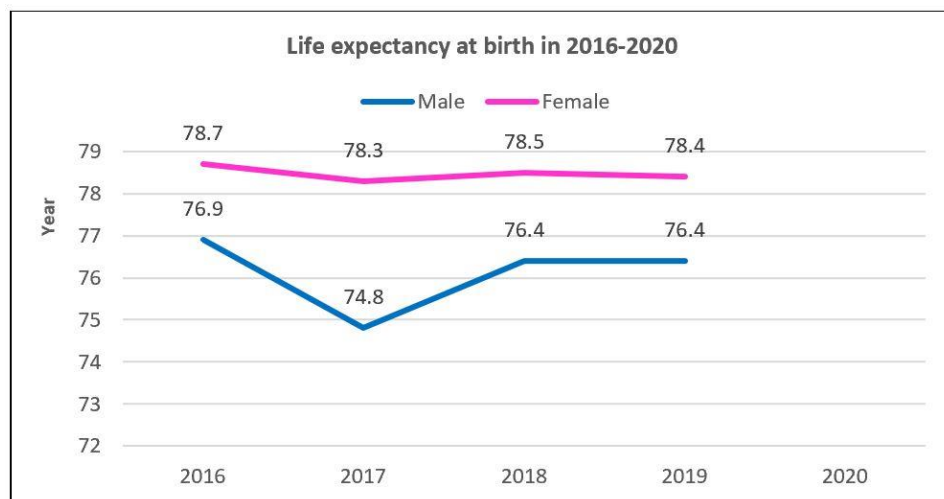
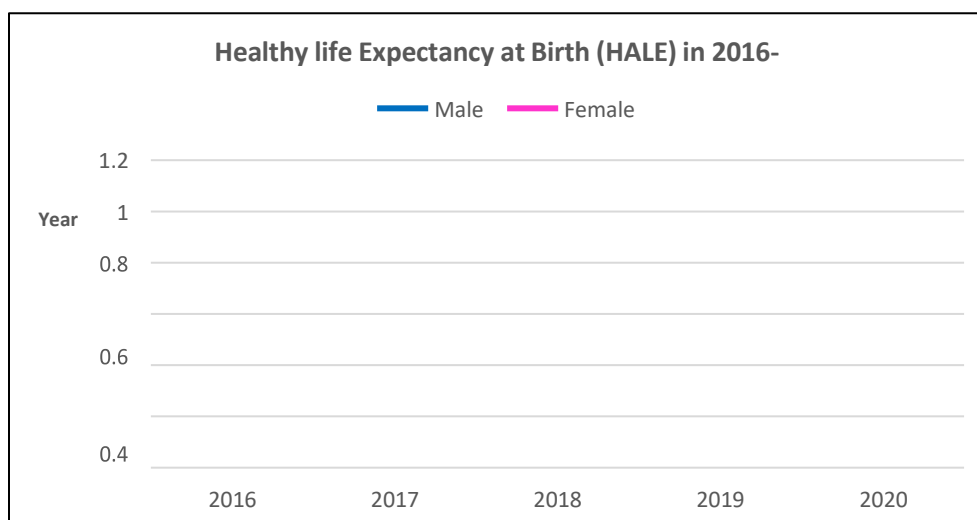


Fig. 2 Life expectancy at birth in 2016-2020

**Note:** no data of Life expectancy at birth in 2020

Primary data source: DEPS, MOFE



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note:** no data of healthy life expectancy at birth (HALE)

**1.2 Health related SDGs indicators status**

**1) Maternal, Newborn and child health**

<b>SDG 3.1.1</b>	<b>SDG 3.1.2</b>	<b>SDG 3.2.1</b>	<b>SDG 3.2.2</b>
<b>Maternal mortality ratio (per 1,000 live births)</b>	<b>Proportion of births attended by skilled health personnel</b>	<b>Under-5 mortality rate (per 1,000 live births)</b>	<b>Neonatal mortality rate (per 1,000 live</b>
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
0.31	99.7	9.2	5.4

**Primary data source:** Department of Policy and Planning (DPP), Ministry of Health (MOH)

**2) Noncommunicable diseases**

<b>SDG 3.4.1</b>			
<b>Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)</b>			
<b>2020</b>			
<b>Cancer</b>	<b>Cardiovascular disease</b>	<b>Chronic respiratory disease</b>	<b>Diabetes Mellitus</b>
5.5%	5.2%	0.5%	2.8%

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.09	68.6	0.02	2.9	Chikugunya = 0 Dengue Fever = 60 Dengue Haemorrhagic Fever = 0 Filariasis = 0

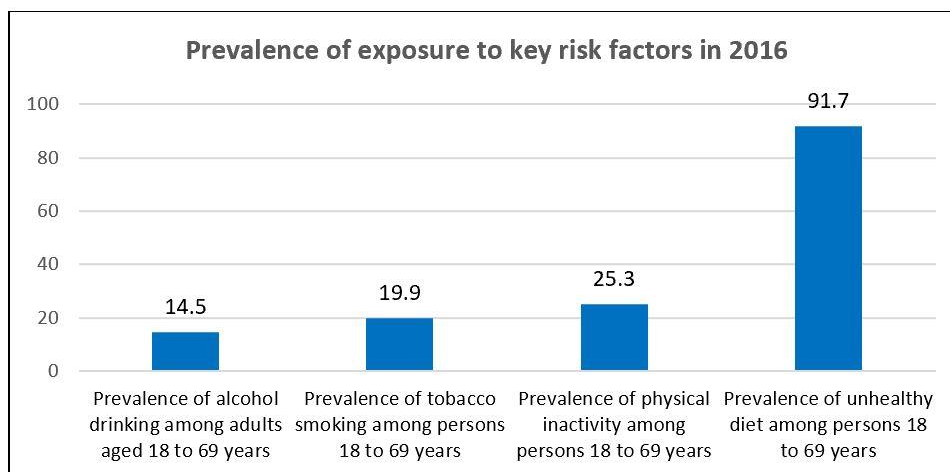
Primary data source: DPP, MOH

### 3) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
3.3	2.4	ND	ND	0.2

Note: ND; no data, Primary data source: MOH

#### 4) Prevalence of exposure to key risk factors



**Fig. 4 Prevalence of exposure to key risk factors in 2016**

Primary data source: Brunei STEPS Survey 2015/2016

#### 5) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	0.3 (aged 10-14 years) 8.1 (aged 15-19 years)

Note: ND; no data, Primary data source: DPP, MOH

#### 6) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2018	2020
ND	ND
2018	2018
≥80%	ND

Note: SDG 3.8.1; ND in 2020

Primary data source: MOH

## 7) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
<b>2020</b>	<b>2020</b>
100%	ND
<b>2016</b>	<b>2016</b>
100%	1.9%

**Note:**

SDG 3.5.1; % of people who received non- pharmacological treatment interventions for substance use disorder among incarcerated population and those admitted under government rehabilitation facility)

SDG 3.5.2: ND in 2020, 2016 % of persons aged 18-69 years reporting consuming any alcohol in the past 12 months

**Primary data source:** SDG 3.5.1 – MOH, SDG 3.5.2 - Brunei STEPS Survey 2015/2016

8) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a	Health worker density and distribution (per 10,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial - resistant organisms
2020	2020	2020	2020	2019	2020
% of infants immunized against: -BCG (at birth) 100% -DPT3 99.9% -IPV3 99.9% -MMR1 99%  % of female students aged 10-17 years old immunized against HPV: 2 doses 94.5%	ND	92%	Doctor=21 Dentist =3 Pharmacist =2 Nurses and Midwives =61	90% of indicators under JEE scored 3 and above	0.58 % of ESBL - E. coli

**Note:**

SDG 3.b.3; Availability of all essential medications to treat key NCDs in all government health centres

SDG 3.d.1; Joint External Evaluation of IHR Core Capacities in 2019, ND in 2020

ND; no data

**Primary data source:** MOH



## 2. Assessment of country data sources

### 2.1 Summary of country data sources

#### Major sources

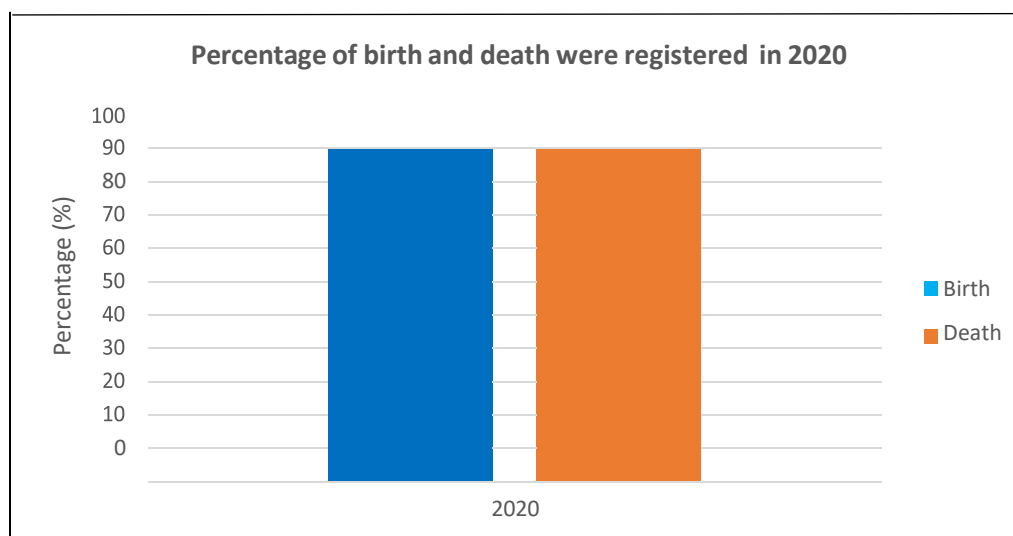
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	No
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	No
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Disease surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

Note: 5 year (2016-2020)

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

#### 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered in 2020**

Primary data source: Department of Immigration and National Registration, Ministry of Home Affairs

## 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	No
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	3.1% (In 2020)
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No (85+)

### 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

#### 1) What gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

- Some of the data required for the BOD and SDGs estimation are not readily available due to lack in capacity in terms of the necessary skills, resources and expertise required in data collection, analysis and interpretation, whilst ensuring data to be accurate and of good quality.
- Data sources are from various departments in different Ministries. There may be a lag in receiving the required data for reporting in a timely manner.
- Electronic medical records not rolled out to all private hospitals and clinics.
- Various databases not cleaned or standardized.

#### 2) How quality of data (Births and deaths) of country data sources? How to improve?

- It is mandatory by law under the Births and Deaths Registration Act, Chapter 79, to register all live births and deaths occurring in Brunei Darussalam. Data is collected by the Department of Immigration and National Registration, Ministry of Home Affairs.
- Limitation: At the moment all birth and death certificates are paper-based, not in electronic record. All hard copy data have to be manually entered into an electronic database which is very time-consuming and at risk of human-error.

#### 3) What technical assistance needed for development of data source?

- To support Brunei Darussalam in conducting country assessment to assess readiness for BOD and SDG data management including providing a framework / roadmap that Brunei Darussalam can work towards to, in narrowing the data gaps

#### 4. Assessment of capacity of BOD data utilization for policy

##### 4.1 Capacity for analysis, synthesis, and validation of health data

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	4
2) The designated institutes have adequate capacity to fulfill these mandates	3
3) There is a national set of indicators with targets for regular monitoring	4
4) There is an annual or biennial report to inform health policy and planning	3
5) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	2
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	1
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	1
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	1
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	3
10) BOD is important element of the health systems performance assessment	2
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	4
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	5
<b>Average scores</b>	<b>2.75</b>
<b>Min score</b>	<b>1</b>
<b>Max score</b>	<b>5</b>

4.2 BOD Data utilization for policy

The average scores of factors which hamper effective use of BOD evidence for policy

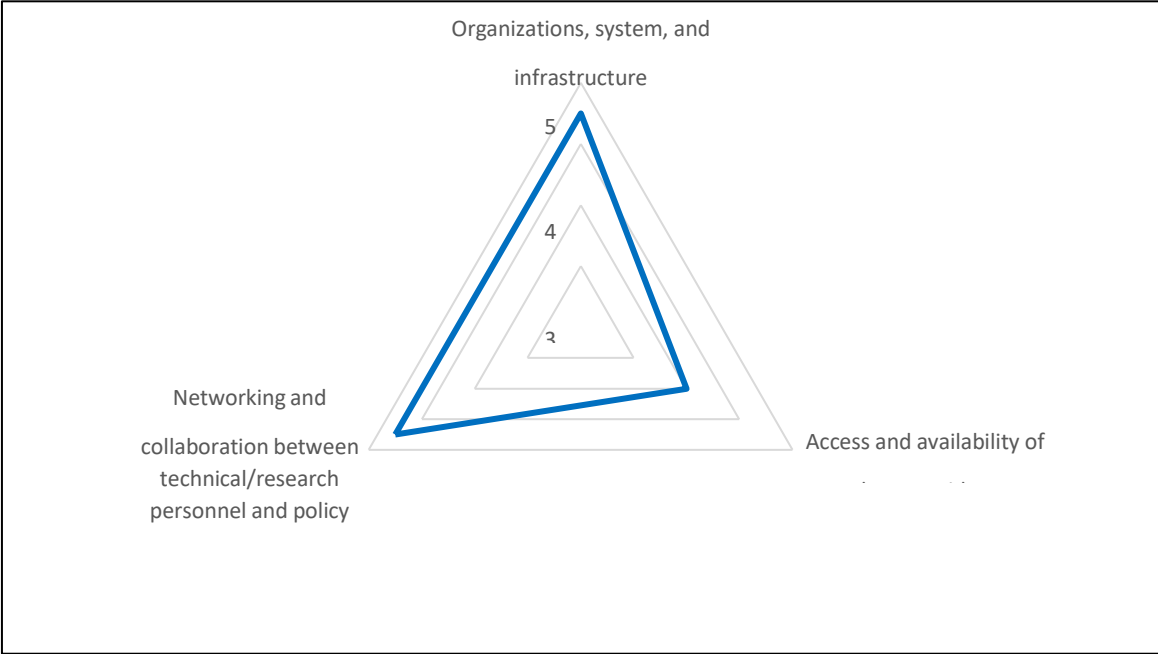


Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>4.5</b>
1) Evidence is not produced on time for policy decision	5
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker	5
3) Lack of financial resource to staff capacity	3
4) Lack of human resource capacity to analyze or interpret data	5
<b>Access and availability of relevant evidence</b>	<b>3</b>
5) Lack of available evidence for specific contexts	4
6) The evidence produced is not relevant to policy questions	3
7) Recommendations are not policy relevant	2
8) Evidence is not timely available for policy use	4
9) Ineffective communication by researchers	2

Factors	Average scores
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>4.5</b>
10) Limited channels to directly link evidence to policymakers	4
11) Policy recommendations are not practical and feasible	4
12) Weak linkage with policy makers	4
13) Political interests and scientific evidence do not complement each other	5
14) Lack of culture of using evidence for decision among policy makers	5
15) Policy makers do not value merits of evidence	5

## 5. Gaps or limitation to the use of BOD evidence for policy

### 1. What Gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?

Currently there is no manpower and expertise to conduct a national BOD study.

### 2. What factors which contribute to the use of BOD evidence for policy in country? How to improve?

Not applicable as Brunei Darussalam currently does not use BOD evidence in policy decision-making.

### 3. What needed for development of capacity to the use of BOD evidence for policy?

Capacity building in data management, technical expertise to assist in implementing BOD study in Brunei Darussalam

## The country' self-report assessment of Cambodia

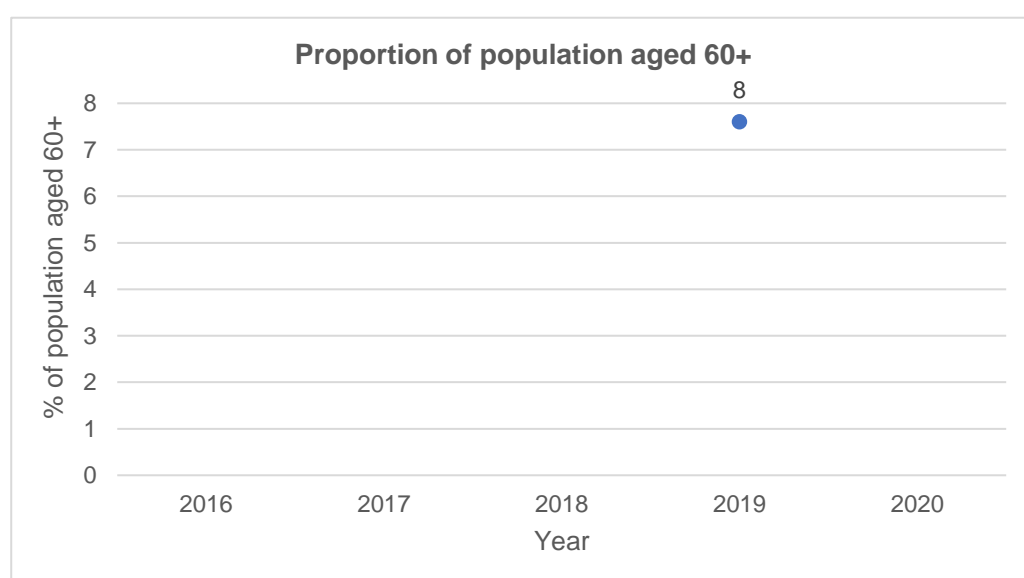
### 1. Country profile on demographic and Health

#### 1.1 Demographic and Health expectancy profile

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
2020	2020	2020	2020	2020
167,189,65	1,264,487	1,788,797	Male : <b>68.1</b> Female : <b>72.9</b>	Male : <b>ND</b> Female: <b>ND</b>

**Note:** ND; no data

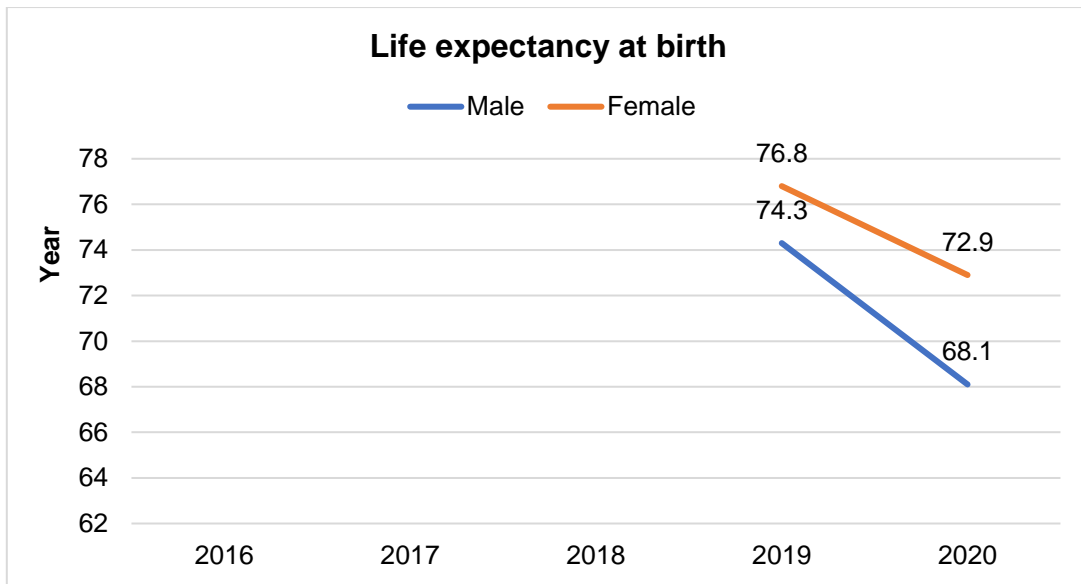
**Primary data source:** Census, 2019; Demographic Cambodia, 2020; HMIS/MOH



**Fig. 1 Proportion of population aged 60+**

**Note:** ND; no data proportion of population aged 60+ in 2016-2018, 2020

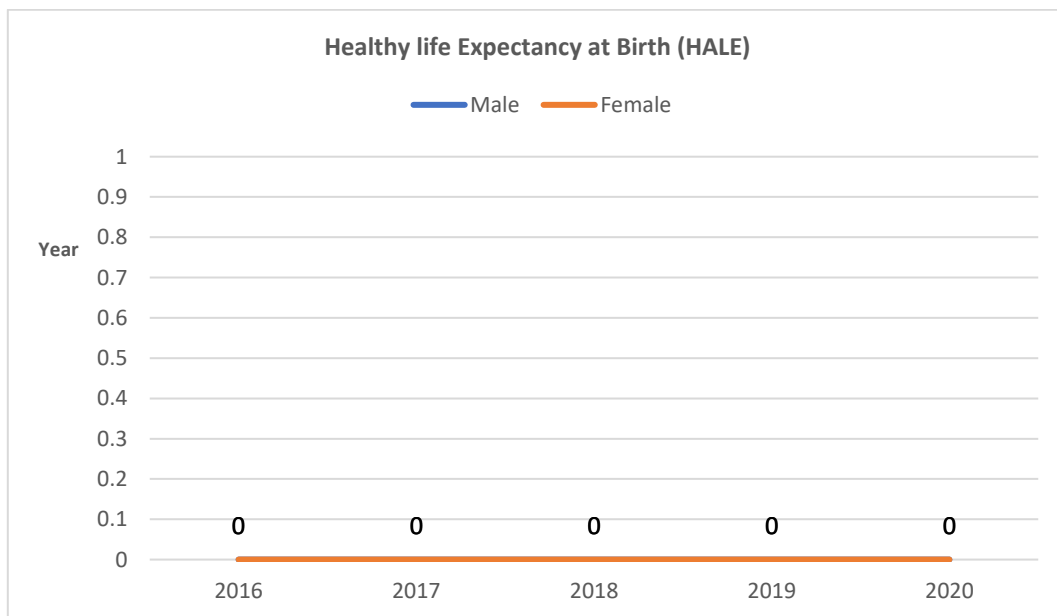
**Primary data source:** Demographic Cambodia,2020



**Fig. 2 Life expectancy at birth**

**Note:** ND; no data life expectancy at birth in 2016-2018, Data has from 2019 -2020

**Primary data source:** Demographic Cambodia,2020



**Fig. 3 Healthy life Expectancy at Birth (HALE)**

**Note:** ND; no data

**Primary data source:**ND

## 1.2 Health-related SDG indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-5 mortality rate (per 1,000 live)	Neonatal mortality rate (per 1,000 live)
2020	2020	2020	2020
130	26.6	30	14

Primary data source: Census, 2019; MOH Health Report 2019, Statistic 2021

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND
Mortality Rate Attributed to 4 NCDs			
6%	34%	34%	20%

Note: ND; no data

Primary data source: MOH Health Report 2019

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.03	310	1.05	ND	ND

Note: ND; no data

Primary data source: MOH Health Report 2019



#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
ND	12.25	ND	ND	ND

Note: ND; no data

Primary data source: MOH Health Report 2019

#### 5) Prevalence of exposure to key risk factors

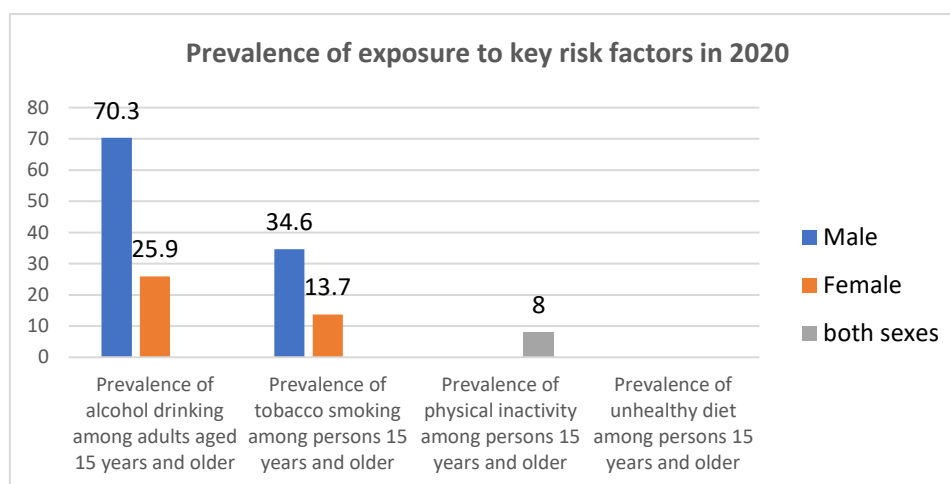


Fig. 4 Prevalence of exposure to key risk factors in 2020

Note: ND; no data of prevalence of unhealthy diet<sup>1</sup> among persons 15 years and older in 2020  
Prevalence of physical inactivity among persons 15 years and older 20-59 years, data availability only both sexes

Primary data source: MOH Health Report 2019; Prevention and Control NCD in Cambodia, MOH 2019

#### 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
62	51

Note: ND; no data

Primary data source: MOH Health Report 2019

#### 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	<1%
2019	2019
ND	2%

Note: ND; no data

Primary data source: MOH Health Report 2019

#### 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2020
ND	ND

Note: ND; no data

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution (per 10,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms
2020	2020	2020	2020	2019	2020
95	ND	ND	ND	ND	ND
2019	2019	2019	2019	2019	2019
95	ND	ND	Total Health worker:26,037 Total central level :5,630 :21,62%, Total Municipa/Provincial: 20,407	ND	ND

Note: ND; no data

Primary data source: MOH Health Report 2019

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	No
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	No
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data, please specify the diseases	No

Note: 5 year (2016-2020)

## 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

### 1) Coverage of birth and death registration

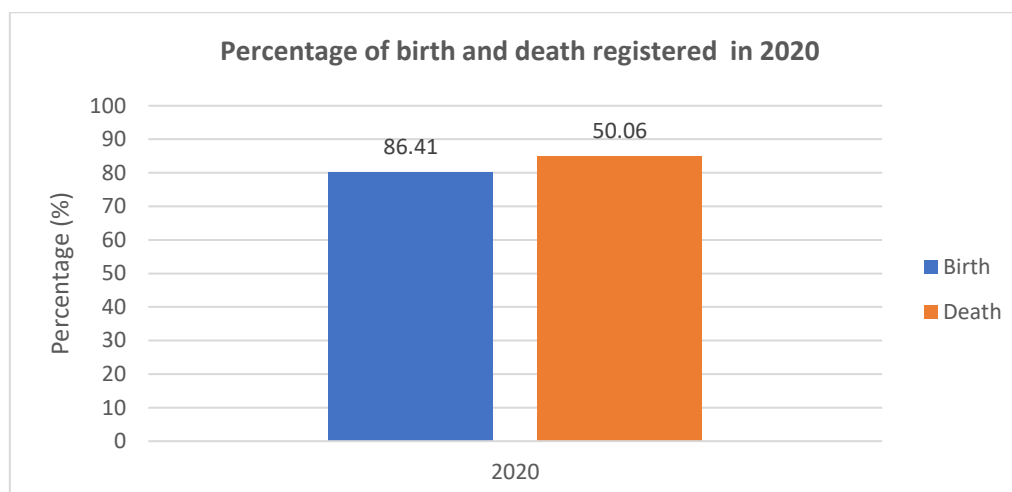


Fig. 5 Percentage of birth and death registered in 2020

Primary data source: MOI, GDI 2020

### 2) Quality of Death data by question

Is there a standard form for medical certificate of cause of death?	Yes
Is there any personal interview or verbal autopsy to define the cause of death?	No
Is ICD-10 being used as the disease classification tool?	Yes
Proportion of ill-defined deaths (ICD10 codes R00-R99)	No
Are health and population data disaggregated by sex and age-specific?	Yes
Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	Yes

### 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

#### 1) What gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

Data source in the HMIS has limit data on BOD and unavailable of SDGs estimation

#### 2) How quality of data (Births and deaths) of country data sources? How to improve?

Data births and deaths of the Country sources from HMIS System ,Ministry of Interior (General Department of Identification, to improve quality of data by sharing data from line Ministry such as Ministry of Interior, Ministry of Planning, and Ministry of Health

#### 3) What technical assistance needed for development of data source.

Strengthening Capacity of Staff at the Provincial level and Health Facilities on data collection, reporting system and interpreting data ,update the system data base conform to the WHO Standard (Example: Some Death age group are different from WHO requirement during Submission )

### 4. Assessment of capacity of BOD data utilization for policy

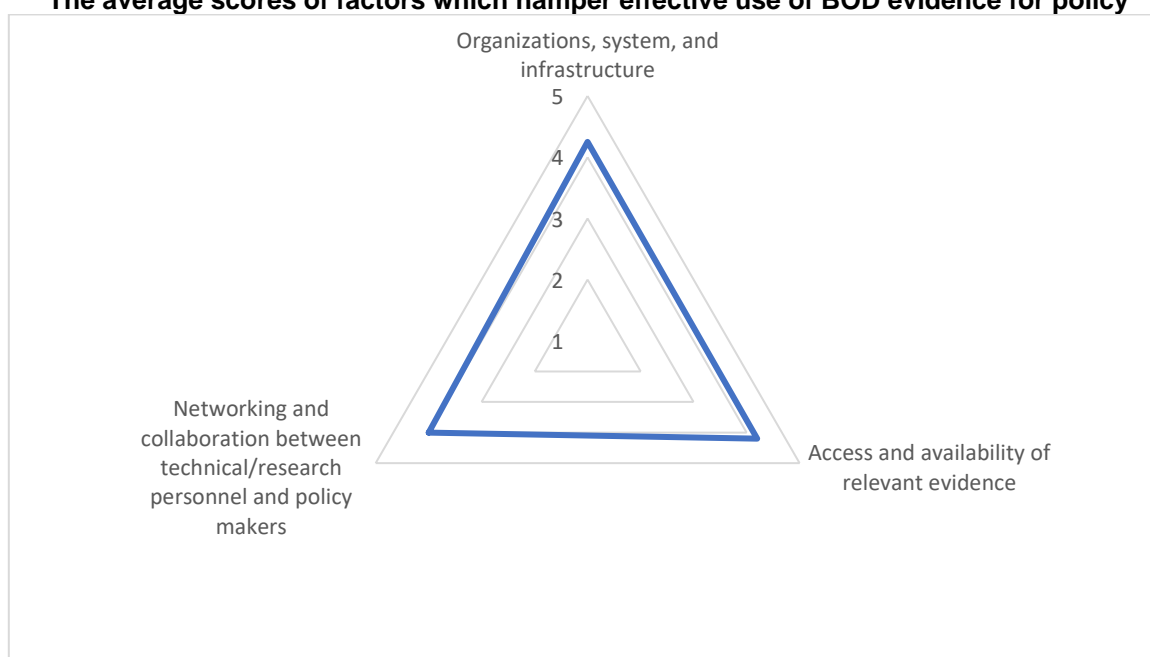
#### 4.1 Capacity for analysis, synthesis, and validation of health data

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	5
2) The designated institutes have adequate capacity to fulfill these mandates	3
3) There is a national set of indicators with targets for regular monitoring	5
4) There is an annual or biennial report to inform health policy and planning	3
5) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	3
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	3
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	3
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	1
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	4
10) BOD is important element of the health systems performance assessment	5
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	3
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	3
<b>Average scores</b>	<b>3.42</b>
<b>Min score</b>	<b>1</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy



**Fig. 6 6 The average scores of factors which hamper effective use of BOD evidence for policy**

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>4.25</b>
1) Evidence is not produced on time for policy decision	4
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker	4
3) Lack of financial resource to staff capacity	5
4) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>4.20</b>
5) Lack of available evidence for specific contexts	5
6) The evidence produced is not relevant to policy questions	4
7) Recommendations are not policy relevant	4
8) Evidence is not timely available for policy use	4
9) Ineffective communication by researchers	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>4.00</b>
10) Limited channels to directly link evidence to policymakers	4
11) Policy recommendations are not practical and feasible	4
12) Weak linkage with policy makers	4
13) Political interests and scientific evidence do not complement each other	4
14) Lack of culture of using evidence for decision among policy makers	4
15) Policy makers do not value merits of evidence	4

## **5. Gaps or limitation of capacity of BOD data utilization for policy**

### **1) What Gaps or limitation of capacity for analysis, synthesis, and validation of health data in country**

Most data sources of BOD are flow from Provincial Health Department, Operational District , health Facilities , and some are from Health Programm. Implementing unite still has limite capacity on data collection, data validation and anaysing data or interpretation health data that obstacle for policymaker interm of utilization of health data and for BOD intervention

### **2) What factors are barrier in BOD data utilization for policy in country? How to improve?**

Data source in the HMIS has limit data on BOD, should enlarge capacity of database and revised some BOD format

### **3) What needed for development of capacity of BOD data utilization for policy**

Develop data source of BOD in the HMIS and interpret data for policymaker for BOD intervention or policy utilization

## The country' self-report assessment of Indonesia

### 1. National statistics which contribute to BOD estimation

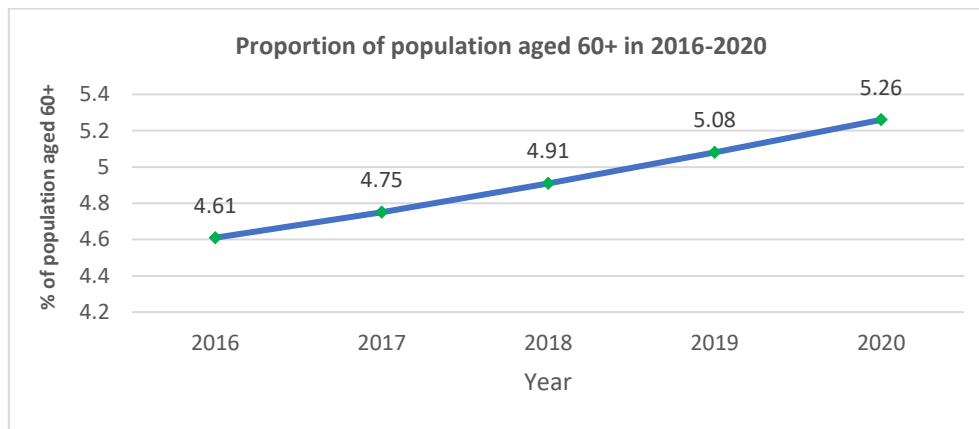
#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at Birth
2020	2020	2020	2020 <sup>1</sup>	2020
269,603.40 <sup>1)</sup>	27,087.80 <sup>1)</sup>	23,475.75 <sup>2)</sup>	Male: 69.59 <sup>1)</sup> Female: 73.46 <sup>1)</sup>	ND

**Note:** no data of healthy life expectancy at birth (HALE) 2020

**Primary data source:** 1) BPS – Statistics Indonesia, 2) Indonesia Health Profile, Ministry of Health

Statistics Indonesia revealed total population in 2020 is around 269 million, as country with the fourth largest population in the world. Indonesian archipelagos consist of more than 17 thousand islands spread over 34 provinces, with a proportion of the population of 59% residing on the Java Island. About ten percent of total population aged over 60 years (27 million), while the population under the age of 5 years around 23.5 million.

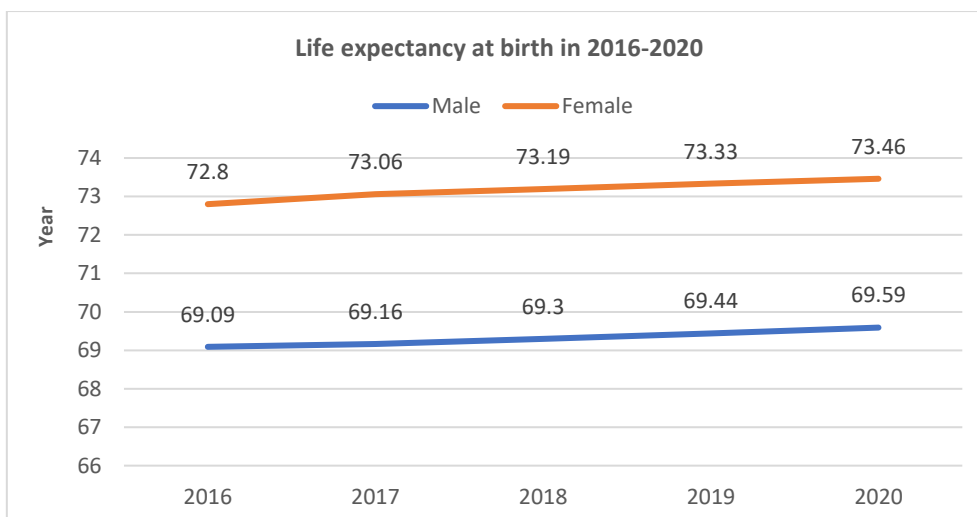


**Fig. 1 Proportion of population aged 60+ in 2016-2020**

**Primary data source:** Indonesia Health Profile, Ministry of Health

In the last five years, there has been a notable increase the share of population aged more than 60 years from 4.61% in 2016 to 5.26 in 2020. Risk of non-communicable diseases will increase along with the increasing of elderly population. Therefore, programs focusing on promotive and preventive intervention should be early implemented for population of productive age group. The Indonesian government has issued Presidential Instruction number 1 of 2017 on healthy lifestyle community. This policy promotes cross-sectoral and community to undertake physical activities, consume more fruit and vegetables, as well as carries out others healthy lifestyle.

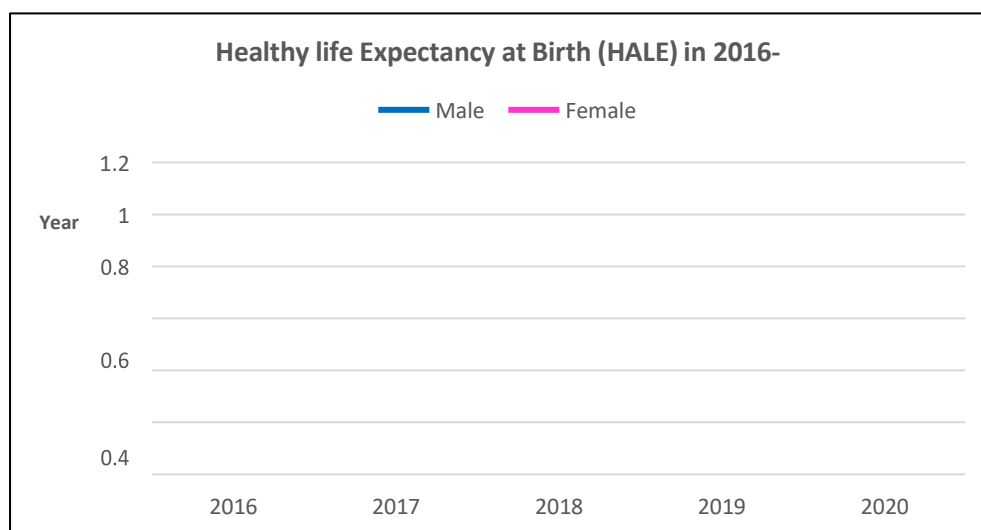




**Fig. 2 Life expectancy at birth in 2016-2020**

**Primary data source: BPS –Statistics Indonesia**

The average life expectancy in Indonesia has risen from 70.90 in 2016 to 71.57 in 2021. The increase also shown for both women and men. The life expectancy among women consistently higher than men, in 2020 the difference about 4 years. The life expectancy in 2019 is similar with the average of life expectancy in South-East Asian countries (71.4), however the Indonesia life expectancy is still much lower compared to global average (73.3). One of the factors contributing to longer life expectancy is the decrease in the under-five mortality rate.



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note:** no data of healthy life expectancy at birth (HALE)

The WHO Global Health Observatory data repository revealed information on Healthy life Expectancy at Birth (HALE) by countries. The average of Indonesia healthy life expectancy in 2019 was 62.8 years, where men (61.9) much lower than women (63.8). This indicates that more than 10 years Indonesian population were living with disability.

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 1,000 live births)	Proportion of births attended by skilled health personnel	Under-five mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
2020	2020	2020	2020
ND	95.16% <sup>1</sup>	ND	ND

**Note:**

no data of Maternal mortality ratio in range 2016-2020, The latest 305 per 100,000 live births in 2015

no data of Under-five mortality rate in 2020, 32 per 1,000 livebirths in 2017, (IDHS 2017)

no data of Neonatal mortality rate in 2020, 15 per 1,000 livebirths in 2017, (IDHS 2017)

**Primary data source:** 1: Indonesia Socioeconomic Survey, 2020

At the end of MDGs, maternal mortality ratio has decreased from 346 per 100,000 live births in 2010 to 305 per 100,000 live births in 2015. However, the ratio was much higher compared to other ASEAN countries. Within 2016 to 2020, Indonesia does not have information on maternal mortality ratio from survey or population census. In order to monitor the progress, Indonesia has information on number of maternal deaths coming from annual data reporting from districts. While Indonesia still encounters high mortality ratio, in contrast the socio-economic survey 2020 showed the proportion of births attended by skilled health personnel were high (95.16).

Indonesia has better progress on reducing under-five mortality. The under-five mortality decreases from 40 per 1,000 live births in 2012 to 32 per 1,000 live births in 2017. While the neonatal mortality rate has been stagnant since 2002 to 2012, then significantly decrease from 19 per 1,000 live births in 2012 to 15 per 1000 live births in 2017.

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
9.4% <sup>1</sup>	ND	ND	ND
2019			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
5.1% <sup>2)</sup>	7.7% <sup>2)</sup>	1.1% <sup>2)</sup>	2.25% <sup>2)</sup>

**Note:** ND; no data in 2020

**Primary data source:** 1) Globocan, Cancer registry, Dharmais Hospital; 2) Hospital online report, Ministry of Health

Currently there is no data available for mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease for population aged 30 to 70 years (probability of dying between age 30 and exact 70). Yet, the data from hospital information system (SIRS) was available for all ages. Mortality rate attributed to cancer disease was 5.1%, attributed to cardiovascular disease was 7.7%, attributed to COPD was 1.1% and attributed to diabetes mellitus was 2.25%.

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
41,987	ND	0.87	ND	filariasis = 9,906 leprosy= 13,180

**Note:** ND; no data in 2020

**Primary data source:** Ministry of Health, 2020

While non communicable disease continued increase, Indonesia also deals with high prevalence of communicable diseases. There were about 41,987 people living with HIV with a ratio of 0.16 per 1,000 population. In addition, the WHO estimated there were 845,000 cases of TB in 2018 and 93,000 deaths. The incidence of TB was 312 per 100,000 population. Thus put Indonesia as the third highest burden of TB in the world (WHO report, 2019).

In the past decade, Indonesia marked a major achievement in reducing malaria. Between 2007 and 2017, annual parasite incidence fell by three times, from 2.89 per 1000 to 0.9 per 1000 population. Even though incidence of malaria is low at national level (0.87 per 1,000 population), several districts in eastern of Indonesia still facing high incidence of malaria. Indonesia has also made significant progress on reducing leprosy and filariasis cases. Nearly 100% of leprosy cases found was treated (2020). The number of cases of filariasis is 9,906 people and leprosy were 13,180 people.

Despite of those disease, Indonesia also needs serious attention on hepatitis, pneumonia, and diarrhea. In the national health survey, Riskesdas 2013, the prevalence of hepatitis B was 7.1%. Currently, there is no information available for incidence of hepatitis B. Based on surveillance data, the number of hepatitis B cases is high. National indicator reported in the mid-term development plan was number of districts conduct screening of hepatitis B.

#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
ND	ND	ND	ND	ND
2019	2019	2019	2019	2019
0.012 <sup>1)</sup>	9.62 <sup>2)</sup>	ND	ND	0.06 <sup>1)</sup>

Note: ND; no data in 2020

Primary data source: 1) Hospital online report, Ministry of Health; 2) Police official report

Based on hospital-based information system (SIRS) 2019, suicide mortality rate in Indonesia was 0.012 per 100,000 population and mortality rate attributed to unintentional poisoning was 0.06 per 100,000 population. Based on police department, death rate due to traffic injuries was 9.62 per 100,000 population. However, currently there was no data on mortality rate attributed to household and ambient air pollution as well as mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services).

#### 5) Prevalence of exposure to key risk factors

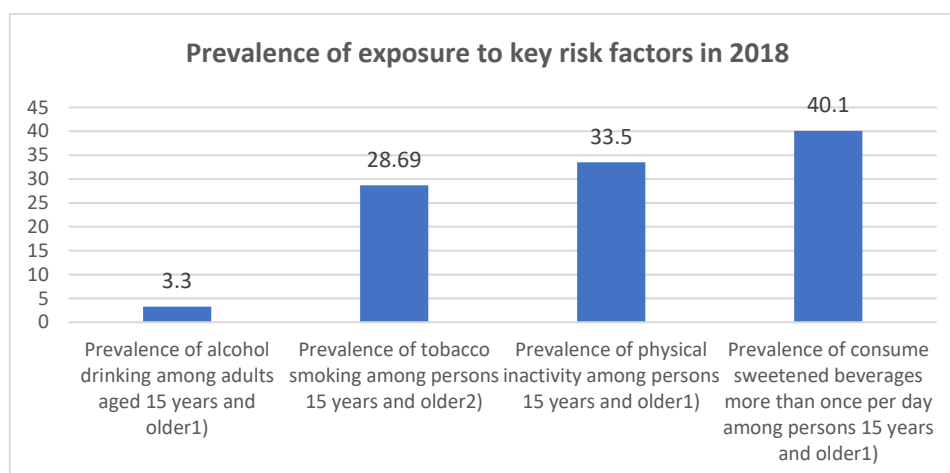


Fig. 4 Prevalence of exposure to key risk factors in 2020 or Latest available data (2016–2020)

Primary data source: 1) Riskesdas 2018, Ministry of Health; 2) Indonesia Socioeconomic Survey 2020, BPS –Statistics Indonesia

Leading risk factors associated to noncommunicable diseases includes tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol. The prevalence of several risk factors in Indonesia can be obtained from the national health survey, Riskesdas 2018, which can be representative up to the districts level. The prevalence of alcohol consumption among adults aged more than 15 years was 3.3%. The prevalence of smoking among more than 15 years was 28.69 percent,

while the average number of cigarettes consumed per day was 12.8 cigarettes. The youngest smoking behaviors among population aged 5-9 years, around 0.9 percent. While the prevalence of physical inactivity among persons aged more than 15 years was 33.5%.

Some dietary intake was leading to non-communicable diseases. In Indonesia 40.1% of population consume sweetened beverages more than once per day. About 29.7% of population consume salted food more than once per day and 41.7% consume high fat more than once per day. In addition, 2.2% consume carbonate drink more than once per day and 7.8% consume instant noodles more than once per day.

## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2017	2017
77.0	0.179 (aged 10-14 years) 36 (aged 15-19 years)

Note: ND; no data

Primary data source: IDHS 2017

The Indonesian Demographic Health Survey (IDHS) showed that the adolescent birth rate was decreased from 48 in 2012 to 36 births per 1,000 women aged 15-19 years in 2017. This indicates that Indonesia has reached the mid-term development target of reducing adolescent birth rate to 38 births per 1,000 women aged 15-19 years in 2019. The adolescent birth rate among women aged 10-14 years in 2017 was 0.179 births. Even though Indonesia already has regulation (law number 16 in 2019) that prohibit child marriage. The IDHS data on high number of adolescent birth rate indicates that the regulation was not properly implemented.

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	2.23 (greater than 10%)

Note: ND; no data in 2020

Primary data source: Indonesia Socioeconomic Survey 2020, BPS –Statistics Indonesia

The Indonesian government continues to strive to achieve universal health coverage, to ensure that all people have access to essential health services. The proportion of having health insurance was increase from 61.5% in 2015 to 82.05% in 2020. High proportion of out-of-pocket (OOP) payment was indicates inefficient and inequitable of a health system financing. The socio-economic survey showed that 2.23 percent of population with household expenditures on health greater than 10% of total household expenditure or income.

Currently, data on composite indicator essential health service coverage was not available. However, Indonesia has the individual indicator of reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access. Since 2007, Indonesia revealed Public Health Development Index (PHDI) which comprised from 24 indicators similar with the SDGs 3.8.1. The PHDI was calculated to represent districts, province, and national level. In 2015, Ministry of Health has the family health index which consist of household level data on 10 indicators essential health services. Health center was conduct interview to all households int their administrative area. Currently, more than 10 million household was included in the dashboard.

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
<b>Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders</b>	<b>Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol</b>
<b>2020</b>	<b>2020</b>
10,662 <sup>1)</sup> (Number of people using rehabilitation services) 3,263 <sup>1)</sup> (Number of people using post rehabilitation services)	0.39 <sup>2)</sup>

**Primary data source:** 1) National Drugs Agency, BNN; 2) Indonesia Socioeconomic Survey 2020, BPS –Statistics Indonesia

The SDGs targeted to strengthen the prevention and treatment of substance abuse, including narcotics drugs abuse and harmful use of alcohol. National drugs agency (BNN) reported the prevalence of drugs abuse was increased from 1.77 percent in 2017 to 1.80 percent in 2018. Currently, data on coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders was not available. The BNN annual report showed more than 10 thousand people using rehabilitation services and more than 3 thousand people using post rehabilitation services.

Harmful use of alcohol consumption impacts on behavior yield accidents and violence. Alcohol consumption among population aged 15 years and older was 0.39 litres per capita. Indonesia has presidential decree number 10 of 2021 on restriction of alcohol consumption. In addition, Indonesia also implements high tax for alcohol production and distribution.

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms
2020	2020	2020	2020	2020	2020
82.6% <sup>1)</sup>	8,640 (million rupiah) <sup>2)</sup>	92.12% <sup>1)</sup>	21 (GP per 100.000 population) <sup>1)</sup> 175 (Nurse per 100.000 population) <sup>1)</sup> 213 (Midwife per 100.000 population) <sup>1)</sup>	67% (regulation and health financing); 60% (coordination and IHR national focal point); 100% (laboratory capacity) <sup>3)</sup>	27.8% (Staphylococcus aureus resisten metisilin (MRSA)); 66.7% (Extended Spectrum Beta Lactamase (E.coli ESBL)) <sup>1)</sup>

**Primary data source:** 1) Ministry of health, 2020; 2) LDKPI, Ministry of Finance; 3) International Health Regulations Coordination, Health Security and Environment, World Health Organization

Access to essential medicines and vaccines is part of universal health coverage. Currently, the COVID-19 pandemic has disrupted the supply of essential medicines and vaccines for primary health care. Coverage of basic complete immunization among children was decrease from 90.64% in 2018 to 82.6% in 2020. While national health survey (Riskesmas) revealed much lower coverage that is 57.9% in 2018.

In order to ensure better quality health services to the community, the ministry of health provide fund transfers for health center and public hospital to increase their capacity. Ministry of health annual report in 2019 showed proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis was 92,12%.

Health worker density and distribution is an important component of health system. Number of health worker was increase substantially. However, the distribution was not evenly distributed. Inequality of health worker distribution between eastern and western part of Indonesia was existed. Ministry of health annual report in 2019 showed general practitioner density was 21 per 100.000 population, nurse density was 175 per 100.000 population, and midwife density was 213 per 100.000 population.

For indicator 3.b.2, the total net official development (ODA) assistance to medical research and basic health sectors in 2020 is IDR 8,640,000,000. This indicator is important to measure the flow of international aid from Indonesia. Even though the ODA was relatively small, this indicates the commitment of government to support medical research in the health sector.

Strengthening international health regulations capacity and health emergency preparedness is important to protect the rights of citizens and the international community from health risks due to crossing the boundaries of state administrative territories. In the case of a Covid-19 pandemic, early warning management and health risk management are important to reduce the risk of transmission.

The WHO 2020 reports that laboratory capacity in Indonesia was very good (100%). However, capacity on regulation and health financing as well as coordination and IHR national focal point still needs to be strengthened.

The SDGs targets to combat antimicrobial resistance (AMR) was contribute to better health and well-being population. Indonesia already has national action plan on AMR and participating in Global Antimicrobial Resistance and Use Surveillance System (GLASS). The proportion of AMR in bloodstream infections (BSIs) were 66.7% for E. coli Extended Spectrum Beta Lactamase (E. coli ESBL) and 27.8% for Staphylococcus aureus resistant methicillin (MRSA).

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	Yes
3. Health exam survey	Yes
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

**Note: 5 year (2016-2020)**

Indonesia regularly conduct population census every 10 years. In 2020, during pandemic Covid-19, the statistics Indonesia conduct three methods of population census, i.e online self-reporting population census, drop off pick up (DOPU), and face-to-face interview. There are 7 health population-based survey during period 2016 to 2020, including Riskesdas 2018, child nutritional health survey (SSGBI) 2019, nutritional determinant health survey (SDSG) 2020, socio-economic survey (Susenas, BPS), demographic health survey (IDHS, BKKBN), family health survey and sample-registration-system (SRS). The Susenas conducted by Statistics Indonesia annually. At the same period, there are 5 type of disease records, ie. Pcare (individual claim data from BPJS), SIRS (hospital-based information system), SIKDA Generik (Data reporting from health center directly to ministry of health), National All Record/NAR (individual record of Covid-19).

Ministry of health also have several diseases surveillance system, such as SIHA (HIV Surveillance system), Sismal (malaria Surveillance system), SITT (TB Surveillance system), Silacak (Covid 19 surveillance system), Si Happy (Hepatitis Surveillance system), Filaria and leprosy Surveillance system. At health facility, there are two existing system to report ASPAK (facilities, infrastructure and medical devices reporting system) and health-personnel reporting system. Indonesia also has cancer registry which is conducted by Dharmais hospital (central level cancer referral hospital).



## 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

Presidential Regulation No. 96 of 2018 states that deaths and births registration is mandatory for all residents. The coverage of birth certificate ownership based on Susenas data is 94.3%, while death certificates in 2019 are targeted at 20%. There is no official data reporting death registration coverage at national level. However, the coverage existed in several province. For instance, in central java showed the coverage of death registration was 20,6%.

### 1) Coverage of birth and death registration

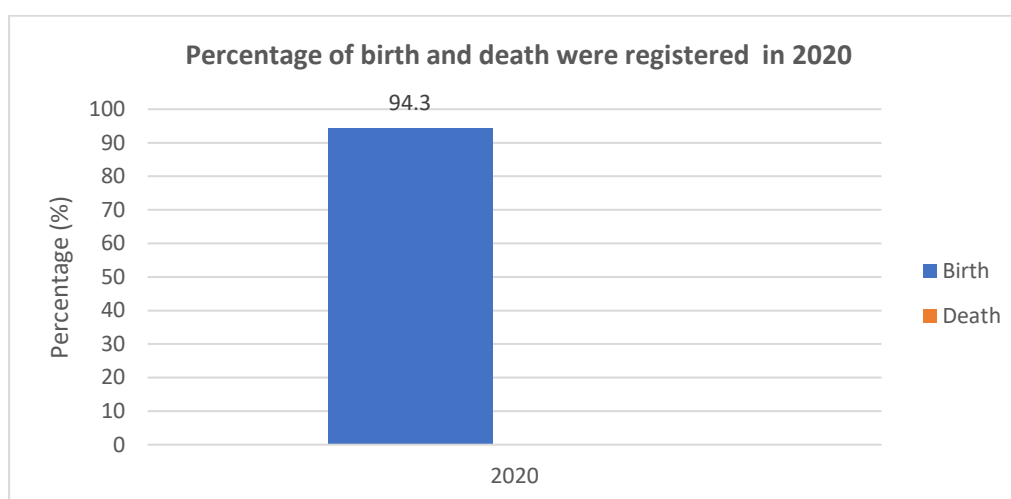


Fig. 5 Percentage of birth and death registered in 2020

**Note: No data percentage of death registered in 2020**

**Primary data source: Directorate general of population and civil registration, ministry of home affair**

### 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	No
2. Medical certificate of cause of death is it in electronic record?	No
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	8-20% (In 2018)
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No (75+)

Currently, there is no standard form for medical certificate of cause of death. However, Minister of Health Regulation on CRVS is being drafted which includes a standardized death certificate. There is already a verbal autopsy to identify the cause of death in sentinel areas in 119 districts. The verbal autopsy used ICD-10, with ill define between range 8% to 20% on average 12%. Some districts have better knowledge with smaller ill-define, yet others have higher ill-define. Regarding survey data and reporting, there has been aggregation by gender and age group with a cut-off of over 75 years of age.

### **3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation**

#### **1) What gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?**

Indonesia has limitation of availability on several SDGs indicator, such as Healthy life Expectancy at Birth (HALE), Mortality rate attributed to household and ambient air pollution and Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services). However, we do have information on mortality due to diarrhea.

Indonesia also facing limitation on out-of-date data, such as Maternal mortality ratio the latest data in 2015. We do not have information on Hepatitis B incidence per 100,000 population. However, we do have information on District conducting screening Hepatitis B.

#### **2) How quality of data (Births and deaths) of country data sources? How to improve?**

Indonesia has better quality and coverage of births registration. However, we still lack information on death registration.

#### **3) What technical assistance needed for development of data source?**

At national level, we need strengthening of death registration system and engaged cross-sector to report standardized cause of death using ICD-10. We are piloting the Civil Registration and Vital Statistics in several districts. We also have sentinel death registration (Sample Registration System/SRS) in 128 subdistricts which distributed in 119 districts, 30 provinces. The SRS data representative only for national level.

### **4. Assessment of capacity of BOD data utilization for policy**

#### **4.1 Capacity for analysis, synthesis, and validation of health data**

Ministry of Health has data and information center which designated analyze health statistics, synthesis and validate data from different sources. In addition, the national institute of health research and development (NIHRD) was designated to conduct national household health survey as well as health-facility based survey. The NIHRD conduct further analysis and provide recommendation to policy makers.

National Development Planning Agency (Bappenas) in collaboration with ministries to set target in mid-term development plan as well as in Ministerial strategic plan. Program and activities to support achievement of indicators included in the mid-term development plan was report quarterly to Bappenas. While indicators included in ministerial strategic plan was reported annually to inform health policy makers. The data was derived from both routine data reporting from districts or health facilities and health survey. The data from districts or health facilities has an electronic platform that easily to access by policy makers. While health survey was shared to public through the official report and online visualization.

The burden of disease (BOD) is important to quantify and compare health loss due to different disease, injuries, and risk factor. The IHME in collaboration with NIHRD has been produce BOD estimates. However, the institutional capacity in Indonesia produces self-reported burden of diseases need to be strengthened. The BOD in Indonesia has been used as background study in national mid-term development plan. Thus, informed policy makers transitional demographic changing from infectious diseases to non-communicable diseases. National program has been implemented to reduce the

impact of non-communicable disease such as healthy life-style community program, smoking-free area, increase taxes for sweetened beverages, etc.

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

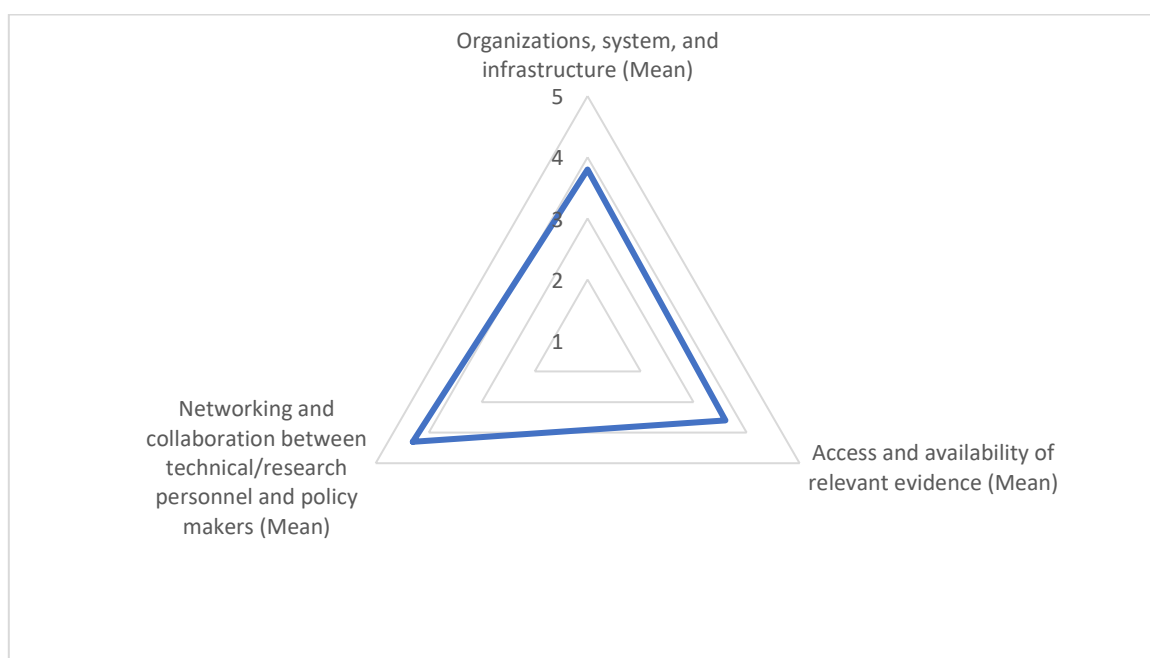
Indicators	Level
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	5
2) The designated institutes have adequate capacity to fulfill these mandates	5
3) There is a national set of indicators with targets for regular monitoring	5
4) There is an annual or biennial report to inform health policy and planning	5
5) There is a national data archives system for health surveys and census that are operational and accessible in electronic platform	5
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	2
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	4
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	4
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	5
10) BOD is important element of the health systems performance assessment	5
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	5
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	4
<b>Average scores</b>	<b>4.50</b>
<b>Min score</b>	<b>2</b>
<b>Max score</b>	<b>5</b>

#### 4.2 BOD Data utilization for policy

Three main factors which contribute to the use of BOD evidence for policy includes: (1) organization, system, and infrastructure; (2) access and availability of relevant evidence; (3) networking and collaboration between technical/research personnel and policy makers. The NIHRD has financial support to increase staff capacity to analyze and interpret the data. However, the funding was not specifically to analyze or interpret the BOD result.

In order to ensure access and availability of relevant evidence, the data and information center produce annual health report. However, the report was published in the next financial year. The NIHRD provide evidence for disease prevalence, health examination and risk factor based on household survey. The researcher in NIHRD disseminate the result to the policy makers and provide recommendation. However, political interest may hamper the implementation of the recommendation.

## The average scores of factors which hamper effective use of BOD evidence for policy



**Fig. 6 Average scores of factors which contribute to the use of BOD evidence for policy in country**

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>3.8</b>
1) Evidence is not produced on time for policy decision	3
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker	4
3) Lack of financial resource to staff capacity	4
4) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>3.6</b>
5) Lack of available evidence for specific contexts	4
6) The evidence produced is not relevant to policy questions	3
7) Recommendations are not policy relevant	3
8) Evidence is not timely available for policy use	4
9) Ineffective communication by researchers	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>4.3</b>
10) Limited channels to directly link evidence to policymakers	5
11) Policy recommendations are not practical and feasible	4
12) Weak linkage with policy makers	5
13) Political interests and scientific evidence do not complement each other	5
14) Lack of culture of using evidence for decision among policy makers	3
15) Policy makers do not value merits of evidence	3

### 5. Gaps or limitation to the use of BOD evidence for policy

#### 1) What Gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?

Indonesia have capacity for analysis, synthesis, and validation of health data. However, the level of knowledge still needs to improve. We need more intense capacity in the computation and estimates the burden of disease in order to produce self-estimates.

**2) What factors which contribute to the use of BOD evidence for policy in country? How to improve?**

Indonesia already use evidence for policy through data survey, routine reporting data from districts as well as research results. However, capacity of human resources in translating the results to informed policy makers remain a challenge. Indonesia has several funds to increase capacity and knowledge of the researchers. Yet, sources of financing to increase human resource capacity focusing on BOD are still limited.

**3) What needed for development of capacity to the use of BOD evidence for policy?**

Capacity building is needed to arrange the burden of disease results into an easy-to-understand information and communicate it to the policy makers. Joint activities with other countries create opportunities to learn from other countries experiences and strengthen collaboration. Indonesia has internal funding to increase human resources capacity. However, the funding was not specifically for BOD strengthening capacity. Thus, support funding for other funding agencies and donor is needed.

## The country' self-report assessment of Laos

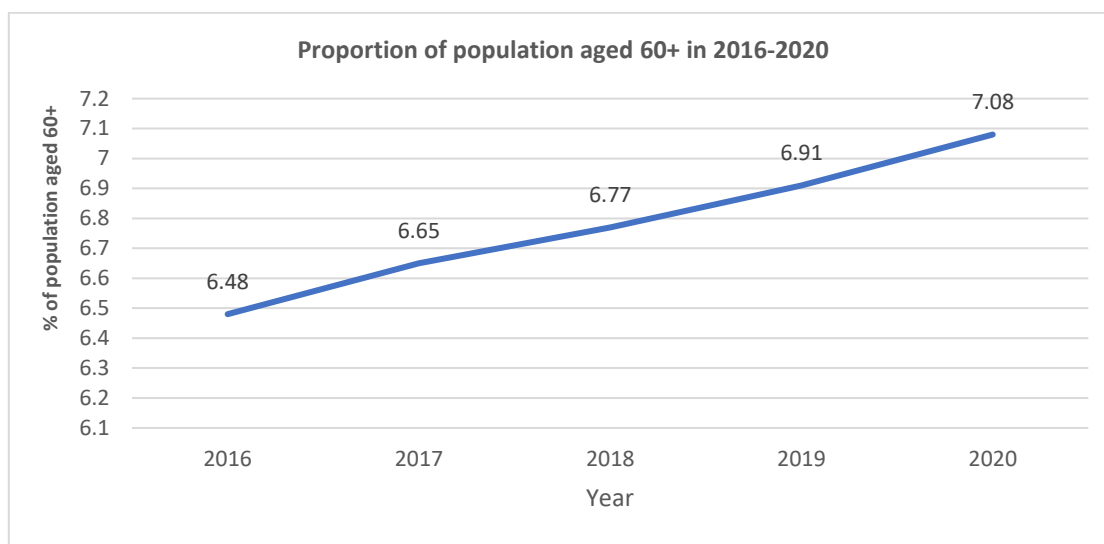
### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
7,231	512	769	Male= 65 Female = 69	ND
<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>
7,123	492	779	Male= 65 Female = 68	ND

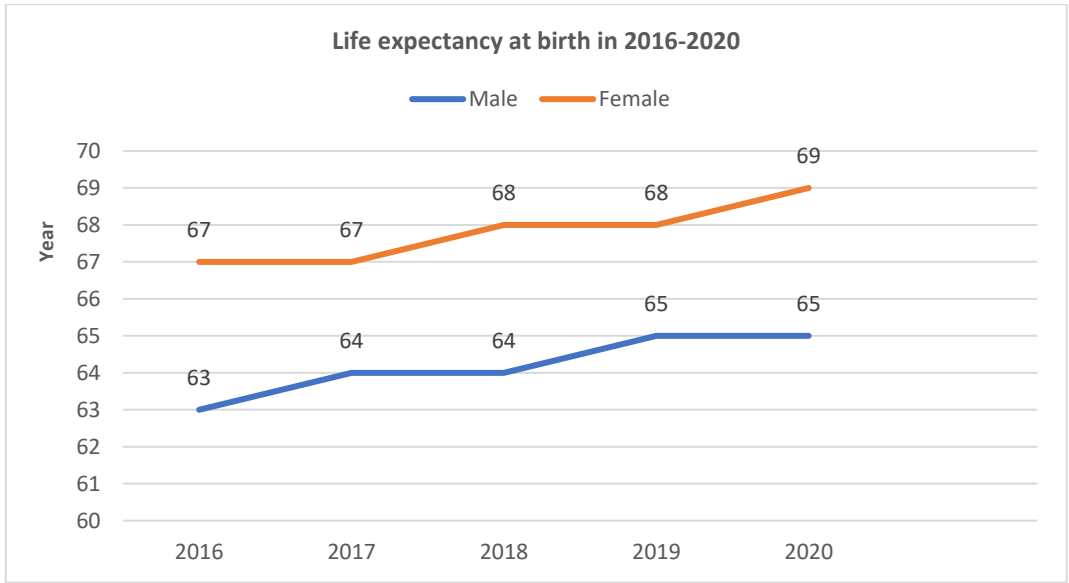
Note: ND; no data

Primary data source: <https://laosis.lsb.gov.la/>



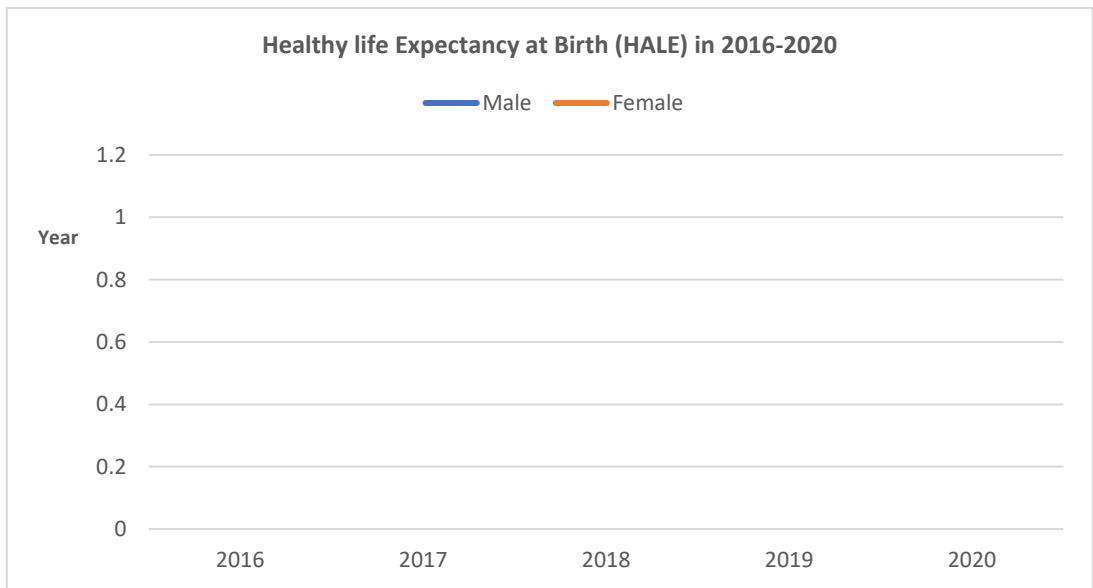
**Fig. 1 Proportion of population aged 60+ in 2016-2020**

Primary data source: <https://laosis.lsb.gov.la/>



**Fig. 2 Life expectancy at birth in 2016-2020**

Primary data source: <https://laosis.lsb.gov.la/>



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note: no data of healthy life expectancy at birth (HALE)**

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-5 mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
2020	2020	2020	2020
72.1	73.2 <sup>1</sup>	65.1	49.3

Note: 1 : coverage of skilled birth attendance (SBA)

Primary data source: <https://laosis.lsb.gov.la/>

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND

Note: ND; no data

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
886	ND	0.49	ND	ND

Note: ND; no data

Primary data source: Obtained from HIV/AIDS center and

Obtained from DHIS2 Laos (<https://www.laos-his.gov.la/>) for malaria



#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
ND	1,031	ND	ND	ND

Note: ND; no data

Primary data source: <https://laosis.lsb.gov.la/>

#### 5) Prevalence of exposure to key risk factors

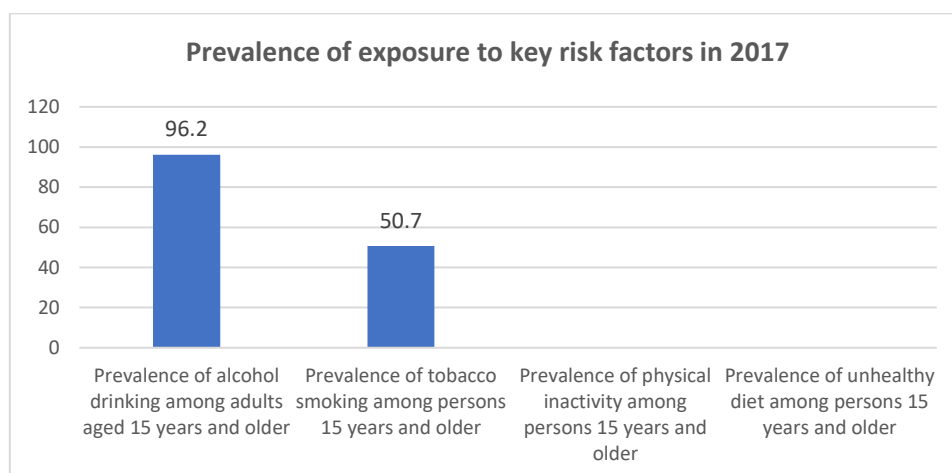


Fig. 4 Prevalence of exposure to key risk factors in 2017

Note: ND; no data of prevalence of exposure to key risk factors in 2020

Primary data source: <https://laosis.lsb.gov.la/>

## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2017	2017
49	ND

Note: ND; no data

Primary data source: <https://laosis.lsb.gov.la/>

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	ND

Note: ND; no data

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2020
ND	ND

Note: ND; no data

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a	Health worker density and distribution (per 10,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial - resistant organisms
2020	2020	2020	2020	2019	2020
ND	ND	ND	ND	ND	ND
2017	2017	2017	2017	2017	2017
70.6	ND	ND	ND	ND	ND

Note: ND; no data

Primary data source: <https://laosis.lsb.gov.la/>

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

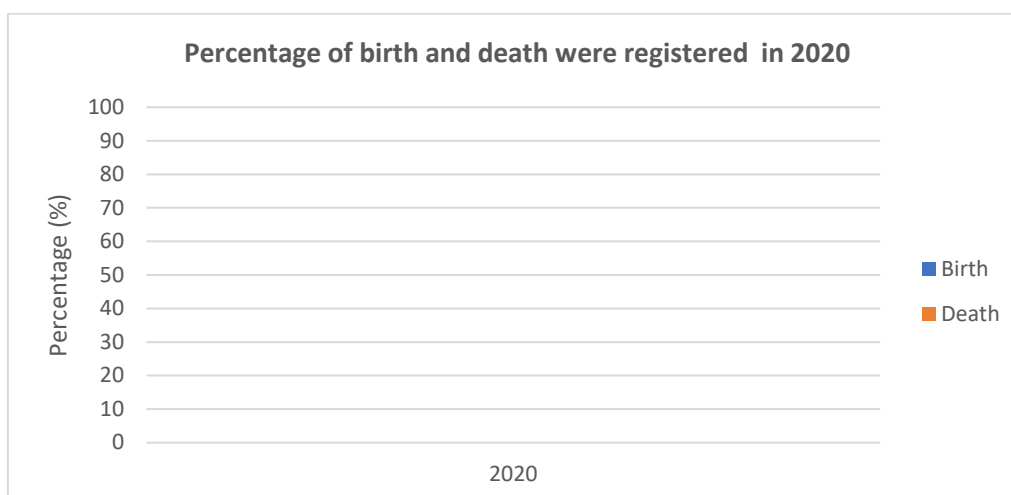
Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	No
3. Health exam survey	Yes
4. Demographic and Health Survey (DHS) or other equivalent	No
5. Socioeconomic survey	No
6. Risk factor survey	No
7. Diseases records from clinical settings and compile into statistics	Yes
8. Diseases surveillance in 5 years	No
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	No

Note: 5 year (2016-2020)

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

## 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered in 2020**

**Note: ND; no data of percentage of birth and death registered**

## 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	No
3. Is there any personal interview or verbal autopsy to define the cause of death?	No
4. Is ICD-10 being used as the disease classification tool?	No
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	% (In 2020)
6. Are health and population data disaggregated by sex ?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	Yes Over 75 years old

## 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

- There is no extremely regularly data update, some health data have not been entered into the health system (DHIS2)
- There are many garbage data which could not refer SDGs indicators
- There is no forensic medical doctor to certify the cause of death

### 2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?

- Laos has no the unit or the organization who responsible for implementing BOD study so far. To establish the BOD study unit is needed and the assistance for the expertise from the beginning. We need the assistance and support from AMS and other organizations.

### 3) What kind of technical assistance do your country need for data source improvement?

- Capacity building for health statistic (long-term and short-term training)
- Improve the data collection system, monitoring and evaluation

**4. Assessment of capacity of BOD data utilization for policy**  
**4.1 Capacity for analysis, synthesis, and validation of health data**

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
13) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	3
14) The designated institutes have adequate capacity to fulfill these mandates	3
15) There is a national set of indicators with targets for regular monitoring	3
16) There is an annual or biennial report to inform health policy and planning	3
17) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	3
18) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	4
19) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	3
20) A burden of disease study has been conducted within the last 5 years by national stakeholders	3
21) A study of health systems performance has been carried out within the last 5 years by national stakeholders	3
22) BOD is important element of the health systems performance assessment	5
23) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	3
24) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	2
<b>Average scores</b>	<b>3.17</b>
<b>Min score</b>	<b>2</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy

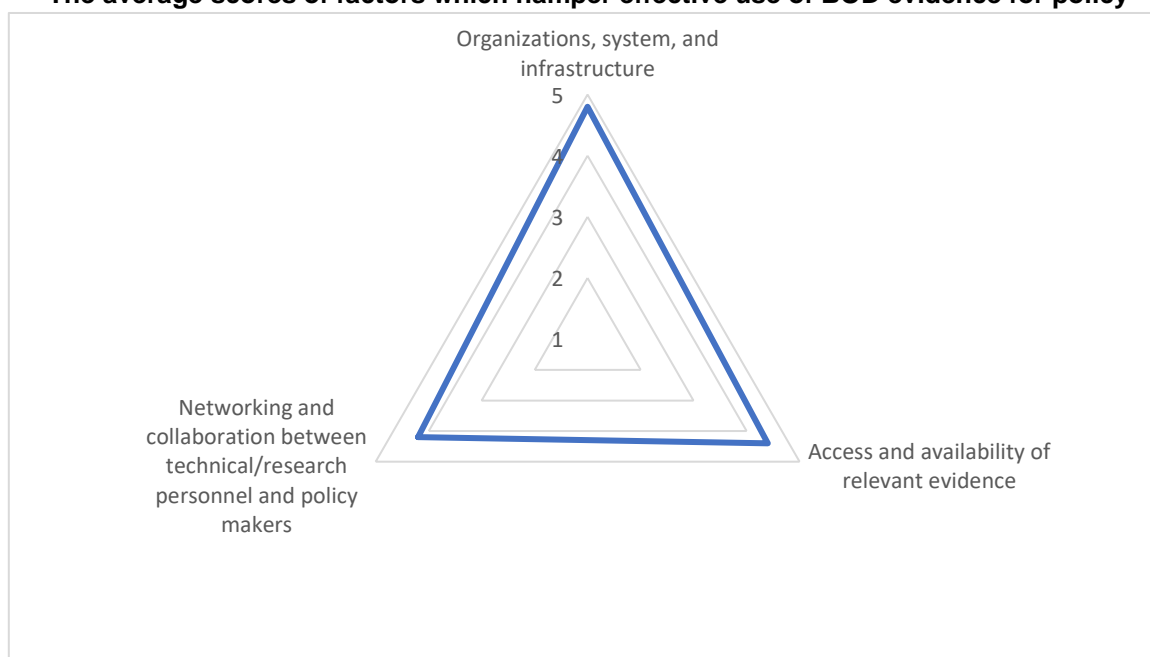


Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>4.8</b>
5) Evidence is not produced on time for policy decision	5
6) Ineffective mechanism in translating / packaging BOD evidence for policy maker	5
7) Lack of financial resource to staff capacity	5
8) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>4.4</b>
10) Lack of available evidence for specific contexts	5
11) The evidence produced is not relevant to policy questions	4
12) Recommendations are not policy relevant	4
13) Evidence is not timely available for policy use	5
14) Ineffective communication by researchers	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>4.2</b>
16) Limited channels to directly link evidence to policymakers	5
17) Policy recommendations are not practical and feasible	4
18) Weak linkage with policy makers	4
19) Political interests and scientific evidence do not complement each other	4
20) Lack of culture of using evidence for decision among policy makers	5
21) Policy makers do not value merits of evidence	3

## 5. Gaps or limitation to the use of BOD evidence for policy

### 1) What are the gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?

- Quality and accuracy of data collection
- Lack of human resource as well as the statistical and epidemiological experts
- Data management system is weak

**2) What factors are contributing to use of BOD evidence for policy in country? How to improve?**

- Knowledge/Understanding of health policy makers on BOD important for policy development and decision
- Appropriate data management system

**3) What are the important factors to improve the capacity or to develop the capacity to use the BOD evidence-based information for policy?**

- Knowledge/Understanding of health policy makers and health care staffs
- Human resource including capacity building
- The integrated and collaboration among MoH, academic/university and partners
- Technical/expertise support from Asian Member state and international institutions

## The country' self-report assessment of Malaysia

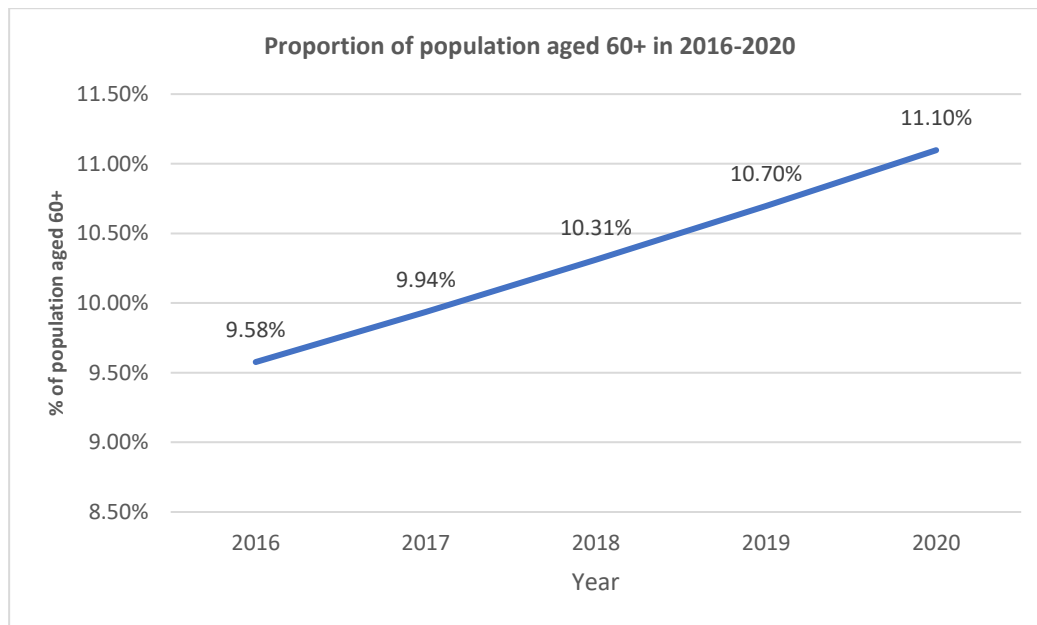
### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at Birth
2020	2020	2020	2020	2020
33,782.4	3,749.0	2,731.1	Male: 72.6 Female: 77.6	Male: ND Female: ND

**Note:** ND; no data in 2020

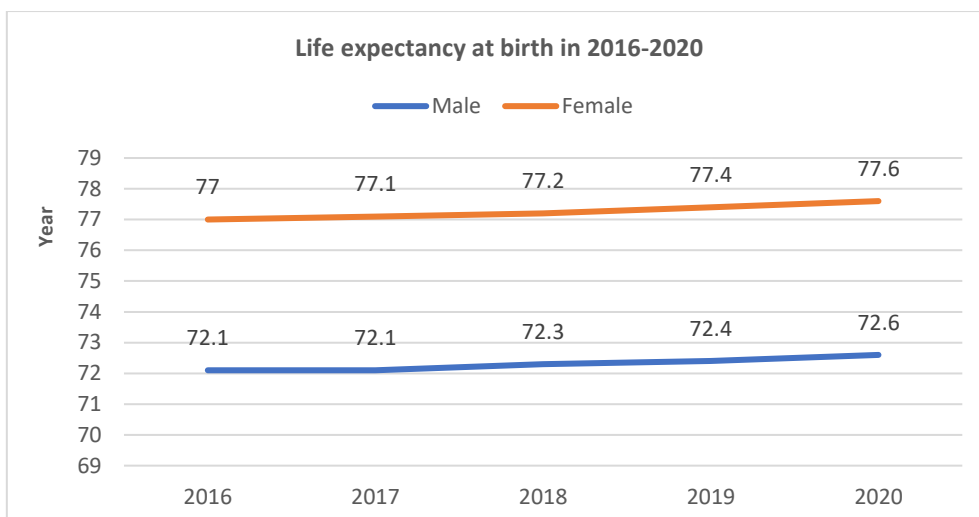
**Primary data source:** Population Projections (Revised), Malaysia, 2010–2040, Department of Statistics Malaysia (DOSM)



**Fig. 1 Proportion of population aged 60+ in 2016-2020**

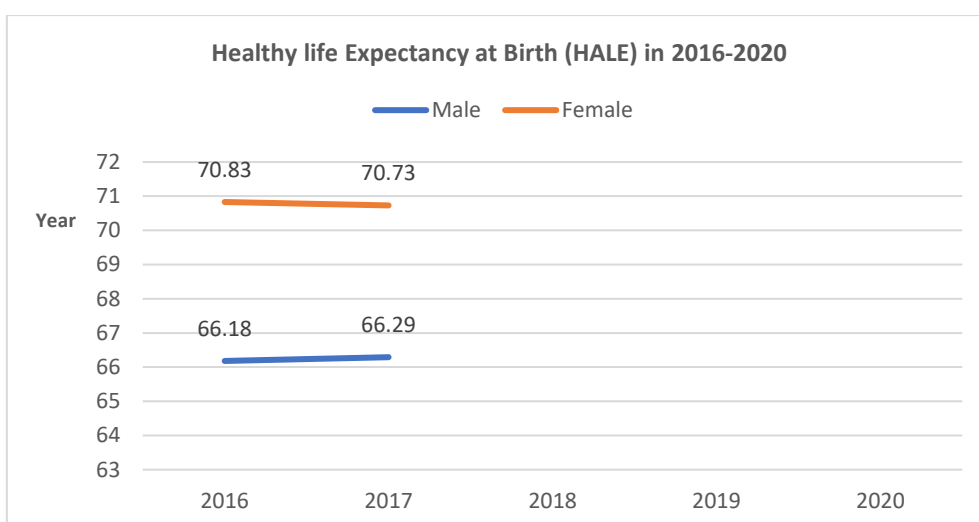
**Primary data source:** Population Projections (Revised), Malaysia, 2010–2040, Department of Statistics Malaysia (DOSM)





**Fig. 2 Life expectancy at birth in 2016-2020**

**Primary data source:** Abridged Life Tables, Malaysia DOSM



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note:** no data of healthy life expectancy at birth (HALE) in 2018-2020

**Primary data source:** Centre for Burden of Disease Research (CBODR), Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-five mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
2020	2020	2020	2020
24.9	99.8	6.9	3.9

Primary data source: Ministry of Health SDG Secretariat

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND
2019			
5.7	11.3	1.3	1.5

Note: no data in 2020

Primary data source: Ministry of Health SDG Secretariat

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.20	ND	0.10	ND	91.3%
2019	2019	2019	2019	2019
0.20	80.8	0.12	15.70	88.3%

Note: no data in 2020

Primary data source: Ministry of Health SDG Secretariat

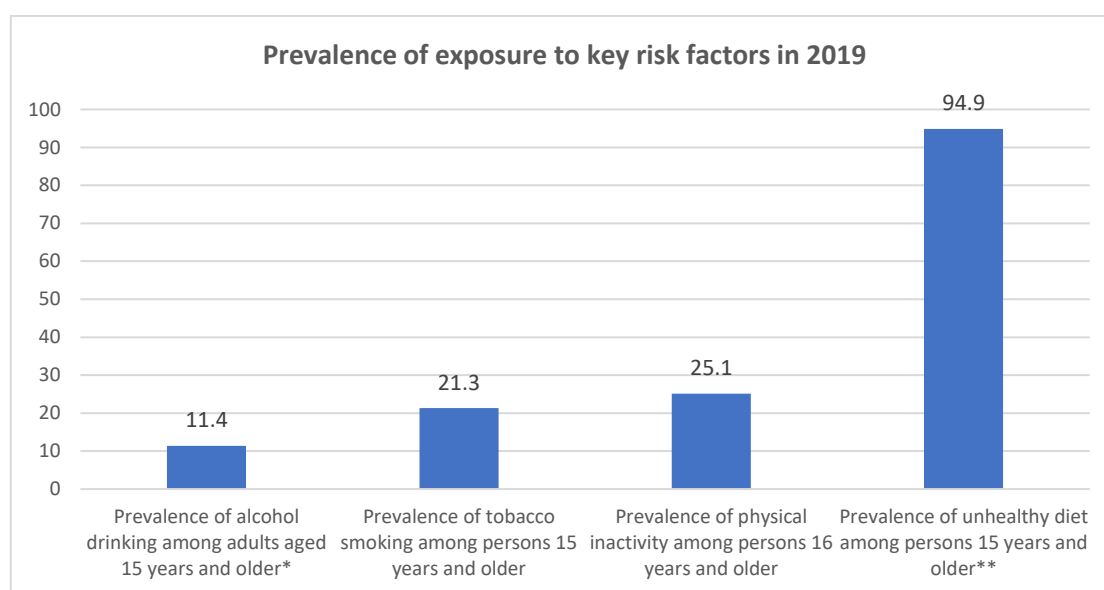
#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
ND	ND	ND	ND	0.30
2018	2018	2018	2018	2018
0.09	19.4	ND	0.62	0.27

Note: no data in 2020,2018

Primary data source: Ministry of Health SDG Secretariat

#### 5) Prevalence of exposure to key risk factors



\*Current drinkers

\*\*Inadequate fruit and vegetable intake

Note: no data of prevalence of exposure to key risk factors in 2020

**Fig. 4 Prevalence of exposure to key risk factors in 2019**

Primary data source: National Health and Morbidity Survey (NHMS) 2015 & 2019: Non-communicable diseases, healthcare demand, and health literacy Institute for Public Health (IPH), MOH Malaysia

## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods*	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2018	2018
ND	8.5

\*Proxy data: Using both modern and traditional methods

**Note:** no data in 2020

**Primary data source:** Ministry of Health SDG Secretariat

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income (10% / 25%)
2020	2020
ND	ND
2018	2019
87.5	1.50% / 0.10%

**Note:** no data in 2020

**Primary data source:** Ministry of Health SDG Secretariat

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol*
2020	2020
ND	ND
2019	2019
ND	0.2%

\*Proxy data: Prevalence of heavy episodic drinking

**Note:** no data in 2020

**Primary data source:** Ministry of Health SDG Secretariat

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme*	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution (Doctors/Dentists/Pharmacist/Registered Nurse/Midwifery Personnel)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms
2020	2020	2020	2020	2020	2020
97.7	ND	ND	2.10 / 0.40 / 0.60 / 3.40 / 1.70	ND	ND
2018	2018	2018	2018	2018	2018
100.22	ND	ND	1.887/0.299/0.414/3.290/1.661	92%	ND

\*Proxy data: Received 3rd dose of DPT

**Note:** no data in 2020, 2018

**Primary data source:** Ministry of Health SDG Secretariat

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

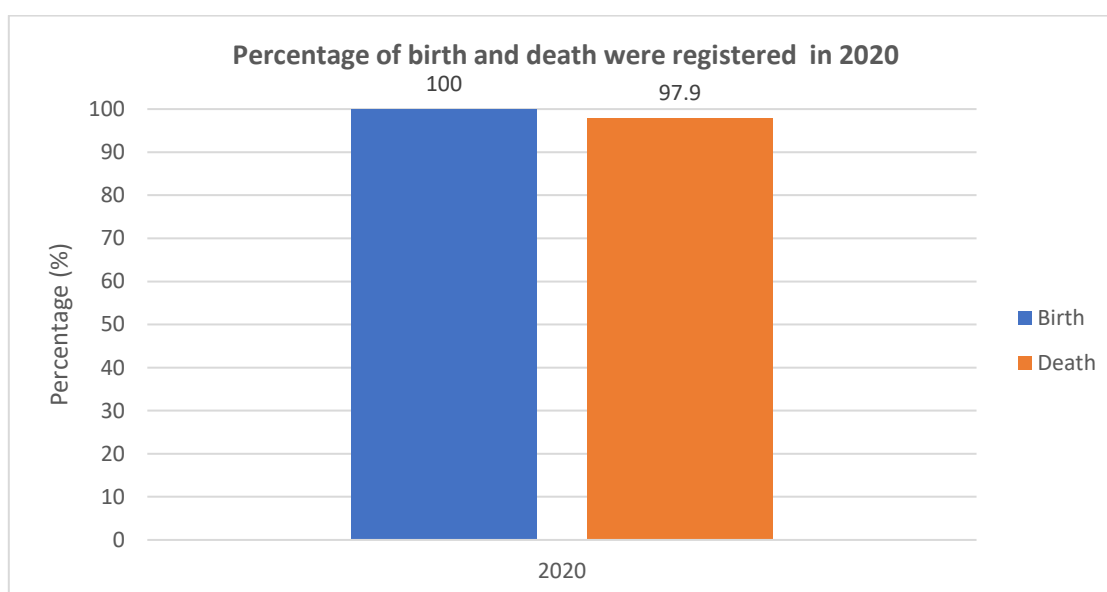
Major sources	
1. population census in last 10 years	Yes
2. Health Interview through household or special survey	Yes
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

**Note: 5 year (2016-2020)**

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

#### 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered in 2020**

**Primary data source:** Department of Statistics Malaysia (DOSM)

## 2) Quality of Death registration data

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	No
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	40.2 % (In 2019)
6. Are health and population data disaggregated by sex ?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No upper age cut-off- 85 years

### 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

#### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

As Malaysia practices a dual healthcare system, of public and private hospitals, there are still gaps of data on reporting from private sector. Even though most private hospitals now provide admission / discharge diagnosis data to the ministry, however there is still no data provided from the private clinics / general practitioners across the country. In the absence of a registry, there is still poor / no data available for certain disease conditions, mainly mental health disorders and musculoskeletal diseases.

#### 2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?

Malaysia has 100% birth registration and 98% death registration. The current issue faced in the quality of the data captured.

An ideal scenario would be to have all the deaths captured, medically certified and in the absence of any garbage codes. However, the country is currently not ready to have all deaths mandatory to be medically certified. A main area of improvement that would benefit the CRVS would be to improve the quality of written COD by the attending physician. This would enable us to capture in greater accuracy and depth the data on deaths, and have a greater understanding of the main COD in the country.

#### 3) What kind of technical assistance do your country need for data source improvement?

Malaysia would benefit from having models for disease estimation, especially those diseases that are difficult to capture or to capture it complete.

**4. Assessment of capacity of BOD data utilization for policy**  
**4.1 Capacity for analysis, synthesis, and validation of health data**

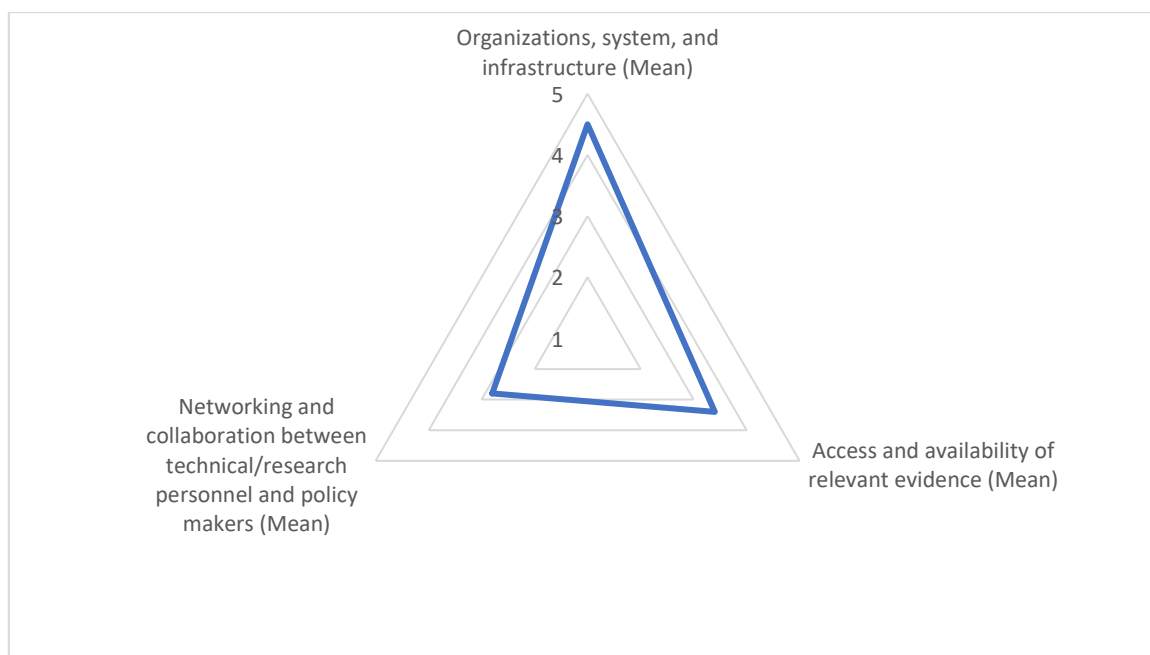
The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Indicators	Level
25) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	3
26) The designated institutes have adequate capacity to fulfill these mandates	4
27) There is a national set of indicators with targets for regular monitoring	3
28) There is an annual or biennial report to inform health policy and planning	5
29) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	5
30) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	4
31) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	4
32) A burden of disease study has been conducted within the last 5 years by national stakeholders	4
33) A study of health systems performance has been carried out within the last 5 years by national stakeholders	4
34) BOD is important element of the health systems performance assessment	5
35) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	4
36) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	5
<b>Average scores</b>	<b>4.17</b>
<b>Min score</b>	<b>3</b>
<b>Max score</b>	<b>5</b>



## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy



**Fig. 6 Average score of factors which contribute to the use of BOD evidence for policy in country**

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>4.5</b>
9) Evidence is not produced on time for policy decision	4
10) Ineffective mechanism in translating / packaging BOD evidence for policy maker	5
11) Lack of financial resource to staff capacity	5
12) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>3.4</b>
15) Lack of available evidence for specific contexts	5
16) The evidence produced is not relevant to policy questions	2
17) Recommendations are not policy relevant	2
18) Evidence is not timely available for policy use	4
19) Ineffective communication by researchers	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>2.8</b>
22) Limited channels to directly link evidence to policymakers	4
23) Policy recommendations are not practical and feasible	2
24) Weak linkage with policy makers	2
25) Political interests and scientific evidence do not complement each other	3
26) Lack of culture of using evidence for decision among policy makers	3
27) Policy makers do not value merits of evidence	3

## **5. Gaps or limitation to the use of BOD evidence for policy**

### **1) What are the gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?**

One of the main limitations that exist is the gaps in data. There are some diseases and conditions with no data available, or very poor quality data for make any estimation. The absence of an electronic medical record system makes it difficult to obtain data on diseases and conditions that are not part of any surveillance program.

Another major issue is the timely availability of data. Data is scattered and the custodians of the data are from many sources, requiring a time consuming process to obtain the data. Furthermore, the data often takes many months after the preceding year to be cleaned and finalized and made available for others parties.

Furthermore, analysis and synthesis of BOD data is often complex and with little exposure to the methodologies for anyone who had previously not worked in this area. Thus staff training is time consuming, and is compounded by staff turnover.

The work on BOD data in Malaysia is carried out by the Centre for Burden of Disease Research, Institute for Public Health. The institute is also responsible for carrying out national surveys and other studies around Malaysia. The added burden of other core work tasks outside of BOD limits the time spent for BOD work.

### **2) What factors are contributing to use of BOD evidence for policy in country? How to improve?**

One of the main factors has been close engagement and providing the report to the Planning Division in Ministry of Health. The Planning Division utilizes the BOD report for allocation of their resources. Furthermore, the reports are also sent to all stakeholders for their reference and to be used in their policy making.

The BOD reports are also made available in soft copy and is free to download from our websites. This enables policy makers to obtain the report from a quick search of the internet, or if required during policy planning.

The use of BOD evidence can be improved making more people aware of the availability and results. This include top level management and policy makers, as well as the middle managers who are involved in drafting out policies. The evidence dissemination could be carried out through social media and through small infographics to enable awareness and knowledge of the evidence produced.

### **3) What are the important factors to improve the capacity or to develop the capacity to use the BOD evidence-based information for policy?**

To improve the capacity and use BOD evidence-based information for policy decisions, an important factor would be the establishment of a dedicated national centre for carrying out research and work on Burden of Disease for country purposes. This would not only create dedicated staff and help to retain the staff, but also improve the work carried out and dissemination of the information to public and policy makers.

Involvement of policy makers from the start of each BOD project, from the onset of planning the project would also be beneficial as it ropes in the policy makers early, enables to be aware and understand the findings, as well as ensure the findings are in-line with their policy needs. This would also enable researchers to package the findings relevant to policy makers needs for their easier understanding and improve utilization of the findings for policy decisions.

## The country' self-report assessment of Myanmar

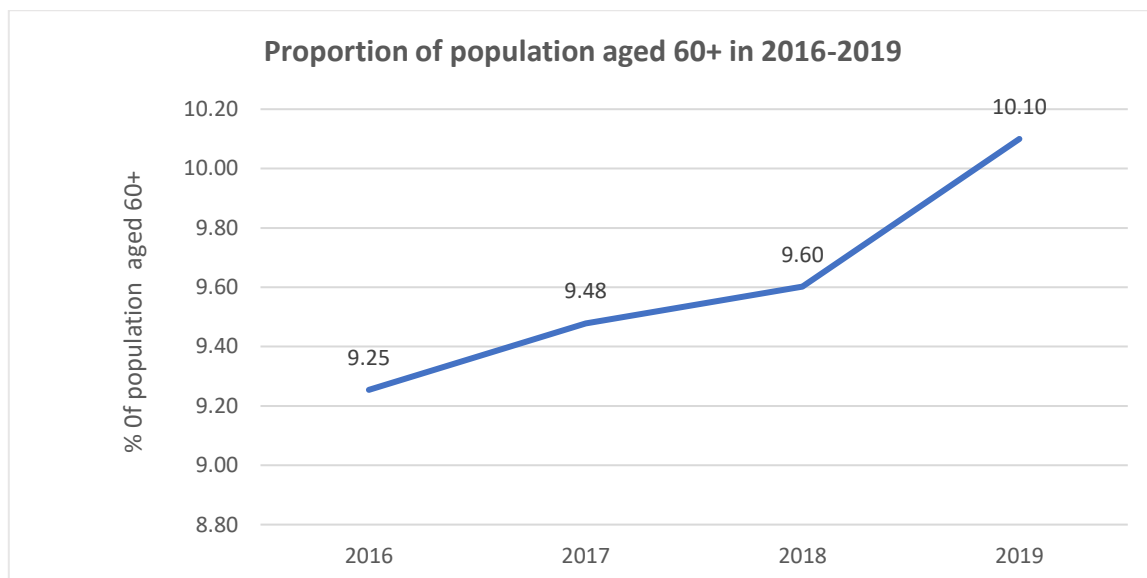
### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
ND	ND	ND	Male = 62.6 Female = 71.6	ND
<b>2019</b>	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2019</b>
51,100	5,161	4,986	Male = 61.8 Female = 70.9	ND

Note: ND; no data

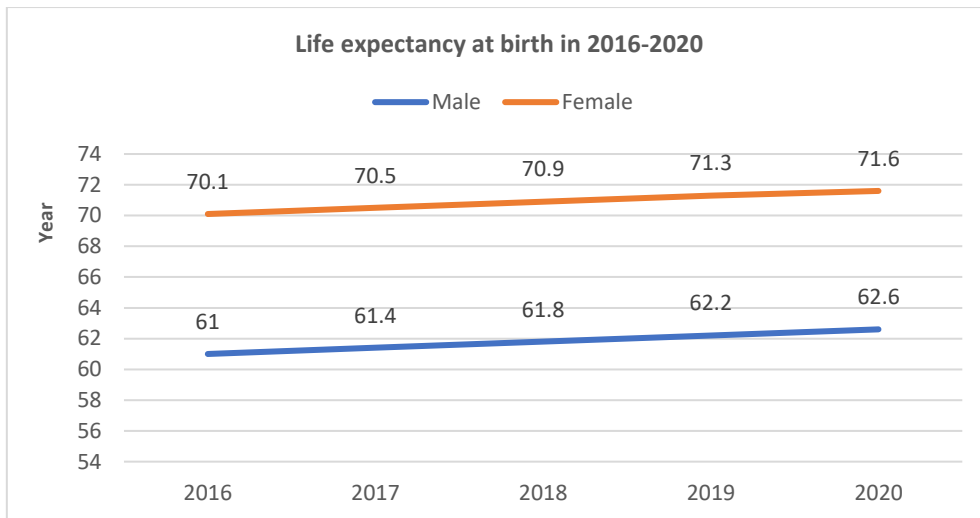
Data source: Intercensal report,2019; Statistical Yearbook, 2018; Myanmar Health Statistics, 2020



**Fig 1 Proportion of population aged 60+ in 2016-2019**

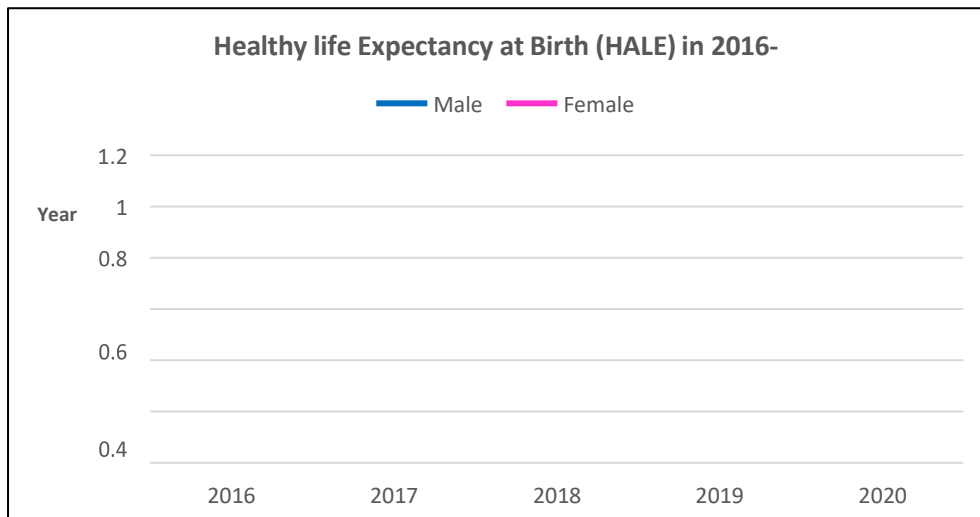
Note: no data of proportion of population aged 60+ in 2020

Data source: Statistical Yearbook, 2019 (for 2016,2017, 2018 and 2019 data)



**Fig. 2 Life expectancy at birth in 2016-2020**

**Data source: Myanmar Health Statistics, 2020**



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note:** no data of healthy life expectancy at birth (HALE)

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-5 mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
ND	ND	ND	ND
<b>2017</b>	<b>2017</b>	<b>2018</b>	<b>2018</b>
202	ND	61.2	23

Note: ND; no data

Data source: Statistical Yearbook, 2019; Myanmar Health Statistics, 2020

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND

Note: ND; no data

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
ND	ND	1.11	ND	ND
<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>
ND	308	1.01	ND	ND

Note: ND; no data

Data source: Annual report of National Tuberculosis Program, Annual report of National Malaria Program

#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
4.7	10.5	ND	ND	0.74

Note: ND; no data

Data source: DHIS 2

#### 5) Prevalence of exposure to key risk factors

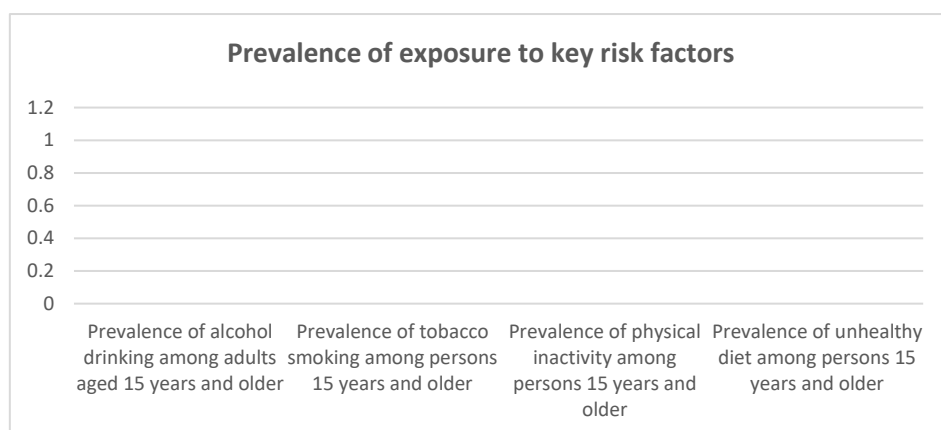


Fig. 4 Prevalence of exposure to key risk factors

Note: no data of Prevalence of exposure to key risk factors in 2016-2020

#### 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2016	2019 (Intercensal report)
51	20.3 per 1000 women

Note: ND; no data

Data source: Myanmar Demographic and Health Survey; Intercensal report, 2019

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	ND

Note: ND; no data

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2020
ND	ND

Note: ND; no data

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution (per 1,000 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms
2020	2020	2020	2020	2020	2020
ND	ND	ND	ND	ND	ND
2016	2016	2016	2016	2016	2016
ND	ND	ND	1.47	ND	ND

Note: ND; no data

Data source: Ministry of Health and sports, 2016

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

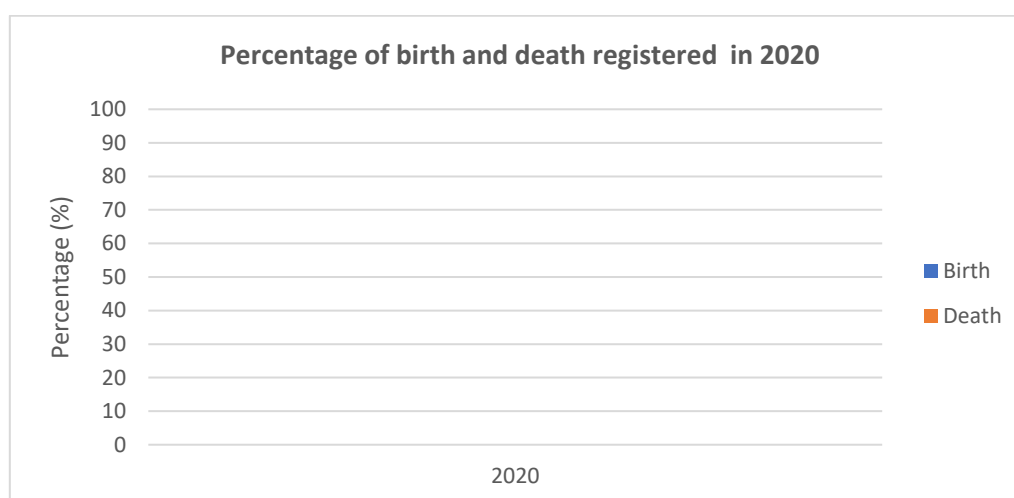
Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	No
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	No
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Diseases surveillance in 5 years	No
9. Electronic health service records	No
10. Cancer registry data	Yes
11. Any specific disease registry data	No

**Note: 5 year (2016-2020)**

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

#### 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered in 2020**

**Note:** Percentage of birth and death registered in 2020 – Currently No published data, **will be obtained in Statistical Yearbook 2021**



## 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	No
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	2.1% (In 2016)
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	No
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No, 65+ years

## 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

- Because of limited human resources and funding sources, it is difficult to conduct periodic surveys and to have regular report from health facilities.

Unavailability of country data source for

(i) Healthy Life expectancy at birth (HALE)

(ii) Mortality rate attributed to CVD, Cancer, Diabetes or Chronic Respiratory Diseases (Probability of dying between age 30 and 70) (%) – currently there is no reported data for this indicator and we, NCD Unit, can be able to calculate based on Verbal autopsy data for 2018 and 2019, as there had been training by experts from CSO and University of Melbourne in 2020.

### 2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?

Birth registry data is reliable than death registry data because birth registry certificate is mandatory to show for school entry. Urban deaths are mostly registered as it needs for burial or cremation process. But rural deaths are not registered except in case of family pension or to claim inheritance.

Some medical personnel who give medical certificate for cause of death, are not well trained. It may cause ill-defined death data.

To improve the quality of Birth and death data,

- 1- Available to easily access and avoid unnecessary time consumption (e.g. online registry)
- 2- Community Awareness raising on importance of Birth and death data
- 3- Enforcement to existing vital registration law
- 4- Proper training to Basic Health Staff for Vital Registration System
- 5- Training to Medical personnel for Cause of Death (to avoid ill-defined death data)

### 3) What kind of technical assistance do your country need for data source improvement?

Proper trainings to data collectors are needed to improve data quality and upscale smart VA platform to accurate COD

For NCD clinic data reporting, technical assistance is necessary to integrate NCD clinic data to DHIS2 system of Public Health

#### 4. Assessment of capacity of BOD data utilization for policy

##### 4.1 Capacity for analysis, synthesis, and validation of health data

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
37) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	2
38) The designated institutes have adequate capacity to fulfill these mandates	2
39) There is a national set of indicators with targets for regular monitoring	5
40) There is an annual or biennial report to inform health policy and planning	3
41) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	2
42) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	4
43) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	3
44) A burden of disease study has been conducted within the last 5 years by national stakeholders	1
45) A study of health systems performance has been carried out within the last 5 years by national stakeholders	2
46) BOD is important element of the health systems performance assessment	4
47) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	3
48) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	5
<b>Average scores</b>	<b>3.0</b>
<b>Min score</b>	<b>1</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy



Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>4.5</b>
13) Evidence is not produced on time for policy decision	3
14) Ineffective mechanism in translating / packaging BOD evidence for policy maker	3
15) Lack of financial resource to staff capacity	4
16) Lack of human resource capacity to analyze or interpret data	5
<b>Access and availability of relevant evidence</b>	<b>2.8</b>
20) Lack of available evidence for specific contexts	3
21) The evidence produced is not relevant to policy questions	3
22) Recommendations are not policy relevant	2
23) Evidence is not timely available for policy use	3
24) Ineffective communication by researchers	3
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>1.7</b>
28) Limited channels to directly link evidence to policymakers	2
29) Policy recommendations are not practical and feasible	2
30) Weak linkage with policy makers	2
31) Political interests and scientific evidence do not complement each other	2
32) Lack of culture of using evidence for decision among policy makers	1
33) Policy makers do not value merits of evidence	1

## **5. Gaps or limitation to the use of BOD evidence for policy**

### **1) What Gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?**

Capacity building and technical assistance

### **2) What factors which contribute to the use of BOD evidence for policy in country? How to improve?**

- Stakeholders engagement
- Needs collaboration with technical and political personnel

### **3) What needed for development of capacity to the use of BOD evidence for policy?**

Leadership and commitment with advocacy for evidence of BOD data and data linkage

## The country' self-report assessment of Philippines

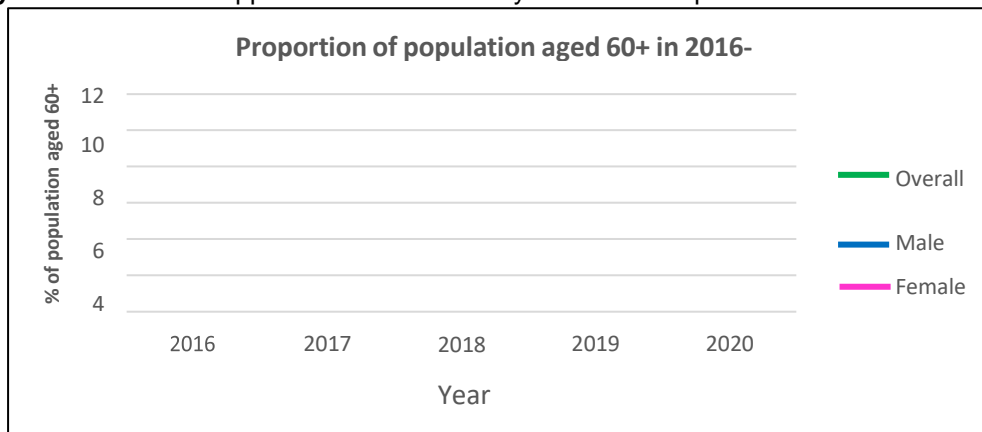
### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
2020	2020	2020	2020	2020
109,035	ND	ND	Male: 71 Female: 78	ND

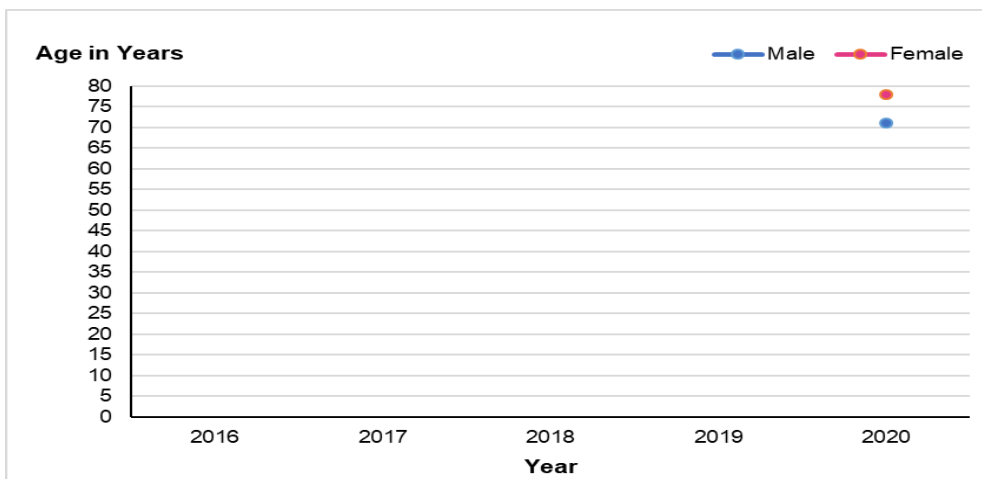
**Note:** ND; no data

**Primary data source:** Philippine Statistics Authority Census of Population



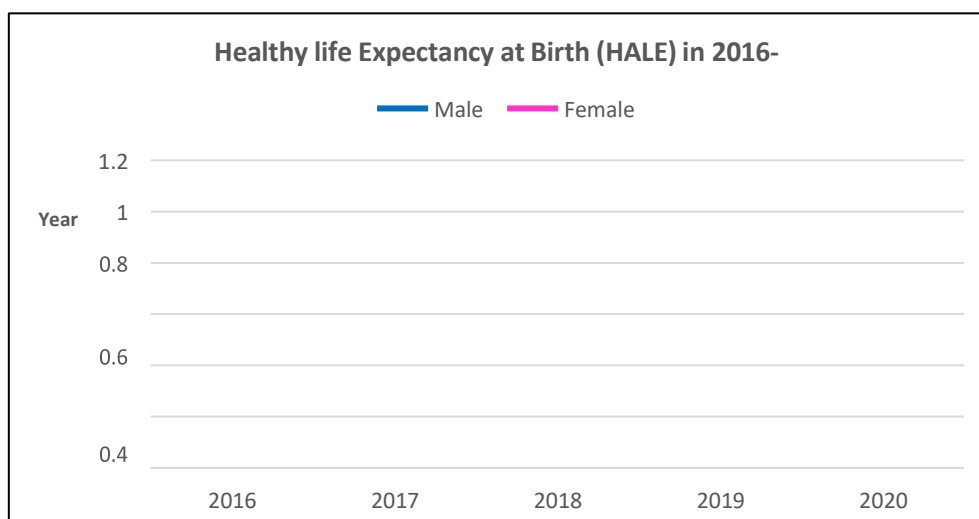
**Fig. 1** Proportion of population aged 60+ in 2016-2020

**Note:** No data of proportion of population aged 60+



**Fig. 2** Life expectancy at birth in 2016-2020

**Note:** Data for Life expectancy at birth is only available for 2020



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note:** No data of Healthy Life Expectancy at Birth (HALE)

### 1.2 Health related SDGs indicators status

#### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-five mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
105	ND	ND	ND
<b>2017</b>	<b>2017</b>	<b>2017</b>	<b>2017</b>
98	84.4	27	14

**Note:** ND; no data

**Primary data source:** Civil Registration and Vital Statistics, National Demographic and Health Survey

## 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND
2019			
1.0	2.8	0.3	0.5

Note: ND; no data

Primary data source: Vital Statistics Report

## 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.15	ND	ND	ND	ND
2019	2016	2019	2019	2019
0.14	434	0.05	ND	ND

Note: ND; no data

Primary data source: Program Data, National Tuberculosis Prevalence Survey (TB data)

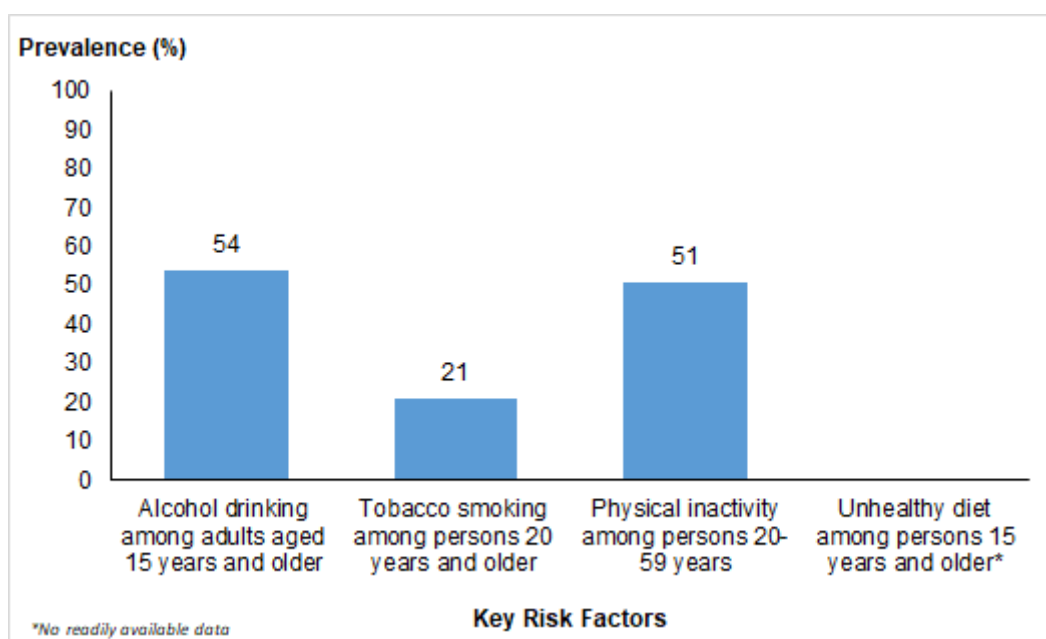
#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
ND	ND	ND	ND	ND
2019	2019	2019	2019	2019
ND	11.9	ND	ND	0.2

Note: ND; no data

Primary data source: Vital Statistics Report

#### 5) Prevalence of exposure to key risk factors



**Fig. 4 Prevalence of Exposure to Key Risk Factors in Philippines, 2018**

Note: No data of Prevalence of Exposure to Key Risk Factors in 2020

Primary data source: National Nutrition Survey



## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2017	2017
56.9	47.0

Note: ND; no data

Primary data source: National Demographic and Health Survey

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	ND

Note: ND; no data

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2016
ND	ND
2019	2018
87.6	54.5

Note: ND; no data

Primary data source: Program Data

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a	Health worker density and distribution (per 10,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial - resistant organisms
2020	2020	2020	2020	2020	2020
65.18	ND	ND	ND	69	ND
2019	2019	2019	2019	2019	2019
69.08	ND	55.0	ND	51	ND

**Note:** ND; no data

**Primary data source:** Administrative Data, Drug Availability Survey, IHR State Party Annual Report

### 2. Assessment of country data sources

#### 2.1 Summary of country data sources

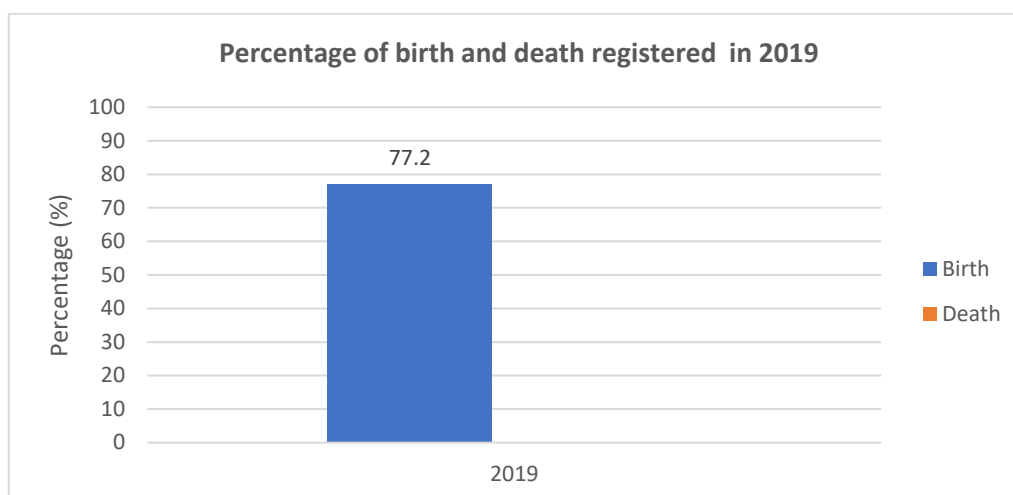
Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	No
3. Health exam survey	Yes
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	Yes
6. Risk factor survey	No
7. Diseases records from clinical settings and compile into statistics	No
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

**Note:** 5 year (2016-2020)

#### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

## 1) Coverage of birth and death registration



**Note:** No data of percentage of birth and death registered in 2020

**Primary data source:** Vital Statistics Report

## 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	Yes
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	ND
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No 70 and above (Philippine Health Statistics)

## 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

Fragmented data sources, concerns on data integrity and timeliness, and periodic data collection are some of the current limitations of the data source required for estimation.

Data sources on socio-demographic indicators, population health, risk factors, and other relevant health and health-related come from different platforms and mechanisms. Most of the data for BOD and SDGs are collected periodically through national surveys, thus representing only a cross-sectional view of the situation. Also, the communication network among offices responsible for relevant data is not well established hence, sharing of information can sometimes be challenging.

The Philippine Statistics Authority has as an integrated repository of data on the status of SDG health indicators and other statistics. However, not all SDG health indicators data are readily available as only

some are routinely collected. These SDG available data also have varying frequencies and methods of data collection.

The Philippine Department of Health also collects administrative data on some BOD and SDG-related indicators on a more frequent basis, however these are reported as aggregate data at the national level and may sometimes be delayed. In addition to the inherent concerns with the quality of administrative data, the completeness of the reported data are also problematic as these data come from various health information systems in various stages of implementation across different health facilities. In health facilities, most data are captured manually and are encoded in the systems perfunctorily as needed.

**2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?**

Currently, the PSA is basing these data on the registered births and deaths. Although there is a law mandating registration of birth and deaths in the country, there is still the possibility of unregistered births and deaths. In 2019, only 77.2% of births were registered. Non-facility births and deaths are those that might be unaccounted for in the registration. However, in the Philippines, mandating facility-based deliveries and/or births attended by skilled birth attendance would not be easy as policies should also consider cultural, political, and economic factors. Further, cause of death needs to be reviewed as well. Training on ascertaining causes of death should be integrated in the capacity building among primary care medical workers. In addition, registration of vital events needs to be done immediately even for events (births) occurring outside facilities to avoid late or non-registration.

**3) What kind of technical assistance do your country need for data source improvement?**

Under the UHC Act of 2012, all health and health -related data shall be collected through validated electronic health record systems and shall be stored in the National Health Data Repository under the Philippine Health Insurance Corporation. To facilitate the implementation of the UHC in the country, the country needs assistance in integrating the fragmented data sources (various health information systems). Moreover, there is a need to visualize these data to facilitate timely decision-making especially in allocating resources to improve services for instance, in ensuring tenure and funds for hiring of Local Civil Registrars (LCR) who are accorded the responsibility of registering and certifying vital events.

With the ongoing roll out of the Philippine National ID system, the government would also need a national registry or population database for all the Filipinos who will be registered. All data repositories of the government should be linked and this would require financial resources in terms of storage and interoperability. An enterprise architecture linking different national government agencies and different levels of government may also be needed.

In addition, the existing CRVS system can be further strengthened to be more responsive to cultural practices of all population groups reducing cultural barriers to registration. The country could also benefit from any assistance in transitioning from ICD 10 to ICD 11 coding.

Aside from the data sources, as the DOH is in the initial phase of managing Burden of Disease, an in-country capacity should first be strengthened. There is a need for technical assistance or experts in assessing the current capacity, to include assessment of the scope of diseases and risk factors, mapping all data sources and stakeholders, and human resources. This will lead to the development of strategic steps and recommendations based on prioritized needs. Moreover, the country would need

technical assistance in data analytics and a platform to disseminate analyzed data to decision makers and the public.

#### 4. Assessment of capacity of BOD data utilization for policy

##### 4.1 Capacity for analysis, synthesis, and validation of health data

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	4
2) The designated institutes have adequate capacity to fulfill these mandates	4
3) There is a national set of indicators with targets for regular monitoring	5
4) There is an annual or biennial report to inform health policy and planning	3
5) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	3
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	1
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	2
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	3
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	3
10) BOD is important element of the health systems performance assessment	2
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	4
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	3
<b>Average scores</b>	<b>3.08</b>
<b>Min score</b>	<b>1</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy

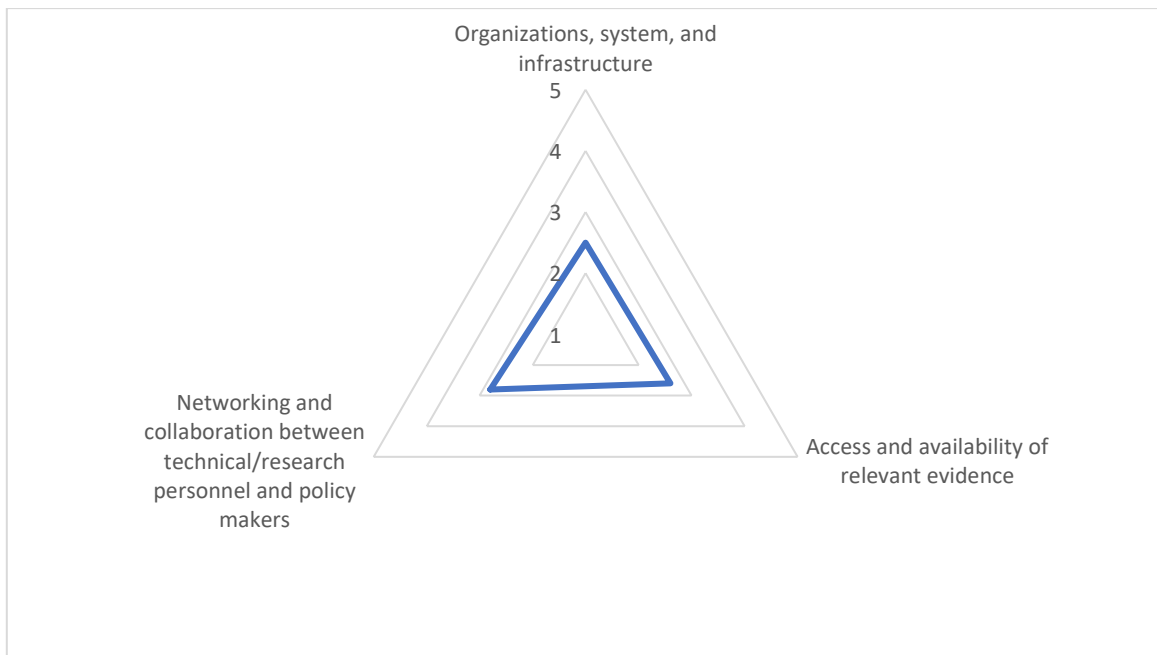


Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>2.5</b>
1. Evidence is not produced on time for policy decision	3
2. Ineffective mechanism in translating / packaging BOD evidence for policy maker	3
3. Lack of financial resource to staff capacity	2
4. Lack of human resource capacity to analyze or interpret data	2
<b>Access and availability of relevant evidence</b>	<b>2.6</b>
5. Lack of available evidence for specific contexts	2
6. The evidence produced is not relevant to policy questions	3
7. Recommendations are not policy relevant	2
8. Evidence is not timely available for policy use	3
9. Ineffective communication by researchers	3
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>2.8</b>
10. Limited channels to directly link evidence to policymakers	3
11. Policy recommendations are not practical and feasible	3
12. Weak linkage with policy makers	3
13. Political interests and scientific evidence do not complement each other	3
14. Lack of culture of using evidence for decision among policy makers	2
15. Policy makers do not value merits of evidence	3

## **5. Gaps or limitation to the use of BOD evidence for policy**

### **1) What are the gaps or limitations of capacity for analysis, synthesis, and validation of health data in a country?**

The main gaps in the country on health data analysis, synthesis and validation are insufficient infrastructure, outdated or not fully implemented policies, and inadequate number of competent human resources. With regard to infrastructure, there is a lack of platform to efficiently process, synthesize, and validate collected data across national and subnational levels due to fragmented data sources. There is also insufficient investments on infrastructure for data management such as appropriate tools (including hardware and software) and other resources. Further, policies on data management are either not fully adaptive to the changing situations or policies are newly developed and have not yet been fully implemented. Lastly, there is not enough human resource capacity adept on health data management including BOD or estimation.

### **2) What factors are contributing to the use of BOD evidence for policy in the country? How to improve?**

The passage of Universal Health Care Act of 2019 and the Executive Order 138, series 2021 which proposed to gradually and fully re-devolve functions and services from National Government Agencies (NGAs) to LGUs in line with the Supreme Court Ruling on the Mandanas-Garcia cases are two major legislations that contribute to the use of BOD evidence for policy in the country. At the national level, the development of a comprehensive package of interventions per life stage for public financing will require quality data on disease burden for prioritization. Subnational estimates will aid in creating rational investment plans for health and improving allocative efficiency at the local government units.

Addressing the identified gaps in the organizations, system, and infrastructure; access and availability of relevant evidence; and networking and collaboration between technical/research personnel and policy makers; at the national and subnational governments are needed to improve the utilization of BOD evidence for policy in the country.

### **3) What are the important factors to improve the capacity or to develop the capacity to use the BOD evidence-based information for policy?**

Ultimately, the country needs to produce BOD on time to ensure use for policy making and decision making. As earlier mentioned, investments on infrastructure and human resources are needed to equip the country in having its own BOD estimates/data. There is also a need to develop policies to fully support implementation of the Section 32 of the UHC Act and use of BOD for evidence-based information for policy. Inculcating the culture of use of evidence across all levels of stakeholders is also important. Networking and partnerships across stakeholders within and outside the countries and across national and subnational levels would also be critical.

## The country' self-report assessment of Singapore

### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

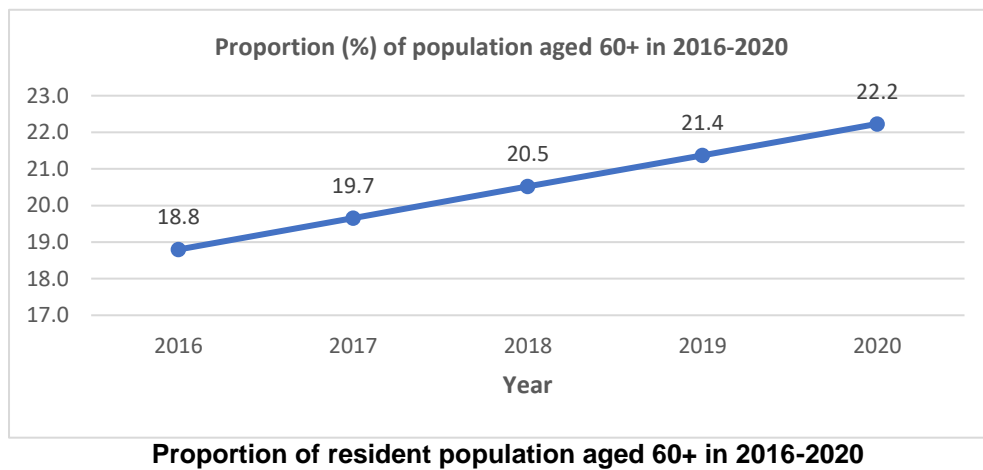
Total resident population (000s)	Number of resident population aged 60+ (000s)	Number of under-5 resident population (000s)	Life expectancy at birth (years)*	Healthy life Expectancy at birth*
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
5,685.8	899.0	183.1	ND	ND
<b>2021</b>	<b>2021</b>	<b>2021</b>	<b>2019</b>	<b>2019</b>
3,986.8	921.6	178.4	Male 82.9 Female 86.7	Male 73.7 Female 75.2

Note: ND; no data,

Primary data source: Singapore Department of Statistics

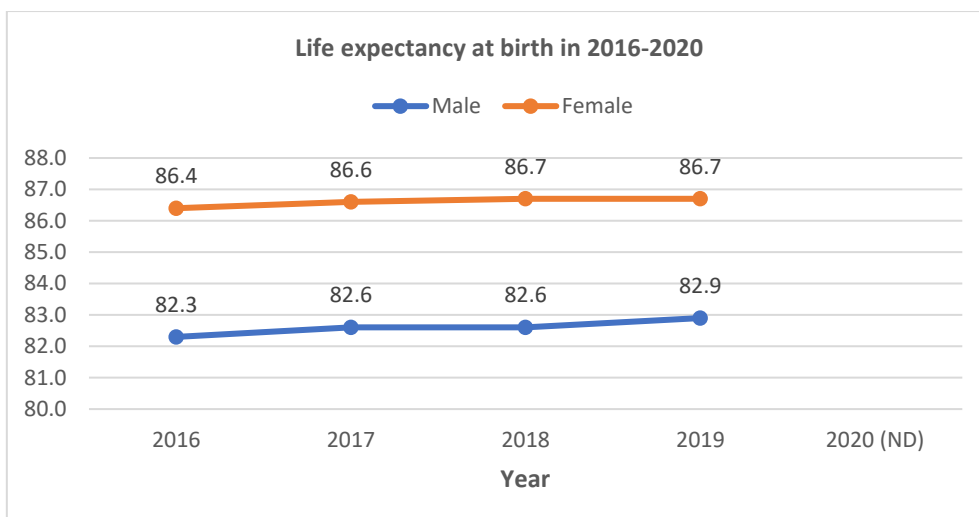
\*Source: GBD 2019 Study

Fig. 1



Primary data source: Singapore Department of Statistics

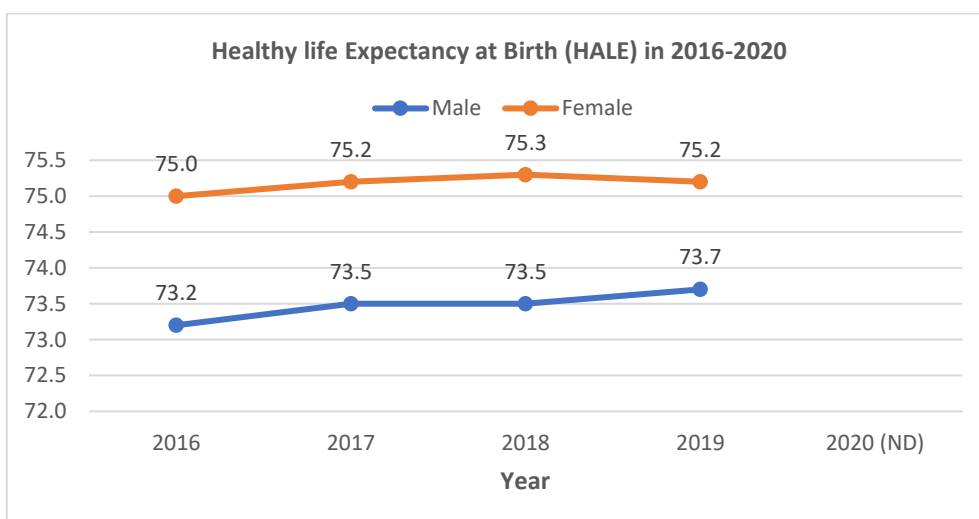




**Fig. 2 Life expectancy at birth in 2016-2020**

**Note: no data of Life expectancy at birth in 2020**

**Primary data source: GBD2019 Study**



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note: no data of healthy life Expectancy at Birth in 2020**

**Primary data source: GBD2019 Study**

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 resident live births)	Proportion of births attended by skilled health personnel	Under-5 mortality rate (per 1,000 resident live births)	Neonatal mortality rate (per 1,000 resident live births)
2020	2020	2020	2020
0	ND	2.1	0.8
2019	2019	2019	2019
2.5	99.6	2.3	0.6

Note: ND; no data,

Primary data source: Singapore Department of Statistics

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND
4 NCDs			
8.8			

Note: ND; no data,

Primary data source: Singapore Department of Statistics

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
ND	ND	ND	ND	ND
2019	2019	2019	2018	2018
0.03 <sup>1</sup>	34.7 <sup>2</sup>	0	1.0	ND

Note: ND; no data,

1; Resident population; 2019 ;2; Singapore residents and long staying foreigners; 2019

Primary data source: Singapore Department of Statistics

#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 resident population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
2020	2020	2020	2020	2020
8.9	ND	ND	ND	ND
2019	2019	2019	2019	2019
8.0	2.1	ND	ND	ND

Note: ND; no data,

Primary data source: Singapore Department of Statistics

#### 5) Prevalence of exposure to key risk factors

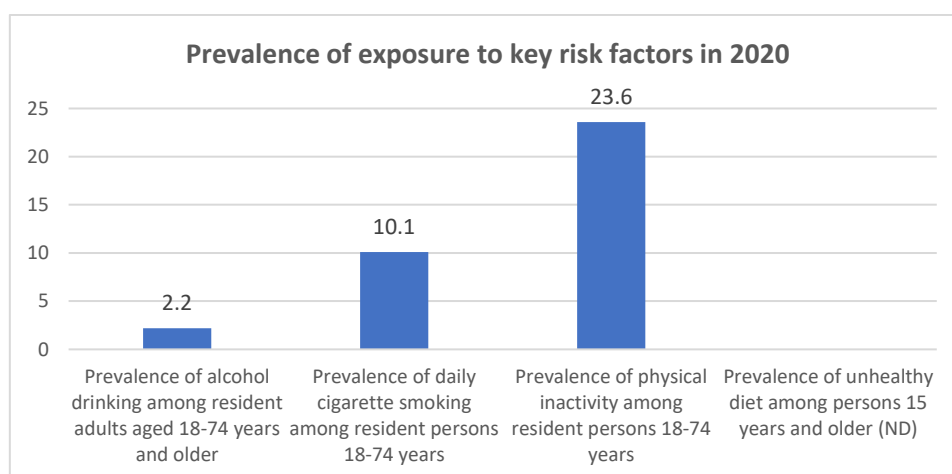


Fig. 4 Prevalence (%) of exposure to key risk factors in 2020

Note: ND; no data of Prevalence of unhealthy diet<sup>1</sup> among persons 15 years and older

Primary data source: National Population Health Survey

## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate aged 15–19 years per 1,000 women in that age group (resident population)
2020	2020
ND	2.3

**Note:** ND; no data, corresponding data for females aged 10-14 are nil or negligible

Primary data source: Singapore Department of Statistics

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
ND	ND
2017	2017
86	ND

**Note:** ND; no data

Primary data source: Singapore Department of Statistics

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2016
ND	ND

**Note:** ND; no data

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a	Health worker density and distribution (per 100,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial - resistant organisms
2020	2020	2020	2020	2019	2020
ND	ND	ND	Doctors: 26 Dentists: 4 Nurses: 74	ND	ND
2019	2019	2019	2019	2019	2019
ND	ND	ND	Doctors: 25 Dentists: 4 Nurses: 75	92.0	ND

Note: ND; no data

Primary data source: Singapore Department of Statistics

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	Yes
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	No
5. Socioeconomic survey	No
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

Note: 5 year (2016-2020)

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

## 1) Coverage of birth and death registration

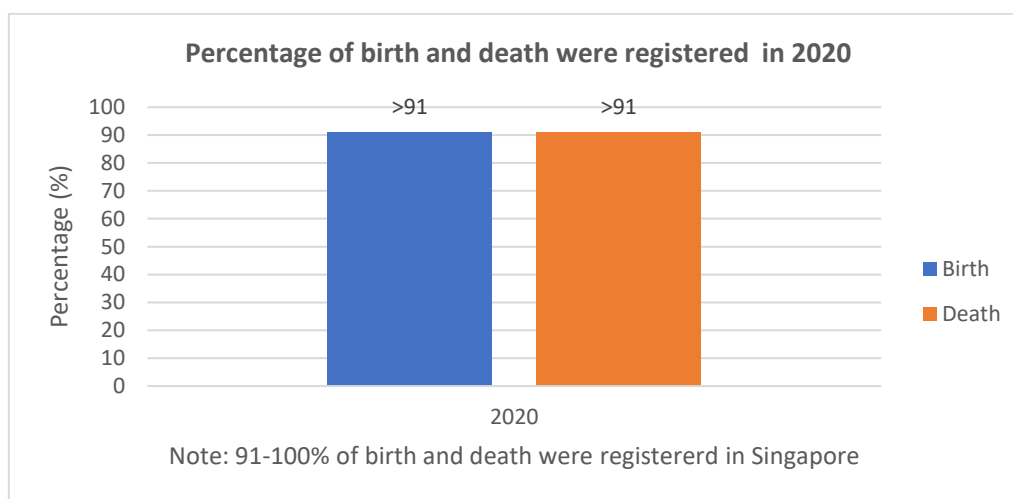


Fig. 5 Percentage of birth and death registered in 2020

Primary data source: Registry of Births and Deaths

### 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	Yes
3. Is there any personal interview or verbal autopsy to define the cause of death?	No
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	% (In 2020) 0.3%
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	No 90 years

### 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

#### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

Foreigners accounts more than a quarter of total population (foreigners and residents combined) in Singapore; some health indicators are relevant to resident population while some are relevant to total population.

#### 2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?

Singapore births and deaths data are relatively completed as all live births/ deaths must be registered. For death, the medical practitioner will issue a Certificate of Cause of Death. If the death is not due to natural causes or in doubt, the deceased will be sent to coroner for certifying the cause of death. Among those major causes of death, pneumonia deaths have accounted and ranked among top 10, some further improvement would be made.

#### 3) What kind of technical assistance do your country need for data source improvement?

Not at the moment.

**4. Assessment of capacity of BOD data utilization for policy**  
**4.1 Capacity for analysis, synthesis, and validation of health data**

**The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions**

Questions	Scores
49) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	5
50) The designated institutes have adequate capacity to fulfill these mandates	5
51) There is a national set of indicators with targets for regular monitoring	5
52) There is an annual or biennial report to inform health policy and planning	4
53) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	4
54) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	5
55) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	4
56) A burden of disease study has been conducted within the last 5 years by national stakeholders	4
57) A study of health systems performance has been carried out within the last 5 years by national stakeholders	4
58) BOD is important element of the health systems performance assessment	5
59) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	4
60) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	4
<b>Average scores</b>	<b>4.42</b>
<b>Min score</b>	<b>4</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy

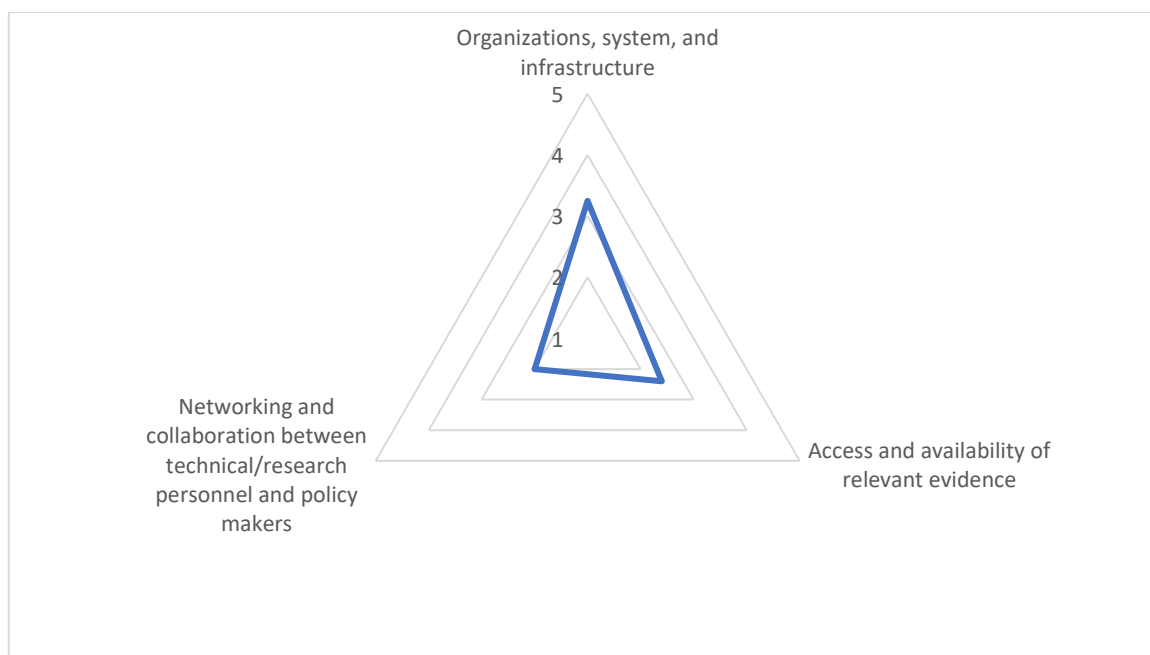


Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>3.25</b>
17) Evidence is not produced on time for policy decision	4
18) Ineffective mechanism in translating / packaging BOD evidence for policy maker	2
19) Lack of financial resource to staff capacity	3
20) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>2.4</b>
25) Lack of available evidence for specific contexts	4
26) The evidence produced is not relevant to policy questions	2
27) Recommendations are not policy relevant	2
28) Evidence is not timely available for policy use	2
29) Ineffective communication by researchers	2
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>2</b>
34) Limited channels to directly link evidence to policymakers	2
35) Policy recommendations are not practical and feasible	2
36) Weak linkage with policy makers	2
37) Political interests and scientific evidence do not complement each other	2
38) Lack of culture of using evidence for decision among policy makers	2
39) Policy makers do not value merits of evidence	2



## **5. Gaps or limitation to the use of BOD evidence for policy**

### **1) What are the gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?**

A stable team is needed so as to carry the expertise, knowledge etc forward; difficult to keep abreast of GBD methodologies that has evolved at a very fast pace.

### **2) What factors are contributing to use of BOD evidence for policy in country? How to improve?**

Regularly engage with and inform relevant stakeholders including policy makers on the latest GBD's development and findings; work closely with colleagues from upstream/ downstream programmes to translate the findings into practical use.

### **3) What are the important factors to improve the capacity or to develop the capacity to use the BOD evidence-based information for policy?**

A stable team comprising people from different backgrounds of epidemiology, analytics, medical, public health, health economics, health informatics, is necessary. Skilful communication to package findings in a comprehensible/intelligible manner that is fit for consumption by stakeholders is also important so as to inspire adequate trust and confidence, as well as facilitate ease of use of BOD evidence-based information in policymaking.

## The country' self-report assessment of Thailand

### 1. Basic demographic, health expectancy and health-related SDG indicators

#### 1.1 Demographic and Health expectancy profile

Total population (000s)	Number of population aged 60+ (000s)	Number of under-5 population (000s)	Life expectancy at birth (years)	Healthy life Expectancy at birth
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
65,421 <sup>1</sup>	11,633) Unofficial data(	ND	Male =73.2 Female = 80.3	Male =68.0 <sup>2</sup> Female = 72.3
<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>
65,557	11,195	3,297	Male =73.0 Female = 80.1	ND

Note: ND; no data

1; Mid-year population

2: estimated value of HALE

Primary data source:

Public Health Statistics, Strategy and Planning Division, Ministry of Public Health

International Health Policy Program. Estimates of healthy life expectancy for Thai population in 2015-2030. From

<http://bodthai.net/download/%e0%b8%9e%e0%b8%a2%e0%b8%b2%e0%b8%81%e0%b8%a3%e0%b8%93%e0%b9%8c%e0%b8%ad%e0%b8%b2%e0%b8%a2%e0%b8%b8%e0%b8%84%e0%b8%b2%e0%b8%94%e0%b9%80%e0%b8%89%e0%b8%a5%e0%b8%b5%e0%b9%88%e0%b8%a2%e0%b8%97%e0%b8%b5-3/>

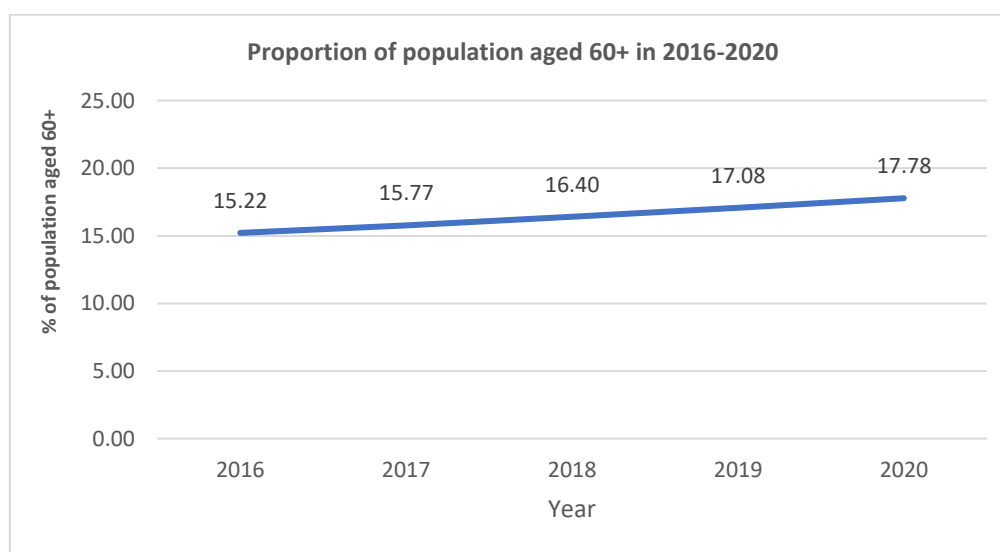
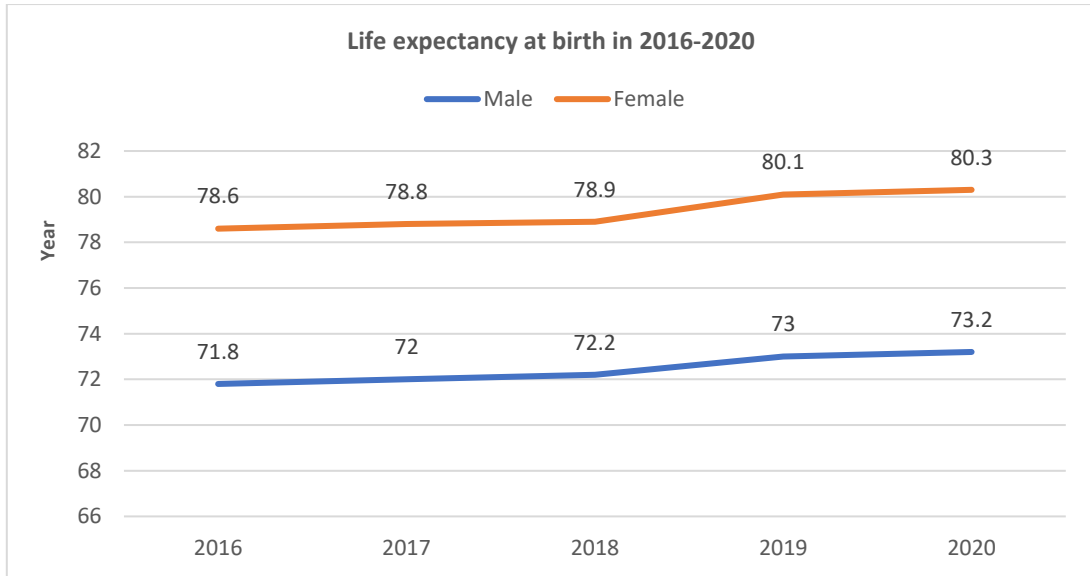


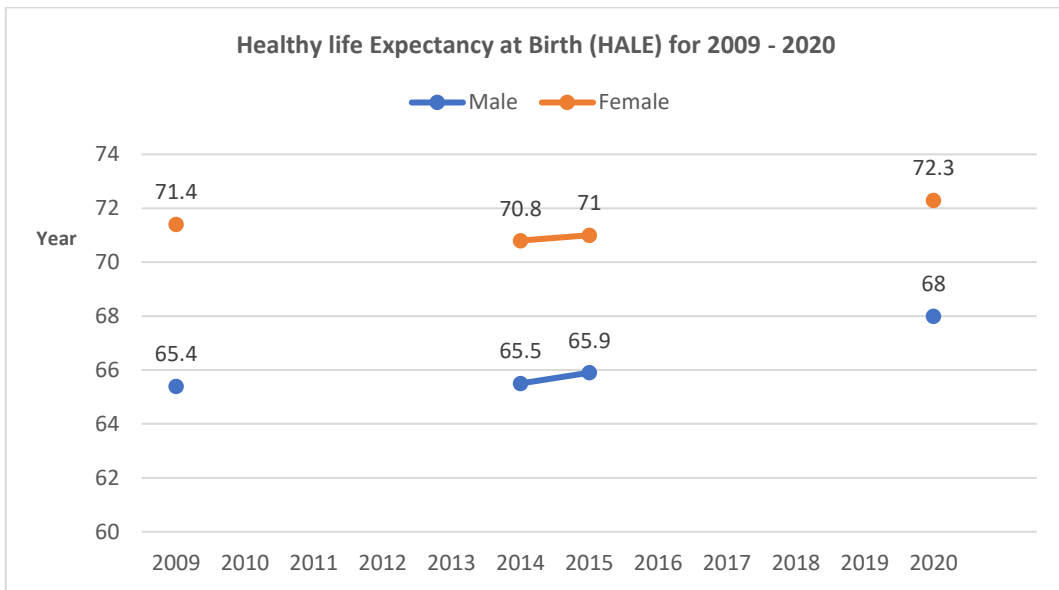
Fig. 1 Proportion of population aged 60+ in 2016-2020

Primary data source: Public Health Statistics, Strategy and Planning Division, Ministry of Public Health



**Fig. 2 Life expectancy at birth in 2016-2020**

**Primary data source: Public Health Statistics, Strategy and Planning Division, Ministry of Public Health**



**Fig. 3 Healthy life Expectancy at Birth (HALE) for 2009-2020**

**Note : 2009 and 2014 is true value of HALE, 2015 and 2020 is estimated value of HALE**  
**Primary data source: International Health Policy Program. Estimates of healthy life expectancy for Thai population in 2015-2030. From**  
<http://bodthai.net/download/%e0%b8%9e%e0%b8%a2%e0%b8%b2%e0%b8%81%e0%b8%a3%e0%b8%93%e0%b9%8c%e0%b8%ad%e0%b8%b2%e0%b8%a2%e0%b8%b8%e0%b8%84%e0%b8%b2%e0%b8%94%e0%b9%80%e0%b8%89%e0%b8%a5%e0%b8%b5%e0%b9%88%e0%b8%a2%e0%b8%97%e0%b8%b5-3/>

## 1.2 Health-related SDG indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births)	Proportion of births attended by skilled health personnel	Under-5 mortality rate (per 1,000 live births)	Neonatal mortality rate (per 1,000 live births)
2020	2020	2020	2020
ND	ND	ND	ND
2019	2019	2019	2019
22.5	99.1	7.9	3.1

Note: ND; no data

Primary data source: 1) Public Health Statistics, Strategy and Planning Division, Ministry of Public Health , 2) National Statistical Office Thailand

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2020			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
7.44	4.17	0.61	1.34

Note: Estimate of probability of dying between age 30 and exact 70 in Thai population

Primary data source: International Health Policy Program, Situation of premature death from any of cardiovascular disease, cancer, diabetes, or chronic respiratory disease. From <http://bodthai.net/ncd/index.php?d=130001132018132018>

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.08	ND	0.066	8.01	ND
2019	2019	2019	2019	2019
0.08	150	0.038	9.08	ND

Primary data source: Health Data Center, Ministry of Public Health

#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population)	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population)
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
7.37	27.07	ND	ND	ND
<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>
6.64	30.53	ND	7.5	0.3

Note: ND; no data

Primary data source: (3.4.2) Department of Mental Health, Ministry of Public Health, (3.6.1) Injury Data Collaboration Center, IDCC, Department of Disease Control, Ministry of Public Health, (3.9) ND

#### 5) Prevalence of exposure to key risk factors

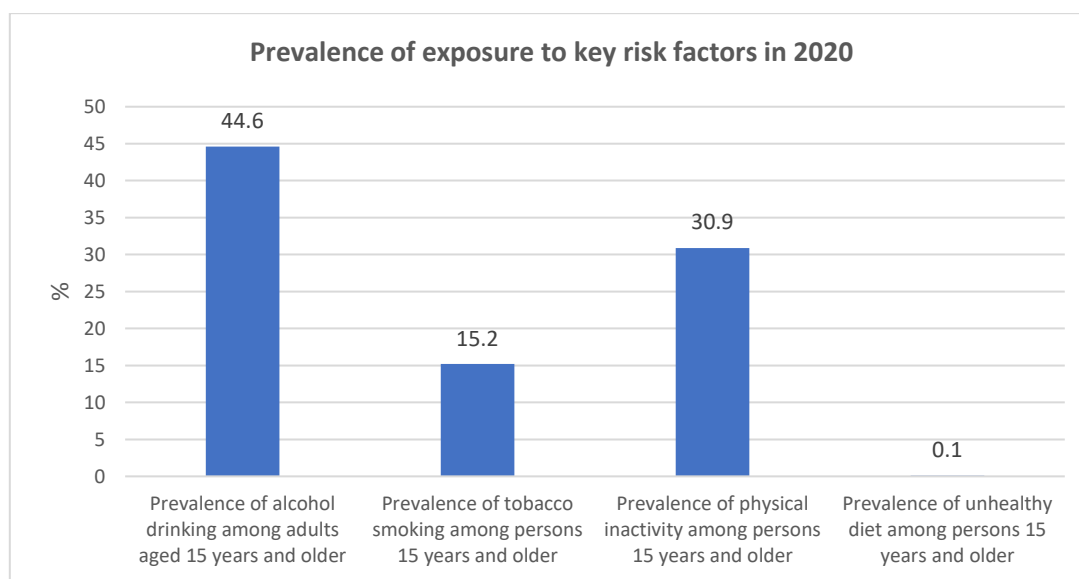


Fig. 4 Prevalence of exposure to key risk factors in 2020

- 1: Prevalence of alcohol drinking among adults aged 15 years in 12 months period
- 2: Prevalence of unhealthy diet among persons 15 years and older: prevalence of fast-food consumption

Primary data source: Wichai Aekplakorn. 2021. Thai National Health Examination Survey in 2019-2020. Faculty of Medicine, Ramathibodi Hospital, Mahidol University.

#### 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
ND	ND
2019	2019
88	Aged under 15 years = 0.4 Aged 15-19 years= 31.3

Note: ND; no data

Primary data source: National Statistical Office Thailand

#### 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or income
2020	2020
99.73 <sup>1</sup>	ND
2019	2019
99.92	1.87 (10%) <sup>2</sup> 0.27 (25%)

Note: ND; no data

1 : Percentage of coverage for UHC

2: Proportion of population with large household expenditures (10%, 25%)

Primary data source: National Health Security Office (NHSO)

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
<b>2020</b>	<b>2020</b>
86.68 <sup>1</sup>	ND
<b>2019</b>	<b>2019</b>
77.13	6.86

**Note:** ND; no data

1: Percentage of performance of target population

**Primary data source:** 1) National Statistical Office Thailand, 2) Excise Department

9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution (per 10,00 population)	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial - resistant organisms
2020	2020	2020	2020	2020	2020
ND	ND	ND	ND	C1= 4.33 <sup>1</sup> C2= 4.5 C3=5 C4=4 C5=4.3 C6=4 C7=4 C8=4 C9=4.6	ND
2019	2019	2019	2019	2019	2019
DPT vaccine coverage = 89.9 % Measles and Mumps vaccine coverage = 93.7	ND	ND	Physician = 5.38 Dentist = 1.23 Pharmacist = 2.29 Nurse = 26.42	C1= 2.6 C2= 4.5 C3=5 C4=4 C5=3.66 C6=4 C7=4 C8=3	ND

Note: ND; no data

1: (Score) of:

- C1 Regulation and budget
- C2 Coordination
- C3 Communicable dz (human-animal)
- C4 Food Safety
- C5 Laboratory
- C6 Monitoring
- C7 HR



- C8 PHEM
- C9 Health Services
- C10 Risk Comm
- C11 POE
- C12 Chemical
- C13 Radiation

**Primary data source: 1) National Statistical Office Thailand, 2) GIS Health system, Strategy and Planning Division, Ministry of Public Health, 3) Thailand International Cooperation Agency, TICA, 4) International Health Regulations, Department of Disease Control, Ministry of Public Health,**

**2. Assessment of country data sources**  
**2.1 Summary of country data sources**

Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	Yes
3. Health exam survey	Yes
4. Demographic and Health Survey (DHS) or other equivalent	No
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	Yes
8. Disease surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

Is there census conducted in last 10 years	No (last in 2010) <sup>1</sup>
Number population-based surveys in 5 years	7
Number diseases records or diseases surveillance in 5 years	91
Is there electronic health service records in 5 years	Yes
Is there a cancer registry data in 5 years	Yes
Is there any specific disease registry data, please specify the diseases	Yes

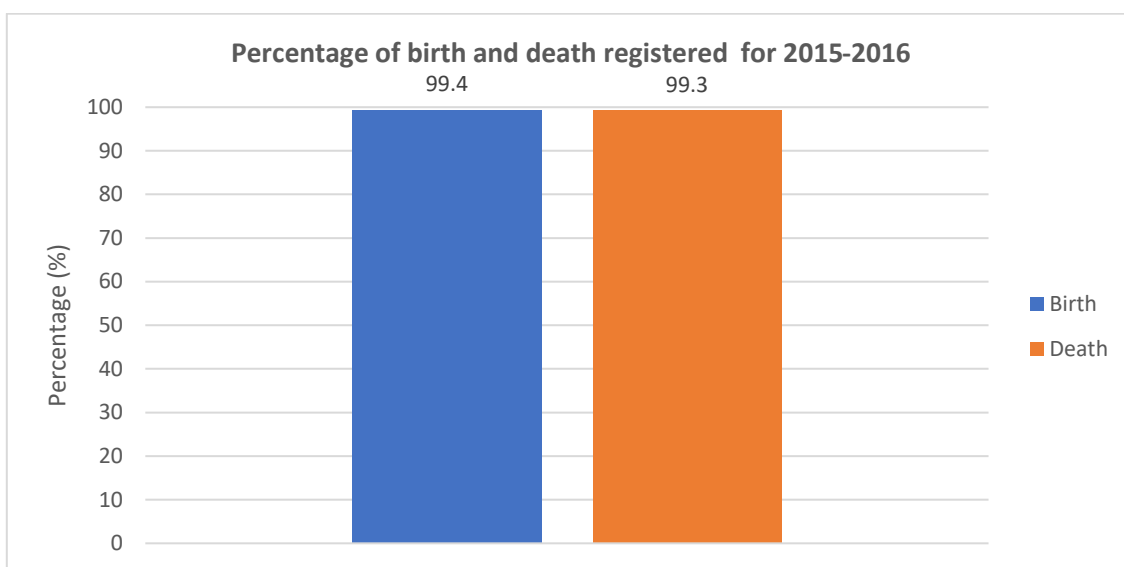
**Note: 5 year (2016-2020)**

**1: Thailand has been conducting the population census for 11 times and in 2020 will be the twelve round and the COVID-19 pandemic threated the successful conduct of censuses in Thailand**

**2.2 Quality of Births and deaths data**

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

## 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered for 2015-2016**

**Note: No data for 2020**

**Primary data source: National Statistical Office. 2017. The 2015-2016 Survey of Population Change. Bangkok; TANA PRESS CO., LTD .**

## 2) Quality of Death data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	Yes <sup>1</sup>
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes <sup>2</sup>
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	171.3 /100,000 pop in 2019 (2020-ND)
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	NO (mid- year pop cut off at 75+ but LE at 80+)

Note:

1: Medical certificate of cause of death is it in electronic record in some health facility.

2: the VA in Study project to verify the COD

### 3 .Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

#### 1) What gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

- Continuity of data reported periodically
- Actual data vs. estimated data
- The standard used for each country data sources (comparison/benchmarking issues)

#### 2) How quality of data (Births and deaths) of country data sources? How to improve?

– The quality of these data is quite good and has been reporting annually, but there are a few sources of data where show different amount. Need to use the same source for reference.

#### 3) What technical assistance needed for development of data source.

- Integration of data sources, which leads to single data source (Ideal: accuracy and precision)

### 4.. Assessment of capacity of BOD data utilization for policy

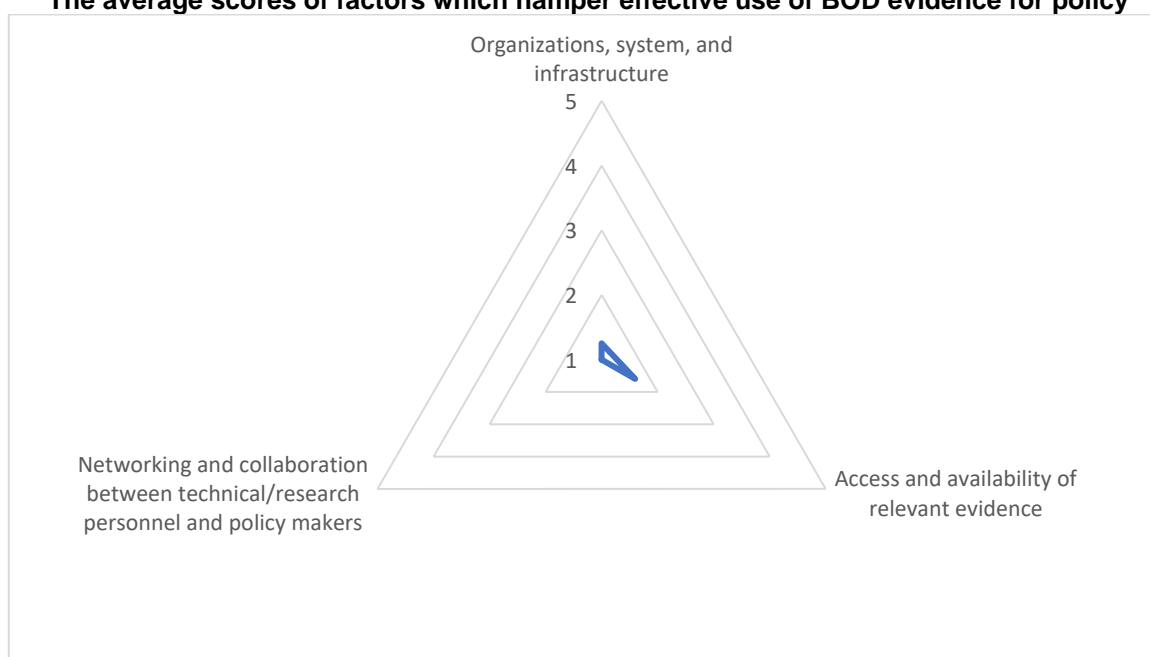
#### 4.1 Capacity for analysis, synthesis, and validation of health data

The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions

Questions	Scores
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	5
2) The designated institutes have adequate capacity to fulfill these mandates	5
3) There is a national set of indicators with targets for regular monitoring	5
4) There is an annual or biennial report to inform health policy and planning	5
5) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	4
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	5
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	4
8) A burden of disease study has been conducted within the last 5 years by national stakeholders	5
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders	5
10) BOD is important element of the health systems performance assessment	5
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	4
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	5
<b>Average scores</b>	<b>4.75</b>
<b>Min score</b>	<b>4</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy



**Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy**

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>1.25</b>
1) Evidence is not produced on time for policy decision	2
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker	1
3) Lack of financial resource to staff capacity	1
4) Lack of human resource capacity to analyze or interpret data	1
<b>Access and availability of relevant evidence</b>	<b>1.60</b>
5) Lack of available evidence for specific contexts	3
6) The evidence produced is not relevant to policy questions	1
7) Recommendations are not policy relevant	1
8) Evidence is not timely available for policy use	2
9) Ineffective communication by researchers	1
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>1.00</b>
10) Limited channels to directly link evidence to policymakers	1
11) Policy recommendations are not practical and feasible	1
12) Weak linkage with policy makers	1
13) Political interests and scientific evidence do not complement each other	1
14) Lack of culture of using evidence for decision among policy makers	1
15) Policy makers do not value merits of evidence	1

## 5. Gaps or limitation of capacity of BOD data utilization for policy

**1) What Gaps or limitation of capacity for analysis, synthesis, and validation of health data in country**

- Delayed data reporting
- Discrepancy of same data from various sources
- Ability of person who summarizes cause of death
- Verbal autopsy is conducted irregularly
- No HALE was analyzed

**2) What factors are barrier in BOD data utilization for policy in country? How to improve?**

- BOD data was used only in public health sector, not utilized by non-health sector such as Excise department, Ministry of finance, for speeding excise tax on sugar and salt in products.
- Politicians-led policy so no need for evidence such as BOD.
- Many organizations didn't know about or familiar with BOD so the use is limited.
- These barriers might be fixed by more effective advertising, advocating, engaging relevant stakeholders in policy development.

**3) What needed for development of capacity of BOD data utilization for policy.**

- BOD research unit might consider expanding a function on advertising, advocating using BOD to policy makers, politicians.
- Strengthening seamless collaboration between BOD research unit and Strategy and Planning Division, MoPH

## The country' self-report assessment of Vietnam

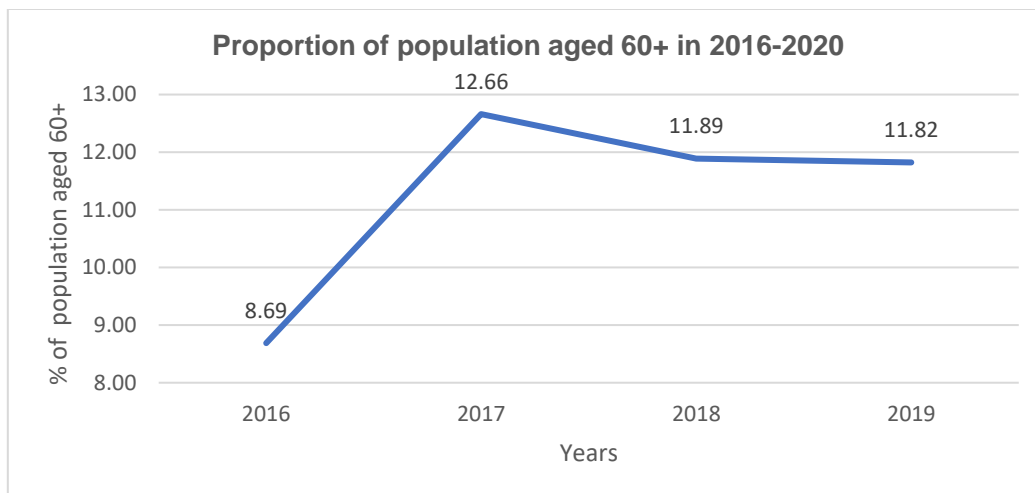
### 1. National statistics which contribute to BOD estimation

#### 1.1 Demographic and Health expectancy

The total population (000s) <sup>1</sup>	Number of population aged 60+ (000s) <sup>1</sup>	Number of under-5 population (000s) <sup>2</sup>	Life expectancy at birth (years) <sup>1</sup>	Healthy life Expectancy at Birth
<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>	<b>2020</b>
97,582.70	ND	ND	ND	ND
<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>	<b>2019</b>
96,484.00	11,408.685	7819326	Male: 7.09 Female: 76.3	ND

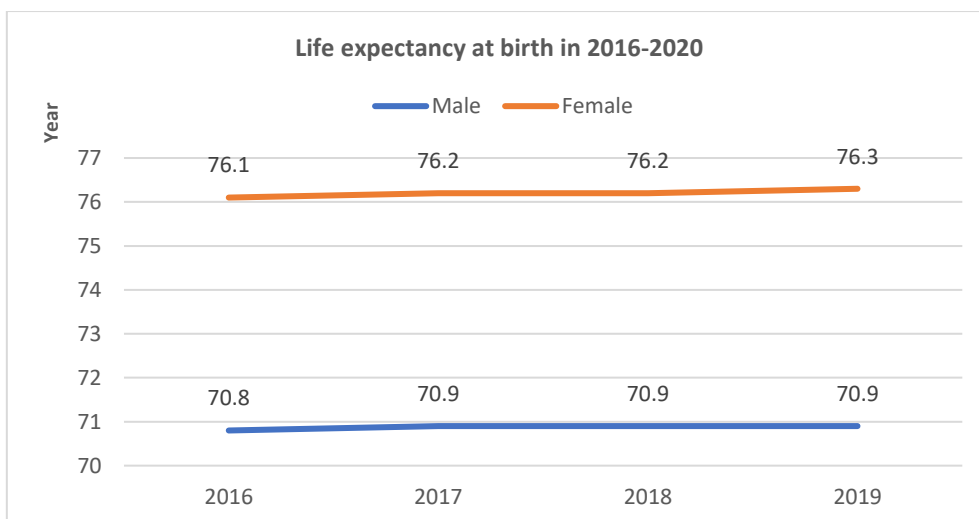
**Note:** ND; no data,

**Primary data source:** <sup>1</sup> Vietnam general Statistics Office; <sup>2</sup>Census 2019 Health statistics Yearbook;



**Fig. 1 Proportion of population aged 60+ in 2016-2020**

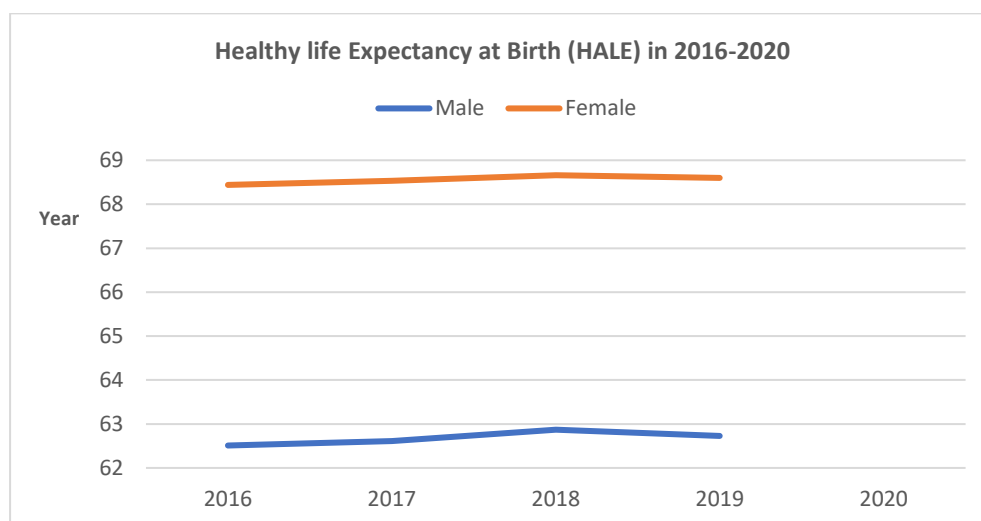
**Primary data source:** Vietnam General Statistics Office (GSO)



**Fig. 2 Life expectancy at birth in 2016-2020**

**Note: no data of Life expectancy at birth in 2020**

**Primary data source: Statistical Yearbook of Vietnam 2017, 2018, 2019 (GSO); Census 2019**



**Fig. 3 Healthy life Expectancy at Birth (HALE) in 2016-2020**

**Note: no data of Healthy life Expectancy at Birth (HALE) available from country report.**

**Primary data source: from GBOD**

## 1.2 Health related SDGs indicators status

### 1) Maternal, Newborn and child health

SDG 3.1.1	SDG 3.1.2	SDG 3.2.1	SDG 3.2.2
Maternal mortality ratio (per 100,000 live births) <sup>1</sup>	Proportion of births attended by skilled health personnel <sup>2</sup>	Under-five mortality rate (per 1,000 live births) <sup>3</sup>	Neonatal mortality rate (per 1,000 live births) <sup>3</sup>
2020	2020	2020	2020
43.0	93.8	22.3	13.9

Primary data source:<sup>1</sup>Vietnam General Statistics Office (GSO); <sup>2</sup> Vietnam HDI:<https://data.vietnam.opendevelopmentmekong.net/vi/dataset/cac-ch-s-phat-tri-n-con-ngu-i-vi-t-nam>;

<sup>3</sup>Health Statistics Yearbook

### 2) Noncommunicable diseases

SDG 3.4.1			
Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)			
2019			
Cancer	Cardiovascular disease	Chronic respiratory disease	Diabetes Mellitus
ND	ND	ND	ND
7.018	*102.71	*8.91	*14.18

Note: ND; \*From GBOD website

Note: this information was extracted from GBOD website, for age under 70

### 3) Communicable diseases

SDG 3.3.1	SDG 3.3.2	SDG 3.3.3	SDG 3.3.4	SDG 3.3.5
Number of new HIV infections per 1,000 uninfected population	Tuberculosis incidence per 100,000 population	Malaria incidence per 1,000 population	Hepatitis B incidence per 100,000 population	Number of people requiring interventions against neglected tropical diseases
2020	2020	2020	2020	2020
0.143	182.0	0.1.	ND	ND
2018	2018	2018	2018	2018
0.11	107.5	0.072	12.86	ND

Note: ND; no data

Primary data source: Vietnam Administration of HIV/AIDS Control; Vietnam National Tuberculosis Program (NTP); Vietnam HDI 2020 <https://data.vietnam.opendevelopmentmekong.net/vi/dataset/cac-ch-s-phat-tri-n-con-ngu-i-vi-t-nam>; National Institute of Malaria, Parasitology and Entomology; Health Statistics Yearbook 2018



#### 4) Mortality

SDG 3.4.2	SDG 3.6.1	SDG 3.9.1	SDG 3.9.2	SDG 3.9.3
Suicide mortality rate (per 100,000 population)	Death rate due to road traffic injuries (per 100,000 population) In 2017	Mortality rate attributed to household and ambient air pollution (per 100,000 population)	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (per 100,000 population)	Mortality rate attributed to unintentional poisoning (per 100,000 population) In 2017
2020	2020	2020	2020	2020
3.4 for female 10.8 for male	ND	ND	1.6	ND
2017	2017	2017	2017	2017
3.12 for female 7.54 for male	16.7	ND 74.4*	ND	0.96

Note: ND; no data

Primary data source: Health Statistics Yearbook 2018, 2017; Vietnam HDI:  
<https://data.vietnam.opendevelopmentmekong.net/vi/dataset/cac-ch-s-phat-tri-ncon-ngu-i-vi-tnam>

\* from GBOD website

#### 5) Prevalence of exposure to key risk factors

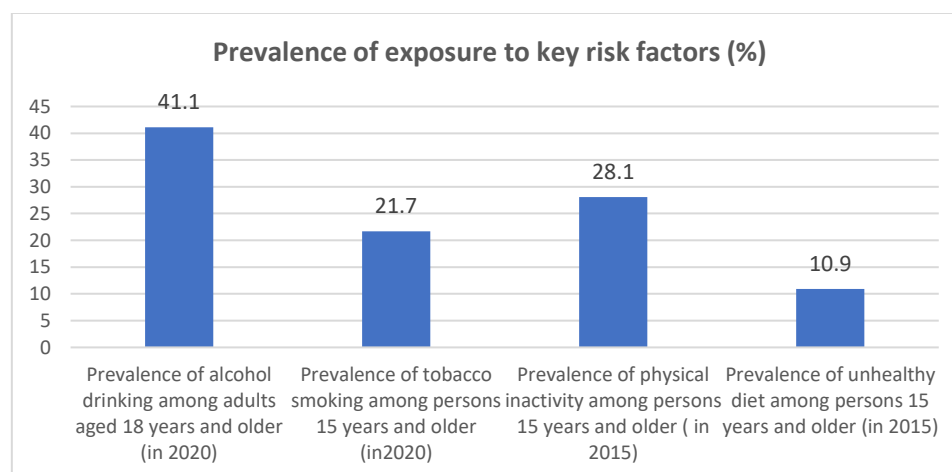


Fig. 4 Prevalence of exposure to key risk factors in 2020 or Latest available data (2016–2020)

Note: ND; no data of Prevalence of physical inactivity among persons 15 years and older and Prevalence of unhealthy diet<sup>1</sup> among persons 15 years and older in 2020

Primary data source: STESPS2015; STESPS2020

## 6) Sexual and reproductive health-care services

SDG 3.7.1	SDG 3.7.2
Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group
2020	2020
68.0	30.9

Primary data source: General Office of Population, Family Planning' Vietnam HDI:  
<https://data.vietnam.opendevlopmentmekong.net/vi/dataset/cac-ch-s-phat-tri-ncon-ngu-i-vi-tnam>

## 7) Financial risk protection

SDG 3.8.1	SDG 3.8.2
Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Proportion of population with large household expenditures on health as a share of total household expenditure or 10% income
2020	2020
ND	ND 9.4*

\* from GBOD website

## 8) Prevention and treatment

SDG 3.5.1	SDG 3.5.2
Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
2020	2020
ND	8.3

Primary data source: provided by staffs from Health Strategy and Policy Institute, on the report collaboration between HSPI, WHO

## 9) Other

SDG 3.b.1	SDG 3.b.2	SDG 3.b.3	SDG 3.c.1	SDG 3.d.1	SDG 3.d.2
Proportion of the target population covered by all vaccines included in their national programme	Total net official development assistance to medical research and basic health sectors	Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Health worker density and distribution	International Health Regulations (IHR) capacity and health emergency preparedness	Percentage of bloodstream infections due to selected antimicrobial-resistant organisms
2020	2020	2020	2020	2020	2020
ND	ND	ND	ND	ND	ND
2018	2018	2018	2018	2018	2018
94.8	ND	81.0	28.1	ND	ND

Note: ND; no data

Primary data source: National expand program of immunization; Health statistic yearbook 2018

## 2. Assessment of country data sources

### 2.1 Summary of country data sources

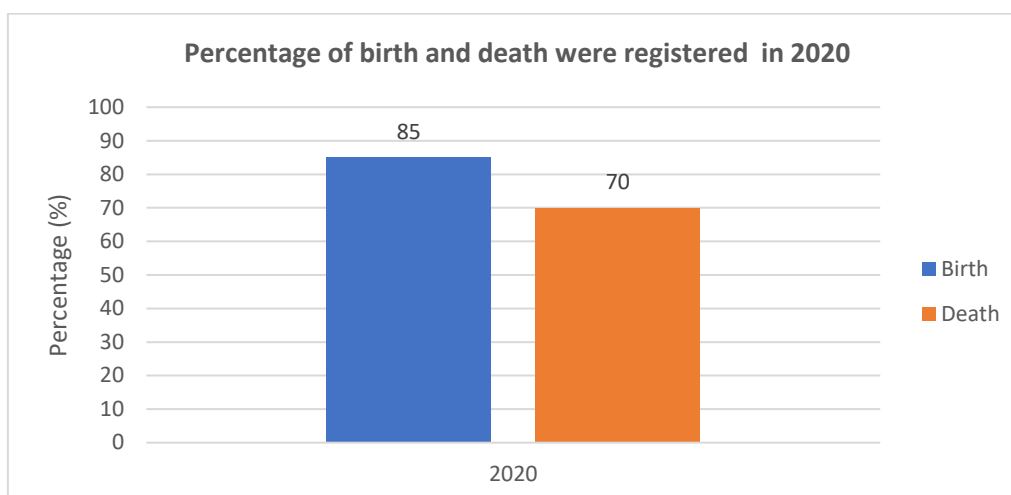
Major sources	
1. Population census in last 10 years	Yes
2. Health Interview through household or special survey	Yes
3. Health exam survey	No
4. Demographic and Health Survey (DHS) or other equivalent	Yes
5. Socioeconomic survey	Yes
6. Risk factor survey	Yes
7. Diseases records from clinical settings and compile into statistics	No
8. Diseases surveillance in 5 years	Yes
9. Electronic health service records	Yes
10. Cancer registry data	Yes
11. Any specific disease registry data	Yes

Note: 5 year (2016-2020)

### 2.2 Quality of Births and deaths data

1) Is birth registry mandatory by Law?	Yes
2) Is death registry mandatory by Law?	Yes

## 1) Coverage of birth and death registration



**Fig. 5 Percentage of birth and death registered in 2020**

**Primary data source: Personal Communication with staffs from Vietnam Ministry of Health and review from reports about A6 (death registration) in Vietnam.**

## 2) Quality of Death registration data by question

1. Is there a standard form for medical certificate of cause of death?	Yes
2. Medical certificate of cause of death is it in electronic record?	Yes
3. Is there any personal interview or verbal autopsy to define the cause of death?	Yes
4. Is ICD-10 being used as the disease classification tool?	Yes
5. Proportion of ill-defined deaths (ICD10 codes R00-R99)	65% (In 2020 in Hanoi)
6. Are health and population data disaggregated by sex?	Yes
7. Are health and population data disaggregated by age-group?	Yes
8. Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off)	Yes

## 3. Gaps or limitation of data source (availability and quality) in evidence on the BOD and SDGs estimation

### 1) What are the gaps or limitation of availability of country data sources required for the BOD and SDGs estimation?

The most important gap is without individual data. Death and birth rate are from estimation. Disease records was storing in each hospital; thus, it costs not only time and money to collect and harmonize data. Because it stored in the hospitals, it can damage or lost as the hospital change the software

Data of financial and other neglected diseases were not documented nor official report.

The Vietnam Ministry of Health does not take care of the accurate data and valid information during the

### 2) How would you like to describe about the quality of your country births and deaths data? How would you like to suggest to improve it?

Recent years, coverage of births and deaths data in Vietnam is improving. Vietnam has developed a vital registration system, comprising with individual data for all population and operating by ministry of Security.

However, death code is still the changeling. Because of culture and stigmatization, the citizens avoid reporting cause deaths due on infectious diseases such as HIV or death under 1 year of age.

Death because of noncommunicable disease often reports in general causes such as cancer or cardiovascular diseases. Death above 80 years old often report due to “old”.

To get precision data for birth, the government should allow the citizens register birth in any location, rather than in permanent address of mother or father

To improve death data, health commune center should responsible for death registration and issue death certificate

Last, Vietnam needs one agency, should belong to the Vietnam ministry of health to harmony storing and distribute health information of Vietnam

**3) What kind of technical assistance do your country need for data source improvement? If data can be use to build evidence for policy maker, its quality can improve.**

For Vietnam can estimate BOD and update SDG annually, report reason of absent some indicator, we need technical support how to qualify data for using. We also need to learn how to merge data from many data source for BOD estimation.

**4. Assessment of capacity of BOD data utilization for policy**

**4.1 Capacity for analysis, synthesis, and validation of health data**

**The average scores of capacity for analysis, synthesis, and validation of health data by 12 questions**

Indicators	Scores
61) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources	2
62) The designated institutes have adequate capacity to fulfill these mandates	4
63) There is a national set of indicators with targets for regular monitoring	4
64) There is an annual or biennial report to inform health policy and planning	4
65) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform	4
66) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth	3
67) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable	5
68) A burden of disease study has been conducted within the last 5 years by national stakeholders	5
69) A study of health systems performance has been carried out within the last 5 years by national stakeholders	5
70) BOD is important element of the health systems performance assessment	5
71) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty	5
72) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year	5
<b>Average scores</b>	<b>4.25</b>
<b>Min score</b>	<b>2</b>
<b>Max score</b>	<b>5</b>

## 4.2 BOD Data utilization for policy

### The average scores of factors which hamper effective use of BOD evidence for policy

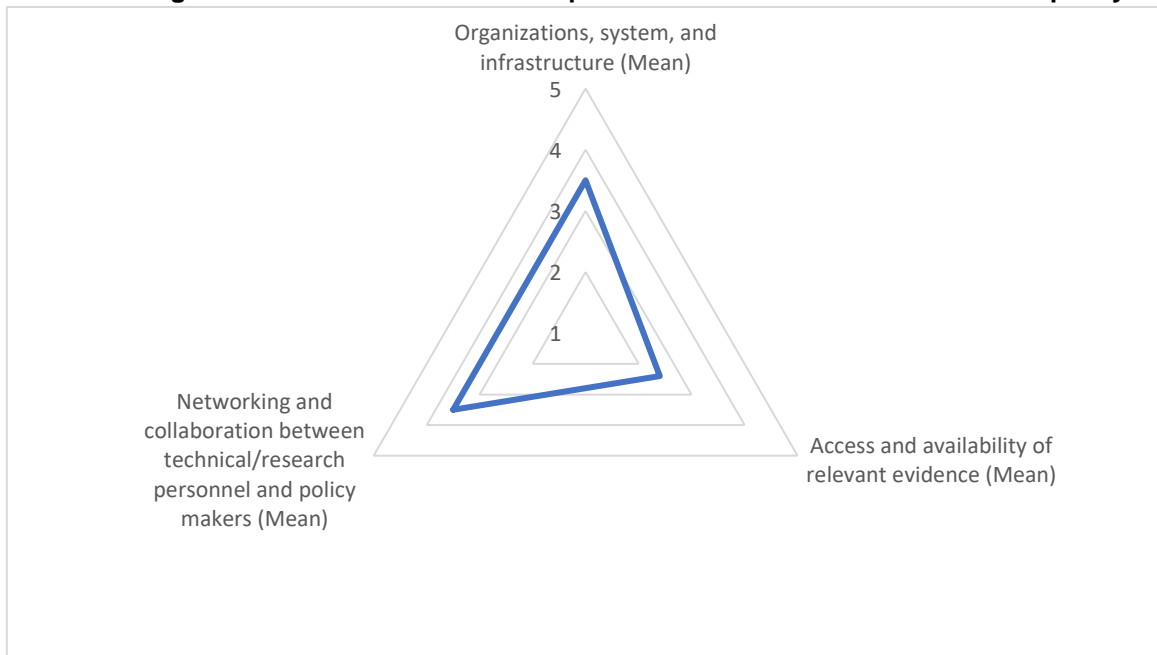


Fig. 6 The average scores of factors which hamper effective use of BOD evidence for policy

Factors	Average scores
<b>Organizations, system, and infrastructure</b>	<b>3.5</b>
21) Evidence is not produced on time for policy decision	2
22) Ineffective mechanism in translating / packaging BOD evidence for policy maker	4
23) Lack of financial resource to staff capacity	4
24) Lack of human resource capacity to analyze or interpret data	4
<b>Access and availability of relevant evidence</b>	<b>2.4</b>
30) Lack of available evidence for specific contexts	2
31) The evidence produced is not relevant to policy questions	2
32) Recommendations are not policy relevant	2
33) Evidence is not timely available for policy use	2
34) Ineffective communication by researchers	4
<b>Networking and collaboration between technical/research personnel and policy makers</b>	<b>3.5</b>
40) Limited channels to directly link evidence to policymakers	4
41) Policy recommendations are not practical and feasible	4
42) Weak linkage with policy makers	4
43) Political interests and scientific evidence do not complement each other	3
44) Lack of culture of using evidence for decision among policy makers	3
45) Policy makers do not value merits of evidence	3

## **5. Gaps or limitation to the use of BOD evidence for policy**

### **1) What are the gaps or limitation of capacity for analysis, synthesis, and validation of health data in country?**

Concept of BOD is not easy understand. Data source and methodology to estimate for Vietnam also is not clear. Some policy makers think that information of BOD is estimated from other countries, even high income countries, hence it could not fit to Vietnam situation.

Data for cost-effectiveness for Vietnam is limitation thought it was very useful.

Some data which can be use for GBOD estimation is only available in Vietnamese journal.

### **2) What factors are contributing to use of BOD evidence for policy in country? How to improve?**

Using data from Vietnam for BOD estimation is a crucial of contributing to use of BOD evidence for policy in Vietnam. as present above, Vietnam has huge data of health record and surveillance on main diseases, it should submit to BOD to estimate for Vietnam.

If we establish a coordinator team in south-east Asian region, this team will provide technical assistant for Vietnam and other countries which data should provide to GBOD team to improve BOD evidence.

### **3) What are the important factors to improve the capacity or to develop the capacity to use the BOD evidence-based information for policy?**

Training for using BOD evidence for policy or assistant of the ministry of health in each countries are the most important. If the leader or his assistants are interesting and understanding, they can use to create a policy

## **Annex II List of AMS representative**





### List of AMS representative

No.	Name	Organization	Country
1	Dr. Youthanavanh Vonghachack	Department of Healthcare and Rehabilitation	Laos
2	Dr. Phousavanh Muongpak	Division of health promotion management, Department of hygiene and health promotion	Laos
3	Dr. Shubash Shander a/l Ganapathy	Institute for Public Health, National Institute of Health Malaysia	Malaysia
4	Dr. Chan Yee Mang	Institute for Public Health, National Institute of Health Malaysia	Malaysia
5	Dr. Mohd Azahadi Omar	National Institute of Health Malaysia	Malaysia
6	Dr. Musalnizan binti Mustalkah	Disease Control Division, Ministry of Health Malaysia	Malaysia
7	Ms. Suparmi	R&D Center for Public Health	Indonesia
8	Dr. Tety Rachmawati	R&D Center for Humanities and Health Management	Indonesia
9	Dr. Kyaw Kan Kaung	(Non-communicable Disease Control Program), Department of Public Health, Ministry of Health, Myanmar	Myanmar
10	Dr. May Oo Khine	(Non-communicable Disease Control Program), Department of Public Health, Ministry of Health, Myanmar	Myanmar
11	Dr. Siti Zuhri Kahan	NCD Prevention Unit, Ministry of health	Brunei Darussalam
12	Mr. Khairil Azhar Haji Si-Ramlee	NCD Prevention Unit, Ministry of health	Brunei Darussalam
13	Ms. Saenah Md Salleh	Statistics Unit, Research and Development Section, Department of Policy and Planning, Ministry of Health Brunei Darussalam	Brunei Darussalam
14	Dr. Stefan Ma	Epidemiology & Disease Control Division, Ministry of Health Singapore	Singapore
15	Mr. Esmond Seow	Biostatistics and Research, Epidemiology and Disease Control Division Ministry of Health, Singapore	Singapore
16	Ms. Wong Fang Yan	Biostatistics and Research, Epidemiology and Disease Control Division Ministry of Health, Singapore	Singapore

<b>No.</b>	<b>Name</b>	<b>Organization</b>	<b>Country</b>
17	Dr. Chev Mony	Department of Planning and Health Information	Cambodia
18	Dr. Lach vandoeun	Bureau of ASEAN Affairs of Department of Internationnal Cooperation	Cambodia
19	Dr. Hok Sirany	Non-Communicable Disease (NCD) Bureau, Department of Preventive Medicine, Ministry of Health, Phnom Penh	Cambodia
20	Hoang Thi My Hanh	Health Strategy and Policy Institute, Ministry of Health	Vietnam
21	Dr. Phung Lam Toi	Health Strategy and Policy Institute	Vietnam
22	Dr. Nguyen Thi Trang Nhung	Research Office, Training and Research Institute for Children Health, Vietnam National of Children's Hospital, Hanoi Vietnam  Biostatistics Department, Fundamental Sciences Faculty, Hanoi University of Public Health	Vietnam
23	Ms. Joanna Marie Lim	Health Planning Division Health Policy Development and Planning Bureau	Philippines
24	Ms. Denisse Lou M. Adriano	Epidemiology Bureau Department of Health	Philippines
25	Ms. Jennilyn Ygana	Disease Prevention and Control Bureau (DPCB) of the Department of Health Philippines.	Philippines
26	Mr. Chak Charoensilpchai	Strategy and Planning Division Office of Permanent Secretary, Ministry of Public Health	Thailand
27	Dr. Auttakit Karnjanapiboonwong	Division of NCDs, Department of Disease Control Ministry of Public Health, Thailand	Thailand
28	Dr. Phanthanee Thitichai	Field Epidemiology Training Program (FETP) Thailand Bureau of Epidemiology, Department of Disease Control Ministry of Public Health	Thailand

## **Annex III Pre-workshop questionnaires**



## Pre-workshop Questionnaire/Country survey Burden of Diseases Networking Workshop

### The objectives of this questionnaire

This questionnaire is key inputs for Burden of Disease Networking Workshop. The objectives of this questionnaire are 1) to self-assess the availability and quality of data sources essential for producing evidence on burden of disease (BOD) which contribute to monitoring achievement of Sustainable Development Goals (SDGs) ASEAN Member States (AMS) plus China and 2) to self-assess capacity in generating and utilizing BOD data for policy in AMS plus China. These evidenced will pave the road how AMS plus China can work together to improve BOD capacities.

### Questions are organized as followed:

1. Availability of national statistics which contribute to BOD estimation, notably basic demographic, health expectancy and health-related SDG indicators
2. Self assessment of the availability, coverage, frequency and quality of national data sources.
3. Self assessment of capacity for analysis, synthesis, and validation of health data.
4. Process of translating / using BOD products for policy decision or monitoring.

We suggest the focal point convenes multi-stakeholders who are involved in issues related to BOD, such as the Civil Registration Office who registered deaths and causes of deaths, the health statistic division or department in the Ministry of Health who collate and analyze all morbidities, academia responsible for producing burden of diseases, etc. The meeting should reach consensus of the self-assessment in this study. Each ASEAN Member State will produce one report.

**In the questionnaire, please insert as many rows as needed.**

**Please return completed questionnaire by 10 November 2021 to**

Mr. Rugsapon Sanitya

email: [rugsapon@ihpp.thaigov.net](mailto:rugsapon@ihpp.thaigov.net) and

Miss Chattida Kraichit

email: [chattida.k@ihpp.thaigov.net](mailto:chattida.k@ihpp.thaigov.net)

If you have any question regarding the questionnaire, please contact Mr. Rugsapon Sanitya email: [rugsapon@ihpp.thaigov.net](mailto:rugsapon@ihpp.thaigov.net)

### Please check the appropriate box.

Country:

Brunei Darussalam

Philippines

Laos PDR

Cambodia

Singapore

Vietnam

Indonesia

Thailand

Malaysia

Myanmar

China

### 1. Basic demographic, health expectancy and health-related SDG indicators

This section will collect basic demographic, health expectancy and statistics for non-communicable diseases (NCDs) related SDG indicators, including related risk factors and maternal, newborn and child health.

**Please fill in the data of your country in the past 5 years (2016-2020), using country data sources**

Indicators	Years					Data Source
	2016	2017	2018	2019	2020	
<b>1.1 Basic demographic</b>						
1.1.1 Total population (000s)						
Male						
Female						
1.1.2 Total number of population aged 60+ (000s)						
Male						
Female						

Indicators	Years					Data Source
	2016	2017	2018	2019	2020	
1.1.3 Total number of under- 5 population (000s)						
Male						
Female						
<b>1.2 Life and healthy life expectancy at birth</b>						
1.2.1 Life expectancy at birth (years)						
Male						
Female						
1.2.2 Healthy life Expectancy at Birth (HALE)						
Male						
Female						
<b>1.3 Health-related SDG indicators</b>						
<b>I. Maternal, Newborn and child health</b>						
SDG 3.1.1 Maternal mortality ratio (per 1,000 live births)						
SDG 3.1.2 Proportion of births attended by skilled health personnel						
SDG 3.2.1 Under-five mortality rate (per 1,000 live births)						
SDG 3.2.2 Neonatal mortality rate (per 1,000 live births)						
<b>II. Noncommunicable diseases</b>						
SDG 3.4.1 Mortality Rate Attributed to Cardiovascular Disease, Cancer, Diabetes or Chronic Respiratory Disease (Probability of dying between age 30 and exact 70) (%) (Both sexes)						
1) Cancer						
2) Cardiovascular disease (CVD)						
3) Chronic respiratory disease (COPD)						
4) Diabetes Mellitus (DM)						
<b>III. Communicable diseases</b>						
SDG 3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations						
SDG 3.3.2 Tuberculosis incidence per 100,000 population						
SDG 3.3.3 Malaria incidence per 1,000 population						
SDG 3.3.4 Hepatitis B incidence per 100,000 population						
SDG 3.3.5 Number of people requiring interventions against neglected tropical diseases						
<b>IV. Mortality</b>						
SDG 3.4.2 Suicide mortality rate (per 100,000 population) (Both sexes)						
SDG 3.6.1 Death rate due to road traffic injuries						
SDG 3.9.1 Mortality rate attributed to household and ambient air pollution						
SDG 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe						

Indicators	Years					Data Source
	2016	2017	2018	2019	2020	
Water, Sanitation and Hygiene for All (WASH) services)						
<b>SDG 3.9.3</b> Mortality rate attributed to unintentional poisoning						
<b>V. Prevalence of exposure to key risk factors</b>						
a) Prevalence of alcohol drinking among adults aged 15 years and older						
b) Prevalence of tobacco smoking among persons 15 years and older						
c) Prevalence of physical inactivity among persons 15 years and older						
d) Prevalence of unhealthy diet among persons 15 years and older						
<b>VI. Sexual and reproductive health-care services</b>						
<b>SDG 3.7.1</b> Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods						
<b>SDG 3.7.2</b> Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group						
<b>VII. Financial risk protection</b>						
<b>SDG 3.8.1</b> Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)						
<b>SDG 3.8.2</b> Proportion of population with large household expenditures on health as a share of total household expenditure or income						
<b>VIII. Prevention and treatment</b>						
<b>SDG 3.5.1</b> Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders						
<b>SDG 3.5.2</b> Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol						
<b>IX. Other</b>						
<b>SDG 3.b.1</b> Proportion of the target population covered by all vaccines included in their national programme						
<b>SDG 3.b.2</b> Total net official development assistance to medical research and basic health sectors						

Indicators	Years					Data Source
	2016	2017	2018	2019	2020	
<b>SDG 3.b.3</b> Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis						
<b>SDG 3.c.1</b> Health worker density and distribution						
<b>SDG 3.d.1</b> International Health Regulations (IHR) capacity and health emergency preparedness						
<b>SDG 3.d.2</b> Percentage of bloodstream infections due to selected antimicrobial-resistant organisms						

## 2. Assessment of country data sources

This section will assess the availability and quality of country data sources required for the BOD and SDGs estimation.

**2.1 Are there any country data sources available to monitor SDG3 or BOD study in your country? (Country data source including current census, surveys, and data collection systems) If yes, please describe.**

Country data source <sup>1</sup>	No	Yes	If yes, please describe about the data source				
			Name of the data sources	Year <sup>2</sup>	Responsible organization <sup>3</sup>	National representative	
						Yes	No
1) Are there population census in last 10 years?							
2) Are there population-based surveys in 5 years <b>in your country</b> ?							
2.1) Health Interview through household or special survey			1)				
			2)				
			3)				
2.2) Health exam survey			1)				
			2)				
			3)				
2.3) Demographic and Health Survey (DHS) or other equivalent			1)				
			2)				
			3)				
2.4) Socioeconomic survey			1)				
			2)				

1 Please answer all country health data sources. **Row can be insert, in case of insufficient space.**

2 Year: the latest year of collecting the parameter **e.g.**, 2019 for any survey, Annual health service records, registry data.

3 Responsible organization **e.g.**, name of institute and its URL or name of person who responsible to collate / produce data.



Country data source <sup>1</sup>	No	Yes	If yes, please describe about the data source				
			Name of the data sources	Year <sup>2</sup>	Responsible organization <sup>3</sup>	National representative	
						Yes	No
			3)				
2.5) Risk factor survey			1)				
			2)				
			3)				
2.6) Other (specify).....			1)				
			2)				
			3)				
3) Are there diseases records from clinical settings and compile into statistics?			1)				
			2)				
			3)				
4) Are there diseases surveillance in 5 years <sup>4</sup> ?			1)				
			2)				
			3)				
5) Are there electronic health service records <sup>5</sup> ?			1)				
			2)				

**4 Disease and health surveillance systems** that include the functions of identification and notification of suspected cases of notifiable diseases and health risks according to standard case definitions, which are applicable with the diagnostic capabilities available in the local area.

**5 Health service records** is a variety of types of "notes" entered over time by health care professionals, recording observations and administration of drugs and therapies, orders for the administration of drugs and therapies, test results, x-rays, reports, etc.

Country data source <sup>1</sup>	No	Yes	If yes, please describe about the data source				
			Name of the data sources	Year <sup>2</sup>	Responsible organization <sup>3</sup>	National representative	
						Yes	No
			3)				
6) Is there a cancer registry data?							
7) Is there any specific disease registry data, please specify the diseases ?							

## 2.2 Quality of Births and deaths data

### 2.2.1 Coverage of birth and death registration

Please answer to the **questions below**. If yes, please describe using evidence-based data.

	No	Yes
1) Is birth registry mandatory by Law?		
2) Is death registry mandatory by Law?		

Indicators	No	Yes, please describe the percentage of these indicators <b>by evidence-based</b>				
		<30 %	30-60%	61-80%	81-90%	91-100 %
1) Percentage of births were registered in 2020						
2) Percentage of deaths were registered in 2020						

### 2.2.2 Quality of Death registration data

Please answer to the **questions below** on the indicators about quality of death data in 2020

Indicators	No	Yes	Statistics/ Value
1) Is there a standard form for medical certificate of cause of death?			
2) If yes, is it in electronic record?			
3) Is there any interview of the relatives of deceased person or verbal autopsy to verify the cause of death?			
4) Is ICD-10 being used as the disease classification tool?			
5) Proportion of ill-defined deaths (ICD10 codes R00-R99) <sup>6</sup>			
6) Are health and population data disaggregated by sex?			
7) Are health and population data disaggregated by age-group?			
8) Is there an upper age cut-off of 80 years? (If no, please specify upper age cut-off) <sup>7</sup>			

6 Note: please specify ICD version, if ICD-10 is not being used.

7 In any analysis or official health statistics report or death report

### 3. Capacity for analysis, synthesis, and validation of health data

Responses from this section will help to determine the level of capacity for analysis, synthesis, and validation of health data in your country.

#### To what extent do you agree with the following statement?

Indicators	Please indicate the level of these indicators by scoring (1- Strongly disagree to 5- Strongly agree)				
	1	2	3	4	5
1) There are designated and functioning institutional mechanisms tasked with analysis of health statistics, synthesis of data from different sources and validation of data from population and facility sources					
2) The designated institutes have adequate capacity to fulfill these mandates					
3) There is a national set of indicators with targets for regular monitoring					
4) There is an annual or biennial report to inform health policy and planning					
5) There is a national data archives systems for health surveys and census that are operational and accessible in electronic platform					
6) There is institutional capacity in the country to produce burden of diseases e.g. DALY, YLL, YLD, Healthy Life Expectancy at birth					
7) The institutional capacity (number and competency of scientists, funding support, availability and access to quality essential data required for BOD) is sustainable					
8) A burden of disease study has been conducted within the last 5 years by national stakeholders					
9) A study of health systems performance has been carried out within the last 5 years by national stakeholders					
10) BOD is important element of the health systems performance assessment					
11) There is commitment to ensure transparency in data dissemination and acknowledgement of uncertainty					
12) The official annual health statistics report has been published within 12 months of the preceding (calendar or fiscal) year					

### 4. BOD Data utilization for policy

This section is a self assessment of key factors (i.e., organizations, system and infrastructure, access and availability of relevant and timely evidence and networking and collaboration between researchers and policy makers) which contribute to the use of BOD evidence for policy.

To what extent do you agree that the following factors are barriers which hamper effective use of BOD evidence for policy?

Factors	Score (1- Strongly disagree to 5- Strongly agree)				
	1	2	3	4	5
<b>Organizations, system, and infrastructure</b>					
1) Imbalance between timely evidence based and policy making					
2) Ineffective mechanism in translating / packaging BOD evidence for policy maker					
3) Lack of financial resource to staff capacity					
4) Lack of human resource capacity to analyze or interpret data					
<b>Access and availability of relevant evidence</b>					
5) Lack of available evidence for specific contexts					
6) The evidence produced is not relevant to policy questions					
7) Recommendations are not policy relevant					
8) Evidence is not timely available for policy use					
9) Ineffective communication by researchers					
<b>Networking and collaboration between technical/research personnel and policy makers</b>					
10) Limited channels to directly link evidence to policymakers <sup>8</sup>					
11) Policy recommendations are not practical and feasible					
12) Weak linkage with policy makers <sup>9</sup>					
13) Political interests and scientific evidence do not complement each other					
14) Lack of culture of using evidence for decision among policy makers					
15) Policy makers do not value merits of evidence					

THANK YOU FOR YOUR PARTICIPATION IN THE PRE-WORKSHOP QUESTIONNIRE  
We truly appreciate the time and effort involved in completing this form

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<sup>8</sup> **Channel:** platform e.g., seminars, conferences, meeting

<sup>9</sup> **Strong linkage:** working closely together in various ways e.g., direct, and frequent face-to-face interactions between researchers and policy makers and working together



International Health Policy Program, Thailand  
Ministry of Public Health, Tiwanon Rd. Nonthaburi 11000, Thailand  
**Tel:** +66 (0) 2590-2366-7  
**Fax:** +66 (0) 2590-2385