SEAHEARTS
Monitoring Framework

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World Health
Organization
REGIONAL OFFICE FOR South-East Asia

RESOLUTION

OF THE

WHO REGIONAL COMMITTEE FOR SOUTH-EAST ASIA

SEA/RC76/R5

SEAHEARTS: ACCELERATING PREVENTION AND CONTROL OF CARDIOVASCULAR DISEASES IN THE SOUTH-EAST ASIA REGION

The Regional Committee,

RECOGNIZING that cardiovascular diseases (CVD) stand out as the primary cause of premature mortality in the Region and that accelerated efforts in prevention and control of CVD is imperative for achieving faster reductions in premature mortality resulting from noncommunicable diseases,

NOTING that the interim milestones have built on the progress and commitments made by Member States, especially in setting up targets for placing people with hypertension and diabetes on protocol-based management by 2025; and that the countries in the Region have made good progress in reducing tobacco use and population salt intake, and eliminating transfatty acids,

ACKNOWLEDGING that the SEAHEARTS Initiative that brings together WHO technical packages[1] of HEARTS, SHAKE, REPLACE and MPOWER, and implements them in the national context, holds the potential to save lives and improve the well-being of millions,

REALIZING that only seven years remain for the SDG target deadline of 2030, requiring an acceleration of the national responses with time-bound commitments to reduce CVD risk factors and strengthen and reorient health systems to add to the momentum for CVD control in the Region, and

TAKING NOTE of the "Dhaka Call to Action – Accelerating the control of cardiovascular diseases in a quarter of the world's population" (annexed),

1. **URGES** Member States to:

a. Implement the SEAHEARTS Initiative to sustain and expand the gains achieved by implementing WHO HEARTS, MPOWER, SHAKE, REPLACE, and other effective technical packages, to reduce risk factors of CVD;

b. Consider implementing the interventions in the Dhaka Call to Action at the national and subnational levels, as appropriate, and allocate adequate resources for their implementation;

c. Strengthen political commitment and leadership, along with adequate capacity in the health systems, and promote accountability through timely, reliable and quality data; and

2. **REQUESTS** the Regional Director to:

a. Support Member States to develop and prioritize country-specific roadmaps with baselines and targets to accelerate the implementation of SEAHEARTS;

b. Support Member States to leverage legislative, regulatory and fiscal policies and other measures to reduce risk factors for CVD;

c. Provide technical support in monitoring and evaluation, and documenting good practices and lessons learnt in implementing SEAHEARTS; and

d. Set up a platform for Member States to regularly share and exchange best practices on the implementation of SEAHEARTS.

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SEAHEARTS Monitoring Framework

A. 100 million people with hypertension and/or diabetes are placed on protocol-based management

SEAHEARTS reporting indicator

1. The number of people with hypertension and/or diabetes placed on protocol-based management

> The count will be the total number of people recorded as on treatment for hypertension and/or diabetes in a health facility/ clinic of the countries in the Region.

2. Proportion of people registered for hypertension treatment in the facility with controlled blood pressure

> Percentage of people registered for hypertension treatment in the facility with controlled blood pressure, in the reporting country.

3. Proportion of people registered for diabetes treatment in the facility with glycemic control

> Percentage of people registered for diabetes treatment in the facility with controlled blood sugar, in the reporting country.

Indicator definitions and the data requirements

1. SEAHEARTS reporting indicator for protocol-based management

    • Number of people recorded as on treatment in a health facility/clinic for hypertension

    • Number of people recorded as on treatment in a health facility/clinic for diabetes

    a. Number of people treatment in a health facility/clinic for hypertension

    The number of people with hypertension recorded as on treatment in a health recorded as on facility/clinic

    The number should NOT include multiple counts of a single person.

    • The patients who have been registered for care at any point of time in the past can be included IF they have visited the health facility/clinic at least once during the year preceding to the time of reporting

    • It is expected health facility/ clinic follows approved management protocol for hypertension

    • Countries are encouraged to verify adherence to protocol-based management in health facilities/clinics through rapid assessments

    b. Number of as on treatment in a health facility/clinic for diabetes

    The number of people with diabetes mellitus recorded as on treatment in a people recorded health facility/clinic

    The number should not include multiple counts of a single person

    • The patients who have been registered for care at any point of time in the past can be included IF they have visited the health facility/clinic at least once during the year preceding to the time of reporting

    • It is expected health facility/ clinic follows approved management protocol for hypertension

    • Countries are encouraged to verify adherence to protocol-based management in health facilities/clinics through rapid assessments

2. Proportion of people registered for hypertension treatment in the facility with controlled blood pressure

    This estimation requires longitudinal records of clinic visits and the BP at each visit for each patient. Electronic systems using unique IDs can be configured to generate the data on this indicator.

    Number of patients whose BP was controlled at the last clinic visit within the preceding one year, among those eligible** to be included in the analysis   x100

    Total number of people registered for hypertension treatment in the facility and eligible to be included in the analysis

    Based on National treatment guidelines or WHO guidelines

    **People with hypertension registered in the facility excluding

    • **New registrants**-*those who were registered in the clinic within a period of three months prior to the point of assessment*

    • **Lost to follow up**-*those who have not visited the clinic for whole of the one year period*

    Refer to Annex I for details of estimating the indictor with an worked out example

3. Proportion of people registered for diabetes treatment in the facility with glycemic control

This estimation requires longitudinal records of clinic visits and the glycemic control for each patient. Electronic systems using unique IDs can be configured to generate the data on this indicator.

Number of patients whose glycaemia was controlled at the last clinic visit within the preceding one year, among those eligible** to be included in the analysis

Total number of people registered for diabetes treatment in the facility and eligible to be included in the analysis

x100

*HbAlc -8% (64 mmol/l) or fasting plasma glucose (FPG) 7.0 mmol/l or 126 mg/dl

**People with diabetes registered in the facility excluding

- **New registrants**-those who were registered in the clinic within a period of three months prior to the point of assessment

- **Lost to follow**-up those who have not visited the clinic for whole of the reporting period

Refer to Annex I for details of estimating the indictor with an worked out example.

B. One billion people are covered by at least three WHO MPOWER measures for tobacco control

SEAHEARTS reporting indicator

1. Total population covered by at least three WHO MPOWER measures

> The count of the people will be the total population* of the countries in the Region which fulfill the criteria for highest level of achievement for at least three WHO MPOWER measures for tobacco control.

* World population prospects: 2022 revision. New York (NY): United Nations, Department of Economic and Social Affairs, Population Division; 2022 (https://population.un.org/wpp/ accessed 27 June 2023). Reference year 2023.

Country	Population	Country	Population
Bangladesh	172,954,000	Myanmar	54,578,000
Bhutan	787,000	Nepal	30,897,000
DPR Korea	26,161,000	Sri Lanka	21,894,000
India	1,428,628,000	Thailand	71,801,000
Indonesia	277,534,000	Timor-Leste	1,361,000
Maldives	521,000		

Measurement criteria for SEAHEARTS indicator

WHO MPOWER measures		Indicator summary	Criteria to be fulfilled by the countries for highest level of achievement**
M	Monitor tobacco use and prevention policies	Monitoring tobacco use prevalence data and various tobacco use prevention policies, in context of both adults and youth	Having recent[i], representative[ii] and periodic[iii] data for prevalence of tobacco use for both adults and youth
P	Protect people from tobacco smoke	Smokefree legislations leading to smokefree environments	All public places completely smoke-free[iv] (or at least 90% of the population covered by complete subnational smoke-free legislation)
O	Offer help to quit tobacco use	Treatment of tobacco dependence through provisioning tobacco cessation services	National quit line, and both NRT and some cessation services cost- covered[v]
W	Warn about the dangers of tobacco	Warning the population about deleterious health effects of tobacco through implementation of health warnings on packages of tobacco products	Large warnings with all appropriate[vi] Characteristics on cigarette packages[vii]
		Warning the population about deleterious effects of tobacco through implementation of mass media anti-tobacco campaigns	National anti-tobacco campaign conducted with at least seven appropriate characteristics[viii] including airing on television and/or radio
E	Enforce bans on tobacco advertising, promotion and sponsorship (TAPS)	Ban on ALL forms of TAPS	Ban on all forms of direct[ix] and indirect[x] advertising (or at least 90% of the population covered by subnational legislation completely banning tobacco advertising, promotion and sponsorship)
R	Raise taxes on tobacco	Tobacco taxation: share of total taxes in the retail price of the most widely sold brand of cigarettes	share of total taxes be ≥75% of the retail price of the most widely sold brand of cigarettes

**The details of each indicator is provided in the technical note provided in the WHO Global Tobacco Epidemic Report 2023 - WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke

Criteria for highest level of achievement (MPOWER)

Monitoring of tobacco use and prevention policies

i.   Data from 2017 or later.

ii. Survey sample representative of the national population.

iii. Collected at least every 5 years.

Smokefree environments

iv. Complete indoor smoke free environment at all times, in all the facilities of each of the following eight places:
- health care facilities;
- educational facilities other than universities;
- universities;
- governmental facilities;
- indoor offices and workplaces not considered in any other category;
- restaurants or facilities that serve mostly food;
- cafés, pubs and bars or facilities that serve mostly beverages;
- public transport

Cessation services:

v.   Tobacco cessation support available in and of the following places: health clinics or other primary care facilities, hospitals, office of health professional, the community or other settings

Warning labels

vi. Appropriate characteristic of tobacco package warnings:
- specific health warnings mandated;
- appearing on individual packages as well as on any outside packaging and labelling used in retail sale;
- describing specific harmful effects of tobacco use on health;
- are large, clear, visible and legible (e.g. specific colors and font style and sizes are mandated);
- rotate;
- include pictures or pictograms;
- written in (all) the principal language(s) of the country.

vii. Average of front and back of the package is at least 50%.

Anti-tobacco mass media campaigns

viii. Appropriate characteristics, which signify the use of a comprehensive communication approach:
- The campaign was part of a comprehensive tobacco control programme.
- Before the campaign, research was undertaken or reviewed to gain a thorough understanding of the target audience.
- Campaign communication materials were pre-tested with the target audience and refined in line with campaign objectives.
- Airtime (radio, television) and/ or placement (billboards, print advertising, etc.) were obtained by purchasing or securing it using either the organization's own internal resources or an external media planner or agency (this information indicates whether the campaign adopted a thorough media planning and buying process to effectively and efficiently reach its target audience).

- The implementing agency worked with journalists to gain publicity or news coverage for the campaign.
- Process evaluation was undertaken to assess how effectively the campaign had been implemented.
- An outcome evaluation process was implemented to assess campaign impact.
- The campaign was aired on television and/or radio. Bans on tobacco advertising, promotion and sponsorship (TAPS)

ix. Direct Advertisement ban
- national television and radio;
- local magazines and newspapers;
- billboards and outdoor advertising;
- point of sale (indoor).

x. Indirect advertising bans:
- free distribution of tobacco products in the mail or through other means;
- promotional discounts;
- non-tobacco goods or services identified with tobacco brand names (brand stretching);
- brand names of non-tobacco products used for tobacco products (brand sharing);
- appearance of tobacco brands (product placement) or tobacco products in television and/or films;
- sponsorship (contributions and/or publicity of contributions).

C. One billion people are covered with at least one of the WHO SHAKE package measures for reducing salt intake

SEAHEARTS reporting indicator

1. The total population covered by at least one SHAKE measure by 2025.

> The count of the people will be the total population* of the countries in the Region which fulfill the criteria for at least one of the WHO SHAKE package measures for reducing salt intake.

2. The total population covered by at least one additional SHAKE measures post Resolution

> The count of the people will be the total population* of the countries in the Region which fulfill the criteria for at least one additional WHO SHAKE measures for reducing salt intake post SEAHEARTS Resolution.

* World population prospects: 2022 revision. New York (NY): United Nations, Department of Economic and Social Affairs, Population Division; 2022 (https://population.un.org/wpp/ accessed 27 June 2023). Reference year 2023.

Country	Population	Country	Population
Bangladesh	172,954,000	Myanmar	54,578,000
Bhutan	787,000	Nepal	30,897,000
DPR Korea	26,161,000	Sri Lanka	21,894,000
India	1,428,628,000	Thailand	71,801,000
Indonesia	277,534,000	Timor-Leste	1,361,000
Maldives	521,000		

Measurement criteria for SEAHEARTS indicator

WHO SHAKE package evidence- based measures for SEAHEARTS[1]	criteria to be fulfilled by the countries	Source/validation[2]
Harness industry: promote reformulation of foods and meals to contain less sodium	Adopted and set national/subnational targets for maximum sodium content levels in one or more selected food categories,[3] with timelines for meeting the targets (voluntary or legislative approach)	Extracted from the responses to 2023 NCD Country Capacity Survey questionnaire AND/OR country submission of policy and evidence
Adopt standards for labelling- implement standards for effective and accurate labelling	Implemented voluntary or mandatory front-of-pack labelling on pre- packaged commercially manufactured foods.	
Adopt policies to protect children from the harmful impact of food marketing	Implemented policies to protect children from the harmful impact of food marketing on diet.[4]	
Knowledge: educate/ communicate to empower individuals to eat less salt (and other foods)	Implemented a BCC / mass media campaign for healthy diets at national or sub national level that includes salt reduction within past 3 years	
Environment: support settings to promote healthy eating[5]	Implemented public food procurement and service policies. These could include any of the following: - Restricted foods contributing to unhealthy diets including high salt, sugar or fat through cafeteria policies (schools, government institutions)	
	- Limited or prohibited availability of food/beverages that contributes to unhealthy diets (including high sodium content) in public settings[6]	

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[1] While Surveillance is a part of SHAKE, it is for monitoring, and not included as a best buy intervention for sodium reduction (includes measuring population salt consumption patterns; sodium content of food; monitor and evaluate the impact of the salt reduction programme.

[2] WHO global report on sodium intake reduction obtains data from NCD CCS, therefore NCD CCS is the source of validation

[3] Regional sodium benchmarks available

[4] Marketing policies can include broadcasting restrictions, cross border policies, time restrictions on food marketing, restrictions on use of children in food ads

[5] These policies are cost effective as indicated through the CHOICES analysis

[6] Settings include government offices, schools, community centers, hospitals etc. Policies can cover any part of the process of purchase, provision, distribution, preparation, service, and sale of food to ensure each step meets healthy criteria.

D. Two billion people are protected from the harmful effects of trans-fatty acids through best practices or complementary policy measures of WHO REPLACE

SEAHEARTS reporting indicator

1. Total population protected from the harmful effects of trans-fatty acids through best practice or complementary policy measures[7]

> The count of the people will be the total population*
> of the countries in the Region which fulfill the criteria for being protected from the harmful effects of trans-fatty acids through best practices or complementary policy measures of WHO REPLACE.

* World population prospects: 2022 revision. New York (NY): United Nations, Department of Economic and Social Affairs, Population Division; 2022 (https://population.un.org/wpp/ accessed 27 June 2023). Reference year 2023.

Country	Population	Country	Population
Bangladesh	172,954,000	Myanmar	54,578,000
Bhutan	787,000	Nepal	30,897,000
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Indonesia	277,534,000	Timor-Leste	1,361,000
Maldives	521,000		

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[7] https://iris.who.int/bitstream/handle/10665/374241/sea-rc-76-5-eng.pdf?sequence=1

Measurement criteria for SEAHEARTS indicator

Trans fatty acid elimination measures for SEAHEARTS	Criteria to be fulfilled by the countries	Source/validation[8]
Best-practice TFA policy passed	Having Mandatory national limit of 2 g of industrially produced TFA per 100 g of total fat in all foods OR	Countdown to 2023: WHO report on global trans-fat elimination or country legislation or Gazette notification
	Mandatory national ban on the production or use of PHO as an ingredient in all foods	
Less restrictive measures	OR Legislative or regulatory measures that limit iTFA in foods in all settings, but are less restrictive than the recommended approach (e.g. 2% limit for iTFA in oils and fats only;	
Other Complementary measures effected Legislative or other measures that encourage consumers to make healthier choices about industrially produced TFA	OR 1. mandatory declaration of TFA on nutrition labels, OR 2. front-of-pack labelling system that includes TFA, OR 3. Reformulation or mandatory limits on industrially produced TFA in foods in specific settings (e.g., public institutions) or specific products (e.g., complementary foods).	

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[8] WHO global report on trans-fat elimination obtains data from NCD CCS, therefore NCD CCS is the source of validation

Annex - I

- **Blood pressure control among people with hypertension**

- **Glycaemic control among people with diabetes**

Application at facility level with worked out examples

Blood pressure control among people with hypertension	
Purpose	To measure the effectiveness of clinical services for people with hypertension
Definition	Proportion of people registered for hypertension treatment in the facility with controlled BP in the last clinic visit
Recommended Frequency of reporting	Annually
Eligibility to be included in the analysis	People with hypertension registered in the facility excluding 1. **New registrants-** those who were registered in the clinic within a period of three months prior to the point of assessment 2. **Lost to follow up-** those who have not visited the clinic for whole of the reporting period of one year
Numerator	Number of patients whose BP was controlled at the last clinic visit in the reporting period of one year among those eligible to be included in the analysis
Denominator	Total number of people registered for hypertension treatment in the facility and eligible to be included in the analysis
Method of calculation	Numerator ÷ denominator × 100
Aggregation	District, province, state, country
Disaggregation	Based on the need and applicability stratify by health facility, provider ownership type (public/private), and patient characteristics such as age, sex, race/ethnicity, comorbidity status, high-risk groups, socio- economic status, residence type (urban/rural), and health insurance type
Sources of data	Health facility patient registers, patient records
Key data elements	Blood pressure, visit date, hypertension diagnosis, diagnosis date

Facility based blood pressure control among people with hypertension		
Item	**Explanation**	**Worked out example**
Indicator full description	Proportion of patients with controlled blood pressure among patients with hypertension in the …… hospital/clinic during the reporting period ….. to …….. (Users to add the details to fill the blanks. See the explanation for guidance).	Need to add the • name of the hospital/clinic which is calculating the blood pressure (BP)control • reporting period as dd/mm/yyyy to dd/mm/yyyy It is recommended to use the period of one year as the reporting period.	On 1 April 2021, the manager of the Clinic A plans to measure the BP control among registered patients. This is an indicator the clinic reports annually. See the worked-out example below. The title of the indicator will be: The proportion of patients with controlled BP among patients with hypertension in the clinic A during the year 01/04/2020 to 31/03/2021

Purpose	To measure the effectiveness of clinic services to control BP among patients treated for hypertension.	Controlled BP among patients is a reflection of application of treatment protocol, competence of health staff, quality of medicines and patient compliance and is accepted as a key indicator of how effective the clinical services are delivered through the hospital /clinics.	The Manager of clinic A wishes to use the reporting period of one year preceding the point of assessment of 1 April 2021. Thus, the reporting period is marked as 1 April 2020 to 31 March 2021 (12 months).
Definition	Proportion of people registered for hypertension treatment in the facility with controlled BP in the last clinic visit • National treatment guidelines • WHO *guidelines 9789240033986-eng. pdf (who.int)*, WHO guideline considers BP is controlled when: • Systolic BP(SBP) <140 mmHg and diastolic BP(DBP) <90 mmHg • SBP <130 mmHg among people with history of CVD • SBP <130 mmHg among high-risk people with hypertension, i.e., those with high CVD risk, diabetes mellitus, chronic kidney disease (CKD)	The criteria to be used to classify the patient as having controlled BP should be pre-defined based on the national treatment guidelines taking into account potential comorbidities of the patients OR guidelines of WHO and should take into account both systolic and diastolic BPs and classifying patients as having controlled BP. The decision of BP controlled/ uncontrolled status will be made using the records of each patient at the clinic visits in the clinic registers.	In Clinic A, controlled BP is defined by the National protocol as those recording a • systolic BP<140 mmHg AND • diastolic BP<90 mmHg
Who are the patients eligible to be included in the assessment	The following categories of patients should also be excluded from among the patients registered 3. **New registrants-** those who were registered in the clinic within a period of three months prior to the point of assessment which is the date of calculating the indicator 4. **Lost to follow up-** those who have not visited the clinic for one year prior to the point of assessment which is the date of calculating the indicator	The reasons for the exclusions are 1. Those who got newly registered during the three months prior to the date of calculation as it is considered that at least three months is required for BP to get controlled following initiation of treatment 2. If a patient has not visited a clinic for the whole of the reporting period of one year, the clinic is considered to 'lost the patient to be followed up' and including them in the calculation is not a true reflection of the effectiveness of the clinic service	See the Patient Register of the Clinic A which has the records of patients registered from 1 January 2020- 31 March 2021. Following are the patients that were excluded • seven patients (ID 24-30) were new patients registered during the months of January, February and March 2022 And • One patient (ID 2) who had not visited the clinic even once during the period of one year (April 2020 to April 2021) were excluded. Thus, 22 patients registered in Clinic A were eligible to be included in the calculation.

Numerator	Number of patients whose BP was controlled at the last clinic visit within the preceding one year among those eligible to be included in the analysis *instructions on specific situations* • **Referred-** *If the patient has been referred to a higher- level care facility and BP status not known during the reporting period of three months- consider the personas having uncontrolled BP* • **Transferred-** *If the patient has been transferred to another facility, classify as controlled or uncontrolled based on the last known status prior to transfer*	As described above, classifying patients as having controlled/ uncontrolled BP is based on the definition and will be done by the person calculating the indicator using the records of each patient in the clinic registers. Those patients who have been referred to higher care and have not been referred/ reported back to the clinic A, are classified as uncontrolled as when the BP status is unknown which does not warrant them to be classified as controlled. If the patient has been transferred to another facility the responsibility of continuing the treatment for the patient since the transfer is not with clinic A. Thus, it is allowed to classify the patient as controlled or uncontrolled based on the last known status prior to transfer	In clinic A, a total 14 patients have been classified as having controlled BP by applying the national criteria and also taking into consideration the specific situations. In the worked-out example they are marked as having controlled BP by an asterisk (*) The reasons for other 8 patients to be classified as not controlled are also indicated in the example for easy reference.
Denominator	Total number of eligible patients registered for hypertension treatment in the facility and eligible to be included in the analysis	The patients eligible to be included in the calculation are described above.	A total of 22 patients registered in the Clinic A constitute the denominator.
Method of calculation	Numerator ÷ denominator × 100		(14/22) *100 = 63.6%
Sources of data	Health facility patient registers, patient records		

Worked out example

Proportion of patients with controlled blood pressure among patients with hypertension in the Clinic A 01/01/2021 to 31/03/2021

Details of clinic A

Was established on 1 January 2020. Controlled BP is defined by the National protocol as systolic blood pressure <140 mmHg and diastolic blood pressure <90 mmHg

Clinic A Patient Register   **Reporting Period**

I D	Age	Sex	Enrolled	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb- 21	March-21	Apr-21
1	57	F	20-Jan	140/90	137/90	128/84	160/92	157/90	MV	150/102	137/80	132/86	130/87	126/88	140/78	138/88	145/88	*138/86	
2	48	M	20-Feb		150/88	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	
3	39	M	20-Mar			150/90	123/81	147/91	130/90	128/90	MV	150/90	167/78	248/90	154/76	145/86	138/87	150/80	
4	74	M	20-Apr				190/96	150/90	123/81	147/91	200/102	180/92	130/90	130/90	130/90	140/90	137/73	*137/80	
5	67	F	20-Apr				176/92	160/80	125/80	110/80	124/78	110/78	110/78	150/96	138/90	200/100	150/100	*140/88	
6	49	F	20-Apr				200/100	170/92	185/90	170/96	MV	150/90	150/90	150/90	200/100	170/92	185/90	170/96	
7	53	M	20-May					170/96	MV	200/100	150/100	140/90	140/90	170/92	157/90	MV	190/102	*137/80	
8	60	M	20-May					151/72	110/80	130/88	MV	MV	170/96	MV	200/100	150/100	140/90	*140/88	
9	59	F	20-June						160/80	MV	145/90	151/72	110/80	123/81	147/91	130/90	*138/88	MV	
10	49	F	20-June						148/90	180/92	160/80	MV	145/90	151/72	110/80	176/92	160/80	*125/80	
11	72	F	20-june						135/80	136/82	138/90	120/82	170/92	157/90	130/88	MV	MV	MV	
12	52	M	20-July							137/80	MV	150/92	150/92	176/92	160/80	125/80	110/80	*124/78	
13	60	M	20-July							125/80	110/80	131/72	136/72	170/92	157/90	MV	190/102	*137/80	
14	46	F	20-July							140/90	137/73	137/80	137/80	200/100	200/100	150/100	140/90	200/100	
15	79	M	20-Aug								110/80	150/90	150/90	140/90	Referred	NA	NA	NA	
16	62	F	20-Aug								190/96	150/90	123/81	147/91	200/102	180/92	130/90	*130/88	
17	61	M	20-Sep									150/90	150/90	150/90	150/90	151/72	110/80	*130/88	
18	65	F	20-Oct										136/82	136/82	*136/82	Transferred	NA	NA	
19	49	F	20-Oct										137/80	200/100	MV	176/92	160/80	*125/80	
20	72	M	20-Oct										120/82	160/90	Transferred	NA	NA	NA	
21	52	M	20-Nov											150/92	150/92	110/80	124/78	*117/80	
22	60	F	20-Dec												131/72	150/96	138/90	140/94	
23	46	F	20-Dec												137/80	137/80	137/80	*125/80	
24	79	F	21- Jan													110/80	MV	136/89	
25	62	M	21- Jan													120/82	125/80	110/80	
26	61	F	21- Jan													150/92	176/92	160/80	
27	72	M	21- Jan													131/72	150/96	138/90	
28	75	F	21-Feb														120/82	120/82	
29	65	F	21-Feb														150/92	150/96	
30	79	m	21-Mar															140/100	

*Patients with controlled BP
MV- missed visits
NA- Patient not available

Reasons for exclusions

ID 2	Lost to follow up -not visited the clinic even once during the period of one year (1 April 2020 to 31 March 2021)
ID 24-30	New registrants- registered to Clinic A as new patients during in the months of January, February and March 2021

Reasons for classifying as not controlled

ID 3	Systolic BP higher than defined as controlled
ID 6	Systolic BP and diastolic BP higher than defined as controlled
ID 14	Systolic BP and diastolic BP higher than defined as controlled
ID 15	Referred to a higher-level care facility and BP status not known during the reporting period
ID 20	Patient has been transferred to another facility during the reporting period and the available BP reading prior to transfer shows that systolic BP and diastolic BP are higher than defined as controlled

Glycaemia control among people with diabetes	
Purpose	To measure the effectiveness of clinical services for people with diabetes
Definition	Proportion of people registered for diabetes treatment in the facility with controlled glycaemia based on HbA1c <8% (64 mmol/l) or fasting plasma glucose (FPG) <7.0 mmol/l or <126 mg/dl in the last clinic visit
Recommended Frequency of reporting	Annually
Eligibility to be included in the analysis	People with diabetes registered in the facility excluding 1. **New registrants-** those who were registered in the clinic within a period of three months prior to the point of assessment 2. **Lost to follow up-** those who have not visited the clinic for one year prior to the point of assessment
Numerator	Number of patients whose glycaemia was controlled at the last clinic visit in the reporting period of one year among those eligible to be included in the analysis
Denominator	Total number of people registered for diabetes treatment in the facility and eligible to be included in the analysis
Method of calculation	Numerator ÷ denominator × 100
Aggregation	District, province, state, country
Disaggregation	Based on the need and applicability stratify by health facility, provider ownership type (public/private), and patient characteristics such as age, sex, race/ethnicity, comorbidity status, high-risk groups, socio- economic status, residence type (urban/rural), and health insurance type
Sources of data	Health facility patient registers, patient records
Key data elements	HbA1c/ FPG, visit date, diabetes diagnosis, diagnosis date

Facility based glycaemic control among people with diabetes

	Item	Explanation	Worked out example
Indicator full description	Proportion of patients with controlled glycaemia among patients with diabetes in the …… hospital/clinic during the reporting period ……………… to ………………… (Users to add the details to fill the blanks. See the explanation for guidance).	Need to add the • name of the hospital/clinic which is calculating the glycaemia control • reporting period as dd/mm/yyyy to dd/mm/yyyy it is recommended to use the period of one year preceding the point of assessment as the reporting period.	On 1 November 2022, the manager of the Clinic B plans to measure the glycaemia control among registered patients. This is an indicator the clinic reports annually. See the worked-out example below. The title of the indicator will be: **The proportion of patients with controlled glycaemia among patients with diabetes in the clinic B assessed during the year 01/11/2022 to 31/10/2022**
Purpose	To measure the effectiveness of clinical services to control glycaemia among patients treated for diabetes	Controlled glycaemia among patients is a reflection of application of treatment protocol, competence of health staff, quality of medicines and patient compliance and is accepted as a key indicator of how effective the clinical services are delivered through the hospital /clinics.	The Manager of clinic B wishes to use the reporting period of one year preceding the point of assessment of 1 November 2022. Thus, the reporting period is marked as 1 November 2021 to 31 October 2021 (12 months).
Definition	Proportion of people registered for diabetes treatment in the facility with controlled glycaemia based on HbA1c <8% (64 mmol/mol) or fasting plasma glucose (FPG) <7.0 mmol/l or <126 mg/dl in the last clinic visit	The criteria to be used to classify the patient as having controlled glycaemia should be pre-defined based on the national treatment guidelines OR guidelines of WHO The decision of glycaemia controlled/uncontrolled status will be made using the records of each patient at the clinic visits in the clinic registers.	In Clinic B, controlled glycaemia is defined by the National protocol as those recording a fasting plasma glucose (FPG) <7.0 mmol/l. At present, the facilities to offer HbA1c is not available in the Clinic B.
Who are the patients eligible to be included in the analysis	The eligible patients will be based on whether the indicator is calculated for patients registered since the inception of the clinic or from the patients registered from a particular amount of time in the past. After this decision is made, the following categories of patients should also be excluded • **New registrants-** those who were registered in the clinic within a period of three months prior to the point of assessment which is the date of calculating the indicator	As described above, based on the calculation will include all the patients registered for services from the inception of the clinic OR patients registered for care from a selected point of time in the past. The reasons for the exclusions are 3. Those who got newly registered during the three months prior to the date of calculation as it is considered that at least three months is required for glycaemia to get controlled following initiation of treatment	See the Patient Register of the Clinic B which has the records of patients registered from 01 October 2021. – 1 October 2022 Following are the patients that were excluded • four patients (ID 24-27) were new patients registered during the months of January, August to October 2022 And Two patient (ID 3 and ID 11) who had not visited the clinic even once during the period of one year (1 Oct 2021 to 31 Oct 2022) were excluded Thus, 23 patients registered in Clinic B were eligible to be included in the calculation.

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	• **Lost to follow up-** those who have not visited the clinic for one year prior to the point of assessment which is the date of calculating the indicator	Conventionally if a patient has not visited a clinic for one year, the clinic is considered to 'lost the patient to be followed up' and including them in the calculation is not a true reflection of the effectiveness of the clinic service	
Numerator	Number of patients whose glycaemia was controlled (HbA1c <8% (64 mmol/l) or fasting plasma glucose (FPG) <7.0 mmol/l or <126 mg/dl) at the last clinical visit within the preceding one year among those eligible to be included in the analysis *instructions on specific situations* ***Referred-** If the patient has been referred to a higher-level care facility and BS status not known during the reporting period of one year- consider the personas having uncontrolled glycaemia* ***Transferred-** If the patient has been transferred to another facility, classify as controlled or uncontrolled based on the last known status prior to transfer*	As described above, classifying patients as having controlled/ uncontrolled glycaemia is based on the definition and will be done by the person calculating the indicator using the records of each patient in the clinic registers. Those patients who have been referred to higher care and have not been referred/ reported back to the clinic B, are classified as uncontrolled as when the glycaemia status is unknown which does not warrant them to be classified as controlled. If the patient has been transferred to another facility the responsibility of continuing the treatment for the patient since the transfer is not with clinic B. Thus, it is allowed to classify the patient as controlled or uncontrolled based on the last known status prior to transfer	In clinic B, a total 8 patients have been classified as having controlled glycaemia by applying the national criteria and also taking into consideration the specific situations. In the worked-out example they are marked as having controlled BP by an asterisk (*) The reasons for other 15 patients to be classified as not controlled are also indicated in the example for easy reference.
Denominator	Total number of people registered for diabetes treatment in the facility and eligible to be included in the analysis	The patients eligible to be included in the calculation are described above.	A total of 23 patients registered in the Clinic B constitute the denominator.
Method of calculation	Numerator ÷ denominator × 100		(8/23) *100 = 34.8%
Sources of data	Health facility patient registers, patient records		

Worked out example

The proportion of patients with controlled glycaemia among patients with diabetes in the clinic B 01/11/2022 to 31/10/2022

Details of clinic B

Was established in October 2021. Controlled glycaemia is defined by the National protocol defines as fasting plasma glucose (FPG) <7.0 mmol/l or <126 mg/dl

Clinic B Patient Register   **Reporting Period**

ID	Age	Sex	Enrolled	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	july-22	Aug-22	Sep-22	Oct-22	Nov- 22
1	67	F	Oct-21	7.2	6.7	7	MV	7.3	7	6.7	7.0	7.4	8.6	7.8	6.9	6.9*	
2	87	F	Oct-21	8.9	10.0	8.7	8.9	10.3	8.9	8.9	10.0	MV	7.0	6.4*	Mv	MV	
3	72	M	Oct-21	10.8	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	
4	52	F	Nov-21		9.8	MV	MV	10.7	9.8	8/.9	8.7	9.7	9.8	10.9	10.3	10,.5	
5	60	F	Nov-21		10.3	9.9	8.7	8.9	10.0	8.7	8.9	10.3	8.9	8.7	9.8	9.6	
6	46	F	Nov-21		7.3	7	6.7	7.0	7.4	8.6	7.8	6.9	7.3	7	6.7	7.0	
7	61	M	Dec-21			8.9	10.0	8.7	8.9	10.3	8.9	8.9	10.0	MV	7.0	6.4*	
8	72	M	Dec-21			10.3	9.9	8.7	8.9	10.0	8.7	MV	7.0	7.4	8.6	6.8*	
9	75	F	Jan-22e				8.7	MV	6.7	7.0	7.4	9.8	8.7	9.8	8.7	MV	
10	61	F	Jna-22				8.9	6.7	7.0	MV	7.0	7.4	8.6	7.8	7.0	7.4	
11	72	M	Jan-22				MV	MV	MV	MV	MV	MV	MV	MV	MV	MV	
12	75	M	Feb-22					7.0	7.4	8.6	10.3	9.9	8.7	8.9	10.0	7.7	
13	60	F	Feb-22					10.3	8.9	6.7	7.0	7.4	6.7	MV	10.3	6.9*	
14	46	F	Feb-22					8.9	10.0	8.7	8.9	10.3	8.9	8.9	10.0	6.7*	
15	79	F	Mar-22						10.3	8.9	8.7	9.8	Referred	NA	NA	NA	
16	62	M	Mar-22						8.7	8.9	10.3	8.9	10.3	6.7	10.3	8.9	
17	72	M	Apr-22							8.8	Mv	9.9	6.7	8.9	10.0	8.7	
18	52	F	May-22								10.3	8.9	7.9	Transferred	NA	NA	
19	60	F	May-22								8.9	MV	MV	8.7	8.9	6.3*	
20	46	M	May-22								10.3	9.9	8.7	8.9	Mv	MV	
21	79	F	Jun-22									8.9	10.0	8.7	8.9	6.3*	
22	60	M	Jul-22										8.7	8.9	10.3	8.9	
23	46	M	Ju;y-22										10.0	8.7	8.9	10.0	
24	61	F	Aug-22											8.9	10.0	8.7	
25	72	M	Aug-22											Mv	8.7	9.8	
26	75	F	Sep-22												8.7	8.9	
27	79	m	Oct-22													8.9	

*Patients with controlled glycaemia

MV- missed visits

NA- Patient not available

Reasons for exclusions

ID 24-27	New registrants- registered to Clinic B as new patients during in the months of August 2022-October 2022
ID 3	Lost to follow up -not visited the clinic even once during the period of one year (1 Nov 2021 to 31 October 2021)
ID 11	Lost to follow up -not visited the clinic even once during the period of one year (1 Nov 2021 to 31 October 2021)

Reasons for classifying as not controlled

ID 4	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 5	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 6	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 9	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 10	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 12	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID15	Referred to a higher-level care facility and glycaemia status not known during the reporting period of one year
ID 16	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 17	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 18	Patient has been transferred to another facility during the reporting period and the available report prior to transfer shows that glycaemia is uncontrolled
ID 20	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 22	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia
ID 23	Last available fasting blood glucose levels with the period of reporting indicate uncontrolled glycaemia