Effective Diagnosis, Treatment, and Monitoring of Hypertension in Primary Care

Participant Guide

6

Assessment: Turning Data into Actionable Intelligence

Content should be adapted with country-specific information prior to use. Red text denotes places where modification may be required. Guidance on how to adapt the training is provided in the Course Overview.

Expected competency on completion of session:

Ability to manage, analyse, and interpret data and prepare periodic performance reports.

Target users:

Facility managers (including those tasked with data management)
District supervisors
Higher-level staff

In this session, you will learn about:

- Data management and checking data for accuracy
- Data analysis and interpretation
- Performance reports for monitoring and feedback.

6.1   Effective assessment

Effective assessment hinges on three key factors:

1. High-quality, consistent data collection and management
2. Accurate, ethical data analysis and interpretation
3. Dissemination of findings for improved implementation and decision-making.

Data management includes well-organized data tracking, regular data quality checks or audits, and documented data cleaning. Good data analysis goes beyond accurate calculations to include actionable interpretation of the analyses. Incorporating data analyses into a feedback loop allows for incremental, real-time programme improvement, as well as for future decision-making about budget, scale-up or replication.

There are three levels of reporting for hypertension diagnosis, treatment, and monitoring data. While sample reports have been provided throughout the training, report templates may be altered or enhanced to focus on areas of particular interest at the country or district level.

1.   Health facility-level reporting

This occurs at least quarterly and includes outputs that demonstrate progress toward intended long-term outcomes. For example, reports might include a quality-control review of data for 5 to 10 individual patients. They may also include information on the adequacy of resources available to the facility. Tools for facility-level reporting include:

*   Treatment cards, which are the main data source for facility-level reports
*   Facility registers, which are a repository for data from the patient treatment cards and can provide the data for quarterly reports
*   Quarterly facility-level reports, which track the number of patients enrolled and followed in a given quarter, and demonstrate progress toward key indicators.

2.   District- or regional-level reporting

This reporting includes monitoring results compiled quarterly and annually. Comparing reports from health facilities helps to highlight strengths (so facilities can learn from each other's success) and identify struggling facilities (so that they can receive the support they need for greater success). The district-level quarterly report summarizes facility-level quarterly data and looks at progress toward outcomes indicators made since previous quarterly reports

3. National-level reporting

This occurs annually. In addition to looking across facilities at their annual outputs and progress toward long-term goals and objectives, national-level reporting observes trends over time and elaborates on district-level performance on monitored activities. National-level reports can draw from community-level surveys such as STEPS to identify national trends and set national targets for hypertension control.

When data is communicated effectively at each of these three tiers, real-time information can guide mid-course adjustment of hypertension care and management programmes. These feedback loops foster programme efficiency by identifying and addressing problems before they become too large as well as by highlighting incremental successes that reinforce effective strategies. Assessing the general direction of the data and looking for patterns and trends over time has the potential both to reveal areas of concern and to provide opportunities for learning from high performers. Articulating this information well and to the appropriate audiences can inform local, subnational, and national decision-making.

6.2 Data-management tasks

For each data management task at the facility and district or regional levels, it is important to identify up front, and have consensus on, who is responsible for the task. It is also essential to identify how the collection, analysis, management, and communication of data will flow when there are multiple people responsible for different tasks along the way. Identifying who is responsible for what should occur before data collection begins and should be incorporated into the supervision of data management. Assignments should be revisited at least twice a year in case adjustments are needed. Guidance on facility-level data management was provided in session 5. Recommendations for district or regional level data management include the following actions:

Maintain a spreadsheet in Excel for tracking reports received from facilities. This will ensure complete data for eventual analysis and reporting.

The tracking spreadsheet should include, at a minimum:
- facility name
- date report anticipated
- date report received
- follow-up column for action taken on missing reports.

Identify follow-up action for missing reports and synchronize follow-up action with tracking spreadsheet.

Follow-up action should include:

- date of communication with facility

- name of person contacted

- anticipated date for receiving missing report

- resolution.

Make a monthly check for completeness, credibility, and consistency in a systematic way in each report received to pave the way for quarterly compilation and analysis.

Completeness:

- Does each report contain all of the data points for each patient?

- Where data is missing, is there an explanation in the report?

Credibility:

- How do you know that the data is reliable and of high quality? (Consider conducting supervisory data quality checks or data audits; see Session 7.)

- How can you ensure that data is presented with good intent and that there is no attempt to mislead the reader as to the data's implications?

Consistency:

- Is data consistent between health facility registers and quarterly reports?

- Is data displayed in a uniform way across clinics, reports, and points in time (e.g. same unit of analysis)?

6.3 Data analyses and interpretation

In line with the *Systems for Monitoring* module for the HEARTS technical package, data is first collected at the facility level. Data is then aggregated at the district or regional level, analysed, and interpreted for use. This aggregated data provides the basis for a robust monitoring system and for the development of progress and outcomes indicators.

Calculate key indicators and analyse

Quarterly indicators:

Indicator 1.a:

- The number of hypertensive patients registered cumulatively and per quarter.

- This indicator is reported as:
  - The number of patients in each facility for whom hypertension treatment was initiated in the last quarter, and
  - The cumulative number since the outset of the programme.

This monitoring indicator demonstrates the volume of hypertensive patients with confirmed diagnoses at the facility level.

Indicator 1.b:

- The proportion of patients whose blood pressure is controlled 6-9 months after the initiation of treatment
- Calculated and reported quarterly as:

$$\frac{\text{Cumulative number of registered patients with controlled (<140/90) blood pressure 6–9 months after the initiation of treatment}}{\text{Total number of registered patients in the facility}}$$

This outcome indicator demonstrates patient adherence and programme model efficacy at the facility level.

Indicator 1.c:

- The proportion of participating facilities in the district whose 6–9 month control rate is <50%, 50–70%, or >70%.
- The proportion of participating facilities:
    o with 6–9 month control rate <50%
    o with 6–9 month control rate 50%–70%
    o with 6–9 month control rate >70%

First, compute the 6-9 month control rate for each participating facility.

Then, calculate the total number of participating facilities.

Finally, calculate the proportion of participating facilities in the jurisdiction whose control rate falls into each tier: <50%, 50–70%, >70%.

This monitoring indicator captures patient adherence and programme model efficacy across facilities.

Table 1: Sample chart showing district- or regional-level quarterly control rates

	Facility control rate <50%	Facility control rate 50%–70%	Facility control rate >70%
Facility A	0	0	1
Facility B	1	0	0
Facility C	0	1	0
Facility D	0	1	0
Total participating facilities in district	1/4 (**25%**)	2/4 (**50%**)	1/4 (**25%**)

Annual indicators:

Indicator 2.a:

- The proportion of health facilities in a district participating in reporting for programme.

- Calculated and reported annually as:

$$\frac{\text{Number of health facilities participating in and reporting on the programme}}{\text{Total number of health facilities in a district}}$$

This process indicator represents programme breadth and facility engagement.

Table 2: Sample chart showing proportion of facilities participating in a district

	Number of facilities participating in programme	Total number of facilities in district	Indicator: proportion of facilities participating in programme
District A	39	56	70%
District B	25	28	89%
District C	28	43	65%

Indicator 2.b:

- The proportion of facilities in the district whose annual blood pressure control coverage is <10%, 10–30%, or >30%.

- The proportion of facilities in the district:
  - with annual control rate <10%
  - with annual control rate 10%–30%
  - with annual control rate >30%

First, compute the annual control rates for each participating facility and identify the annual control rates for non-participating facilities.

Then, calculate the total number facilities in the jurisdiction.

Finally, calculate the proportion of facilities in the jurisdiction whose control coverage falls into each tier: <10%, 10–30%, >30%.

This outcome indicator captures the extent and longevity of programme results.

Table 3: Sample chart showing district or regional level annual control rates

	Annual control rate <10%	Annual control rate 10%-30%	Annual control rate >30%
Facility A	1	0	0
Facility B	0	1	0
Facility C	0	1	0
Facility D	0	0	1
Total facilities in district	1/4 (**25%**)	2/4 (**50%**)	1/4 (**25%**)

Compare data and interpret

Benchmarking is a performance measurement tool. Comparing actual performance data to a standard, or benchmark, is a means of assessing the progress and success of a programme.

Step 1: Set a benchmark for each indicator. Choose a threshold that is appropriate and realistic for your programme and for its goals. If you have access to performance data from similar programmes or from facilities from before the programme, you can use this as a starting point for choosing your own benchmark.

Step 2: Analyse your data against the benchmarks you have selected. Include in your analysis the number/percentage of facilities achieving blood-pressure control against benchmarks you have selected.

Table 4: Sample indicator benchmark chart showing facility performance compared to benchmark of 70%

	Number of patients registered 6–9 months ago	Number of patients with controlled BP	Percentage of patients with controlled BP
Facility A	150	80	53%
Facility B	200	160	80%
Facility C	90	70	78%
Facility D	120	45	38%
Facility E	180	150	83%
Facility F	120	75	63%
Facility G	100	70	70%

Step 3: Identify the top five and bottom five facilities based on their performance against the benchmarks.

Step 4: Monitor trends across time

Comparing trends for key indicators across time can be an effective monitoring tool for observing a facility's overall performance. While looking at reported data quarter by quarter allows the analyst to see the facility's progress at a given point in time, charting and/or graphing that facility's trends over time can serve as an indication of the overall effectiveness of the programme.

Table 5: Sample chart depicting trends over time

	Percentage of patients with controlled BP (2 quarters ago)	Percentage of patients with controlled BP (previous quarter)	Percentage of patients with controlled BP (reporting quarter)	Trend
Facility A	53%	60%	65%	Improving
Facility B	80%	82%	83%	Improving
Facility C	55%	60%	55%	Fluctuating
Facility D	78%	75%	70%	Declining
Facility E	38%	45%	55%	Improving

In the chart above, the number of Facility A patients with controlled blood pressure is increasing from left to right, or over time. Facility A is improving.

Step 5: Interpret data analyses and plan for implementation adjustments

Use the benchmarks and the trends over time together to identify challenges. For each facility level indicator falling short of the benchmark, determine:

- Whether the shortfall is substantial enough that it signals a problem that needs to be addressed

- Whether the shortfall is a trend over time or a one-time occurrence

- Whether the facility is struggling to meet benchmarks for most or all of its indicators, or just the one

- Whether you have any other information to help you identify the cause of the facility's struggles

- Whether there are corrective courses of action you can recommend.

6.3 Reports and feedback

Once you have interpreted your data and planned for any adjustments to programme implementation or to data collection, you are ready to communicate your conclusions in the form of a report. Reports are important to multiple stakeholders, including beneficiaries and top decision-makers. It is important to tailor the length and style of your report to the audience you intend it for. It is also important to choose the right

communication medium for the report or feedback. For example, feedback to facilities based on their progress toward benchmarks or their patterns over time might be better shared in graphic form than in chart form. Clarity of language is also important. When in doubt, the plainer the language, the better. Session 5 provided guidance on completing quarterly and annual reports, and session 7 will provide guidance on supervisory visits and constructive feedback.

> **TIP**
>
> It can be difficult to set realistic benchmarks at the outset of a programme. Consider using the first quarter's data as a means of determining an appropriate benchmark.

EXERCISE 1:
SETTING BENCHMARKS

Choose two of the key indicators from section 6.3 above. Select a benchmark for each that is relevant to your programme. Practise creating a chart for tracking whether facilities meet the benchmark you have set.

EXERCISE 2:
CHARTING A TREND OVER TIME

Choose one of the key indicators you benchmarked in Exercise 1. Create a chart allowing you to track that indicator's trend over time for five imaginary facilities.

Source

- HEARTS technical package: Systems for monitoring module. Geneva: World Health Organization; 2016.