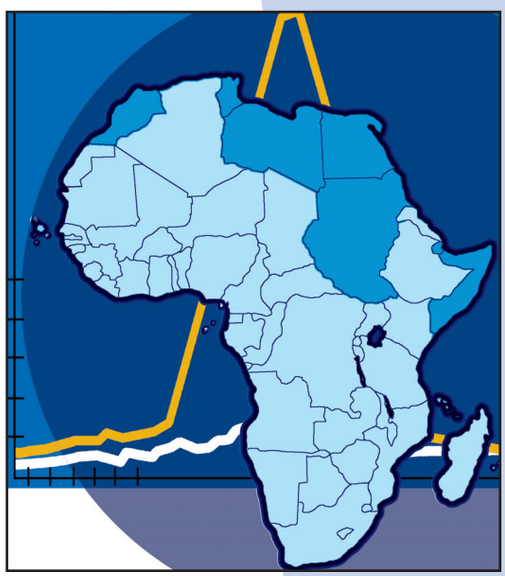
LIMITED CIRCULATION : FOR REVIEW ONLY

GUIDE FOR THE USE OF CORE INTEGRATED DISEASE SURVEILLANCE AND RESPONSE INDICATORS IN THE AFRICAN REGION

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR AFRICA

DIVISION OF COMMUNICABLE DISEASE PREVENTION AND CONTROL

Communicable Disease Surveillance and Response (CSR)



WORLD HEALTH ORGANIZATION

CDC
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INTRODUCTION

1.0 Introduction

Indicators are variables that help to measure changes over time. They are direct or indirect measures of an event or condition. Indicators do not assess an entire program or health status, but they can signal the current status or situation.

Indicators are expressed as simple counts, proportions, rates or ratios. They are classified as input, process, output and outcome indicators, and are used for obtaining monitoring and evaluation or impact measurements. Table 1 shows particular classifications of indicators for monitoring and evaluation.[1]

Table 1: Classification of monitoring and evaluation indicators

Indicators used for monitoring		Indicators used during evaluation	
Indicator classification	*Example: what it measures*	*Indicator classification*	*Example: what it measures*
Input	Resources	Output	Results
Process	Activity results	Impact	Reduction in mortality

Interpreting indicator results should take place in context with other information such as supervisory reports, special studies or research, and resources used for implementation. The results should be used to focus action on either improving a situation or ensuring its ongoing success.

This guide contains:

- A list of the core IDSR indicators
- The purpose for each indicator
- Definitions of the denominator and numerator for each indicator
- Recommended sources of data for each indicator
- Recommended indicators for each level of the health system
- Practical tools for implementing them in a national system.

The indicator guide may be adapted to meet national priorities for communicable disease surveillance programs. For example, measurement of the IDSR indicators can be integrated into data management tools, periodic assessments and evaluations, and routine supervisory visits for other disease control and prevention programs such as Expanded Programme on Immunization (EPI), Malaria, and Integrated Management of Childhood Illness (IMCI.).

[1] Lippeveld, T., Sauerborn, R., and Bodart, C. Design and implementation of health information systems. World Health Organization. Geneva. 2000

2.0 Developing the IDSR indicators

Integrated disease surveillance and response (IDSR) seeks to ensure that effective and functional systems are available at each level of the health system within all Member States in the African region. These systems will generate information for timely action thereby contributing to the reduction of mortality, disability, morbidity, and determinants of disease.

In order to measure progress with implementation of this vision, the Second Integrated Disease Surveillance and Response Task Force established a multi-agency working group to develop and recommend a set of core indicators for monitoring progress with implementation of IDSR in the African region. The working group members include the WHO Regional Office for Africa (AFRO), WHO Headquarters (WHO-HQ), and the U.S. Centers for Disease Control and Prevention (CDC).

The working group was asked to develop and test a set of ten core indicators for monitoring national implementation and five indicators for application by AFRO at the regional level. The Third Integrated Disease Surveillance and Response Task Force adopted the recommended core IDSR indicators for initial implementation at their meeting in 2002. In 2003, the Fourth Integrated Disease Surveillance and Response Task Force adopted a finalized list.

Valid indicators are sensitive, specific, objective, measurable and relevant. It is not easy to find indicators that meet all these criteria. Therefore, a compromise was reached by the Regional IDSR indicator working group to select a list of core indicators that would focus on the district level and relate to specific goals and objectives of the IDS strategy. The indicator working group assumed that national programs would add additional relevant indicators to the list of core IDSR indicators to meet national objectives or specific interests.

3.0 Purpose of the IDSR indicators

Monitoring activities by using indicators is a continuous process. Each level of the surveillance system should regularly calculate the measurements of the indicators and use the results for action. Three suggested areas for using the indicator measurements include the identification of problems, measurement of progress, and advocacy with higher levels.

Identify problems

One of the most practical uses of the indicator results is to identify problems locally and take action to improve performance of the surveillance system and quality of the data for public health action. District, provincial and national surveillance officers should periodically examine their routine surveillance data, calculate the indicators and compare

results between previous months or quarters. The results should be used to take mid-term actions so that the end-of-year results will show the desired outcomes for that year. If the result is below a set target and a problem is identified, find out what caused the problem and identify possible solutions.

Use during meetings to report on progress towards targets
Another use of the indicators is to regularly include the indicator results on the agenda for routine meetings of the national IDSR advisory board or task force, and local and national epidemic preparedness meetings. Local supervisory meetings at district and provincial levels should routinely review indicator performance in their catchment areas. Some disease control programs require indicators to certify attainment of specific disease reduction programs, and the IDSR indicators may contribute to the data needs for these programs.

Advocate with higher levels
Similarly, indicator results can be used to advocate with higher level officials and supervisors as well as other stakeholders for resource prioritization. Indicator measurements can also be used to show progress with the improved quality of the surveillance system.

4.0 Objectives of this guide

This guide is intended primarily for:

1. National epidemiology and surveillance officers
2. National, provincial, and district-level communicable disease control managers and supervisors
3. Provincial and district-level surveillance officers
4. District-level health management teams
5. National training officers.

The information in this guide should be used together with the recommendations and tools in the *Technical Guidelines for Integrated Disease Surveillance and Response in the African region.* Using the guide should help national health staff to:

1. Strengthen national and local monitoring efforts to assess progress towards establishment of an improved, integrated surveillance system.
2. Standardize the use of surveillance core indicators throughout the national system.
3. Standardize reporting of measurements on progress at each level of the surveillance system.

***Note**: In many countries, the national IDSR technical guidelines contain additional indicators that address the functions of surveillance and response appropriate for health*

facilities. In adapting this guide, the national IDSR coordinating body may consider the core IDSR indicators as the minimum number of indicators for routine monitoring of national and subnational IDSR activities.

5.0 The IDSR core indicators

These are the IDSR core indicators adopted in 2003 by the 4th Annual WHO-AFRO Task Force on Integrated Disease Surveillance and Response.

1. Proportion of health facilities submitting weekly or monthly surveillance reports on time to the district level.

2. Proportion of districts submitting weekly or monthly surveillance reports on time to the next higher level.

3. Proportion of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance which were reported to the district using case-based or line listing forms.

4. Proportion of *suspected outbreaks*[2] of epidemic-prone diseases notified to the next higher level within two days of surpassing the epidemic threshold.

5. Proportion of districts with current trend analysis (line graphs) for selected diseases.

6. Proportion of reports of investigated outbreaks that include analyzed case-based data.

7. Proportion of investigated outbreaks with laboratory results.

8. Proportion of confirmed outbreaks with a nationally recommended public health response.

9. Case fatality rates for outbreaks of priority diseases.

10. Attack rates for outbreaks of epidemic-prone diseases.

11. Proportion of epidemics detected at regional and national levels through analysis of surveillance data from districts and that were missed by the district level.

[2] *Prior to confirmation during an outbreak investigation, all reported outbreaks are "suspected outbreaks." Indicator 4 refers to a sub-set of specific diseases in the IDSR strategy: epidemic-prone diseases. These diseases have program-specific thresholds that trigger a series of actions to identify and confirm the pathogen.*

6.0 Using the core IDSR indicators

6.1 Review the generic indicators

Understand the IDSR indicators. Review them starting in Section 7.0 of this guide. For each indicator, you will find information about the:

- Purpose of the indicator
- Numerator
- Denominator
- Sources of data
- Frequency of calculating the indicator
- The target to achieve for each indicator
- How to calculate the indicator
- Interpretation of results for the indicator

Adapt the indicators and the tools (including this guide) to correspond with the tiers of the national health system structure. Add relevant indicators if you will need more indicators to monitor IDSR implementation at different levels.

6.2 Confirm that the sources of data are available

Each level should make sure that the level it supports should have the following sources of data available.

Table 2: Sources of information for measuring indicators

Form	Health facility	District	Provincial	National
Monitoring chart for tracking indicators *(Sample charts are in Annex 2 and Annex 6 of this guide.)*	X	X	X	X
Outpatient register	X			
Inpatient register	X			
Health facility reporting forms	X			
Routine summary reporting forms	X	X	X	X
Case-based and/or line listing reporting forms	X	X	X	X
Outbreak investigation report	X	X	X	X
Log of suspected outbreaks and rumors	X	X	X	X
Supervisory visit reports from district and/or province	X	X	X	X
Laboratory reports received	X	X	X	X

6.3 Coordinate tasks for calculating and analyzing indicators

Coordinate the tasks for calculating and analyzing indicators. Specify what the indicator will measure and assign responsibility to specific levels or focal persons for monitoring each task. Adapt this guide to reflect the procedures that the national IDSR task force agrees upon for collecting and analyzing indicator data at each level of the national health system. For example, decide:

- Which information should be collected at each level?
- What analysis should take place at each level?
- Who will be responsible for taking action on the indicator results?
- How should the results be transferred to the next level?
- How will feedback be provided on indicator results?

6.4 Introduce the indicators into the national health system

Plan an activity to introduce the indicators into the national system. Decide whether this will be done as part of the periodic surveillance review meeting, a series of on-the-job trainings at each province or district, or through supportive supervisory activities. Be prepared to explain the role of indicators in the system, what they will measure and how they will benefit each level in practical terms.

Assemble the indicators and the related tools into a packet for discussion with the national IDSR task force, public health surveillance coordinating committee and other public health authority.

6.5 Improve reporting from "silent" districts

Make it a priority to identify and support districts that are "silent" areas. These are called "silent" areas because they do not turn in routine surveillance reports suggesting that surveillance activities may not be taking place at all. If a district is not sending its summary reports on time, the provincial and national indicator results will be affected. Find out what problems the district is having and help find solutions. Support and extra attention may be needed over time to improve reporting from this district.

6.6 Calculate indicators and record the results

Periodically (for example, each month or quarter) review and calculate the indicators. A monitoring chart can help to track performance of the indicators over time. Sample charts are in the Annexes to this guide. Please refer to Annex 2 (Chart for Monitoring Performance of IDSR Indicators at Health Facility Level) and Annex 6 (Chart for Monitoring Performance of IDSR Indicators at District, Provincial and National Levels).

Indicators should be monitored and calculated by:

1. The on-site supervisor either monthly or quarterly, depending on the indicator, and

2. The next-level supervisor when evaluating performance of the system at the end of the year.

Each level should analyze the results for its own indicators.

6.7 Analyze and interpret the results

Review the result of each indicator and decide whether progress for each indicator is on, below or above the target. Consider what has contributed to the result. Refer to the algorithm on the next page.

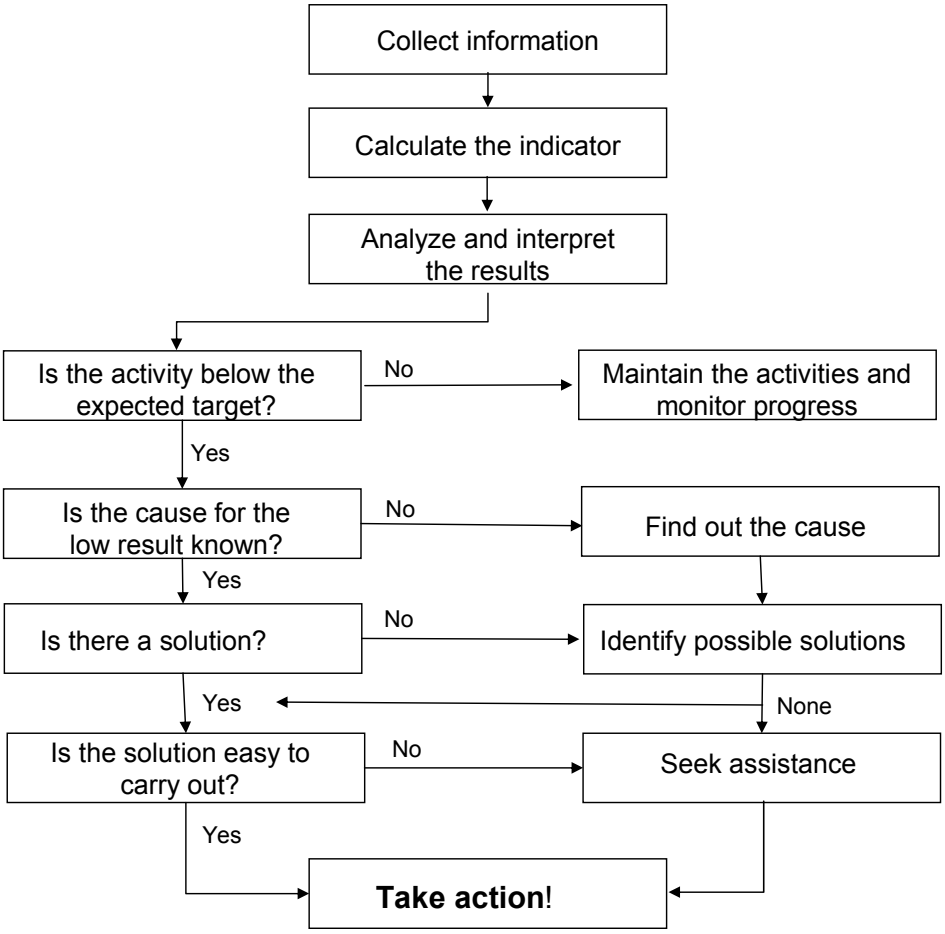
If results are on or above the expected target, identify what is working well in the system. Continue to reinforce and improve the activities that led to progress.

If results are below the expected target, determine what is causing the problem and identify the best solutions. Some solutions will be easy to identify and carry out. If the solution is not easy to determine, or if additional coordination, support or resources are required, seek assistance from higher level supervisors and relevant disease control programs. Find a solution for every problem identified.

6.8 Take action

Take action to implement the solutions as soon as possible so that performance on the indicator will improve in the next period.

Fig 1: Measuring IDSR indicators



IDSR INDICATORS

IDSR INDICATORS

7.0 IDSR Core Indicators

Indicator 1
Proportion of health facilities submitting weekly or monthly surveillance reports on time to the district level

Are reports arriving at the district? Are they arriving on time?

Purpose
Each week or month, depending on national policy, the health facility should report the total number of cases and deaths for the priority communicable diseases that occurred during the last week or month.

Indicator 1 measures whether reporting from health facilities to the district level is taking place and if it is taking place on time. Where possible, data about the priority diseases is reported on a single integrated form except in countries which have adopted the use of more than one form.

Numerator
The total number of health facilities that submitted weekly or monthly surveillance reports on time to the district in a given time period.

Denominator
Total number of health facilities expected to submit weekly or monthly surveillance reports to the district during the same time period.

Data Sources
1. Monthly (or weekly) health facility IDSR summary reporting forms.
2. District record of timeliness and completeness of monthly or weekly reporting or monitoring chart.

Frequency
Monitor this indicator either weekly or monthly, according to national policy.[3]

Target
80% of the health facilities should report their summary reports on time to the district.

Calculation

Total number of health facilities that submitted weekly or monthly surveillance reports on time in a given time period	÷	Total number of health facilities expected to submit weekly or monthly surveillance reports during the same time period	X 100	= ___ %

[3] Submit the report on time even if all the health facilities have not yet reported. Late reports may be submitted separately as they become available.

Interpretation of results for Indicator 1

If the results are LOWER than the target:

Possible causes:

- Health facilities lack forms.
- Health staff does not know how to use the forms or how to report the weekly or monthly totals.
- Staff does not receive feedback, so they are not convinced that they should report.
- Lack a fast means of sending report.
- Others:
    - The deadline is not reasonable.
    - The district team does not ask for the data.
    - A surveillance focal point has not been designated or replaced at the facility.
    - Supervisor does not follow up when reports are late.
    - There is a problem with services for mail, transport or delivery.

If results are ON target or HIGHER than the target:

Possible causes:

- Uninterrupted, reliable supply of forms at health facilities.
- Staff knows how to complete the forms.
- Staff knows to whom and how to report weekly or monthly totals.
- A surveillance focal point has been designated at each level.
- Feedback from next level has been provided reinforcing with health facility staff the value of reporting on time.
- The supervisor or facility team leader has asked for the data from the health facility.

Indicator 2
Proportion of districts submitting weekly or monthly surveillance reports on time to the next higher level

Are reports arriving at the next higher level? Are they arriving on time?

Purpose
This indicator is used by provincial and national levels to measure the timely submission of summary data reports from the district to the next higher level. Summary reporting is normally submitted weekly or monthly according to national policy. IDSR reports can be submitted on integrated monthly summary reporting forms.

Note: *Data from the districts about timely reporting may show that the health facility reported on time, but the reported information is not reliable or complete. Analysis of timely reporting should consider the quality of the data that is received. When the district or next higher lever supervisor detects a problem, take action to support the area to improve its quality of reporting.*

Numerator
Total number of districts that submitted weekly or monthly surveillance reports on time to the next higher level in a given time period

Denominator
Total number of districts expected to submit weekly or monthly surveillance reports to the next higher level during the same time period.

Data Sources
1. Monthly (or weekly) district IDSR summary reporting forms.
2. District record of timeliness and completeness of monthly or weekly reporting.

Frequency
Monitor this indicator either weekly or monthly, according to national policy.[4]

Target
80% of the districts report summary reports on time to the next level.

Calculation

Total number of districts that submitted weekly or monthly surveillance reports on time to the next level in a given time	÷	Total number of districts expected to submit weekly or monthly surveillance reports to the next higher level during the same time period	X 100	= ___ %

[4] Submit the report on time even if all the districts have not yet reported. Late reports may be submitted separately as they become available.

Interpretation of results for Indicator 2

If the results are LOWER than the target:

Possible causes:

- Districts lack forms.
- District staff does not know how to use the forms or how to report the weekly or monthly totals.
- Staff does not receive feedback, so they are not convinced that they should report.
- District health office delayed sending the report until all the facilities reported.
- Others:
    - The deadline is not reasonable.
    - The team at the next highest level does not monitor reporting of surveillance data.
    - A surveillance focal point has not been designated or replaced at the district.
    - Supervisor does not follow up when reports are late.
    - There is a problem with services for mail, transport or delivery.

If results are ON target or HIGHER than the target:

Possible causes:

- Uninterrupted, reliable supply of forms at the district or next higher level.
- Staff knows how to complete the forms.
- Staff knows to whom and how to report weekly or monthly totals.
- Feedback from next level has been provided reinforcing the value of reporting on time.
- Staff report whatever has been sent in on time. Late reports are added to the following month's (or week's) report.

Indicator 3
Proportion of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance which were reported to the district using case-based or line-listing forms

Is health staff using case-based reporting forms or line lists to report information for those diseases recommended for case-based surveillance?

Purpose
This indicator measures the reporting of surveillance data with detailed information required for case-based analysis. In most countries, diseases selected for case-based surveillance include diseases targeted for elimination (neonatal tetanus, leprosy), eradication (polio, dracunculiasis) and measles, yellow fever, and other viral hemorrhagic fevers.

Numerator
Total number of cases of diseases targeted for elimination, eradication, and any other diseases selected for case-based surveillance reported to the district using case-based or line listing forms in a given time period.

Denominator
Total number of cases of diseases targeted for elimination, eradication and any other diseases suspected priority diseases selected for case-based surveillance reported to the district during the same time period.

Data Sources
1. Case-based or line-listing forms submitted to the district from the health facilities.
2. Monthly health facility IDSR summary reporting forms

Frequency: Monitor this indicator at least once each quarter.

Target: 80% of the cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance reported to the district on a case-based or line-list form.

Note: *The national program should adapt the guidance for this indictor to specify all of the priority communicable diseases selected for case-based surveillance in the national IDSR plan.*

Calculation

Total number of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance reported to the district using case-based or line listing forms in a given time period	÷	Total number of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance reported to the district during the same time period.	X 100	= ___ %

Interpretation of Indicator 3

If the results are LOWER than the target:

Possible causes:

- Staff does not understand or appreciate the purpose of case-based reporting.
- Staff is not trained on the list of diseases selected for case-based surveillance.
- Staff does not know how to use or complete the reporting form.
- The form is too complicated to complete.
- Staff may not be motivated to report case-based information.
- No forms are available.
- There are competing activities taking attention away from the activity.
- Staff receives no incentives or recognition for desired performance.

If the results are ON target or HIGHER than the target:

Possible causes:

- Staff is motivated to report case-based for diseases requiring case-based information.
- Staff has a reliable supply of forms.
- Staff receives timely feedback.
- Staff knows how to complete the forms.

Indicator 4
Proportion of suspected outbreaks of epidemic-prone diseases notified to the next higher level within two days of surpassing the epidemic threshold

Is staff regularly reviewing data to identify thresholds and detect epidemics?

Purpose
Prior to their confirmation, all reported outbreaks are "suspected outbreaks."

The term "suspected outbreak" in this context refers to a sub-set of diseases in the IDS strategy: the epidemic-prone diseases. These diseases have specific thresholds that trigger a series of actions when an epidemic is suspected. Alert thresholds suggest that further investigation is needed to clarify and confirm the possible outbreak. When the alert threshold is crossed, health staff intensifies their attention to the data and request laboratory confirmation. Investigation is undertaken to gather more information. An epidemic threshold triggers a definite response.

When the epidemic threshold is crossed, an outbreak is suspected and action is taken to identify and confirm that the outbreak is due to a specific pathogen. For example, one suspected case of yellow fever is a suspected outbreak. The suspected outbreak triggers an investigation including laboratory confirmation. Similarly, when surveillance data shows that an alert threshold has been crossed for meningococcal meningitis, health staff conducts an outbreak investigation to confirm whether the outbreak is due to meningococcal meningitis.

Numerator
Total number of suspected outbreaks during the last year, quarter or six months notified to the next higher level within two days of surpassing the epidemic threshold in a given time period.

Denominator
Total number of suspected outbreaks notified to the next higher level during the same time period.

Data Sources
1. District log of suspected outbreaks and rumors.
2. District analysis book or other routine data analysis tool.

Frequency
Monitor this indicator at least once each quarter.

Target
80% of suspected outbreaks of epidemic-prone diseases notified to the next higher level within 2 days of surpassing the threshold for a suspected epidemic.

Calculation

Total number of suspected outbreaks notified to the next higher level within 2 days of surpassing the threshold for a suspected epidemic in a given time period	÷	Total number of suspected outbreaks notified to the next higher level during the same time period	X 100	= ___ %

Interpretation of results for Indicator 4

If the results are LOWER than the target:

Possible causes:

- Health staff lacks analytical knowledge and skills or tools to detect and suspect outbreaks of epidemic-prone diseases.
- Health staff may not know the threshold values or how to interpret them.
- Staff lacks awareness of the usefulness of analysis and interpretation of data.
- Staff is not trained to analyze data for detecting suspected epidemics.
- Staff has no means for notifying the next level in a timely manner.
- Lacked time to analyze surveillance data.

If the results are ON target or HIGHER than the target:

Possible causes:

- Health staff has knowledge and skills to detect suspected outbreaks.
- Staff is aware of the threshold values and the actions that should take place when the threshold is reached.
- Staff has reliable means for timely notification to the next level.
- Analyzed surveillance data is used for action.

Note: *Confirm whether the number of outbreaks (the denominator) is correctly measured to ensure that the number of outbreaks has not been underestimated. Verify that staff is using thresholds to suspect and report outbreaks.*

Indicator 5
Proportion of districts with current trend analysis (line graphs) for selected diseases

Are detailed analyses included in outbreak investigation reports?

Purpose
A "current trend analysis" refers to a displayed line graph that includes data for at least the last three months.

This indicator monitors the routine analysis of data at districts and, where feasible, also at health facilities. The national IDSR team will define the list of diseases that should be followed with line graphs at the district and health facilities. WHO-AFRO proposes that at a minimum, health facilities should prepare line graphs for:

- Weekly trend analysis of cerebrospinal meningitis, particularly in districts at high risk for meningitis or in meningitis belt countries
- Monthly malaria inpatient cases and deaths in children under 5 years of age, and
- Trends of malaria in children under 5 years of age

Numerator
Total number of districts with current line graphs for selected diseases in a given time period.[5]

Denominator
Total number of districts.

Data Sources
1. District analysis book
2. IDSR summary monthly reporting form

Frequency
Monitor this indicator at least each month.

Target
80% of the districts should have current trend analysis (line graphs) for the selected diseases.

Calculation

Total number of districts with current line graphs for selected diseases in a given time period	÷	Total number of districts	X 100	= ___ %

[5] Monitor line graphs for at least malaria - and meningococcal meningitis in districts at high risk for meningitis.

Interpretation of results for Indicator 5

If results are LOWER than the target:

Possible causes:

- Staff is not motivated to appreciate the value of data analysis.
- Staff is not trained on data analysis and interpretation of surveillance data.
- Staff lacks analysis skills, tools and resources.
- Staff is too busy to have time to analyze the trend lines.
- There is too much information to analyze.
- Line graph is not a mandatory task to perform and failure to monitor trends is not seen as a deficient practice.

If results are ON target or HIGHER than the target:

Possible causes:

- Staff is trained on data analysis and interpretation. They are aware of threshold values and actions that should take place when thresholds are reached.
- Staff has the knowledge, skills, tools and resources to prepare up-to-date trend lines for selected diseases.
- Staff can link analyzed information to public health action.
- Staff uses the analyzed information to provide feedback to the lower levels.

Indicator 6
Proportion of reports of investigated outbreaks that include analyzed case-based data

Are current trend analyses available for selected diseases?

Purpose
Information from investigated outbreaks should include case-based data that has been analyzed. The investigation report should include an epidemic curve, maps, person analysis tables, and line-lists or case-based surveillance forms. The case-based data will improve the quality of outbreak management by guiding program managers and decision makers through the detailed information they need to implement or improve disease control and prevention activities. The case-based data focuses on specific risk factors that may have led to the outbreak.

Numerator
Total number of outbreak investigation reports that are complete in a given time period. (A "complete" report includes the IDSR outbreak report includes an epi-curve, maps, person analysis tables, and line lists or case-based forms attached to the outbreak report.)

Denominator
Total number of outbreaks investigated during the same time period.

Data Sources
1. District log of outbreaks and rumors.
2. Outbreak investigation reports.[6]

Frequency
Calculate and monitor this indicator at least every quarter.

Target
80% of the reports for investigated outbreaks include case-based data that has been analyzed.

Calculation

Total number of outbreak investigation reports that are complete (the IDSR outbreak report includes an epi-curve, maps, and person analysis tables, and line-lists or case-based forms attached to the outbreak report) in a given time period	÷	Total number of outbreaks investigated during the same time period	X 100	= ___ %

[6] For example, the IDSR outbreak report has data analysis curves, maps, tables and line lists or case-based forms.

Interpretation of results for Indicator 6

If the results are LOWER than the target:

Possible causes:

- Staff does not appreciate the value of detailed information in selecting and implementing public health actions, therefore, staff is not providing or analyzing surveillance data.
- Staff does not have required forms or line-lists for reporting detailed information.
- Staff is not trained on how to collect, analyze and interpret disease or public health events during an epidemic.
- Staff does not receive feedback highlighting the application of case-based data during epidemics.

If the results are ON target or HIGHER than the target:

Possible causes:

- Staff has the knowledge, skills, tools and resources to prepare up-to-date trend lines for selected diseases.
- Staff uses the analyzed information to provide feedback to the lower levels.
- Staff can link analyzed information to public health action.

Indicator 7
Proportion of investigated outbreaks with laboratory results

Are suspected outbreaks confirmed with a laboratory result?
Is the laboratory network functioning as recommended?

Purpose
This indicator measures whether a laboratory network for confirming suspected outbreaks is functioning. A functional laboratory network involves coordination of activities to collect, handle, store, ship and process laboratory specimens so that specimens received at the reference laboratory are adequate and viable for testing.

The indicator addresses the link between using surveillance thresholds to detect an outbreak and triggering the steps to obtain laboratory confirmation results.

Numerator
Total number of outbreaks with laboratory results in a given time period.

Denominator
Total number of outbreaks requiring laboratory results for outbreak confirmation during the same time period.

Data Sources
1. District log of suspected outbreaks and rumors
2. Reports from the laboratory
3. Outbreak investigation reports

Frequency
Calculate and monitor this indicator quarterly and annually.

Target
80% of all investigated outbreaks with laboratory results.

Calculation

Total number of investigated outbreaks with laboratory results in a given time period	÷	Total number of outbreaks requiring laboratory results for outbreak confirmation during the same time period.	X 100	= ___ %

Interpretation of results for Indicator 7

If the results are LOWER than the target:

Possible causes:

- A functional laboratory network for confirming suspected outbreaks has not been established.
- Laboratory network established but procedures have not been communicated through the system.
- Staff does not appreciate the value of laboratory confirmation for outbreaks of particular diseases.
- Staff does not know how to – or lacks resources to - collect, handle, store, ship and process laboratory specimens.
- Inadequate samples arriving at referral labs.
- Problems with specimen collection, refrigeration for storage and transportation.
- Staff lacks means of communication to report results to the district or outbreak investigation team.
- Laboratory expert is not a member of the outbreak investigation team.

If results are ON target or HIGHER than the target:

Possible causes:

- There is a defined network (a continuum of actions) to support laboratory confirmation of suspected outbreaks of priority diseases.
- Staff appreciates and takes steps to obtain laboratory confirmation as recommended.
- Adequate supplies and equipment are available in appropriate locations for supporting the prompt and safe collection of specimens for confirming outbreaks of particular priority diseases.
- Staff receives feedback on performance of laboratory confirmation.
- Reporting of results is timely and accurate.

Indicator 8
Proportion of confirmed outbreaks with a nationally recommended public health response

Did a recommended response to a confirmed outbreak take place?

Purpose
This indicator measures the link of surveillance information to a response action and capacity to respond appropriately.[7]

Recommended responses for each priority diseases are designated in the national technical guidelines for integrated disease surveillance and response. Or refer to the response guidelines for disease-specific programs recommended by national policy.

Numerator
Total number of confirmed outbreaks with nationally recommended public health response in a given time period.

Denominator
Total number of confirmed outbreaks during the same time period.

Data Sources
1. Log of suspected outbreaks and rumors
2. IDSR outbreak investigation report
3. Report of supervisory visits
4. IDSR technical guidelines

Frequency
Calculate and monitor this indicator at least quarterly. At the end of the year, evaluate progress over the last 12 months.

Target
80% of confirmed outbreaks should have a nationally recommended public health response.

Calculation

Total number of confirmed outbreaks with a nationally recommended public health response in a given time period.	÷	Total number of confirmed outbreaks during the same time period.	X 100	= ___ %

[7] A "nationally recommended public health response" is one that is appropriate and timely for the confirmed cause of the outbreak.

Interpretation of results for Indicator 8

If the results are LOWER than the target:

Possible causes:

- Staff may not have been trained on how to appropriately respond to outbreaks.
- Staff lacked resources or the authority to respond appropriately
- Communication with epidemic response team or epidemic management committee was not adequate
- Epidemic preparedness plans were not funded.
- There are Inadequate or poor quality prevention activities in the district for particular diseases such as lack of health education for safe food preparation and access to clean water.
- Staff may not have resources to implement a recommended response.

If results are ON target or HIGHER than the target:

Possible causes:

- Staff values the use of data and know how to use for public health action.
- Supervision and feedback are present and their presence supports effective performance of the indicator.
- Adequate resources and supplies are available to carry out the selected response.
- There is regular communication between the epidemic response committee and the disease-specific program.

Indicator 9
Case-fatality rates for outbreaks of priority diseases

Was case management of appropriate quality?

Purpose
A "case fatality rate" is the percent of deaths from a specific priority disease that was responsible for the outbreak compared with the total number of cases.

This indicator measures the quality of case management, detection, and response. The measurement demonstrates the quality of surveillance activities for early detection and response to the outbreak. However, when there is delay in patients using the health facility for malnutrition and underlying diseases such as HIV infection can worsen the case fatality rate.

Numerator
Total number of deaths reported from a priority disease causing the outbreak in a given time period.

Denominator
Total number of reported cases from the same priority disease that caused the outbreak during the same time period.

Data Sources

1. Monthly health facility IDSR reporting forms.
2. Patient register
3. Case-based reporting forms
4. Outbreak investigation report

Frequency
Calculate and monitor this indicator quarterly and annually.

Target
The target for this indicator will vary for disease to disease that is measured. The case-fatality rate for each epidemic-causing disease is set by the programs. For example, the target case-fatality rate for cholera is to have less than 1% fatal cases.

Calculation

Total number of deaths reported from a priority disease causing the outbreaks in a given time period	÷	Total number of reported cases from same priority disease that caused the outbreak during the same time period.	X 100	= ___ %

Interpretation of results for Indicator 9

If the case fatality rate is HIGHER than the recommended case fatality rate:

Possible causes:

- Detection of the outbreak was not timely.
- Staff was not sure of the diagnosis of the disease early enough to start definitive treatment.
- Patients reported late for care due to low awareness or distance.
- Case management may not have been adequate or timely.
- Reporting of deaths due to a particular cause was not complete. Thus an error may have occurred. An investigation should determine what corrections are necessary in the reporting. Alternatively, deaths from other causes could have been reported by mistake.
- Implementation of response was not timely.
- Presence of underlying disease or depressed immunity.

If the case fatality rate was EQUAL TO OR LOWER than the recommended target:

Possible causes:

- Patients reported for care in time.
- Staff is well trained on the appropriate case management during the outbreak or before
- The right drugs and supplies are available.
- The intervention was effective.
- Patients left the facility against medical advice to go home to die.
- There was a natural improvement of the situation.

Indicator 10
Attack rates for outbreaks of epidemic-prone diseases

Were high-risk groups identified and treated?

Purpose
The attack rate for an outbreak compares the risk of disease with other groups during the outbreak. It is the cumulative incidence of infection in a group observed over a period of time such as during an outbreak.

Attack rates are used to identify high risk groups and to measure the efficacy of public health interventions. The attack rate for an outbreak of a vaccine-preventable disease in a non-immunized population can provide data to evaluate vaccine efficacy.

Numerator
Total number of new cases of an epidemic-prone disease that occurred during an outbreak.

Denominator
Total number of population at risk

Data Sources
1. Demographic data about the district
2. Outbreak investigation report with line lists or case-based forms.
3. Epidemic report

Frequency
Calculate and monitor this indicator when data from the outbreak is analyzed.

Target
The target for this indicator will vary for each disease that is measured, but the attack rate should move to lower rather than higher percents.

Calculation

Total number of new cases of an epidemic prone disease occurring during an outbreak	÷	Total number of population at risk during the duration of an outbreak	X 100	= ___ %

Interpretation results for indicator 10

If the attack rate was HIGHER than the target:

Possible causes:

- No intervention took place.
- The intervention was inadequate.
- The intervention was inappropriate.
- The intervention was ineffective
- There was an immigration of sick people into the catchment area.

If the attack rate was LOWER than the target:

Possible causes:

- The intervention was adequate, timely and appropriate.
- All the cases may not have been detected.

Indicator 11
The proportion of epidemics detected at regional and national levels through analysis of surveillance data and that were missed by the district level

Is the district detecting outbreaks correctly?

Purpose
This indicator measures the overall capacity of the entire surveillance system to detect epidemics. If the districts fail to detect epidemics, the higher levels should detect them and draw the attention of the concerned districts to the problem.

This indicator can assist the Central level in checking whether the district level is routinely observing trends to detect outbreaks at the local level in a timely way. Levels higher than the districts may detect epidemics more frequently than the districts because their analysis may be based on information that includes timely and late reports; the districts usually make decisions with information from timely reports only.

Numerator:
Number of epidemics detected by the national or regional level through analysis of district specific data but missed by the district.

Denominator
Total number of epidemics reported by the districts and number detected at national and regional levels through analysis of surveillance data.

Data Sources
1. District summary reporting forms
2. District analysis book
3. Supervisory reports
4. Standard surveillance reports (Epi Info menus)

Frequency
Calculate and monitor this indicator at least once a year for the national level and once a month for the regional level.

Target: The target for this indicator should be zero.

Calculation:

Number of epidemics detected at the regional and national levels through analysis of district surveillance data but missed by the district	÷	Total number of reported epidemics detected at the district level plus at regional and national levels through analysis of surveillance data	X 100	=____%

Interpretation of results for Indicator 11

If the result is greater than ZERO:

Possible causes:

- Districts are not analyzing surveillance data nor are they properly interpreting information
- Districts failed to disaggregate data from sub-districts
- Low number of reports sent to the district by the health facilities (i.e., proportional of completeness) has led to an underestimation of the prevailing epidemiology situation.
- Low proportion for timeliness of reporting. The national level may be using a data set which is more complete than what the district had
- Poor division of labor and management of staff roles and responsibilities.
- Staff neglected the task.
- No feedback from ministry of health to districts about completeness and timeliness of reporting.
- Poor community participation

If the result is ZERO:

Possible causes:

- Districts are current in analyzing data and checking if the threshold level has been surpassed.
- Good or excellent timeliness of reporting.
- Data are analyzed.
- Districts are receiving regular feedback.
- Community participation is good with regard to at least rumor notification.

ANNEXES

Annexes

Annex 1: IDSR core indicators for the health facility level

Annex 2: Chart for monitoring performance of IDSR indicators at health facility level

Annex 3: IDSR core indicators for the district level

Annex 4: IDSR core indicators for the provincial level

Annex 5: IDSR core indicators for the national level

Annex 6: Chart for monitoring performance of IDSR core indicators at district regional or provincial levels

Annex 7: Worksheet for interpreting IDSR core indicator calculations

Annex 1: IDSR core indicators for the health facility level

Note: The calculation for timeliness depends upon the frequency of reporting (for example, monthly or quarterly) as specified in national policy.

Indicator	Purpose	Numerator	Denominator	Source of information	Target
1 Proportion of complete[8] surveillance reports submitted on time to the district	Measures the practice of health facilities in submitting timely surveillance reports to the next level	Number of complete surveillance reports submitted on time to the district	Number of expected surveillance reports from the health facility	Monitoring chart for timely submission of report[9]	80%
2 Proportion of priority diseases for which a current line graph[10] is available.[11]	Measures the practice and capacity to analyze surveillance data	Number of priority diseases for which a current line graph is available.	Number of priority diseases	The activity checklist for the "in charge" at the health facility and the IDSR summary reporting forms from the health facility	80%
3 Proportion of cases of diseases targeted for elimination, eradication and any other disease selected for case-based surveillance reported with case-based or line listing forms.	Measures reporting of surveillance data with detailed information to use for further analysis	Number of diseases selected for case-based surveillance reported with case-based forms or line list	Total number of cases of diseases selected for case-based surveillance that occurred in the health facility	Routine summary reports and case=-based or line listing reports	80%

[8] "Complete" in this indicator means that all possible cells in the reporting forms are filled in.
[9] A chart for monitoring health facility performance is on the next page.
[10] The national IDSR team should define the list of diseases for which a line graph should be kept at the health facility level. AFRO recommends that at a minimum, health facilities maintain current line graphs for 1) weekly trend analysis of cerebrospinal meningitis, particularly in the meningitis belt countries, 2) monthly malaria inpatient cases and deaths in children under 5 years of age and 3) trends for malaria in children under 5 years of age.
[11] "Current" in this indicators means that the line graph display should reflect data within the past three months from the day of the assessment.

4 Proportion of suspected outbreaks of epidemic prone disease notified to the district level within two days of surpassing the epidemic threshold	Measures early detection and timely reporting of outbreaks	Number of suspected outbreaks of epidemic prone diseases notified to the district within 2 days of surpassing the epidemic threshold	Total number of suspected outbreaks of epidemic prone diseases in the health facility	Health facility log of suspected outbreaks and rumors	80%
5 Case fatality rate for each epidemic prone disease reported	Measures quality of case management	Number of deaths from each of the epidemic-prone diseases	Number of cases from the same epidemic-prone disease	Routine reports and outbreak investigation reports	Depends on disease

Annex 2: Chart for monitoring performance of IDSR indicators at health facility level

Instructions:

Use this chart to keep track of the health facility's performance with those indicators relevant to health facility performance for IDSR.

In this sample chart, monitoring of IDSR indicators occurs monthly. If policy recommends weekly reporting, then modify this chart for weekly intervals. For the reporting period, summarize and compile the health facility's summary data for priority diseases. Report the summary data to the district level on time. Record the indicator results on a chart like this one. Share this chart with the district supervisor during supervisory visits.

Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Proportion of complete surveillance reports submitted on time to the district												
Proportion of priority diseases for which a current line graph is available												
Proportion of cases diseases selected for case-based surveillance, which were reported to the district using case-based or line listing forms												
Proportion of suspected outbreaks of epidemic prone diseases notified to the district level within 2 days of surpassing the epidemic threshold												
Case fatality and attack rate for each epidemic-prone disease reported												
Reply YES or NO to the following checklist items:												
Were surveillance reports submitted on time?												
Are the trend graphs up-to-date?												
If YES, have you observed any changes in the trends?												
If YES, has the threshold been crossed?												
If YES, have you taken action to alert the district?												

Annex 3: IDSR core indicators for the district level

Note: The calculation for timeliness depends upon the frequency of reporting (for example, monthly or quarterly) as specified in national policy.

Indicator	Purpose	Numerator	Denominator	Source of information	Target
1 Proportion of health facilities submitting surveillance reports on time to the district	Measures the timeliness of submission of surveillance reports	Number of health facilities that submitted surveillance reports on time to the district in a given time period	Number of health facilities in the district in the same time period	Monitoring chart for timely submission of report[12]	80%
2 Proportion of cases of diseases targeted for elimination, eradication and any diseases selected for case-based surveillance reported with case-based or line listing forms.	Measures reporting of surveillance data with detailed information to use for further analysis	Number of diseases targeted for elimination, eradication, and any diseases selected for case-based surveillance reported with case-based forms or line list in a given time period	Total number of cases of diseases selected for case-based surveillance that occurred in the district	Routine summary reports and case-based or line listing reports for diseases targeted for elimination or eradication and diseases selected for case-based surveillance	80%
3 Proportion of suspected outbreaks of epidemic-prone diseases notified to the provincial level within 2 days of surpassing the epidemic threshold	Measures use of data and thresholds for early detection of outbreaks and timely reporting at the local level	Number of suspected outbreaks of epidemic-prone diseases notified to the province within 2 days of surpassing the epidemic threshold in a given time period	Number of suspected outbreaks of epidemic-prone diseases in the district in the same time period	Log of suspected outbreaks and rumors District analysis book or other routine analysis tool	80%
4 Proportion of priority diseases for which a current line graph[13] is available.[14]	Measures the practice and capacity of the district health management team to analyze surveillance data	Number of selected diseases for which a line graph is available and current in a given time period	Total number of selected diseases with a line graph (in the same time period	Indicator monitoring chart District analysis book	80%

[12] A chart for monitoring district indicator performance is in Annex 5.

[13] The national IDSR team should define the list of diseases for which a line graph should be kept at the health facility level. AFRO recommends that at a minimum, health facilities maintain current line graphs for 1) weekly trend analysis of cerebrospinal meningitis, particularly in the meningitis belt countries, 2) monthly malaria inpatient cases and deaths in children under 5 years of age and 3) trends for malaria in children under 5 years of age.

[14] "Current" in this indicators means that the line graph display should reflect data within the past three months from the day of the assessment.

5 Proportion of health facilities that have current trend analysis (line graphs) for selected priority diseases	Measures the practice and capacity of the health facility team to analyze surveillance data	Number of health facilities that have current trend analyses for selected priority diseases in a given time period	Total number of health facilities in the district in the same time period	Supervisory report Health facility data analysis tools	80%
6 Proportion of reports of investigated outbreaks that include analyzed case-based data	measures availability of additional variables for further analysis	Number of outbreak investigation reports that include case-based data in a given time period	Total number of outbreak investigation reports conducted in the district in the same time period	Investigation report Epidemic curve Map Person analysis table Line lists or case-based reporting forms	80%
7 Proportion of investigated outbreaks with laboratory results	Measures capacity of laboratory to confirm diagnosis and involvement of laboratory in surveillance activities	Number of investigated outbreaks with laboratory results in a given time period in a given time period	Total number of investigated outbreaks that occurred in a given time period in the same time period	Log of suspected outbreaks and rumours Laboratory reports Outbreak investigation reports	80%
8 Proportion of confirmed outbreaks with a nationally recommended public health response	Measures capacity of the district to respond to outbreaks	Number of confirmed outbreaks with a nationally recommended response in a given time period	Number of confirmed outbreaks in the district in the same time period	Log of suspected outbreaks and rumors Outbreak investigation reports Supervisory reports	80%
9 Case fatality rates for outbreaks of priority diseases	Measures quality of case management	Number of deaths from each of the outbreak diseases in a given time period	Number of cases from the same outbreak due to that disease in the same time period	Routine summary report Outbreak investigation report	Will vary; depends on disease
10 Attack rate for each outbreak of a priority disease	Helps to identify the population at risk and efficacy of the intervention	Number of new cases of an epidemic-prone disease that occurred during an outbreak in a given time period	Number of population at risk during the outbreak in the same time period	Demographic data about the district Outbreak investigation report with line lists or case-based forms	Will vary; depends on disease

Annex 4: IDSR core indicators for the provincial level

Note: The calculation for timeliness depends upon the frequency of reporting (for example, weekly, monthly or quarterly) as specified in national policy.

Indicator	Purpose	Numerator	Denominator	Source of information	Target
1 Proportion of districts submitting weekly or monthly surveillance reports on time to the province level	Measures the practice of timely submission of surveillance data	Number of districts that submitted IDSR reports on time to the province in a given time period	Total number of districts that report to the province in the same time period	Monitoring chart Routine summary reports	80%
2 Proportion of cases of diseases targeted for elimination, eradication and any diseases selected for case-based surveillance which were reported to the province with case-based or line listing forms.	Measures reporting of surveillance data with detailed information to use for further analysis	Number of diseases targeted for elimination, eradication, and any diseases selected for case-based surveillance reported with case-based forms or line list in a given time period	Number of districts that submitted case-based surveillance reports on time to the province in the same time period	Routine summary reports and case-based or line listing reports	80%
3 Proportion of suspected outbreaks of epidemic prone disease notified to the provincial level within 2 days of surpassing the epidemic threshold	Measures early detection and timely reporting of outbreaks	Number of suspected outbreaks of epidemic prone diseases notified to the province within 2 days of surpassing the alert threshold in a given time period	Total number of suspected outbreaks of epidemic prone diseases in the province in the same time period	Log of suspected outbreaks and rumors Routine summary reports	80%
4 Proportion of districts with current trend analysis (line graphs)[15] for selected priority diseases.[16]	Measures the practice and capacity to analyze surveillance data	Number of districts for which a current line graph is available in a given time period	Number of districts	Supervisory reports District analysis book	80%

[15] The national IDSR team should define the list of diseases for which a line graph should be kept at the health facility level. AFRO recommends that at a minimum, health facilities maintain current line graphs for 1) weekly trend analysis of cerebrospinal meningitis, particularly in the meningitis belt countries, 2) monthly malaria inpatient cases and deaths in children under 5 years of age and 3) trends of malaria in children under 5 years of age.

[16] "Current" in this indicators means that the line graph display should reflect data within the past three months from the day of the assessment.

5 Proportion of reports of investigated outbreaks that include analyzed case-based data	Measures availability of additional variables for further analysis including possible risk factors involved	Number of district outbreak investigation reports that include epi curve, mapping, personal tables and case-based forms or line lists in a given time period	Number of district outbreak investigation reports in the same time period	Investigation reports Routine summary reports	80%
6 Proportion of investigated outbreaks with laboratory results	Measures capacity of the laboratory to confirm the diagnosis and involvement of laboratory in the surveillance activities	Number of investigated outbreaks with laboratory results in a given time period	Number of investigated outbreaks in the province in the same time period	Outbreak investigation reports Laboratory reports Routine summary reports Log of outbreaks and rumours	80%
7 Proportion of confirmed outbreaks with a nationally recommended public health response	Measures capacity of the province to respond to outbreaks	Number of confirmed outbreaks with a nationally recommended public health response in a given time period	Number of confirmed outbreaks in the same time period	Log of suspected outbreaks and rumors Outbreak investigation reports Supervisory visit reports	80%
8 Case fatality rate for each epidemic prone disease reported	Measures quality of case management	Number of deaths from each of the epidemic-prone diseases in a given time period	Number of cases from the same epidemic-prone disease in the same time period	Routine reports and outbreak investigation reports	Depends on disease
9 Attack rate for each outbreak of a priority disease	Helps to identify the population at risk and efficacy of the intervention	Number of new cases of an epidemic-prone disease that occurred during an outbreak in a given time period	Number of population at risk during the outbreak in the same time period	Demographic data about the province Outbreak investigation report with line lists or case-based forms	Will vary; depends on disease

Annex 5: IDSR core indicators for the national level

Note: The calculation for timeliness depends upon the frequency of reporting (for example, monthly or quarterly) as specified in national policy.

Indicator	Purpose	Numerator	Denominator	Source of information	Target
1 Proportion of districts submitting weekly or monthly surveillance reports on time to the province /national level	Measures the practice of timely submission of surveillance data	Number of provinces that submitted IDSR reports on time to the national level in a given time period	Total number of provinces that report to the national level in the same time period	Monitoring chart Routine summary reports	80%
2 Proportion of health facilities submitting surveillance reports on time to the district	Measures practice of timely submission of surveillance data from health facilities to district	Number of health facilities submitting reports on time to the districts in a given time period	Number of districts	Summary reporting forms	80%
3 Proportion of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance reported with case-based or line-listing forms.	Measures reporting of surveillance data with detailed information to use for further analysis	Number of diseases targeted for elimination, eradication, and any diseases selected for case-based surveillance reported with case-based forms or line list in a given time period	Number of diseases targeted for elimination, eradication and any other disease selected for case-based surveillance in the same time period	Routine summary reports and case-based or line listing reports	80%
4 Proportion of suspected outbreaks of epidemic prone disease notified to the national level within 2 days of surpassing the epidemic threshold	Measures early detection and timely reporting of outbreaks	Number of suspected outbreaks of epidemic prone diseases notified to the national level within 2 days of surpassing the epidemic threshold in a given time period	Total number of suspected outbreaks of epidemic prone diseases in the same time period	Log of suspected outbreaks and rumors Routine summary reports	80%

5 Proportion of districts in which a current line graph[17] is available[18] for selected priority diseases	Measures the practice and capacity to analyze surveillance data	Number of priority diseases for which a current line graph is available in the districts in a given time period.	Number of districts	Supervisory reports District analysis book	80%
6 Proportion of reports of investigated outbreaks that includes analyzed case-based data	Measures availability of additional variables for further analysis including possible risk factors involved	Number of outbreak investigation reports that include epi curve, mapping, personal tables and case-based forms or line lists in a given time period	Number of outbreaks investigation reports in the same time period	Investigation reports Routine summary reports	80%
7 Proportion of investigated outbreaks with laboratory results	Measures capacity of the laboratory to confirm the diagnosis and involvement of laboratory in the surveillance activities	Number of investigated outbreaks with laboratory results in a given time period	Number of investigated outbreaks	Outbreak investigation reports Laboratory reports Routine summary reports Log of outbreaks and rumours	80%
8 Proportion of confirmed outbreaks with a nationally recommended public health response	Measures capacity of the province to respond to outbreaks	Number of confirmed outbreaks with a nationally recommended public health response in a given time period	Number of confirmed outbreaks	Log of suspected outbreaks and rumors Outbreak investigation reports Supervisory visit reports	80%

[17] The national IDSR team should define the list of diseases for which a line graph should be kept at the health facility level. AFRO recommends that at a minimum, health facilities maintain current line graphs for 1) weekly trend analysis of cerebrospinal meningitis, particularly in the meningitis belt countries, 2) monthly malaria inpatient cases and deaths in children under 5 years of age and 3) trend analysis of malaria in children under 5 years of age.

[18] "Current" in this indicators means that the line graph display should reflect data within the past three months from the day of the assessment.

9 Case fatality rate for each epidemic prone disease reported	Measures quality of case management	Number of deaths from each of the epidemic-prone diseases in a given time period	Number of cases from the same epidemic-prone disease in the same time period	Routine reports and outbreak investigation reports	Depends on disease
10 Attack rate for each outbreak of a priority disease	Helps to identify the population at risk and efficacy of the intervention	Number of new cases of an epidemic-prone disease that occurred during an outbreak in a given time period	Number of population at risk during the outbreak in the same time period	Demographic data about the district Outbreak investigation report with line lists or case-based forms	Will vary; depends on disease
11 The number of epidemics detected at the national level and that were missed by the district level	Checks the capacity of the entire health system to detect epidemics and shows that the national level is checking whether districts are observing trends	Number of epidemics detected by the regional or national level from analyzing district specific data	Total number of epidemics reported by the districts	District summary reporting forms District analysis book Supervisory reports Standard surveillance reports	Zero

Annex 6: Chart for monitoring performance of IDSR indicators at district, provincial or national levels

The ***district health office*** should summarize the surveillance data received from all health facilities in the catchment area, and submit the compiled report to the province or national level as appropriate. The submission of the report should not be delayed until reports from all health facilities are received. Submit all reports received on time. Late reports may be submitted when they arrive. Follow up with health facilities who did not report or who consistently provide late reports.

Help the health facility to solve any problems that prevent them from submitting their summary reports on time. Provide feedback to health facilities about the indicator results on a regular basis. Feedback is a positive tool for motivating health staff to provide information on time and contribute to the national system.

The ***provincial health department*** should compile the surveillance data received from all districts in the province and submit the report to the national level. Submission of the report should not be delayed until the last report is collected. The province should compile and submit the available reports on time. The late reports may be sent separately when they are received.

The ***national level*** should compile the surveillance data received from all the provinces (or regions). The national level should look for epidemics that were not identified by the districts. Follow up with areas where reporting continues to be unreliable or does not happen at all. Support the provinces in providing assistance to the districts when they evaluate the measurements and take action to improve the situation. Provide feedback to each of the levels about the national, provincial, district and health facility levels.

Use a monitoring chart such as the one on the next page to monitor performance of the indicators at your level. Share these results with the staff in your catchment level. Acknowledge successes and help health staff to maintain the positive progress. When problems occur, talk together about what is causing the problem and how it can be solved. Seek assistance of the next level as needed for obtaining additional help or resources.

Monitoring performance of indicators at national, provincial or district level

District: _____ Region/Province:_____ Year:_____

Note: Please compute the actual percentage for each cell

Indicator	Indicator results as a percentage												
	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Proportion of health facilities submitting surveillance reports on time to the district													
Proportion of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance which were reported to the district using case-based or line-listing forms													
Proportion of suspected outbreaks of epidemic prone diseases notified to the next higher level within 2 days of surpassing the alert threshold													
Proportion of districts that have current trend analysis (line graphs) for selected priority diseases.													
Proportion of health facilities that have current trend analysis (line graphs) for selected priority diseases													
Proportion of reports of investigated outbreaks that included analyzed case-based data.													
Proportion of investigated outbreaks with laboratory results													
Proportion of confirmed outbreaks with recommended response													
Case fatality rate for each epidemic-prone disease (priority disease) reported													
Attack rate for each epidemic-prone disease reported													
(for national level) The proportion of epidemics detected at the national level and that were missed by the district level													
Have you calculated the indicators this month?													
If YES, have you used the results to take action correct any problems?													

Annex 7: Worksheet for interpreting IDSR core indicator results

Review the indicator calculation results after each period. Decide if the target has been reached. Determine what accounts for the indicator result. Then plan solutions to improve performance.

Indicator	If results do not meet the target	If results are on target	What are possible solutions?
1 Proportion of health facilities submitting surveillance reports on time to the district level	**Possible causes:**	**Possible causes:**	
2 Proportion of districts submitting surveillance reports on time to the next highest level	**Possible causes:**	**Possible causes:**	
3 Proportion of cases of diseases targeted for elimination, eradication and any other diseases selected for case-based surveillance which were reported to the district using case-based or line-listing forms	**Possible causes:**	**Possible causes:**	
4 Proportion of suspected outbreaks of epidemic-prone diseases notified to the next higher level within two days of surpassing the threshold for a suspected epidemic	**Possible causes:**	**Possible causes:**	

Indicator	If results do not meet the target	If results are on target	What are possible solutions?
5 Proportion of districts with current trend analysis (line graphs) for selected diseases	**Possible causes:**	**Possible causes:**	
6 Proportion of reports of investigated outbreaks that include case-based data analyzed	**Possible causes:**	**Possible causes:**	
7 Proportion of investigated outbreaks with laboratory results	**Possible causes:**	**Possible causes:**	
8 Proportion of confirmed outbreaks with a nationally recommended public health response	**Possible causes:**	**Possible causes:**	
9 Case-fatality rate for outbreaks of priority diseases	**Possible causes:**	**Possible causes:**	

Indicator	If results do not meet the target	If results are on target	What are possible solutions?
10 Attack rates for outbreaks of epidemic-prone diseases	**Possible causes:**	**Possible causes:**	
11 The proportion of epidemics detected at the national level and that were missed by the district **Note:** *The target is zero. The number of epidemics detected at the national level should match the cumulative number detected at the district levels.*	**Possible causes:**	**Possible causes:**	