INTEGRATED DISEASE SURVEILLANCE AND RESPONSE TRAINING COURSE

THIRD EDITION

PARTICIPANT GUIDE

COURSE 4: MONITOR, SUPERVISE, EVALUATE AND USE ELECTRONIC TOOLS IN THE IMPLEMENTATION OF THE IDSR STRATEGY

MARCH 2019

(adapted for online Training Courses May 2021)

This booklet comprises the following modules of the Integrated Disease Surveillance and Response Training Course:
Module 1: Monitor, supervise, evaluate and provide feedback to improve surveillance and response
Module 2: Electronic Integrated Disease Surveillance and Response (eIDSR)
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FOREWORD

In 1998, the World Health Organization (WHO) Regional Office for Africa (AFRO) together with technical partners adopted a strategy for developing and implementing comprehensive public health surveillance and response systems in African countries, initially called integrated disease surveillance (IDS). However, to highlight the linkage between surveillance and response, the strategy was later re-named integrated disease surveillance and response (IDSR). The first edition of the IDSR technical guidelines (2002) was widely adopted by Member States. Although progress towards a coordinated, integrated surveillance system was variable, almost every country in the region, invested human and material resources to strengthen capacities for public health surveillance systems in order to prevent, timely detect, and respond appropriately to public health threats.

The coming into force, in 2007, of the international health regulations (IHR 2005), the emergence of new diseases, conditions and events and the formulation of strategies for disaster risk management (DRM) resulted in the need to revise the first edition of the IDSR guidelines. There was also a need to address the increasing burden of non-communicable diseases. Further, there was a need to strengthen community-based surveillance for early detection, rapid confirmation and response to public health threats. Moreover, alignment with broader system strengthening objectives was required. Hence, in 2010, the second edition of the IDSR guidelines was developed.

Despite the availability of the IDSR technical guidelines, the region continues to face challenges in public health surveillance systems, with respect to the capacity to prevent, detect and respond to public health threats. The unprecedented Ebola Virus Disease (EVD) outbreak of 2014 in West Africa and other recent health emergencies has shown that the IHR (2005) have not been fully implemented in many Member States. Consequently, addressing health emergencies remains a major challenge, hence in 2019 the third edition of the IDSR technical guidelines was developed.

In order to effectively build the capacity of member countries in the use of the third edition IDSR technical guidelines, the IDSR training modules have also been revised to the 3rd Edition IDSR Training Modules (TM)s.

Following my election, in January 2015, as Regional Director, after internal and external consultations in May 2015, unveiled the transformation agenda of the WHO secretariat in the African region, 2015–2020. One of the five interrelated and overlapping priorities in the transformation agenda is improving health security.
I am glad to unveil the third edition of the IDSR training modules that has been prepared by the WHO Health Emergency (WHE) programme in the WHO African region with active participation and involvement of all clusters. In addition, there was active involvement of the WHO Headquarters, the Inter Country Support teams, and the hubs, the WHO country offices, Member states, as well as, the U.S. Centers for Disease Control and Prevention (CDC) and other relevant stakeholders.

Many public health events (PHEs) and emergencies and their associated risk factors could be prevented or their effects mitigated. However, the health systems in most countries remain inadequate. To avert and mitigate the effects of future health security risks and emergencies, all Member States should implement the 3rd edition IDSR technical guidelines by training all health staff using these IDSR training course modules.

Therefore, I urge all Member States to fully implement this third edition of the IDSR training modules everywhere in the WHO Africa region because they explicitly describe what needs to be established at each level of the health system in order to detect, confirm, and respond to diseases/health events that are responsible for all preventable illness, death and disability in local communities.

The cost of good public health surveillance as a public health good is relatively very low compared to many other strategies. I appeal to all Member States, national, regional and international partners and funders that, we should begin the hard work now. Let us all embrace these IDSR training modules to strengthen capacities for preparedness, alert and response for health security in every place in the WHO African Region.

The training modules should be used by:

• health workers at all levels (including surveillance officers, clinicians, laboratory personnel and public health workers)
• regional/provincial and district health teams
• data managers
• IHR National Focal Point and other sectors implementing IHR
• competent authorities at points of entry
• veterinary and wildlife health officers
• environmental health officers
• health training institutions
• supply chain officers
• other public health experts, including NGOs
Finally, I appeal to you all to ensure that the third edition of the IDSR training modules are implemented within a broader context of health system strengthening; better coordination between human and animal health surveillance and other sectors involved in One Health approach; improved use of laboratory network capacity in surveillance and response; and better community engagement in public health interventions.

Dr Matshidiso Moeti
WHO Regional Director for Africa
ACKNOWLEDGEMENTS

The third edition of the Integrated Disease Surveillance and Response (IDSR) Training Modules was prepared by the WHO Health Emergencies (WHE) Programme with active participation and involvement of programmes dealing with disease surveillance at the WHO Regional Office for Africa (AFRO), Brazzaville, Congo with technical reviews provided by the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Agency for International Development (USAID).

In planning to update these training modules, suggestions and advice for improving the recommendations were sought and gratefully received from the IDSR development teams who prepared the 1st and 2nd editions. This revision builds on the technical expertise from more than 100 surveillance and disease experts at WHO, CDC and Ministries of Health in African countries who conceived and produced the 1st and 2nd Editions.

The revision process involved internal WHO consultation followed by a wider consultation that involved a series of meetings with various partners and Member States. In addition, the IDSR task force was constituted to help with the revision process. The final draft was peer reviewed during in-Country Pilot IDSR Trainings in five (5) countries namely; Ghana, Liberia, Sierra Leone, Uganda and Zambia in October 2018.

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8.1 INTRODUCTION

Monitoring, supervision, evaluation and provision of feedback for improvement are important functions of the Integrated Disease Surveillance and Response (IDSR) strategy. This module describes how to routinely monitor and annually evaluate the performance of the District/Regional/Provincial/National IDSR strategy. It also provides guidance to health staff supervisors on how to conduct regular supportive supervision of the IDSR strategy and provide feedback to all levels of the health system.

8.1.1 PURPOSE OF THIS MODULE

The purpose of this module is to equip participants with knowledge, skills and tools in monitoring, supportive supervision, evaluation of the IDSR strategy at all levels including the community level and provision of feedback.

8.1.2 LEARNING OBJECTIVES

On completion of this module, participants will be able to:

(a) Define and understand what is monitoring, supervision, evaluation and feedback
(b) Identify the targets and indicators used in Integrated Disease Surveillance and Response (IDSR)
(c) Use the core indicators for IDSR
(d) Conduct supportive supervision to improve the IDSR strategy
(e) Understand and use the IDSR supervisory checklists
(f) Provide feedback to health workers and community
(g) Develop and disseminate routine epidemiological bulletins
8.2 PARTICIPANT’S NOTES

8.2.1 WHAT IS MONITORING, SUPERVISION, EVALUATION AND FEEDBACK

You can read this information from pages XX to XX, Section 8 of the 3rd Edition IDSR Technical Guidelines Booklet Four.

Note these points:

(a) Monitoring of surveillance and response systems refers to the routine and continuous tracking of the implementation of planned surveillance activities (for example, reports are received on time).

(b) Supportive supervision is a process of helping health staff to improve work performance.
   (i) Supervision is not an inspection but aims to sustain good quality services rather than finding things that are wrong.
   (ii) In supportive supervision, supervisors and health professionals work together to review progress, identify problems, decide what has caused the problem and develop feasible solutions.

(c) Evaluation periodically (for example annually) assesses whether surveillance and response objectives have been achieved.
   (i) Evaluation should answer the following Questions:
       • Are surveillance objectives for existing activities being met?
       • Was surveillance data used for taking public health action?
       • Did surveillance, laboratory and response activities have an impact on the outcome of health events in the district?
   (ii) Use the monthly monitoring data to do an evaluation at the end of the year Regular scheduled monitoring, supervision and evaluation are used to improve the IDSR strategy

(d) Feedback consist of communicating with health staff from other levels about data, results of analysis of these data and measures that were taken to respond to the potential public health event reported.
   (i) When the district or regional/provincial or national managers receive data, they should respond to the health facilities that reported it.
   (ii) The purpose of the feedback is to reinforce health worker’s efforts to participate in the surveillance system and raise their awareness about certain diseases and any achievements of disease control and prevention projects in the area.
8.2.1.1 Importance of monitoring, supervision, evaluation and Feedback

(a) **Importance of routine monitoring of IDSR strategy include:**

(i) Track progress of implementation of planned activities and ensuring that planned targets are achieved in a timely manner.

(ii) Track progress of improvements in targeted indicators of the quality and attributes of the system.
  - such as timeliness and completeness of reporting.

(iii) Identify problems in the system in order to institute corrective measures in a timely manner.

(iv) Ensure that all implementers of the strategy are held responsible and accountable for their defined activities.

(b) **Importance of supportive supervision of IDSR strategy at all levels of the health system include:**

(i) It helps health workers acquire on the job skills and improves the quality of their work output.

(ii) Identify problems, causes of the problem and develop feasible solutions to improve the system.

(iii) Improves efficiency of the health workers in implementing IDSR activities.

(iv) Visits of surveillance supervisors and regional or provincial disease control program officers provide opportunity to discuss and improve disease control activities in the district.

(c) **Importance of evaluation of IDSR strategy at all levels of the health system include:**

(i) Ensure that the IDSR strategy meets the objectives for which it was set up.

(ii) Document the status and any change in the performance of the system.

(iii) Provide an evidence-base on which to modify IDSR objectives, implementation strategy and planned activities.

(iv) Enable planning of resource allocation (Refer Section 5, 3rd Edition IDSR Technical Guidelines Booklet Three).

(v) Provide explanations for achievements and failures in the system.

(vi) Provide specific recommendations for improving the system.

(d) **Importance of feedback:**

(a) Providing regular feedback encourages the participation of the healthcare workers and community in the surveillance system.
(b) Health facilities and districts report surveillance data to the next level as required. However, if the facility does not receive feedback from the next level about how the data were used or what the data meant, health staff may think that their reporting is not important. As a result, future reporting may not be as reliable because health staff will not know if the information they sent to other levels was important or necessary.

(c) Increases healthcare worker’s awareness about certain diseases and any achievements of disease control and prevention projects in the area.

8.2.2 IDENTIFY TARGETS AND INDICATORS

Using indicators is a method for measuring the extent of achievement for a particular program or activity. An indicator can be developed to measure the proportion or percentage of facilities that are reporting. This proportion is then compared with the desired goal or target, and can be used to evaluate progress and quality of the service or activity.

Your facilitator will present information on identifying targets and indicators for evaluating IDSR core functions. You may also read this information in Section 8, on pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four.

IDSR core indicators for use at the health facility, district, regional/province and national levels are shown in Section 8, Annexes 8A to 8D of the 3rd Edition IDSR Technical Guidelines Booklet Four.

8.2.3 SUPPORTIVE SUPERVISION IN IMPROVING IDSR ACTIVITIES

Supervision is a process of helping health staff improve their work performance. Supervision is not an inspection. Rather, good supervision aims to sustain good quality services rather than finding things that are wrong. In a good system, supervisors and health professional work together to review progress, identify problems, decide what has caused the problem and develop feasible solutions.

Your Facilitator will present the steps for performing supervisory visits and providing feedback to health facilities from those visits. You can also read this information in Section 8, on pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four. The Facilitator will also demonstrate how to complete a sample supervisory checklist which you can find in Annex 8H, Section 8 of the 3rd edition IDSR Technical Guidelines Booklet Four.
8.2.4 PROVIDING FEEDBACK

**Note these points:**

(a) Feedback is classified as supportive when it reinforces and acknowledges good performance and corrective when a change in behaviour and improvement is required.

(b) It also strengthens the communication and spirit of team working.

(c) The feedback should be both vertical and horizontal targeting at different audiences as provided by different levels in the health system.

(d) Effective feedback should be:
   (i) Specific to assure the recipient understands the subject of the feedback.
   (ii) Should be based on the report submitted or the actual events and activities observed in the field.
   (iii) Be given as soon as feasible after receiving the report or field visit, so that the recipient will remember the activities that should be either sustained or corrected.

Your Facilitator will explain the various methods of feedback and demonstrate how to develop and disseminate epidemiological bullets.
You can read this information in Section 8, pages XX to XX and Annex 8I of the 3rd Edition IDSR Technical Guidelines Booklet Four

8.2.5 Evaluate effectiveness of the performance of the IDSR strategy

**Importance of evaluating the IDSR strategy:**

(a) The purpose of evaluating the IDSR strategy is to assess the effectiveness of the system in terms of timeliness, completeness and quality of data, preparedness, case management etc. using the indicators to identify gaps or areas that could be strengthened.

(b) The evaluation should:
   (i) Show to what extent the desired outputs and outcomes are achieved.
   (ii) Provide explanations for achievements, disparities and failures.
   (iii) Document the quality of the strategy and demonstrate any changes in its performance.
   (iv) Demonstrate the extent to which the overall surveillance objectives are achieved.

(c) Depending on the development status of IDSR in a district, select indicators for evaluation that will provide information that relates to the district’s priorities and objectives for the year.
(d) If there is already an IDSR implementation plan with clearly defined objectives, then it is appropriate to conduct mid-term and end-of-term evaluations. Otherwise the IDSR strategy should be evaluated every 2, 3 or 5 years.

**Your Facilitator will present the key steps in evaluation of the performance of IDSR strategy. You can also read this information in Section 8, on pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four.**

### 8.2.6 PRACTICE EXERCISES

**Instructions:** Your Facilitators will ask you to get into four (4) small groups of a minimum of three (3) people and each group assigned one exercise from exercises 1 to 4 below. Each group should select a leader and a rapporteur (The leader moderates the group discussions whilst the rapporteur documents the agreed answers by the group). Each group has about 15 minutes to read, discuss and answer all questions to the assigned exercise, after which the group leader presents during plenary discussions: there will be 5 minutes presentation and 5 minutes discussion per group. Moderate the plenary discussions and provide the correct answer to each question.

**NB: Exercise 5 is a role play. You will do this with the entire participants after completing plenary discussions of exercises 1 to 4. Your Facilitators will guide you to conduct the role play.**

#### 8.2.6.1 Exercise 1

**Knowing and Using the Core indicators at the district level**

The purpose of this exercise is to practice finding the data you will need to calculate the IDSR core indicators for the district level.
Instructions

There are two parts to this exercise.

In Part A, you will fill in missing information about sources of information for monitoring data and suggestions for how often to calculate an indicator. Your facilitator may assign two or three indicators to each group member.

In Part B, you will answer questions about your own district. Part B begins on page 8.

* * * *

Questions

Part A

1. In table 8.1, the first four columns have been filled in. You will work in small groups of 4-5 to review the indicators and complete the last two columns about the sources of information for monitoring data and suggestions for how often to calculate an indicator.

   (a) NB: Fill in the blank spaces for your assigned indicator in the table.

2. Every group member should review their assigned indicator carefully including information about the numerator and denominator. Then answer the following questions:

   (a) Describe how you will extract the data from the sources of information in order to calculate the indicator.

   (b) Suggest how often you think the data should be collected and analysed.

   (c) Describe who should be responsible for collecting the data and calculating the indicator at district level.

Part B

Answer questions about your own district.

1. Review the sources of data you recorded in the table. Do you have these sources available in your district?
2. If not, how do you collect information?

3. What are two specific actions you would need to do to improve the availability of sources?

Table 8.1: Indicators for monitoring IDSR core functions at the district level

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Purpose</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Source of information</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Proportion of health facilities with standard case definition (SCD)</td>
<td>Correctly identifying and filling cases/events</td>
<td>Number of HF with SCD</td>
<td>Number of all HF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Proportion of health facilities with standardized registers and IDSR forms</td>
<td>Measure the availability of registers and IDSR forms</td>
<td>Number of HF with registers and IDSR forms</td>
<td>Number of all HF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Proportion of health facilities including hospitals (referral/zonal/Specialized) submitting IDSR reports on time to the district</td>
<td>Measures the timeliness of submission of surveillance reports</td>
<td>Number of health facilities that submitted surveillance reports on time to the district</td>
<td>Number of health facilities in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Proportion of cases of diseases targeted for elimination, eradication and any diseases selected for case-based surveillance reported with case-based forms or line lists.</td>
<td>Measures reporting of surveillance data with detailed information to use for further analysis</td>
<td>Number of cases of diseases targeted for elimination, eradication, and any diseases selected for case-based surveillance reported with case-based forms or line list</td>
<td>Total number of cases of diseases selected for case-based surveillance that occurred in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator</td>
<td>Purpose</td>
<td>Numerator</td>
<td>Denominator</td>
<td>Source of information</td>
<td>Target</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>--------</td>
</tr>
<tr>
<td>5. Proportion of health facilities that have current trend analysis</td>
<td>Measures the practice and capacity of the health facility team to analyse surveillance data</td>
<td>Number of health facilities that have current trend analyses for selected priority diseases</td>
<td>Total number of health facilities in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Proportion of health facilities that have current lab analysis data for priority diseases analysis (if applicable)</td>
<td>Evidence of routine laboratory data analysis and interpretation</td>
<td>Number of health facilities that have lab data analysis for selected priority diseases.</td>
<td>Total number of health facilities in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Proportion of suspected outbreaks of epidemic-prone diseases notified to the district within 2 days or surpassing the epidemic threshold</td>
<td>Measures use of data and thresholds for early detection of outbreaks and timely reporting at the local level</td>
<td>Number of suspected outbreaks of epidemic-prone diseases notified to the district within 2 days of surpassing the epidemic threshold</td>
<td>Number of suspected outbreaks of epidemic-prone diseases in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Proportion of confirmed outbreaks with a nationally recommended public health response</td>
<td>Measures capacity of the district to respond to outbreaks</td>
<td>Number of confirmed outbreaks with a nationally recommended response</td>
<td>Number of confirmed outbreaks in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Presence of a functional central unit for coordination of PHEMC (PH EOC)</td>
<td>Measure the District readiness</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Proportion of health facilities with emergency preparedness and response plans</td>
<td>Measure preparedness of Health facility</td>
<td>Number of HF with PHEPR plans</td>
<td>Number of all HF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Availability of a District Emergency Preparedness and Response Plan</td>
<td>Measure preparedness of District</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Presence of a functional central unit for coordination of PHEMC (PH EOC)</td>
<td>Measure ability to respond at district level</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Proportion of HF with a functional public health emergency preparedness and response committee</td>
<td>Measure ability to respond at health facility level</td>
<td>Number of HF with functional Committee</td>
<td>Number of all HF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Availability of Public Health Emergency RRT with R&amp;R</td>
<td>Measure ability to respond at health facility level</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator</td>
<td>Purpose</td>
<td>Numerator</td>
<td>Denominator</td>
<td>Source of information</td>
<td>Target</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>--------</td>
</tr>
<tr>
<td>15. Proportion of Hospitals with Infection Prevention and Control (IPC)</td>
<td>Measures the practice and the Capacity of the hospital to apply infection control requirements</td>
<td>Number of Hospitals that reported having established Infection Prevention and Control (IPC) requirements</td>
<td>Total number of Hospitals in the district</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Availability of feedback reports/letters/bulletin</td>
<td>Presence of a feedback mechanism</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Proportion of feedback bulletins/reports sent to the lower level</td>
<td>Presence of a feedback mechanism</td>
<td>Number of reports/bulletins or any documentation actually sent to lower level and received</td>
<td>Total number of reports/bulletins or any form of feedback document expected to be sent to lower levels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**8.2.6.2 Exercise 2**

The purpose of this exercise is to practice calculating indicators for monitoring timeliness and completeness of district reporting.

**Instructions:** You will do this exercise individually and then work in your small group to make any corrections.

* * * *

**Evaluate performance in the district**

Use the information in table 8.2 to calculate the timeliness of reporting for each health facility in the district. Record your answer in the second to last column, labelled T/N (T means “on time” and N means “total number of reports expected”).

To calculate a proportion, use the equation below:

\[
\text{Numerator: (Number of timely reports)} \\
\text{Denominator: (Total Number of reports)} \\
X \ 100 =
\]

10
Next, calculate the completeness of reporting for each health facility and record the answer in the last column, labelled \((N-W)/N\). \((N\) means the total number of reports expected and \(W\) means the number of reports not received).

**Legend**

\(T\) = arrived on time; \(L\) = arrived late; \(W\) = report not received; \(N\) = total number of reports expected

Country: Pacem District: Zahanati Year: 2017

**Table 8.2: Timeliness and completeness of reports from reporting sites**

<table>
<thead>
<tr>
<th>Name of health Facility</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>(T/N%)</th>
<th>((N-W)/N%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kamakwa</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iridi</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dunyu</td>
<td>W</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oogo</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinjo</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td>T</td>
<td>L</td>
<td>W</td>
<td>W</td>
<td>L</td>
<td>T</td>
<td>L</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naima</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ngimwa</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>L</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sinde</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>L</td>
<td>L</td>
<td>W</td>
<td>L</td>
<td>W</td>
<td>W</td>
<td>L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The WHO Africa regional target for timeliness of reporting is 80%. Which of the health facilities in the Zahanati District have reached the target?

2. The target for completeness is also 80%. List the health facilities that have reached or passed the target.
3. Why do you think these facilities have reached the target?

4. Which health facility had the best timely reporting?

5. Calculate the **completeness of reporting** for each health facility in the district.

6. Which health facility is doing poorly in reporting?

7. What could cause the poor reporting?
8. What action should be taken to rectify the situation?

8.2.6.1 Exercise 3

The purpose of this exercise is to practice how to conduct supervision of surveillance activities in your district.

**Instruction:** Refer to section 8, pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four as you work in a small group of 3 to answer each of the following questions. Your facilitator will conduct a group discussion when everyone has completed the exercise.

* * * *

**Questions**

1. How is supportive supervision of disease surveillance conducted at different levels of the health system?
2. Do you use tools or checklists for supervision at the district, health facility and community levels?

3. Do you have a supervision plan on disease surveillance in your area?

4. Where is it located?

5. How often is it used?

6. What should you consider when preparing a supervision plan on disease surveillance?
7. What should you do during IDSR supervisory visits?

8. How do you motivate the staff during the supervisory visits?

8.2.6.4 Exercise 4

Use the health facility surveillance check list

The purpose of this exercise is to fill out a health facility surveillance supervisory checklist that has very negative responses in order to brainstorm the possible causes of the issues and potential solutions.

Instructions: Table 8.3 below is the surveillance checklist for the Zahanati Health Centre. As you can see, the health centre did not score well on their last supervisory visit. As you review the checklist, consider the possible reasons for the issues that they faced and then recommend some solutions. You may do this exercise in pairs or in a small group. Your facilitator will assign one of two activities to each group member. At the end of the exercise, there will be a group discussion.

* * * *
**Use the health facility surveillance check list**

Below is the surveillance supervisory checklist for the Zahanati Health Centre. As you can see, the health centre did not score well on their last supervisory visit. As you review the checklist, consider the possible reasons for the issues that they faced and then recommend some solutions.

**Table 8.3: Health facility IDSR supervisory checklist for Zahanati Health Centre**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Supervisory Question</th>
<th>Answer (Yes/No or Specified)</th>
<th>List Possible Causes of the Omission or Problem</th>
<th>List Possible Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data collection to identify Suspected Cases within health facilities</td>
<td>1. How often do you collect information from the community about reports of suspected cases or deaths due to a priority disease or condition?</td>
<td>Rarely</td>
<td>Community doesn’t know what to report</td>
<td>Distribute simplified case definitions. Include surveillance objectives in community health program activities</td>
</tr>
<tr>
<td>2. Register cases</td>
<td>1. Are diagnoses of cases of priority diseases recorded in the clinic/health facility register according to the standard case definition?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Report</td>
<td>1. Do health staff use a standard case definition to report the suspected cases and outbreaks?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Do you record information about immediately notifiable diseases on a case form or line list?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Analyse and Interpret</td>
<td>1. Do you plot the numbers of cases and deaths for each priority disease on a graph? (Ask to see the health facility’s analysis book/analysis posted on the wall. Look to see if the trend lines are up-to-date.)</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Do you plot the distribution of cases on a map?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Investigate and Confirm Reported Cases and Outbreaks</td>
<td>1. If an epidemic-prone disease was suspected, was it reported immediately to the district office?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. For the cases of priority diseases needing laboratory tests seen since the last supervisory visit, how many had laboratory results?</td>
<td>1 out of 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Are appropriate supplies available or set aside for collecting laboratory specimens during an urgent situation and show me the supply?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Respond</td>
<td>1. Are appropriate supplies available for responding to a confirmed case or outbreak <em>(for example, immunization)</em></td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Supervisory Question</td>
<td>Answer (Yes/No or Specified)</td>
<td>List Possible Causes of the Omission or Problem</td>
<td>List Possible Solutions</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td><em>supplies and vaccine, ORS, antibiotics, and so on)?</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Please show me the supplies for carrying out a recommended response.</td>
<td>I can’t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Who is the outbreak response coordinator for this facility?</td>
<td>I don’t know</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>How often do you provide information and training in outbreak response to the staff of this facility?</td>
<td>Rarely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Provide Feedback</td>
<td>1. How often do you report information to the community?</td>
<td>Never</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Do you receive the latest bulletin from the (central, sub national) level?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Evaluate and Improve the System</td>
<td>1. Were the last 3 routine monthly reports sent to the district office?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Were the last 3 routine monthly reports sent on time?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Epidemic Preparedness</td>
<td>1. What precautions do health staff (including laboratory staff) take routinely with all patients regardless of the patients’ infection status?</td>
<td>Minimum level of standard precautions: Very Few</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. How do you estimate the number of supplies to set aside for use during an emergency situation?</td>
<td>How supplies are estimated: They aren’t</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2.6.5 Exercise 5

The purpose of this exercise is to practice giving feedback during a supervisory visit to Dinanso Health Centre.

**Instructions:** Read through the scenario “A supervisory visit to Dinanso Health Facility”. You will play one of the roles, or you may observe other participants playing the roles. Your facilitator will assign the roles to be played. After the role play, there will be a group discussion.
A SUPERVISORY VISIT TO DINANSO HEALTH FACILITY

Dr Ameku, the district director of health services, is meeting with the health facility team to give feedback about the results to the supervisory checklist. He thanks the team for their time during today’s visit. Then he reports that in the visit today, he observed the following:

(a) There is regular contact between the community health workers and the health facility so disease notification from the community is timely and being monitored.

(b) The clinic register is up-to-date, but it looks like diagnoses are not recorded according to the standard case definition.

(c) The line graphs for meningococcal meningitis and cholera are posted but they are not up-to-date. They are two months behind.

(d) A suspected case of human influenza H1N1 in the health facility catchment area was reported promptly to the district office during this quarter.

(e) Reporting of routine data to the district has been on time all year.

(f) The health facility said that they have not received a copy of the latest feedback newsletter from the district.

(g) A request by the health facility for specimen transport media has not yet been filled.

Dr Ameku wanted to know what two or three problems the health facility thought were the most important. Then they discussed possible causes for the problem and how improvements could be made.

Instruction: When the role play has concluded, discuss the following questions:

1. How well did Dr Ameku communicate with the health facility team?

2. How did the health facility team decide on the most important problems? Do you agree with their conclusions?

3. Did they identify feasible solutions to the problems they discussed?
8.3 SUMMARY

**POINTS TO REMEMBER:**

(a) Decide how IDSR activities will be monitored and evaluated using agreed set of indicators and this should be made during the development of the IDSR implementation plans.

(b) The sources of data for calculating the IDSR indicators should be clearly defined and made available regularly.

(c) Monitor, improve and revise plans.

(d) Prepare supervision plans with health facility supervisors to ensure that supportive supervisory visits will occur on a scheduled basis.

(e) Supportive supervisory checklists make supervisory visits more objective and help you to be sure you haven’t missed anything critical for evaluating the performance of the health facility.

(f) Supportive Supervisory visits are intended to help improve the functions of health facilities by providing constructive criticism and feedback.

(g) Give feedback to the health facilities about their evaluation so that they know what needs to be improved in their facility.

(h) Feedback from you also shows them that you are paying attention to their work and that they are a valuable asset to the health care system of your district.

(i) Provide regular feedback to encourage the participation of the healthcare workers and community in the surveillance system.

(j) The IDSR strategy should be evaluated every 2, 3 or 5 years.

8.4 REFERENCE

MODULE 2: ELECTRONIC INTEGRATED DISEASE SURVEILLANCE AND RESPONSE (eIDSR)

9.1 INTRODUCTION

The use of paper-based tools for implementation of IDSR has been an instrumental strategy for strengthening public health surveillance in the African region since IDSR was adopted in 1998. With the adoption of the International Health Regulations IHR (2005), which requires countries to strengthen capacity for disease surveillance and response, application of electronic tools to enhance real-time surveillance can improve timeliness of outbreak detection and response.

This module introduces key principles of applying electronic-tools to provide real-time validated data for public health surveillance, investigation and prompt outbreak response.

9.1.1 PURPOSE OF THIS MODULE

The purpose of this module is to introduce to participants the use of electronic tools/platforms in public health surveillance and response.

9.1.2 LEARNING OBJECTIVES

On completion of this module, participants will be able to:

(a) Define and understand Electronic IDSR (eIDSR)
(b) Understand the steps in establishing eIDSR
(c) Use electronic tools/platforms to facilitate IDSR activities

9.2 PARTICIPANT’S NOTES

9.2.1 WHAT IS ELECTRONIC IDSR?

You can find this information in Section 9, page XX of the 3rd Edition IDSR Technical Guidelines Booklet Four.

Electronic IDSR (eIDSR) is the application of electronic tools to the principles of IDSR to facilitate prevention, prediction, detection, reporting and response. It is based on:
(a) Standardised interoperable and interconnected information systems administered within the national context.
(b) Rapid collection, analysis, reporting and use of disease/events data in real-time for appropriate public health action.

**Note following point**

eIDSR is not a new surveillance system nor a software but is the use of electronic tools/platforms to facilitate implementation of IDSR activities

### 9.2.2 WHAT IS THE RATIONALE OF EIDSR?

**Note these points:**

(a) There are limitations of the current approaches to IDSR which include:
   (i) Cumbersome manual procedures and paper methods to collect and transmit data.
   (ii) Health workers have to travel long distances on difficult terrains to submit their surveillance data/reports.
       • This leads to delays in getting information on time for action, especially if there is a suspected outbreak.
   (iii) Difficult compiling reports from various sources and provide these to higher level offices at regular intervals and to different administrative levels.
   (iv) Data storage and transport can be difficult, and there is a risk of data damage and loss.
   (v) Risk of omitting valuable information when reporting to higher levels.

(b) Recent initiatives and resolutions, regionally and globally have recognized the potential of digital technologies to advance the Sustainable Development Goals (SDGs), and support health systems in all countries in health promotion and disease prevention.

(c) The eIDSR is hence developed to reflect the following recent adopted overarching frameworks:
   (i) Integrated Disease Surveillance and Response ((AFR/RC/48.8)
   (ii) IHR (2005) (WHA58.3)
   (iii) Regional Strategy for Health Security and emergencies strategy (AFRO/RC66/6)
   (iv) eHealth resolution and decision (WHA58.28)
   (v) Digital health (WHA71.7)
9.2.3 BENEFITS OF EIDSR

Note the following benefits of eIDSR

(a) Early alert and detection:
   (i) Speed of outbreak detection is improved as information will be rapidly captured.
   (ii) Time and place of an outbreak can be predicted enabling opportunities for prevention and control.

(b) Timely reporting:
   (i) Rapid and timely transmission of data from lower reporting units to higher levels to enable appropriate public health action.

(c) Standardization of data:
   (ii) Enables data gathering to be consistent and complete.
   (iii) Allows comparison and facilitate easy data exchange.

(d) Better data transmission, management including storage:
   (i) Better data transmission and organization into accessible format and useful for interpretation.

(e) Interoperability, and sharing of data:
   (i) Provides an opportunity for exchange and use of information across entities, especially if the standards and workflow have been well developed for the eIDSR system to allow interoperability with other information systems.

(f) Automated transmission and analyses and improved quality data:
   (i) Reduces data entry errors and facilitate automated data analysis saving considerable effort for health staff.

(g) Ultimately contribute towards good response, better Monitoring and Evaluation:
   (i) Provides a platform for data storage and the automatic analysis across the health facilities.
   (ii) Can be used for monitoring and evaluation of various public health interventions.

(h) Reduces cost:
   (i) eIDSR leads to early detection of disease outbreaks, which in effect, can contribute to the overall cost reduction associated with management of these outbreaks.
9.2.4 KEY GUIDING PRINCIPLES OF ESTABLISHING ELECTRONIC REPORTING SYSTEM - EIDSR

To effectively establish an eIDSR system requires the following key guiding principles

(a) Use existing infrastructure  
(b) Standardization  
(c) Integration  
(d) Interoperability  
(e) Collaboration  
(f) Near real-time approach  
(g) One-health approach  
(h) Data security  
(i) User-friendly system

Your facilitator will present and explain these guiding principles of establishing eIDSR and further demonstrate the process of developing and implementation eIDSR. You can find this information in Section 9, pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four.

9.2.5 USE OF EIDSR IN CORE SURVEILLANCE FUNCTIONS

Note these points:

Within the context of the country, the establishment of electronic platform can facilitate the implementation of the following IDSR activities as described in the various sections of the 3rd Edition IDSR Technical Guidelines:

(a) Real-time reporting (indicator and event-based surveillance) — Refer to Introduction Section of the 3rd Edition IDSR Technical Guidelines Booklet One.  
(b) Alert notification (community and health facility reporting) - Refer to section 2 of the 3rd Edition IDSR Technical Guidelines Booklet Two.  
(c) Case-based reporting - Refer to section 2 of the 3rd Edition IDSR Technical Guidelines Booklet Two.  
(d) Outbreak/emergency management - Refer to Section 4 and 6 Case investigation – Refer to section 6 of the 3rd Edition IDSR Technical Guidelines Booklet Three.
(e) Contact tracing- Refer to section 6 of the 3rd Edition IDSR Technical Guidelines Booklet Three.
(f) Logistics and supply chain management - Refer to section 6 of the 3rd Edition IDSR Technical Guidelines Booklet Three.
(g) Real time outbreak line listing –Refer to section 4 and 6 of the 3rd Edition IDSR Technical Guidelines Booklet Three.
(j) Supportive supervision - Refer to Section 8 of the 3rd Edition IDSR Technical Guidelines Booklet Four.
(k) Monitoring and Evaluation and Data Quality Assessment (DQA) - Refer to section 8 of the 3rd Edition IDSR Technical Guidelines Booklet Four.

9.2.5.1 Use of eIDSR in reporting

Note these points:

(a) Electronic IDSR reporting tools- Electronic IDSR (e-IDSR).
   (i) All the IDSR reporting paper-based forms are converted into electronic forms using designated software and computers/tablets and are used to capture all the IDSR data and transmitted to next level by internet.

(b) Use the electronic reporting tools to report immediate case-based reports, weekly and monthly summary reports.

(c) All diseases under immediate reporting should be reported under aggregated weekly report in the IDSR Weekly Summary Reporting Form. With eIDSR, the aggregated weekly/monthly report in the IDSR Weekly/Monthly Summary Reporting Form will be updated automatically in the database.

(d) On electronic platforms, ensure you protect the patient privacy by encrypting patient ID data so only few health staff can access the detailed information, or you can also set up appropriate user rights such as creating a password for your use when using a common office computer.

(e) Once data is captured electronically then it can be processed and analysed using any of the computer software like STATA, Epi-Info etc.
Your Facilitator will demonstrate the information flow for eIDSR using the diagram below.

Figure 9.1: Information flow for eIDSR

9.2.6 ROLES AND RESPONSIBILITIES AT DIFFERENT LEVELS IN THE CONTEXT OF REAL-TIME REPORT AND OUTBREAK/EMERGENCY MANAGEMENT

You will refer to section 9, pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Four and read one after the other the roles and responsibilities at different levels in the context of real-time report and outbreak/emergency management whilst your Facilitator explains
9.2.7 SUPERVISION, MONITORING AND EVALUATION OF THE EIDSR SYSTEM

Note these points:

(a) eIDSR development and implementation requires constant monitoring. This is very important during the initial system development and implementation phase.

(b) System functionality can be evaluated by looking on issues like:
   (i) Acceptability or willingness to participate:
       • i.e. number of people who are accessing and using the system correctly.
   (ii) Accessibility:
       • Is the system accessible from the reporting site?
       • In some areas where mobile telephone is used for eIDSR, accessibility is important aspect and this can hamper the reporting of diseases on time.
   (iii) Data quality and completeness:
       • Check for any data errors.
   (iv) System flexibility, portability and stability.

(c) To improve data use at service level, users should be encouraged to use the system with regular feedback of information to the lower levels; information flow should not be one-way.

(d) Other system performance indicators include the core surveillance indicators for monitoring IDSR (refer to section 8 of the 3rd Edition IDSR Technical Guidelines Booklet Four).

(e) The IDSR support supervision checklist shall be used during supervisory visit, while considering the integrated needs from other teams in terms of joint supervision.
   (i) Supportive supervision checklist has to be updated to incorporate eIDSR and uploaded as part of the eIDSR platform.

(f) The overall evaluation of the eIDSR system and its interoperability with the HMIS and eHealth system should be done periodically, using a blend of internal and external experts.
9.2.8 PRACTICAL SESSIONS

PRACTICAL SESSIONS

Instructions

It is expected that countries will develop practical sessions to take the participants through hands-on practical sessions using the country specific eIDSR tools for: data capture, reporting, data analysis, monitoring and supervision etc.

9.3 SUMMARY

POINTS TO REMEMBER:

(a) Electronic IDSR (eIDSR) is the application of electronic tools to facilitate implementation of IDSR activities.

(b) In the establishing eIDSR use existing infrastructure and systems.

(c) The first step in the process of developing and establishing eIDSR is to engage stakeholders and establish a technical working group.

(d) eIDSR development and implementation requires constant monitoring especially during the implementation phase.

9.4. REFERENCE