# IDSR Data Interpretation Guide for CHMTs

## Overview

**Regular use of this interpretation guide (along with analyses produced by the IDSR database) will allow the CHMT to:**

- Detect epidemics early and respond early
- Estimate the number of cases/deaths from priority infectious diseases
- Identify risk factors associated with diseases
- Evaluate whether the district has reached disease control targets
- Identify potential problem areas and plan additional investigations as required
- Establish the next public health action steps for improved health care delivery in the district

## Setting IDSR Targets

**What is a target?**

- Criteria against which a district measures its performance towards goals such as reduction of disease burden (cases, deaths, disability) over time

**Why set targets?**

- Assess performance towards achieving planned/desired goals
- Provide incentives for action

**Key factors to consider when setting targets:**

- National and regional targets
- International targets
- Current performance level
- Available resources (personnel, equipment, funds, supplies)
- Other related CHMT commitments

**For further information, see:**
- National IDSR Guidelines
- IDSR District Training Materials
- Standard Case Definitions Job Aid
- IDSR Surveillance Data Analysis Book
- Disease Outbreak Management Field Manual
- IDSR Laboratory Job Aids
- District IDSR Analysis Standards Job Aid
- Disease-specific Roles & Responsibilities

## IDSR data interpretation issues to keep in mind

**Why is data interpretation important?**

**Data collected by the IDSR surveillance system are used by the CHMT for:**

- Planning, implementing, and evaluating public health interventions and programs
- Determining the need for public health action
- Assessing the effectiveness of disease prevention and control activities in the district

**Analysis and interpretation of quality IDSR data can help the CHMT to:**

- Detect trends signaling changes in the occurrence of important infectious diseases in the district
- Detect epidemics early so that the district can respond quickly and minimize the number of cases and deaths
- Provide estimates of how many cases and deaths in the district are due to priority infectious diseases
- Identify weaknesses in case management and clinical practice in facilities, so that action can be taken to improve facility performance
- Monitor, evaluate, and improve IDSR system performance

**IDSR DATA INTERPRETATION AND USE CAN REDUCE THE NUMBERS OF CASES AND DEATHS DUE TO PRIORITY INFECTIOUS DISEASES IN THE DISTRICT**

## IDSR Data Interpretation Steps

**1. Look at patterns (trends) over time**

- Recognize normal seasonal variations of diseases in the district
- Detect unusual patterns requiring further investigation
- Determine whether disease control efforts are having a positive impact

Review trends in numbers of cases to:

- Recognize which of the priority diseases affects the largest portion of the population
- Prioritize disease control efforts when resources are limited
- Determine whether outbreaks are occurring
- Determine whether disease control efforts have been successful

Review trends in numbers of deaths to:

- Recognize which diseases have the largest impact in terms of mortality
- Prioritize distribution and use of limited resources for diseases causing the most mortality
- Evaluate and determine whether it is necessary to improve case management or access to health facilities

**2. Look at the district as a whole (all facilities combined):**

- Combine IDSR data from all facilities to show the overall picture of the disease situation in the district and track changes over time
- Measure progress against disease targets in the district

**3. Look at individual facilities:**

- Outbreaks may only occur in a small part of the district (look for a large number of cases occurring in just one facility or neighbouring facilities)
- Compare facilities against each other in terms of numbers of cases and deaths for each disease. This will help to determine where efforts should be focused or where control and prevention strategies should be reviewed and/or changed.

**4. Look at inpatients and outpatients separately**

- Inpatients tend to have more severe disease and their diagnosis is often more accurate
- Different types of prevention and control measures may be required in inpatient and outpatient populations
- Often disease control programs have objectives to reduce the number of severe cases and deaths. Inpatient information may be more useful when determining whether specific disease control programs are working.

# Interpreting Morbidity (Cases) and Mortality (Deaths) Data

## Possible reasons for increasing cases or deaths

- Has a new health facility or hospital opened in the district?
- Is there improved access to some health facilities in the district? (i.e. a new ambulance, improved roads)
- Are clinicians in the district using different diagnostic criteria or standard case definitions so that more patients are classified as having certain diseases?
- Have there been data recording errors?
- Has there been an increase in the number of health facilities reporting information to the surveillance system?
- Does the increase reflect normal seasonal variation, for example, does the increase occur at the same time as the rainy season?
- Has surveillance improved, so that more facilities are sending their IDSR reports to the district?
- Has anything unusual occurred (such as environmental changes, population movements, etc.) that would lead to an increase in cases and/or deaths in the district?
- After considering the factors above, does it appear that more people really are getting sick or dying in the district? If so, why? This may require further investigation.

## POSSIBLE ACTIONS

***Focus on areas where the CHMT can make an impact!***

- Review IDSR work at all supervision visits
- Work with facility IDSR focal persons to improve data quality
- Train new facility & CHMT staff in IDSR procedures
- Ensure facilities have IDSR materials and know how to use them
- Improve and implement health education activities
- Review and revise disease targets based on current data
- Provide feedback to facilities quarterly
- Incorporate IDSR activities into CCHP
- Work with laboratories to strengthen case confirmation and outbreak procedures

## Possible reasons for decreasing cases or deaths

- Have any health facilities or hospitals closed (fewer reporting sites)?
- Are fewer facilities in the district reporting IDSR data to the district? Are you missing data from facilities or hospitals likely to be seeing cases of the disease?
- Have staffing changes (improvements) been made at any of the health facilities, leading to better patient care?
- Have there been data recording errors?
- Have clinicians started using different standard case definitions, so fewer patients are classified as having certain diseases?
- Does the decrease reflect normal seasonal variation, for example, does the decrease occur during the typical "low season" for the disease?
- Have there been any large population movements out of the district?
- Does the decrease correspond to the introduction of any disease control or prevention programs? Does the decrease reflect success of these programs?
- Have health education campaigns been implemented effectively?
- After taking into consideration the factors above, does it appear that fewer people really are getting sick or dying in the district? If so, why? This may require further investigation. ***Real declines should be noted if the CHMT is implementing effective disease prevention measures.***

**If anything unusual appears:** *Look first for obvious reasons for unusual increases or decreases in the numbers of cases or deaths. If there is no obvious explanation, then the district may be experiencing a **REAL** change in disease trends. If there is a **REAL** increase, the district may be having an **OUTBREAK**, and further investigation is required (**See Disease Outbreak Management Field Guide**). If there appears to be a **REAL** decline in cases or deaths, see if it correlates with any disease control activities recently undertaken. These data may provide evidence that the activities have been successful and can be used to further guide the district's disease control and prevention activities.*

# Interpreting Timeliness and Completeness of Facility Reporting

| Issues to consider | Possible Actions |
|---|---|
| *Are the same facilities consistently late with reports or not reporting at all?* | • Identify reasons for lateness or no reporting and work with these facilities to improve performance. |
| *Are many different facilities late or not reporting at different times?* | • Identify the facilities needing assistance and determine possible reasons for reporting problems. Work on problem solving with facility staff and identify concrete solutions. |
| *Is there a difference between performance on weekly reports versus monthly reports?* | • Determine why one set of reports is more challenging than the other. Work with facilities to improve their capacity to do both sets of reports. |
| *Is timeliness or completeness decreasing from week to week or month to month?* | • Determine causes of poor performance (talk with facility staff; assess during supervision visits). Problem solve with facility staff to identify ways to address weak areas. |

## Possible Causes of Poor Reporting Performance:

- Transport problems (difficulty sending reports to district)
- Communications problems
- Facility staff do not know deadlines and thus do not send reports in on time
- Facility staff have difficulty with reports and take a long time to prepare them or do not do them at all
- New staff do not know that they should be reporting
- Insufficient supply of IDSR reporting forms at the facilities
- Facility staff send reports but do not know they are late (due to lack of feedback from the district)
- Facility staff do not understand importance of IDSR reporting and how the data benefit them

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***---Assess district IDSR performance regularly---        ---Document data interpretation and use---***