WHO guidance on TB surveillance (2024)

Chapter 6: Digital surveillance

TB Monitoring, Evaluation and Strategic Information Unit
Global Tuberculosis Programme

World Health Organization

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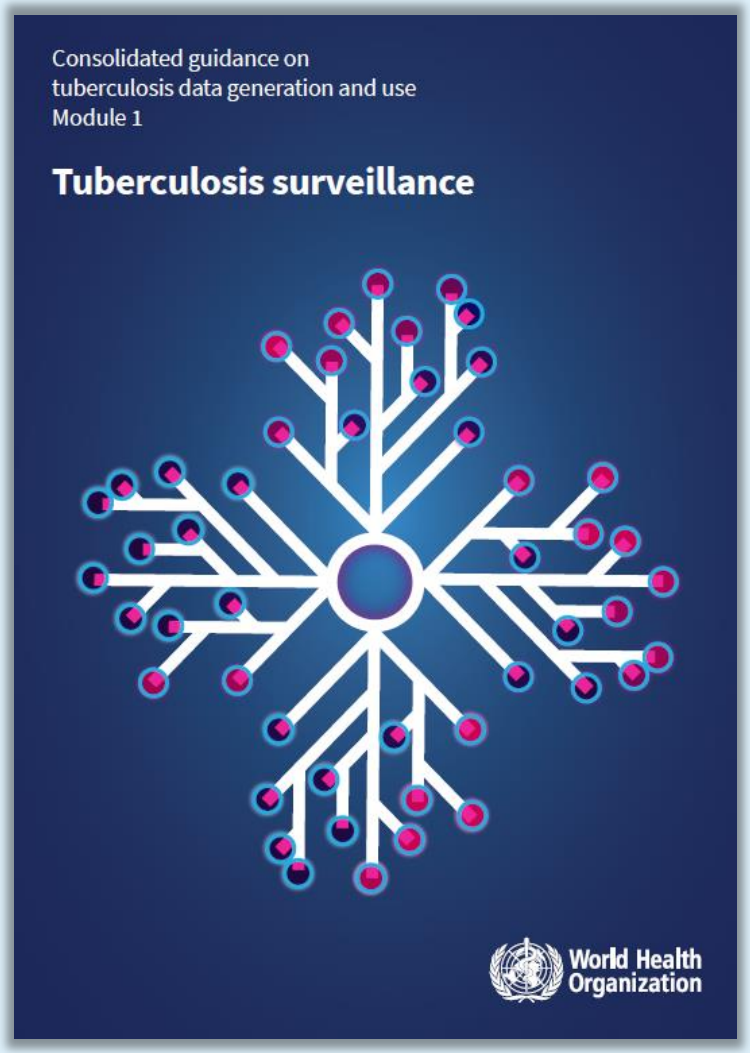
Consolidated guidance on tuberculosis data generation and use. Module 1:

Tuberculosis surveillance

https://iris.who.int/handle/10665/376612



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Chapter 6 is divided in three major sections:

Section 6.1 Advantages of case-based digital surveillance

Section 6.2 How should national case-based digital TB surveillance work in practice?

Section 6.3 WHO digital packages for TB surveillance

6.1 Advantages of case-based digital surveillance

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Advantages of case-based digital surveillance

Section 6.1 discusses the advantages of using a case-based digital system for TB surveillance compared with an aggregate paper-based system.

The advantages of case-based digital surveillance are as follows:

- **Reductions in recording and reporting workload:** frontline health care workers are spared from time-consuming and error-prone job of compiling aggregate reports from paper registers.
- **Better data quality:** automated checks can be built into a digital system to help ensure the accuracy, consistency and completeness of the data, and identify potential duplicate entries.
- **Faster access to data at all levels:** records can be accessed in real-time to enable more timely data-informed decisions.
- **More informative analysis without requiring an additional reporting workload:** additional disaggregations of the data and more detailed analyses can be carried out.
- **Enhanced use of data through record linkage between databases:** data across different digital datasets can be linked using personal identifiers to help minimize underreporting of TB cases in the national TB register. (See Web Annex C on record linkage exercises).

6.2 How should national case-based digital TB surveillance work in practice?

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National case-based digital TB surveillance in practice

Section 6.2 discusses the key design features that are required for case-based digital TB surveillance and the prerequisites for successful implementation and maintenance. Eight case studies of national experience are provided.

Unique identifiers:

- A unique identifier should be used at all locations where TB data are being collected so that data can be linked to the same individual wherever they access care.
- Examples of unique identifiers include a single number assigned to all individuals (e.g. national health insurance number) and biometric data (e.g. fingerprint).
- Unique identifiers must be easily accessible when an individual interacts with the health system.
- Individual-identifying data and information should be anonymous and confidential, and their collection should adhere to ethical standards.

National case-based digital TB surveillance in practice

Section 6.2 (continued) discusses the key design features that are required for case-based digital TB surveillance and the prerequisites for successful implementation and maintenance. Eight case studies of national experience are provided.

Integrated system for TB surveillance:

- There should be a single, comprehensive digital system for TB surveillance that captures data on all people with TB, regardless of drug-resistance status.
- Duplication of efforts in collecting data should be avoided. Frontline workers should not have to enter the same data in multiple systems.
- As far as possible, project-based solutions should be limited. If unavoidable, a clear and time-bound plan should be in for their eventual integration into the national architecture for public health surveillance.

National case-based digital TB surveillance in practice

Section 6.2 (continued) discusses the key design features that are required for case-based digital TB surveillance and the prerequisites for successful implementation and maintenance. Eight case studies of national experience are provided.

Interoperability or integration with the rest of the public health surveillance system:

- The digital surveillance system for TB should be interoperable with, or integrated into, the rest of the public health surveillance system.
- A national committee or technical working group for interoperability or integration can be established, with representation from entities such as those responsible for disease surveillance (including TB), health information systems, health insurance, health statistics, health financing, and health care in correctional facilities.
- A clear set of terms of reference should be agreed upon and cover governance mechanisms, health systems and financing,

6.3 WHO digital packages for TB surveillance

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WHO digital packages for TB surveillance

Section 6.3 discusses key products that have been developed at WHO to support the transition from paper-based to digital surveillance. These include two packages developed in the open source DHIS2 platform (one for the collection of case-based data and one for the collection of aggregate data) and the Digital Adaptation Kit for TB.

Digital Adaptation Kit for TB (TB DAK):

- A package of human-readable specifications of the digitization of TB clinical guidelines, associated M&E, and TB surveillance standards.
- There are three intended use-cases at the country level:
  - To guide the design, development and implementation of a new software for the collection and reporting of TB data aligned with M&E of clinical guidelines and TB surveillance, and to support clinical decision making at the health facility.
  - To guide the update of existing digital solutions that are already implemented in the country to align with global guidance and guidelines.
  - To guide the update of paper registers and data collection forms.

https://www.who.int/publications/i/item/9789240086616

WHO digital packages for TB surveillance

Section 6.3 (continued) discusses key products that have been developed at WHO to support the transition from paper-based to digital surveillance. These include two packages developed in the open source DHIS2 platform (one for the collection of case-based data and one for the collection of aggregate data) and the Digital Adaptation Kit for TB.

Two DHIS2 packages are readily available for country adoption:

1. DHIS2 digital package for case-based data (tracker)

- Designed for the registration and longitudinal tracking of individuals throughout the pathway of TB prevention and care.
- Modules available for recording of presumptive TB cases, TB prevention, lab testing and results, case registration, treatment initiation and outcomes.
- Intended to be used at the level of the health facility for recording of TB data in real-time to establish and maintain a **digital TB case register**.
- DHIS2 automatically aggregates recorded case-based data, calculates core indicators and presents data on standardized dashboards for visualization and analysis.
- Tracker is not designed to support the clinical management of patient care.
- Web Annex E summarises the lessons learnt and best practices from implementing DHIS2 TB tracker in five pilot countries.

Metadata available for country adaptation and implementation: https://dhis2.org/health-data-toolkit/#tb-tracker

WHO digital packages for TB surveillance

Section 6.3 (continued) discusses key products that have been developed at WHO to support the transition from paper-based to digital surveillance. These include two packages developed in the open source DHIS2 platform (one for the collection of case-based data and one for the collection of aggregate data) and the Digital Adaptation Kit for TB.

Two DHIS2 packages are readily available for country adoption:

2. DHIS2 digital package for aggregate data

- Designed for the management, analysis and use of core TB surveillance data in aggregate format.
- Data entry forms correspond to the quarterly and annual reporting templates recommended by WHO.
- Data are manually aggregated from paper registers and entered into a **digital quarterly and annual reporting form.**
- Data entry can be at the health facility or at higher administrative levels (such as district).
- DHIS2 automatically calculates core indicators and presents data on standardized dashboards for visualization and analysis.

Metadata available for country adaptation and implementation: https://dhis2.org/health-data-toolkit/#tb-aggregate

For further information or in case of any questions, contact:

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Links to the guidance on TB surveillance

Consolidated guidance on tuberculosis data generation and use. Module 1: Tuberculosis surveillance
https://iris.who.int/handle/10665/376612

Web annex A: Commonly observed problems and associated solutions.
https://iris.who.int/handle/10665/376481.

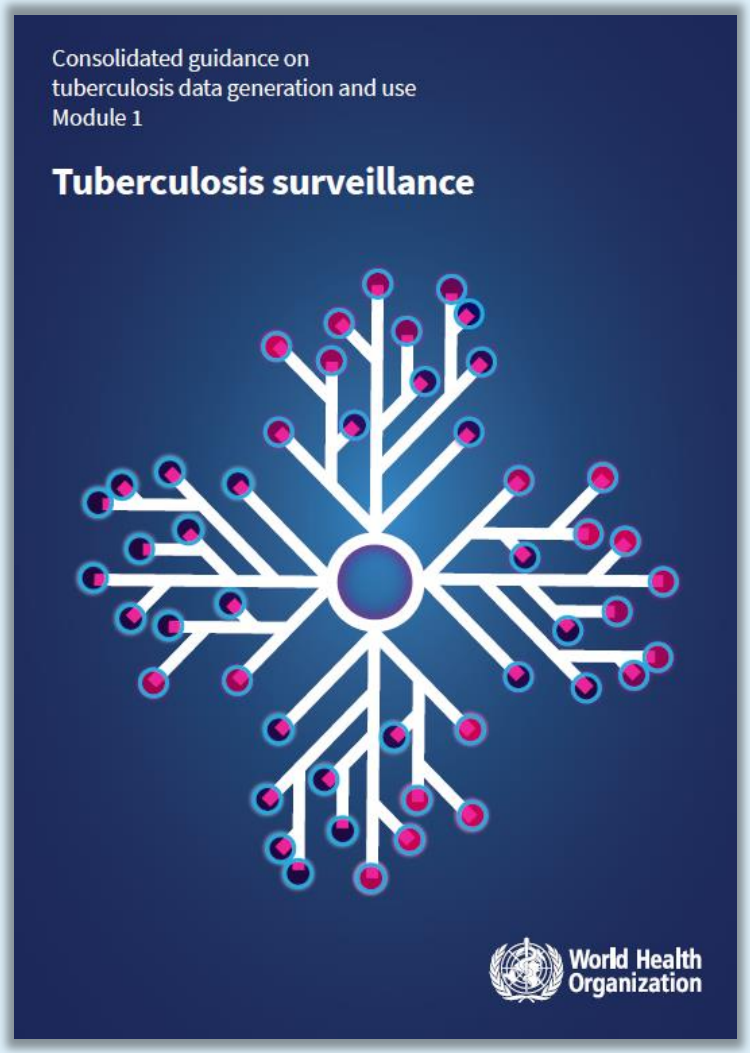
Web annex B: Standards and benchmarks for tuberculosis surveillance and vital registration systems: checklist, 2nd ed.
https://iris.who.int/handle/10665/376483

Web annex C: Record-linkage exercises.
https://iris.who.int/handle/10665/376484

Web annex D: Reporting of aggregated data and calculation of core indicators: templates and formulae.
https://iris.who.int/handle/10665/376486

Web annex E: Examples of how to report diagnosis, start of treatment and treatment outcomes.
https://iris.who.int/handle/10665/376489

Web annex F: Evaluation of the WHO DHIS2 case-based package for tuberculosis surveillance (TB tracker) in five pilot countries: summary of key findings.
https://iris.who.int/handle/10665/376490



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