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Editorial

Overview of web-based public health surveillance system in Uttarakhand: Integrated health information platform under integrated disease surveillance programme

Pankaj Kumar Singh[1,*], **Akhilesh Tripathi**[2], **Amrita Gupta**[3], **Shiv Kumar Yadav**[4]

[1]*IDSP, Department of Medical Health and Family Welfare, Dehradun, Uttarakhand, India*
[2]*Voluntary Health Services, Dehradun, Uttarakhand, India*
[3]*Voluntary Health Services, New Delhi, India*
[4]*Dept. of Community Medicine, Government Doon Medical College, Dehradun, Uttarakhand, India*

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1. Introduction

The Integrated Health Information Platform (IHIP) is a web-enabled near real-time electronic information system that is embedded with all applicable Government of India's e-Governance standards, Information Technology (IT), data & metadata standards to provide a state-of-the-art single operating picture with geospatial information for managing disease outbreaks and related resources. The Integrated Health Information Platform was launched on April 1st, 2021 in all states and UTs of India including Uttarakhand. At present, three modules of IHIP are functional i.e. Integrated Disease Surveillance Programme (IDSP), Malaria Module under National Vector Borne Disease Control Programme (NVBDCP) and National Program for Climate Change & Human Health.[1,2]

Key features of Integrated Health Information Platform (IHIP)

1. Real-time data reporting (through mobile application); accessible at all levels (from villages, states and central level)
2. Advanced data modelling & analytical tools
3. GIS-enabled Graphical representation of data into an integrated dashboard
4. Role & hierarchy-based feedback & alert mechanisms
5. Geo-tagging of reporting health facilities
6. Scope for data integration with other health programs

The IHIP has the ability to:

1. Describe and analyze geographic variations in diseases in the context of demographic, environmental, behavioural, socioeconomic, genetic, and infectious risk factors
2. Interpret geographic correlations of persons with their socioeconomic and demographic attributes
3. Conduct public health surveillance in the context of One Health

2. Integrated Health Information Platform Module under Integrated Disease Surveillance Programme

The key objective of the Integrated Disease Surveillance Programme (IDSP) is to strengthen/maintain a decentralized laboratory-based IT-enabled disease surveillance system for epidemic-prone diseases to monitor disease trends and to

* *Corresponding author.*
E-mail address: drpankajmph@gmail.com (P. K. Singh).

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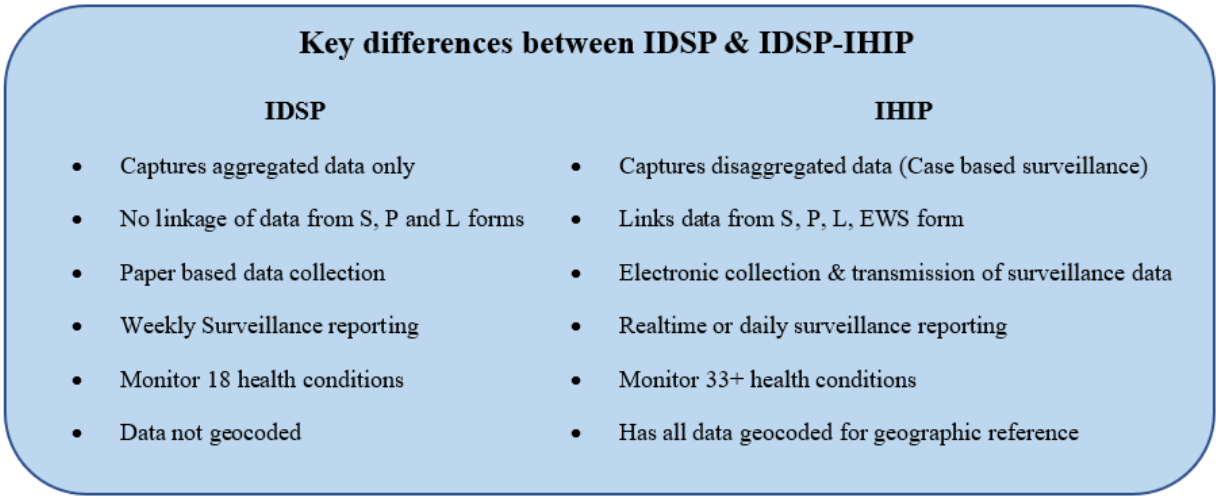

Fig. 1: Key differences between IDSP & IDSP-IHIP

detect and respond to outbreaks in the early rising phase through trained Rapid Response Team (RRTs).

IDSP-IHIP is capturing real-time surveillance data for 33 plus disease conditions and collects case-based information with the demographic, clinical, and laboratory for preventive control measures.[3] (Figure 1)

3. Reporting forms and Modules under IDSP-IHIP

In IDSP-IHIP, the system mostly relies upon the reporting by the ANMs, Doctors/MOs, Lab Incharges/LTs (Indicator-based surveillance). The system captures real-time disaggregated data (case-based surveillance) and links data from Syndromic, Presumptive and Laboratory (S, P & L) forms to cover 33+ disease conditions. There are 3 reporting forms under IHIP -

1. S-Form (Syndromic Form): S-Form is being reported from Sub Centres by ANMs. The reports can be uploaded through the desktop or Mobile App version.
2. P-Form (Presumptive Form): P-Form is being reported from the health facility level (public or private) by Doctors/Medical Officers.
3. L-Form (Laboratory Form): L-Form is being reported from laboratories (public or private) linked with the health facilities doing P form entry.

In addition to the formal reporting, IHIP has introduced informal reporting also into the system, in which all health events/EWS are being reported and considered for investigation (Event-based surveillance). Upon receiving such a report/s, the Medical Officer of the concerned health facility investigate the incidence and reports further assistance and action from the district/state. Additionally, some special surveillance modules are also added and functional under IHIP e.g. COVID-19, INSACOG (WGS) etc.

The District Surveillance Unit, State Surveillance Unit and Central Surveillance Unit can visualize the aggregated and disaggregated case-based information, as and when required. Upon identification of early warning signals (EWS), the Rapid Response Team is mobilized for timely public health action/s.

4. Benefits of IHIP

The IHIP offers several benefits, including improved care coordination, patient engagement, and public health outcomes. The platform enables healthcare providers to access and share patient data, facilitating a more coordinated and patient-centred approach to care. Moreover, the IHIP platform is being utilized to improve public health outcomes by providing a centralized platform for monitoring disease outbreaks, tracking health trends, and evaluating public health interventions.

5. Conclusion

The IHIP is being implemented in pan India including Uttarakhand state, where it is being integrated with the IDSP system. The IHIP is a valuable tool for healthcare providers, policymakers, researchers, and patients, as it provides a centralized platform for accessing, analysing, and sharing health-related data and information. The capacity building and orientation of doctors, medical officers, health care workers and data entry/management staff have been done in Uttarakhand state and the analysis and feedback dissemination of the IHIP is being conducted. Integrating IHIP with IDSP has strengthened disease surveillance and response activities by providing a centralized platform for collecting and analysing health-related data.

6. Way Forward

In-depth analysis of the disease surveillance data available on IHIP for early diagnosis and prevention of epidemic-prone diseases.

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Author biography

Pankaj Kumar Singh, State Nodal Officer https://orcid.org/0000-0003-1733-0041

Akhilesh Tripathi, Regional Technical Officer https://orcid.org/0000-0001-7952-1287

Amrita Gupta, Senior Technical Officer https://orcid.org/0000-0002-3633-6038

Shiv Kumar Yadav, Associate Professor https://orcid.org/0000-0002-8615-817X

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