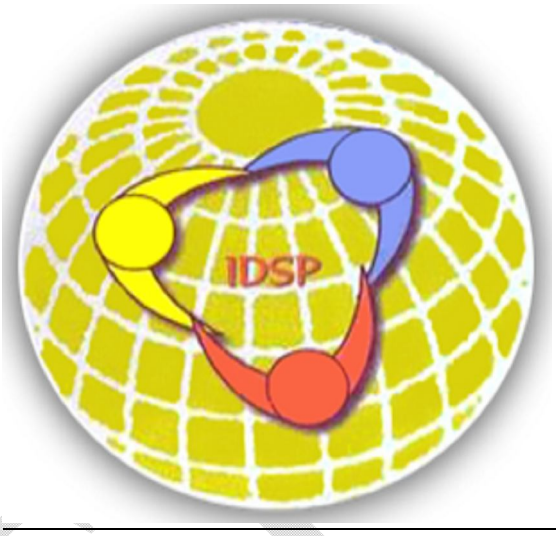
Integrated Disease Surveillance Project (IDSP)



Training Manual on Data Management

National Centre for Disease Control (NCDC)
22 Sham Nath Marg, Delhi – 110 054
Ministry of Health & Family Welfare
Government of India

TABLE OF CONTENTS

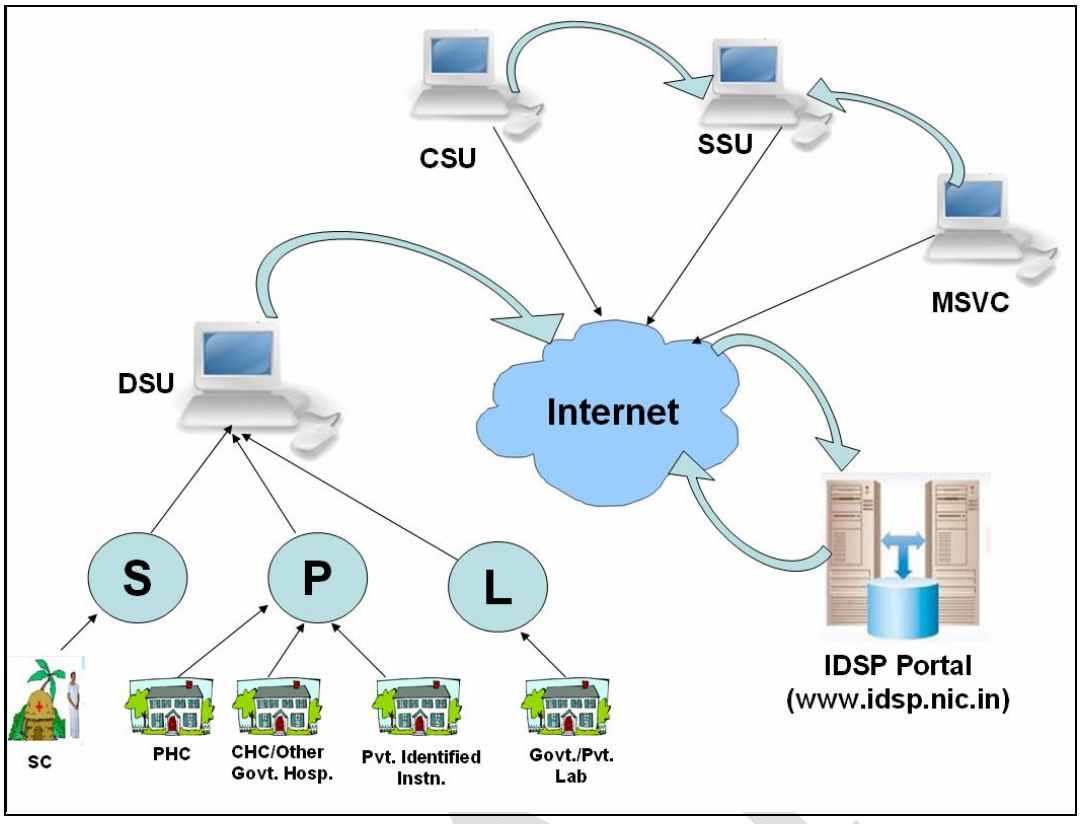
1. BACKGROUND

Integrated Disease Surveillance Project (IDSP) is a decentralized, State based Disease Surveillance Programme intended to detect early warning signals of epidemic prone diseases. It is intended to detect early warning signals of Epidemic prone diseases and help to initiate an effective response in a timely manner. Major components of the project are:

- Integration and decentralization of surveillance activities
- Strengthening of public health laboratories
- Human Resource Development – Training of State Surveillance Officers (SSO), District Surveillance Officers (DSO), Rapid Response Team (RRT), other medical and paramedical staff
- Use of Information Technology for collection, collation, compilation, analysis and dissemination of data
- Avian Influenza Human Component

Under IDSP, data is collected on a weekly (Monday–Sunday) basis. The information is collected on three specified reporting formats[1], namely "S" (suspected cases), "P" (presumptive cases) and "L" (Laboratory confirmed cases) filled by Health Workers, Clinicians and Clinical Laboratory staff respectively. The weekly data gives the time trends. Whenever there is a rising trend of illnesses in any area, it is investigated by the Medical Officers/Rapid Response Teams (RRT) to diagnose and control the outbreak. Emphasis has been laid on reporting of surveillance data from major hospitals both in public and private sector and also Infectious Disease hospitals. On an average 20-25 outbreaks are reported every week by the States to Central Surveillance Unit, IDSP.

[1] Please refer Annexure 1-3



2. OBJECTIVE OF THE MANUAL

The objective of this manual is to provide a self learning material for the Data Management Unit at SSUs/DSUs under the Integrated Disease Surveillance Project (IDSP) for enhancing the competencies in entry, analysis and transmission of surveillance data through IDSP Portal and to understand various features relating to IDSP Portal.

This module will help to co-ordinate collection of data from reporting units; collate and analyze data for generating early warning signal; detect and document outbreaks; generate periodic reports and provide overall support to the system at District Surveillance and State Surveillance Units respectively.

3. ONLINE WEB-BASED APPLICATION- IDSP Portal (www.idsp.nic.in)

Web-based application package can be invoked using Internet Explorer browser only using the URL http://idsp.nic.in. This application is being used for uploading following information:

- Syndromic (Form 'S') / Presumptive (Form 'P') / Laboratory (Form 'L')
- Financial Monitoring Reports (FMR)
- Disease Outbreak
- Media Alerts
- Any Suggestions/Feedback

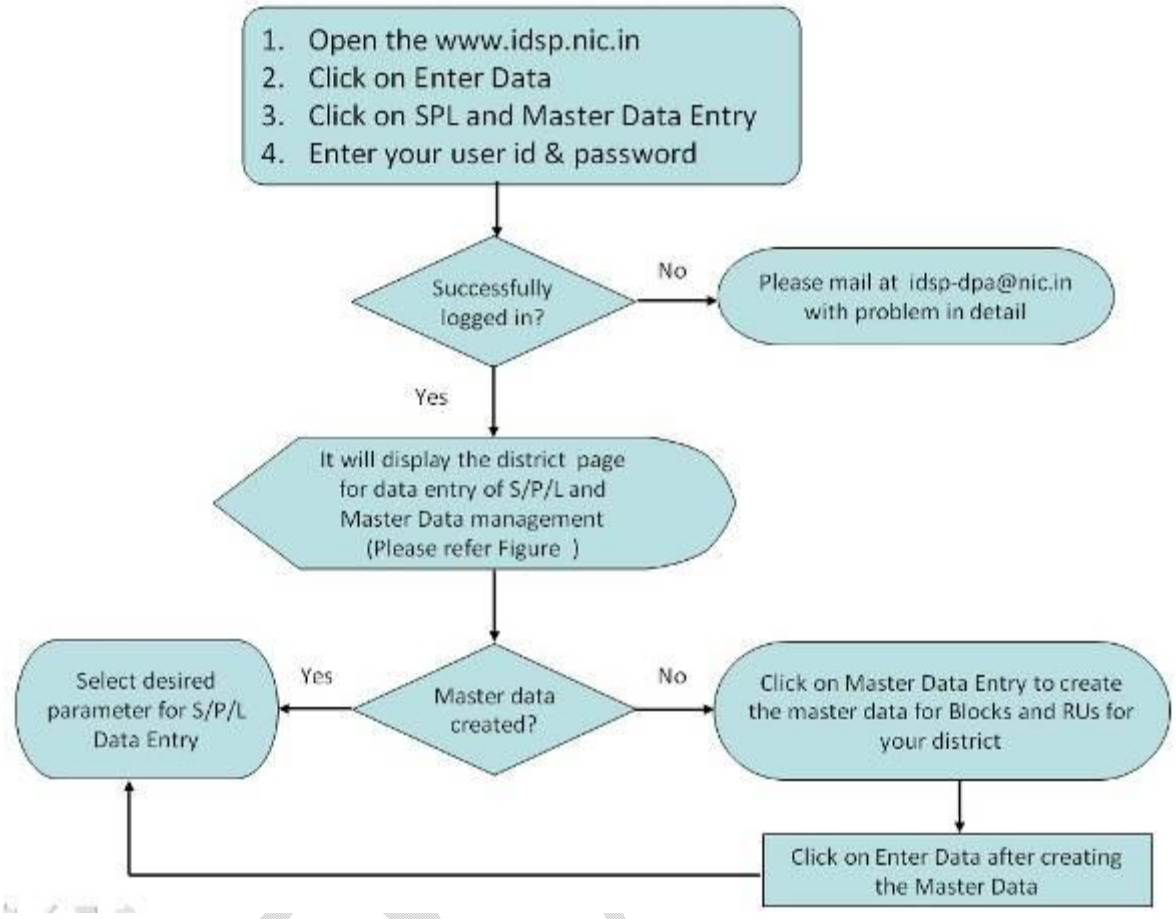
Each DSU/SSU is authorized with user id and password to upload the information while SSU is authorized to view reports and can upload the FMR for SSU. However, Resources and Feedback can be accessed by anybody without any user id & password. Resource section has all the weekly

disease outbreak alerts published by CSU since June, 2009; it also contains manuals, guidelines, reporting formats, training material and important notifications/orders.

For starting data entry of S/P/L form data ***one has to ensure the creation of Master Data without which S/P/L form data cannot be entered.*** This master data can be entered by DSU only.

- Login for SPL Forms and Master Data Entry: This is for entering the weekly surveillance information and creating/updating of master data for Block and Reporting Unit (RU) information.

Steps to create Master Data



- After successful login you will get the screen shown below (Figure 1) for SPL Data entry and master data creation/updation. For Master Data management click on Master Data Entry (Refer Figure 1)

Figure 1

The below screen (Refer Figure 2) will open to choose the options for adding/updating the block/RU information. For returning back to S/P/L Data entry click on Enter Data.

Figure 2

3.1 Basics of Master Data

- Master data is all about the geographical & demographical (Population) data for districts.
- It has Blocks, Sub-Centres, PHC/CHCs, Medical Colleges, District Hospitals, Rural Hospitals, Sub District Hospitals, Infectious Diseases Hospitals, and Private Practitioners etc. as Reporting Units (RU).
- Only the Sub-Centre type Reporting Units(RU) will have population.

3.2 Creation of Master Data

- For creating master data every district has to enter the available blocks, after which they can proceed to entry of RUs within blocks.
- RU wise data of S/P/L form will be uploaded on IDSP Portal.
- Government Medical College Hospital is to be considered as a single RU separately for P & L form.
- Block name should not be repeated in RU name.
- No RU should be divided into part A/B/C/D or 1/2/3/4 etc. i.e. for one RU there should be just one entry/record in Master Data.
- Sample RU Name e.g. <locality name>space <RU Type>.
- Segregation for P & L form can be seen at serial no. 2 & 3 and 4 & 5 in the Figure 3.

Figure 3

3.3 Type of Reporting Units

S. NO	Reporting Unit Type	RU Type Code	Forms Type	Focal Point
1	SC/HSC	SC	S	**Health Workers**
2	HC/Addl PHC/New PHC	HC	P	**Medical Officer**
3	CHC/Rural Hospitals	CH	P	
4	Infectitious Disease Hospital (IDH)	ID	P	
5	Govt. Hospital / Medical College*	MH	P	
6	Private Health Center/ Private Practitioners	PC	P	
7	Private Hospitals*	PH	P	
8	Private Labs	PL	L	**Lab Incharge**
9	Government Laboratories	GL	L	
10	Private Hospitals(Lab.)	LPH	L	
11	CHC/Rural Hospitals(Lab.)	LCH	L	
12	HC/Addl PHC/New PHC(Lab.)	LHC	L	
13	Infectitious Disease Hospital (IDH)(Lab.)	LID	L	
14	Govt. Hospital / Medical College(Lab.)	LMH	L	
15	Private Health Center/ Private Practitioners(Lab.)	LPC	L	

* For Medical Colleges and Hospitals Data will only be collected from Department of Medicine & Department of Pediatrics.

4. Other icons at "Enter Data"

Other icons as shown in figure 4 given below are meant for

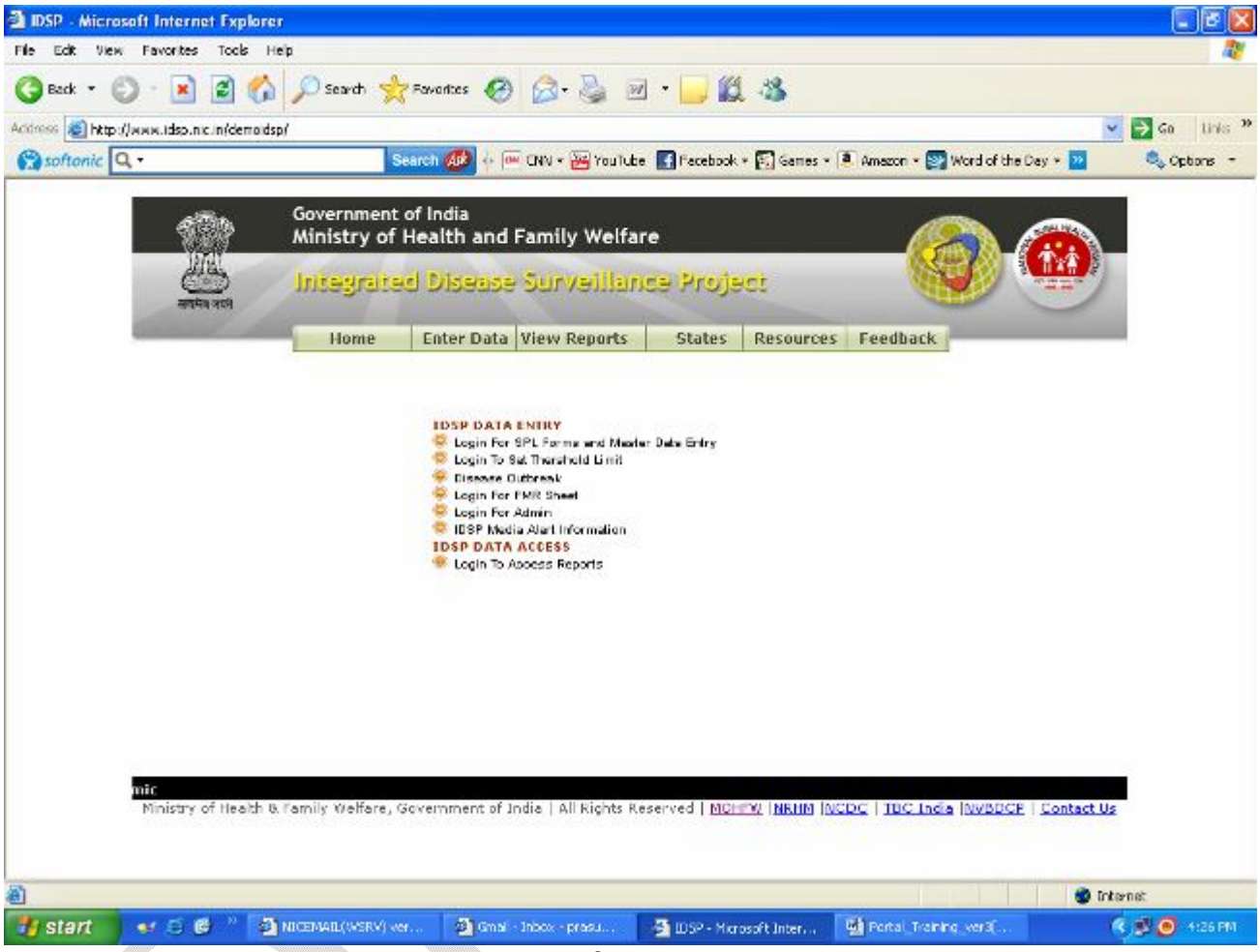


Figure 4

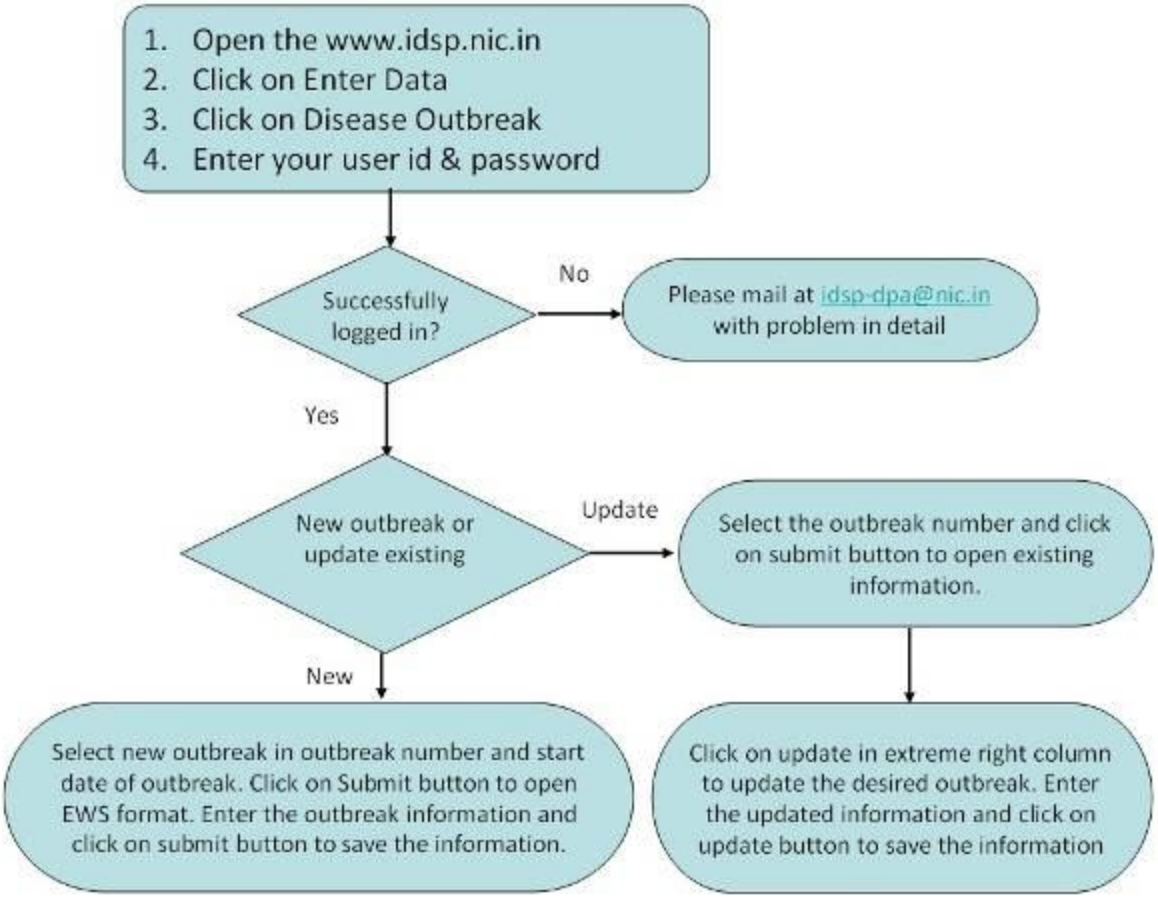
4.1 Disease Outbreak :

This option is meant for reporting disease outbreak on SOS basis by the SSU/DSU.

- Click on add to upload the new outbreak information. For adding, select the new outbreak ['in outbreak number'] then choose the start date of outbreak from the calendar for reporting. The reporting format for disease outbreak is similar to EWS format of IDSP. Provide the maximum available information while reporting any outbreak.

- Click on update for updating the already uploaded outbreak information, in case of update, it will display the list of outbreaks. Select the outbreak number; click on 'update' in the last column of the outbreak to be updated.

Steps to enter/update Disease Outbreak



- After successful login you will get the screen shown below (Figure 5) for Disease Outbreak. Here one can add or update outbreaks reports.

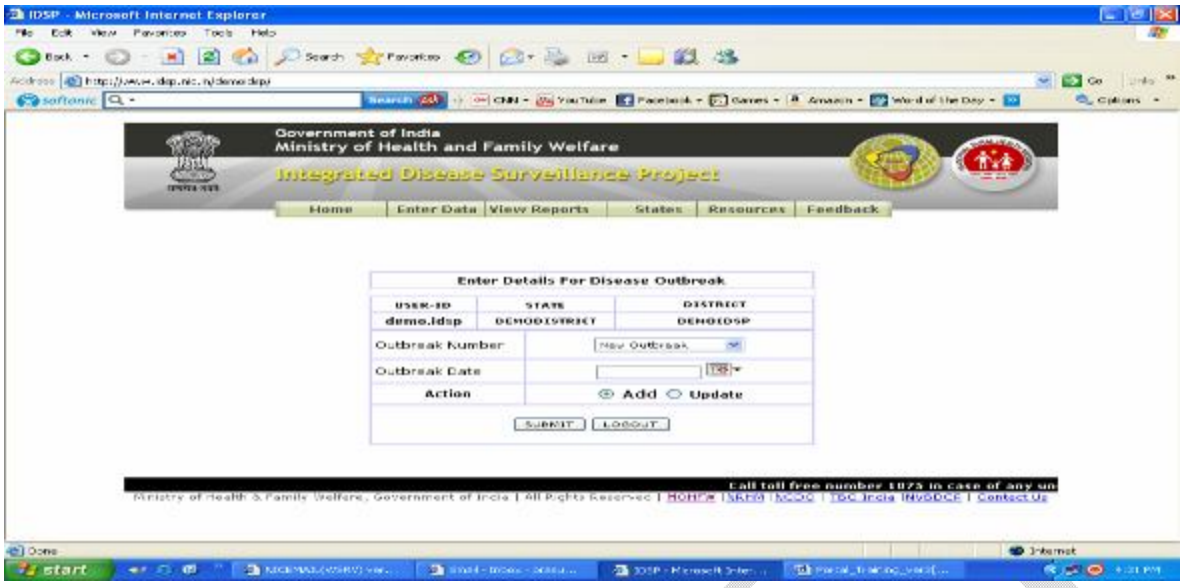


Figure 5

4.2 Login for FMR Sheet: This option meant for quarterly uploading of Financial Monitoring Reports (FMRs) for SSU and DSU; it contains details of expenditure incurred under various heads by the respective units. For starting uploading make sure to define the annual allocation of budget for concerned unit and thereafter can proceed to details of expenditure and grant received from CSU/SSU.

4.3 Login for Admin: This option is meant for CSU administrator only.

4.4 IDSP Media Alert information: This option is meant for Media Scanning & Verification Cell at CSU only.

4.5 Login to Access Reports: This can be used by DSU to view the reports which can also be assessed through "VIEW REPORT" section of home page.

5. ENTERING DATA IN S/P/L FORMS

After opening the web-based application (www.idsp.nic.in) with your user id & password, after successful login the screen shown in Figure 1 will appear for entering weekly information.

To enter weekly information select the appropriate form S/P/L -> Select the block name for which you have to enter the data -> after selecting the block name list of its corresponding RUs will be displayed, from the list select the desired RU name -> Select the action to Add/Update -> select the week's starting date as Monday and click on submit. (Refer Figure 1 on page no. 5)

After clicking on the submit button, the desired forms will be displayed, one can enter the data in S, P or L form. But one can enter the line list only in L form.

Figure 6

While entering data for L Form (shown in Figure 6) on clicking the 'SUBMIT' button the system asks ***"Do you want to add line listing of positive cases"*** on pressing "Yes" the above screen of Figure 6 re-appears for entering line listing for positive cases.

By clicking on 'ADD NEW RECORD' [at the bottom of the screen] one can add the line listing one by one for positive cases in the new window [Figure 7]. Line listing of Malaria Cases is not required to be entered.

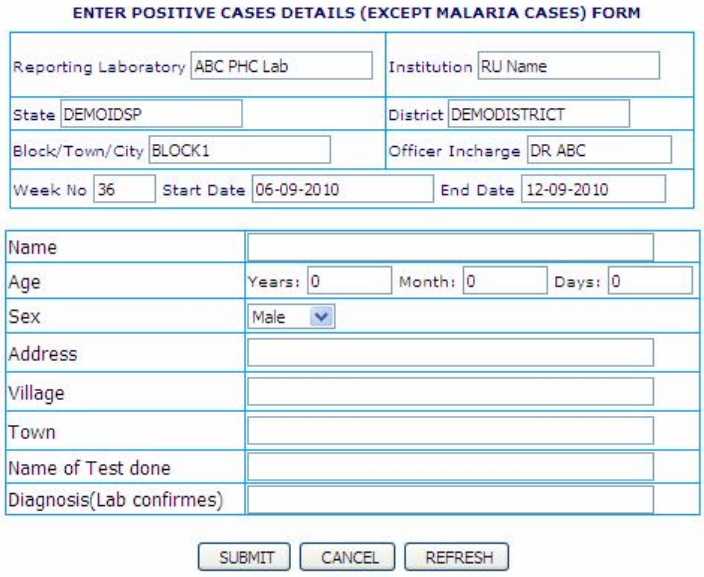


Figure 7

On clicking 'SUBMIT' it will come to the screen as Figure 6 where the above two steps can be repeated for entry of more cases in the line list.

6. VIEW REPORTS

This icon has two types of reports for DSU and SSU/CSU. The reports available with DSU id are basic reports as under:

IDSP REPORTS	
Surveillance Report	Detailed Surveillance Report
Syndromic (S)	Syndromic (S)
Presumptive (P)	Presumptive (P)
Laboratory (L)	Laboratory (L)
Water Quality (W)*	Water Quality (W)*
Specific Surveillance Report	Diseases Outbreak Report
Syndromic Report	Outbreak Report
Presumptive Report	Outbreak Last 3 days Alert
Laboratory Report	Submission Status
SPL Submission Status Report	Search For Diseases Outbreak
Status(Time Based)	Outbreak History Status
Status Reporting Unit Wise	
Status(State/District/Block/RU) Level	
* Water Quality is no longer is being monitored under IDSP. But old data prior to April 2009 can be seen here.	

A. **Surveillance Reports**: These reports will show form wise tabular/graphical representation of surveillance information uploaded by DSU. To access these reports click on view reports if already logged in or login with your user id and password. Click on desired report e.g. S/P/L under surveillance report - > choose the desired state/Entire States of India - > select the desired weeks for viewing report. From the next screen (Figure 8) choose one or more diseases and click on the desired format at the bottom.

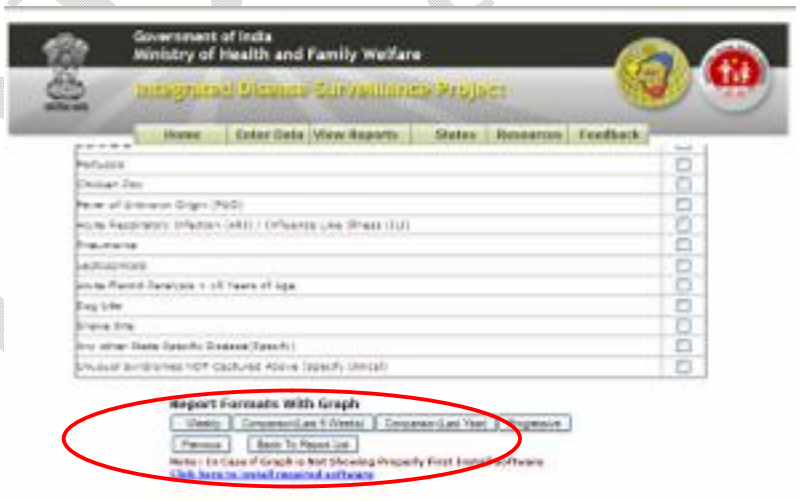


Figure 8

B. **Detailed Surveillance Reports**: This icon shows form wise (S/P/L) number of cases of particular disease uploaded by DSU (State/District level). Click on desired report e.g. S/P/L under detailed surveillance report - > choose the desired state/Entire States of India - > select the desired weeks for viewing report, and then **choose a particular disease and click on 'SUBMIT'** to view the report**.**

C. **Specific Surveillance Reports**: This icon shows the form wise number of cases of surveillance information uploaded by DSU for **all diseases**. To access these reports click on view reports if already logged in or login with your user id and password. Click on desired report e.g. S/P/L under specific surveillance report - > choose the desired state/Entire State of India - > select the week wise period for analysis.

D. **Disease Outbreak Reports**: This icon shows the outbreak reported by DSU/SSU. To access these reports click on desired reports if already logged in or login with your user id and password. Click on desired report e.g. Disease outbreak, Outbreak History, Submission Status under Disease Outbreak Report - > choose the desired State/All the States of India - > select the week wise period for analysis.

E. **Submission Status Reports**: This icon shows the submission status of uploading of weekly information for S/P/L forms. To access these reports click on desired reports if already logged in or login with your user id and password. Click on desired report e.g. Time Based[2] (For week no wise and form wise selection), Reporting unit wise (No of RUs submitting information form wise), State/District/Block level (Form wise) under Submission Status - > choose the desired State/All the States of India - > select the week wise period for viewing.

7. VIEW REPORT FOR CSU/SSU (Login as CSU/SSU)

Steps for viewing Report based on Portal:-

Step:-1 Open the portal www.idsp.nic.in and click the view reports.

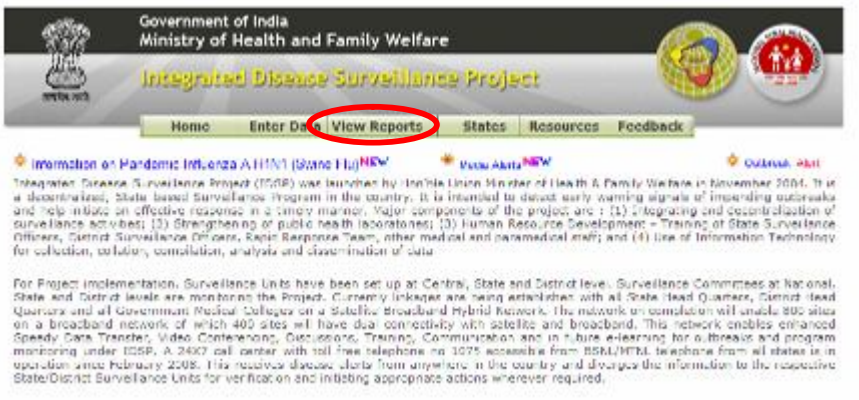


Figure 9

[2] This report can be viewed for a particular state only and particular form S or P or L at a given time

Step 2:- After clicking the view reports menu enter the login id and Password and click 'SUBMIT' to open the View Reports.

Figure 10

The CSU and SSU users can have additional reports for decision making and monitoring purposes (Please refer Figure 9). In addition to this CSU/SSU can also view the similar reports developed for DSU users by clicking at s. no. 10 given below.

IDSP REPORTS	
A. Syndromic Surveillance Reports	**LOGOUT**
1. Weekly Report of Multiple Diseases of selected weeks Districts by Reporting units/PHC	
B. Presumptive Surveillance Reports (PHC/Facility/district/State National)	
2. Summary Statistics of Selected Diseases	

3. Number of cases of selected diseases
4. Collated Data For Presumptive Surveillance Loose Watery Stool Cases?
5. Block wise weekly report of all disease of selected weeks/or weekly trends
6. Status of Submission of weekly report for Decision makers
C. Laboratory Surveillance Reports
7. Summary Report of Multiple Diseases of selected weeks
8. Summary Report for a particular Disease of selected weeks
D. SPL Surveillance Reports
9. Month wise yearly comparison of cases different diseases contained in S,P & L Forms
10. **Weekly status of S,P & L Form submission at different levels**
E. Login Status Report
11. IDSP User's Login Status Report
F. Consistency Report
12. **Consistency Reports of Reporting Units**
G. Outbreak Reports
13. Disease Outbreak Report
14. Disease Outbreak Report of last 3 days Alert
15. Disease Outbreak Submission Status
16. Search for Disease Outbreak
17. Disease Outbreak History
H. Financial Monitoring Report (FMR) Quarterly
18. FMR Report Quarterly
19. FMR Submission Status
I. Feedback Report
20. Feedback Report
J. Reporting Units Details
21. Reporting Unit Details

The following information may be obtained from the above reports:

1. Syndromic Cases for a particular disease year wise. It will also depict graphical information.
2. Disease wise summary of cases at PHC/District/Facility/State/National Level for Presumptive Surveillance.
3. Disease wise summary of cases for Presumptive surveillance up to block level.
4. Collated data for Presumptive Surveillance for Loose Watery Stool Cases.
5. Block wise summary of all diseases for Presumptive surveillance.
6. Status of submission for weekly surveillance information will invoke the below reports:
    a) Weekly Data Received: For accessing number of districts/blocks/RUs reporting
    b) Weekly Reporting percentage: For accessing %age of districts/blocks/RUs reporting
    c) Weekly Summary Report: This is very useful for monitoring purpose about the total number of RUs in a particular State/District and the RUs reported
        - To view the reports at serial no 5, select the appropriate report from the above in the reporting format option ->
        - Select the Reporting Level (State/District/Block)
        - In case of Weekly Summary Report -> select the Form Type for two reports (a & b) above -> select the State/District, year and weeks. (Please refer to the Figure 9 below)

Figure 11

7. Multiple Disease wise summaries of cases for different years for Laboratories Surveillance.
8. Disease wise summaries of cases for selected weeks for Laboratories Surveillance.
9. Month wise yearly comparison of S/P/L information from State Level to RU Level.
10. Weekly status of S, P & L Form submission at different levels will show the DSU level report which also includes reports from serial no. 13 to 19.
11. This is for users monitoring purpose, which users have ever logged in or used previously. From this report one can also view the date and time of login for a particular user.
12. Consistency Report (Please refer to 8.0 section for details)

Report at serial no. 21 is to detect the garbage master data; this shows all the garbage/non-visible master data which might have been created by mistake or for demonstration purposes

but has not been deleted due to some or other reasons. This will show the exact number of Blocks/RUs in any particular district for further corrections.

8. CONSISTENCY REPORT

Timeliness & Consistency: - Timeliness may be defined as reports obtained within one week after the last date of every reporting week. Minimum expectation is that each reporting unit reports for at least 40 weeks (or 80% of week at any given time under consideration) in a year (52 weeks). All identified reporting units must report. However, for programme purpose, the following definition of consistency may be followed:

- A reporting unit is consistent, if it has reported for at least 40 weeks (or >= 80% of week at any given time).
- A district is consistent for a week if at least 80% of RUs under the district report for a particular week.
- A state is consistent for a week if at least 80% of the district (having consistent RUs) report for a particular week.

Grouping for Consistency Report: - Reports should have desegregated collated forms of

- P {i. PHCs, ii Other Govt. Hospitals (CHC/ID Hospitals/Medical Colleges/Other Premier Institutes/Public Sector Hospitals) and iii Private hospitals separately}
- L (Government and Private Laboratory) and
- S reporting units (Subcentres)

How does a reporting unit/district become consistent

Suppose we have 5 reporting units i.e. A, B, C, D, E in a district and we want to check the consistency of this district during 10 weeks of the current year. The denominator in this case is 10 and any unit that has reported in time for 8 weeks or more will be considered as consistent.

Now, RU A has reported for 9 weeks, B for 8 weeks, C for 7 weeks, D for 8 weeks and E only 5 weeks as table below. (Reporting unit, reported is mentioned as "Y" and not reported mentioned as "N")

S. No	RUS	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	Count (Y)	% age of Y (Count Y/10) X 100
1	A	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	9	90
2	B	Y	N	Y	N	Y	Y	Y	Y	Y	Y	8	80
3	C	Y	N	Y	N	N	Y	Y	Y	Y	Y	7	70
4	D	N	N	Y	Y	Y	Y	Y	Y	Y	Y	8	80
5	E	N	N	N	N	N	Y	Y	Y	Y	Y	5	50

Thus we can see that only 3 reporting units A, B, D of the district are reporting consistently. Reporting units C and E are not consistent because they are reporting for less than 80% of weeks.

In the above example the given district is not consistent because only 60% [3 out of 5] reporting units are reporting consistently.

Steps for viewing Consistency Report based on P form on Portal:-

Step 1:- For viewing the consistency report click at s. no. 12 (page no. 13 in IDSP reports) on 'CONSISTENCY REPORT'.

Step 2:- After clicking on consistency report a window will open as under and fill up the desired information as required.

Figure 12

A. **Select Reporting format (State/District/Block Level); Say for a State.**
B. **Select States (Priority/Non Priority/Entire State)**
C. **Select Form Type (S/P/L form)**
D. **Select year (2008/2009/2010).**
E. **Enter week no. in from and to check box as required.**

After completing steps A to E the following window will appear.

Ministry of Health & Family Welfare,IDSP
Government of India

Consistency Reporting in Respect of RU's Based on Form-P
FOR PRIORITY STATES OF INDIA
Year : 2010
Week : 13 TO 34 and Weeks : 22
Date Report Generated : Oct 18, 2010 3:20:08 PM

S.No	State	Total No of RU's	Total No.of Districts	Week : 13 TO 34 Weeks 22 and Year 2010														
				PHC					Govt. Hospital/ID Hospitals/CHC/Medical College					Private Sector				
				Total no. of Res	No. of units reported ≥ 80% Time	No. of District reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time	Total no. of Res	No. of units reported ≥ 80% Time	No. of District reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time	Total no.of Res	No. of units reported ≥ 80% Time	No. of District reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time
1	ANDHRA PRADESH	1513	22	682	4	13	77	571	74	0	14	7	67	134	0	7	74	60
2	GUJARAT	1793	25	988	679	23	75	34	369	360	23	2	7	379	363	16	5	11
3	KARNATAKA	2621	27	1976	1431	27	356	189	198	138	24	33	27	141	86	20	27	28
4	MAHARASHTRA	2274	34	1567	691	31	435	451	268	85	27	70	113	55	6	9	18	21
5	PUNJAB	945	20	507	196	15	121	200	272	52	19	95	125	36	7	10	9	20
6	RAJASTHAN	1954	33	706	247	22	169	350	233	74	22	49	110	4	0	3	0	4
7	TAMIL NADU	2571	32	1282	883	28	252	147	206	92	26	33	61	352	193	26	97	62
8	UTTARAKHAND	504	14	234	66	13	62	106	121	30	13	41	30	15	6	8	3	6
9	WEST BENGAL	1387	18	1009	473	18	271	266	195	101	16	49	45	10	1	2	3	4
	Total	26121	552	12745	6882	416	2116	2746	4073	1766	418	1021	1284	1515	758	179	282	374

Figure 13

If we select in Step 4-A:-A reporting format on District level and complete steps B to E the following window will open.

Ministry of Health & Family Welfare,IDSP
Government of India

District Wise Consistency Reporting in Respect of RU's Based on Form-P
FOR STATE : GUJARAT
Year : 2010
Week : 13 TO 34 and Weeks : 22
Date Report Generated : Oct 18, 2010 3:23:43 PM

S.No	District	Total No of RU's	Week : 13 TO 34 Weeks 22 and Year 2010											
			PHC				Govt. Hospital/ID Hospitals/CHC/Medical College				Private Sector			
			Total no. of Res	No. of units reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time	Total no. of Res	No. of units reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time	Total no.of Res	No. of units reported ≥ 80% Time	No. of units reported between 50%-80% Time	No. of units reported <50% or Null Time
1	AHMEDABAD	128	81	71	3	7	42	41	0	1	7	4	0	3
2	ANAND	61	47	47	0	0	12	12	0	0	2	2	0	0
3	AMRELI	52	3	1	2	0	14	14	0	0	36	36	0	0
4	BHARUCH	49	41	36	5	0	8	8	0	0	0	0	0	0
5	BANASKANTHA	106	20	7	12	1	14	13	0	1	63	61	2	2
6	BHAVNAGAR	94	62	62	0	0	24	24	0	0	0	0	0	0
7	DAHOD	86	14	14	0	0	14	14	0	0	58	58	0	0
8	DANGS	21	10	9	0	1	2	2	0	0	0	0	0	0
9	GANDHI NAGAR	40	25	25	0	0	8	6	0	2	6	1	0	5
10	JUNAGADH	72	55	55	0	0	17	17	0	0	0	0	0	0
11	JAMNAGAR	72	12	6	6	0	18	18	0	0	41	40	1	0
12	KHEDA	66	50	50	0	0	14	14	0	0	2	2	0	0
13	KUTCH	75	18	0	18	0	14	14	0	0	37	37	0	0
14	MAHESANA	67	53	49	2	2	14	13	0	1	0	0	0	0

Figure 14

9 IDSP Project Results monitoring and outcome indicators for Data Reporting & Analysis

Original Indicators (from PAD)	Revised or New Indicators (in Project Paper)	Proposed Changes	Revised Target & means of verification (MV)
1.Number and % of districts providing monthly surveillance reports on time **Base line:** 93/606 districts as of 10/26/2004	% of districts providing surveillance reports timely and consistently in 9 priority states* **BL:** (30/9/09) 25% of Priority state districts	This indicator is revised to add: a) Focus on 9 priority states b) Desegregated data for varieties of P and L reporting units only c) Addition of criteria to define "timely" and "consistently"	70 % of the districts@ in priority 9 states, **MV: Weekly data analysis report by CSU based on data entry on portal / Excel sheets shared**
2.Number and % responses to disease-specific triggers assessed to be adequate **Baseline**: Not Available (NA) as of 10/24/2004	3. % of responses to disease specific outbreaks assessed to be adequate as measured by 3 essential criteria in 9 priority states ^ **BL:** (30/9/09) over all 45% of outbreaks Range : T& K-66, UK, WB, M=50%, AP-20% Rajasthan 10%P=0	a) Revised to include use of an assessment tool, to evaluate outbreak response b) Focus on 9 priority states	At least 75% outbreaks in each of the 9 states **MV: Monthly outbreak investigation analysis by CSU**

Component 2: Improving state/district surveillance and response capacity				
i)	% of districts IT linked to the SSU/ CSU	<50%	90% IT logbook	1075/IT/Portal
ii)	No of states providing feedback monthly to the districts	5/9 states	9/9	A copy is to be sent to CSU
iii)	% of responses to disease specific triggers assessed to be adequate by SSU	5 0-66%	>80% States to post assessment on portal	For every FIR, Final Investigation report is to be provided.
iv)	% of major hospitals enrolled, doing IP , OP & Lab Surveillance , and sharing P & L forms	<20%	50% Desegregated by facilities on Portal	Verify by field visit for IP/OP
v)	% of blocks in which at least 1 private provider shares weekly to surveillance reports	<20%	60%	One identified private RU must report from each block.
vi)	Community Based Surveillance (CBS) established and % villages reporting to Call Center No **1075** or nearest PHC	Nil	50% villages in Pilot blocks	Gujarat, Maharashtra & Karnataka

10 Data Analysis under IDSP

While collection of good quality data is important for a surveillance Programme, analysis and interpretation of this data is of equal significance. Without this, all the hard work put in by the workers becomes meaningless.

10.1 Objectives of Data Analysis:

- Analysis of routine weekly data helps in identifying outbreaks or potential outbreaks e.g. a case of measles identified should alert the health services about a potential outbreak.

- Weekly analysis will help in ruling out outbreaks reported in a particular week due to cumulative reporting (some outbreaks in the country fall under this category).

- Analysis also helps to identify high-risk population groups, so that targeted interventions can be provided to them and scarce resources utilized appropriately.

- During an outbreak, analysis of the data identifies the most appropriate and timely control measures. Analysis in terms of person, time and place will be able to focus the intervention; e.g. analysis of a diarrheal outbreak will be able to identify the affected families and the cause of the outbreak so that corrective action can be targeted at this cause.

- Analysis of routine data provides information for predicting changes of disease rates over time and enables appropriate action.
- Analysis enables identifying problems in the health system, so that gaps can be effectively plugged; e.g., an outbreak of measles should alert the public health manager about the possibility of low vaccination coverage in that region.

- Comparison of analyzed data between regions or between sectors (public and private) helps the public health manager in identifying regional differences, improving the quality of the surveillance system and greater cooperation of all partners.

  Since the quality of surveillance data depends upon regularity of reports, timeliness and completeness and hence analysis of the data also include assessment of the quality of information

10.2 Analysis - at which Level?

Data analysis should ideally be done at each level (Local Analysis & Appropriate Action-LAAA) from the periphery upwards. The officials responsible for analysis are health workers at Sub-centers, Computer/health inspectors at PHC, Medical officer at CHC/ PHC level the District Data Manager at District, The degree of analysis would depend on the capacity of the persons involved-.it could be simple compilation of numbers and seeing the trend at health workers level, the PHC MO with health inspectors help need to analyze to detect of outbreaks by villages in the PHC area and anticipating seasonal trends. While the DSO/District Data Manager and Epidemiologists would be doing all of the above including recognition of outbreaks by PHC informing all concerned to initiate

action, responding to these outbreaks, monitoring trends, compilation of total information etc., as well as monitoring the effectiveness and efficiency of the health service. It is important for the Epidemiologist to get involved in depth analysis of surveillance data.

10.3 When should analysis be done?

Analysis is done at various frequencies – daily, weekly, monthly, annually.

10.4 How to analyze data?

Apart from monitoring the receipt status of weekly reports from reporting units, data received should be compiled to describe the disease in terms of time, place and persons. Data can be presented through tables and/or graphs/ charts/spot maps. Analysis and interpretation should be done to compare morbidity or mortality in different areas in the same period of time or in the same area over a period of time. (Is the number higher, lower or nearly same? What is the probable reason for it?). Action is needed to correct any problem highlighted during routine reporting or investigation. Findings of analyses should be reviewed regularly and given as feedback to health providers and others in the community who are asked to report cases.

Though, IDSP Portal has been designed to generate certain ready outputs at different levels, it is responsibilities of the District Data Manager/Epidemiologist to analyze the data and generate following reports every week and bring to the notice of District Surveillance Officers for appraisal and necessary actions.

a. Timeliness and Completeness of reports

This is one of the first reports that have to be generated every week. Monitor the receipt status of weekly reports (S/P/L) of all the reporting units according to various categories within its catchments area. Every week, following is to be worked out to monitor the non reporting units

Level	Form S		Form P						Form L			
	Sub Centre		PHCs		CHCs /Govt Hospitals Med. College Hospitals		Private		Government		Private	
	No. of Units	No. of units Reported	No. of Units	No. of units Reported	No. of Units	No. of units Reported	No. of Units	No. of units Reported	No. of Units	No.of units Reported	No. of Units	No. of units Reported
District 1	20	20	4	3	5	3	4	1	8	5	3	2
		(100%)		**(75%)**		**(60%)**		**(25%)**		**(63%)**		**(67%)**
District 2												

District 3												

Note: Figure in the bracket is the percentage of report received and is = (No. of units Reported) / No of Units)*100

An alert system will have timeliness and completeness approaching100%. Also, completeness of reporting units gives an idea about the reliability of the data; for example, if completeness of reports were only 50%, then the incidence of disease would be under reported by 50%.

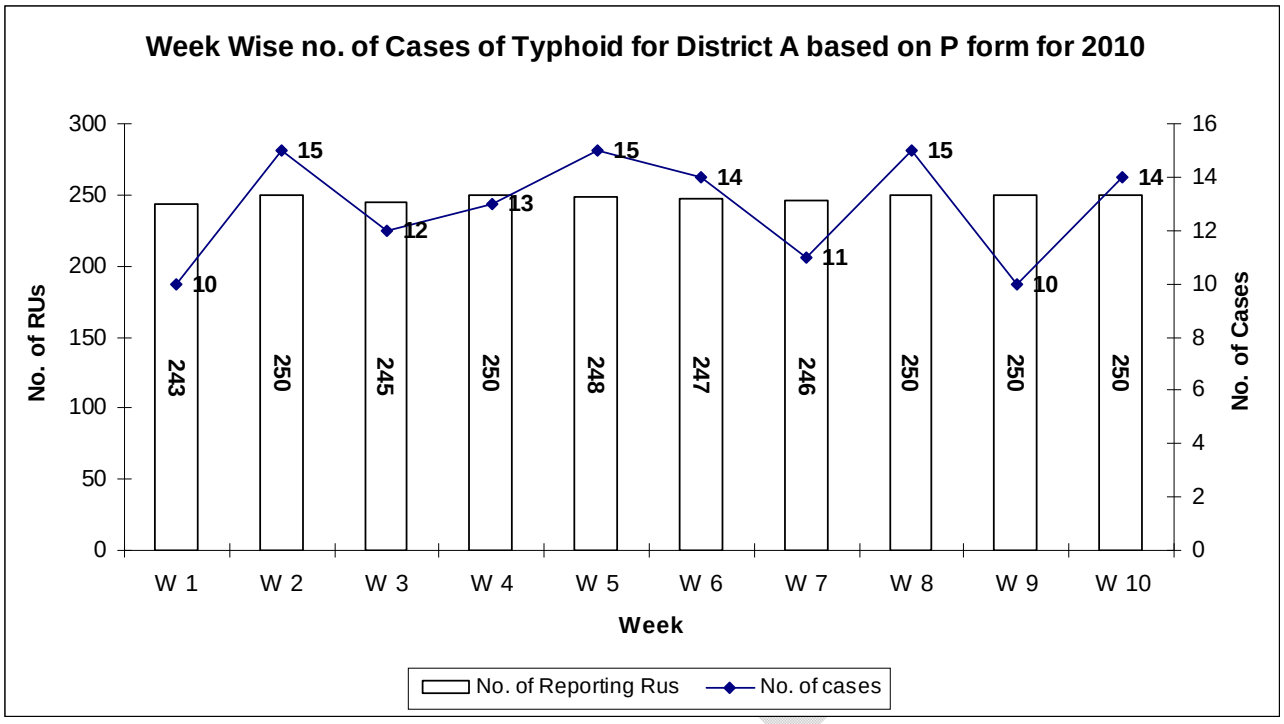
b. Trends over time

This is another important analysis report to be generated by the Data Manager on regular basis. This report helps the DSO and /or MO to detect the trend of the disease over time. It needs to be done for each disease and should be done on a weekly, monthly and annual basis depending on the situation. Weekly analysis should compare the current week's number of cases data of a disease/heath conditions collected under a particular form S/P/L with the corresponding data over the past three weeks for the same disease in the same reporting unit/blocks/district for the previous 3 weeks.

While comparing data one must take note of missing value or any increase or decrease and make efforts for its validation/verification from the source if needed.
Some examples of trend data analysis are given as following:

Eg 1. Week Wise no. of cases of Typhoid:-

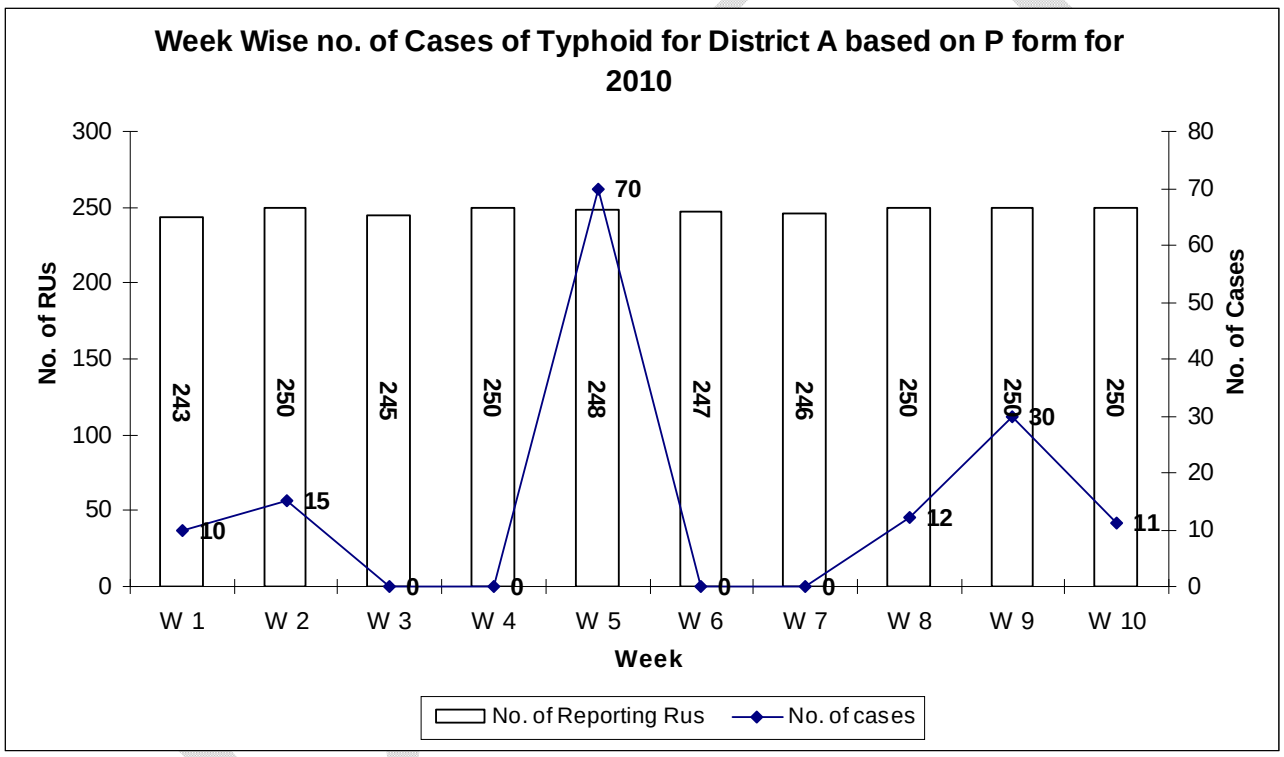
District A:- Typhoid cases based on P form			
Reporting Week	**Total no. of Rus**	**No. of Reporting Rus**	**No. of cases**
W 1	250	243	10
W 2	250	250	15
W 3	250	245	12
W 4	250	250	13
W 5	250	248	15
W 6	250	247	14
W 7	250	246	11
W 8	250	250	15
W 9	250	250	10
W 10	250	250	14



There is no unusual increasing in no. of cases of Typhoid keeping of view the number of Reporting Units.

Eg 2. Unusual Increasing in no. of cases of Typhoid:-

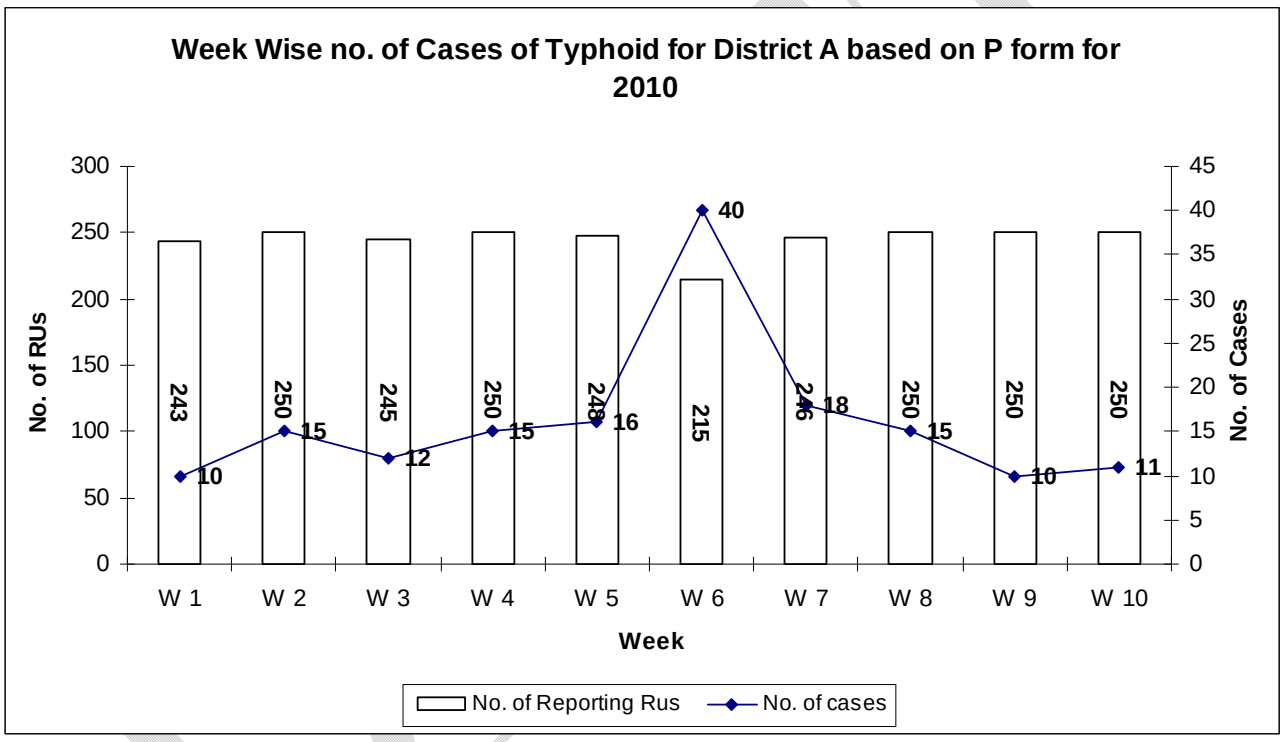
District A:- Typhoid Report based on P form			
Reporting Week	**Total no. of Rus**	**No. of Reporting Rus**	**No. of cases**
W 1	250	243	10
W 2	250	250	15
W 3	250	245	0
W 4	250	250	0
W 5	250	248	70
W 6	250	247	0
W 7	250	246	0
W 8	250	250	12
W 9	250	250	30
W 10	250	250	11



Here in week no. 5 there is an unusual increasing in no. of cases of Typhoid. There may be a problem as outbreak. Here may be a typing error or an outbreak situation. There is a need to verify the figures first. The data manager need to identify the unit/s reporting more cases in the concerned week, call them over phone or visit and confirm that the numbers are actual or any human error before deciding it to be an outbreak. Further there is an increasing in number of cases in week no. 9 as 30 as compare to 12 in previous week keeping in view that number of reporting units is same in both the weeks. Thus here is an outbreak like situation and there is further need to identify the specific reporting unit if any showing the increase.

Eg 3.Trend Detect from RUs:-

District A:- Typhoid cases based on P form			
Reporting Week	**Total no. of Rus**	**No. of Reporting Rus**	**No. of cases**
W 1	250	243	10
W 2	250	250	15
W 3	250	245	12
W 4	250	250	15
W 5	250	248	16
W 6	250	215	40
W 7	250	246	18
W 8	250	250	15
W 9	250	250	10
W 10	250	250	11



Here in week no. 6 reporting units which are reported is less than previous and next week but cases are more so there is also a problem i.e. Typing Error or an outbreak situation. So data has to the verified/checked and then take the necessary action.

c. Weekly / Monthly summary report

It is based on the compiled data of all the reporting units and consists of reports in the form of tables, graphs and maps. This information can be presented through various tables starting from the primary one giving the number of cases to tables with summarized data and rates etc., OR in the form of graphs like-a simple bar graph to identify the incidence of diseases; pie graphs to show the load of diseases OR even maps informing the place of disease occurrence.

When looking at the data of a single region / reporting unit, primary measures like cases would suffice whereas incidence rates are necessary for comparing data between reporting units and region. This preliminary analysis should give the MO an idea of the health problem under his/ her jurisdiction in terms of basic epidemiological parameters (time, place and person). It thereby helps the MO to focus on problems that need further analysis.

10.5 Linkages between different surveillance matters (Relation between S>P>L)

IDSP promotes Syndromic surveillance from the Health Workers, probable surveillance from all clinical facilities and laboratories surveillance from both Government and private laboratories. There are good links between these three sources of data.

1. **Syndromic Surveillance:** The information is collected about groups of conditions like fevers, diarrheas, jaundice etc. The workers collect data based on the symptoms reported by the patient or signs observed by her or him. In the entire country more than 150000 health workers do such surveillance daily during their field visits or clinics. The number of such cases will be large but does not indicate much about the specificity of the diseases. The information is limited to rural areas covered by the health workers.

2. **Presumptive Surveillance:** All patients attending hospitals are examined by the doctors. Every doctor is mandated to write provisional diagnosis for each case. The pharmacist or the medical technician identifies the condition listed under IDSP and reports them as probable cases. The cases come both from rural and urban areas. The mild cases may not reach hospital; therefore the numbers of cases are generally smaller than the Syndromic reporting. However, this surveillance is critical for the success of IDSP as it captures moderate to serious conditions, a clinician is supposed to advice an appropriate lab tests in the hospital and even outside. A clinician can identify outbreaks if they are alert to know the places (villages/urban ward) of the patients coming from and the number of cases day after day week after week.

3. **Laboratory Surveillance:** It is critical to finalize diagnosis conditions. The cases are generally reported by the lab technician after performing appropriate laboratory test. The laboratory may be able to identify outbreaks of a particular disease. In a given PHC/Taluk/District generally the numbers of cases expected are high in Syndromic and least for laboratory confirmation. The gap between the provisional condition and sample sent for confirmation indicate the process for efforts from the clinician for confirmation the diagnosis. It is mandatory to get laboratory test done for all undiagnosed condition or conditions likely

to lead to outbreak. For each District Data Manager, to keep the track of reporting surveillance, it is necessary to link cases from one type of surveillance to other.

11. ESTABLISHMENT OF HOSPITALS REPORTING UNDER IDSP

District Surveillance Officer should map and pursue with all possible hospitals in the district which may generate data under IDSP. In the hospital, Superintendent with nodal officers should be able to map out all possible sources of data in the hospital that would ultimately be collated into the P form and L form. The specialty branches which are crucial generating early warning signals are medicine, Microbiology and pediatrics.

General OPD

Medicine OPD

Pediatric OPD

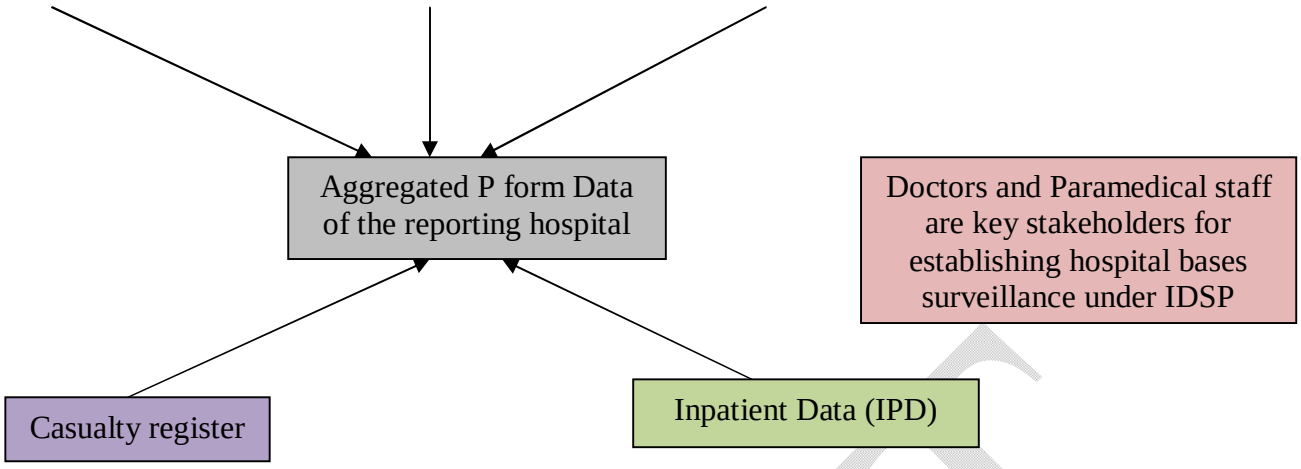


Figure 15

11.1 Translating Data to Requisite Forms for Weekly Reporting

The Data Entry Operator posted at Medical College under IDSP should ensure that proper and complete weekly (P & L forms) information is collected, collated and shared with the district surveillance authorities.

12. ADDITIONAL INFORMATION:

- Use only Internet Explorer for better and smooth operation. Make sure you have the latest Microsoft Silver Light component installed for viewing graphs.
- Do not press the refresh button during any process
- Avoid clicking simultaneously or double click on any link which will delay the processing of information.
- Some of the reports have export to excel option to download the data for further analysis.
- For any kind of deletion in master data, a mail is to be sent to CSU with a copy to your SSU. However, addition/modification in the name of Block/RU can be done at district level itself.
- Queries/clarification for this application may please be sent through email only at idsp-dpa@nic.in (011-23935532) with a copy at idsp-cmo@nic.in (011-23830318).
- For any clarification related to Data Management/Consistency report may be sent to idsp-dmit@nic.in (011-23935532).

Annexure:-1

Form S

Reporting Format for Syndromic Surveillance

(To be filled by Health Worker, Village Volunteer, Non-formal Practitioners)

State_____ District_____ Block_____ Year_____

Name of the Health Worker/Volunteer/Practitioner	Name of the Supervisor	Name of the Reporting Unit
ID No./Unique Identifier (To be filled by DSU)	Reporting week From dd mm yy	
	To dd mm yy	

	a	b	c	d	e	f	g	h	i	j	k	l	m	n
	Cases							Deaths						
	Male			Female			Total	Male			Female			Total
	< 5 yr	≥ 5 yr	Total	< 5 yr	≥ 5 yr	Total		< 5 yr	≥ 5 yr	Total	< 5 yr	≥ 5 yr	Total	
1. Fever														
Fever < 7 days														
1 Only Fever														
2 With Rash														
3 With Bleeding														
4 With Daze/Semiconsciousness/ Unconsciousness														
Fever > 7 days														
2. Cough with or without fever														
< 3 weeks														
> 3 weeks														
3. Loose Watery Stools of Less Than 2 Weeks Duration														
With Some/Much Dehydration														
With no Dehydration														
With Blood in Stool														
4. Jaundice cases of Less Than 4 Weeks Duration														
Cases of acute Jaundice														
5. Acute Flacid Paralysis Cases in Less Than 15 Years of Age														
Cases of Acute Flacid Paralysis														
6. Unusual Symptoms Leading to Death or Hospitalization that do not fit into the above.														

Date: *Signature*

13

Annexure:-2

FORM P
(Weekly Reporting Format –IDSP)

Name of Reporting Institution:		I.D. No.:	
State:	District:	Block/Town/City:	
Officer-in-Charge	Name:	Signature:	
IDSP Reporting Week:-	Start Date:-	End Date:-	Date of Reporting:-
	__/__/____	__/__/____	__/__/____

S.no	Diseases/Syndromes	No. of cases
1	Acute Diarrhoeal Disease (including acute gastroenteritis)	
2	Bacillary Dysentery	
3	Viral Hepatitis	
4	Enteric Fever	
5	Malaria	
6	Dengue / DHF / DSS	
7	Chikungunya	
8	Acute Encephalitis Syndrome	
9	Meningitis	
10	Measles	
11	Diphtheria	
12	Pertussis	
13	Chicken Pox	
14	Fever of Unknown Origin (PUO)	
15	Acute Respiratory Infection (ARI) / Influenza Like Illness (ILI)	
16	Pneumonia	
17	Leptospirosis	
18	Acute Flaccid Paralysis < 15 Years of Age	
19	Dog bite	
20	Snake bite	
21	Any other State Specific Disease (Specify)	
22	Unusual Syndromes NOT Captured Above (Specify clinical diagnosis)	
	Total New OPD attendance (Not to be filled up when data collected for indoor cases)	
	Action taken in brief if unusual increase noticed in cases/deaths for any of the above diseases	

Annexure:-3

FORM L
(Weekly Reporting Format – IDSP)

Name of the Laboratory:		Institution:	
State:	District:	Block/Town/City:	
Officer-in-Charge:	Name:	Signature:	
IDSP Reporting Week:-	Start Date:-	End Date:-	Date of Reporting:-
	__/__/____	__/__/____	__/__/____

Diseases	No. Samples Tested	No. found Positive	
Dengue / DHF / DSS			
Chikungunya			
JE			
Meningococcal Meningitis			
Typhoid Fever			
Diphtheria			
Cholera			
Shigella Dysentery			
Viral Hepatitis A			
Viral Hepatitis E			
Leptospirosis			
Malaria		PV:	PF:
Other (Specify)			
Other (Specify)			

Line List of Positive Cases (Except Malaria cases):

Name	Age (Yrs)	Sex (M/F)	Address: Village/Town	Name of Test Done	Diagnosis (Lab confirmed)

Annexure:-4

Format for instantaneous reporting of Early Warning Signal / outbreaks as soon as it is detected

State : District: Date of reporting:

Is there any unusual increase in Cases/Deaths or unusual event in any area? Yes/No
If yes, provide the following information:

Disease/ Syndrome (Provisional/Confirmed)	
Area affected (Block, PHC, Sub-center, Village	
No of cases	
No of deaths	
Date of start of the outbreak	
Total population of affected area(Village)	
Salient epidemiological observations	
Lab results (type of sample, number of samples collected and tested, What tests, where, results)	
Control measures undertaken (Investigated by RRT or not)	
Present status	
Any other information	

* State SSU need to report instantaneously as well as weekly compilation on every Monday to the CSU including NIL reports.