

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

Sukunan G¹, Mayuran N², Araventhana G³

¹Base Hospital Kalmunai North, Ministry of Health, Sri Lanka

^{2,3}Teaching Hospital Batticaloa, Ministry of Health, Sri Lanka

ABSTRACT

Background: Timely notification of communicable diseases is a fundamental component of disease surveillance systems, facilitating early outbreak detection, prompt public health interventions, and reduction of disease-related morbidity and mortality. Evaluating the performance of hospital notification systems is essential to identify gaps that may compromise surveillance effectiveness.

Objective: To assess the performance of notifiable communicable disease notification in selected secondary care hospitals in Batticaloa District, Sri Lanka, by comparing diseases recorded in the electronic Indoor Morbidity and Mortality Return (eIMMR) system with those documented in hospital notification registers during 2025.

Methods: A descriptive institutional assessment was conducted in four secondary care hospitals in Batticaloa District, namely Base Hospital Valaichenai, Base Hospital Kaluwanchikudy, Base Hospital Kattankudy, and Base Hospital Eravur. Aggregate data were collected from eIMMR records and hospital notification registers with the assistance of Medical Record Officers and Infection Control Nursing Officers. The primary analysis included comparable ward-level data from medical male, medical female, and paediatric wards. Notification performance was evaluated by calculating the percentage of notified cases relative to the corresponding eIMMR entries.

Results: A total of 1,035 notifiable disease cases were identified in eIMMR records, while 1,045 cases were documented in hospital notification registers, yielding an overall notification percentage of 101.0%. Hospital-level notification performance ranged from 92.4% at Base Hospital Valaichenai to 147.6% at Base Hospital Kattankudy. Dengue fever/Dengue Haemorrhagic Fever represented the predominant notifiable disease across all institutions. Lower notification percentages were observed for leptospirosis, meningitis, tuberculosis, and dysentery, indicating possible under-notification in selected hospitals.

Conclusion: Although the overall notification percentage exceeded 100%, notable discrepancies between hospitals and disease categories indicate inconsistencies in documentation, notification practices, and reconciliation between hospital notification registers and eIMMR records. Strengthening institutional review mechanisms, improving documentation practices, assigning ward-level accountability, conducting regular staff training, and implementing routine reconciliation are recommended to improve the completeness, accuracy, and timeliness of communicable disease notification.

KEYWORDS: Communicable disease surveillance, Notifiable diseases, Disease notification, eIMMR, Secondary care hospitals, Batticaloa District, Sri Lanka.

I. INTRODUCTION

Communicable disease surveillance remains one of the fundamental responsibilities of public health systems worldwide. Effective surveillance depends on the timely identification, notification, analysis, and reporting of notifiable diseases to enable rapid public health interventions and prevent further transmission. Early notification contributes significantly to outbreak detection, implementation of control measures, and reduction of disease-related morbidity and mortality.

Sri Lanka has established a comprehensive national communicable disease surveillance system in which all suspected and confirmed cases of legally notifiable diseases are reported from healthcare institutions to the public health authorities through a standardized notification process. Secondary care hospitals constitute an important component of this surveillance network

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

because they manage a substantial proportion of patients with acute febrile illnesses, dengue, leptospirosis, dysentery, meningitis, tuberculosis, and other communicable diseases requiring notification.

The efficiency of the notification system depends on accurate clinical diagnosis, timely completion of notification forms, proper maintenance of notification registers, and consistency between hospital notification records and electronic morbidity reporting systems. In routine practice, however, discrepancies may occur due to notification based on clinical suspicion, subsequent changes in diagnosis, incomplete documentation in Bed Head Tickets (BHTs), delayed transfer of records, or inconsistencies in ward-level reporting practices.

The electronic Indoor Morbidity and Mortality Return (eIMMR) system has become an important source of institutional morbidity reporting in Sri Lanka. Comparing hospital notification registers with eIMMR data provides an opportunity to evaluate notification performance and identify operational gaps that may affect surveillance quality.

Therefore, this study aimed to assess the performance of notifiable communicable disease notification in selected secondary care hospitals in Batticaloa District by comparing diseases recorded in eIMMR with those documented in hospital notification registers during 2025.

II. MATERIALS AND METHODS

A. Study Design

A descriptive institutional assessment was conducted to evaluate the performance of notifiable communicable disease notification in selected secondary care hospitals in Batticaloa District, Sri Lanka. The assessment compared diseases recorded in the electronic Indoor Morbidity and Mortality Return (eIMMR) system with those documented in hospital notification registers to determine the completeness of disease notification during the study period.

B. Study Setting

The assessment was carried out in four secondary care hospitals administered under the Regional Director of Health Services (RDHS), Batticaloa:

- Base Hospital Valaichenai
- Base Hospital Kaluwanchikudy
- Base Hospital Kattankudy
- Base Hospital Eravur

These hospitals provide secondary-level inpatient and outpatient services and contribute routinely to Sri Lanka's national communicable disease surveillance programme through the notification of legally notifiable diseases.

C. Study Period

The assessment included all available institutional records of notifiable communicable diseases reported during 2025.

D. Data Sources

Data were obtained from two institutional sources:

1. Electronic Indoor Morbidity and Mortality Return (eIMMR) system, maintained by the Medical Record Room.
2. Hospital Notifiable Disease Notification Registers, maintained within each hospital for reporting notifiable communicable diseases.

Information was collected with the assistance of Medical Record Officers (MROs) and Infection Control Nursing Officers (ICNOs)/Nursing Officers in Infection Control (NOICs). Additional discussions were conducted with relevant hospital staff to identify operational factors that could influence disease notification, including documentation practices, completeness of records, timeliness of reporting, and ward-level responsibilities.

E. Study Population

The study population consisted of all patients diagnosed with notifiable communicable diseases that were recorded in both the eIMMR system and hospital notification registers during the study period.

To ensure valid comparison, the primary analysis was restricted to data from:

- Medical Male Wards
- Medical Female Wards
- Paediatric Wards

Notifications originating from Outpatient Departments (OPDs), Intensive Care Units (ICUs), and other specialized wards were reviewed separately and were excluded from the primary analysis unless corresponding eIMMR records were available.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

F. Operational Definitions

For the purpose of this assessment, the following operational definitions were used:

Electronic Indoor Morbidity and Mortality Return (eIMMR): The electronic hospital information system used in Sri Lanka to record inpatient morbidity and mortality data based on the final diagnoses documented at discharge. It served as the reference data source for comparison with hospital notification registers.

Hospital Notification Register: The official institutional register maintained for recording all suspected or confirmed cases of legally notifiable communicable diseases reported by healthcare workers in accordance with the national communicable disease surveillance system.

Notifiable Disease: Any communicable disease designated by the Ministry of Health, Sri Lanka, as requiring mandatory notification to public health authorities under the national disease surveillance programme.

Comparable Wards: Hospital wards included in the primary analysis because corresponding data were available from both the eIMMR system and hospital notification registers. These comprised the medical male, medical female, and paediatric wards.

Notification Percentage: The proportion of cases recorded in hospital notification registers relative to the corresponding number of cases recorded in the eIMMR system.

Under-notification: A situation in which the notification percentage is less than 100%, indicating that fewer cases were recorded in the hospital notification register than in the corresponding eIMMR records.

Notification Percentage Above 100%: A situation in which the number of cases recorded in the hospital notification register exceeds the corresponding number recorded in the eIMMR system. In this assessment, values greater than 100% were interpreted as possible differences arising from notification based on clinical suspicion, subsequent changes in the final diagnosis, delayed updating of electronic records, or discrepancies between hospital notification registers and eIMMR coding, rather than true over-reporting.

Institutional Notification Performance: The completeness of communicable disease notification within a hospital, assessed by comparing the number of cases recorded in the hospital notification register with the corresponding number of cases recorded in the eIMMR system

G. Outcome Measure

The primary outcome of interest was the Notification Percentage, which measured the proportion of notified cases relative to cases recorded in the eIMMR database. A notification percentage close to 100% indicated good agreement between the two reporting systems. Values below 100% suggested possible under-notification, whereas values above 100% were interpreted as potential discrepancies resulting from notification based on clinical suspicion, differences between provisional and final diagnoses, or inconsistencies between notification registers and eIMMR coding. A notification percentage close to 100% indicated good agreement between the two reporting systems.

Values below 100% suggested possible under-notification, whereas values above 100% were interpreted as potential discrepancies resulting from notification based on clinical suspicion, differences between provisional and final diagnoses, or inconsistencies between notification registers and eIMMR coding.

H. Statistical Analysis

Data were entered into Microsoft Excel 2021 (Microsoft Corporation, Redmond, WA, USA) and checked for completeness and consistency prior to analysis. Descriptive statistical methods were used to summarize the data. Frequencies and percentages were calculated to compare the number of notifiable disease cases recorded in the electronic Indoor Morbidity and Mortality Return (eIMMR) system with those documented in hospital notification registers.

Notification performance was assessed by calculating the notification percentage using the following formula:

$$\text{Notification Percentage (\%)} = \frac{\text{Number of cases recorded in the hospital notification register}}{\text{Number of cases recorded in eIMMR}} \times 100$$

Hospital-wise, disease-wise, and ward-wise comparisons were performed using descriptive summaries presented in tables. Because the objective of the assessment was to evaluate institutional notification performance rather than to test statistical hypotheses, no inferential statistical tests were performed.

I. Ethical Considerations

The assessment utilised institutional aggregate data without patient identifiers. Consequently, no confidential personal information was collected or analysed.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

Administrative approval to conduct the assessment was obtained from the Regional Director of Health Services (RDHS), Batticaloa. Data collection was carried out with the cooperation of the Medical Superintendents, Medical Record Officers, Infection Control Nursing Officers, and relevant ward staff of the participating hospitals.

As the assessment involved only institutional surveillance data and no individual patient information, informed consent from patients was not required.

III. RESULTS

A total of 1,035 notifiable communicable disease cases were identified from the electronic Indoor Morbidity and Mortality Return (eIMMR) system in the comparable wards of the four selected hospitals. During the same period, 1,045 cases were recorded in the hospital notification registers, resulting in an overall notification percentage of 101.0%. Hospital-wise, disease-wise, and ward-wise analyses were performed to identify variations in notification performance among the participating institutions. The results are presented below.

A. Hospital-Wise Notification Performance

Table I. Hospital-Wise Comparison of eIMMR Records and Hospital Notification Register Data in Selected Secondary Care Hospitals, Batticaloa District, 2025

Hospital	eIMMR Cases (<i>n</i>)	% of Total eIMMR Cases	Notified Cases (<i>n</i>)	Notification (%)
Base Hospital Valaichenai	725	70.0	670	92.4
Base Hospital Kaluwanchikudy	90	8.7	87	96.7
Base Hospital Kattankudy	84	8.1	124	147.6
Base Hospital Eravur	136	13.1	164	120.6
Total	1,035	100.0	1,045	101.0

Abbreviations: eIMMR = Electronic Indoor Morbidity and Mortality Return.

Table I shows the hospital-wise comparison between eIMMR records and hospital notification registers. Base Hospital Valaichenai accounted for the largest proportion of notifiable disease cases (70.0%), followed by Base Hospital Eravur (13.1%), Base Hospital Kaluwanchikudy (8.7%), and Base Hospital Kattankudy (8.1%). Notification percentages ranged from 92.4% in Base Hospital Valaichenai to 147.6% in Base Hospital Kattankudy. Hospitals with notification percentages below 100% may have experienced under-notification or incomplete documentation, whereas percentages exceeding 100% are likely attributable to notification based on clinical suspicion, differences between notification registers and final diagnoses, or discrepancies in institutional recording practices rather than true over-reporting.

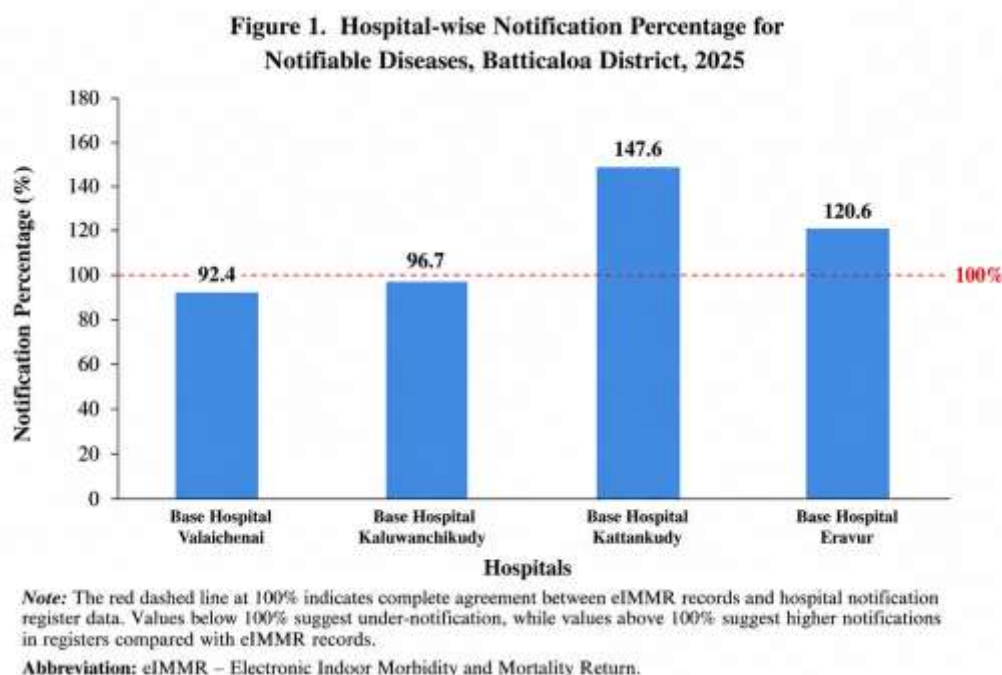


Figure 1. Hospital-wise Notification Percentage of Notifiable Diseases in Selected Secondary Care Hospitals, Batticaloa District, Sri Lanka, 2025.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

B. Disease-Wise Notification Performance

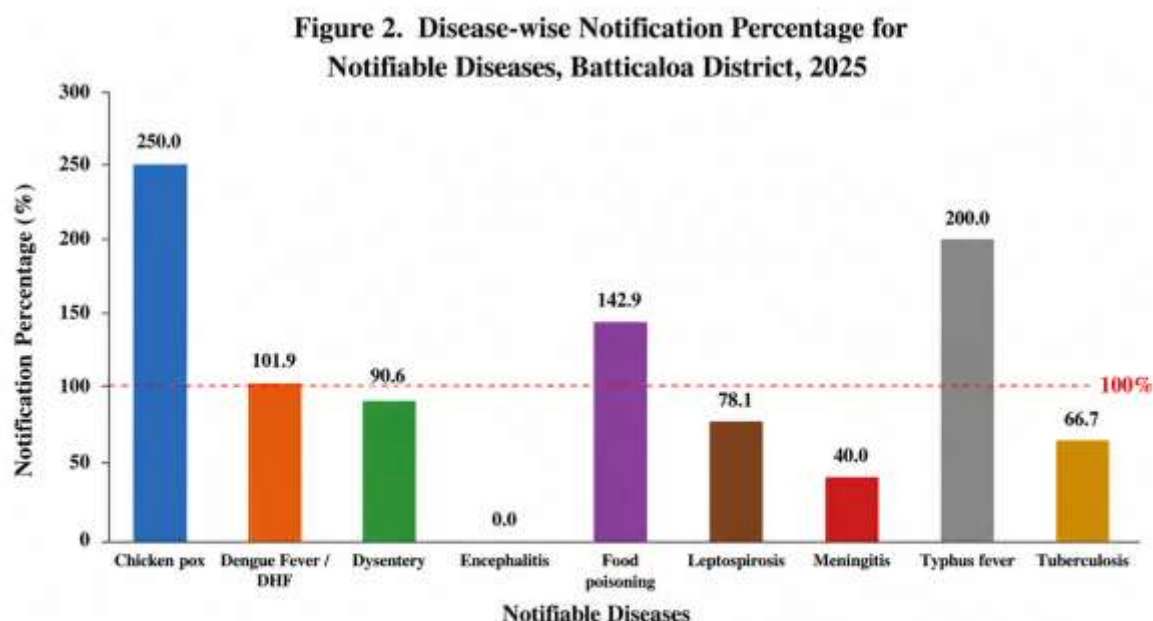
Dengue Fever/Dengue Haemorrhagic Fever (DF/DHF) was the most frequently reported notifiable disease across all participating hospitals.

Table II. Disease-Wise Comparison of eIMMR Records and Hospital Notification Register Data in Selected Secondary Care Hospitals, Batticaloa District, 2025

Notifiable Disease	eIMMR Cases (n)	% of Total eIMMR Cases	Notified Cases (n)	Notification (%)
Chicken pox	4	0.4	10	250.0
Dengue Fever / Dengue Haemorrhagic Fever	926	89.5	944	101.9
Dysentery	53	5.1	48	90.6
Encephalitis	1	0.1	0	0.0
Food poisoning	7	0.7	10	142.9
Leptospirosis	32	3.1	25	78.1
Meningitis	5	0.5	2	40.0
Typhus fever	1	0.1	2	200.0
Tuberculosis	6	0.6	4	66.7
Total	1,035	100.0	1,045	101.0

Abbreviations: eIMMR = Electronic Indoor Morbidity and Mortality Return.

Table II presents the disease-wise comparison between eIMMR records and hospital notification registers. Dengue Fever/Dengue Haemorrhagic Fever accounted for 926 (89.5%) of all notifiable disease cases recorded in the eIMMR system, indicating that dengue constituted the overwhelming majority of the communicable disease burden during the study period. Dysentery (5.1%) and leptospirosis (3.1%) were the next most frequently reported diseases, while the remaining notifiable diseases each contributed less than 1% of total cases. Notification percentages exceeded 100% for chicken pox, food poisoning, typhus fever, and dengue, whereas lower notification percentages were observed for dysentery (90.6%), leptospirosis (78.1%), tuberculosis (66.7%), and meningitis (40.0%), indicating potential under-notification of these conditions. These findings suggest that notification performance varied substantially according to disease category, despite the overall institutional notification percentage of 101.0%.



Note: The red dashed line at 100% indicates complete agreement between eIMMR records and hospital notification register data. Values below 100% suggest under-notification, while values above 100% suggest higher notifications in registers compared with eIMMR records.

Abbreviations: eIMMR – Electronic Indoor Morbidity and Mortality Return; DHF – Dengue Haemorrhagic Fever.

Figure 2. Disease-wise Notification Percentage of Notifiable Diseases in Selected Secondary Care Hospitals, Batticaloa District, Sri Lanka, 2025.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

C. Ward-Wise Notification Performance

Ward-wise analysis demonstrated lower notification percentages in the medical wards of Base Hospital Valaichenai and the medical male ward of Base Hospital Kaluwanchikudy. Notification percentages exceeded 100% in most paediatric wards, possibly reflecting notification at the stage of clinical suspicion or differences between notification registers and final eIMMR coding.

Table III. Ward-Wise Comparison of eIMMR Records and Hospital Notification Register Data in Selected Secondary Care Hospitals, Batticaloa District, 2025

Hospital	Ward	eIMMR Cases (n)	% of Hospital eIMMR Cases	Notified Cases (n)	Notification (%)
Base Hospital Valaichenai	Medical Male	167	23.0	137	82.0
	Medical Female	178	24.6	148	83.1
	Paediatric	380	52.4	385	101.3
	Subtotal	725	100.0	670	92.4
Base Hospital Kaluwanchikudy	Medical Male	56	62.2	46	82.1
	Medical Female	13	14.4	14	107.7
	Paediatric	21	23.4	27	128.6
	Subtotal	90	100.0	87	96.7
Base Hospital Kattankudy	Medical Male	13	15.5	26	200.0
	Medical Female	15	17.9	19	126.7
	Paediatric	56	66.7	79	141.1
	Subtotal	84	100.0	124	147.6
Base Hospital Eravur	Medical Male	39	28.7	49	125.6
	Medical Female	35	25.7	42	120.0
	Paediatric	62	45.6	73	117.7
Subtotal		136	100.0	164	120.6

Abbreviations: eIMMR = Electronic Indoor Morbidity and Mortality Return.

Table III illustrates the ward-wise distribution of notifiable disease cases and notification performance within each participating hospital. Paediatric wards contributed the highest proportion of eIMMR-recorded cases in Base Hospital Valaichenai (52.4%), Base Hospital Kattankudy (66.7%), and Base Hospital Eravur (45.6%), whereas the Medical Male Ward accounted for the largest proportion of cases in Base Hospital Kaluwanchikudy (62.2%). Notification percentages below 100% were observed in the medical wards of Base Hospital Valaichenai and the Medical Male Ward of Base Hospital Kaluwanchikudy, suggesting possible under-notification. Conversely, notification percentages exceeded 100% in most paediatric wards and in several adult wards, particularly the Medical Male Ward of Base Hospital Kattankudy (200.0%). These findings indicate variations in notification practices between wards and underscore the need for routine reconciliation of ward notification registers with eIMMR records and strengthened ward-level accountability.

Summary of Key Findings

The overall notification percentage of 101.0% suggests generally satisfactory institutional notification performance. However, this overall figure conceals important hospital-specific, disease-specific, and ward-specific discrepancies. Under-notification was particularly evident in Base Hospital Valaichenai and Base Hospital Kaluwanchikudy and for diseases such as leptospirosis, meningitis, tuberculosis, and dysentery. Conversely, notification percentages exceeding 100% in some hospitals and wards likely reflect operational differences in notification timing and documentation rather than superior reporting performance. These findings highlight the need for strengthened institutional review, improved documentation, and regular reconciliation between hospital notification registers and the eIMMR system to enhance surveillance quality.

IV. DISCUSSION

This institutional assessment evaluated the performance of notifiable communicable disease notification in four secondary care hospitals in Batticaloa District by comparing hospital notification register data with the electronic Indoor Morbidity and Mortality Return (eIMMR) system. Although the overall notification percentage was 101.0%, the findings revealed important discrepancies at hospital, disease, and ward levels that have implications for the quality of communicable disease surveillance. These results demonstrate that overall notification performance alone does not adequately reflect the accuracy and completeness of surveillance systems, as institution-specific and disease-specific variations may remain concealed within aggregate estimates.

The overall notification percentage exceeding 100% should not be interpreted as an indication of superior surveillance performance. In the Sri Lankan notification system, clinicians are required to notify suspected cases immediately after clinical suspicion without waiting for laboratory confirmation. Consequently, some patients notified initially may subsequently receive alternative diagnoses and therefore may not appear as notifiable diseases in the final eIMMR records. This operational characteristic explains why notification percentages exceeding 100% were observed in Base Hospital Kattankudy and Base Hospital Eravur. Similar observations have been reported in surveillance systems where notification is initiated on clinical suspicion to facilitate rapid public health intervention before diagnostic confirmation. Hospital-level analysis demonstrated considerable variation in notification performance. Base Hospital Valaichenai (92.4%) and Base Hospital Kaluwanchikudy (96.7%) recorded notification percentages below 100%, suggesting possible under-notification or incomplete documentation. Conversely, Base Hospital Kattankudy (147.6%) and Base Hospital Eravur (120.6%) demonstrated substantially higher notification percentages. These differences are unlikely to represent true differences in surveillance quality alone but may instead reflect institutional variations in notification practices, documentation standards, staff awareness, and the timing of recording cases in notification registers relative to eIMMR coding. Routine reconciliation between institutional notification registers and electronic reporting systems would therefore improve consistency and reduce discrepancies.

As illustrated in Figure 1, institutional notification performance varied considerably across the four participating hospitals, demonstrating that overall district-level notification performance masked important hospital-level differences. Such visual representation emphasizes the need for routine hospital-specific monitoring rather than relying solely on aggregate notification indicators.

Disease-specific analysis identified Dengue Fever/Dengue Haemorrhagic Fever (DF/DHF) as the predominant notifiable disease, accounting for nearly 90% of all reported cases. This finding is consistent with the current epidemiological situation in Sri Lanka, where dengue remains one of the leading communicable diseases requiring continuous surveillance and rapid public health response. The slightly higher notification percentage for dengue (101.9%) suggests that clinicians generally adhere to national recommendations by notifying suspected dengue cases immediately rather than delaying notification until laboratory confirmation. Such early notification facilitates timely vector control measures, epidemiological investigations, and outbreak prevention.

In contrast, notification percentages for leptospirosis, tuberculosis, dysentery, and meningitis were considerably lower. The particularly low notification percentage for meningitis (40.0%) is of concern because delayed or missed notification of meningitis may postpone epidemiological investigations, contact tracing, chemoprophylaxis, and implementation of preventive measures. Similarly, under-notification of leptospirosis and tuberculosis may reduce the effectiveness of disease surveillance and delay public health interventions, particularly in high-risk populations. These findings suggest that greater attention should be directed towards improving notification practices for diseases that occur less frequently than dengue but require equally timely public health action.

Figure 2 further demonstrates that notification performance differed substantially by disease category. Although dengue notification closely matched eIMMR records, lower notification percentages for leptospirosis, tuberculosis, meningitis, and dysentery indicate that surveillance improvements should focus not only on overall notification rates but also on disease-specific reporting practices.

The present findings are consistent with previous studies conducted in Sri Lanka and other countries. Karthikeyan et al. reported important deficiencies in communicable disease notification within a tertiary care hospital in Sri Lanka, identifying incomplete documentation, inadequate notification practices, and inconsistencies between clinical diagnoses and notification records as major contributors to surveillance gaps. Likewise, Ofili et al. found that limited knowledge of notification procedures among clinicians contributed to incomplete disease reporting in Nigerian hospitals. Similar challenges have been described in other low- and middle-income countries, where inadequate staff training, heavy clinical workloads, uncertainty regarding notification criteria, and limited feedback mechanisms have contributed to under-reporting of notifiable diseases. Collectively,

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

these studies indicate that notification performance depends not only on surveillance policies but also on institutional systems that support accurate documentation, staff awareness, and continuous quality improvement.

Ward-level analysis further demonstrated important operational differences. Medical wards in Base Hospital Valaichenai and the medical male ward of Base Hospital Kaluwanchikudy showed notification percentages below 100%, whereas paediatric wards generally demonstrated notification percentages exceeding 100%. These observations may reflect differences in clinical practice, documentation quality, or awareness of notification requirements among healthcare workers. Paediatric clinicians may notify patients earlier because of the greater perceived vulnerability of children to communicable diseases, whereas clinicians in adult medical wards may delay notification until a diagnosis is confirmed. Although this explanation is plausible, it should be interpreted cautiously because the present study did not directly investigate clinicians' decision-making processes.

Several operational factors identified during data collection may explain the observed discrepancies. In some instances, Bed Head Tickets documented presenting symptoms rather than definitive diagnoses, making accurate disease classification difficult during data entry. Delays in transferring records to the Medical Record Room may also contribute to discrepancies between notification registers and eIMMR records. Furthermore, uncertainty among healthcare workers regarding notification based on clinical suspicion versus confirmed diagnosis may result in inconsistent reporting practices. The absence of routine reconciliation between ward notification registers, institutional notification registers, and eIMMR records further increases the likelihood that discrepancies remain undetected.

From a public health perspective, these findings highlight the importance of strengthening institutional surveillance systems beyond merely increasing the number of notification forms submitted. Improving surveillance quality requires equal emphasis on accuracy, completeness, timeliness, and consistency of notification. Regular institutional audits, monthly reconciliation between notification registers and eIMMR records, continuous training of Medical Officers and Nursing Officers, and assignment of ward-level responsibility for disease notification would likely improve surveillance performance. Establishing routine feedback mechanisms between hospitals and the Regional Epidemiology Unit could further strengthen accountability and facilitate continuous quality improvement.

A major strength of this assessment is that it evaluated routine surveillance performance using two independent institutional data sources across four secondary care hospitals, thereby providing a realistic assessment of notification practices under routine service conditions. Comparison between eIMMR records and hospital notification registers enabled identification of operational gaps that may not be apparent when only one data source is examined.

Nevertheless, several limitations should be acknowledged. The assessment relied on institutional records and therefore depended on the completeness and accuracy of both eIMMR and notification register data. Outpatient departments, intensive care units, and several specialised clinical units were excluded from the principal analysis because comparable eIMMR data were unavailable. In addition, the assessment did not evaluate patient-level notification timeliness, laboratory confirmation, clinician knowledge, or the reasons underlying notification decisions. Future studies incorporating prospective data collection, qualitative interviews with healthcare workers, and evaluation of reporting timeliness would provide a more comprehensive understanding of factors influencing communicable disease notification performance.

Overall, the findings demonstrate that although the notification system in the participating hospitals is functioning reasonably well, important opportunities remain to improve the quality, consistency, and reliability of communicable disease surveillance. Strengthening institutional governance, improving documentation practices, implementing regular reconciliation procedures, and providing continuous staff education will contribute to a more robust surveillance system capable of supporting timely public health action and improving disease control in Sri Lanka

Comparison with Previous Studies

The findings of this assessment are consistent with previous studies that have reported deficiencies in hospital-based communicable disease notification systems. Karthikeyan et al. identified significant gaps in disease notification practices in a tertiary care hospital in Sri Lanka, highlighting incomplete documentation and inconsistencies between clinical diagnoses and notification records. Similar observations have also been reported internationally, where inadequate knowledge of notification procedures, insufficient staff training, and poor documentation have contributed to under-reporting of notifiable diseases.

Unlike many previous studies that focused primarily on healthcare workers' knowledge or attitudes, the present assessment compared two institutional surveillance systems using routinely collected data. This approach provides practical evidence of notification performance at the operational level and identifies specific hospitals, diseases, and wards where surveillance activities may be strengthened.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

Strengths of the Study

The present assessment possesses several strengths. It included four secondary care hospitals representing different geographical areas within Batticaloa District and utilised routinely collected institutional surveillance data, thereby reflecting actual notification practices. Comparison of hospital notification registers with eIMMR records enabled objective assessment of notification performance and identification of discrepancies across hospitals, diseases, and clinical wards.

Limitations

This assessment has several limitations. First, it relied on institutional records, and the accuracy of the findings depended on the completeness of both eIMMR entries and hospital notification registers. Second, notifications originating from outpatient departments, intensive care units, and other specialised wards were excluded from the primary analysis unless corresponding eIMMR records were available, which may have resulted in underestimation of overall notification activity. Finally, the assessment did not evaluate patient-level outcomes, timeliness between diagnosis and notification, or laboratory confirmation of reported diseases. These factors should be explored in future studies to obtain a more comprehensive evaluation of communicable disease surveillance performance.

V. CONCLUSION

This institutional assessment demonstrated that the overall notification percentage among selected secondary care hospitals in Batticaloa District was 101.0% when comparable ward-level data were analysed. However, this overall figure concealed important hospital-wise, disease-wise, and ward-wise variations in notification performance. Base Hospital Valaichenai and Base Hospital Kaluwanchikudy showed evidence of possible under-notification, whereas Base Hospital Kattankudy and Base Hospital Eravur recorded notification percentages exceeding 100%, reflecting differences between notification practices and final eIMMR coding rather than true over-performance.

Dengue Fever/Dengue Haemorrhagic Fever was the predominant notifiable disease reported across all participating hospitals, while lower notification percentages were observed for leptospirosis, meningitis, tuberculosis, and dysentery. These findings indicate the need to strengthen documentation practices, improve staff awareness regarding notification requirements, assign clear ward-level accountability, and implement regular reconciliation between hospital notification registers and eIMMR records.

Strengthening these institutional processes will improve the accuracy, completeness, consistency, and timeliness of communicable disease notification and enhance the effectiveness of public health surveillance within the Batticaloa District and Sri Lanka as a whole.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the support and cooperation extended by the Regional Director of Health Services (RDHS), Batticaloa, for granting permission to conduct this institutional assessment. The authors also express their sincere appreciation to the Medical Superintendents, Medical Record Officers (MROs), Infection Control Nursing Officers (ICNOs)/Nursing Officers in Infection Control (NOICs), Nursing Officers, and ward staff of Base Hospital Valaichenai, Base Hospital Kaluwanchikudy, Base Hospital Kattankudy, and Base Hospital Eravur for their invaluable assistance in data collection, verification of institutional records, and support throughout the assessment. Their cooperation was essential for the successful completion of this study.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest regarding the publication of this manuscript.

FUNDING

This study received no external funding. All activities related to data collection, analysis, and manuscript preparation were undertaken as part of routine institutional public health activities.

AUTHOR CONTRIBUTIONS

Sukunan G: Conceived and designed the study, supervised data collection, interpreted the findings, and critically reviewed the final manuscript.

Mayuran N: Participated in data collection, performed data analysis, and prepared the initial manuscript draft.

Araventhana G: Contributed to data collection, interpretation of findings, manuscript revision, and final approval of the manuscript.

Assessment of Notifiable Disease Notification Performance in Secondary Care Hospitals in Batticaloa District, Sri Lanka, 2025

All authors read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

REFERENCES

- 1) Epidemiology Unit, Ministry of Health, Sri Lanka. Surveillance Case Definitions for Notifiable Diseases in Sri Lanka. 2nd ed. Colombo: Epidemiology Unit, Ministry of Health; 2011.
- 2) Epidemiology Unit, Ministry of Health, Sri Lanka. List of Notifiable Diseases. Colombo: Epidemiology Unit, Ministry of Health. Available from: <https://www.epid.gov.lk/> Accessed June 25, 2026.
- 3) Epidemiology Unit, Ministry of Health, Sri Lanka. Weekly Epidemiological Report. Colombo: Epidemiology Unit, Ministry of Health. Available from: <https://www.epid.gov.lk/> Accessed June 25, 2026.
- 4) Karthikeyan P, Jayathilake ADN, Arnold SM. Gaps in the communicable disease notification system: evidence from a major tertiary care hospital, Sri Lanka. *International Journal of Scientific and Research Publications*. 2022;12(3):75. doi:10.29322/IJSRP.12.03.2022.p12313.
- 5) Ofili AN, Ugwu EN, Ziregbe A, Richards R, Salami S. Knowledge of disease notification among doctors in government hospitals in Benin City, Edo State, Nigeria. *Public Health*. 2003;117(3):214–217. doi:10.1016/S0033-3506(02)00021-5.
- 6) Base Hospital Valaichenai, Base Hospital Kaluwanchikudy, Base Hospital Kattankudy and Base Hospital Eravur. eIMMR disease notification data and hospital notification register data, 2025. Unpublished institutional data.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.