



Reinforcing the Backbone of Disease Surveillance: Strengthening Communicable Disease Notification at District General Hospital Gampaha, Sri Lanka.

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ABSTRACT

Background and Objectives: Effective communicable disease notification is crucial for public health, enabling timely responses to outbreaks and control measures. At District General Hospital Gampaha (DGHG), delays in the notification process hinder effective surveillance. This study aimed to identify the root causes of these delays and recommend interventions to enhance the notification process.

Methods: The study utilized an Ishikawa (Fishbone) Diagram to systematically identify the root causes contributing to delays in disease notification. Data was collected through observations, stakeholder discussions, and document reviews. Factors influencing the process were grouped under categories such as human factors, process issues, resource constraints, communication gaps, and technological barriers.

Results: The analysis revealed that inadequate training and awareness among staff, lack of systematic monitoring, limited resources, interdepartmental communication gaps, and technological challenges were the primary causes of delays. The Ishikawa diagram highlighted key areas for targeted interventions, such as enhancing staff capacity, improving communication, and addressing resource limitations.

Conclusions: Delays in the notification process at DGHG arise from multiple interconnected factors. The Ishikawa diagram effectively identified these root causes, providing a structured framework for implementing improvements. Addressing these challenges is critical to ensuring timely and accurate disease surveillance, ultimately strengthening the public health response.

Keywords: Notifications, Notifiable diseases, Communicable disease control, Gampaha, Sri Lanka,

Introduction

Data on disease distribution is crucial for setting priorities in a country's health services. This information ensures that the efforts of medical staff are aligned with these priorities (McCormick, A.1993). Effective communicable disease surveillance is a cornerstone of public health, ensuring rapid responses to outbreaks, controlling the spread of diseases, and safeguarding the population's health. In Sri Lanka, the Epidemiology Unit plays a central role in coordinating and overseeing the surveillance of communicable diseases through a well-integrated network that spans across the country. This network involves various healthcare institutions, with District General Hospital (DGH) Gampaha serving as a critical component in this robust surveillance system. The hospital's role is pivotal in identifying, reporting, and tracking notifiable diseases that are essential for timely interventions.

The communicable disease notification system in Sri Lanka, mandated under the Quarantine and Prevention of Diseases Ordinance of 1897, is both a public health necessity and a legal obligation. The system operates through a combination of indicator-based surveillance, tracking known diseases, and event-based surveillance, which responds to outbreaks and unusual health events (AHB 2022). DGH Gampaha, located in a densely populated district with a high incidence of communicable diseases such as dengue, leptospirosis, and viral hepatitis, plays a key role in reporting these diseases to the Epidemiology Unit for further analysis and national monitoring.

However, despite the well-established guidelines and systems, several challenges persist in ensuring the timely and accurate notification of diseases, including gaps in knowledge, accountability, and coordination among various departments. This article examines the current status of the disease notification system at DGH Gampaha and offers recommendations to address these issues, improving the overall efficiency and responsiveness of the system.

Background

The District General Hospital (DGH) Gampaha is situated in a region with high disease burden, including communicable diseases like dengue, leptospirosis, and viral hepatitis, which significantly impact the public health landscape. As a secondary-level healthcare facility, DGH Gampaha plays an essential role in the surveillance and notification of notifiable diseases, contributing to the national effort to track and control the spread of infectious diseases. The hospital is required to report these diseases via the Weekly Return of Communicable Diseases (WRCD) forms, which are submitted to regional and central health authorities.

The national Communicable Disease Surveillance Program, overseen by the Epidemiology Unit, operates through a network of healthcare providers, including medical officers, nurses, and public health inspectors, who are responsible for identifying and notifying any suspected cases of notifiable diseases. This surveillance system spans from the grassroots level at district hospitals like DGH Gampaha to the provincial and national levels, ensuring that any cases of communicable diseases are rapidly identified and investigated.

The following flow chart describes the Communicable disease notification system of Sri Lanka.

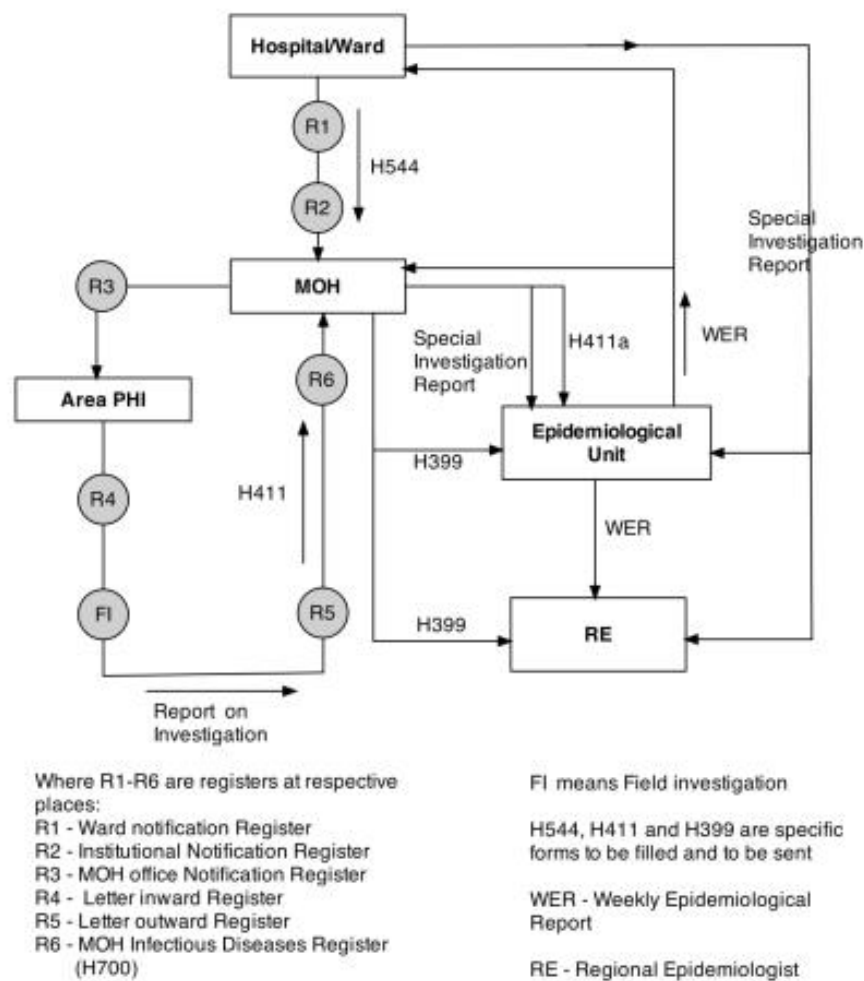


Figure 1: Notifiable disease surveillance system of Sri Lanka

Figure 1: Reproduced from Chandrasekar, K., Mahesan, S., & Bath, P. A. (2013). Notifiable disease surveillance in Sri Lanka and the United Kingdom: A comparative study. *Sri Lanka Journal of Bio-Medical Informatics*, 4(1), 14–22.

The notification process begins with the identification of a suspected case at DGH Gampaha, where various records such as bed head tickets, notification cards, and registers are used to document the case. Once reported, the Medical Officer of Health (MOH) of the patient's residential area is notified, initiating field investigations to confirm the diagnosis and assess the need for control measures. In addition to routine surveillance, DGH Gampaha participates in specialized programs such as Vaccine-Preventable Diseases (VPD) surveillance, sentinel surveillance for diseases like measles and Acute Flaccid Paralysis (AFP), and event-based surveillance for unusual health events, ensuring that outbreaks are identified and controlled in a timely manner.

2024	Dengue Fever	H. Dengue Fever	Leptospirosis	Tuberculosis	Encephalitis	Herpes zoster	Meningitis	Measles	Encephalitis	Leprosy	Chicken pox	Mumps	Influenza	Typhus
Aug	41	02	51	03	05	00	00	00	00	00	06	02	13	01
Sep	25	04	36	07	03	02	03	00	00	00	07	01	05	01
Oct	31	02	68	06	02	02	03	01	01	03	10	00	01	00
Nov	30	05	68	04	00	01	05	00	00	02	09	00	05	00

Source: Monthly Notification Summary, Infection Control Unit, DGH Gampaha)

Methodology

Key Informant Interviews (KIIs): Conducted with hospital leadership, senior medical professionals, and administrative staff.

Focus Group Discussions (FGDs): Engaged ward-in-charge nurses and randomly selected nursing officers from medical and paediatric wards.

Document Review: Examined notification records and compliance reports from the Epidemiology Unit.

Key Stakeholders:

Hospital administration (Director, Deputy Director).

Clinical leadership (Senior Consultant Physician, Senior Pediatrician, SHOs).

Infection control team (MO PH, ICNOs).

Medical Records Unit (MRO and staff).

4. Findings

4.1. Challenges Identified:

Several barriers impede the effectiveness of the notification process at DGH Gampaha:

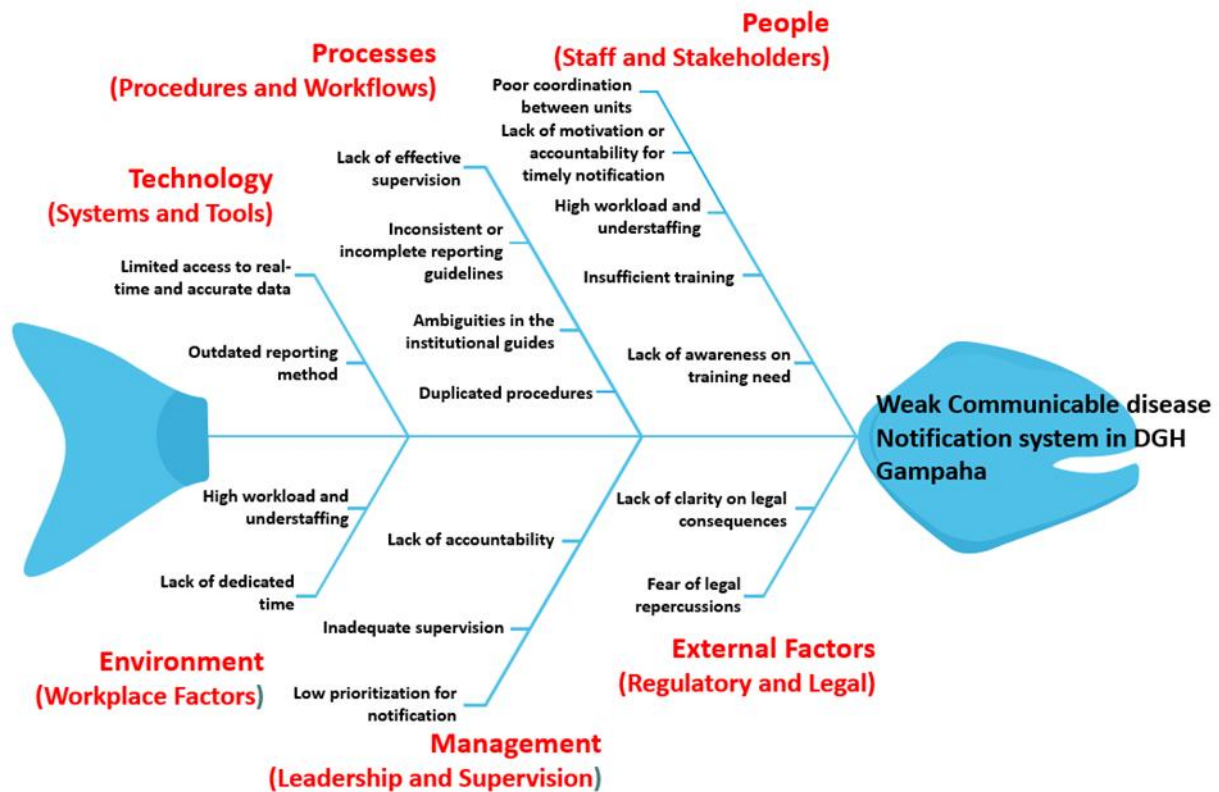
1. Inadequate Training and Awareness Among Healthcare Staff: Staff lacks sufficient understanding of the disease notification system, its importance, and the procedures involved.
2. Absence of Systematic Monitoring and Accountability Mechanisms: Minimal oversight and unclear roles for staff responsible for notifications create inefficiencies in the process.
3. Poor Interdepartmental Communication: Insufficient coordination between the infection control and medical records teams delays the reporting process.
4. Limited Resources and Technical Expertise in the Medical Records Unit: The hospital's Medical Records Unit lacks the tools and training to ensure accurate and timely reporting.

These challenges necessitate a structured approach to identify root causes and implement targeted interventions.

4.2. Root Cause Analysis

A comprehensive root cause analysis was conducted to identify systemic issues affecting the notification process. The study employed both qualitative and quantitative methods, involving key stakeholders and healthcare staff at DGH Gampaha.

The diagram below shows the root causes for the weak communicable disease notification system in District General Hospital, Gampaha.



Findings:

1. Knowledge Deficits: Limited awareness among healthcare providers regarding the importance and procedures of disease notification.
2. Lack of Accountability: Minimal oversight and unclear roles for staff responsible for notifications.
3. Weak Monitoring Systems: Absence of audits and feedback mechanisms to ensure compliance.
4. Coordination Gaps: Inefficient communication between infection control and medical records teams.
5. Resource Constraints: Inadequate training and tools for medical records staff.

5. Discussion

The proposed interventions aim to transform the communicable disease notification process at DGH Gampaha by addressing the key deficiencies identified in the root cause analysis. One of the most critical findings was the lack of awareness among healthcare staff regarding the importance of timely disease reporting. As emphasized by the Epidemiology Unit, Ministry of Health, Sri Lanka (2024), healthcare professionals need continuous education to understand their roles in public health surveillance and the consequences of delayed notifications. Regular training sessions for medical and nursing staff, particularly focused on the WRCD forms and the notifiable disease list, are crucial in bridging this knowledge gap.

A significant challenge identified was the absence of a structured monitoring framework. As noted by the World Health Organization (2006), effective disease surveillance systems are not only dependent on accurate data collection but also require robust monitoring mechanisms to ensure that reports are timely and complete. Establishing an ongoing auditing process and regular feedback sessions for staff is essential for fostering accountability and improving data quality. Implementing a formal monitoring and evaluation framework will encourage compliance and prompt corrective actions when issues are identified.

Another key issue was the lack of coordination between departments, especially between the Infection Control Unit and the Medical Records Unit. As suggested by the Centers for Disease Control and Prevention (CDC, 2020), interdepartmental communication is vital in ensuring seamless data transfer and timely reporting. Strengthening the communication between these units, alongside appointing dedicated focal persons for notifications, will improve the flow of information and reduce delays.

Leadership commitment is integral to implementing these changes. Hospital leadership must champion the cause, allocate necessary resources, and ensure that the staff understands the importance of the notification process. As demonstrated by previous successful cases in other healthcare settings (Ministry of Health, 2020), leadership involvement significantly accelerates the success of public health initiatives.

Lastly, the proposed reforms have broader implications for other hospitals in Sri Lanka. By setting a strong example, DGH Gampaha can serve as a model for similar institutions facing analogous challenges. The integration of training, monitoring, and improved coordination can enhance disease

surveillance nationwide, ultimately contributing to better epidemic preparedness and response. This model can be adapted to other institutions, particularly in resource-constrained settings, ensuring that communicable disease notification systems are more efficient and robust.

5.1. Proposed Action Plan

The following multi-faceted action plan addresses the identified root causes and aims to strengthen the notification process at DGH Gampaha:

Action	Responsible Party	Timeline
Conduct regular training on disease notification	MO PH, ICNO	Within 1 month
Establish a monitoring and evaluation framework	Hospital Administration	2 months
Develop SOPs for the notification process	Infection Control Unit	3 months
Enhance coordination between units	MO PH, MRO	Immediate
Appoint dedicated focal persons for notifications	Ward In-Charge Nurses	Immediate
Introduce awareness programs on the notifiable disease list	Infection Control Unit	Ongoing

Training and Capacity Building: Targeted workshops for medical and nursing staff will enhance understanding of the WRCD forms and the notifiable disease list.

Systemic Reforms: Developing SOPs will streamline roles and responsibilities, ensuring clarity and consistency in the notification process.

Monitoring Mechanisms: Regular audits and feedback sessions will improve compliance and data accuracy.

Enhanced Coordination: Strengthening communication channels between infection control and medical records teams will facilitate efficient data management.

5. Conclusion

The communicable disease notification process at District General Hospital, Gampaha, is essential for effective public health surveillance. However, challenges like inadequate training, weak monitoring, poor communication, and limited resources hinder its efficiency. Strengthening staff capacity, establishing accountability mechanisms, improving coordination, and providing adequate resources are critical steps to enhance the system. These measures will bolster both the hospital's notification process and the national surveillance network, contributing to better outbreak preparedness and control.

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References

- Annual Health Bulletin 2022, Ministry of Health, Sri Lanka
- Centers for Disease Control and Prevention (CDC). "Principles of Epidemiology." Third Edition.
- Chandrasekar, K., Mahesan, S., & Bath, P. A. (2013). Notifiable disease surveillance in Sri Lanka and the United Kingdom: A comparative study. *Sri Lanka Journal of Bio-Medical Informatics*, 4(1), 14-22.
- Epidemiology Unit, Ministry of Health, Sri Lanka. "Weekly Epidemiological Report." Accessed October 2024.
- McCormick, A. (1993). The notification of infectious diseases in England and Wales. *Communicable Disease Report (Public Health Laboratory Service, UK)*, 3, R19-R25.
- Ministry of Health, Sri Lanka. "Guidelines for Notifiable Disease Surveillance in Hospitals." 2020.
- Quarantine and Prevention of Diseases Ordinance, Sri Lanka.
- World Health Organization. "Communicable Disease Surveillance and Response Systems: Guide to Monitoring and Evaluation." 2006.