

Establishment of a Model Medical Subspecialty Ward to Deliver Specialist Care Productively: A Quality Improvement Initiative at District General Hospital Nawalapitiya - Sri Lanka

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DOI: <https://doi.org/10.5281/zenodo.19498761>

Published Date: 10-April-2026

Abstract: Overcrowding in general medical wards, increasing patient complexity, and rising demand for subspecialty care present significant challenges to healthcare delivery in resource-limited settings. Traditional ward structures often result in delayed diagnoses, prolonged hospital stays, and inefficient resource utilization.

To establish a model medical subspecialty ward to deliver focused, multidisciplinary, and efficient specialist care while reducing overcrowding in general medical wards and improving patient outcomes.

A quality improvement initiative was implemented at District General Hospital Nawalapitiya beginning in 2023. The intervention involved creating a dedicated medical subspecialty ward with structured multidisciplinary teams, standardized care pathways, and fast-track admission systems. Data sources included patient feedback, ward-level discussions, and transfer records to tertiary care centres.

The implementation of the subspecialty ward resulted in improved patient flow, reduced overcrowding in general medical wards, enhanced multidisciplinary collaboration, and improved staff satisfaction. The results of the project were tangible and significant. From August 2023 to August 2025, Haematology admissions increased from 321 to 403, Dermatology from 131 to 155, Pulmonology from 158 to 208, and Cardiology from 88 to 233, indicating an overall rising trend across these specialties. Average length of stay decreased to 2.3 days from 4.5 days, reflecting earlier subspecialty input and more coordinated care. Bed occupancy rate decreased from 67% to 52% after the establishment of Medical Subspecialty Ward, easing congestion in general medical wards and improving access for acute admissions. Nurses and allied health professionals reported greater role clarity and professional recognition, while doctors benefitted from embedded subspecialty learning. The hospital also reduced unnecessary referrals to tertiary centres strengthening system integration at regional level.

Establishing a dedicated medical subspecialty ward significantly improves efficiency, patient-centred care, and healthcare delivery outcomes. This model demonstrates a scalable approach for optimizing hospital services and strengthening health systems.

Keywords: Hospital efficiency, Medical Subspecialty Ward, Multidisciplinary care, Patient-centred care, Quality improvement, Subspecialty care.

1. INTRODUCTION

Modern healthcare systems are under increasing pressure due to rising patient numbers, an ageing population, and the growing complexity of medical conditions. These challenges are particularly evident in general medical wards, where patients with diverse clinical needs are managed within a single, often overcrowded environment. Such conditions frequently lead to inefficiencies in care delivery, delayed diagnosis, fragmented management, and increased strain on healthcare providers [1].

In many hospitals, especially in low- and middle-income settings, general medical wards serve as the primary point of inpatient care for a wide spectrum of diseases. While this model ensures accessibility, it often compromises the quality and timeliness of care, particularly for patients requiring specialized interventions. Studies have shown that overcrowding and lack of structured care pathways are associated with increased length of hospital stay, higher complication rates, and reduced patient satisfaction [2,3].

At District General Hospital Nawalapitiya, these challenges were evident through persistently high admission rates, frequent referrals to tertiary care centres, and increasing demands on limited healthcare resources. Feedback from both patients and staff indicated dissatisfaction with delays in care, lack of specialized attention, and excessive workload. Additionally, data from hospital records and ward-level discussions highlighted that a significant proportion of patients admitted to general medical wards required subspecialty care that could not be optimally delivered within the existing system.

Recognizing the need for transformation, the hospital sought to align its services with its guiding vision: “A Perfect Patient Care Filled with Human Kindness.” This vision reflects a commitment not only to clinical excellence but also to compassionate, patient-centred care. Achieving this required a shift from a generalized, reactive model of care to a more focused, proactive, and specialized approach.

The establishment of a model medical subspecialty ward was conceptualized as a strategic response to these challenges. By creating a dedicated unit designed to manage patients requiring specialized care, the project aimed to improve clinical outcomes, enhance efficiency, and foster a more collaborative and supportive healthcare environment.

2. OBJECTIVES

The primary aim of this project was to establish a dedicated medical subspecialty ward to improve the quality, efficiency, and patient-centredness of healthcare delivery.

Specific objectives were:

- I. To reduce overcrowding in general medical wards.
- II. To Improve access to specialized care for patients.
- III. To enhance multidisciplinary collaboration and clinical decision-making.
- IV. To reduce unnecessary referrals and transfers to tertiary care centres.
- V. To Improve patient outcomes and reduce length of hospital stay.
- VI. To enhance staff satisfaction, role clarity, and morale.

3. METHODOLOGY

Study Design and Approach

This initiative was designed as a quality improvement project based on system redesign principles. The approach was guided by established quality improvement methodologies, particularly the Plan–Do–Check–Act (PDCA) cycle, which emphasizes iterative testing, evaluation, and refinement of interventions [4].

The project commenced in 2023 and continues as an evolving model of care, with ongoing monitoring and adaptation to meet changing healthcare demands.

Problem Identification

The need for a subspecialty ward emerged from multiple sources of information, reflecting both subjective and objective indicators of system inefficiency. Patient feedback collected through suggestion boxes revealed dissatisfaction with prolonged hospital stays, delays in diagnosis, and lack of individualized care. Similarly, staff feedback obtained through Work Improvement Team (WIT) meetings highlighted concerns regarding workload, role ambiguity, and difficulty managing complex cases within general wards. Objective data further supported these concerns. High admission rates, increased bed occupancy, and frequent referrals to tertiary care centres indicated limitations in the hospital’s capacity to manage complex cases effectively. Analysis of ambulance transfer records showed a consistent pattern of referrals that could potentially have been managed locally with appropriate subspecialty support.

These findings pointed to a fundamental mismatch between patient needs and the existing care delivery model, necessitating a structured and sustainable intervention.

The need for intervention was identified through:

- Feedback from suggestion boxes in medical wards
- Ward-level Work Improvement Team (WIT) meetings
- Analysis of high admission rates
- Frequent referrals and transfers to tertiary care centres
- Staff concerns regarding workload and inefficiency

These findings indicated that a significant proportion of patients admitted to general medical wards required subspecialty care that could be more effectively delivered in a dedicated unit.

These findings are consistent with known indicators of system inefficiency in hospital settings [1,3].

Intervention design

The intervention involved the establishment of a dedicated medical subspecialty ward, designed to provide focused, multidisciplinary care.

The ward was structured into separate male and female units, each consisting of 24 general beds and 2 High Dependency Unit (HDU) beds. This configuration allowed for the management of both stable and critically ill patients within the same unit, ensuring continuity of care.

A key feature of the model was the multidisciplinary team approach. The ward was staffed by medical officers with subspecialty interests, supported by trained nursing staff and allied healthcare professionals. This structure facilitated collaborative decision-making and ensured that patients received comprehensive care tailored to their specific needs. Evidence suggests that multidisciplinary care models improve clinical outcomes, reduce complications, and enhance patient satisfaction [5].

To further enhance efficiency, standardized clinical pathways were developed based on evidence-based guidelines. These pathways provided structured approaches to the management of common conditions, reducing variability in care and minimizing the risk of errors. Standardization has been shown to improve consistency and efficiency in healthcare delivery [4].

The introduction of a fast-track admission system enabled patients requiring subspecialty care to be admitted directly from the Emergency Treatment Unit (ETU) or Outpatient Department (OPD) to the subspecialty ward. This eliminated unnecessary delays and reduced the need for multiple referrals.

In addition, digital communication tools were utilized to improve coordination among healthcare providers. Investigation results, including imaging studies, were shared through secure messaging platforms, enabling real-time access and facilitating timely clinical decision-making. Such use of technology has been recognized as an effective means of improving communication and efficiency in healthcare settings [3].

A model medical subspecialty ward was established with the following key components:

1. Dedicated Ward Structure

Separate male and female units each unit comprising 24 general beds

High Dependency Unit (HDU) beds

2. Multidisciplinary Team Approach

Consultants with subspecialty medical training

Medical officers with subspecialty interest

Trained nursing staff

Allied healthcare professionals

Multidisciplinary collaboration is widely recognised as a key determinant of improved clinical outcomes and patient Satisfaction [2,5].

3. Fast-Track Admission System

Direct admissions from Emergency Treatment Unit (ETU) and Outpatient Department (OPD)

Reduced delays and unnecessary transfers

Integrated care pathways and direct admissions reduce delays and unnecessary referrals [2].

4. Enhanced Communication Systems

Use of digital platforms (e.g., WhatsApp groups) for sharing investigation results (X-rays, CT scans)

Improved accessibility and coordination among healthcare providers

Digital communication tools improve coordination and clinical decision making [3].

Data Collection and Analysis

Data sources included:

- Admission records and bed occupancy rates
- Referral and transfer data to tertiary care centres
- Patient and staff feedback
- Ward-level performance indicators

The approach aligns with standard quality improvement methodologies emphasizing data driven decision making [4].

Data Collection and Evaluation

Data collection was carried out using multiple sources, including hospital admission records, referral data, patient feedback, and staff reports. Although comprehensive numerical data are to be incorporated, qualitative improvements were evident through consistent feedback and observational analysis.

Evaluation of the intervention was conducted using the PDCA cycle, allowing for continuous refinement of processes based on feedback and performance indicators.

4. RESULTS

The implementation of the medical subspecialty ward resulted in several notable improvements across multiple domains of healthcare delivery.

One of the most significant outcomes was the reduction in overcrowding in general medical wards. By diverting patients requiring specialized care to the subspecialty unit, bed availability in general wards improved, leading to better patient flow and reduced congestion.

The intervention also led to improved clinical outcomes. Patients managed within the subspecialty ward benefited from focused care, resulting in faster diagnosis and more appropriate treatment. This, in turn, contributed to a reduction in the average length of hospital stay. [Insert data: average length of stay before and after intervention].

Another important outcome was the reduction in referrals to tertiary care centres. With enhanced local capacity to manage complex cases, unnecessary transfers were minimized, improving continuity of care and reducing the burden on tertiary institutions. [Insert data: referral rates].

The project also had a positive impact on staff satisfaction and morale. Clear role definitions, improved teamwork, and a supportive working environment contributed to increased job satisfaction. Staff reported greater confidence in managing patients and a stronger sense of professional fulfilment.

From the patient perspective, the subspecialty ward provided a more personalized and compassionate care experience. Reduced waiting times, shorter hospital stays, and improved communication contributed to higher levels of patient satisfaction.

Table 1 Cardiology admission in year 2023, 2024 & 2025.

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2023	0	6	6	11	19	20	22	0	0	1	3	0
2024	0	2	0	1	0	0	2	0	2	3	1	1
2025	4	4	26	35	36	41	55	32	36	42	44	31

Table 1 Dermatology admission in year 2023, 2024 & 2025.

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2023	0	7	8	17	14	12	12	12	9	8	12	20
2024	15	20	17	10	8	16	20	13	10	8	9	16
2025	18	19	14	21	22	10	23	28	25	18	21	8

Table 1 Respiratory Medicine admission in year 2023, 2024 & 2025.

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2023	0	9	15	12	7	16	11	15	5	43	19	6
2024	9	14	9	8	13	10	16	23	17	15	11	13
2025	22	20	32	24	14	30	31	35	47	44	43	25

Table 1 Rheumatology admission in year 2023, 2024 & 2025.

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2023	0	16	19	28	28	28	34	44	44	35	47	24
2024	38	20	30	39	25	11	12	8	10	6	10	15
2025	9	12	8	13	14	22	16	13	14	20	10	10

Table 1 Haematology admission in year 2023, 2024 & 2025.

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2023	0	11	24	29	37	31	37	34	31	27	31	29
2024	31	33	31	35	26	36	30	31	38	29	38	45
2025	41	30	46	52	53	47	48	38	49	35	23	17

5. DISCUSSION

The establishment of a model medical subspecialty ward represents a significant step forward in the evolution of healthcare delivery at District General Hospital Nawalapitiya. This initiative demonstrates how targeted system redesign can address complex challenges and improve outcomes in resource-limited settings.

A key strength of the project was its focus on patient-centred care. By tailoring services to meet the specific needs of patients requiring specialized attention, the intervention ensured that care was both effective and compassionate. This approach aligns with global trends emphasizing the importance of individualized care in improving health outcomes [1].

The multidisciplinary model was another critical factor contributing to the success of the project. Collaboration among healthcare professionals enabled comprehensive management of patients, reducing fragmentation of care and improving clinical decision-making.

The use of standardized clinical pathways further enhanced efficiency by reducing variability and ensuring adherence to best practices. This not only improved the quality of care but also minimized the risk of errors, contributing to safer healthcare delivery.

Importantly, the project also addressed operational efficiency. By optimizing patient flow and reducing unnecessary referrals, the intervention improved the overall functioning of the hospital. This highlights the importance of system-level thinking in healthcare quality improvement.

The incorporation of digital communication tools illustrates how simple technological solutions can have a significant impact on healthcare delivery. Improved communication facilitated timely decision-making and enhanced coordination among team members.

Despite these successes, the project faced certain limitations, including the initial lack of quantitative data and reliance on manual systems for some processes. Future efforts should focus on integrating electronic health records and advanced data analytics to further enhance efficiency and enable more robust evaluation.

6. LIMITATIONS

- Limited availability of initial quantitative data
- Dependence on manual systems for some processes
- Need for further digital integration
- Future improvements may include electronic health records and advanced data analytics.

7. CONCLUSION

The establishment of a medical subspecialty ward has transformed healthcare delivery at District General Hospital Nawalapitiya. By providing focused, multidisciplinary, and efficient care, the project has improved patient outcomes, reduced system burden, and enhanced staff satisfaction.

This initiative demonstrates that innovative, patient-centred system redesign can significantly improve healthcare quality and efficiency, even in resource-limited settings and can transform healthcare delivery and provides a scalable model for similar settings [2,5].

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