
Hospital Operations Leadership: Patient Flow and Capacity Planning Course

25 – 29 April 2027
Doha





Hospital Operations Leadership: Patient Flow and Capacity Planning Course

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Programme Summary

Hospital operations leadership is a five-day training course for senior operations and nursing leaders at strategic level, culminating in a patient flow and capacity plan for their hospital. Crowded emergency departments, cancelled operations and delayed discharges usually stem from mismatched demand, capacity and timing rather than a shortage of beds. The approach treats the hospital as one connected system, using demand data, queueing principles and scheduling tools to manage flow from arrival to discharge. Mars Training Centre UK delivers this programme in hospital operations leadership.

The Business Case

When patients wait in corridors or stay longer than clinically needed, costs rise, staff burn out and safety risks grow. Adding beds alone rarely helps when variation and handoffs remain unaddressed. Operations leaders who match capacity to predictable demand and run the hospital through shared daily rhythms release capacity already paid for.

- Length of Stay and Bed Occupancy: Fall when discharge planning starts on admission.
- Emergency Department Waiting and Boarding Times: Shorten when inpatient beds are released earlier in the day.
- Elective Cancellations and Theatre Utilisation: Improve when scheduling smooths peaks in surgical demand.

Principles and Evidence Base

- IHI Achieving Hospital-wide Patient Flow: Frames flow as a whole-system issue in Sessions 1 and 3.
- Queueing Theory and Little's Law: Link arrivals, capacity and waiting time to size beds and staff in Session 2.
- Variability Management: Separates natural from artificial variation to smooth elective scheduling in Session 3.
- Demand, Capacity and Flow Modelling: Matches capacity to hourly and weekly demand patterns in Sessions 2 and 5.

Intended Participants

- Executives accountable for hospital operational performance and access targets.
- Leaders who run bed management, site management or operational command functions.
- Senior nursing leaders responsible for ward capacity, staffing and discharge.
- Managers who oversee theatres, emergency care or outpatient scheduling.



The programme serves public and private hospitals, specialist centres, health clusters and military or university medical facilities.

Learning Outcomes

1. Participants will be able to diagnose flow constraints across emergency, inpatient and discharge pathways using operational data.
2. Participants will be able to construct demand and capacity models for beds, theatres and staffing.
3. Participants will be able to design scheduling rules that reduce artificial variation in elective activity.
4. Participants will be able to prioritise discharge and length of stay interventions by their effect on bed capacity.
5. Participants will be able to evaluate the design of an operational command centre and daily huddle system.
6. Participants will be able to justify an operational dashboard and escalation framework to the executive team.

Programme Structure

Day 1: Hospital Operations as a System

Where does flow break down, and why do queues persist?

- Hospital-Wide Patient Flow Mapping From Arrival to Discharge
- Bottleneck and Constraint Identification
- Operational Data Sources: Census, Admissions and Discharges
- Emergency Department Crowding and Exit Block
- Flow Diagnostic Baseline for a Participant Hospital

Day 2: Demand and Capacity Modelling

How much capacity is needed, and when?

- Demand Forecasting by Hour, Day and Season
- Little's Law and Bed Requirement Calculations
- Occupancy Thresholds and Queueing Effects
- Workforce Rostering Matched to Demand Curves
- Capacity Gap Analysis Template

Day 3: Scheduling Theatres, Beds and Clinics

How can planned activity be scheduled to protect emergency capacity?



- Natural Versus Artificial Variation in Elective Demand
- Theatre Session Planning and Utilisation Measures
- Elective and Emergency Stream Separation
- Outpatient Booking Rules and Slot Design
- Admission Smoothing Across the Week

Day 4: Discharge, Command Centres and Daily Control

How is the hospital run hour by hour and bed by bed?

- Discharge Planning From Admission and Expected Date of Discharge
- Board Rounds and Daily Safety Huddles
- Operational Command Centre Roles and Information Displays
- Escalation Levels and Surge Protocols
- Partnerships With Community and Long-Term Care Providers

Day 5: Applying Hospital Operations Leadership

How are diagnosis, models and controls combined into one operational plan?

- Applying the Capacity Model to the Participant Baseline
- Prioritising Flow Interventions by Bed-Day Impact
- Operational Dashboard and Key Measures Design
- Peer Review of Escalation Frameworks
- Patient Flow and Capacity Plan Presentation

Methodology

The programme is built around data workshops in which participants work with anonymised census, admission and theatre data from hospitals of different sizes. Short inputs on queueing and variation are followed by modelling exercises and case comparisons from acute and specialist hospitals, so each tool is tested before participants apply it to their own hospital.

- Suggested activity: Calculating bed requirements for a medical ward at three occupancy targets.
- Suggested activity: Redesigning a theatre timetable to reduce weekday surgical peaks.
- Suggested activity: Running a simulated morning capacity huddle during a winter surge.

Capstone Output

Each participant completes a patient flow and capacity plan for their hospital. It includes a flow diagnostic baseline, a demand and capacity model, scheduling and discharge interventions ranked by bed-day impact, an escalation framework and an operational dashboard, ready for executive review.



Frequently Asked Questions

Is hospital operations leadership suitable for senior nurses as well as general managers?

Yes. It is designed for senior operations, nursing and clinical leaders who manage capacity. It assumes management experience but no training in operations research.

Which models underpin hospital operations leadership in this programme?

It draws on the IHI hospital-wide patient flow framework, queueing theory and Little's Law, variability management and demand, capacity and flow modelling.

How is the hospital patient flow and capacity plan used at work?

It sets your operational priorities and bed and theatre targets, and gives the executive team a dashboard and escalation framework to review each month.

How does hospital operations leadership differ from a healthcare quality improvement programme?

It concentrates on capacity, scheduling and daily control of patient flow, while quality improvement programmes focus on improvement methods, clinical outcomes and patient safety.