
Clinical Quality Improvement Leadership: PDSA, Lean and Six Sigma Course

6 – 10 June 2027
Sharm El-Sheikh





Clinical Quality Improvement Leadership: PDSA, Lean and Six Sigma Course

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Programme Summary

Clinical quality improvement leadership is a one-week training course for quality, medical and nursing leaders at strategic level, culminating in a clinical improvement portfolio for their organisation. Many healthcare organisations run improvement projects that show early gains and then fade, because aims are vague, measures are weak and changes are never tested properly. The approach combines PDSA testing, Lean and Six Sigma with measurement for improvement, so leaders can choose the right method for each clinical problem and sustain the result. Mars Training Centre UK delivers this programme in clinical quality improvement leadership.

The Business Case

Unwarranted variation in clinical practice drives avoidable harm, repeat work and cost. Organisations that improve through disciplined testing and statistical measurement can show boards and patients that care is getting safer and more reliable, rather than relying on audits that only describe the past. Leaders who build improvement capability into everyday management turn isolated projects into a lasting system.

- Clinical Outcomes and Avoidable Harm: Improve when changes are tested on a small scale and measured over time.
- Cost of Poor Quality: Falls when waste and rework in clinical pathways are removed with Lean and Six Sigma tools.
- Staff Engagement in Improvement: Rises when frontline teams own the aims, data and changes.

Principles and Evidence Base

- IHI Model for Improvement and PDSA Cycles: Structures aims, measures and tested changes in Sessions 1 and 2.
- Lean Thinking and Value Stream Mapping: Exposes waste and delays in clinical pathways in Session 3.
- Six Sigma DMAIC: Guides the analysis of defects and variation in high-risk processes in Session 3.
- Statistical Process Control: Distinguishes common-cause from special-cause variation in Session 4.

Intended Participants

- Executives accountable for clinical quality, patient safety and improvement strategy.
- Leaders who sponsor or oversee portfolios of improvement projects.
- Senior clinicians who lead departmental quality and audit programmes.
- Managers who coach improvement teams and report results to boards.



The programme serves hospitals, primary care networks, laboratory and pharmacy services and health insurers.

Learning Outcomes

1. Participants will be able to construct improvement aims, measures and change ideas using the Model for Improvement.
2. Participants will be able to design linked PDSA cycles that test changes safely before wider adoption.
3. Participants will be able to diagnose waste and defects in clinical processes using Lean and Six Sigma tools.
4. Participants will be able to interpret run charts and control charts to judge whether a change is an improvement.
5. Participants will be able to evaluate approaches to spreading and sustaining successful changes.
6. Participants will be able to prioritise an improvement portfolio aligned to organisational quality goals.

Programme Structure

Day 1: Foundations of Clinical Quality Improvement

What makes healthcare improvement succeed or stall?

- Quality Dimensions: Safe, Effective, Timely and Person-Centred Care
- The Model for Improvement: Aims, Measures and Changes
- Driver Diagrams and Change Ideas
- Leadership Roles in Improvement Programmes
- Case Lessons From Successful and Stalled Projects

Day 2: Testing Changes With PDSA

How are changes tested safely and learnt from quickly?

- Designing Small-Scale PDSA Cycles
- Linking Cycles From Test to Implementation
- Outcome, Process and Balancing Measures
- Data Collection Plans for Frontline Teams
- Engaging Clinicians in Improvement Work

Day 3: Lean and Six Sigma in Clinical Processes

Where are waste, delay and defects hidden in care pathways?



- Value Stream Mapping of a Clinical Pathway
- The Eight Wastes in Healthcare Settings
- Six Sigma DMAIC for High-Risk Processes
- Root Cause Tools: Fishbone and Pareto Analysis
- Standard Work and Error-Proofing

Day 4: Measurement, Variation and Sustainability

How can leaders tell real improvement from random noise?

- Run Chart Rules and Interpretation
- Statistical Process Control Charts for Clinical Data
- Reducing Unwarranted Clinical Variation
- Spread Strategies Across Units and Sites
- Sustainability Assessment and Control Plans

Day 5: Applying Clinical Quality Improvement Leadership

How are methods, measures and projects brought into one portfolio?

- Selecting Methods for Priority Clinical Problems
- Building a Measurement Dashboard for Improvement
- Prioritising Projects by Quality Impact and Effort
- Peer Review of Draft Driver Diagrams
- Clinical Improvement Portfolio Presentation

Methodology

The programme uses structured exercises built on real clinical scenarios from hospital wards, laboratories and primary care. Participants map processes, design PDSA cycles and plot control charts with sample data, then compare approaches with peers. Each session closes with participants applying the method to a problem from their own organisation, building their portfolio step by step.

- Suggested activity: Mapping the value stream for a medication administration round.
- Suggested activity: Interpreting a control chart of hospital-acquired infection rates.
- Suggested activity: Designing three linked PDSA cycles to reduce missed follow-up results.

Capstone Output

Each participant completes a clinical improvement portfolio for their organisation. It includes prioritised improvement aims, driver diagrams, a PDSA testing plan, a measurement dashboard with run and control charts, and a spread and sustainability plan, ready to present to the quality committee and guide the coming year.



Frequently Asked Questions

Is clinical quality improvement leadership suitable for leaders new to Lean and Six Sigma?

Yes. It is designed for senior quality, medical and nursing leaders. It assumes management experience and familiarity with clinical audit, but no previous training in Lean, Six Sigma or statistics.

Which models underpin clinical quality improvement leadership in this programme?

It draws on the IHI Model for Improvement with PDSA cycles, Lean thinking and value stream mapping, Six Sigma DMAIC and statistical process control.

How is the clinical quality improvement portfolio used at work?

It becomes your plan for improvement work, setting aims, measures and testing plans for priority problems and giving the quality committee a dashboard to track progress.

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

It concentrates on improvement methods, measurement and clinical outcomes, while hospital operations programmes focus on capacity, scheduling and daily patient flow.