Hospital AI Portfolio Training Course: Patient Flow, Revenue Cycle, Workforce and Supply Decisions

15 – 26 August 2027
Muscat

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Programme Summary

Hospital AI portfolio planning is the subject of this two-week training course for hospital directors, health system executives and heads of operations, quality and digital health at managerial level, ending in a hospital AI portfolio plan for one hospital. Hospitals receive many AI proposals for flow, revenue, staffing and supply, yet few have one method to rank and govern them. The programme moves from risk basis and data readiness through five operational areas to vendor assurance, portfolio selection and a tested plan. Mars Training Centre UK delivers this programme on the hospital AI portfolio to mixed-organisation cohorts.

The Business Case

Hospital AI proposals arrive from departments, vendors and digital teams, each with its own promise. Without a shared method, funding follows enthusiasm, pilots stall after launch and safety and fairness checks are applied unevenly. Executives who rank use cases on value, effort and risk, and who track benefits after launch, spend limited budgets on changes that operations can sustain and clinicians can trust.

- Patient Flow Delay: Falls as bed, theatre and discharge decisions use tested forecasts with named owners.
- Revenue Leakage: Narrows as coding and claims support carries documented controls.
- Governance Exposure: Reduces as every live tool has a risk entry, a monitor and an escalation path.

Principles and Evidence Base

- WHO Guidance on Ethics and Governance of Artificial Intelligence for Health: Provides the governance principles applied in Sessions 1, 5 and 7 to oversight, fairness and transparency.
- ISO/IEC 42001 AI Management Systems: Frames the roles, controls and assurance reviewed in Sessions 8 and 10.
- ISO 31000 Risk Management: Structures the risk register and treatment choices used in Sessions 1, 7 and 9.

Intended Participants

- Hospital executives who approve investment and carry accountability for operational performance.
- Operations leaders who manage patient flow, capacity, theatres and supply.
- Quality and safety leaders who oversee monitoring, incidents and clinical assurance.
- Digital health leaders who assess vendors, data and integration.
- Finance and workforce leaders who test business cases and staffing effects.

Typical settings include public hospitals, private hospital groups, specialist centres and regional health systems.

Learning Outcomes

1. Participants will be able to diagnose where AI already operates in a hospital and which risks apply to it.
2. Participants will be able to evaluate data readiness for operational AI use cases.
3. Participants will be able to appraise AI use cases in patient flow, capacity, revenue cycle, workforce and supply against stated controls.
4. Participants will be able to construct a monitoring plan covering quality, safety and drift.
5. Participants will be able to prioritise use cases by value, effort and risk and sequence them in a roadmap.
6. Participants will be able to justify a hospital AI portfolio plan and its benefits tracking to a board.

Programme Structure

Day 1: Hospital AI Portfolio: Context and Risk Basis

Where does AI already operate in the hospital, and what risk basis governs it?

- Hospital AI Use Inventory
- Operational Pain Point Map
- WHO Governance Principle Checklist
- ISO 31000 Risk Register
- Decision Rights Chart

Day 2: Data Readiness for Hospital Operations

Which data can support operational AI, and how reliable is it?

- Operational Data Source Map
- Data Quality Scorecard
- Interoperability Gap Review
- Privacy and Access Rule Sheet
- Model Input Lineage Note

Day 3: Patient Flow and Capacity Use Cases

How can AI ease admission, bed and theatre flow without hiding clinical judgement?

- Patient Flow Bottleneck Analysis
- Bed Demand Forecast Review
- Theatre Scheduling Case
- Discharge Planning Alert Test
- Capacity Escalation Protocol

Day 4: Revenue Cycle Use Cases

How can AI support coding, claims and collections with controls?

- Revenue Cycle Process Map
- Coding Assistance Review
- Claim Denial Prediction Case
- Collections Prioritisation Test
- Billing Exception Control Sheet

Day 5: Workforce and Rostering Use Cases

How can AI inform staffing and rostering while protecting fairness?

- Demand-Based Rostering Model
- Skill Mix Scenario Grid
- Absence Forecast Review
- Fairness Check for Shift Allocation
- Staff Consultation Plan

Day 6: Supply and Inventory Use Cases

How can AI reduce stock-outs and waste in hospital supply?

- Consumption Pattern Analysis
- Stock-Out Early Warning Case
- Expiry Waste Review
- Reorder Rule Comparison
- Supplier Risk Signal Sheet

Day 7: Quality, Safety and Monitoring

How are AI outputs monitored for quality, safety and drift?

- Performance Monitoring Plan
- Drift and Error Log
- Clinical Safety Review Gate
- Incident Escalation Path
- Audit Trail Specification

Day 8: Vendors, Contracts and Assurance

How are vendor claims tested and obligations written into contracts?

- Vendor Claim Test Sheet
- Evidence Request List
- Contract Clause Checklist
- ISO/IEC 42001 Gap Review
- Exit and Continuity Plan

Day 9: Portfolio Selection and Benefits Tracking

Which use cases are funded first, and how are gains tracked?

- Use Case Scoring Matrix
- Value and Effort Map
- Benefits Baseline Sheet
- Sequencing Roadmap
- Benefits Tracking Dashboard Design

Day 10: Hospital AI Portfolio Plan for One Hospital

Do the earlier tools form one plan that a hospital board can approve?

- Applying the Session 1 Risk Register
- Testing the Session 3 Bottleneck Analysis
- Reviewing the Session 8 Vendor Claim Test Sheet
- Checking the Session 9 Scoring Matrix
- Completing the Portfolio Plan and Board Note

Methodology

The programme uses case analysis built on a prepared hospital file for one general hospital and one specialist centre, each with an operations summary, sample forecasts, a revenue cycle extract, a rostering pattern and two vendor proposals. Participants work through the file in small groups, rank the proposals and defend their ranking to peers acting as a hospital board.

- Suggested activity: Testing a bed demand forecast against a week of actual admissions.
- Suggested activity: Marking up a vendor proposal for unsupported claims and missing controls.
- Suggested activity: Scoring six use cases and defending the funding order.

Capstone Output

Each participant completes a hospital AI portfolio plan for one hospital. It holds a use inventory, a risk register, a data readiness view, an appraisal of five operational areas, a vendor assurance sheet, a scored roadmap and a benefits tracking design. The plan is used at work to brief a board, set funding order and start the first pilots.

Frequently Asked Questions

Is a hospital AI portfolio course suitable for executives who are not data specialists?

Yes. The hospital AI portfolio is taught through a prepared hospital file and templates. It assumes experience in hospital management, operations, quality or finance, but no data science background.

Which frameworks does the hospital AI portfolio rest on?

The hospital AI portfolio rests on the WHO guidance on ethics and governance of artificial intelligence for health, ISO/IEC 42001 for AI management systems and ISO 31000 for risk management.

How is the plan from the hospital AI portfolio course used at work?

You use the hospital AI portfolio plan to brief a board, agree the funding order, set vendor conditions and track benefits after launch.

How does the hospital AI portfolio differ from a healthcare management essentials course?

The hospital AI portfolio concentrates on choosing, governing and tracking AI across hospital operations, while a healthcare management essentials course covers strategy, finance, quality and operations without a focus on AI.