
Responsible Clinical AI Training Course: Patient Safety, Consent and Accountability

31 January – 4 February 2027
Muscat





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Ref: 635_32082 Date: 31 January – 4 February 2027 Location: Muscat Fees: 4300 GBP

Programme Summary

Responsible clinical AI is the subject of this one-week training course for hospital executives, clinical governance leads and digital health directors, ending in an oversight plan for one AI tool used in patient care. Clinical teams adopt prediction and imaging tools faster than consent practice, safety checks and accountability are written down. The programme moves from the ethical principles to bias and privacy diagnosis, consent and transparency design, risk controls and monitoring, applied to a tool you select. Mars Training Centre UK delivers this programme on responsible clinical AI to mixed-organisation cohorts.

The Business Case

Clinical AI changes who makes a decision and who answers for it. Without agreed roles, a model error can reach many patients before anyone notices, and trust in the service falls. Leaders who set evidence standards, explain AI use to patients and track performance after launch protect patients and keep clinical teams confident in the tools they are asked to use.

- Patient Safety Incidents: Fall as tool limits, escalation routes and human review points are defined and tested.
- Complaint and Consent Disputes: Fall as patients receive clear information about AI use in their care.
- Unplanned Tool Withdrawal: Falls as monitoring detects drift and bias before harm accumulates.

Principles and Evidence Base

- WHO Ethics and Governance of Artificial Intelligence for Health: Sets out principles such as protecting autonomy, promoting safety, transparency and accountability, used in Session 1 to frame decisions.
- ISO 14971: Defines risk management for medical devices, applied in Session 4 to hazard and control analysis for a clinical AI tool.
- NIST AI Risk Management Framework: Provides the govern, map, measure and manage functions used in Session 4 to structure monitoring.
- ISO/IEC 42001: Describes a management system for AI, used in Session 5 to assign ownership and review cycles.

Intended Participants

- Hospital executives who approve the adoption of AI tools in clinical services.
- Clinical governance leads who own safety, audit and incident review.
- Digital health directors who select, integrate and monitor clinical software.
- Quality and risk directors who report patient safety measures to the board.

Typical settings include hospital groups, primary care networks and health insurers.



Learning Outcomes

1. Participants will be able to evaluate a clinical AI use case against recognised ethical principles.
2. Participants will be able to diagnose sources of bias and privacy exposure in clinical data and models.
3. Participants will be able to design a consent and patient information approach for AI-supported care.
4. Participants will be able to construct a hazard analysis and control plan for a clinical AI tool.
5. Participants will be able to prioritise monitoring measures that detect drift and harm after launch.
6. Participants will be able to justify an accountability model that names who answers for each AI decision.

Programme Structure

Day 1: Responsible Clinical AI and Ethical Principles

Which ethical principles apply to an AI tool in patient care?

- Ethical Principles Mapping
- Clinical Use Case Register
- Benefit and Harm Framing
- Stakeholder and Patient Voice Review
- Decision Rights Chart

Day 2: Bias, Data and Privacy Diagnosis

Where do bias and privacy exposure enter the data and the model?

- Training Data Provenance Check
- Subgroup Performance Review
- Bias Source Taxonomy
- Patient Data Flow Map
- Data Minimisation Test

Day 3: Consent, Transparency and Communication

How are patients and clinicians told when AI shapes a decision?

- Consent Pathway Design
- Patient Information Sheet
- Explanation Standard for Clinicians
- Opt-Out and Override Rules
- Complaint Handling Route



Day 4: Safety Controls, Risk and Monitoring

How is harm anticipated, limited and detected after launch?

- Hazard Log Construction
- ISO 14971 Risk Control Mapping
- NIST AI Risk Management Framework Functions
- Drift and Error Monitoring Plan
- Incident Escalation Protocol

Day 5: Accountability and the Oversight Plan

Do the principles, controls and roles hold together for one tool?

- Applying the Session 1 Decision Rights Chart
- Testing the Session 2 Subgroup Performance Review
- Checking the Session 3 Consent Pathway Design
- Reviewing the Session 4 Hazard Log
- Completing the Clinical AI Oversight Plan

Methodology

The programme uses case analysis built on a shared case of a hospital group introducing an AI tool that flags deteriorating patients. Participants apply each tool to the case and then to their own service.

- Suggested activity: Mapping where bias could enter the data behind a risk-flagging model.
- Suggested activity: Drafting a patient information sheet that explains AI use in plain language.
- Suggested activity: Building a hazard log and escalation route for a missed alert.

Capstone Output

Each participant completes a clinical AI oversight plan for one tool used in patient care. It holds a decision rights chart, a bias and privacy review, a consent pathway, a hazard log with controls, a monitoring plan and an accountability model. The plan is used at work to brief the board, instruct suppliers and guide the first review after launch.

Frequently Asked Questions

Is responsible clinical AI training suitable for leaders without a technical background?

Yes. Responsible clinical AI is taught through cases and templates, so the programme assumes leadership experience in clinical, quality or digital health but no programming skills.



Which standards does responsible clinical AI training rest on?

Responsible clinical AI training rests on the WHO guidance on ethics and governance of AI for health, ISO 14971, the NIST AI Risk Management Framework and ISO/IEC 42001.

How is the plan from responsible clinical AI training used at work?

You use the clinical AI oversight plan to brief the board, instruct suppliers and guide the first post-launch review of one AI tool in patient care.

How does responsible clinical AI differ from health data protection training?

Responsible clinical AI centres on safety, consent and accountability for AI-supported decisions, while health data protection training centres on lawful handling and storage of patient records.