HOW TO BUILD THE FOUNDATIONS FOR A MODULAR, SCALABLE AI ARCHITECTURE

A QUICK START CHECKLIST FOR HEALTH SYSTEMS

From Isolated Tools - To Connected, Modular Systems

1. Map the real clinical + operational workflow

Follow the patient, not the policy document.

- ✓ Identify who actually performs each task (clinicians, nurses, admin, allied health).
- ✓ Capture all handoffs: ward → imaging → pharmacy → discharge → community.
- ✓ Note where delays, rework, or non-digital steps occur.

2. Trace the data flow across the care pathway

- ✓ What data is captured at each step (EHR, RIS/PACS, LIS, PAS, claims, wearable data)?
- ✓ Where does data get edited manually or duplicated?
- ✓ Which system is the "source of truth" for each data type?
- ✓ Where does data break: missing fields, inconsistent formats, incompatible systems?

3. Identify cross-cutting patterns

- Common tasks that appear across multiple departments (triage, scheduling, documentation).
- Data elements reused in several workflows (demographics, vitals, labs, imaging).
- Repeated pain points (handover gaps, manual transcription, siloed reporting).

4. Put minimal but essential governance in place

- Standardise definitions for key data fields (e.g., "episode," "encounter," "diagnosis").
- Nominate clear clinical + operational decision owners for AI use cases.
- Establish lightweight model assurance (inputs, outputs, safety review, audit trail).
- Ensure procurement includes requirements for interoperability and future integration.

5. Create plug-in points for future AI tools

- Standard APIs or exchange formats (FHIR, HL7, DICOM where relevant).
- Known workflow "entry and exit" points where AI should integrate (triage, reporting, discharge).
- Make sure outputs return to the EHR or core system—not vendor dashboards.
- Require vendors to support data portability and integration from day one.

6. Assess existing tools and pilots realistically

- ✓ Does it integrate with your core systems?
- ✓ Does it duplicate another function already in use?
- ✓ Can it support more than one clinical area?
- ✓ Does it generate new silos or reduce them?

7. Build a simple, evolving system architecture view

- One page: Data Layer → AI/Model Layer → Workflow Layer.
- Update monthly as systems, pilots, and integrations evolve.
- Share it internally so teams understand the bigger picture.
- Keep it lightweight—this is a living map, not a 200-page architecture document.