



Roadmap: Enhancing Patient Experience Using AI and Digital Tools

● PHASE 1: Foundation – Enable Access & Information

Goal: Add essential interactivity and information clarity without AI or heavy development.

Features:

- Responsive design for mobile usability
- Service and department directory
- Doctor finder with filters
- Static FAQ section organized by topic
- News & notices (health campaigns, service updates)

Optional Enhancements:

- Language switcher
- Google Maps integration
- Contact forms

Outcome: Increased patient trust, reduced call center load

● PHASE 2: Patient Portal & Workflow Digitization

Goal: Enable patients to interact securely with the hospital online.

Features:

- Secure patient login (phone/email or eID)
- Access to lab results, medical history, prescriptions
- Appointment booking or request system
- Document upload (e.g. insurance, pre-visit forms)
- Cost estimate calculator for procedures
- Notification system (SMS/email alerts)

Optional AI Add-ons:

- AI chatbot for FAQs (e.g., "How to prepare for MRI?")
- Symptom-based triage assistant

Outcome: Reduced administrative burden, smoother patient onboarding

PHASE 3: AI-Enhanced Personal Experience

Goal: Personalize care experience, improve engagement, automate help.

Features:

- AI lab result explanation assistant
- AI chatbot for natural language queries ("What does surgery cost?")
- Follow-up suggestion engine ("Time for your next test")
- Smart site search with suggestions
- Sentiment analysis of patient feedback
- Voice navigation on-site (kiosks or mobile app)

Advanced Integration:

- Real-time availability via backend integration
- Predictive analytics for no-shows, peak loads

Outcome: Engaged, informed patients and reduced staff pressure

TECHNICAL & SECURITY CONSIDERATIONS

Area	Recommendations
Backend	Laravel, Symfony, or Node.js
Frontend	Vue, React + Tailwind CSS
AI Stack	OpenAI APIs, TensorFlow Lite for local AI
Security	2FA, encrypted storage, audit logs
Hosting	Cloud (DigitalOcean, AWS) with CDN & backup
Compliance	GDPR / HIPAA (as applicable)

NEXT STEPS

- Design slides from this roadmap for stakeholder presentation
 - Decide on MVP features for Phase 1
 - Choose technology partners or internal team
 - Define timelines and budget for implementation
-

Prepared by ChatGPT for enhancing digital patient services in a modern hospital environment