**GhEHR Enhanced Roadmap (2025-2026)**

**Phase 1: Foundation (Q1 2024) - COMPLETED ✅**

1. **Core EHR Features**
   * Patient registration & clinical records
   * Appointment scheduling (basic calendar)
   * Billing with Mobile Money integration (MTN/AirtelTigo)
   * Offline-first architecture (Hive DB + sync)
2. **Ghana-Specific Basics**
   * Low-literacy UI (icon-driven)
   * Malaria/typhoid clinical templates
   * AWS Cape Town region deployment

**Phase 2: Standards & Security (Q2-Q3 2025)**

1. **Regulatory Compliance**
   * ISO 13606-1 data export module
   * Ghana Data Protection Act audit
   * End-to-end encryption for sensitive fields
2. **Interoperability**

A diagram of a medical system

AI-generated content may be incorrect.v

1. **Advanced Security**
   * Biometric login (fingerprint/face ID)
   * Automated PostgreSQL backups to S3
   * Role-based data access logs

**Phase 3: Patient Empowerment (Q4 2024)**

1. **From Patient Experience Doc**:
   * **Remote Monitoring**:

typescript

*// SMS-based vital reporting*

router.post('/api/vitals/sms', (req, res) => {

const { phone, bp, glucose } = req.body;

*// Store in PostgreSQL with is\_offline flag*

});

* + **Cost Transparency**:
    - MTN Mobile Money price estimator
    - Procedure cost breakdowns (English/Twi)

1. **Family & Community Tools**
   * Caregiver access portals
   * WhatsApp appointment reminders
   * Ghanain-language health education videos

**Phase 4: Scale & AI (Q1-Q2 2025)**

1. **Ghana-Wide Deployment**
   * Sharded PostgreSQL for 5K+ patients
   * Multi-facility support
   * District hospital onboarding
2. **AI Enhancements**
   * Ghanaian-language, English NLP for clinical notes
   * Malaria, Tuberculosis, typhoid diagnosis assistant (WHO guidelines)
   * Drug interaction alerts (Ghana Essential Medicines List)

**Phase 5: Ecosystem Integration (Q3 2025+)**

1. **National Systems**
   * NHIS (National Health Insurance) claims
   * EPI (Expanded Program on Immunization) sync
   * Pharmacy stock level APIs
2. **Telemedicine**
   * Africa's Talking voice consultations
   * MTN Mobile Money for teleconsult payments