PaperNova
An International Research Publication

OPEN ACCESS
PEER REVIEWED

ARTIFICIAL INTELLIGENCE IN HEALTHCARE, DIGITAL HEALTH / HEALTH INFORMATICS SMART HEALTHCARE SYSTEMS, E-

Swastyasathi AI: An ABHA-Aligned, AI-Enabled Digital Health Platform for Integrated Clinical Documentation, e-Prescribing, and Longitudinal Patient Record Access

Authors
Divyesh Potawde · Samyak Bagesar · Swayam Prajapati · Sachin Shinde · Suresh Pingale

Artificial Intelligence and Data science , Mumbai University , INDIA

Abstract
Swastyasathi AI is an ABHA Card revolutionary Initiative. It aims to make Abha card to be practiced in each and every hospital. Making it accessible for each and every individual to track health record.

Keywords
ABHA · ABDM · electronic health records · clinical summarization · digital prescription · healthcare interoperability · pharmacy management · voice documentation · AI in healthcare · hospital information

Publication ID	DOI	Published
GRP-2026-TBBROA	10.59482/pn.2026.tbbroa	April 20, 2026

Access
Open · Free to read

URL
https://www.papernova.online/papers/swastyasathi-ai-an-abha-aligned-ai-enabled-di

Swastyasathi AI: An ABHA-Aligned, AI-Enabled Digital Health Platform for Integrated Clinical Documentation, e-Prescribing, and Longitudinal Patient Record Access

Mr.Samyak Bagesar
Department of Artificial Intelligence & Data Science
Jawahar Education Society's
A.C. Patil College of Engineering
University of Mumbai
samyak@acpce.ac.in

Mr.Sachin Shinde
Department of Artificial Intelligence & Data Science
Jawahar Education Society's
A.C.Patil College of Engineering
University of Mumbai
sachinshinde@acpce.ac.in

Mr.Divyesh Potawde
Department of Artificial Intelligence & Data Science
Jawahar Education Society's
A.C.Patil College of Engineering
University of Mumbai
divyesh@acpce.ac.in

Mr.Swayam Prajapati
Department of Artificial Intelligence & Data Science
Jawahar Education Society's
A.C.Patil College of Engineering
University of Mumbai
swayam@acpce.ac.in

Mr.Suresh Pingale
Department of Artificial Intelligence & Data Science
Jawahar Education Society's
A.C.Patil College of Engineering
University of Mumbai
sbpingale@acpce.ac.in

Abstract

India's Ayushman Bharat Digital Mission (ABDM) established the Ayushman Bharat Health Account (ABHA) as a portable digital health identifier intended to support longitudinal records, consent-based data exchange, and interoperable health services. In practice, however, adoption has been uneven because many hospitals, clinics, and pharmacies still operate through disconnected workflows, handwritten or semi-digital prescriptions, fragmented software, and limited interoperability. This paper presents Swastyasathi AI, a design and implementation study of an integrated digital health platform built to operationalize ABHA-centered care across three stakeholders—patients, clinicians, and pharmacies. The proposed system combines ABHA-linked access, AI-assisted chart summarization, voice-enabled clinical note capture, digital prescription routing, medication reminders, emergency support, and pharmacy inventory visibility within a unified architecture. The design explicitly addresses practical adoption barriers: clinician time burden, record fragmentation, prescription legibility, adherence monitoring, and continuity of care across visits and providers. The paper synthesizes evidence from ABDM/ABHA program materials, literature on electronic prescribing, AI clinical summarization, and interoperability standards such as HL7 FHIR. It then proposes a layered architecture, data model, workflow design, risk analysis, and evaluation framework appropriate for academic major-project validation and future real-world deployment. Swastyasathi AI is positioned not merely as another health app, but as an applied adoption layer over India's digital health infrastructure—transforming ABHA from a nominal identifier into a usable, workflow-ready ecosystem for paperless, patient-centric, and data-informed care.

Keywords

ABHA, ABDM, electronic health records, clinical summarization, digital prescription, healthcare interoperability, pharmacy management, voice documentation, AI in healthcare, hospital information systems

1. Introduction

Digital transformation in healthcare has moved from optional modernization to strategic necessity. Healthcare providers are expected to maintain accurate longitudinal records, reduce avoidable administrative overhead, support care continuity, and improve patient safety despite rising case complexity and documentation burden. In India, these requirements intersect with a national infrastructure initiative: the Ayushman Bharat Digital Mission. ABDM was conceived to create a federated digital health ecosystem in which citizens can use an ABHA number to connect records and services across providers. Official ABDM resources describe ABHA as the gateway to linked records and participation in India's digital healthcare ecosystem, while the National Health Authority tracks large-scale registration of ABHA accounts, health facilities, and healthcare professionals. Yet infrastructure availability alone does not guarantee workflow adoption. In many care settings, outpatient consultations still produce handwritten notes, stand-alone prescriptions, and locally stored records that are hard to retrieve across visits. Pharmacies often receive paper prescriptions or ad hoc digital photos, and patient history remains fragmented across providers. The gap, therefore, is not only technological but operational: an adoption layer is needed that translates ABHA identity and digital health policy into day-to-day usability for patients, doctors, and pharmacies environments.

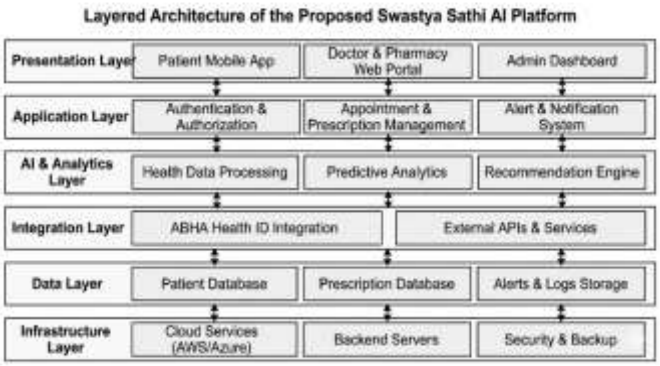

Fig. 1. Layered architecture of the proposed Swastyasathi AI platform.

2. Related Work and Research Context

Related Work and Research Context Swastyasathi AI is motivated by precisely this gap. Rather than treating ABHA as a static identifier, the proposed platform treats it as the organizing anchor for end-to-end digital care workflows. The patient dashboard emphasizes record visibility, reminders, emergency support, and prescription access. The doctor dashboard emphasizes time-saving review, voice-assisted documentation, and paperless prescribing. The pharmacy dashboard emphasizes prescription verification, inventory awareness, and dispense tracking. Artificial intelligence is used selectively where it can reduce friction—especially for chart summarization and voice-to-structured-note conversion—without replacing clinician judgment. The underlying research question is practical: can a carefully designed ABHA-aligned platform reduce fragmentation and improve workflow efficiency sufficiently to make digital health adoption more attractive in real clinical

Recent literature provides strong justification for each major component of Swastyasathi AI. First, AI in healthcare has matured from isolated predictive models toward workflow-integrated applications such as documentation support, clinical summarization, triage assistance, and decision support. Broad reviews note that AI can improve efficiency and augment clinical work when deployed with attention to safety, evaluation, and human oversight. Of particular relevance is emerging evidence on AI-based clinical summarization. Reviews published in 2024 describe chart review as a substantial contributor to clinician burden and position AI summarization as a promising mechanism for reducing cognitive load during patient review. Scoping evidence on AI-assisted clinical documentation similarly reports gains in documentation efficiency and clinician time, though it also highlights the need for reliability checks, error monitoring, and implementation safeguards. Second, electronic prescribing and computerized physician order entry have long been associated with reductions in medication errors relative to handwritten prescribing. Systematic reviews have reported reductions in prescribing errors and adverse drug events when e-prescribing systems are appropriately implemented. At the same time, the literature warns that digital prescribing does not eliminate risk by default; malformed orders, quantity mismatches, wrong dosage forms, and incomplete instructions can still occur in community-pharmacy settings. This means the design of the prescription module matters. Structured medicine selection, explicit dosage fields, dispense-state tracking, and pharmacy-side validation are therefore not cosmetic features; they are safety features. Third, interoperability remains the central challenge in digital health. Reviews of HL7 FHIR show its importance as a practical exchange standard for health data models, APIs, and integration scenarios. Even where a platform is initially deployed as a project prototype, designing around interoperable resource boundaries—patient, encounter, medication request, observation, practitioner, organization—improves future scalability. In the Indian context, this principle aligns well with ABDM's broader goals of consent-based health information exchange. Taken together, the literature suggests that a strong project in this domain should not only digitize records, but also reduce chart-review burden, improve prescribing quality, and preserve interoperability as a first-class design constraint

3. Problem Definition and Design Objectives

The practical problem addressed by this paper is under-adoption of national digital health infrastructure because local workflows remain inconvenient, fragmented, or only partially digitized. For patients, fragmentation means repeat explanation of history, misplaced prescriptions, poor follow-up tracking, and weak medication adherence. For doctors, it means manual review of scattered history, repeated re-entry of demographic or clinical details, and time lost on documentation. For pharmacies, it means prescription ambiguity, stock uncertainty, and minimal linkage between what was prescribed and what was dispensed. These shortcomings reduce the perceived value of ABHA-linked systems.

Swastyasathi AI follows a layered architecture with clear separation of identity, application logic, AI services, and persistence. The identity layer supports ABHA-linked user entry with OTP-based authentication. In a production environment, this layer would integrate with approved ABDM workflows and consent mechanisms; in a prototype setting, it can be simulated while preserving the same user journey. The application layer exposes three dashboards. The patient dashboard includes profile, record access, prescription timeline, reminder center, emergency services, and pharmacy lookup. The doctor dashboard includes ABHA-based patient search, summarized chart view, consultation note capture, prescription authoring, and patient list management. The pharmacy dashboard includes incoming prescriptions, stock availability, dispense confirmation, and inventory operations.

The AI service layer is deliberately modular. One service performs longitudinal history summarization using structured prompts over selected record segments. Another performs speech-to-text transcription for consultations, followed by key-field extraction into symptoms, findings, plan, and medications. A rules engine supports reminder escalation and caregiver notification. This modularity allows each service to be evaluated independently, a crucial consideration for journal-quality systems engineering.

The data model centers on the patient profile linked to ABHA metadata, but stores local application identifiers separately to avoid tight coupling. Core entities include Patient, Practitioner, Pharmacy, Encounter, ClinicalNote, Prescription, MedicationItem, DispenseRecord, Reminder, CaregiverContact, and EmergencyResource. The Encounter entity acts as the temporal spine connecting notes, summaries, and prescriptions. Prescription and DispenseRecord are linked but distinct, enabling traceability from medical intent to medication fulfillment. Although a full FHIR implementation is beyond the scope of the prototype, the logical mapping is straightforward: Patient to Patient resource, Practitioner to Practitioner, Encounter to Encounter, ClinicalNote to Composition/DocumentReference, Prescription to MedicationRequest, DispenseRecord to MedicationDispense, and Reminder-related events to Task or communication extensions. This mapping preserves a migration path toward standards-aligned exchange.

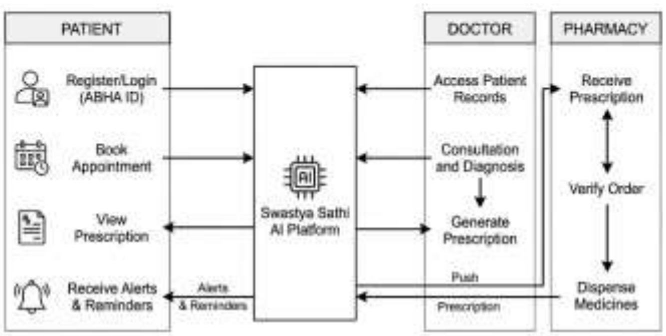

Fig. 2. Patient–doctor–pharmacy workflow supported by Swastyasathi AI.

4. System Architecture and Data Model

Swastyasathi AI follows a layered architecture with clear separation of identity, application logic, AI services, and persistence. The identity layer supports ABHA-linked user entry with OTP-based authentication. In a production environment, this layer would integrate with approved ABDM workflows and consent mechanisms; in a prototype setting, it can be simulated while preserving the same user journey. The application layer exposes three dashboards. The patient dashboard includes profile, record access, prescription timeline, reminder center, emergency services, and pharmacy lookup. The doctor dashboard includes ABHA-based patient search, summarized chart view, consultation note capture, prescription authoring, and patient list management. The pharmacy dashboard

includes profile, record access, prescription timeline, reminder center, emergency services, and pharmacy lookup. The doctor dashboard includes ABHA-based patient search, summarized chart view, consultation note capture, prescription authoring, and patient list management. The pharmacy dashboard includes incoming prescriptions, stock availability, dispense confirmation, and inventory operations.

The AI service layer is deliberately modular. One service performs longitudinal history summarization using structured prompts over selected record segments. Another performs speech-to-text transcription for consultations, followed by key-field extraction into symptoms, findings, plan, and medications. A rules engine supports reminder escalation and caregiver notification. This modularity allows each service to be evaluated independently, a crucial consideration for journal-quality systems engineering.

The data model centers on the patient profile linked to ABHA metadata, but stores local application identifiers separately to avoid tight coupling. Core entities include Patient, Practitioner, Pharmacy, Encounter, ClinicalNote, Prescription, MedicationItem, DispenseRecord, Reminder, CaregiverContact, and EmergencyResource. The Encounter entity acts as the temporal spine connecting notes, summaries, and prescriptions. Prescription and DispenseRecord are linked but distinct, enabling traceability from medical intent to medication fulfillment. Although a full FHIR implementation is beyond the scope of the prototype, the logical mapping is straightforward: Patient to Patient resource, Practitioner to Practitioner, Encounter to Encounter, ClinicalNote to Composition/DocumentReference, Prescription to MedicationRequest, DispenseRecord to MedicationDispense, and Reminder-related events to Task or communication extensions. This mapping preserves a migration path toward standards-aligned exchange.

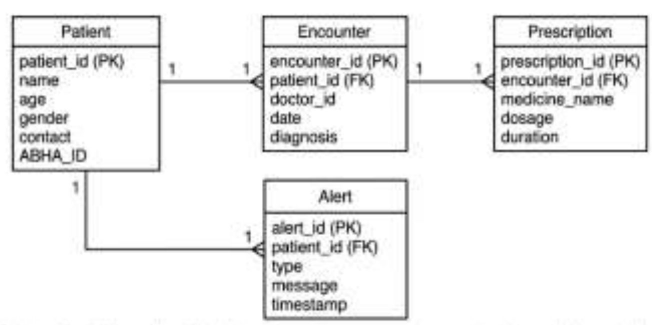

Fig. 3. Core information model showing patient, encounter, prescription, and alert entities.

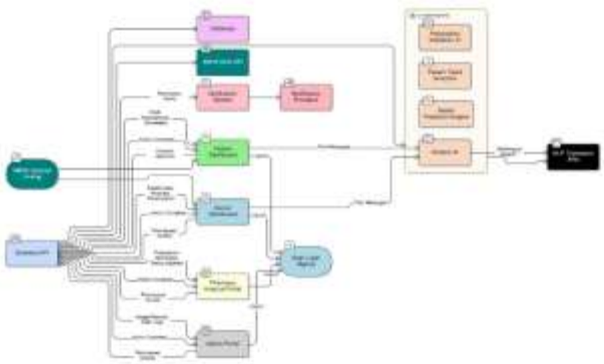

Fig. 4. Integrated architecture of Swastya Sathi AI with ABHA API, multi-user dashboards, and AI-driven healthcare services.

5. Functional Modules

Patient dashboard: The patient side is designed to convert passive identity ownership into active health record participation. After login, the patient can view a dashboard summarizing recent visits, current prescriptions, pending reminders, and emergency options. A medical history panel displays encounters, notes, and prescriptions in chronological order. The reminder module supports medication schedules, follow-up visits, and self- confirmation of dose completion. For elderly or dependent users, unresolved reminders can trigger WhatsApp-style caregiver alerts. The emergency section aggregates helplines, linked clinicians, nearby hospitals, and rapid- access contact cards.

Doctor dashboard: The clinician interface is optimized for speed. The doctor retrieves a patient via ABHA-linked search, views an AI-generated summary of major conditions, allergies, active medications, and recent encounters, and then records the current consultation. Voice capture converts spoken notes into text, which are structured into headings such as chief complaint, history, findings, assessment, and plan. The doctor can edit the generated content before finalization. A prescription form enforces structured medicine entry, dosage, frequency, and duration. Once signed digitally within the platform, the prescription is instantly visible to the patient and to authorized pharmacies.

Pharmacy dashboard: The pharmacy module translates prescription visibility into operational action. Incoming prescriptions can be searched, verified, and marked against stock. Inventory functions include medicine catalog, quantity updates, near-expiry monitoring, and availability responses to patient-side search. After dispensing, the pharmacy records fulfillment status, which closes the loop between prescribing and access. This matters for both continuity and analytics: clinicians can later see whether a prescription was merely issued or actually dispensed.

Cross-cutting modules: Search, audit logging, consent-aware visibility, and role-based access control operate across all dashboards. A future-ready notification bus can support SMS, messaging apps, or in-app alerts without redesigning the core record system.

6. AI Methods and Safety Considerations

The AI contribution of Swastyasathi AI is intentionally assistive, not autonomous. Two use cases are prioritized because they align strongly with evidence and real pain points: chart summarization and voice-assisted documentation. For chart summarization, the system compiles a bounded view of recent encounters, chronic conditions, prior prescriptions, allergies, and key investigations before generating a concise clinical synopsis. The objective is not to replace full chart review, but to provide a reliable first-pass orientation that the clinician can verify against source records. For voice documentation, speech is transcribed and then segmented into structured fields using rule-guided extraction. The doctor remains the final authority and edits before acceptance.

Journal-level discussion of AI requires explicit treatment of risk. Summaries can omit clinically important details, hallucinate unsupported statements, or over-compress nuance. Speech-to-text can misrecognize drug names, dosages, or negations. To mitigate these issues, Swastyasathi AI uses human-in-the-loop confirmation, source-linked summary segments where feasible, limited output templates, and field-level validation for medication orders. Drug names are selected from a structured list when creating prescriptions rather than copied blindly from free text. The platform should also log summary-generation events and edited outputs so that future audits can measure how often AI suggestions required correction.

Evaluation of AI modules should consider both technical and workflow metrics. Technical metrics include word error rate for speech transcription, factual consistency of summaries against the chart, structured field extraction accuracy, and alert precision. Workflow metrics include doctor review time, note completion time, perceived cognitive load, prescription turnaround, and user satisfaction. These measures frame AI not as marketing language but as a measurable intervention within the broader information system.

7. Evaluation Framework and Expected Outcomes

A rigorous academic prototype should be evaluated through scenario-based testing and user-centered metrics. The proposed evaluation design includes three representative workflows: (1) repeat consultation for a chronic patient with multiple prior prescriptions, (2) new visit requiring voice-documented note capture and digital prescription generation, and (3) patient medication refill with pharmacy-side verification and inventory check. For each workflow, baseline comparison can be made against a manual or fragmented process.

Primary outcome measures include time to retrieve relevant history, time to complete consultation documentation, prescription generation time, and rate of record availability to the patient after consultation. Secondary outcomes include clinician-perceived ease of review, pharmacy prescription clarity, patient satisfaction with record access, and reminder adherence. For the reminder module, adherence can be operationalized as the proportion of scheduled reminders confirmed by the patient within the due window, along with the number of caregiver escalations triggered.

Expected benefits are grounded in prior literature rather than speculative claims. Since e-prescribing systems have been associated with fewer prescribing errors and AI documentation tools with reduced documentation burden, a realistic expectation is moderate but meaningful workflow improvement rather than instantaneous transformation. Even modest reductions in time spent locating history or rewriting routine notes can be valuable in busy outpatient settings. More importantly, the integrated design creates longitudinal visibility that isolated tools do not provide. The patient benefits from a durable record; the doctor benefits from faster context; the pharmacy benefits from legible, structured prescriptions; and the health system benefits from stronger continuity. Discussion, Limitations, and Future Scope

The central contribution of this paper is architectural and translational: it shows how a national digital identity framework like ABHA can be converted into a workflow-ready, stakeholder-bridging healthcare application. This matters because adoption problems often persist even when policy and infrastructure exist. Swastyasathi AI therefore focuses on the missing middle layer between public digital-health architecture and ground-level clinical operations. Its originality lies less in inventing brand-new algorithms and more in integrating proven ideas—EHR access, e-prescribing, voice capture, reminders, pharmacy linkage, and AI summarization—into a coherent ABHA-aligned ecosystem.

The study also has limitations. It presents a design and implementation framework rather than a live multi-center deployment. Real ABDM integration requires compliance, security review, consent flow alignment, and production-grade interoperability. AI quality depends heavily on language mix, specialty context, and source-data cleanliness. Pharmacy stock visibility may also vary with local integration readiness. These are not weaknesses unique to this project; they are normal translational challenges in digital health. A strong future path includes real-user pilots, multilingual speech models, medication-interaction checking, lab-report ingestion, health-score views for patients, and a standards-first API layer with deeper FHIR alignment.

In future work, the platform can be extended toward teleconsultation, wearable integration, and public-health analytics. But the most immediate value remains clear: making ABHA practically useful in everyday care. If digital health is to succeed at scale, it must be convenient for the people who use it every day. Swastyasathi AI is designed around that principle.

8. Discussion, Limitations, and Future Scope

The central contribution of this paper is architectural and translational: it shows how a national digital identity framework like ABHA can be converted into a workflow-ready, stakeholder-bridging healthcare application. This matters because adoption problems often persist even when policy and infrastructure exist. Swastyasathi AI therefore focuses on the missing middle layer between public digital-health architecture and ground-level clinical operations. Its originality lies less in inventing brand-new algorithms and more in integrating proven ideas—EHR access, e-prescribing, voice capture, reminders, pharmacy linkage, and AI summarization—into a coherent ABHA-aligned ecosystem.

The study also has limitations. It presents a design and implementation framework rather than a live multi-center deployment. Real ABDM integration requires compliance, security review, consent flow alignment, and production-grade interoperability. AI quality depends heavily on language mix, specialty context, and source-data cleanliness. Pharmacy stock visibility may also vary with local integration readiness. These are not weaknesses unique to this project; they are normal translational challenges in digital health. A strong future path includes real-user pilots, multilingual speech models, medication-interaction checking, lab-report ingestion, health-score views for patients, and a standards-first API layer with deeper FHIR alignment.

In future work, the platform can be extended toward teleconsultation, wearable integration, and public-health analytics. But the most immediate value remains clear: making ABHA practically useful in everyday care. If digital health is to succeed at scale, it must be convenient for the people who use it every day. Swastyasathi AI is designed around that principle.

9. Security, Privacy, and Governance Considerations

Because Swastyasathi AI handles highly sensitive health information, its architecture must be evaluated not only for usability but also for confidentiality, integrity, traceability, and consent alignment. In an ABDM-aligned deployment, identity alone is insufficient; the platform must ensure that record access is role-based, session-bound, and attributable to a legitimate treatment, dispensing, or patient-driven use case. A minimum security baseline includes encrypted transport, encrypted storage of sensitive fields, tamper-evident audit trails, passwordless or OTP-led entry tied to verified identity flows, and strict separation of clinician, patient, and pharmacy permissions. Every access to a prescription, summary, or encounter note should be auditable. This is particularly important for trust: users are more likely to adopt digital health tools when access feels controlled, explainable, and reversible.Privacy governance also intersects with AI design. If chart text is processed for summarization or speech-to-text conversion, the platform should minimize data exposure by sending only necessary context to the relevant service, limiting retention of intermediate prompts or transcripts, and recording model outputs for audit rather than opaque replacement of the source chart. Consent-aware access policies become even more important where records may later be exchanged across facilities. In a journal-grade deployment plan, governance should define who can see what, under which circumstances, for how long, and with what logging obligations. These controls support compliance readiness and strengthen the practical acceptability of the system in academic hospitals, clinics, and partner pharmacies.

10. Comparative Positioning Against Existing Fragmented Workflows

In many current outpatient settings, the patient journey remains discontinuous. Registration data may be digital in one system, clinical notes may be written in another or on paper, prescriptions may be generated through a third-party template, and medicine availability may only be confirmed by phone or in person. Such fragmentation imposes repeated effort on every stakeholder. Patients carry paper records or mobile photos; doctors manually reconstruct history; pharmacists interpret variable formats; and follow-up adherence is rarely captured in a systematic way. The practical result is that even when a national digital identity such as ABHA exists, the surrounding workflow remains partly analog.

Swastyasathi AI is differentiated by integrating the entire outpatient micro-journey in one environment. It does not merely store records; it links retrieval, summarization, documentation, prescription routing, dispensing visibility, and adherence support. It does not merely digitize a prescription; it connects that prescription to a patient timeline and pharmacy fulfillment status. It does not merely show a record; it uses AI to reduce the effort required to review it. This end-to-end positioning is important because isolated feature tools often fail to change behavior. Adoption tends to follow the path of least friction. Therefore, a platform that saves time at multiple touchpoints has a better chance of being used consistently than one that offers only a single digital function.

11. Prototype Implementation Plan

A practical implementation can be organized as a web-first system with service-oriented boundaries. The front end may be built in React or Next.js for role-specific dashboards, while the backend can use Node.js, Django, or FastAPI depending on the development team's expertise. Structured entities such as patients, encounters, prescriptions, reminders, and inventory can be stored in PostgreSQL. Speech-to-text can be provided by a modular inference service, and summarization can be implemented through a configurable LLM abstraction layer so that cloud-hosted or local models can be swapped without redesigning the product. Notification services can be integrated through a message dispatcher supporting SMS, WhatsApp-style APIs, or in-app alerts. From a software-engineering perspective, prototype quality improves when the platform is built around explicit APIs rather than tightly coupled screens. Suggested endpoints include patient lookup, encounter retrieval, summary generation, note transcription, prescription create/read/update, stock query, dispense confirmation, reminder schedule, reminder acknowledgment, and caregiver notification log. Such API-centric design makes it easier to test modules independently and to future-proof the platform for mobile clients or external integration. It also supports reproducible demonstration during academic evaluation, because each workflow step can be shown as a coherent transaction rather than a hard-coded interface sequence.

12. Use-Case Scenarios

Scenario A: Chronic follow-up consultation. A known diabetic patient returns for follow-up with prior hypertension and medication changes across several visits. Using the doctor dashboard, the clinician searches by ABHA-linked profile and immediately sees a compact AI-generated history of diagnoses, recent notes, and active medicines. During the visit, voice capture records updated symptoms, blood pressure findings, and medication changes. A new digital prescription is issued and becomes available instantly in the patient and pharmacy dashboards. This workflow reduces manual history reconstruction and ensures that the prescription remains legible and persistent.

Scenario B: Elderly medication adherence support. An elderly patient receives a seven-day prescription with morning and evening reminders. The patient dashboard shows the schedule clearly and prompts acknowledgment after each dose window. If multiple reminders remain unchecked, the system triggers a caregiver message. This small but meaningful design feature can improve adherence visibility, especially where family members help manage medications. The mechanism also illustrates how digital health platforms can support not just record storage but ongoing care continuity after the consultation ends.

Scenario C: Pharmacy-side stock-aware dispensing. A patient needs medicines urgently and searches for availability through the patient dashboard. The system checks linked pharmacy inventory and identifies outlets with sufficient stock. The pharmacist receives the digital prescription, verifies it, and records dispensing. This closes the prescription loop and creates a more complete longitudinal care record than paper dispensing alone.

13. Conclusion

This paper presented Swastyasathi AI as a journal-level design study for an ABHA-aligned digital health platform that meaningfully integrates patients, clinicians, and pharmacies. The proposed system responds to a real implementation gap in India's digital health landscape: public infrastructure exists, but adoption remains constrained where day-to-day workflows remain fragmented. By organizing the platform around ABHA-linked access, AI-supported chart review, voice-assisted documentation, paperless prescribing, pharmacy fulfillment visibility, and reminder-based adherence support, the system demonstrates a coherent answer to that gap.

The significance of the work lies in its translational focus. Swastyasathi AI does not attempt to overclaim diagnostic automation; instead, it applies AI where the literature and workflow evidence are strongest—summarization and documentation support—while preserving clinician oversight. It also treats e-prescribing, inventory visibility, and longitudinal record access as part of one continuum rather than isolated modules. As a major project and potential publication foundation, the platform offers both technical breadth and systems-level relevance. With formal user evaluation, stronger standards integration, and staged real-world validation, it has the potential to evolve from an academic prototype into a credible adoption layer for India's broader digital health ecosystem.

14. Broader Research Implications

The broader academic implication of Swastyasathi AI is that digital-health research in India should increasingly be evaluated at the workflow level rather than only at the policy or app level. Many discussions of digital health focus on infrastructure readiness, registration counts, or platform availability. Those metrics matter, but they do not fully explain adoption behavior in clinics and pharmacies. Real adoption depends on whether the technology reduces repeated work, improves trust in records, and fits naturally into time-constrained environments. This paper therefore contributes to the literature by centering adoption as a systems-design problem. It argues that the success of ABHA-linked infrastructure will depend not only on identity creation, but on the quality of the applied software layer that clinicians and patients interact with every day.

A second research implication concerns the role of AI in healthcare software design. A large share of current discourse either overstates AI as autonomous intelligence or underestimates it as a generic chatbot feature. Swastyasathi AI adopts a narrower and more defensible view: AI should be inserted where documentation or information overload creates measurable friction. In this formulation, AI is not a replacement for medical reasoning; it is a workflow compression mechanism. This is a more sustainable research direction because it allows precise evaluation, clearer risk containment, and better alignment with existing clinical responsibilities. The project thus illustrates how AI can be framed rigorously in an engineering paper without making unsafe clinical claims.

A third implication concerns digital inclusion. Any ABHA-centered platform intended for real use in India must account for mixed digital literacy, caregiver involvement, multilingual usage patterns, and uneven institutional digitization. The caregiver alert feature and patient-facing prescription visibility are important not because they are novel in isolation, but because they acknowledge how care is actually managed in families and local communities. Future publications based on this work can build on these themes to study language adaptation, voice-first interfaces, and adoption among elderly users or semi-urban providers.

References

[1] National Health Authority. Ayushman Bharat Digital Mission official portal.

[2] ABHA official portal: ABHA number overview.

[3] National Health Authority official site and ABDM indicators.

[4] Lee C, et al. Prospects for AI clinical summarization to reduce the burden of chart review. 2024.

[5] Lee C, et al. Evaluating the impact of AI on clinical documentation: a scoping review. 2024.

[6] Bajwa J, et al. Artificial intelligence in healthcare: transforming the practice of medicine. 2021.

[7] Ammenwerth E, et al. The effect of electronic prescribing on medication errors and adverse drug events: a systematic review.

[8] Osmani F, et al. Evaluation of the effectiveness of electronic prescription in reducing medication errors. 2022.

[9] Roumeliotis N, et al. Effect of electronic prescribing strategies on medication error and harm. 2019.

[10] Odukoya OK, et al. E-prescribing errors in community pharmacies. 2014.

[11] Vorisek CN, et al. Fast Healthcare Interoperability Resources (FHIR) for health research: systematic review. 2022.

[12] Ayaz M, et al. The Fast Healthcare Interoperability Resources (FHIR) standard: systematic review. 2021.

[13] Anand G, et al. Electronic health record interoperability using FHIR. 2023.

Additional References

ABDM citizens overview

ABDM components overview

AI-generated encounter summaries case report

Evaluating clinical AI summaries with large language models

Integrating AI, EHRs and patient-reported outcomes

Electronic prescribing improves medication safety

How to Cite

Use any of the following citations to reference this paper.

APA

Potawde, D., Bagesar, S., Prajapati, S., Shinde, S., Pingale, S. (2026). Swastyasathi AI: An ABHA-Aligned, AI-Enabled Digital Health Platform for Integrated Clinical Documentation, e-Prescribing, and Longitudinal Patient Record Access. PaperNova. https://www.papernova.online/doi/10.59482/pn.2026.tbbroa

MLA

Divyesh Potawde, et al. "Swastyasathi AI: An ABHA-Aligned, AI-Enabled Digital Health Platform for Integrated Clinical Documentation, e-Prescribing, and Longitudinal Patient Record Access." PaperNova, 2026, https://www.papernova.online/doi/10.59482/pn.2026.tbbroa.

BibTeX

```
@article{potawde2026swastyasathi,
  title   = {Swastyasathi AI: An ABHA-Aligned, AI-Enabled Digital Health Platform for Integrated Clinical Documentation, e-Prescrib
  author  = {Divyesh Potawde and Samyak Bagesar and Swayam Prajapati and Sachin Shinde and Suresh Pingale},
  year    = {2026},
  journal = {PaperNova},
  note    = {PaperNova internal identifier: 10.59482/pn.2026.tbbroa},
  url     = {https://www.papernova.online/papers/swastyasathi-ai-an-abha-aligned-ai-enabled-digital-health-platform-for-integrate-7
}
```

About PaperNova

PaperNova is an international open-access research publication platform for students and early-career scholars. Every paper is editorially reviewed, issued with a verifiable certificate, and indexed on the open web.