HealthFirst Care Business Requirements Document

Prerequisite for the IBM Business Analyst capstone traceability and planning labs

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Purpose and current conclusion

This document defines the proposed operational-improvement scope for HealthFirst Care. The supplied stakeholder profiles and operational datasets show scheduling friction, long waits, fragmented handoffs, resource constraints and data-quality gaps. The recommended response is a controlled pilot that integrates scheduling, notifications, check-in, resource visibility and governed reporting. No implementation, approval or measured benefit is claimed.

Business problem

Patients report difficulty booking, late cancellation notices, waits beyond 30 minutes and unclear next steps. Clinicians and nurses report overbooking, limited equipment, delayed test results and weak transfer coordination. Administrative users report double bookings and incomplete records. IT reports disconnected systems, outages, usability problems and security concerns.

Objectives

- Reduce avoidable appointment conflict, delay and missed communication.
- Improve visibility of clinician, room, equipment and queue status.
- Make handoffs traceable across scheduling, check-in, referral, transfer and discharge.
- Provide reconciled operational measures with explicit data-quality exceptions.
- Protect patient information and preserve safe downtime procedures.

Scope

In scope	Out of scope
Appointment request, scheduling, confirmation, changes and closure	Clinical diagnosis, treatment protocols and medication decisions
Patient check-in, queue updates and assisted alternatives	Full replacement of billing, laboratory, radiology or electronic medical records
Department resource visibility and issue escalation	Hospital construction or permanent staffing establishment
Referral, result, transfer, follow-up and discharge handoffs	Claims that department-level data proves patient-level causes
Role access, audit, downtime, training, UAT and dashboard controls	Approved budgets, dates, staffing levels or benefits not supplied by the case

Stakeholders

Group	Primary interests	Role in validation
Patient	Simple online booking, timely cancellation and delay notices, clear next steps	Review needs, workflow and acceptance evidence
Patient	Assisted/in-person booking and reachable prescription support	Review needs, workflow and acceptance evidence
Cardiologist	Balanced schedules, diagnostic access, timely lab results and transfers	Review needs, workflow and acceptance evidence
Orthopedist	Operating-room and equipment access, referral clarity, physiotherapy updates	Review needs, workflow and acceptance evidence
Pediatric nurse	Shift capacity, supplies and transfer notification	Review needs, workflow and acceptance evidence
Emergency nurse	Weekend staffing, bed/monitor access, diagnostic results and ICU handoffs	Review needs, workflow and acceptance evidence
Appointment scheduler	Conflict prevention, live availability and easier record retrieval	Review needs, workflow and acceptance evidence
Billing administrator	Complete scheduling and treatment data for reconciliation	Review needs, workflow and acceptance evidence
IT manager	Integrated systems, network resilience and scalable architecture	Review needs, workflow and acceptance evidence
Software developer	Usable interface, security remediation, notifications and analytics	Review needs, workflow and acceptance evidence
Hospital leadership	Service performance, risk, scope and benefit decisions	Review needs, workflow and acceptance evidence

Requirements

ID	Type	Requirement	Priority	Acceptance criterion	Status
FR-01	Functional	Provide accessible online and staff-assisted appointment requests.	Must	Appointment request can be created through both channels with required fields validated.	Provisional
FR-02	Functional	Display current clinician, room and equipment availability to authorized schedulers.	Must	Authorized user can view current availability and its last refresh time.	Provisional
FR-03	Functional	Detect and block double-booking conflicts before confirmation.	Must	Conflict scenarios are rejected and alternative slots are offered.	Provisional
FR-04	Functional	Send confirmation, reminder, change, cancellation and delay notices through patient-selected SMS or email.	Must	Delivery status and preference are recorded for each notice.	Provisional
FR-05	Functional	Support assisted booking and printed instructions for patients who cannot use the online channel.	Must	Staff can complete the same request without requiring patient self-service.	Provisional

ID	Type	Requirement	Priority	Acceptance criterion	Status
FR-06	Functional	Allow pre-arrival or kiosk check-in with identity and appointment validation.	Should	Valid check-in updates queue status and routes exceptions to staff.	Provisional
FR-07	Functional	Show queue and delay status to authorized staff and affected patients.	Should	Delay status is visible and a change notice is issued when the approved threshold is exceeded.	Provisional
FR-08	Functional	Provide a department resource dashboard for rooms, staff, equipment and availability status.	Must	Dashboard reconciles to source totals and exposes unavailable or stale records.	Provisional
FR-09	Functional	Record and assign interdepartmental resource or system issues with status and escalation.	Should	Each issue has owner, timestamp, status and escalation route.	Provisional
FR-10	Functional	Track referrals, test results, transfers and follow-up actions across departments.	Should	Required handoff fields and recipient acknowledgement are recorded.	Provisional
FR-11	Functional	Coordinate discharge readiness, instructions, medicines, billing clearance and follow-up booking.	Should	Discharge cannot close while a mandatory workstream remains unresolved.	Provisional
FR-12	Functional	Trigger patient feedback after appointment or discharge closure.	Should	Feedback request is linked to the relevant patient and service event without duplicate sends.	Provisional
FR-13	Functional	Report appointment volume, outcome, wait time, feedback, resource use and availability by department.	Must	Published KPIs use defined denominators and reconcile to cleaned source records.	Provisional
NFR-01	Security	Restrict patient and operational data by role and retain an audit history of access and changes.	Must	Unauthorized role tests fail and authorized changes create auditable records.	Provisional
NFR-02	Continuity	Provide a controlled downtime process with later reconciliation.	Must	Approved downtime records can be reconciled without duplicate appointments.	Provisional
NFR-03	Data quality	Validate required fields, identifiers, categories and source freshness before reporting.	Must	Invalid or stale records enter an exception queue and do not appear as valid zero values.	Provisional
NFR-04	Accessibility	Use readable instructions and preserve assisted alternatives for digital interactions.	Must	Accessibility review covers online, kiosk and notification content.	Provisional
NFR-05	Performance	Meet sponsor-approved response and refresh thresholds under pilot load.	Should	Pilot load test meets baselined thresholds; thresholds remain an open approval item.	Open threshold

Data and evidence

Source	Raw rows	Usable rows	Material limitations
Appointments	200	200	Missing IDs, dates, times and statuses; no exact duplicate rows
Feedback	216	198	18 all-empty records quarantined; no duplicates among substantive records; 6 missing scores
Resources	213	200	13 exact duplicates; missing identifiers, categories and dates
Stakeholder profiles	10	10	Purposeful simulated profiles, not representative survey data

Acceptance and validation approach

Each requirement has a planned UAT case in the RTM. Passing status will be recorded only after authorized users execute the scenario and evidence is retained. Performance thresholds, benefit targets and go-live criteria remain open governance decisions.

Assumptions constraints and open questions

Type	Item	Treatment
Assumption	Departments use comparable status definitions	Validate before baselining KPI comparisons
Constraint	Department is the only key shared by all three datasets	Use department aggregates and avoid patient-level resource causation
Constraint	Legacy systems and network downtime may limit real-time integration	Design downtime and reconciliation controls
Open question	Approved response, refresh and delay thresholds	Sponsor and operational owners must baseline
Open question	System-of-record ownership for referrals, results and discharge	Confirm in design workshops