

## As-Is Process Outlines:

### 1. Appointment Scheduling Process

- **Goal:** Patient schedules an appointment with a hospital department/doctor.
- **Actors:** Patient, Administrative Staff (Scheduler), Doctor, System.
- **Steps & Pain Points:**
  1. **Patient Request:**
    - Patient attempts to schedule (online, phone, or in-person).
    - *Pain Point:* Difficulty booking online, often requiring direct calls.
    - *Pain Point:* Online system is confusing for some users.
    - *Pain Point:* Online system lacks user-friendly interfaces.
  2. **Manual/Semi-Automated Appointment Booking:**
    - Scheduler receives request and attempts to find a suitable slot using the current system.
    - *Pain Point:* System glitches lead to frequent double bookings.
    - *Pain Point:* Limited visibility into doctors' real-time availability causes scheduling conflicts.
    - *Pain Point:* Current scheduling system is not integrated with other systems (like record management), creating data silos.
    - *Pain Point:* Doctors' schedules are often overbooked, leaving insufficient time for consultations.
    - *Inefficiency:* Lack of automated conflict detection.
  3. **Admin Confirmation:**
    - Scheduler confirms the booking details (manually or via system).
    - *Pain Point:* Potential for incomplete scheduling information leading to later billing discrepancies.
  4. **Potential Delays/Errors/Changes:**
    - Appointments may be cancelled, rescheduled, or marked as no-shows.
    - *Pain Point:* Appointments are sometimes cancelled without timely notification to the patient.
    - *Inefficiency:* Lack of automated, real-time notifications for appointment updates (suggested enhancement ).

## 5. Patient Notified (or not):

- Patient receives confirmation or update (potentially delayed or missed).

### • Highlighted Bottlenecks/Inefficiencies:

- Heavy reliance on manual processes and intervention.
- Lack of real-time visibility and automated conflict detection in scheduling.
- System limitations (glitches, non-integration, poor UI).
- Poor notification system for changes/cancellations.
- Overbooking of resources (doctors).

## 2. Patient Check-in Process

- **Goal:** Patient arrives and completes the check-in process before their appointment.
- **Actors:** Patient, Administrative Staff.
- **Steps & Pain Points:**

1. **Arrival at Hospital:** Patient arrives for their scheduled appointment.

### 2. Manual Paperwork / Verification:

- Patient provides details/fills out forms.
- Staff manually verifies information, potentially retrieving records.
- *Pain Point:* Current patient record system is outdated and difficult to navigate.
- *Pain Point:* Delays experienced in retrieving patient histories during busy hours.
- *Inefficiency:* Reliance on manual data entry and physical paperwork.

### 3. Waiting for Verification / Room Availability:

- Patient waits for staff to complete verification and confirm room/doctor readiness.
- *Pain Point:* Patients frequently wait over 30 minutes past appointment times, sometimes nearly an hour. Feedback mentions "Long wait times".
- *Pain Point:* Lack of updates provided to patients during delays.

4. **Check-in Complete:** Patient proceeds to the waiting area or consultation room.

### • Highlighted Bottlenecks/Inefficiencies:

- Manual paperwork and verification processes.
- Delays caused by inefficient record retrieval.
- Lack of automation leading to significant wait times.
- Poor communication with patients regarding delays.

### 3. Interdepartmental Communication Process (Example: Admin Staff & IT)

- **Goal:** Administrative staff request and receive necessary resources or support from IT.
- **Actors:** Administrative Staff, IT Team.
- **Steps & Pain Points:**
  1. **Admin Team Identifies Need:** Admin staff (e.g., scheduler, billing) identifies a need for IT support (e.g., system issue, resource request related to IT equipment/systems).
  2. **Manual Communication with IT:**
    - Admin staff contacts IT (e.g., via phone, email, potentially informal methods).
    - *Inefficiency:* Lack of a formal, tracked system for requests.
  3. **IT Receives & Processes Request:**
    - IT team receives the request and prioritizes/acts on it.
    - *Pain Point:* Hospital network experiences frequent downtimes, impacting online services and potentially IT's ability to respond or resolve issues impacting others.
    - *Pain Point:* Legacy systems have security vulnerabilities needing attention.
  4. **Resolution & Communication Back (or Delays):**
    - IT resolves the issue or provides the resource. Communication back to the admin team may occur.
    - *Pain Point:* Delays in resolving issues due to manual communication methods or underlying technical problems.
    - *Gap:* Potential for miscommunication or lack of coordination without a standardized process.
- **Highlighted Bottlenecks/Inefficiencies/Gaps:**
  - Reliance on manual, potentially untracked communication methods.

- Underlying technical limitations (network downtime, non-integrated systems, legacy issues) impacting services and resolution times.
- Lack of seamless data flow due to non-integrated systems.
- Potential for miscommunication and poor coordination between departments (also noted between clinical departments like labs/radiology/physio and doctors/nurses, and between admin and clinical regarding billing ).

This outline provides a textual representation of the current processes, highlighting the key steps, identified pain points from stakeholders, and overall inefficiencies based on the provided documents.

## **To-Be Process Outlines:**

### **1. Automated Appointment Scheduling Process**

- **Goal:** Patient efficiently schedules an appointment with automatic validation and confirmation.
- **Actors:** Patient, Automated Scheduling System, Doctor (implicitly via schedule data), Admin (for overrides/exceptions).
- **Steps & Enhancements:**
  1. **Patient Request (via improved interface):**
    - Patient accesses a user-friendly online portal or app (addressing previous usability complaints ).
    - System displays real-time doctor availability based on integrated schedules (addressing lack of visibility ).
    - Patient selects desired slot/makes request.
  2. **Automated Scheduling & Conflict Validation:**
    - System instantly checks for conflicts (doctor availability, resources, patient history flags) (addressing double bookings and overbooking ).
    - System reserves the slot provisionally.
    - *Enhancement:* Built-in conflict detection prevents errors.
  3. **Confirmation via SMS/Email:**
    - Upon successful validation, the system automatically sends an instant confirmation to the patient via their preferred method (SMS/Email) (addressing lack of timely notifications and preference for digital communication ).

- System updates relevant calendars (patient, doctor, department).
- *Enhancement:* Real-time notifications for booking success, reminders, and any *changes* (e.g., cancellations initiated by the hospital).
- **Key Improvements:** Automation, real-time data, conflict detection, instant notifications, improved user experience.

## 2. Streamlined Patient Check-in Process

- **Goal:** Patient checks in quickly and efficiently with minimal manual intervention or paperwork.
- **Actors:** Patient, Self-Service Kiosk / Online System, Hospital Information System (HIS), Relevant Departments.
- **Steps & Enhancements:**
  1. **Patient Arrival / Pre-Arrival Online Check-in:**
    - Patient approaches a self-service kiosk upon arrival OR completes check-in online/via app before arriving.
  2. **Self-Service Kiosk/Online Check-in:**
    - Patient identifies themselves (e.g., using ID card, appointment code, personal details).
    - System retrieves appointment details and prompts patient to verify/update necessary information (e.g., contact details, insurance).
    - *Enhancement:* Drastically reduces manual paperwork and data entry by staff (addressing delays from paperwork).
    - *Enhancement:* Leverages integrated HIS for efficient record access (addressing outdated system navigation and retrieval delays ).
  3. **Automated Verification:**
    - System performs necessary verification checks automatically (e.g., appointment validity, insurance status if integrated).
  4. **Immediate Notification to Relevant Departments:**
    - Upon successful check-in, the system automatically notifies the relevant department/doctor of the patient's arrival and readiness status.
    - Patient receives clear instructions on where to go next (e.g., waiting area, specific room number displayed on kiosk/app).
    - *Enhancement:* Improves coordination and reduces patient wait times by alerting staff promptly.

- **Key Improvements:** Self-service option, reduced paperwork, faster verification, automated notifications, improved patient flow, potentially shorter wait times.

### 3. Improved Interdepartmental Communication (Admin & IT Example)

- **Goal:** Streamlined, trackable, and efficient handling of resource requests or issue reporting between departments.
- **Actors:** Admin Staff, IT Team, Automated Task Management System/Dashboard.
- **Steps & Enhancements:**
  1. **Admin Identifies Resource Needs / Issue:**
    - Admin staff identifies a need (e.g., IT support, system access request, reporting a technical issue).
  2. **Input into Automated System:**
    - Admin staff logs the request/issue into a centralized, automated task management tool or integrated HIS module. Request includes necessary details and priority.
    - *Enhancement:* Replaces manual/untracked communication (phone/email) with a formal, logged system.
  3. **IT Auto-Alert / Dashboard Update:**
    - The system automatically routes the task to the appropriate IT queue.
    - Relevant IT personnel receive an automatic notification (auto-alert) or see the task appear on their dashboard.
    - *Enhancement:* Ensures requests are not missed and provides visibility to the IT team.
  4. **Task Resolved and Verified:**
    - IT team member picks up the task, works on it, and updates the status in the system (e.g., 'In Progress', 'Resolved').
    - Admin staff can track the status of their request via the system.
    - Once resolved, IT marks the task as complete in the system, potentially triggering a notification back to the requester.
    - *Enhancement:* Creates accountability, provides transparency, improves tracking, and reduces delays caused by miscommunication or lost requests. Facilitates better coordination.
- **Key Improvements:** Centralized and tracked requests, automated notifications/routing, improved visibility and accountability, reduced resolution time, better coordination.

## Summary of Analysis and Findings: Hospital Operational Efficiency

### 1. Key Challenges Identified in Current (As-Is) Workflows:

Based on the analysis of stakeholder feedback and process data, several key challenges impacting operational efficiency were identified:

- **Inefficient Appointment Scheduling:** The current process suffers from significant manual intervention, leading to difficulties for patients booking online, confusing interfaces, system glitches causing double bookings, lack of real-time visibility into doctor availability, and cancellations without timely patient notification. This results in patient frustration, potential delays, and administrative overhead. Doctors also face overbooked schedules.
- **Delayed and Cumbersome Patient Check-in:** Patients experience long wait times past their appointment schedules. This is largely due to reliance on manual paperwork, verification steps, and delays in retrieving patient history from an outdated record system. Lack of updates during delays further exacerbates patient dissatisfaction.
- **Fragmented Interdepartmental Communication & Resource Allocation:** Communication between departments (e.g., Admin/IT, Lab/Doctors, Radiology/Nurses, Physio/Doctors) is often manual, leading to delays in receiving test results, issues with patient handoffs, problems obtaining resources, difficulties with referrals, and billing reconciliation challenges. Resource allocation issues, like unavailable equipment, uneven staffing, and room booking conflicts, are common.
- **Underlying Technical Limitations:** Many issues stem from legacy systems that lack integration, have user-unfriendly interfaces, experience network downtime, and have potential security vulnerabilities. The lack of integration creates data silos and hinders efficient information flow.

### 2. Rationale for Proposed (To-Be) Solutions and Expected Impact:

To address the identified challenges, the following solutions are proposed within the To-Be process models:

- **Automated Appointment Scheduling System:**
  - **Rationale:** To directly combat manual errors, lack of visibility, and poor notification practices identified in the As-Is analysis. Addresses patient feedback regarding difficulty booking and preference for timely digital updates. Aims to alleviate pressure from overbooked schedules.
  - **Expected Impact:** Reduced scheduling errors (double bookings, conflicts), improved patient satisfaction through easier booking and real-time SMS/email notifications, optimized resource (doctor time) utilization, and decreased administrative burden.
- **Streamlined Patient Check-in (Self-Service Kiosk/Online):**

- **Rationale:** To tackle the long wait times and inefficiencies caused by manual paperwork and slow record retrieval in the current check-in process.
- **Expected Impact:** Significant reduction in patient wait times, elimination of redundant manual data entry, faster verification, immediate notification to departments improving patient flow, and enhanced patient experience by offering convenient self-service options.
- **Improved Interdepartmental Communication (Automated Task Management Tool/Dashboard):**
  - **Rationale:** To replace inefficient, manual communication methods with a centralized, trackable system. Addresses delays in information sharing and resource coordination highlighted across multiple departments and IT.
  - **Expected Impact:** Faster resolution of interdepartmental requests (e.g., IT support, test results, resource allocation), improved coordination and reduced miscommunication, enhanced transparency and accountability through task tracking, and better overall resource management. Integration with a new HIS could further streamline data flow.

### **Conclusion:**

The current operational workflows exhibit significant inefficiencies primarily due to reliance on manual processes, outdated/non-integrated technology, and fragmented communication. Implementing the proposed To-Be solutions—focused on automation, self-service, and integrated communication platforms—is expected to streamline operations, reduce delays, improve resource utilization, decrease administrative workload, and ultimately enhance both patient and staff satisfaction.