

# Phase II: Business Process Modeling Explanation

## 1. Process Scope & Objectives

This Business Process Model (BPMN) defines the end-to-end workflow for the In-Home Nursing Bookings Management System. The scope covers the complete lifecycle of a care visit, from the patient's initial service request to the final audit validation and payment.

The primary objective is to replace manual phone coordination and paper logging with a database-driven workflow that synchronizes Patients, Mobile Nurses, and System Administrators. This ensures zero double-bookings, strict compliance with medical visit logging, and optimized nurse dispatching.

## 2. Key Actors & Responsibilities

- **Patient:** The external actor initiating the request for care services (e.g., Wound Care, Postnatal).
- **System (Dispatcher):** The central Management Information System (MIS) actor responsible for validating rules, executing the matching algorithm, and enforcing "weekday restrictions."
- **Nurse:** The mobile workforce receiving real-time alerts and providing the critical "Proof of Visit" by logging actual start/end times.
- **Admin:** Responsible for resolving compliance breaches (e.g., missed logs) and managing system configurations during allowed weekend windows.

## 3. MIS Relevance & Automation

This process demonstrates MIS capabilities through three key automation points handled by PL/SQL logic:

- **Smart Matching:** The "Run Matching Algorithm" node replaces manual phone calls with logic that queries the database for nurses based on Skills, Proximity, and Availability.
- **Compliance Loops:** The "Logged on Time?" decision node enforces accountability. If a nurse fails to log visit data, the system automatically escalates the issue to an Admin, ensuring no visit goes unrecorded.
- **Conflict Prevention:** The validation step strictly enforces the business rule that prevents double-booking, solving the critical issue of scheduling conflicts before they happen.

## 4. Analytics Opportunities

By digitizing this flow, the system captures critical timestamps at every handoff (Request\_Time, Scheduled\_Time, Actual\_Start, Actual\_End). This enables the calculation of Key Performance Indicators (KPIs) such as **Nurse Utilization Rate** and **Missed Visit Ratio**, which will be visualized in the Phase VIII BI Dashboard.