

Healthcare Patient-Care Coordination Copilot

The Healthcare Patient-Care Coordination Copilot addresses patient triage, appointment booking, medical records retrieval, billing inquiries, and proactive outreach within a unified Copilot Studio solution. Leveraging custom topics, agent flows, secure FHIR connectors, Model Context Protocol (MCP) integrations, generative AI, multi-agent orchestration, and autonomous scheduling triggers, this copilot streamlines clinician workflows and improves patient satisfaction.

Architecture Overview

Five collaborating agents—Triage, Appointment, Records, Billing, Outreach—are coordinated by a Master Orchestrator. Each agent relies on topics, deterministic flows, and tools that access FHIR APIs, databases, and Azure OpenAI. Autonomous agents monitor lab orders and send follow-up messages.

Prerequisites

- Copilot Studio tenant license
- Managed "Prod-Healthcare" environment
- DLP policy restricting PHI to FHIR endpoints
- PatientCareMonitor service principal with least-privilege access

Data & Connector Setup

- Sample FHIR endpoint in .env
- SQL DB for appointments
- Azure OpenAI connection for summarization
- Sample JSON/CSV files in SampleData

Key Components

Topics

- "Chief Complaint" – captures free-text symptoms
- "Check Availability" & "Book Appointment" – schedule visits

Agent Flows

- **Find Next Slot** – SQL query → return time options
- **Validate Insurance** – MCP call → eligibility response

Tools

- FHIR Patient, Observation, Appointment APIs
- Billing validation tool via MCP

Generative Orchestration

Master agent chains record lookup → appointment booking → billing check based on intent.

Multi-Agent Collaboration

High-risk symptoms trigger Outreach Agent for nurse follow-up.

Autonomous Agents

Lab Monitor polls FHIR Observations; threshold breach triggers notification flow.

Deployment Steps

1. Import `healthcare-copilot-solution.zip` into Prod-Healthcare.
2. Update connection references for FHIR & OpenAI.
3. Publish agents and flows; enable generative orchestration.
4. Schedule Lab Monitor agent.
5. Test triage → booking → billing and autonomous alert scenarios.

Provided Files

File	Purpose
<code>healthcare-copilot-solution.zip</code>	Exported solution
<code>SampleData/patientList.json</code>	Mock patients
<code>SampleData/appointments.csv</code>	Appointment history
<code>scripts/setup-env.ps1</code>	Environment setup