Detailed Hackathon Guide: Building a Healthcare Dashboard in Microsoft Fabric

This guide expands the previous instructions into more granular steps, so a first-time Microsoft Fabric user can follow along easily and create the required dashboard.

# Part 1: Set Up Your Workspace

1. Go to https://app.fabric.microsoft.com and sign in with your Microsoft account.  
2. From the left menu, click \*\*Workspaces\*\*.  
3. Click \*\*New workspace\*\* at the top right.  
4. Give it a name, for example: `HealthcareHackathon`.  
5. Click \*\*Save\*\* to create the workspace.

# Part 2: Create a Lakehouse

1. Inside your new workspace, click \*\*+ New\*\* in the top bar.  
2. Select \*\*Lakehouse\*\*.  
3. Enter a name such as `HackathonLakehouse`.  
4. Click \*\*Create\*\*.  
5. Wait until the Lakehouse opens; you'll see two sections on the left: \*\*Tables\*\* and \*\*Files\*\*.

# Part 3: Upload Your Data Files

You should have the following Excel files ready: Patient.xlsx, Encounter.xlsx, Condition.xlsx, Observation.xlsx, Practitioner.xlsx, Staffing.xlsx, Finance.xlsx, Beds.xlsx, QualityMetrics.xlsx.  
  
For each file:  
1. In the Lakehouse, select \*\*Files\*\* from the left menu.  
2. Click \*\*Upload\*\* → \*\*Browse\*\*.  
3. Locate the Excel file on your computer and click \*\*Open\*\*.  
4. After the file is uploaded, right-click the file in the list.  
5. Choose \*\*Load to Tables\*\*.  
6. Keep the default table name and click \*\*Load\*\*.  
7. Repeat for each Excel file until all are loaded as tables.

# Part 4: Review Tables and Data

1. Click on \*\*Tables\*\* in the Lakehouse to see all the tables created.  
2. For each table, click on it to preview the rows and columns.  
3. Confirm key tables such as `QualityMetrics`, `Patient`, and `Encounter` are present and contain data.

# Part 5: Create a Semantic Model

1. From the Lakehouse, click \*\*New\*\* → \*\*Semantic model\*\*.  
2. Select all tables that will be used in reporting (for example, `QualityMetrics`, `Staffing`, `Finance`, `Beds`).  
3. Click \*\*Create\*\*.  
4. The model opens and displays relationships between tables. If needed, drag and drop to create relationships (for example, link `PatientID` between `Patient` and `Encounter`).

# Part 6: Build the Power BI Report

1. Inside the Semantic model, click \*\*Create report\*\* in the top-right corner.  
2. In the report canvas, you'll see a blank page and a list of fields on the right.  
3. To create a KPI card (like 30-Day Readmission Rate):  
 a. Click the \*\*Card\*\* visual from the Visualizations pane.  
 b. Drag the `readmission30d` measure from the QualityMetrics table into the \*\*Fields\*\* box.  
 c. Adjust formatting as desired.  
4. To create a trend line chart:  
 a. Select the \*\*Line chart\*\* visual.  
 b. Drag `Month` to the X-axis.  
 c. Drag `ed\_waiting\_patients` to the Y-axis.  
5. To compare KPIs in a table:  
 a. Select the \*\*Table\*\* visual.  
 b. Add fields such as `Month`, `readmission30d`, `infection\_rate`, and `avg\_length\_of\_stay`.

# Part 7: Enhance the Dashboard

1. Add slicers for easy filtering:  
 a. Click \*\*Slicer\*\* in the Visualizations pane.  
 b. Drag `Month` or `Department` into the Slicer.  
2. Adjust formatting:  
 a. Use the Format pane to set colors and fonts.  
 b. Add a title for your report.

# Part 8: Save and Share

1. Click \*\*File\*\* → \*\*Save\*\* and give the report a name.  
2. Use \*\*Share\*\* to give access to other hackathon participants.  
3. Your dashboard is now ready for presentation.

# Optional: Data Cleansing in Power Query

If you want to demonstrate cleaning or transforming data:  
1. From the workspace, click \*\*New\*\* → \*\*Dataflow Gen2\*\*.  
2. Use the Power Query interface to remove duplicates, fill missing values, or join tables.  
3. Save the output as new tables and add them to your Semantic model if needed.

# Completion

You now have a fully functioning healthcare KPI dashboard using Microsoft Fabric and Power BI, ready to present.