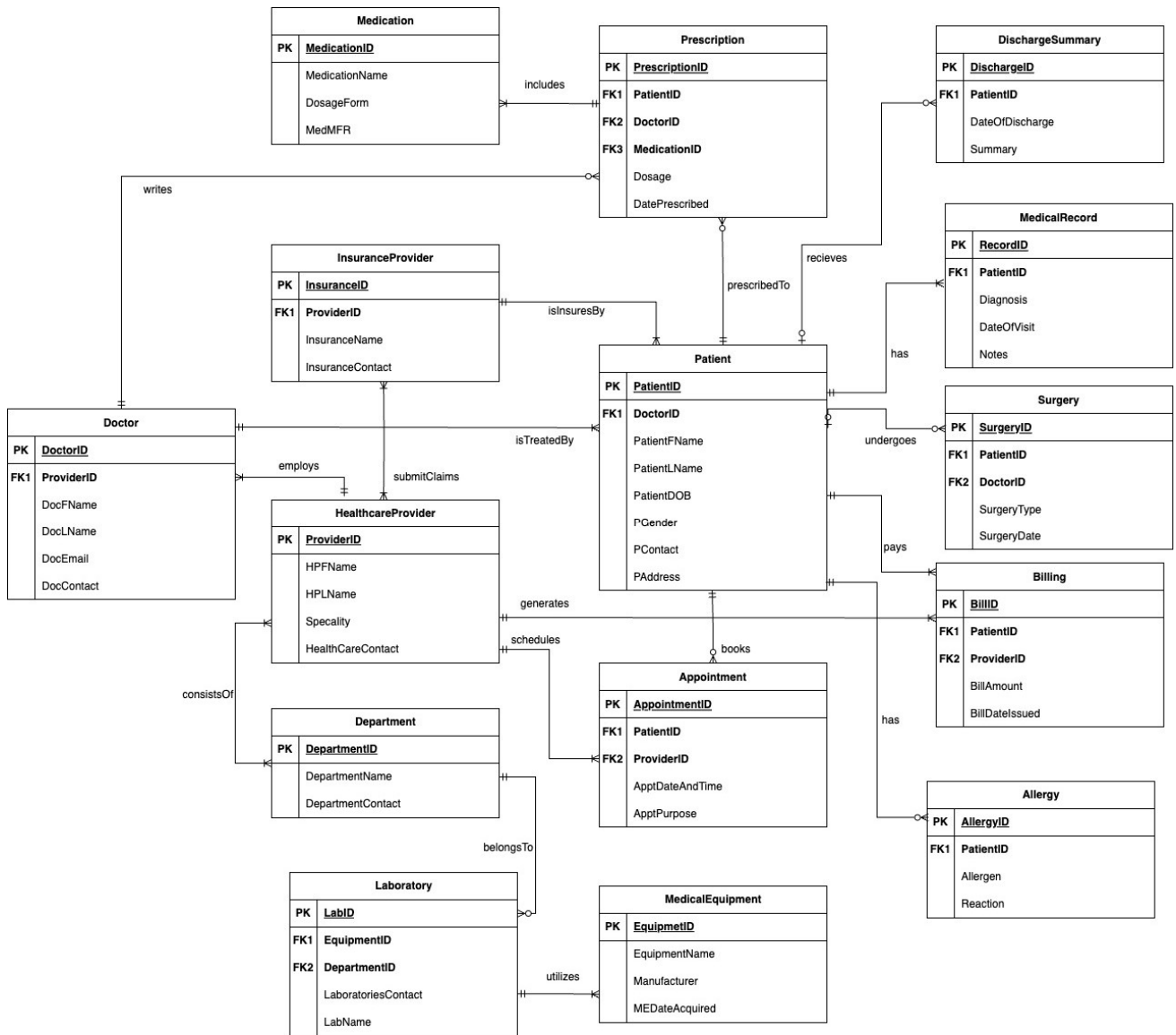


# Public Health Ontario System



## 1. Appointment Management

**Entities involved:** Patient, Doctor, HealthcareProvider, and Appointment

### Inefficient Appointment Scheduling:

- Problem: Traditional appointment scheduling systems may be manual, leading to inefficiencies and potential errors.
- Solution: The ERD introduces an automated appointment scheduling process, allowing patients to request appointments and facilitating the efficient allocation of time slots based on doctor availability.

### Appointment Tracking Challenges:

- Problem: Tracking and managing appointments manually can lead to confusion, missed appointments, and inefficient resource allocation.
- Solution: The ERD includes a robust tracking system that ensures accurate and up-to-date information on all scheduled appointments, reducing the risk of missed or overlapping appointments.

### Data Security and Privacy Concerns:

- Problem: Manual or outdated systems may pose risks to patient data security and privacy.
- Solution: The ERD includes access control measures, ensuring that sensitive patient information is securely managed and that only authorized personnel have access to relevant data.

## 2. Insurance Provider Management

**Entities involved:** Insurance Provider and HealthcareProvider

### Difficulty in Managing Patient Insurance Information:

- Problem: Patients may find it challenging to provide accurate and up-to-date insurance information, leading to billing discrepancies.
- Solution: The ERD allows for the integration of patient insurance information, making it easier for both healthcare providers and patients to manage and update relevant details.

### Lack of Coordination Between Healthcare and Insurance Providers:

- Problem: Lack of coordination between healthcare and insurance providers can result in miscommunication and service coverage issues.
- Solution: The ERD establishes clear relationships between healthcare and insurance providers, promoting effective communication and coordination for seamless service delivery.

#### Limited Visibility into Insurance-Provider Relationships:

- Problem: Without a centralized system, healthcare providers may lack visibility into their relationships with different insurance providers.
- Solution: The ERD provides a centralized platform for managing and viewing insurance-provider relationships, improving transparency and facilitating better decision-making.

### **3. Discharge Summary and Record Management**

**Entities involved:** Patient, Doctor, HealthcareProvider, and DischargeSummary

#### Lack of Standardization in Discharge Summaries:

- Problem: Discharge summaries may vary in format and content, leading to challenges in understanding and interpreting patient information.
- Solution: The system enforces standardization in discharge summaries, ensuring that relevant and consistent information is captured for each patient, making it easier for healthcare providers to understand and act on the information.

#### Inefficient Record Keeping:

- Problem: Traditional paper-based record-keeping systems can be inefficient, leading to difficulties in managing and retrieving patient information.
- Solution: The ERD facilitates the transition to electronic record-keeping, streamlining the process of capturing, storing, and retrieving patient records and discharge summaries.

### **4. Prescription Management**

**Entities involved:** Patient, Doctor, HealthcareProvider, and Medication

#### Inaccurate Prescription Information:

- Problem: Errors in prescription creation, such as incorrect medication notes, dosages, can lead to patient harm or ineffective treatment.
- Solution: The ERD ensures that prescription information is accurately captured and stored, minimizing the risk of errors and enhancing patient safety.

#### Communication Gaps Between Healthcare Providers:

- Problem: Lack of effective communication between healthcare providers can lead to misunderstandings or delays in the prescription process.
- Solution: The system facilitates seamless communication among healthcare providers involved in a patient's care, ensuring that all relevant parties have access to up-to-date prescription information.

## 5. Billing

**Entities involved:** Patient, HealthcareProvider, Doctor, MedicalRecord, Billing, and MedicalEquipment

### Challenges in Tracking Medical Equipment Usage:

- Problem: Without a systematic approach to tracking medical equipment usage, healthcare providers may struggle to assess the efficiency and effectiveness of equipment utilization.
- Solution: The ERD includes functionality to track the usage of medical equipment, providing insights into equipment effectiveness and enabling informed decisions regarding equipment maintenance or replacement.

### Lack of Integration Between Medical Records and Billing:

- Problem: Lack of integration between medical records and billing systems can result in manual errors and inefficiencies in the billing process.
- Solution: The system ensures seamless integration between medical records and billing, allowing for automatic extraction of relevant billing information from medical records to reduce errors and improve efficiency.