# EHRs and Clinical Records

Class 1 | 25 May 2024

Electronic Health Records and Data Structures

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# Welcome and Introduction

# Course Overview

# Course Topic Outline

## Getting Data In

1. EHRs and Clinical Records

   *Origin and relevant history of the medical record; contemporary promise and problems*

2. Clinical Decision Support

   *Uses of medical record data to drive patient care*

## Storing, Finding, Retrieving

1. Data Structures and Liquidity

   *Relational database structures and effective use of EHR data*

2. Data Curation

   *Raw data, refined data, and patient data from non-EHR sources*

## Turning Data into Insight

1. Leading Innovation

   *Analytics strategy in healthcare organizations*

2. Systemic Analytical Decision Making

   *Designing an environment compatible with data-driven decision making*

# Assignments

- Individual Essay
  - 1000 words
  - Full instructions available on Canvas June 11th
  - Topics will be selected from material covered during Weeks 1 and 3
  - Due July 4th; 20% of final grade

# Assignments

- Group Data Analytics Project
  - Dataset will be provided
  - Due July 31st; 25% of final grade
  - Teams will share or divide up among yourselves these “research publication project” tasks:

    - Research question idenfication
    - Study design
    - Data management
    - Data analysis
    - Written Findings (2-5 pages)

# Class Participation: What Counts?

- Participating in seminar discussion
- Participation in Group Project
- Proposing in advance of a seminar good discussion questions based on the material
- Participation contributes 15% toward final grade

# EHRs and Clinical Records

Class 1 / Week 1

*Origin and relevant history of the medical record; contemporary promise and problems*

# EHR Vision, circa 1970


… Are We There Yet?

# Class 1 Learning Objectives

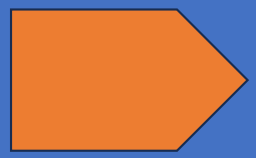
- Have an understanding of how clinicians arrive at the diagnosis recorded in the medical record.
- Able to describe at a high level examples of non-patient care uses to which EHR data are put.
- Able to summarize the historical motivations behind computerizing the patient medical record, including the role of clinical quality concerns, medical education, and struggles for control of the profession.
- Understand the phenomenon of "physician burnout" and articulate the range of causes and possible mitigations. Have an opinion as to whether physician burnout can be avoided so long as healthcare relies on EHRs as it does today.
- Able to articulate why interoperability remains a challenge, given how "connected" our data are in other arenas of our lives.
- Understand the types of data collected in a clinical care delivery setting and how they are represented in the EHR.

# Class 1 Topic Outline

I: EHR History and Philosophy

II: Billing and Burnout

III: Interoperability



**From Canvas Videos**

IV: Healthcare Data Structures

**From Today's Lecture**

# Class 1 Discussion

## I: EHR History and Philosophy

- Why did anyone computerize the medical record to begin with?
- How are diagnoses important?
- What were the benefits of computerizing the record? Challenges?
- Where do you think this historical journey will take us next?

## II: Billing and Burnout

- What data get collected in an EHR? What data aren't but should be?
- Is EHR-related "physician burnout" real?
- Is there an equivalent "burnout" on the patient side?
- How would we fix (either) burnout problem?

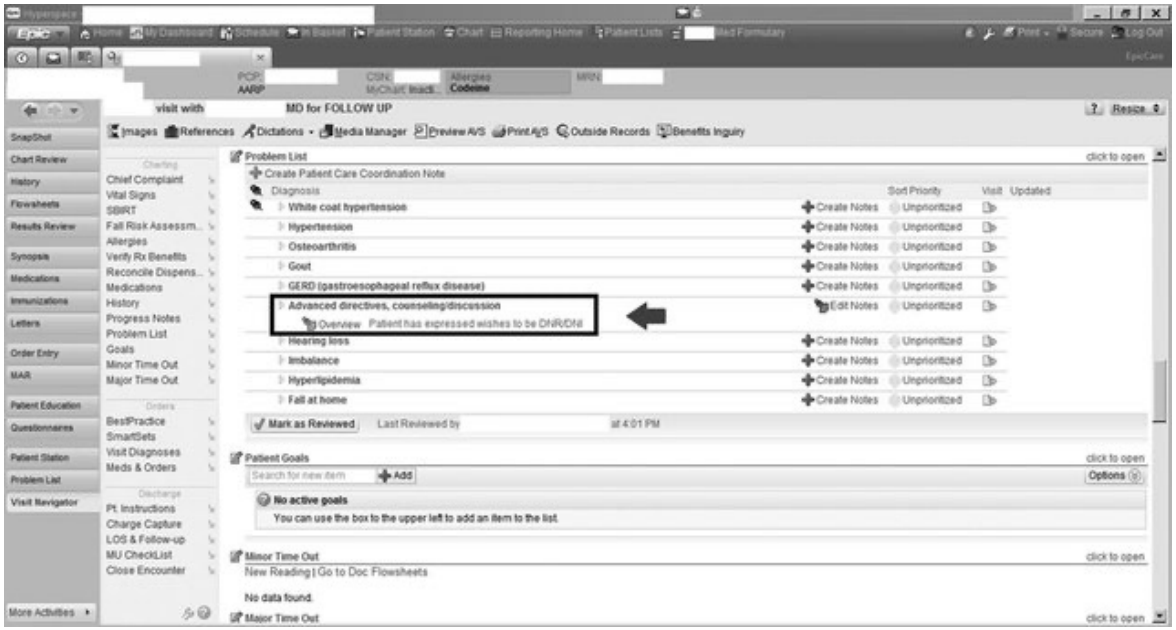
# Class 1 Discussion

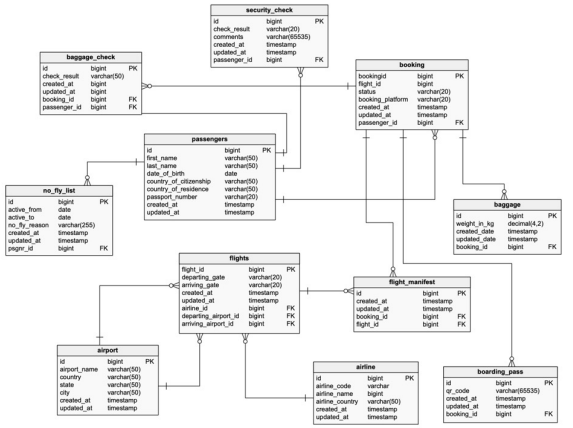
III: Interoperability

- Why is interoperability important to patients? To clinicians?
- Do any of us have personal experience with interoperability challenges?
- Why is sharing data across EHRs so hard, when our data are so very connected in other arenas of our lives?

# Class 1 Live Topic: Healthcare Data Structures

How are data represented in the EHR and analytics data stores?



Please refer to recorded class video for these animated slides