

Analytics Leadership

Class 5 | 20 July 2024

Electronic Health Records and Data Structures

Stephen Blackwelder, PhD

Welcome Back!

Questions or Concerns?

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

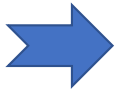
1. Data Structures and Liquidity

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

Final Exam

- Due August 19th; 20% of final grade
- "Take home" style; you'll be able to access the test beginning about a week ahead of the due date. This is intended to provide you some flexibility in scheduling your end-of-term work. You'll have three hours to complete the exam once you begin it, which should be plenty of time.
- Everything we have covered in sessions 3-6 may be included as a question or writing prompt. I recommend you rely on the Learning Objectives from each live session to guide your study.
- In addition to forced-choice questions, the exam will include short-answer and essay questions.

Our work together will be governed by the terms of the Fuqua Honor Code:
www.fuqua.duke.edu/honorcode

Leading Innovation

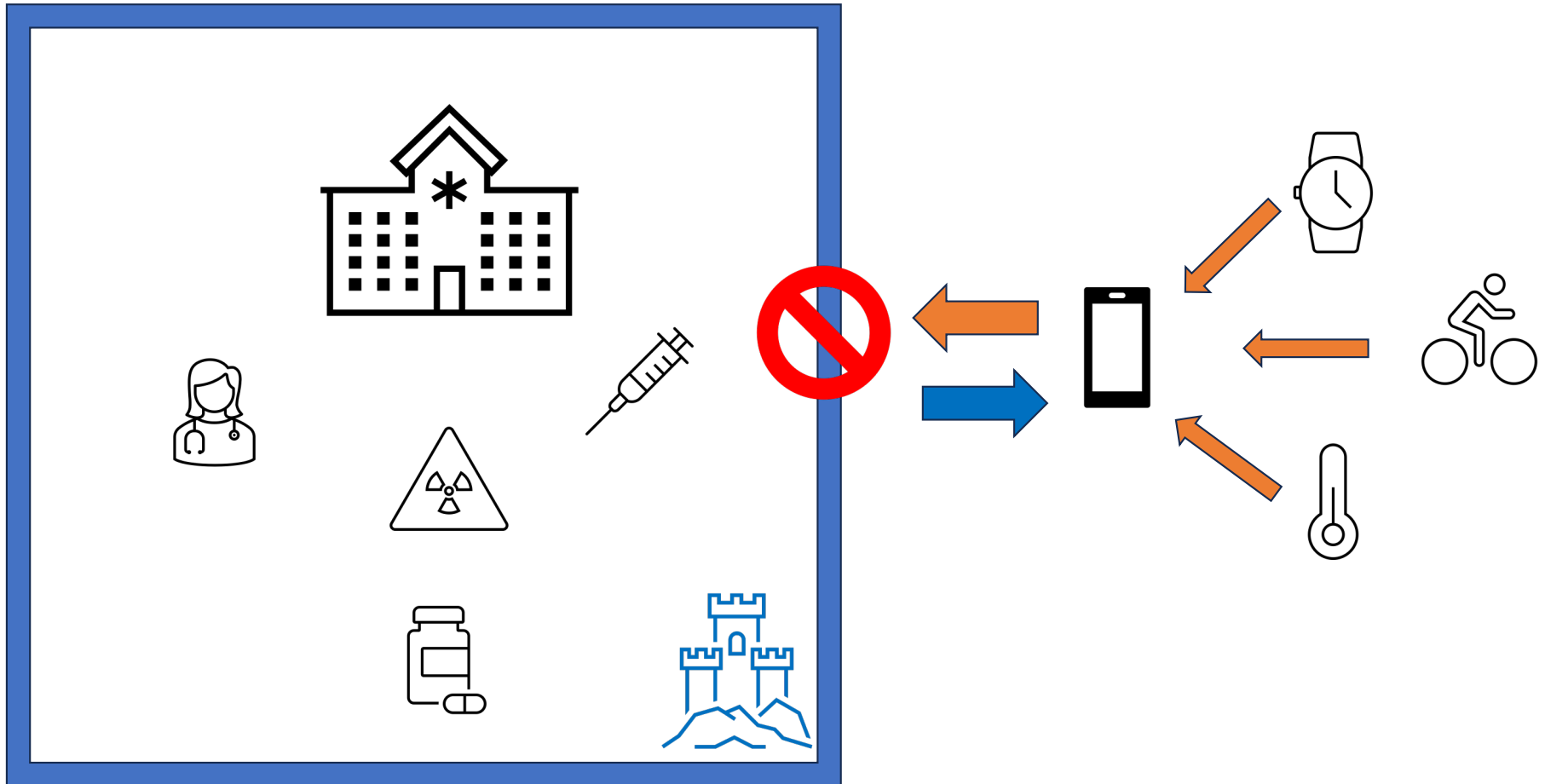
Class 5 | 20 July 2024

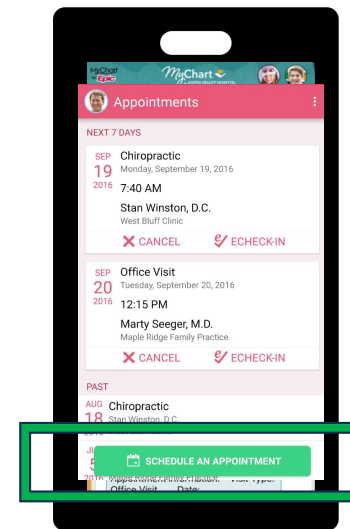
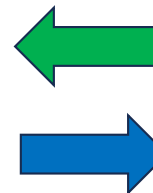
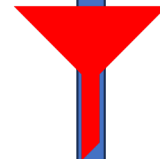
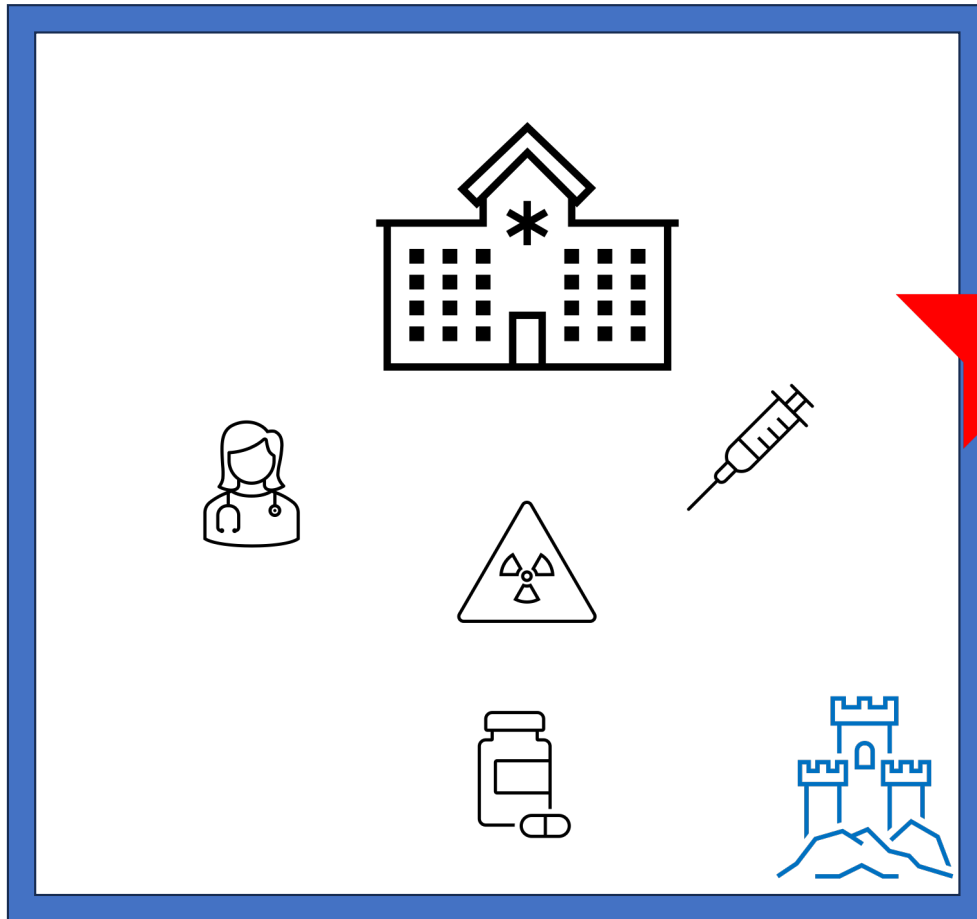
Class 5 - Updates

- Self-scheduling is more prevalent post-Covid healthcare remote visit scheduling

| Appointment visit category | Counts of unique staff-scheduled visit types | Counts of unique self-scheduled visit types | Self-scheduled percentage of staff-scheduled count |
|----------------------------|--|---|--|
| Consult | 2008 | 600 | 29.9 |
| Established | 1669 | 437 | 26.2 |
| New | 1030 | 272 | 26.4 |
| Procedure | 3393 | 335 | 9.9 |
| Return | 540 | 99 | 18.3 |
| Testing | 502 | 79 | 15.7 |
| Therapy | 413 | 65 | 15.7 |
| Total | 9555 | 1887 | 19.7 |

North, et al. <https://doi.org/10.1177/23333928241253126>





Disruption vs Incumbent Advantage

- Name advantages would-be disruptors have over healthcare technology incumbents
- Name advantages healthcare tech incumbents have over would-be disruptors

Who will win?

Class 5 Learning Objectives

- Understand the challenges of disrupting an industry from "within," and how digital health might lead to business model disruption in the healthcare industry. What effect has the COVID-19 pandemic had on this?
- Which health priorities are digital apps positioned to address? What's the current state of digital maturity in healthcare?
- What are the ethical considerations arising from integration of LLM and other AI into patient interaction?
- How did today's advanced analytics arise from business intelligence practices, how did data science then arise from advanced analytics, and what does this have to do with the CDO/CAO role?

Class 5 Learning Objectives

- Why is data governance an important consideration, and how do Europe's and the US's approaches differ?
- What changes will Generative AI bring to healthcare? What novel uses for ChatGPT occur to you in the business of health care delivery? What might such tech remedy and what damage could it cause?