**MetroHealth**

# Clinical Informatics Fellowship Recap

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Second Year Clinical Informatics Fellow

The MetroHealth System

Case Western Reserve University

# Areas of Focus

- Analytics ☑
- Quality Improvement ☑
- Business intelligence ☑
- Evidence-based medicine ☑
- Prediction/Forecasting ☑
- Health Economics ☑

# Structured Education: Epic Certifications

## Physician Build - Basic

As a specialist you know best what trends to look for in your patients, what tests to order, and how to properly document important Physician customize

This course experience daily basis to build an Docume SmartFor BestPrac SmartSet

## Physician Build - Advanced

f you attended the Physician Build – Basic class (CLN150) and found yourself wanting to dive even deeper into the system to learn how to build Epic's specialty screens, this class is for you! We'll help you become a true architect of the system

Topics incl
· Navigato
· Profiles
· Print Gro
· Reports
· Synopsis
· Timelines
· Columns

## Physician Build - Analytics

It is no l
relies or
Reportir
reports
registrie

## Caboodle Data Model Fundamentals

**VIRTUAL TRAINING: NO TRAVEL NEEDED**

As a Busine
· What tool
· Where can
The answer

Learn to na
Caboodle's
against Cab
learn about

## Clarity Data Model Fundamentals

Clarity is Epic's normalized relational database and the middle ground between Chronicles and Caboodle. This class will teach you about the rules known as the Clarity Data Model that developers follow while storing Epic EHR data. Learn h
Clarity.

In this class
· Write SQL
· Use the Cla
· Identify a C
· Map the re
· Learn tips a

## Clinical Data Model

Cogito's Clinical Data Model class covers how to report on clinical information stored in Chronicles, Clarity, and Caboodle. The course focuses on those areas of clinical reporting that are common across most of Epic's clinical applications, such as patient encounters, diagnoses, orders, flowsheets, and SmartData Elements. By focusing on how this data is structured in Chronicles but also calling out how those structures translate to Clarity and Caboodle, Clinical Data Model enables all types of report writers to improve the quality and efficiency of their clinical reports.

# Structured Education: CWRU Health Informatics Certificate

**MPHP 532 / HSMC 432 (3 Credit Hours) – Introduction to Health Informatics**

The course is intended to develop competence and confidence in the participant's ability to understand and manage the complex information environment, plan for computer-based information systems, specify their functional design, manage a system adoption project, deal with system vendors, and

**PQHS 416 (3 Credit Hours) – Computing in Biomedical Health Informatics**

This course introduces students to computational techniques and concepts that underpin biomedical and health informatics data management and analysis. In particular, the course will focus on the three topics of: (1) Biomedical terminologies and formal logic used in building knowledge models such as ontologies; (2) Natural language processing (NLP), and (3) Big Data technologies, including

**CRSP 401 (3 Credit Hours) - Introduction to Clinical Research Summer Series**

This course is designed to familiarize one with the language and concepts of clinical investigation and statistical computing, as well as provide opportunities for problem-solving, and practical application of the information derived from the lectures. The material is organized along the internal logic of the research process, beginning with mechanisms of choosing a research question and moving into the

**HSMC 420 (3 Credit Hours) – Health Finance**

Exploration of economic, medical, financial and payment factors in the U.S. healthcare system sets the framework for the study of decisions by providers, insurers, and purchasers in this course. The mix of students from various programs and professions allows wide discussion from multiple viewpoints.

**Structured Education: Rotations and Electives**

1. **Introduction to Clinical Informatics**
   → **Explore the different fields in informatics**
2. **Advanced Clinical Informatics**
   → **Deeper dive into more complex subjects**
3. **Reporting Elective**
   → **Reporting workbench, Clarity, and Caboodle reporting**
4. **Population Health and Quality Improvement/Leadership**
   → **Lean Six Sigma, FQHC, public health informatics**
5. **Cleveland Clinic**
   → **Discover informatics at another institution**
6. **Electronic Health Record Upgrade**
   → **Change management, project management**
7. **Capstone Project**
   → **Publications**



Jonathan Lewis   Ted Rosati · 2nd

# Monocyte distribution width adds prognostic value in detection of COVID-19 respiratory failure
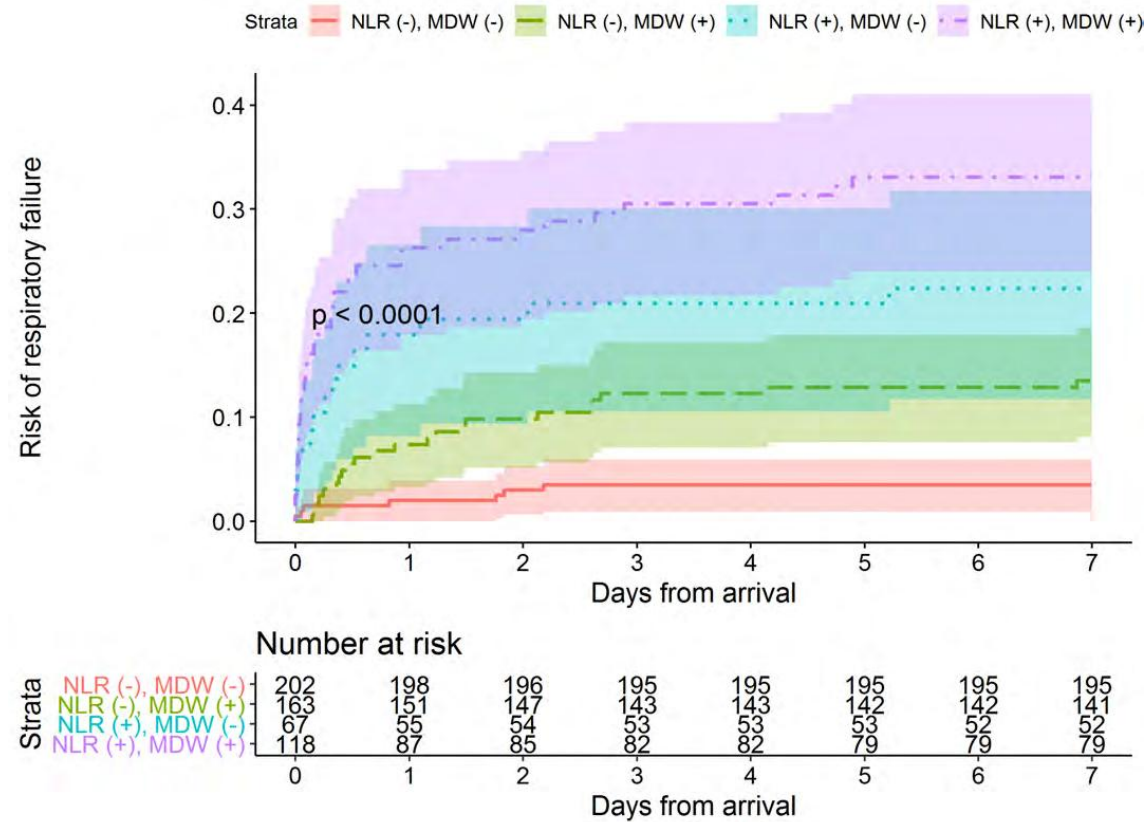
# Trends in racial disparities of emergency department utilization for asthma in coronavirus disease 2019



Asthma ED Visits Per Year in the U.S.
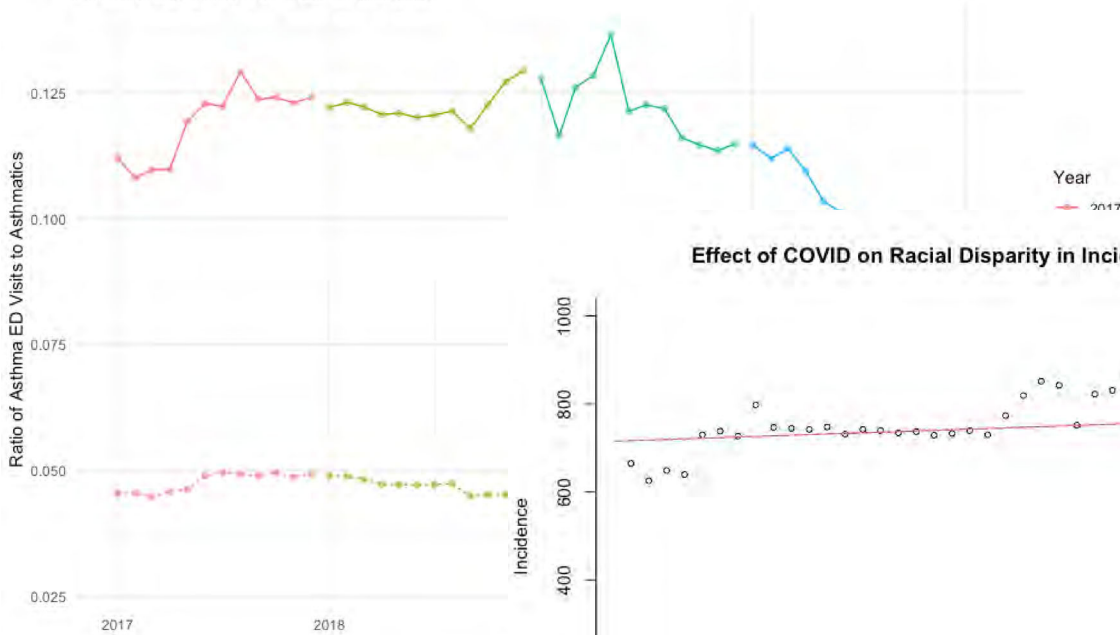


Effect of COVID on Racial Disparity in Incidence of Asthma Exacerbations
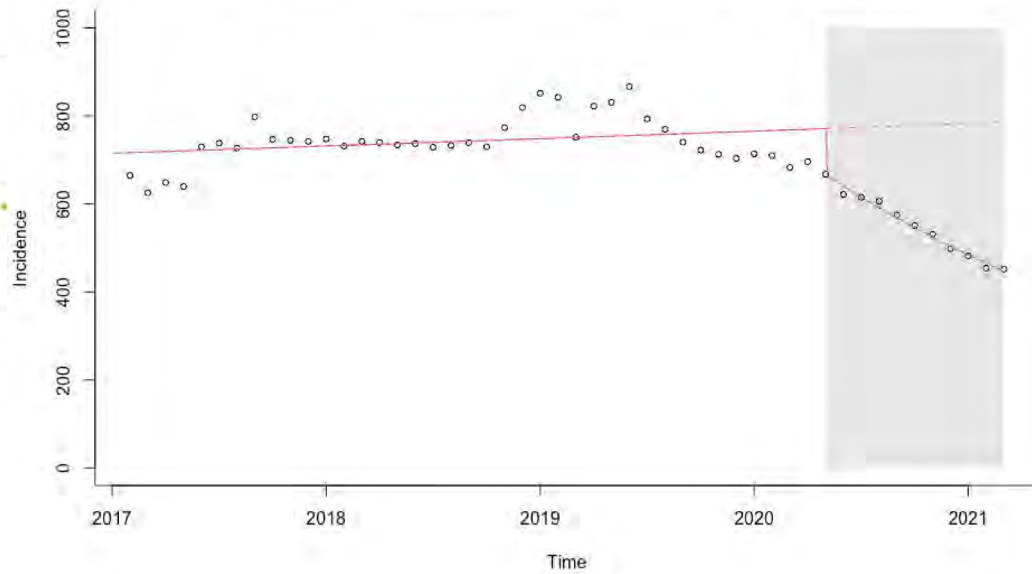
## Safety of induction at standard doses of buprenorphine for inpatients with opioid use disorder



Change in COWS Score Following Buprenorphine Administration
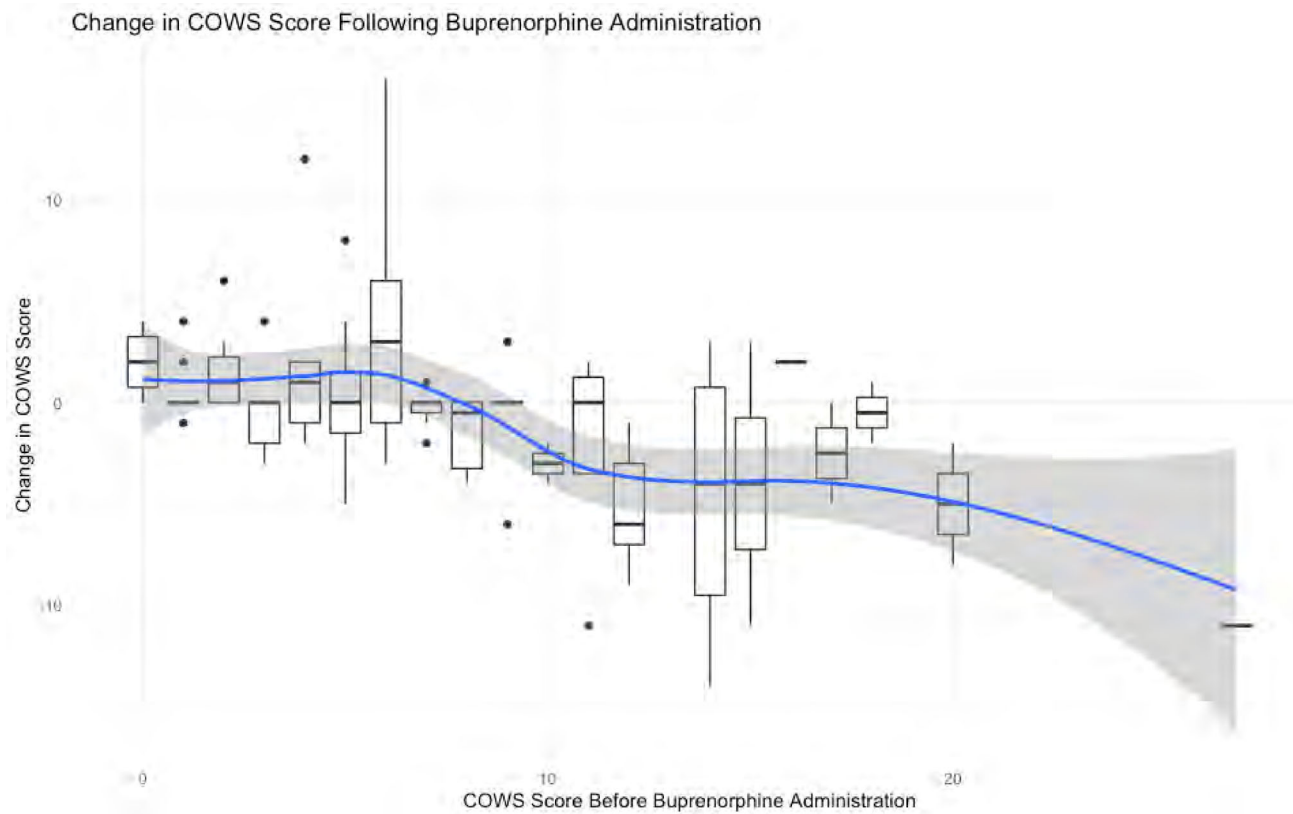
# Non-interruptive Clinical Decision Support Improves Ordering of Inhaled Corticosteroids for Asthma Exacerbations



Effect of Non-Interruptive Clinical Decision Support on Prescribing Practices
Asthmatics Initiated on Inhaled Steroids in the ED
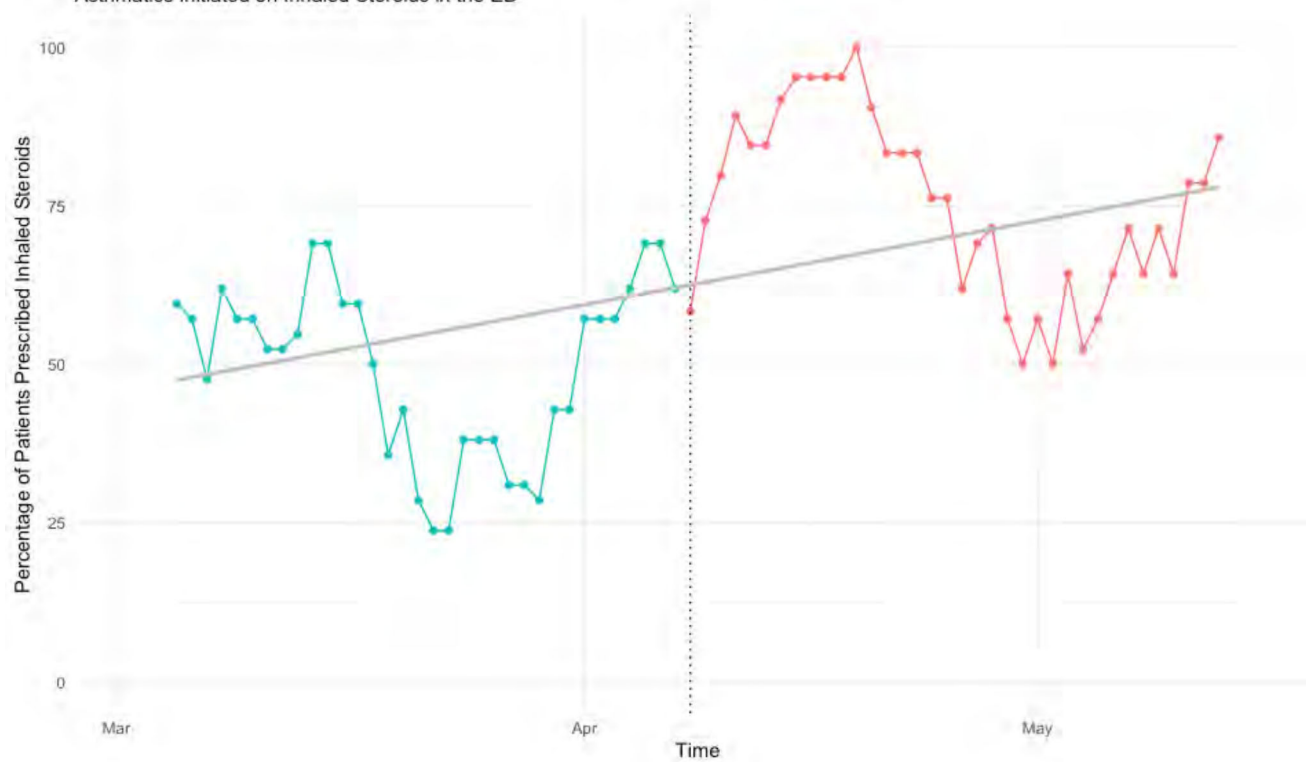
# Antibiotic Standardization Smart Sets



**Impressions** ✓

Add a new impression

**Suggested by Chief Complaint**
**Suggested by SmartSets** ⌃

➕ Cellulitis [L03.90]

**Impressions**

◆ Cellulitis, unspecified cellulitis

**Prescriptions & Orders**

**Suggested by SmartSets** ⌃

Suppurative Cellulitis ⌃

Order 🏠 Doxycycline

Order 🏠 Sulfamethoxazole-Trimet

Non-Suppurative Cellulitis ⌃

Order 🏠 Amoxicillin

Order 🏠 Cephalexin (Keflex)

Order 🏠 Clindamycin, Severe Per

---

**Impressions** ✓

Add a new impression  ➕ Add

**Suggested by Chief Complaint** ⌄
**Suggested by SmartSets** ⌃

➕ CAP (community acquired pneumonia) [J18.9]

**Impressions**

◆ Community acquired pneumonia, unsp

**Prescriptions & Orders**

**Suggested by SmartSets** ⌃

< 65 Years & No Comorbidities (Prescrib

Order 🏠 Amoxicillin

Order 🏠 Doxycycline

65+ Years/Comorbidities (Augmentin PLI

Order 🏠 Azithromycin (Z-Pak)

Order 🏠 Amoxicillin-Clavulanate (Augment

65+ Years/Comorbidities (Levaquin) ⌃

Order 🏠 Levofloxacin (Levaquin)

---

**Impressions** ✓                                    Add from Problem List

Add a new impression  ➕ Add  🔗 Associate

**Suggested by Chief Complaint** ⌄
**Suggested by SmartSets** ⌃

➕ Acute otitis media [H66.90]

**Impressions**

◆ Acute suppurative otitis media without spontaneous rupture of ear drum, recurrence not specified, unspecified laterality                    Comment   Add to Problem List  ✕

**Prescriptions & Orders**                          ➕ New Order

ⓘ This section is configured not to appear but is available now because there are saved orders, signed and held orders, medication orders in the sidebar, or suggestions from a SmartSet.
If you sign or remove saved orders, release held orders, remove medication orders from the sidebar, or remove the SmartSet, this section will be hidden the next time it saves.
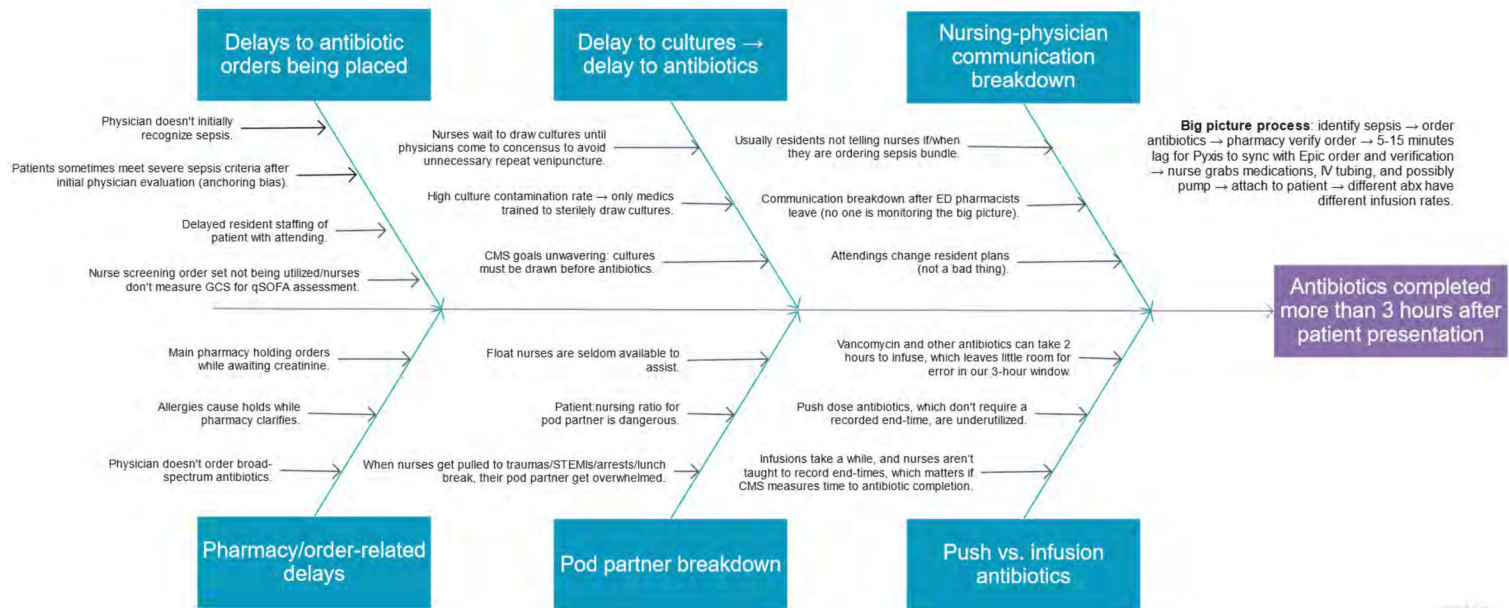
**Suggested by SmartSets** ⌃

Adult ⌃

Order 🏠 Amoxicillin, First Line

Order 🏠 Amoxicillin-Clavulanate (Augmentin), Second Line

Order 🏠 Azithromycin (Z-Pak), Penicillin Allergy

Pediatric (Children < 2 Yrs Need 10 Days Treatment) ⌃

Order 🏠 Amoxicillin, First Line

Order 🏠 Amoxicillin-Clavulanate (Augmentin), Second Line

Order 🏠 Cefdinir (Omnicef), Mild Penicillin Allergy

Order 🏠 Azithromycin (Zithromax), Severe Penicillin Allergy

# Improve Time-to-Antibiotics in Sepsis in the ED

# Using Epic Executive Packets to Drive Meaningful System Change
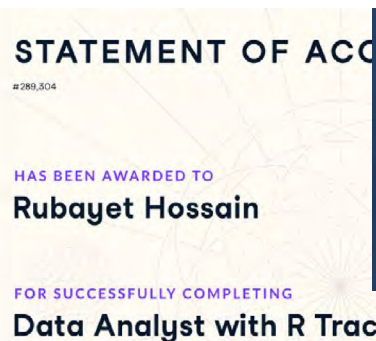
# Project Management and Contract Negotiation
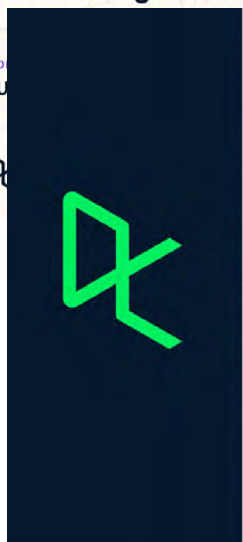


## Sapphire Engage: Heart Failure

The Sapphire Engage: Heart Failure app enables clinicians to enroll patients to receive protocolized SMS messages and solicit patients to report on their weight, dyspnea and medication adherence. The RPM data acquired via SMS is structured and writes back to the EHR. Further, the heart failure app offers a visualization of RPM data in timeline view along side other native EHR data relevant to heart failure. Algorithms also support care team notifications for parameters that warrant outreach.

# Self-Guided Learning

# Self-Guided Learning
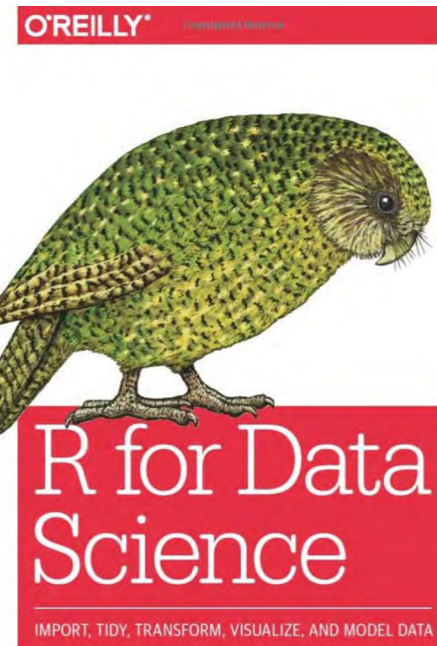
**Clinical Informatics Study Guide**
John T. Finnell
Brian E. Dixon
Editors
Text and Review
Second Edition
Springer
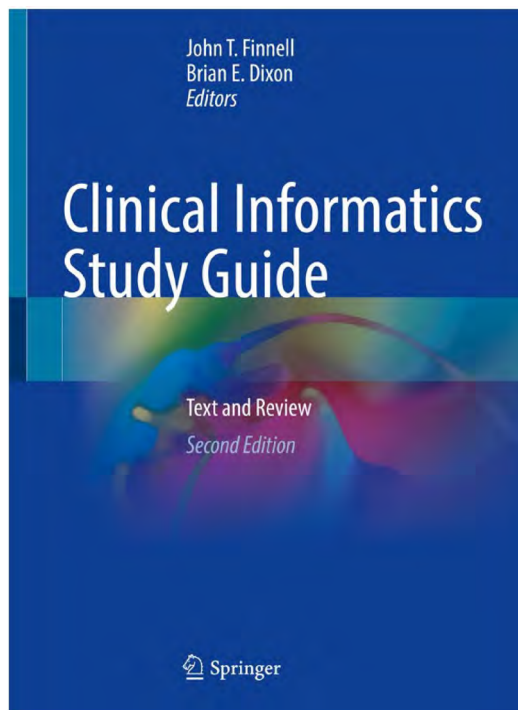
**Hands-On Programming with R**
O'REILLY
WRITE YOUR OWN FUNCTIONS AND SIMULATIONS
Garrett Grolemund
Foreword by Hadley Wickham

**R for Data Science**
O'REILLY
IMPORT, TIDY, TRANSFORM, VISUALIZE, AND MODEL DATA
Hadley Wickham &
Garrett Grolemund

# Self-Guided Learning
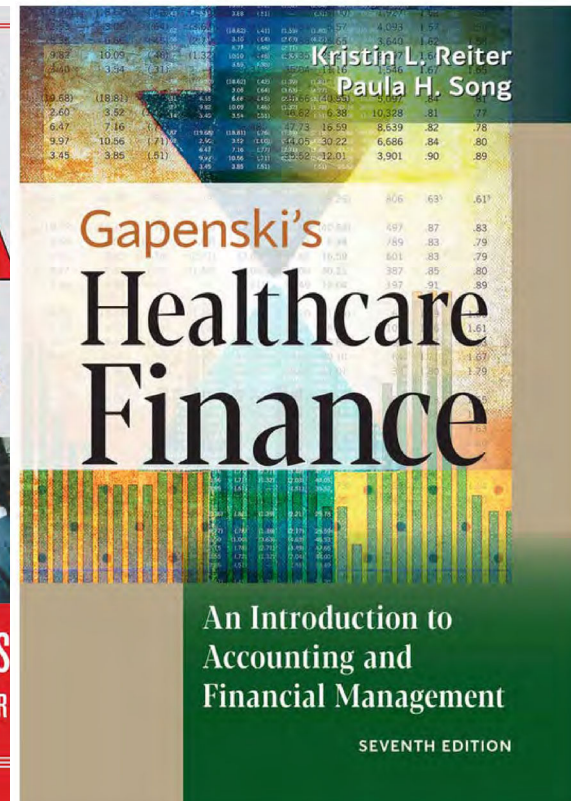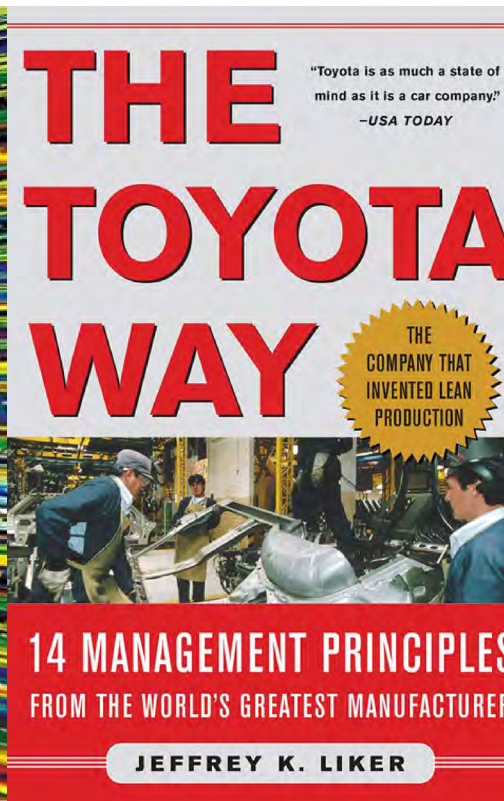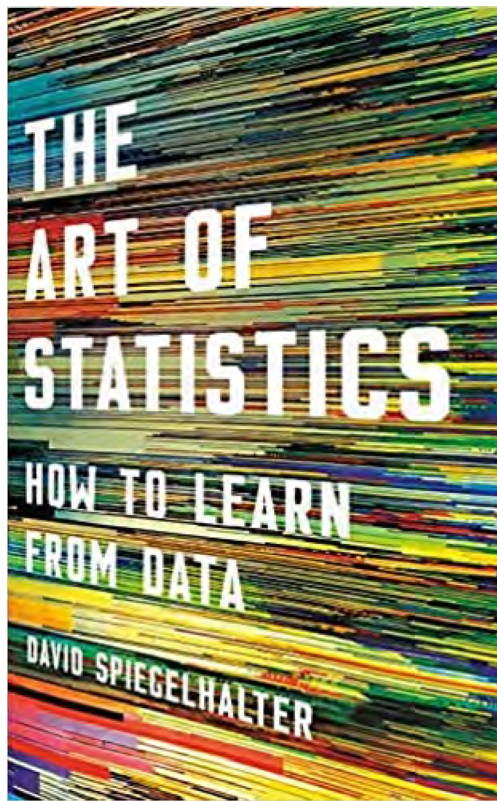
# Self-Guided Learning

**NEW YORK TIMES** BESTSELLER

**Douglas Stone & Sheila Heen**
of the *Harvard Negotiation Project* and coauthors of
DIFFICULT CONVERSATIONS

## Thanks for the Feedback

THE SCIENCE AND ART OF
RECEIVING FEEDBACK WELL*

*even when it is off base, unfair, poorly delivered,
and, frankly, you're not in the mood
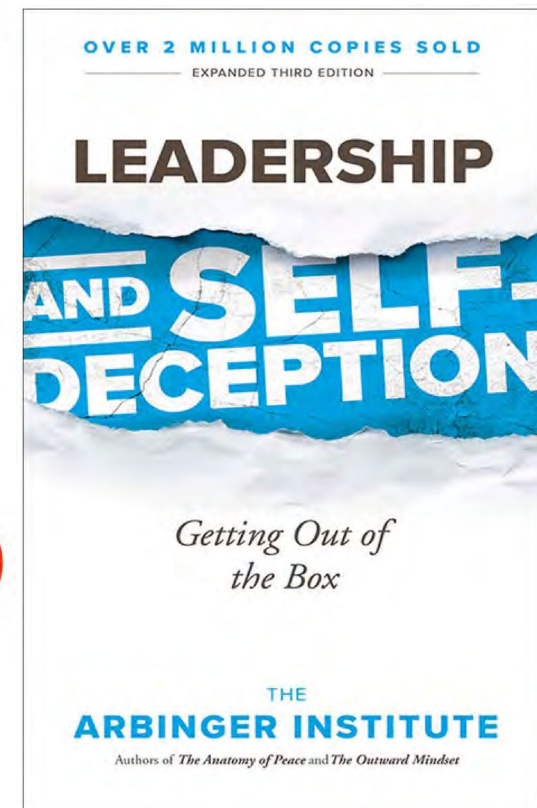
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**NEW YORK TIMES** BESTSELLER

# Measure What Matters

**How Google, Bono,
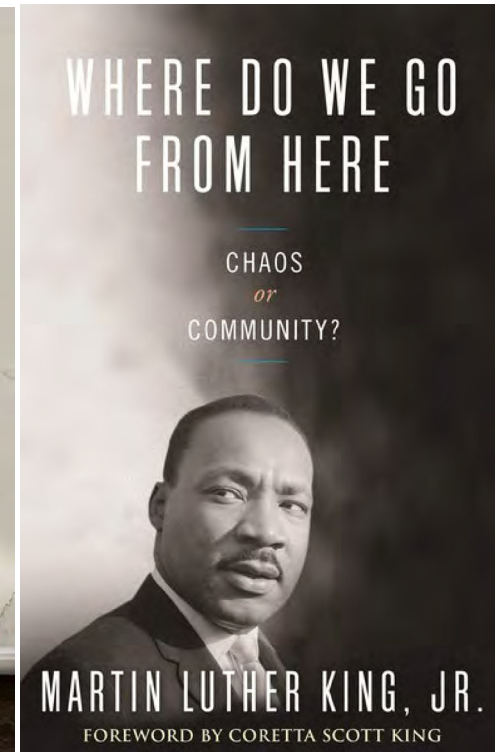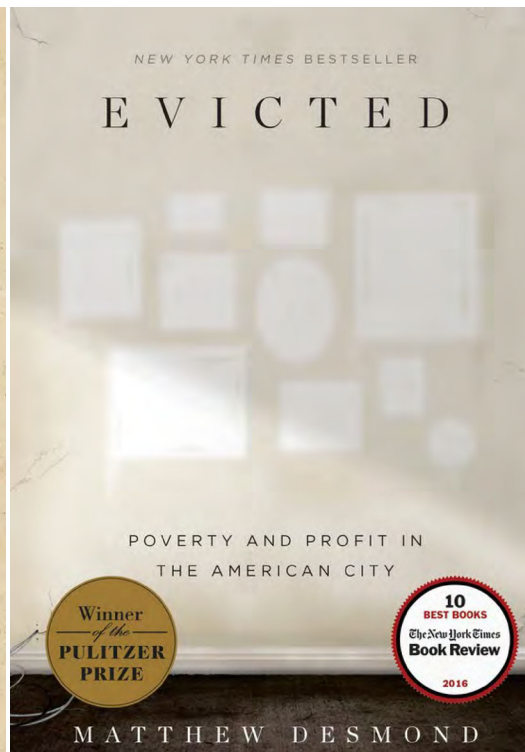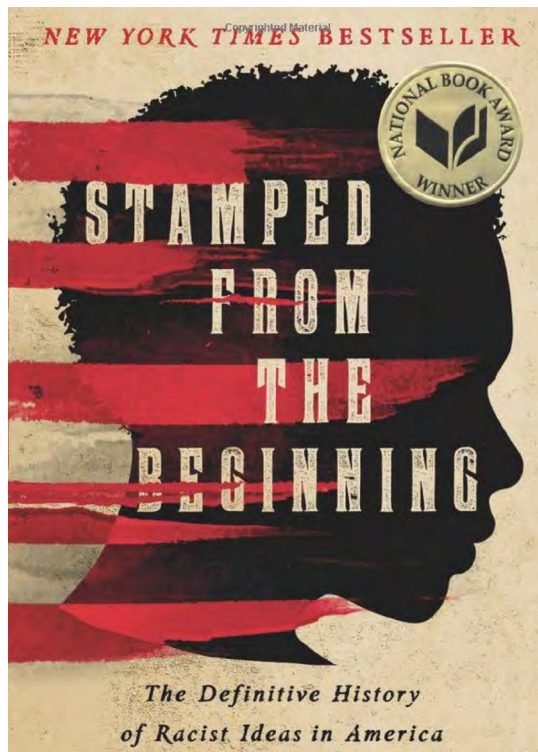and the Gates Foundation
Rock the World with OKRs**

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## John Doerr

WITH A FOREWORD BY **LARRY PAGE**

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## LEADERSHIP AND SELF-DECEPTION

*Getting Out of
the Box*

THE **ARBINGER INSTITUTE**
Authors of *The Anatomy of Peace* and *The Outward Mindset*

# Self-Guided Learning



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NATIONAL BOOK AWARD WINNER

STAMPED FROM THE BEGINNING

The Definitive History of Racist Ideas in America



NEW YORK TIMES BESTSELLER

EVICTED

POVERTY AND PROFIT IN THE AMERICAN CITY

Winner of the PULITZER PRIZE

10 BEST BOOKS The New York Times Book Review 2016

MATTHEW DESMOND



WHERE DO WE GO FROM HERE

CHAOS or COMMUNITY?

MARTIN LUTHER KING, JR.

FOREWORD BY CORETTA SCOTT KING

# Emergency Medicine Board Certification

# Next Steps

**MetroHealth**

**Thanks For Listening!**