
Addressing Physician Burnout by Doubling Down on AI

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Chief Health Information Officer

Disclosures

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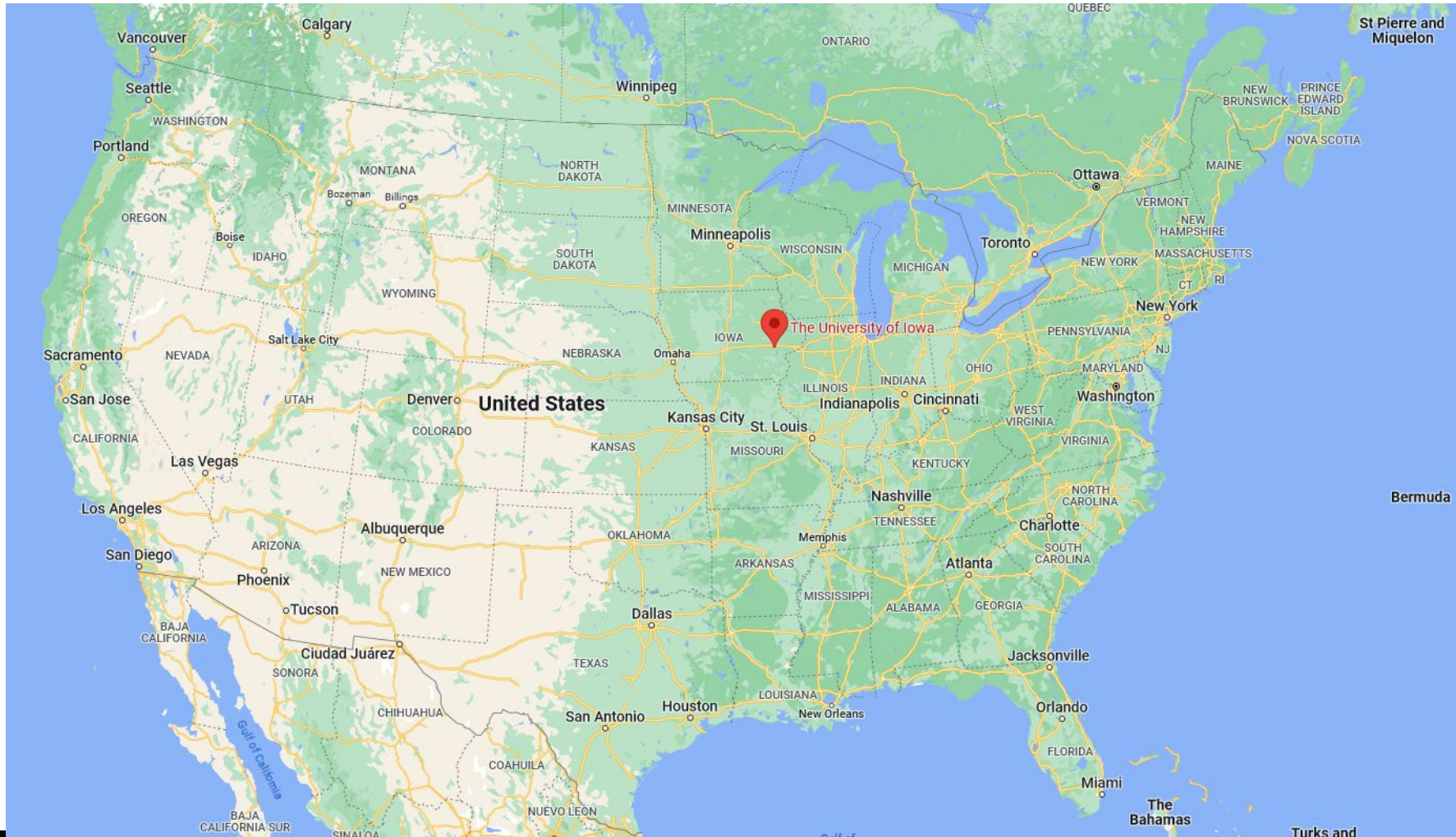
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About the University of Iowa

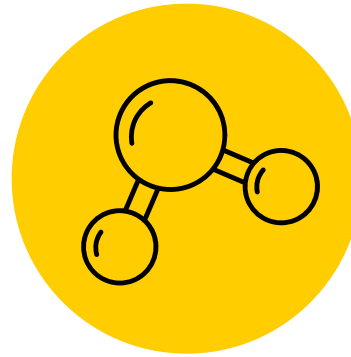


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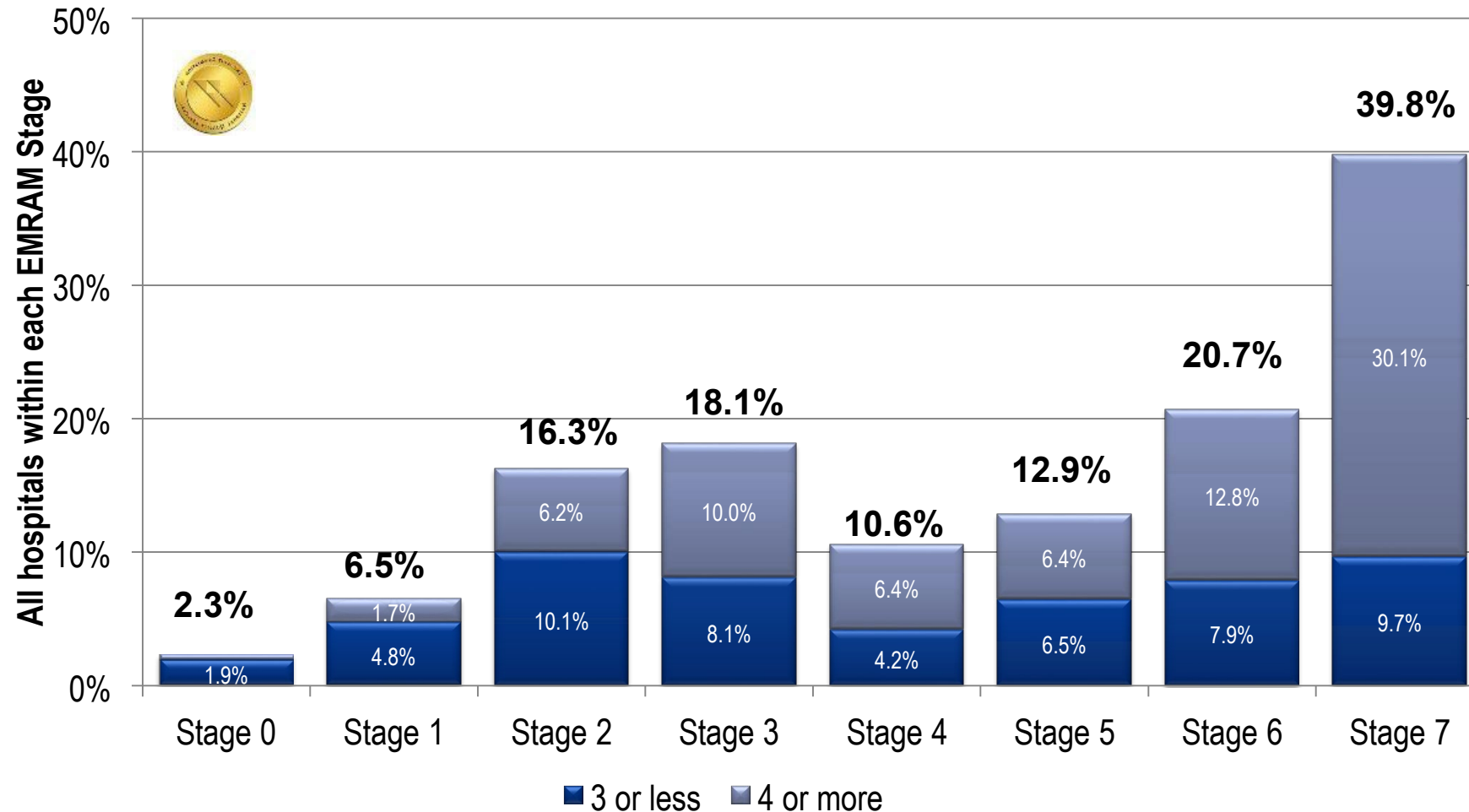
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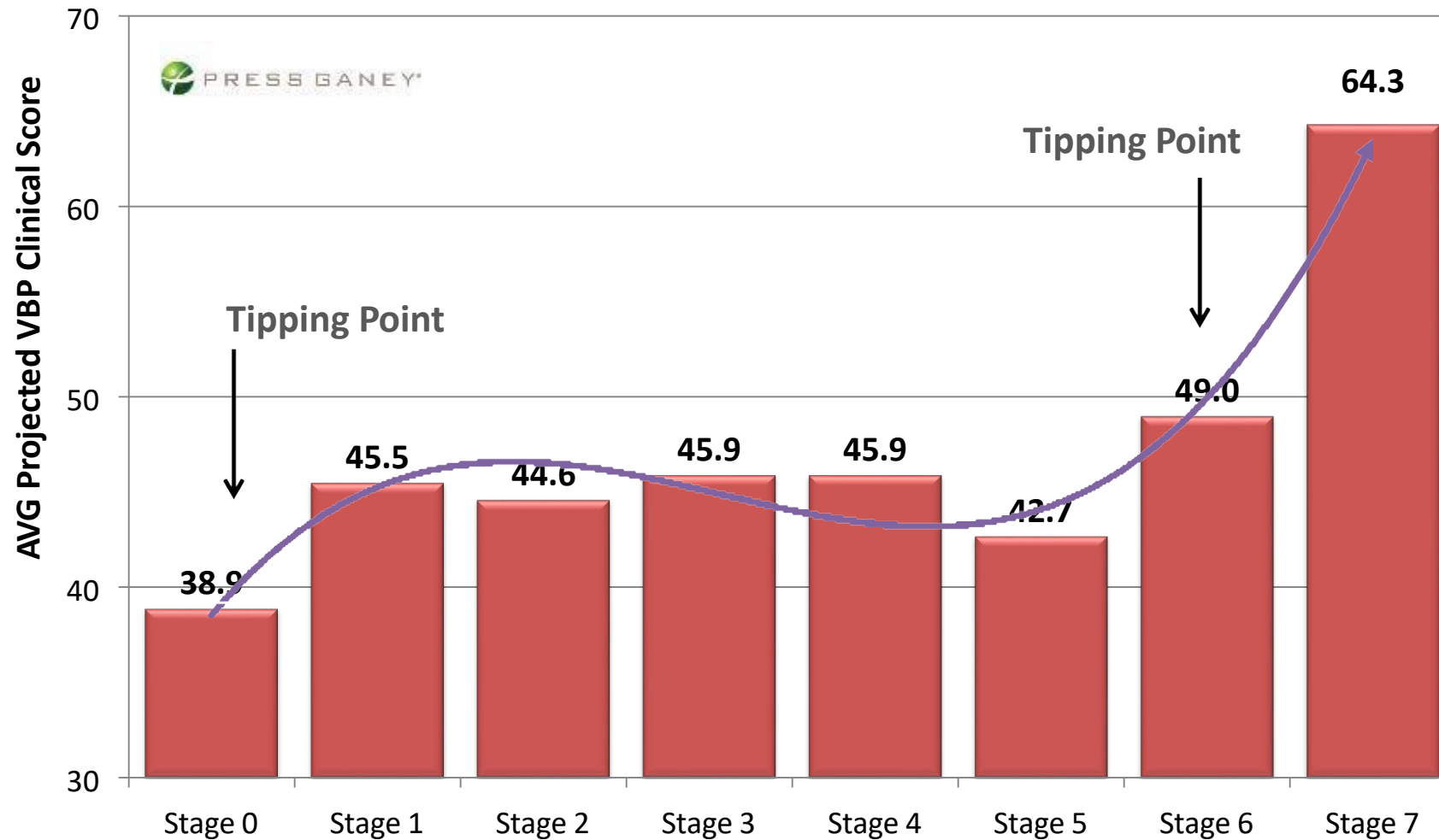
About the University of Iowa

- ~600,000 active patients
- ~56,000 primary care patients
- 1 University Hospital
 - 862 Beds
 - 672 Adult (88 adult ICU)
 - 190 Peds (24 peds ICU)
 - 35,000 Admissions
 - 36,000 Major surgeries
 - 53,000 Anesthetics
- 1 Community Hospital
 - 100 active beds
 - 15 ORs (6 active)
 - Community practice
- 1 Orthopedic Hospital
 - Faculty practice
 - 8 ORs
 - 32 Beds
 - 15 Bed ED

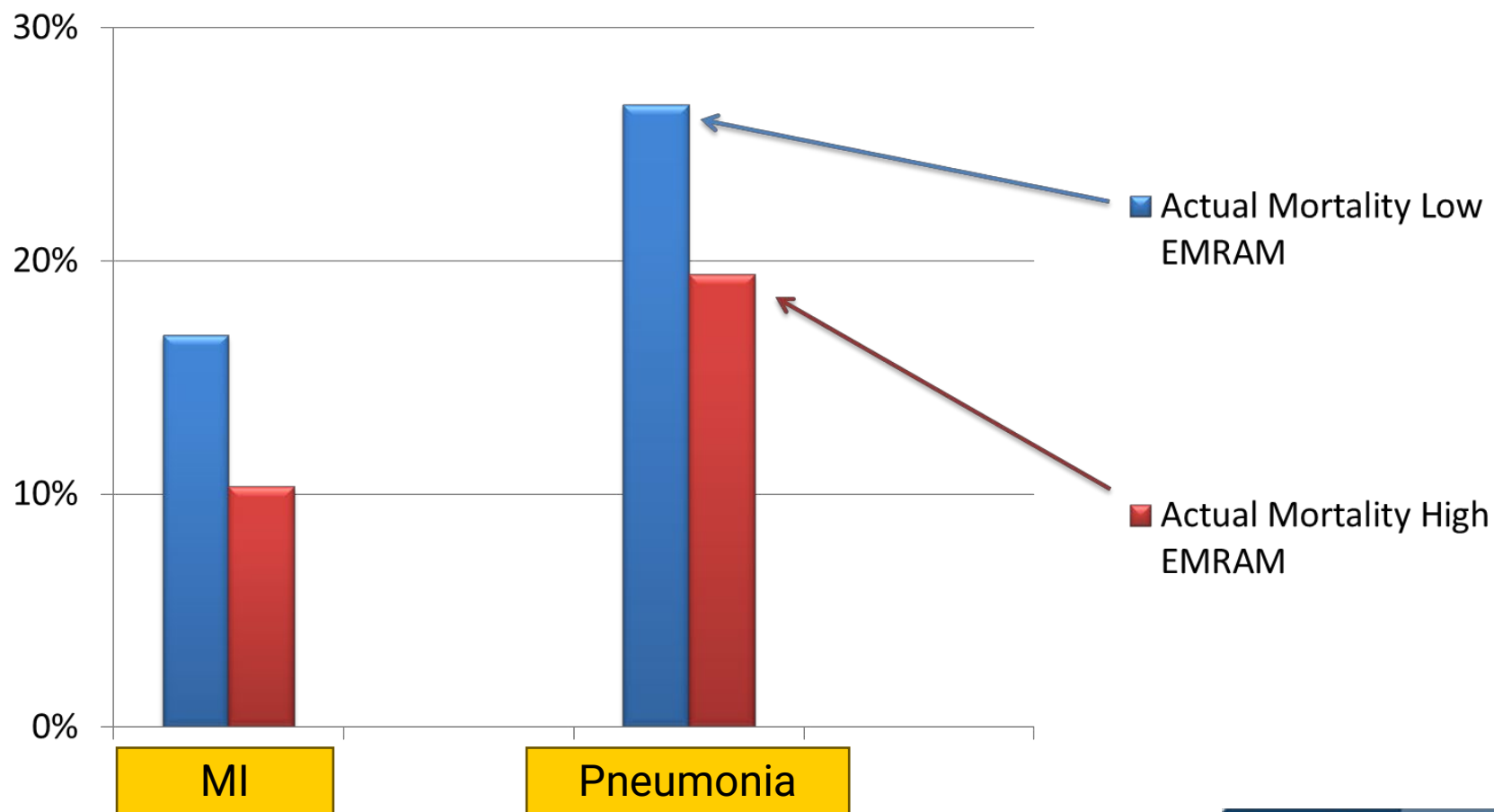
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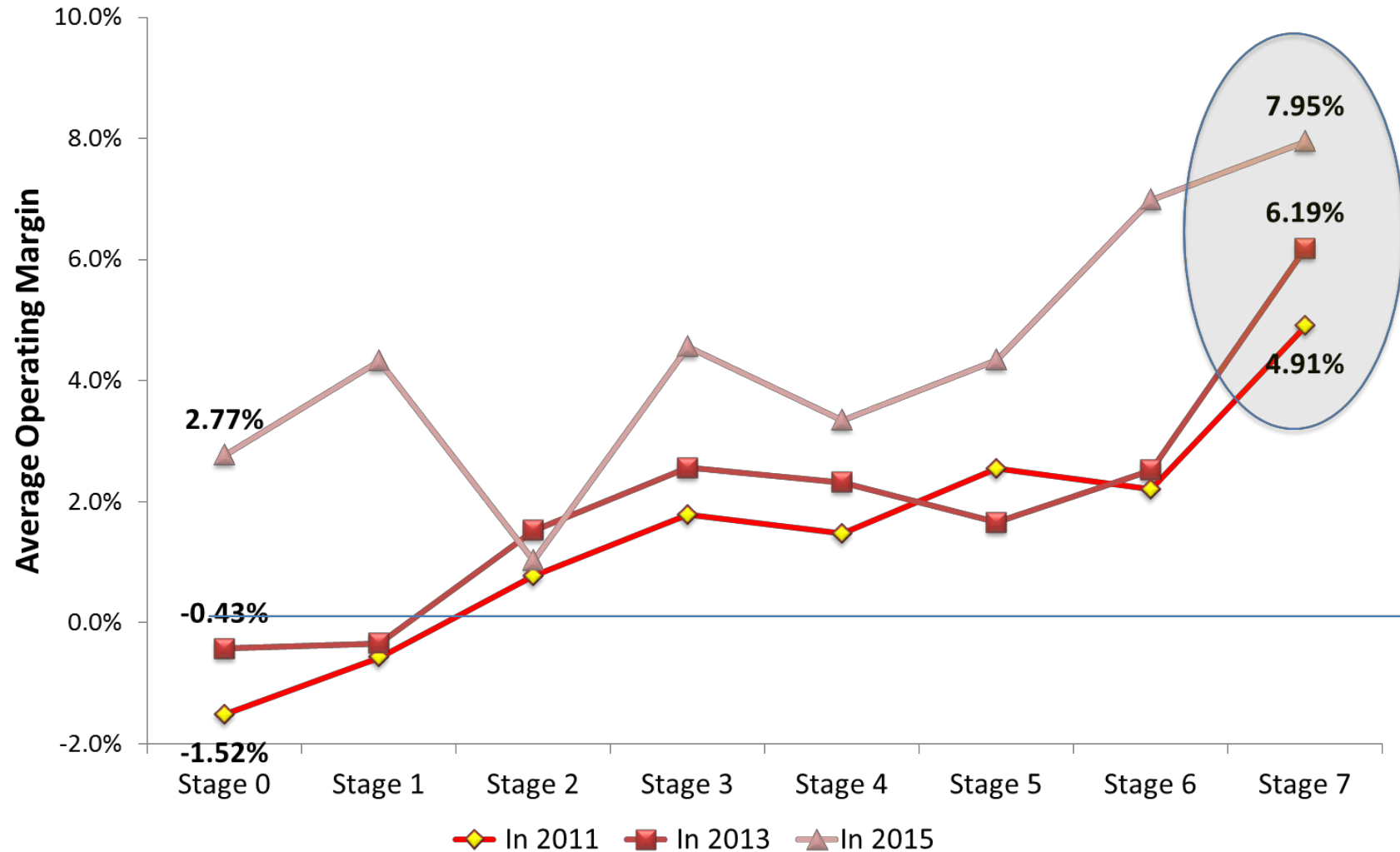


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Provider Burden

Journal of the American Medical Informatics Association Volume 12 Number 5 Sep / Oct 2005

505

Review Paper ■

The Impact of Electronic Health Records on Time Efficiency of Physicians and Nurses: A Systematic Review

LISE POISSANT, PhD, JENNIFER PEREIRA, MSc, ROBYN TAMBLYN, PhD, YUKO KAWASUMI, MSc

Abstract A systematic review of the literature was performed to examine the impact of electronic health records (EHRs) on documentation time of physicians and nurses and to identify factors that may explain efficiency differences across studies. In total, 23 papers met our inclusion criteria; five were randomized controlled trials, six were posttest control studies, and 12 were one-group pretest-posttest designs. Most studies (58%) collected data using a time and motion methodology in comparison to work sampling (33%) and self-report/survey methods (8%). A weighted average approach was used to combine results from the studies. The use of bedside terminals and central station desktops saved nurses, respectively, 24.5% and 23.5% of their overall time spent documenting during a shift. Using bedside or point-of-care systems increased documentation time of physicians by 17.5%. In comparison, the use of central station desktops for computerized provider order entry (CPOE) was found to be inefficient, increasing the work time from 98.1% to 328.6% of physician's time per working shift (weighted average of CPOE-oriented studies, 238.4%).

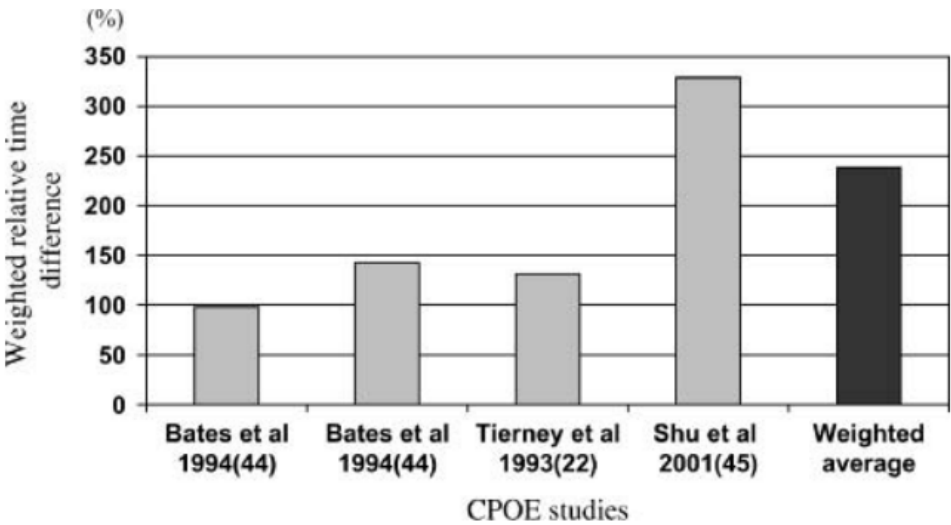


Figure 3. Reported relative time differences of the impact of computerized provider order entry (CPOE) use and weighted average of relative time differences across studies on CPOE.

Provider Burden

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Provider Burden

- The more you document
 - The more you get paid
 - The less your practice administrator/hospital will bother you
 - The fewer denied claims you will need to appeal



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Note Bloat Consequences and Solutions


By Stephani Scott In Evaluation Management October 3, 2022 Comments Off

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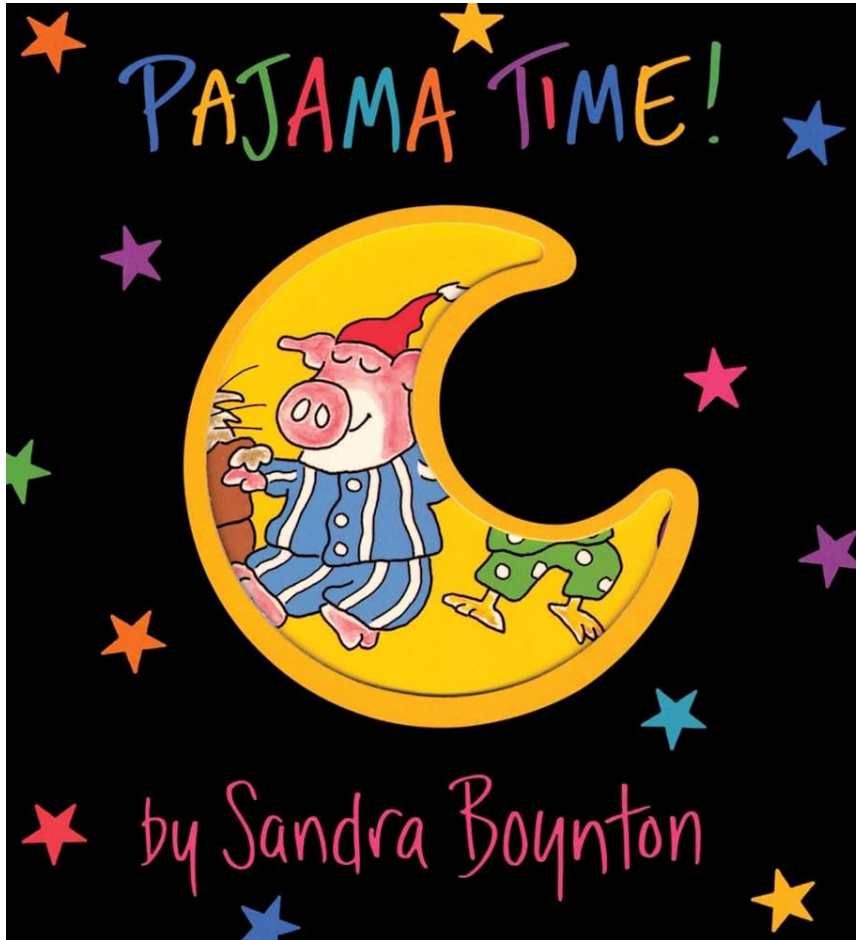


Lessen clinical documentation burdens and improve patient care.

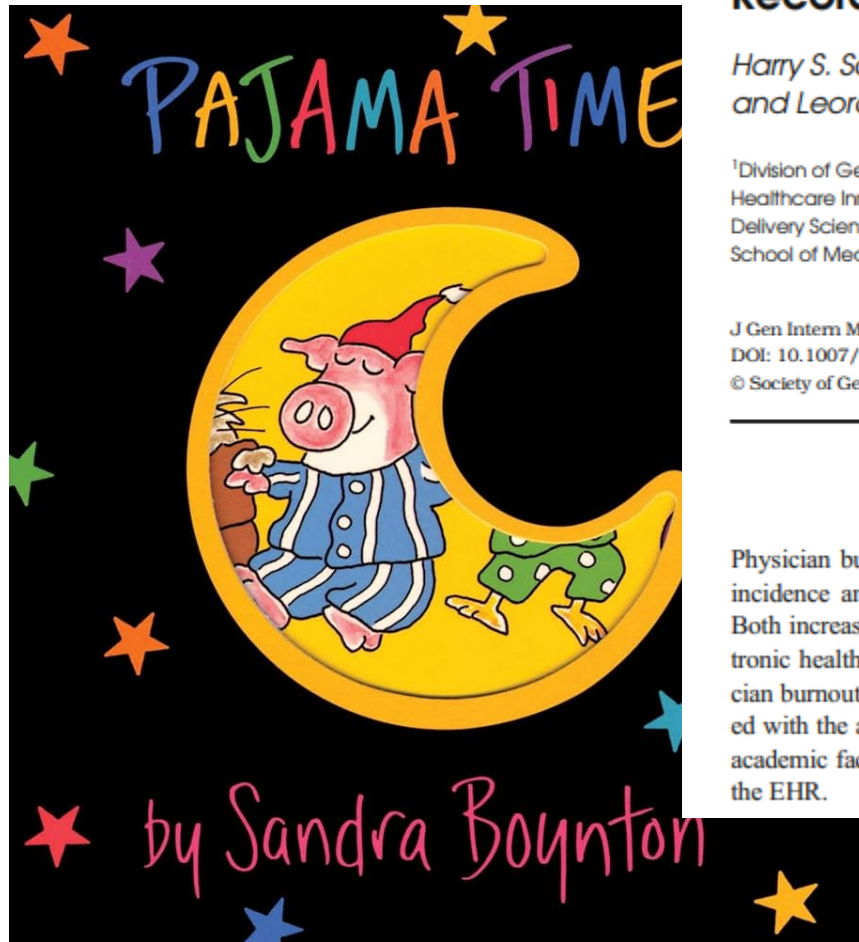
Physician practices are always busy, and any wasted time will impact revenue. Instituting an efficient, compliant clinical documentation process is a key component to making the best use of time. However, many practices have noticed an increase in note bloat in recent years.

Note bloat is not a gastrointestinal disease but rather a euphemism for when a healthcare provider's encounter note contains far too much irrelevant information. We began to see note bloat crop up with the implementation of electronic health record (EHR) systems. The use of templates, default text, drop-down lists, and copy-forward features make it too easy to add extraneous information into an encounter note.

Provider Burden



Provider Burden



Pajama Time: Working After Work in the Electronic Health Record

Harry S. Saag, MD^{1,2,3}, Kanan Shah, BS², Simon A. Jones, PhD^{2,4}, Paul A. Testa, MD, JD⁵, and Leora I. Horwitz, MD, MHS^{1,2,4}

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INTRODUCTION

Physician burnout is reaching pandemic levels, with highest incidence among primary care and emergency physicians.¹ Both increased clinical effort and excess time using the electronic health record (EHR) are known contributors to physician burnout.² We assessed whether clinical effort is associated with the amount of time ambulatory care physicians in an academic faculty group practice spend working after work in the EHR.

RESULTS

We obtained data on 573 physicians. The majority of physicians were in a medicine (52.4%) or surgery (20.9%) specialty (Table 1). The average physician had scheduled appointments on 3 days/week, spent 83.3 min in the EHR on days without appointments, and spent 17.3 min in the EHR after work hours on days with appointments. However, time spent working on the EHR on days without appointments increased as the number of appointment days per week increased (15.9 min/unscheduled day for ≤ 1 day/week vs. 170.4 min/unscheduled day [2.8 h] for > 4 days/week, $p < 0.001$), as did time spent on the EHR after hours on days with scheduled appointments (17.4 min/appointment-day for ≤ 1 day/week vs. 22.0 min/appointment-day for > 4 days/week, $p = 0.03$) (Table 2).



Factors Affecting Physician Professional Satisfaction and Their Implications for Patient Care, Health Systems, and Health Policy

*Mark W. Friedberg • Peggy G. Chen • Kristin R. Van Busum • Frances M. Aunon
Chau Pham • John P. Caloyeras • Soeren Mattke • Emma Pitchforth
Denise D. Quigley • Robert H. Brook • F. Jay Crosson • Michael Tutty*

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Using an electronic health record
interferes with patient-doctor
communication during face-to-face
clinical care



I receive an overwhelming number
of electronic messages in this
practice



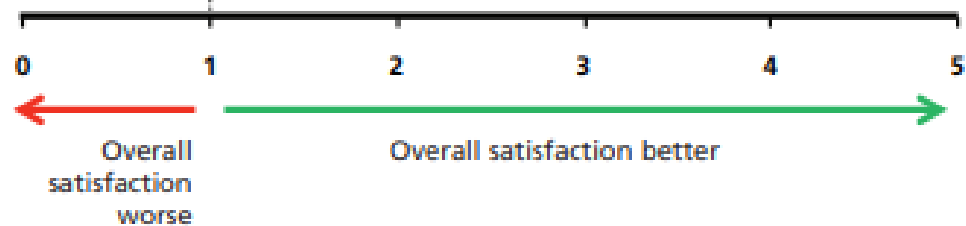
Based on my experience to date, I
prefer using paper medical records
instead of electronic records



When I am providing clinical care,
our electronic health record slows
me down



Adjusted odds ratio



However, there was hope...

- Physicians Express Optimism About EHR Development in the Long Term. Almost universally within our study sample, physicians reported support for EHRs in concept. Some physicians hoped that future developments in **artificial intelligence and health information exchange** would solve problems with current EHRs.

Through standardized surveys and benchmarking, healthcare organizations collaborate to uncover best practices and move the needle in healthcare IT.

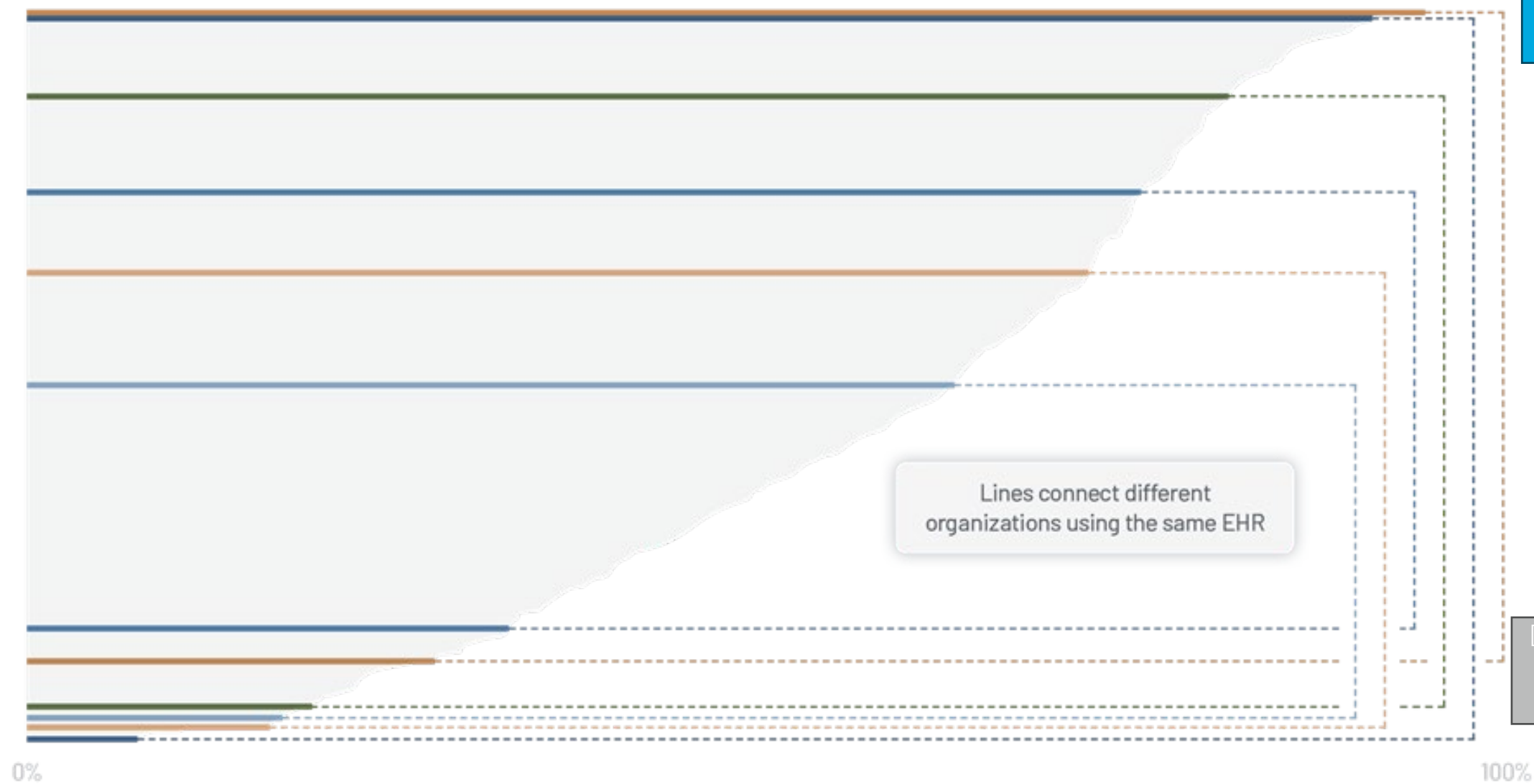
Factors to consider when understanding Arch Collaborative data:

- Customers opt in to measure clinicians' EHR satisfaction
- Customers choose which end users they survey and when
- EHR Experience Survey is 40+ questions
 - EHR technology
 - Organization/IT delivery
 - Burnout rates and likely turnover
 - Epic, Oracle, MEDITECH, athenahealth and more



Percent of Providers Who Are Satisfied

n=62,175 providers from 279 organizations: each bar is an EHR deployment with >20 responses



What are these organizations doing....

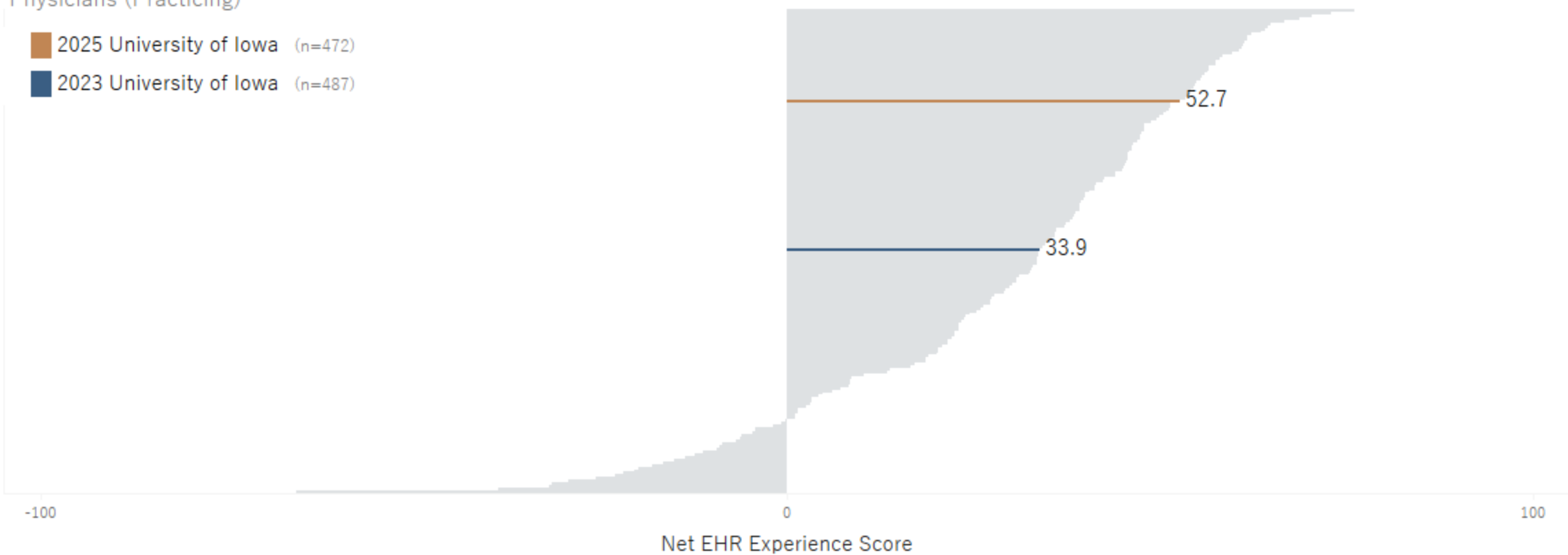
Differently from these organizations?

Net EHR Experience Score

Physicians (Practicing)

2025 University of Iowa (n=472)

2023 University of Iowa (n=487)

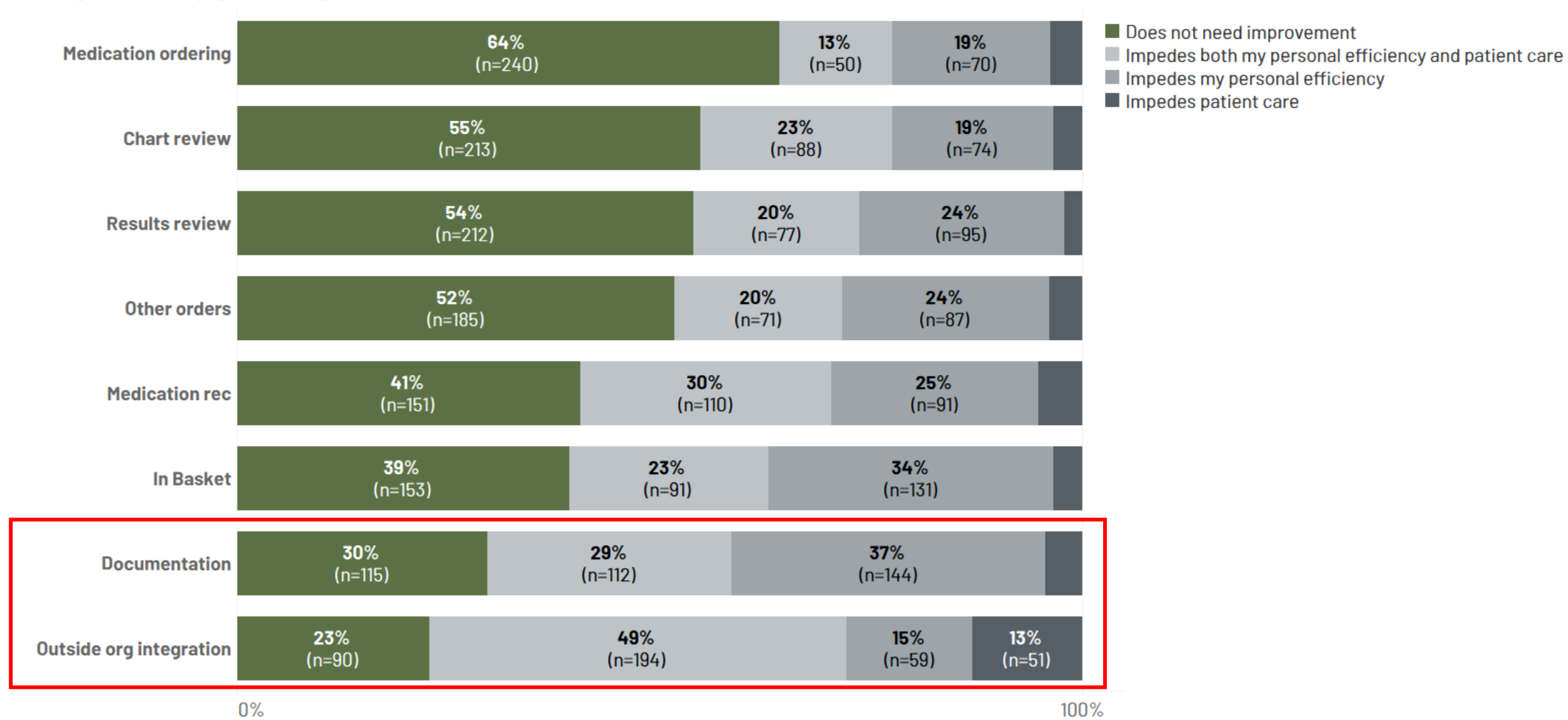


The Iowa Approach to EHR Improvement

- Focus on our two greatest problems

Areas That Impede Personal Efficiency and/or Patient Care

University of Iowa 23; physicians only



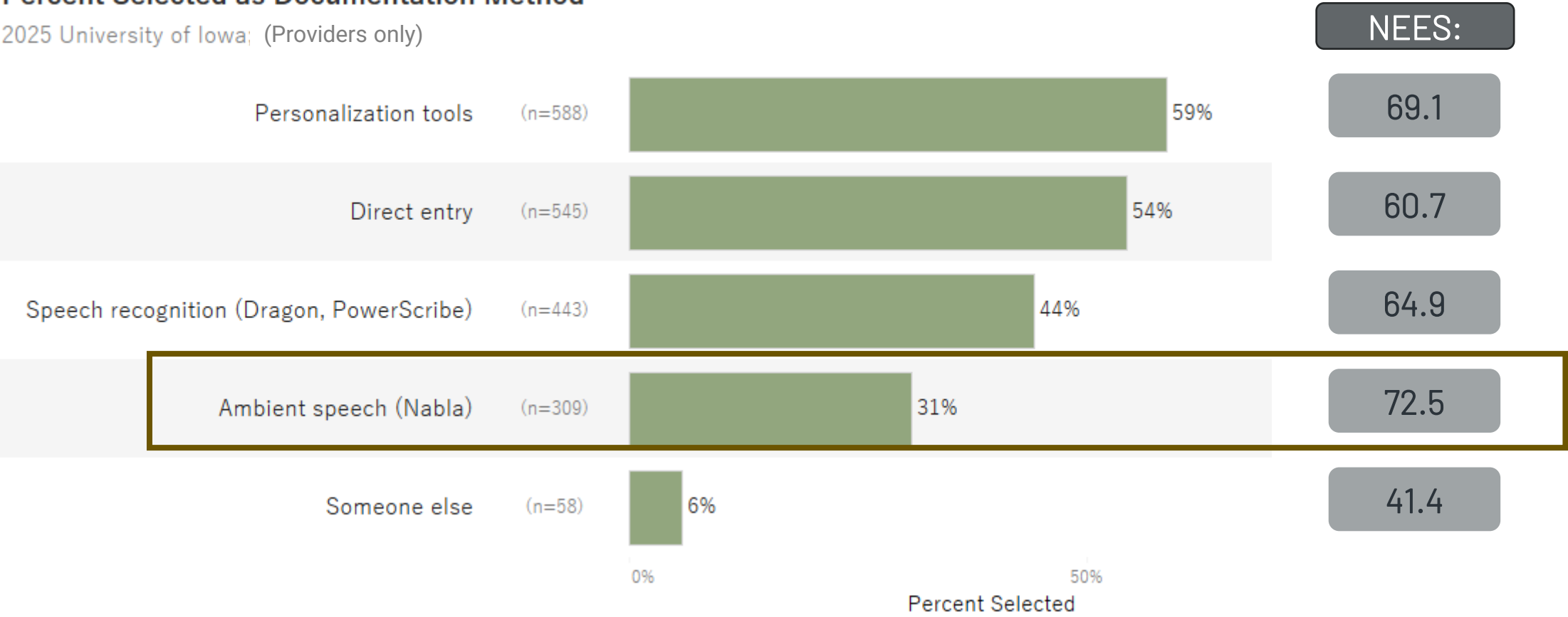
The Iowa Approach to EHR Improvement

- Focus on our two greatest problems
- Doubled down on AI investments
 - Ambient documentation (Nabla)
 - Chart mining tool (Evidently)

Those using ambient speech have the highest satisfaction.

Percent Selected as Documentation Method

2025 University of Iowa; (Providers only)



Impact is notable across the population

252 Research Article

The Effect of Ambient Artificial Intelligence Notes on Provider Burnout

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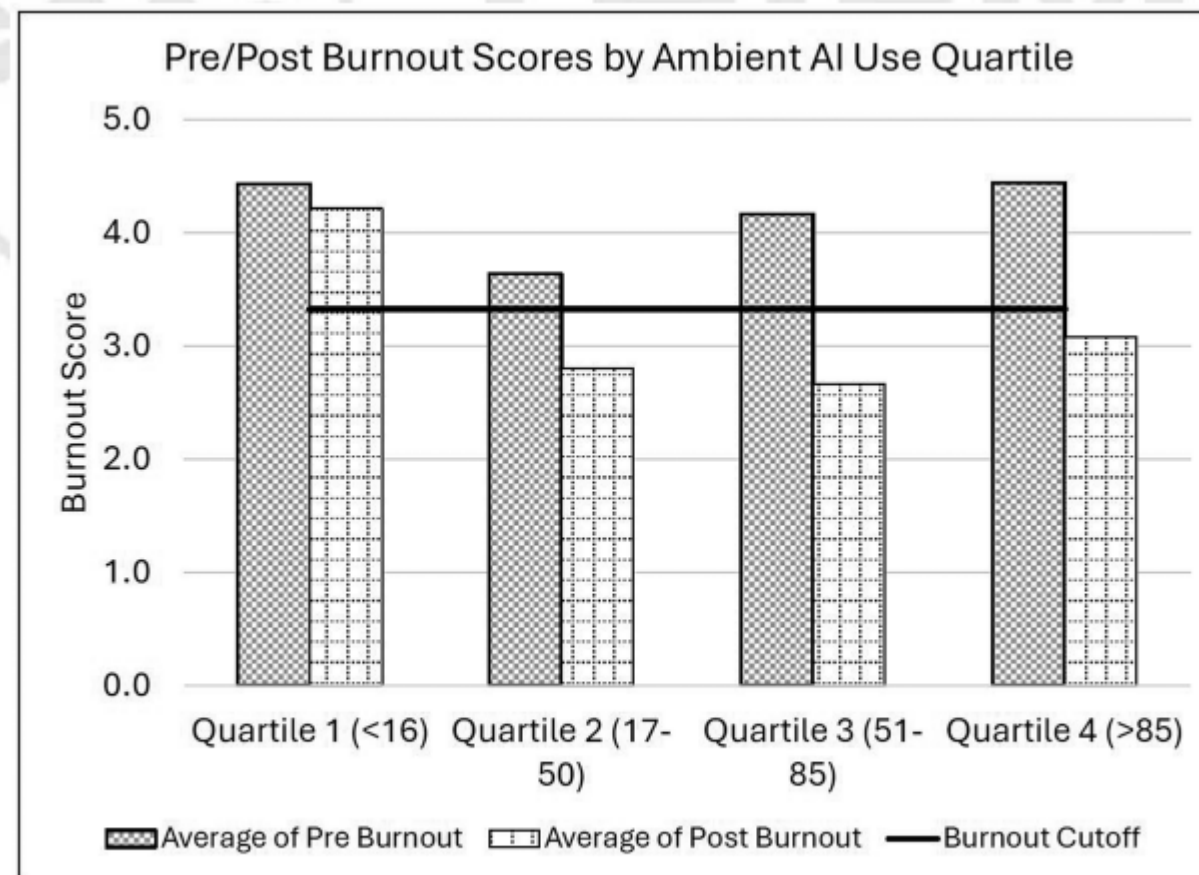
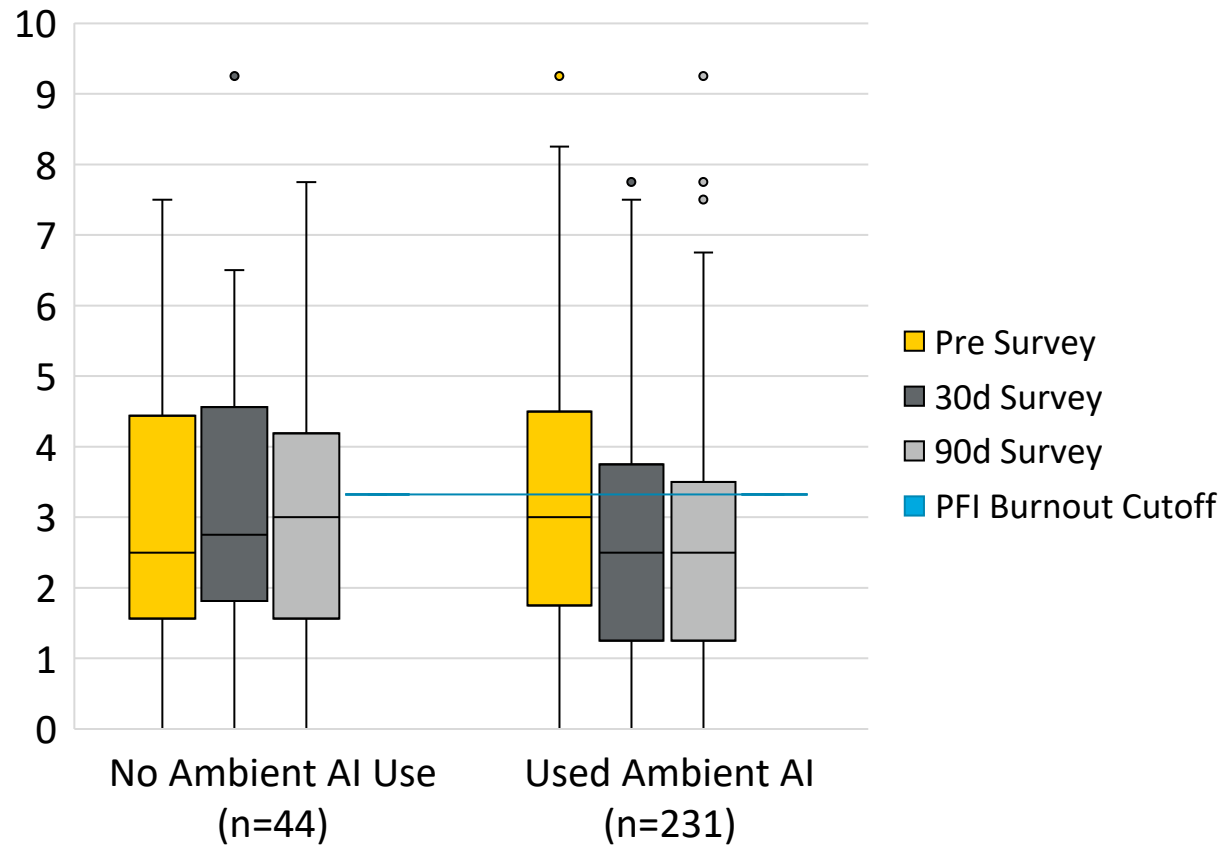


Fig. 2 Pre- and postintervention burnout scores subdivided by use quartile (number of visits where ambient artificial intelligence [AI] was used), scaled on 10-point scale. Cut-off for burnout using this scale is 3.325.²

Impact is notable across the population

PFI Score - Overall Burnout



Vitals

BP – 21:00

160/82

HR – 11:01

82

17

SpO₂ – 08:06

95.0 %

Temp – 04:00

36.5 °C

123.0 kg

Vitals last updated <1min ago

View the most recent vitals.
Refresh with one click.

Highlights

Code Status

Full Code (5/29/25)

DPOA & ACD

Power of Attorney (5/25/25) and Advanced Care Directive (5/25/25)

Ejection Fraction

67.59 % (4/12/18)

Medicare & Physical

Not Found

Immune Risk

Not Found

SDOH

Tobacco Use (2025)

Pregnancy Test

Not Found

Pending Orders

12 Inpatient, 5 Outpatient

Summaries

AI Summaries

Copy

General Patient Overview

Patient is a 60-year-old male with history of HTN, MI, ischemic stroke, psoriasis, T2DM, COPD, OSA, liver cirrhosis secondary to NASH, and complicated UTIs; he underwent partial gastrectomy for GIST, C3-C5 ACDF, and lumbar drain placement, and was scheduled for tracheostomy.

> Based on evidence as of 18hr ago – Show sources

Last 24h Hospital Course

In the past 24 hours, the patient exhibited increased work of breathing and difficulty speaking, leading to a palliative care consult. Laboratory results revealed worsening anemia (hemoglobin 8.2 g/dL, hematocrit 25%), hyperkalemia, and elevated creatinine (3.59 mg/dL) and BUN (103 mg/dL). The patient remains intubated and on a ventilator, with a tracheostomy and PEG tube in place.

> Based on evidence as of Today – Show sources

+ Create Custom AI Summary

AI Summaries

Copy

Current Encounter - Medical Center University - Emergency Department, Medical Center Uni...

The patient was admitted for cervical myelopathy due to severe spinal stenosis. A C3-4 anterior cervical discectomy and fusion (ACDF) was performed, followed by a revision ACDF. Post-operatively, the patient experienced respiratory failure, requiring intubation, tracheostomy, and a percutaneous endoscopic gastrostomy (PEG) tube placement; the patient is currently being weaned from the ventilator.

> Based on evidence as of Today – Show sources

View Encounter →

Last Finished Inpatient/ED Encounter - Medical Center University - Emergency Department...

The patient was admitted for altered mental status, and during the hospital course, a stroke workup was negative, and continuous EEG was discontinued. Encephalopathy was suspected due to polypharmacy and/or hypercapnia, leading to extubation and initiation of CPAP. Psychiatric medications were adjusted, and the patient was discharged in stable condition.

> Based on evidence as of 3y ago – Show sources

Last Office Visit - Medical Center University - Dermatology - Elizabeth H Cusick, MD

Patient presented for follow-up of psoriasis vulgaris and hyperkeratosis of the bilateral lower extremities. The patient reported no change in the appearance of lesions, despite continued use of prescribed creams. Treatment was adjusted to include over-the-counter urea cream and continued use of clobetasol and calcipotriene, with ketoconazole discontinued; follow-up was scheduled in 4-6 months.

can you write a discharge summary for this patient?

✦ Discharge Summary

Patient Name: [Patient Name]

Medical Record Number: [MRN]

Date of Admission: [REDACTED]

Date of Discharge: [REDACTED]

1. Reason for Admission:

The patient was admitted with new onset right upper extremity and right lower extremity weakness, radiculopathy, nausea, vomiting, and headache. Evaluation revealed cervical myelopathy secondary to severe spinal canal stenosis at C3-C4.

2. Diagnoses on Discharge:

- Cervical Myelopathy secondary to Spinal Stenosis

Ask Evidently...

📎 Attach Note

Responses based on data last updated 2hr ago

Clear Chat

Expand Chat



can you draft the update message at a 12th grade reading level?

✦ Dear [Wife's Name],

I am writing to provide you with an update regarding [Patient's Name]'s condition. He remains hospitalized and is currently receiving ventilatory support due to post-operative respiratory complications. His overall condition is stable but necessitates ongoing intensive medical management.

As you know, Mr./Ms. [Patient's Name] underwent a C3-C5 anterior cervical discectomy and fusion (ACDF) to address severe cervical myelopathy resulting from spinal stenosis. Unfortunately, post-surgical complications have arisen, requiring continued respiratory assistance and close monitoring.

Given the complexities of his current medical status, Mr./Ms. [Patient's Name] is unable to return to work. The duration of his convalescence is uncertain at this juncture, as it is contingent upon his response to treatment and subsequent rehabilitation. We will continue to assess his progress and provide you with updates as they become available.

We appreciate your unwavering support and understanding during this challenging period. Please do not hesitate to contact us should you require further clarification or have any questions.

Sincerely,
[Your Name]
Medical Team

can you draft an update at a 5th grade reading level?

✦ Hi [Wife's Name],

I wanted to tell you how [Patient's Name] is doing. He's still in the hospital. He's having a hard time breathing, so he's using a machine to help.

He had an operation on his neck, but now he needs more help to get better. It will take a while.

He can't go back to work now. He needs to rest and get special care from the doctors and nurses. We don't know when he can go back to work, but we will tell you when we know.

Thank you for helping him. We are helping him get better.

From,
[Your Name]
The Doctors and Nurses

What did we avoid?

- Complex launch of new software
- Selecting “winners and losers”
- Epic for on-line assistance
- Required classes
- Influx of FTE for support

Lessons Learned

- Determine your key measure and address those elements
- The adage of “people, process, then technology” does not always apply
- Less is more in some implementations
- While technology fixes some EHR ills, it does not fix your organization

Thank you.

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