AMDIS 2023
KLAS Arch Collaborative

KLAS is entirely dedicated to improving healthcare by providing **accurate**, **honest**, and **impartial** insights that move the market.

3,100 — **Healthcare customer executives** (VP and C-Level) who actively participate by sharing their experiences. They also benefit from accessing KLAS data and reports.

5,400+ — **Healthcare organizations worldwide** represented in the KLAS data through the participation of their employees each year who share their voices and experiences.

20,000+ — **Interviews** conducted each year. Over 90% are person-to-person interviews with current customers.

900+ — **Healthcare IT products and services** measured by KLAS.

420+ — **Vendors** measured and highlighted in KLAS reports.

27,839 — **Downloads** of KLAS specialty reports published last year by healthcare customers. Average of 400–500 healthcare customer downloads per report.

28 — Members of the **KLAS Advisory Board**
CLICK HERE *to see complete list of Advisory Board Members*

Research focus is on the customer experience.

Vendors receive guidance.

KLAS insights assist organizations.

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Do you agree that your EHR enables you to deliver high-quality care?

Wide Disparity in EHR Experience Among Clinical End Users

**Percent of Providers Who Agree Their EHR Enables Quality Care**

n = 48,181 providers from 241 organizations: each bar is an EHR deployment with >20 responses

Lines connect different organizations using the same EHR

0%   100%
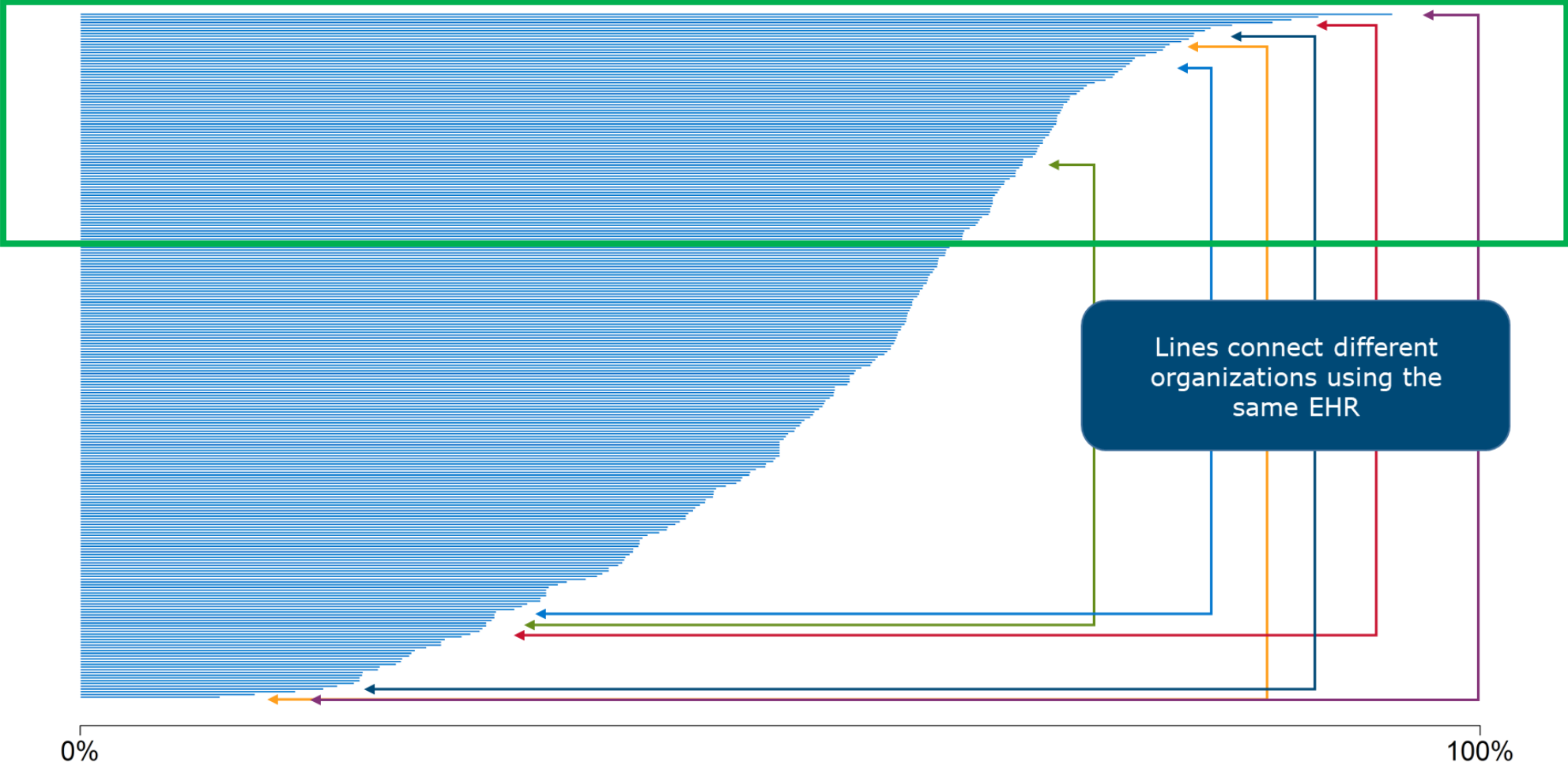
Where Does Variation in EHR Experience Come From?

Stakeholder Impact on Net EHR Experience Score[†]

Percent of variation in satisfaction that is attributable to each EHR stakeholder; all Collaborative respondents

- Individual user
- EHR vendor
- Organization/IT

21%

46%

33%

(n= 237,287)

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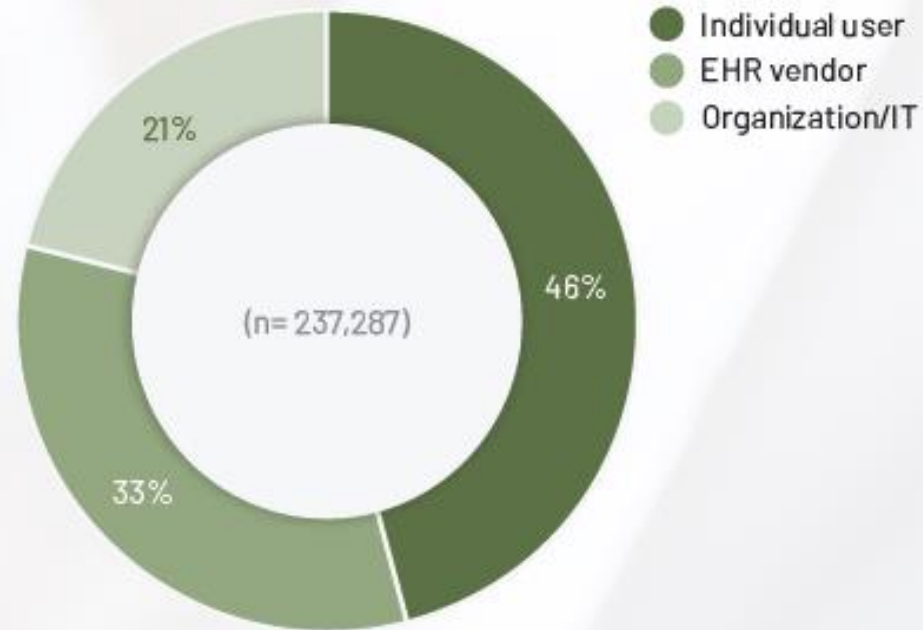
What Makes a Successful User?

Strong user mastery

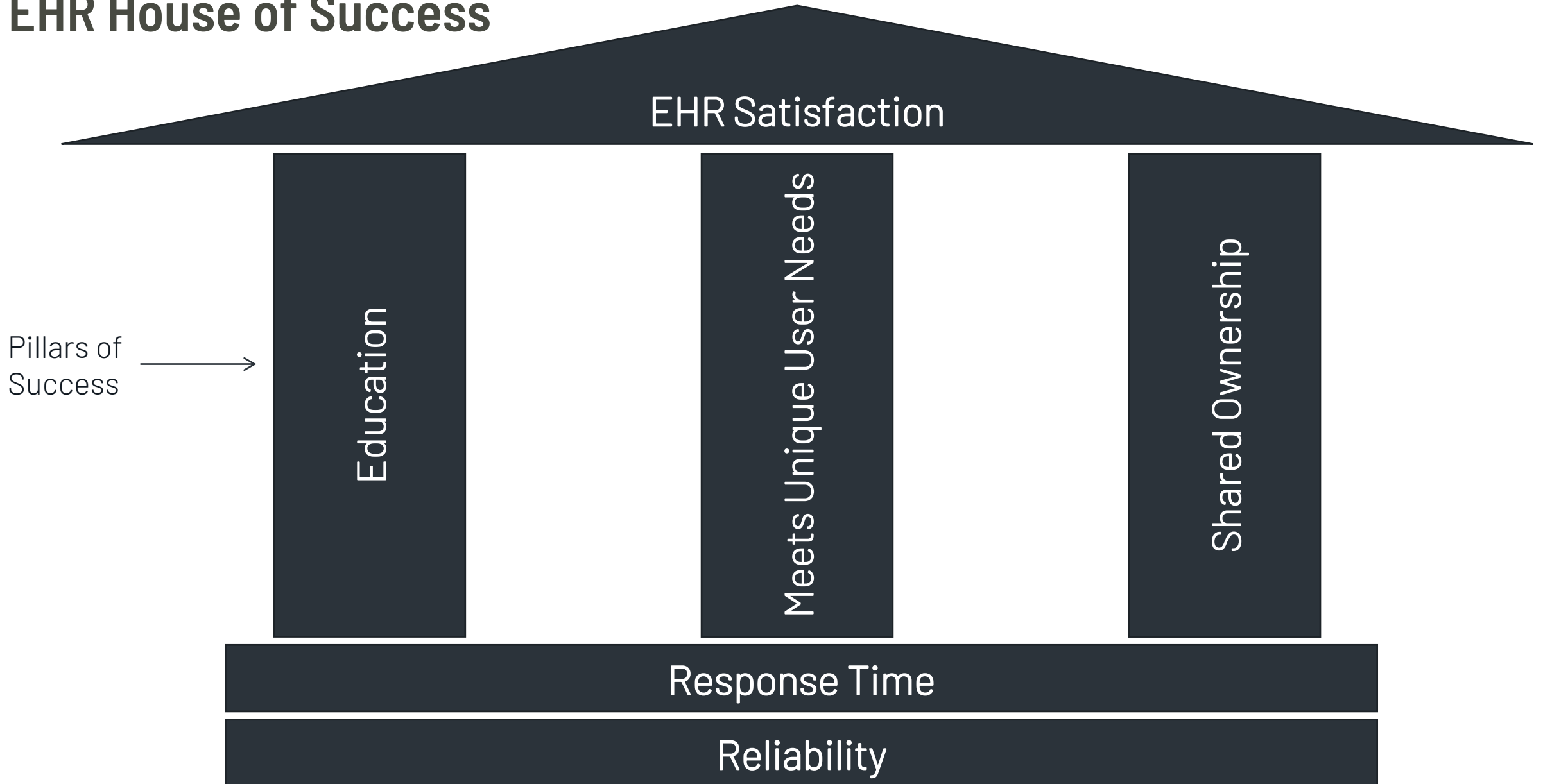I am confident in my ability to use this EHR effectively and efficiently.

Successful user

EHR meets unique needs

We have gotten this EHR to a great place where it meets my specific needs. I have taken the time to make sure it works how I need it to.

Shared ownership

I feel that I have the ability to influence the team that shapes this EHR. My voice is heard, and I am seeing progress as we shape this into a successful solution.

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EHR House of Success

EHR Satisfaction

Pillars of Success →

Education

Meets Unique User Needs

Shared Ownership

Response Time

Reliability

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What Is the KLAS Arch Collaborative?

The Arch Collaborative is a provider-led effort to unlock the potential of EHRs in revolutionizing patient care. Through standardized surveys and benchmarking, healthcare organizations collaborate to uncover best practices and move the needle in healthcare IT.

Measurement and Benchmarking

- **300+** healthcare organizations measuring to date
- **400,000+** clinicians participating
- **13** countries
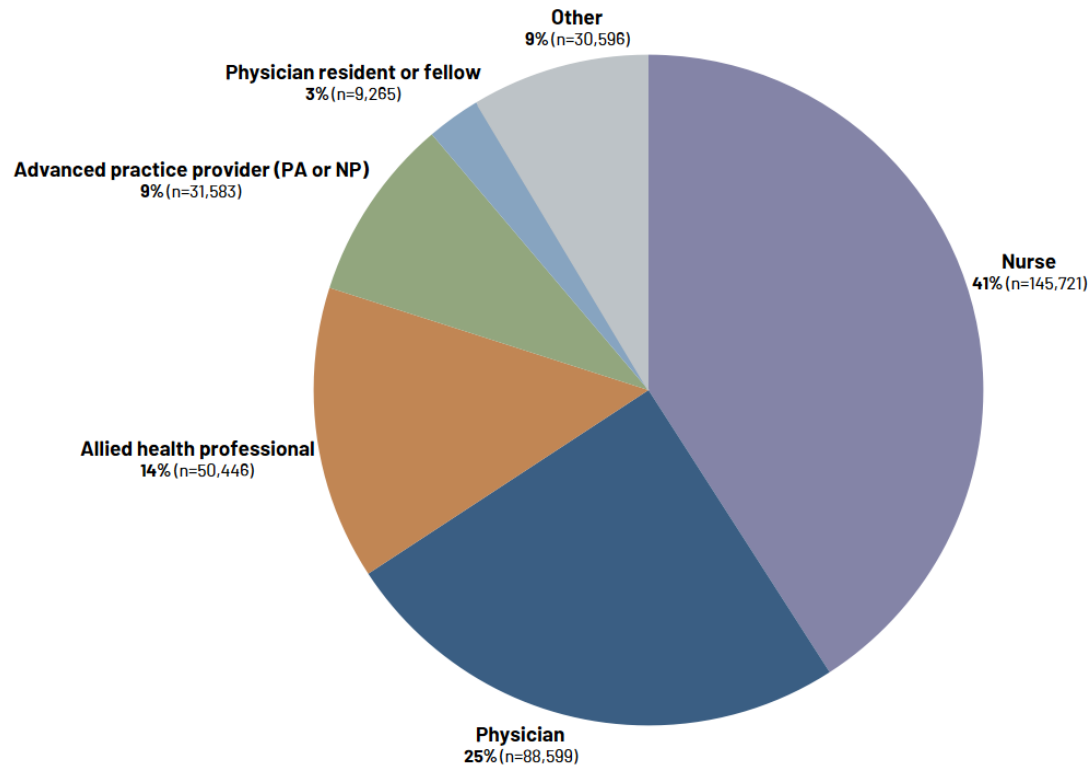- **40** questions
- **12** minutes

Collaboration

- **125+** case studies of high-performing organizations
- **50+** best practice reports
- **100+** webinars
- Annual Learning Summit
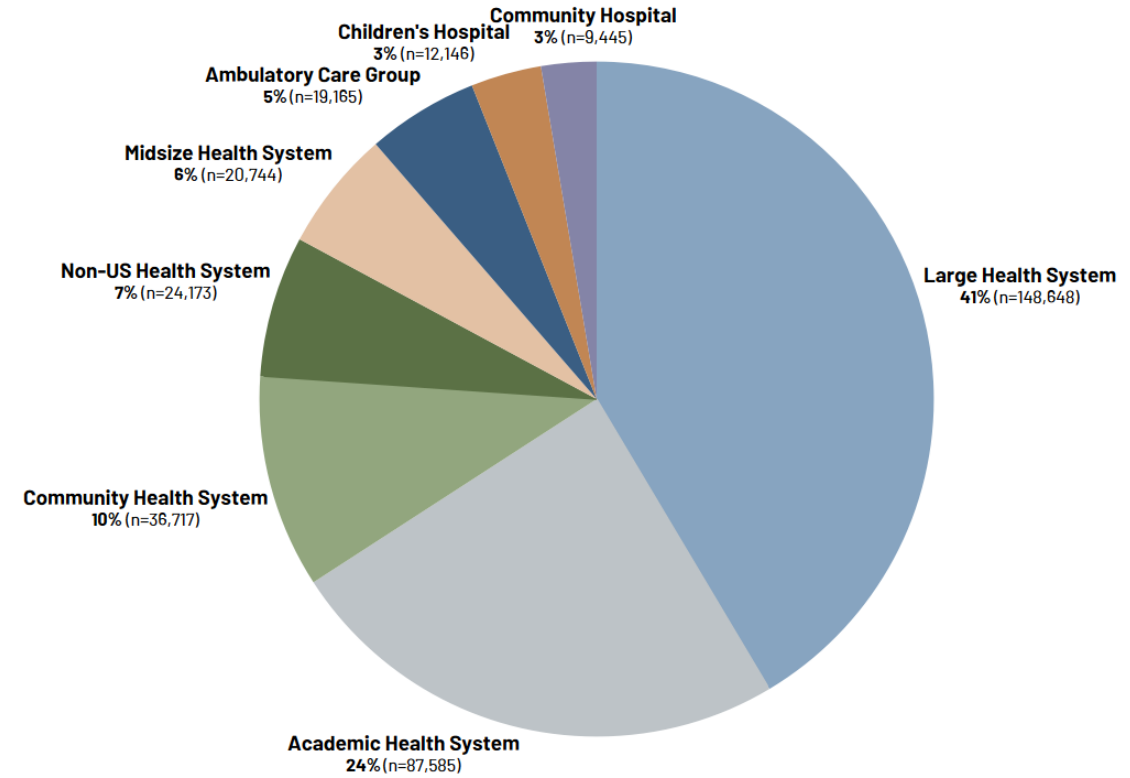- Arch Collaborative CMIO
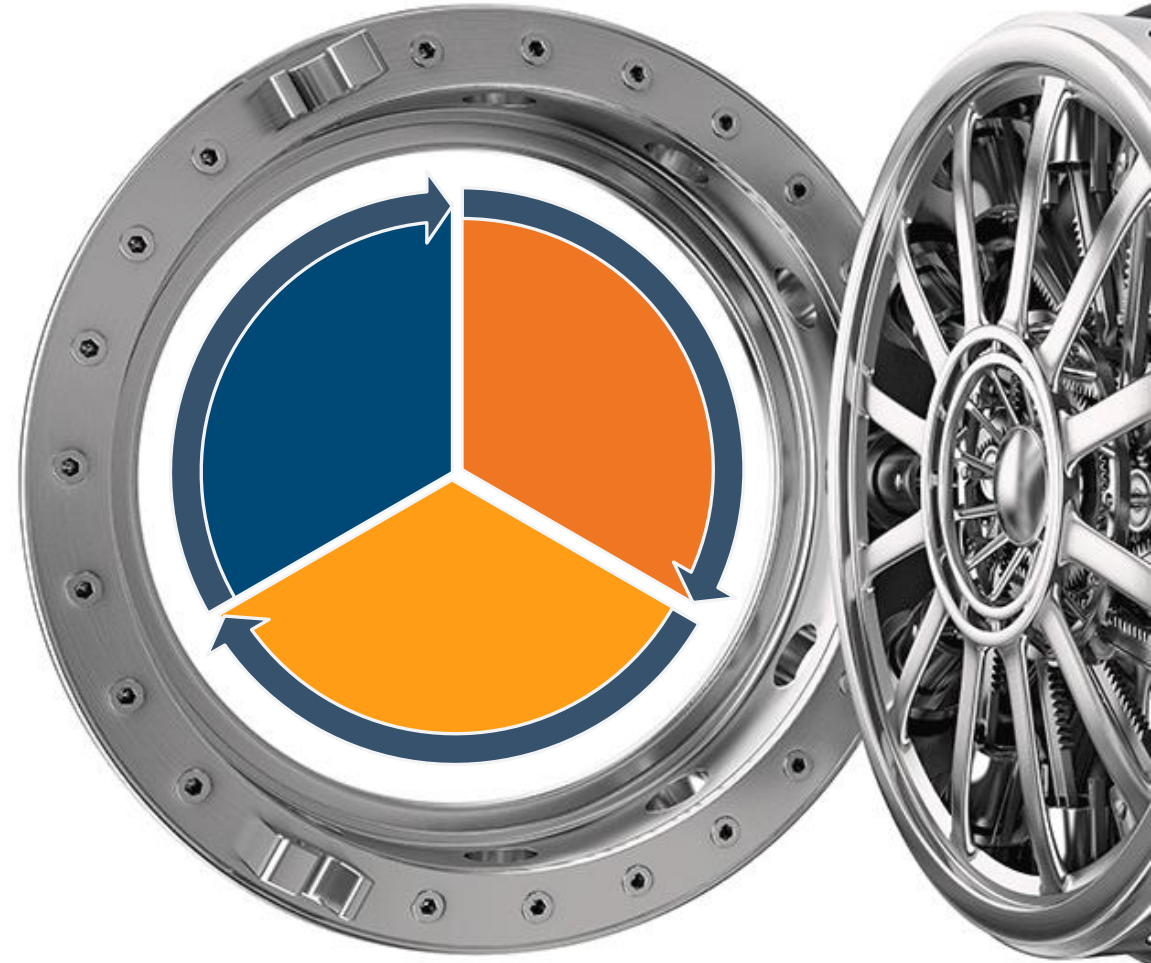
KLAS Arch Collaborative Respondents Span Clinical Backgrounds & Organization Types

Respondent Clinical Background

Other
9% (n=30,596)

Physician resident or fellow
3% (n=9,265)

Advanced practice provider (PA or NP)
9% (n=31,583)

Nurse
41% (n=145,721)

Allied health professional
14% (n=50,446)

Physician
25% (n=88,599)

Respondent Organization Type

Children's Hospital
3% (n=12,146)

Community Hospital
3% (n=9,445)

Ambulatory Care Group
5% (n=19,165)

Midsize Health System
6% (n=20,744)

Non-US Health System
7% (n=24,173)

Large Health System
41% (n=148,648)

Community Health System
10% (n=36,717)

Academic Health System
24% (n=87,585)

KLAS
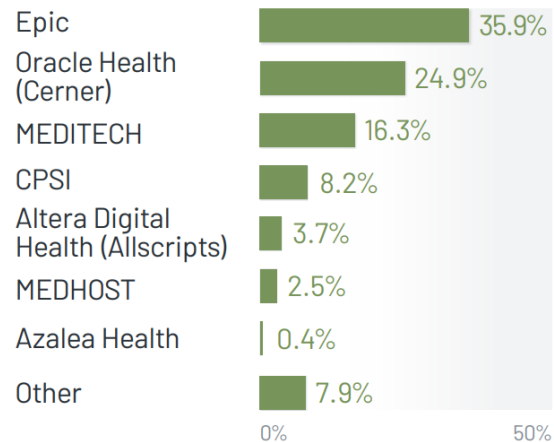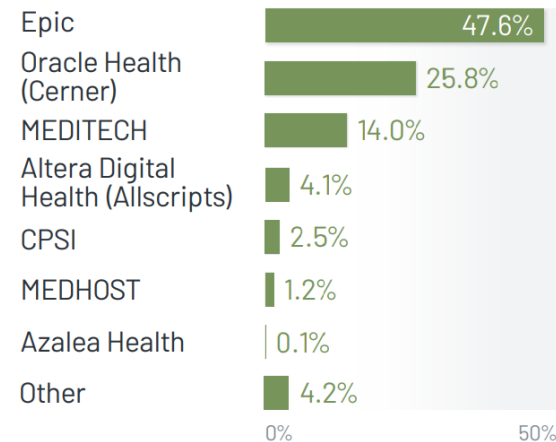RESEARCH

Collaborative EHR Demographics Follow Trends in EHR Market Share

2022 US Acute Care Market Share

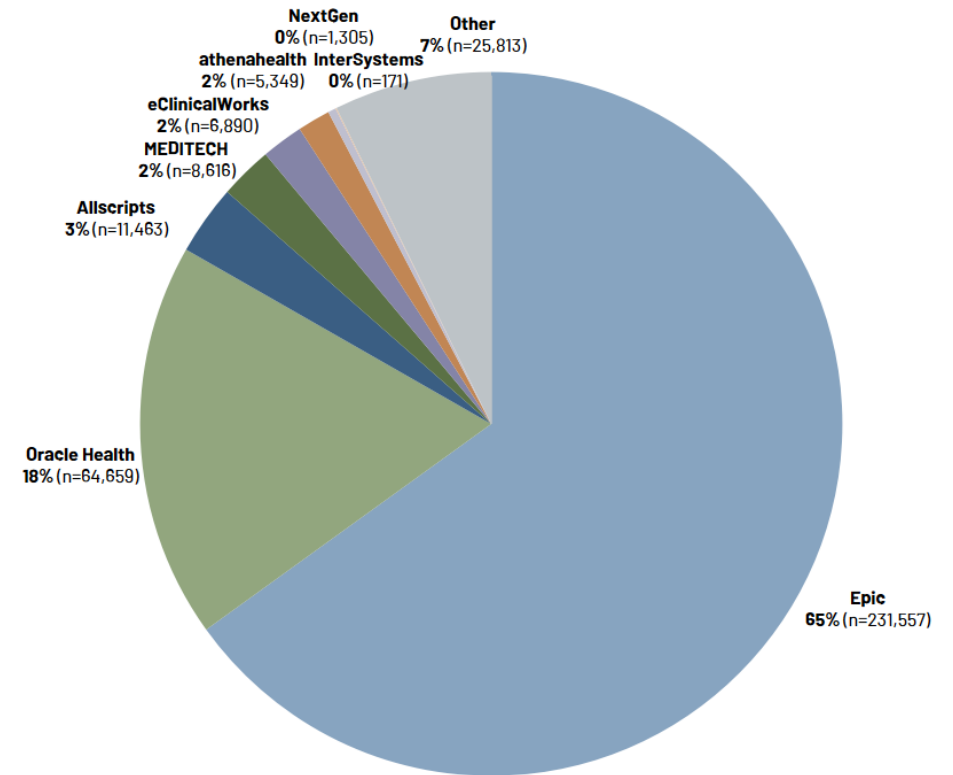### Percent of hospitals (n=5,472 acute care hospitals)

Vendor	Percent
Epic	35.9%
Oracle Health (Cerner)	24.9%
MEDITECH	16.3%
CPSI	8.2%
Altera Digital Health (Allscripts)	3.7%
MEDHOST	2.5%
Azalea Health	0.4%
Other	7.9%

0% — 50%

Percent of beds (n=886,868 acute care beds)

Vendor	Percent
Epic	47.6%
Oracle Health (Cerner)	25.8%
MEDITECH	14.0%
Altera Digital Health (Allscripts)	4.1%
CPSI	2.5%
MEDHOST	1.2%
Azalea Health	0.1%
Other	4.2%

0% — 50%

Note: Due to rounding, charts do not total to 100%. Percentages are estimates. Changes in percentages from year to year may include additional adjustments (hospital closures, canceled contracts, other historical corrections, etc.) other than the wins/losses that occurred specifically in 2022. For example, Epic's wins were undercounted in past years' reports, as the vendor doesn't require customers to sign contracts for add-ons or for the Community Connect model. See About This Report for more information.

Respondent Primary EHR

- NextGen 0% (n=1,305)
- Other 7% (n=25,813)
- athenahealth 2% (n=5,349)
- InterSystems 0% (n=171)
- eClinicalWorks 2% (n=6,890)
- MEDITECH 2% (n=8,616)
- Allscripts 3% (n=11,463)
- Oracle Health 18% (n=64,659)
- Epic 65% (n=231,557)

Why Do KLAS Arch Collaborative Participants Measure?

"We've been so heads down building our version of our EHR Ferrari, that we've never looked up to see how fast we're going." (CMIO)

"I've felt this is where we were tracking with our EHR satisfaction, based on conversations in the halls of the hospital, but I've never had the data to prove it." (CMIO)

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Provider Burnout and the EHR Experience

- Update on provider burnout

- To what degree is the EHR contributing to provider burnout?

- What factors are most related to alleviating provider burnout?

- Which healthcare organizations are actually doing it?

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Burnout Question

Using your own definition of burnout, select one of the answers below:

- I enjoy my work and have no symptoms of burnout

- I am under stress and don't always have as much energy as I used to, but I don't feel burned out

- I am definitely burning out and have one or more symptoms of burnout (e.g., emotional exhaustion)

- The symptoms of burnout that I am experiencing won't go away, and I think about work frustrations a lot

- I feel completely burned out, and I am at the point where I may need to seek help
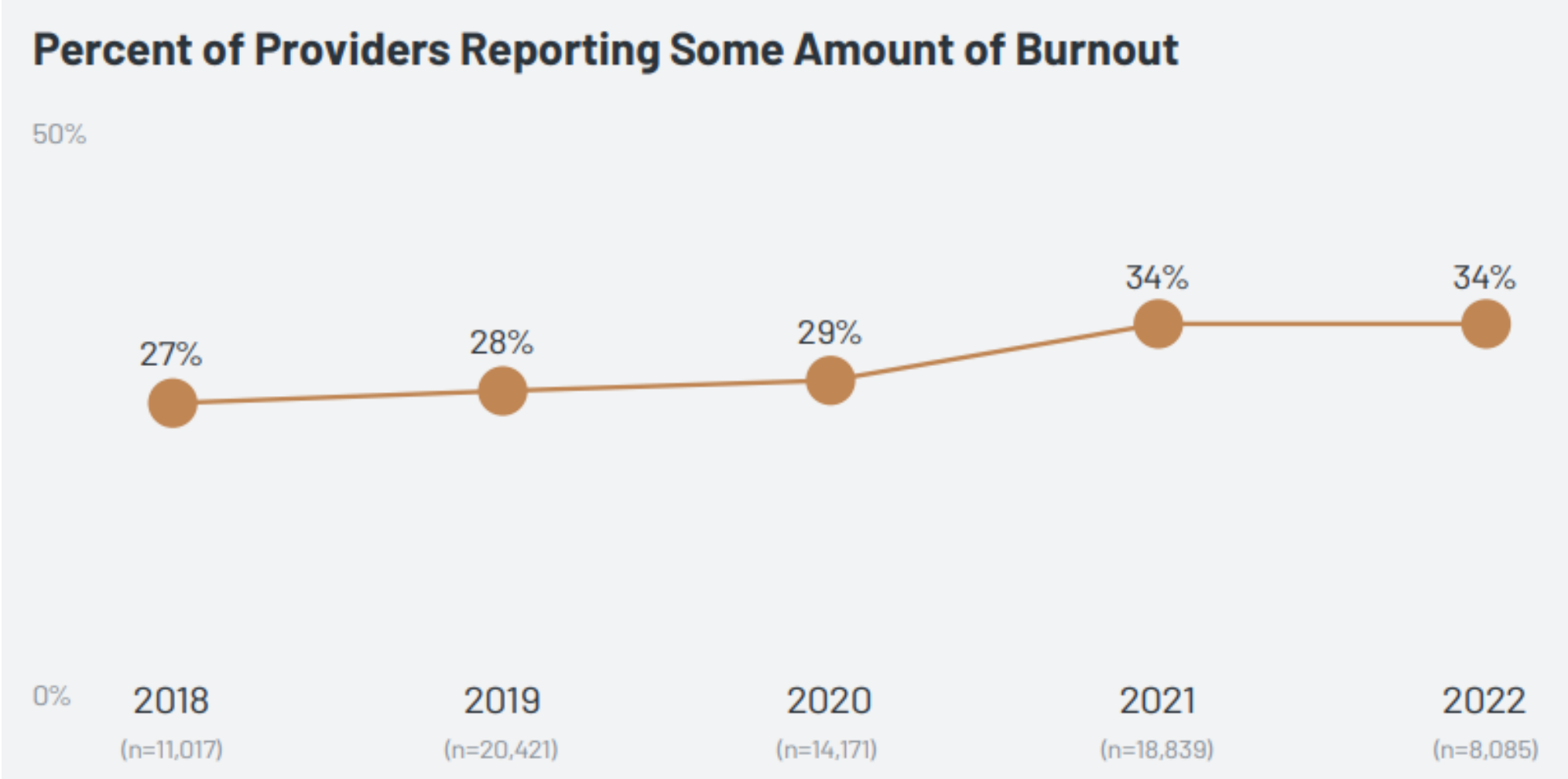
Contributors to Burnout

What are the primary contributors to your feelings of burnout (if any)?

- No personal control over my workload (working too many hours)
- Lack of autonomy in my job
- Chaotic work environment
- Lack of effective teamwork in my organization
- Lack of shared values with organization leadership
- Too much time spent of bureaucratic tasks
- Staffing shortages
- After-hours workload
- EHR or other IT tools inhibit my ability to deliver quality care
- EHR or other IT tools hurt my efficiency
- Lack of training or proficiency on EHR or other IT tools
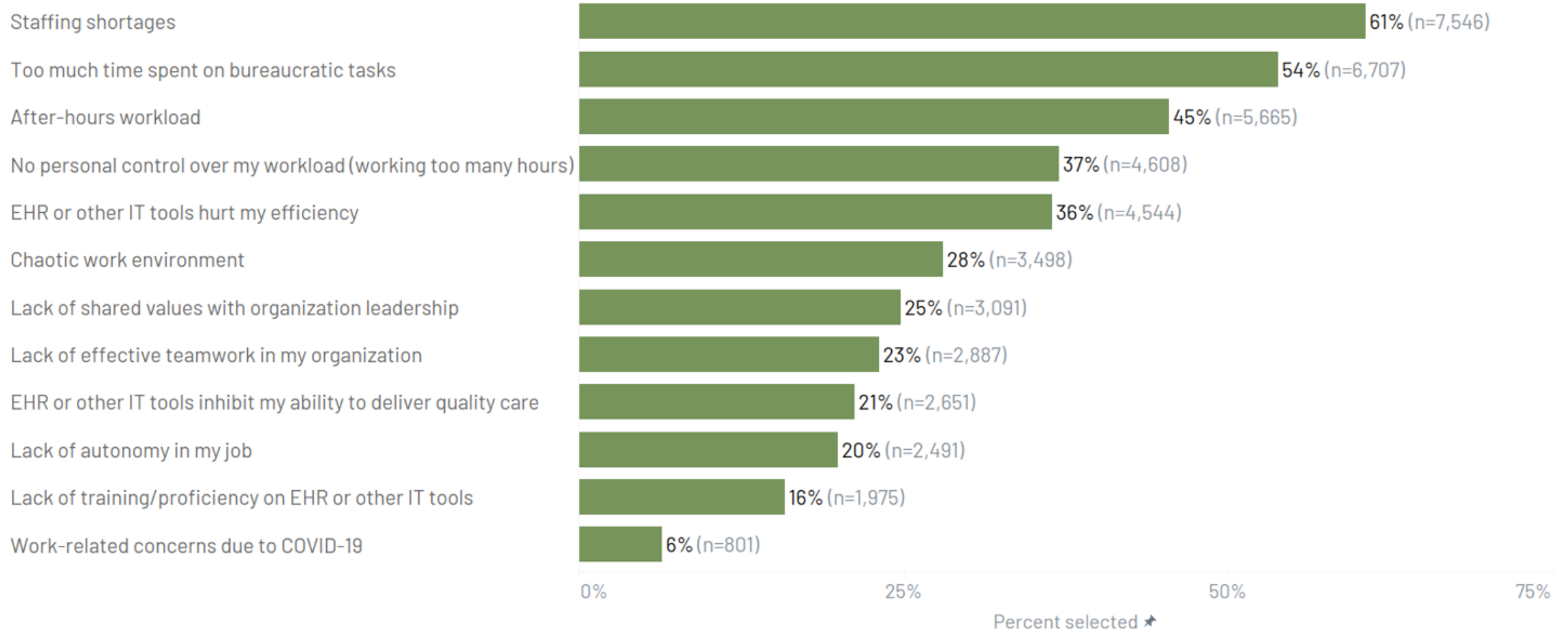- Aggressive or demeaning patients

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Provider Burnout Has Steadily Increased Over the Past 5 Years

Percent of Providers Reporting Some Amount of Burnout

50%

27%
28%
29%
34%
34%

0%

2018	2019	2020	2021	2022
(n=11,017)	(n=20,421)	(n=14,171)	(n=18,839)	(n=8,085)

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Staffing Issues Became Major Burnout Contributor During the Pandemic

User-Selected Contributors to Burnout
Physician respondents from Jan 2022–May 2023 only; multiple selections possible (n=12,460 respondents/85 measurements)

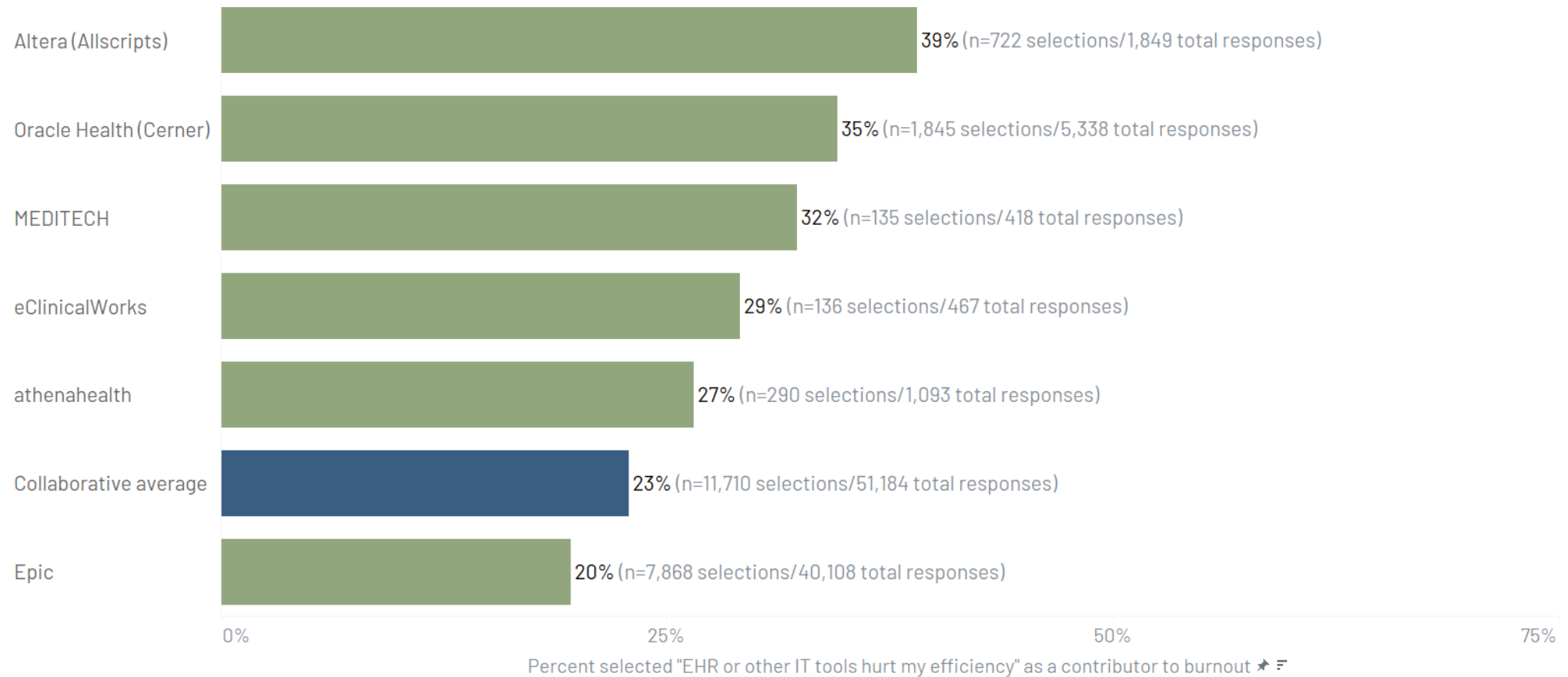| Contributor	Percent
Staffing shortages	61% (n=7,546)
Too much time spent on bureaucratic tasks	54% (n=6,707)
After-hours workload	45% (n=5,665)
No personal control over my workload (working too many hours)	37% (n=4,608)
EHR or other IT tools hurt my efficiency	36% (n=4,544)
Chaotic work environment	28% (n=3,498)
Lack of shared values with organization leadership	25% (n=3,091)
Lack of effective teamwork in my organization	23% (n=2,887)
EHR or other IT tools inhibit my ability to deliver quality care	21% (n=2,651)
Lack of autonomy in my job	20% (n=2,491)
Lack of training/proficiency on EHR or other IT tools	16% (n=1,975)
Work-related concerns due to COVID-19	6% (n=801)

Percent selected ★

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# Not All EHRs Contribute to Burnout to the Same Degree

Percent Selected "EHR or Other IT Tools Hurt My Efficiency" as a Contributor to Burnout—by Primary EHR
Respondents from Jan 2022—May 2023 only

EHR	Percent
Altera (Allscripts)	39% (n=722 selections/1,849 total responses)
Oracle Health (Cerner)	35% (n=1,845 selections/5,338 total responses)
MEDITECH	32% (n=135 selections/418 total responses)
eClinicalWorks	29% (n=136 selections/467 total responses)
athenahealth	27% (n=290 selections/1,093 total responses)
Collaborative average	23% (n=11,710 selections/51,184 total responses)
Epic	20% (n=7,868 selections/40,108 total responses)

Percent selected "EHR or other IT tools hurt my efficiency" as a contributor to burnout

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"Likelihood to leave" is a strong predictor for turnover

Percent of Physicians Who Left Based On Their Response to How Likely They Are to Leave
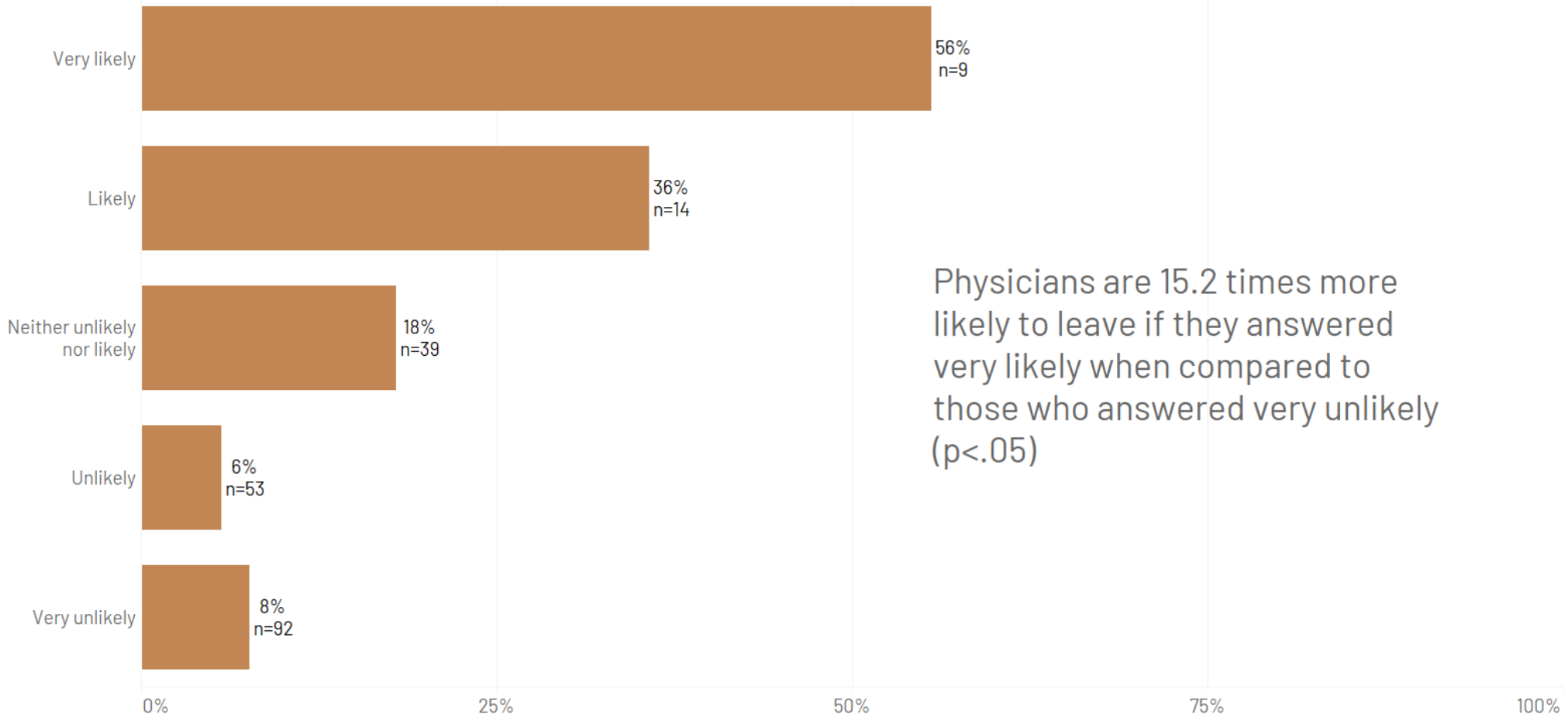

Physicians are 15.2 times more likely to leave if they answered very likely when compared to those who answered very unlikely (p<.05)

Physician Turnover Costs Are High for Those Dissatisfied with the EHR

**Percent of Physicians Who Left Based On Their EHR Experience and Self Reported Efforts to Learn the EHR.**

Percent who left organization

9% ▨▨▨▨▨ 23%

	Could do more to improve my own EHR experience	Have done what I can to improve the EHR experience
Above Median Net EHR Experience Score	11% n=19	12% n=86
Below Median Net EHR Experience Score	9% n=47	23% n=48
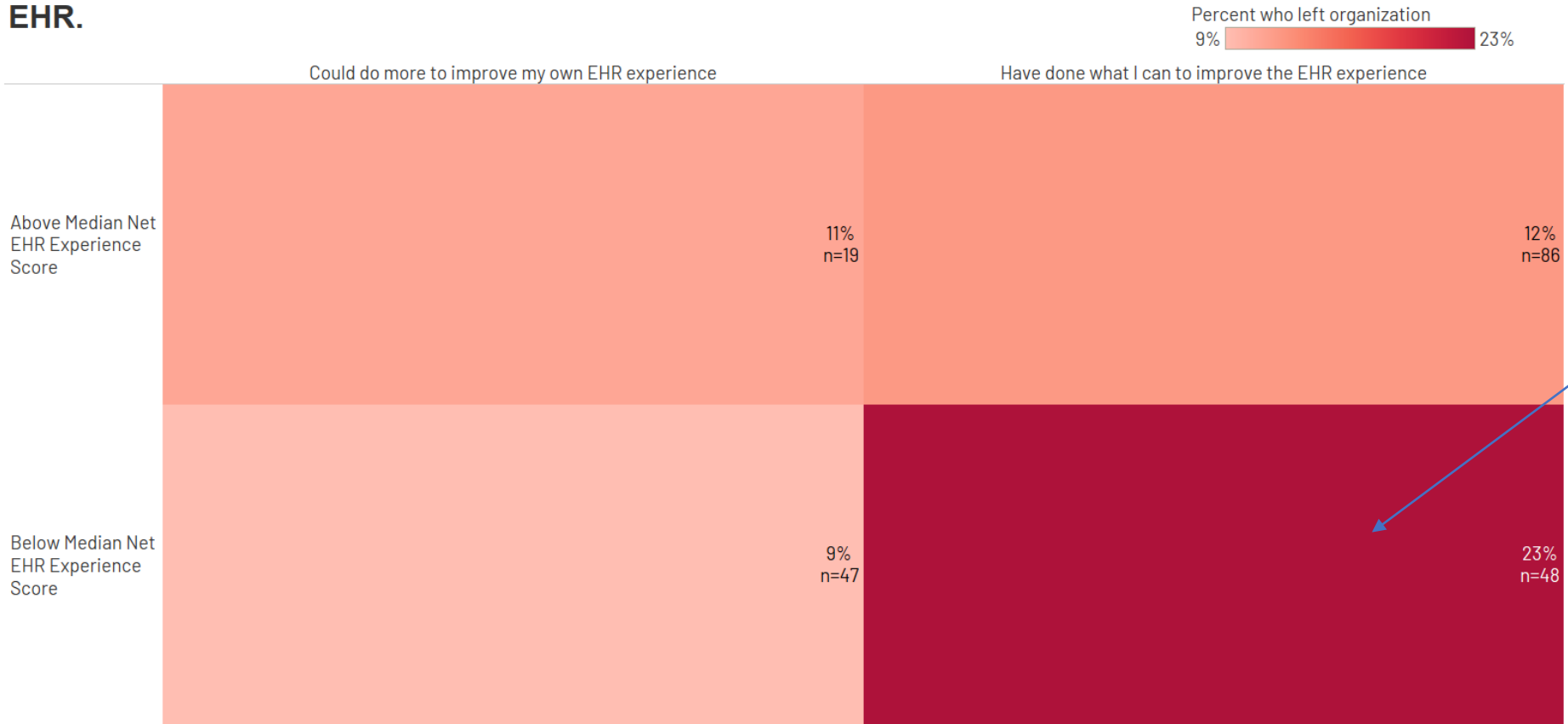
Almost 1 in 4 physicians in this category left, leading to at least $5 million in turnover costs
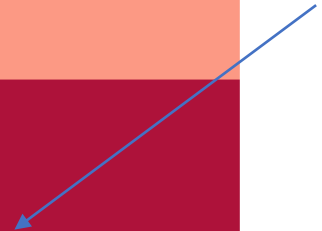
U.S. Drought Monitor
Utah
July 5, 2022
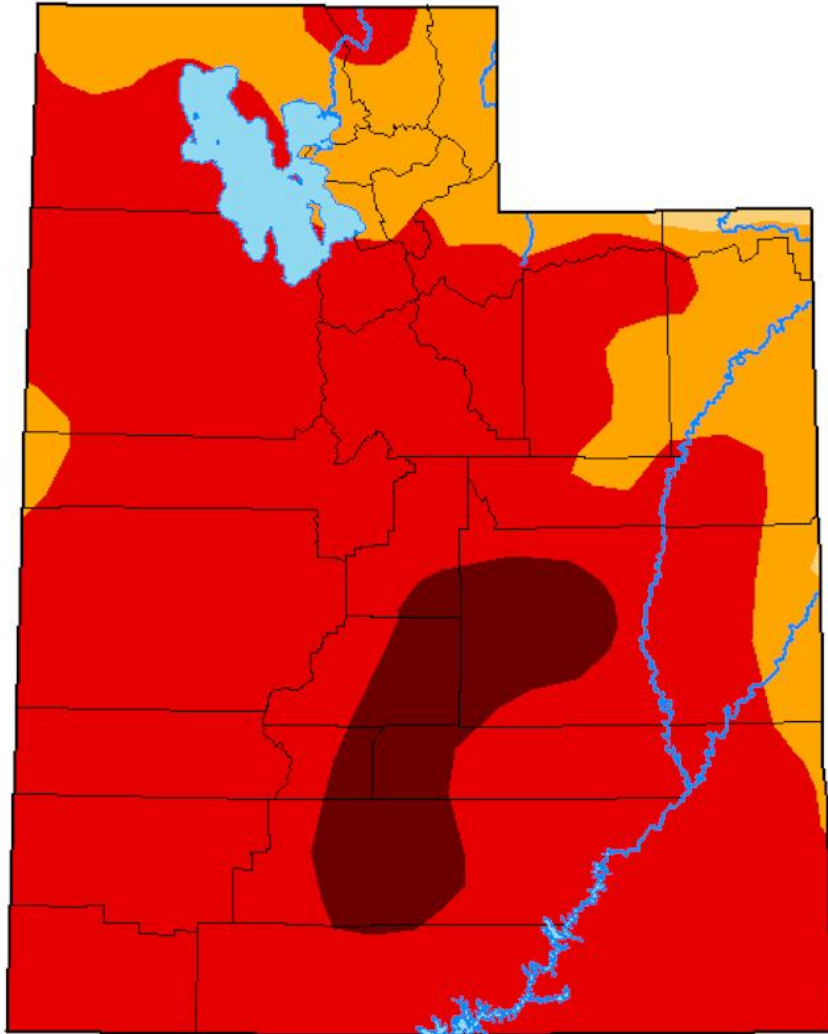
Intensity:

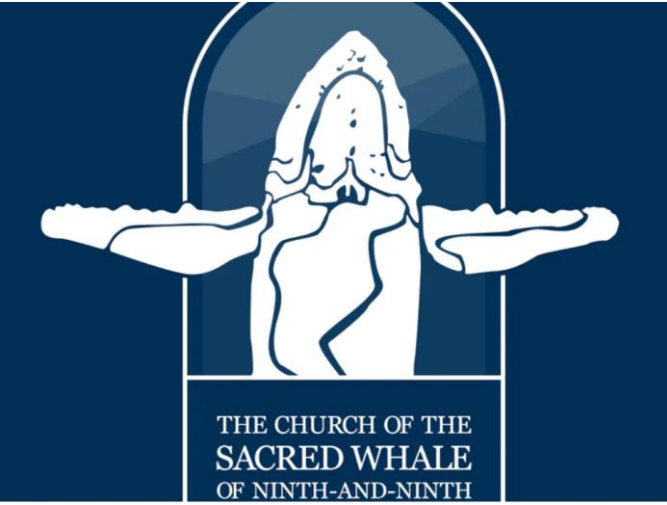|	
None	
D0 Abnormally Dry	
D1 Moderate Drought	
D2 Severe Drought	
D3 Extreme Drought	
D4 Exceptional Drought	

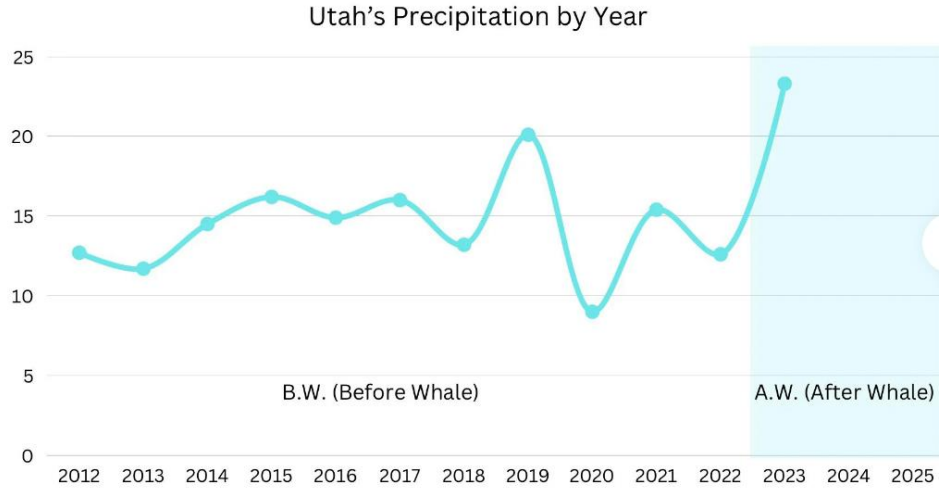Alta surpasses 900 inches of snowfall in 'unprecedented' season

WEATHER

Four Utah resorts eclipse their all-time snowfall records

Mar 27, 2023, 5:30 PM | Updated: 7:09 pm

NEWS > LOCAL NEWS

Utah breaks record for state's largest snowpack ever

UTAH DROUGHT

Utah is no longer in a severe drought

May 12, 2023, 3:00 PM

THE CHURCH OF THE
SACRED WHALE
OF NINTH-AND-NINTH

"Everything good that happens in the weather is because of the Sacred Whale."

Utah's Precipitation by Year

B.W. (Before Whale)   A.W. (After Whale)

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

21

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What can you do to alleviate feelings of burnout among your clinicians?

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Two Factors Associated With Lower Burnout:
Efficient Charting & Strong Organizational Support

Percent of Providers Reporting Some Amount of Burnout

50%

27%
28%
29%
34%
34%

0%

2018
(n=11,017)

2019
(n=20,421)

2020
(n=14,171)

2021
(n=18,839)

2022
(n=8,085)

Percent of Providers Reporting Some Amount of Burnout—By Amount of Time Spent in EHR After Hours and by Trust in IT
Includes data only from 2021-2022

<5 hours and reports trust in IT (n=23,289)

18%
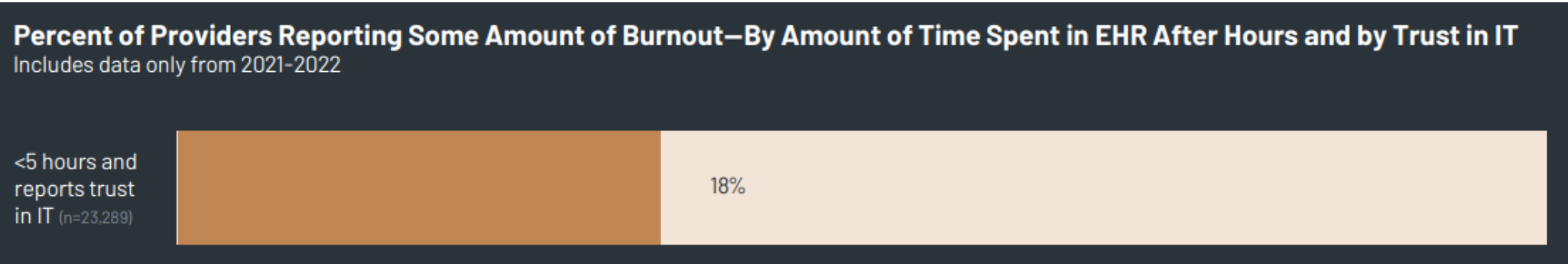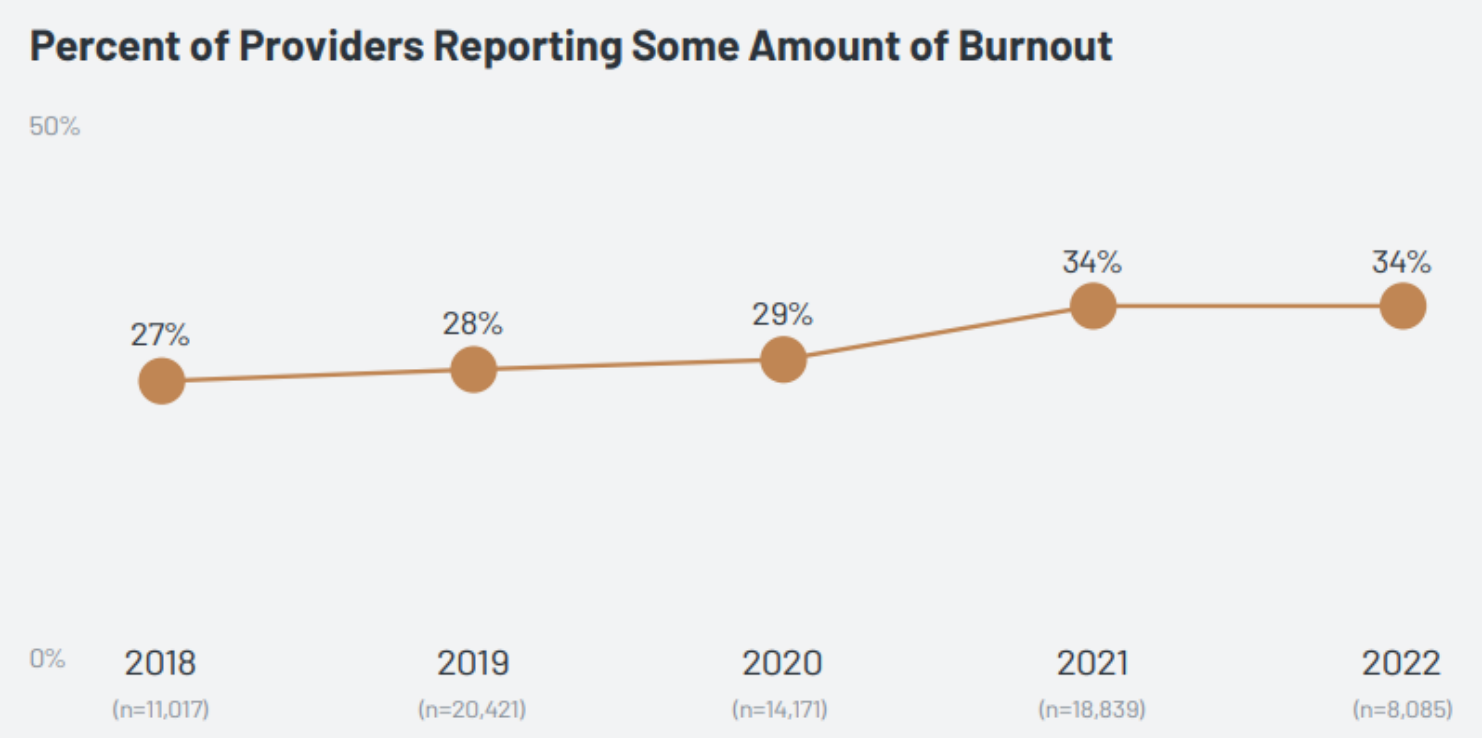
Opportunities to Improve Burnout: Efficiency & Organizational Trust

Burnout Correlation Fingerprint

All respondents from Jan 2022—May 2023 (n=75,383)

Higher agreement & lower impact

Higher agreement & higher impact

Personal accountability

Reliability

Average agreement (1-5 scale) ★

4.0

Internal integration

Quality care

EHR vendor

Alerts

Patient safety

Functionality

Patient-centered care

Org/IT

3.5

Workflow training

Ongoing training

System response time

Easy to learn

Initial training

External integration

Efficiency

Lower agreement & lower impact

Lower agreement & higher impact
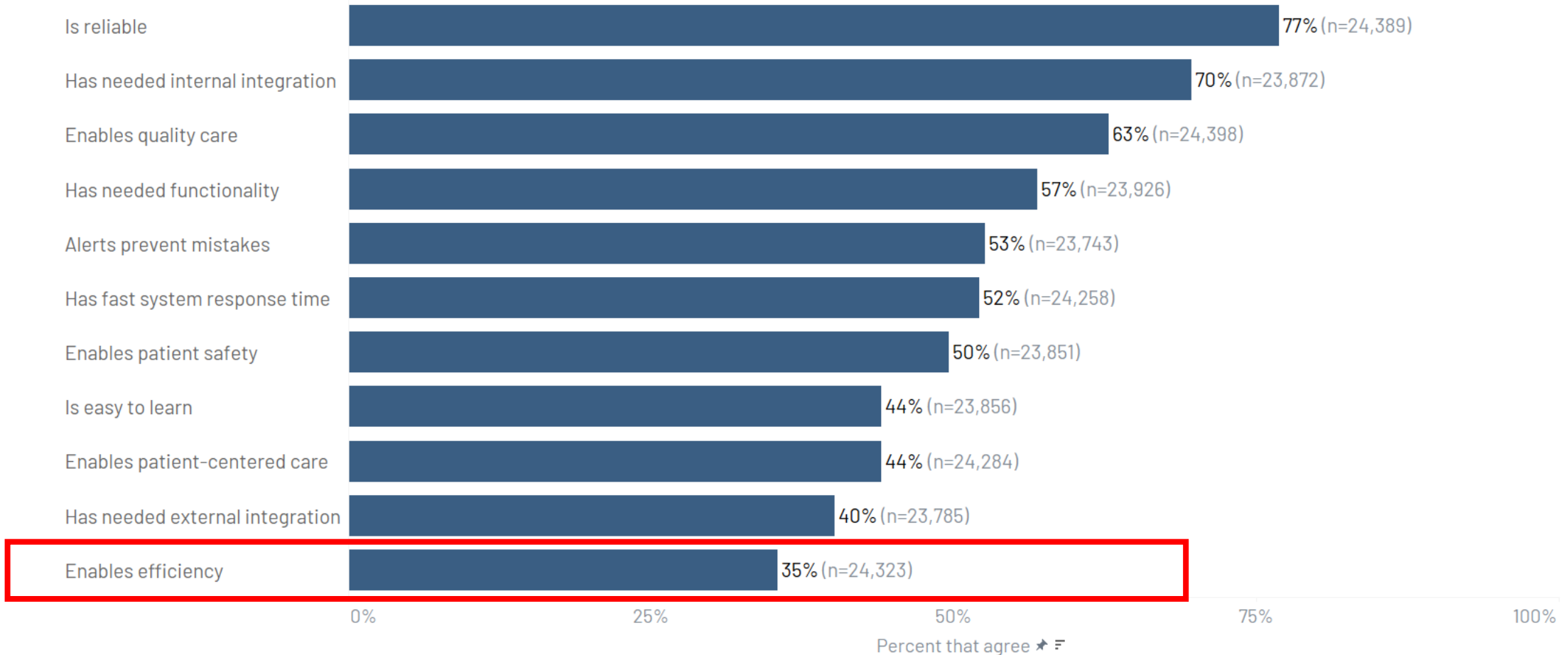
3.0

r ★

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Efficiency Consistently Lowest Rated EHR Experience Metric

Percent Agree to EHR Satisfaction Metrics
Physician respondents from Jan 2022—May 2023 only

Metric	Percent Agree
Is reliable	77% (n=24,389)
Has needed internal integration	70% (n=23,872)
Enables quality care	63% (n=24,398)
Has needed functionality	57% (n=23,926)
Alerts prevent mistakes	53% (n=23,743)
Has fast system response time	52% (n=24,258)
Enables patient safety	50% (n=23,851)
Is easy to learn	44% (n=23,856)
Enables patient-centered care	44% (n=24,284)
Has needed external integration	40% (n=23,785)
Enables efficiency	35% (n=24,323)

Percent that agree

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A Caution on Efficiency

Relentless communication on RVUs and maximizing provider schedules
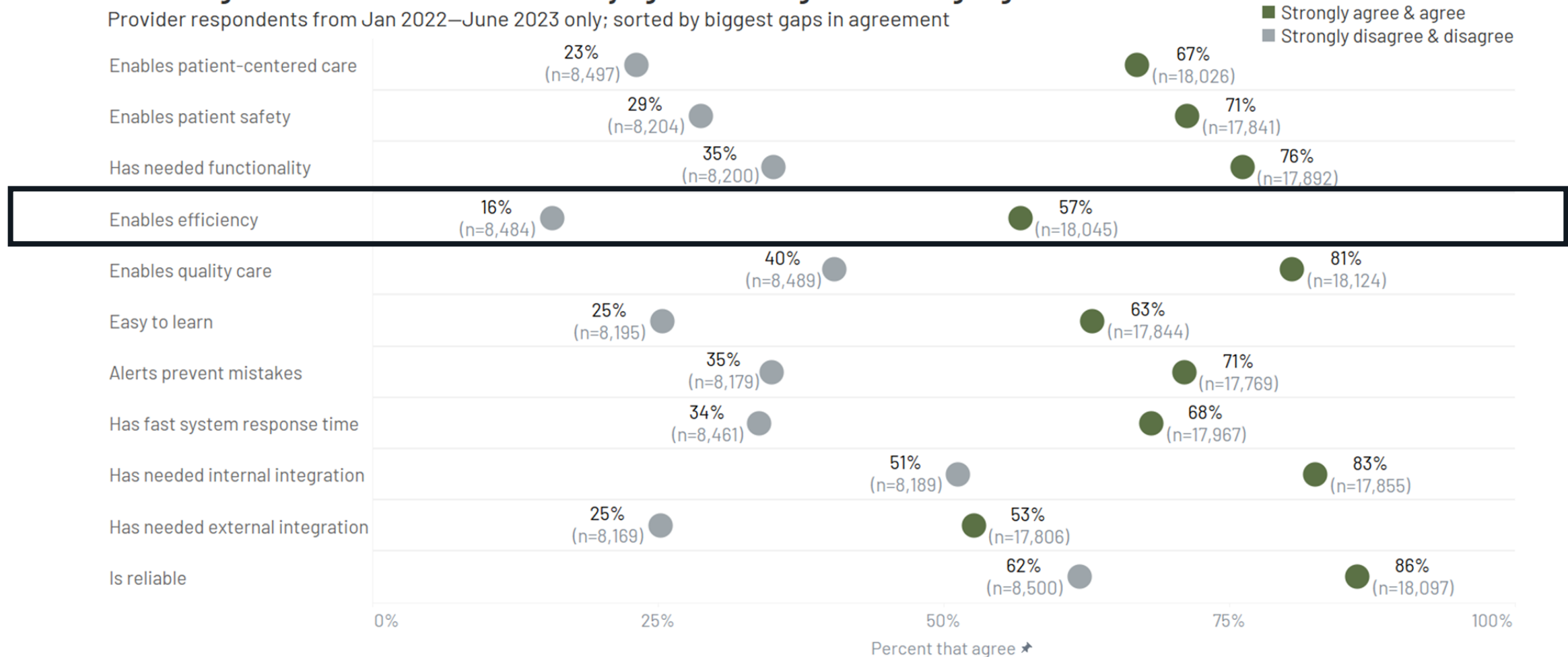
Data-driven approach focused on workflow-specific education

Strong Ongoing Education Associated with Large Gains in Efficiency

Percent Agree to EHR Satisfaction Metrics—by Agrees vs. Disagrees That Ongoing EHR Education Is Sufficient
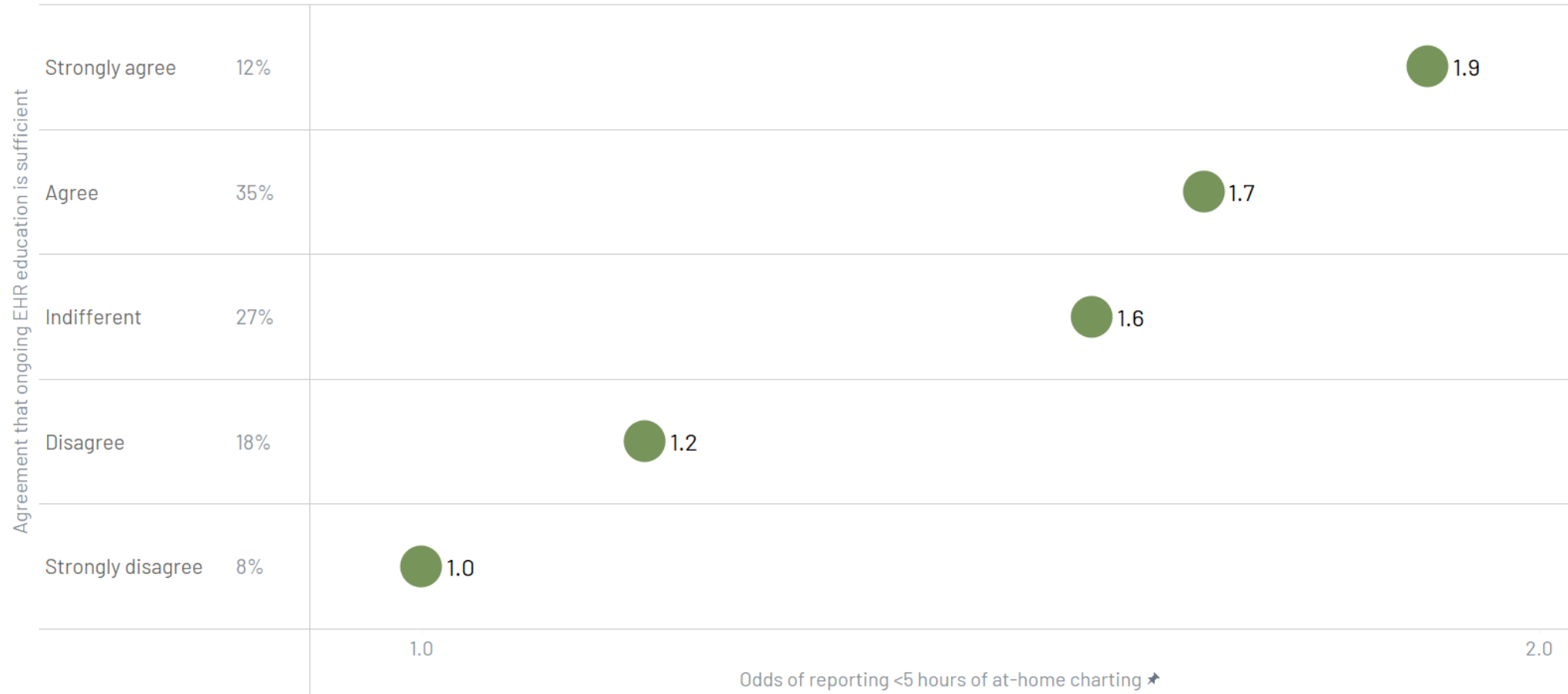
Provider respondents from Jan 2022—June 2023 only; sorted by biggest gaps in agreement

● Strongly agree & agree
● Strongly disagree & disagree

Metric	Strongly disagree & disagree	Strongly agree & agree
Enables patient-centered care	23% (n=8,497)	67% (n=18,026)
Enables patient safety	29% (n=8,204)	71% (n=17,841)
Has needed functionality	35% (n=8,200)	76% (n=17,892)
Enables efficiency	**16% (n=8,484)**	**57% (n=18,045)**
Enables quality care	40% (n=8,489)	81% (n=18,124)
Easy to learn	25% (n=8,195)	63% (n=17,844)
Alerts prevent mistakes	35% (n=8,179)	71% (n=17,769)
Has fast system response time	34% (n=8,461)	68% (n=17,967)
Has needed internal integration	51% (n=8,189)	83% (n=17,855)
Has needed external integration	25% (n=8,169)	53% (n=17,806)
Is reliable	62% (n=8,500)	86% (n=18,097)

Percent that agree ↗

Strong Ongoing Education Keeps After-Hours Charting at Bay

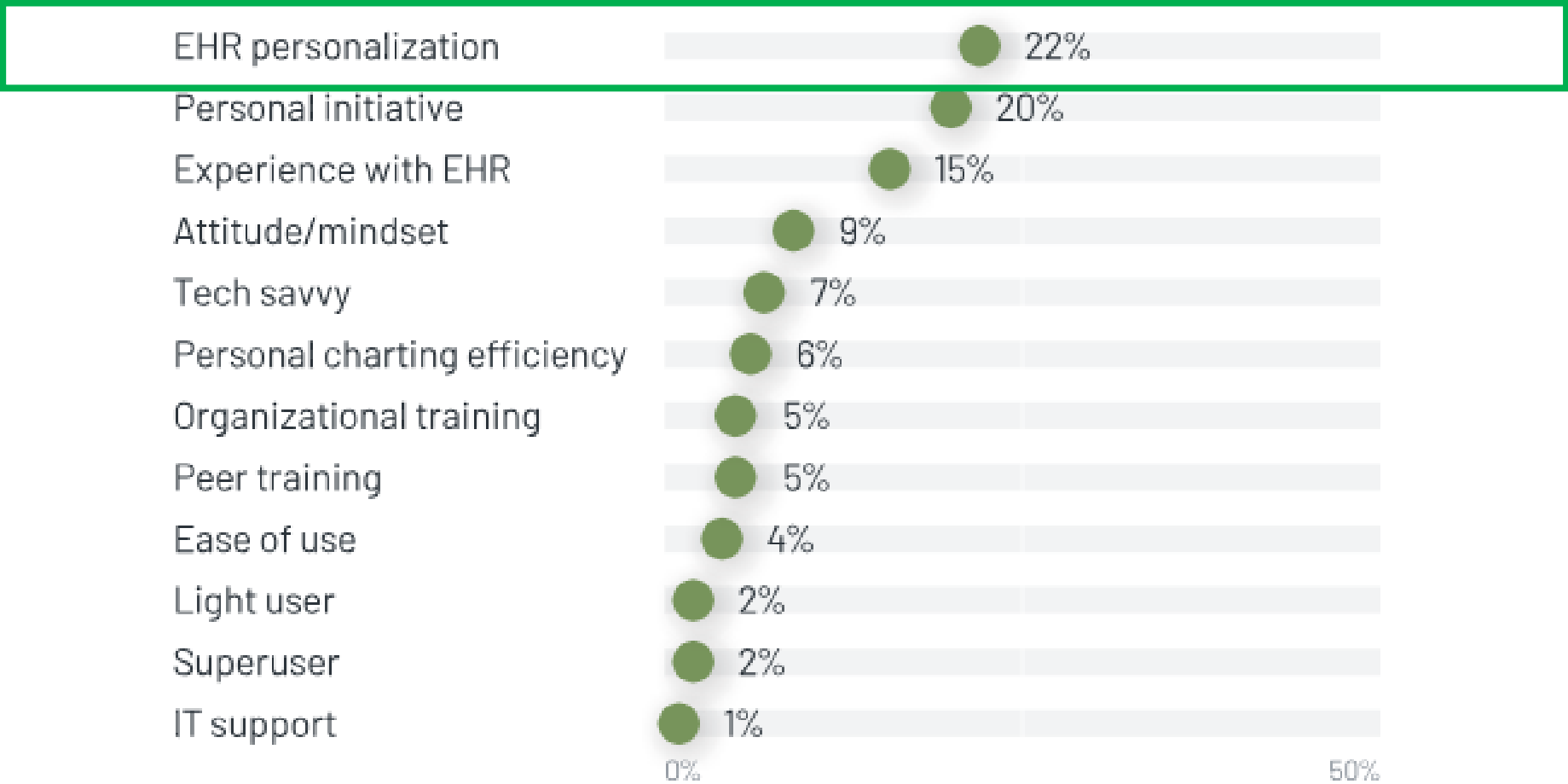**Odds of Reporting <5 Hours of At-Home Charting—by Agreement That Ongoing EHR Education Is Sufficient**
Physician respondents only (n=73,732)

Agreement that ongoing EHR education is sufficient

Strongly agree	12%	1.9
Agree	35%	1.7
Indifferent	27%	1.6
Disagree	18%	1.2
Strongly disagree	8%	1.0

1.0   2.0

Odds of reporting <5 hours of at-home charting ⚲

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Providers Cite Personalization as Top Factor in Their EHR Satisfaction

Top Success Factors of Highly Satisfied EHR Users
Providers only; data collected December 2021–December 2022 (n=795)

EHR personalization	22%
Personal initiative	20%
Experience with EHR	15%
Attitude/mindset	9%
Tech savvy	7%
Personal charting efficiency	6%
Organizational training	5%
Peer training	5%
Ease of use	4%
Light user	2%
Superuser	2%
IT support	1%

0%   50%

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Patterns for Physicians Who Decide to Stay

- ## 54 physicians changed their minds about leaving their organization
  - Reduced after-hours workload and a less chaotic environment
  - Patient safety, alerts preventing mistakes, and patient-centered care
  - EHR is a high-quality product
  - Speech recognition, shortcuts, macros, smart phrases, personalized filters, smart orders

The type of training offered is less important than the quality of that training

Types of Ongoing EHR Training Provided by 10 Most-Satisfied Organizations
Organizations with Highest Net EHR Experience Scores

Provider Net EHR Experience Score (adjusted for EHR in use) (-100 to +100 scale) All n-counts are greater than 20	Ongoing Training Programs Available				
	Classroom Training	Online Training	At-the-Elbow Training	Departmental Meeting	Other Training Effort
1 — 66.0	●			●	
2 — 62.6	●	●	●	●	●
3 — 62.5		●	●		
4 — 61.4	●	●		●	
5 — 60.7	●			●	
6 — 58.1	●	●	●	●	
7 — 57.6	●	●	●	●	
8 — 57.4	●	●			
9 — 57.0		●	●		●
10 — 55.4		●	●	●	●

Types of Ongoing EHR Training Provided by 10 Least-Satisfied Organizations
Organizations with Lowest Net EHR Experience Scores

Provider Net EHR Experience Score (adjusted for EHR in use) (-100 to +100 scale) All n-counts are greater than 20	Ongoing Training Programs Available				
	Classroom Training	Online Training	At-the-Elbow Training	Departmental Meeting	Other Training Effort
1 — -5.3	●		●	●	
2 — -6.1			●		●
3 — -7.4	●	●	●	●	●
4 — -10.4	●	●	●		●
5 — -14.0			●	●	●
6 — -14.8			●	●	
7 — -19.5			●		
8 — -20.0		●	●	●	●
9 — -38.6			●		●
10 — -45.4	●				●

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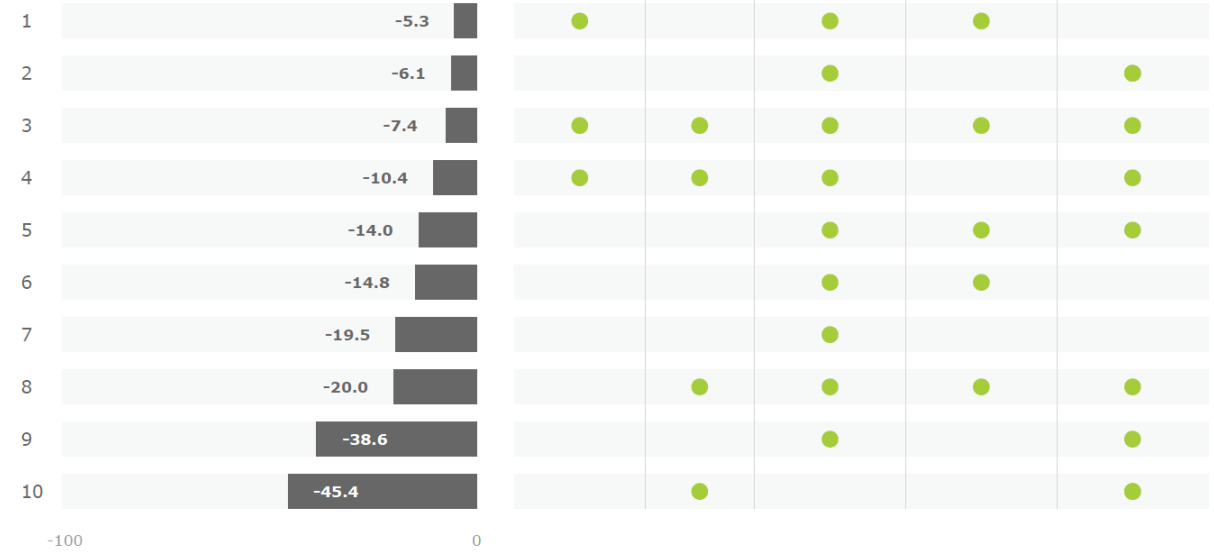
Clinicians should receive a minimum of 3-5 hours of onboarding education and would greatly benefit from 11 or more hours.

Net EHR Experience Score—by Hours of Initial Provider Training
Providers who have been at the organization for 2 years or less only (n>2 organizational responses)

Hours of Initial Provider Training	Net EHR Experience Score
1-2 hours	2.6 (n=18)
3-5 hours	25.2 (n=74)
6-10 hours	29.6 (n=101)
11-15 hours	45.5 (n=18)
16-20 hours	48.6 (n=11)

-100.0   0.0   100.0

Net EHR Experience Score (-100.0 to 100.0 scale)
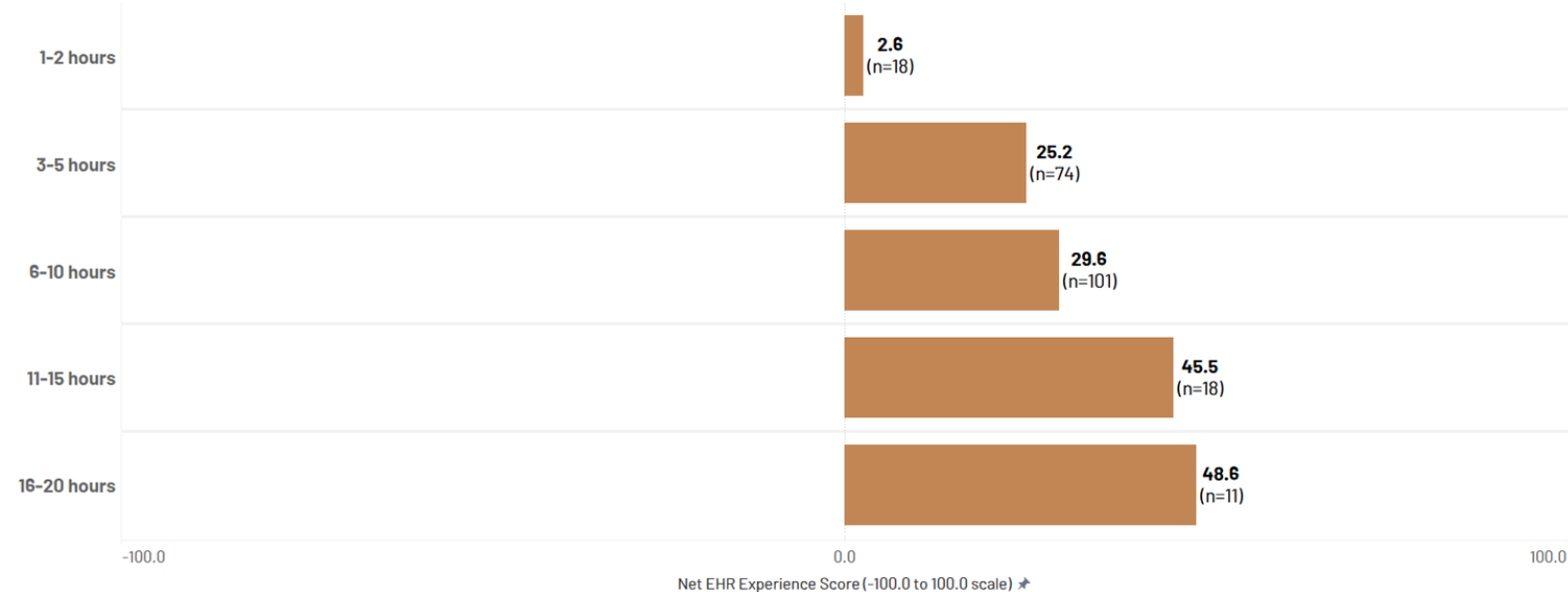
- Onboarding education is defined as any EHR education a clinician receives in their first 90 days
- Breaking it up over time likely best way to meet new clinicians' needs

UW Health

New Provider Training

Keys to Success:

New Provider Support: Optimization team offers 4 hours of 1x1 support for initial live encounter with the EHR

New Provider Check-in: Two hours of follow-up 30-45 days after NPS. Main focus is adopting personalizations to help with InBasket and charting efficiency.

New Provider Wrap-Up: Catchall meeting for what wasn't covered in first 2 sessions. Optimize established routines for maximum efficiency.

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Provider-led training is gold standard. If not feasible, organizations can still find creative solutions

Organization Net EHR Experience Score—
By Who Teaches Initial Training Classes

Net EHR Experience Scores adjusted for EHR in use
(-100 to +100 scale)

Providers	(n=8)	40.3
Varies significantly by location	(n=15)	30.8
Other clinicians	(n=32)	27.4
Non-clinicians	(n=93)	25.2

-50   0   Collaborative Average 26.5   100

Training and Help Desk: One and the Same

Sansum Clinic merges EHR training and support into one team so that providers can be properly trained and supported to be better equipped to deliver quality patient care.

Who Should Train?

Mayo Clinic spends a lot of time preparing their trainers so that they will be completely prepared to customize the training experience for providers.

Nurse's EHR Training

To ensure that the nurse EHR training prepares nurses for real, clinical-life usage, UCLA carefully selects and prepares their nurse trainers.

- While clinical experience matters, **ability to engage is most important factor**

- Vetting process should be rigorous
  - Include entire training team in the decision
  - Some level of training/certification should be involved

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Setting Proper Expectations Is Crucial to Success

- Clinicians need to understand where to get help, how changes are made to the EHR, and how they can continue to learn

- Clinicians must understand that workloads can become overwhelming regardless of which EHR is in use. Organizations and clinicians (not EHRs) bear responsibility to manage workloads

- "At risk" groups should be made aware and given particular attention

EHR Satisfaction—
By Time in System per Day

■ Very satisfied ■ Satisfied □ Dissatisfied ■ Very dissatisfied

Time	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied
<30 minutes	108	219	182	53
30–70 minutes	294	798	526	100
70–110 minutes	353	767	429	71
110–160 minutes	315	682	336	68
160–210 minutes	189	424	201	23
210–270 minutes	131	240	96	12
>270 minutes	40	83	31	4

0% — 100%
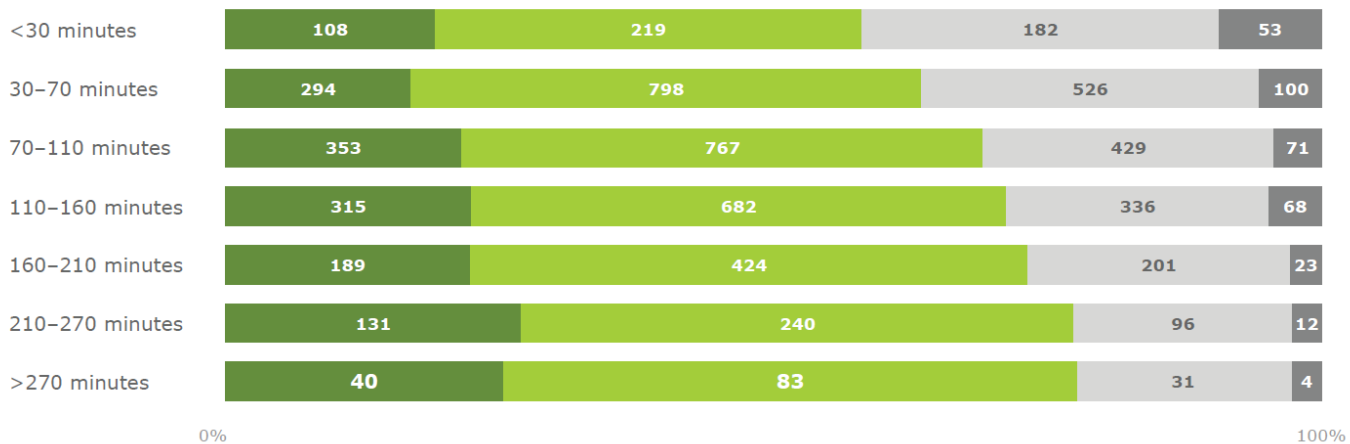
Average Net EHR Experience Score—By Specialty
Physicians only (-100 to 100-point scale)

Specialty	n	Score
Hospital medicine	(n=1,411)	36.5
Pathology	(n=304)	24.3
Pediatrics	(n=2,913)	24.0
Geriatrics	(n=286)	22.9
Family medicine	(n=4,857)	22.7
Internal medicine	(n=3,629)	21.5
Other	(n=1,060)	19.2
Nephrology	(n=431)	18.3
Endocrinology	(n=437)	18.1
Neonatology	(n=385)	16.9
Physical rehabilitation	(n=324)	16.7
Gynecology and obstetrics	(n=1,840)	15.8
Psychiatry	(n=844)	15.5
Anesthesiology	(n=1,572)	15.3
Emergency medicine	(n=2,501)	13.6
Infectious disease	(n=514)	11.5
General surgery	(n=1,421)	11.0
Neurology	(n=874)	11.0
Radiology	(n=765)	10.2
Multiple	(n=753)	10.0
Oncology	(n=235)	9.8
Pulmonology	(n=506)	9.7
Rheumatology	(n=236)	9.7
Gastroenterology	(n=669)	8.9
Otolaryngology	(n=481)	8.6
Urology	(n=485)	6.7
Critical care	(n=496)	6.3
Dermatology	(n=334)	5.6
Hematology/oncology	(n=790)	4.9
Ophthalmology	(n=405)	3.6
Neurosurgery	(n=264)	2.2
Plastic surgery	(n=255)	2.1
Cardiology	(n=1,289)	1.6
Orthopedics	(n=1,178)	-3.2

-50.0   0.0   50.0

Note: Only specialties with 200+ respondents are represented above.

https://klasresearch.com/archcollaborative/report/arch-collaborative-guidebook-2020/343

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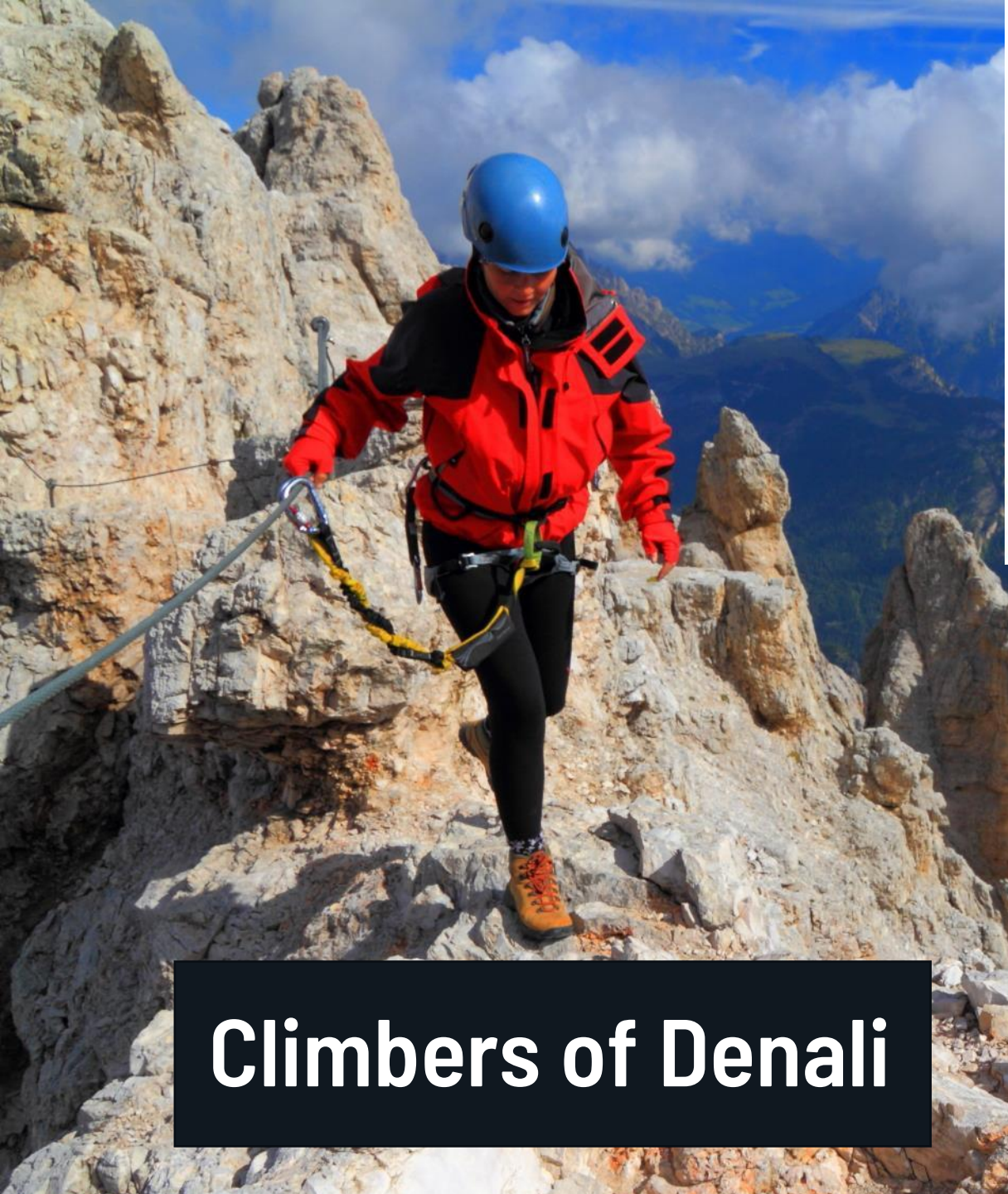
A Model for Improvement

OrthoVirginia collaborated with other organizations to implement training, support, and governance programs that jointly helped improve their EHR satisfaction by 44 points.

◢KLAS

OrthoVirginia

- Ortho On Call
- OrthoVirginia

Tyson's
Fairfax
Springfield
Lynchburg
Farmville
Prince George
Richmond
Virginia Beach

Climbers of Denali

- Survival is your personal responsibility
- High-risk activities require awareness, skill, and commitment
- Gratitude and contribution

Clinicians should spend 3-5 hours annually refreshing their EHR knowledge

Net EHR Experience Score—by Reported Hours of Follow-Up Training Each Year
Clinicians who have been at their organization for more than 2 years only
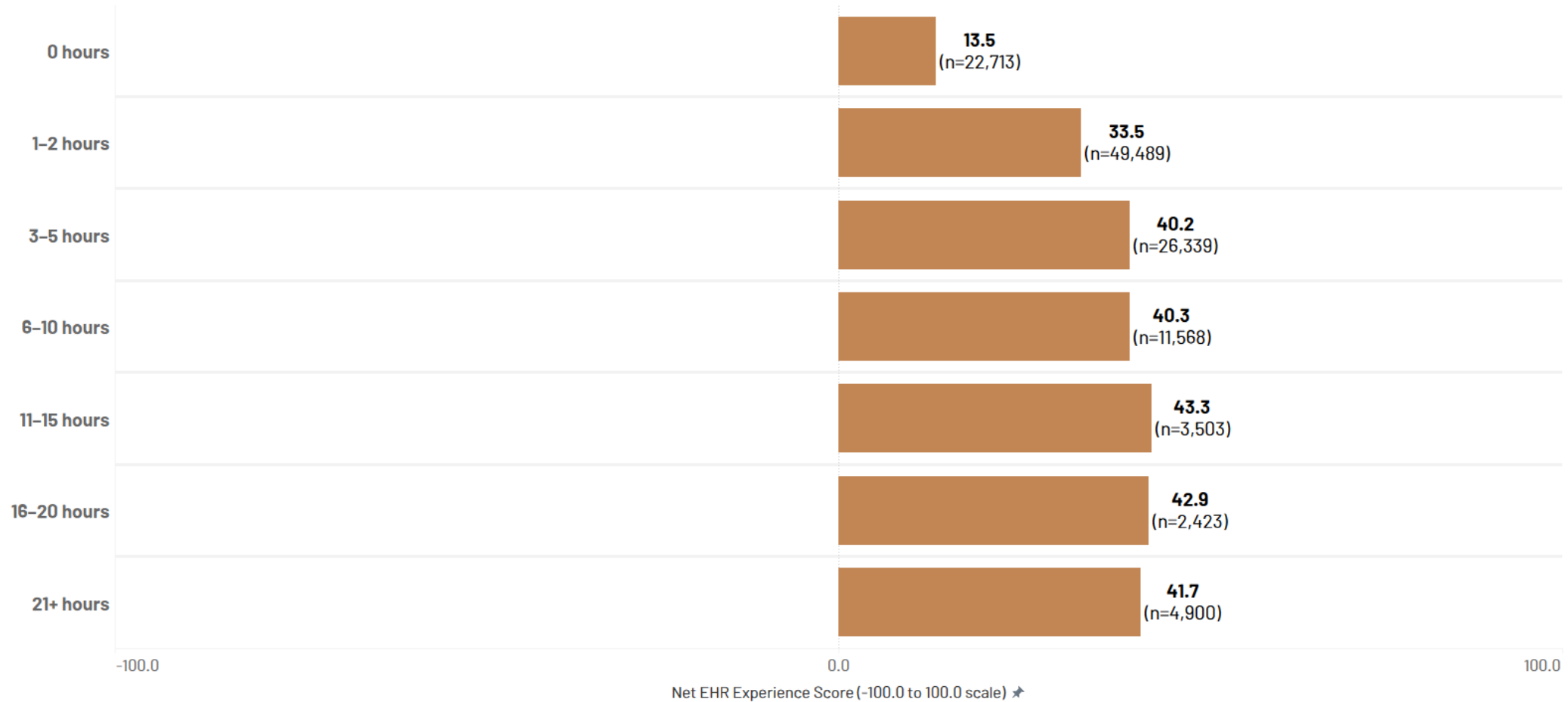
Hours	Net EHR Experience Score
0 hours	**13.5** (n=22,713)
1–2 hours	**33.5** (n=49,489)
3–5 hours	**40.2** (n=26,339)
6–10 hours	**40.3** (n=11,568)
11–15 hours	**43.3** (n=3,503)
16–20 hours	**42.9** (n=2,423)
21+ hours	**41.7** (n=4,900)

-100.0   0.0   100.0

Net EHR Experience Score (-100.0 to 100.0 scale) ✈

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Kaiser Permanente Northwest
Pathways to Proficiency

Kaiser Permanente Northwest takes their physicians off-site to provide distraction-free EMR education.

Keys to Success

- Get the physicians into an environment where they won't be distracted by other responsibilities. This allows physicians to fully immerse themselves into improving their EMR.

- Make sure the trainings are physician led. This establishes trust and credibility and makes the trainings more interactive.

- It is important to offer CME credits for the program. That requires a bit more overhead on the people running the program, but it is worth it because physicians take their education time to attend the program.

Outcomes

- 99th percentile provider average experience rating

- 98th percentile for provider personalization

- 95th percentile for provider efficiency rating

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Any Level of Rounding Makes a Difference

- Immediate answers to questions

- Identify common issues

- Build relationships

- Support, not police

Organization Net EHR Experience Score—
By Frequency of Rounding Visits

Net EHR Experience Scores adjusted for EHR in use
(-100 to +100 scale)

Every month	(n=26)	25.2
Every 6 months	(n=29)	26.8
Every year	(n=13)	32.2
Every few years	(n=9)	30.1
No rounding visits	(n=14)	12.3

-50   0   Collaborative Average 26.5   100

KLAS
RESEARCH
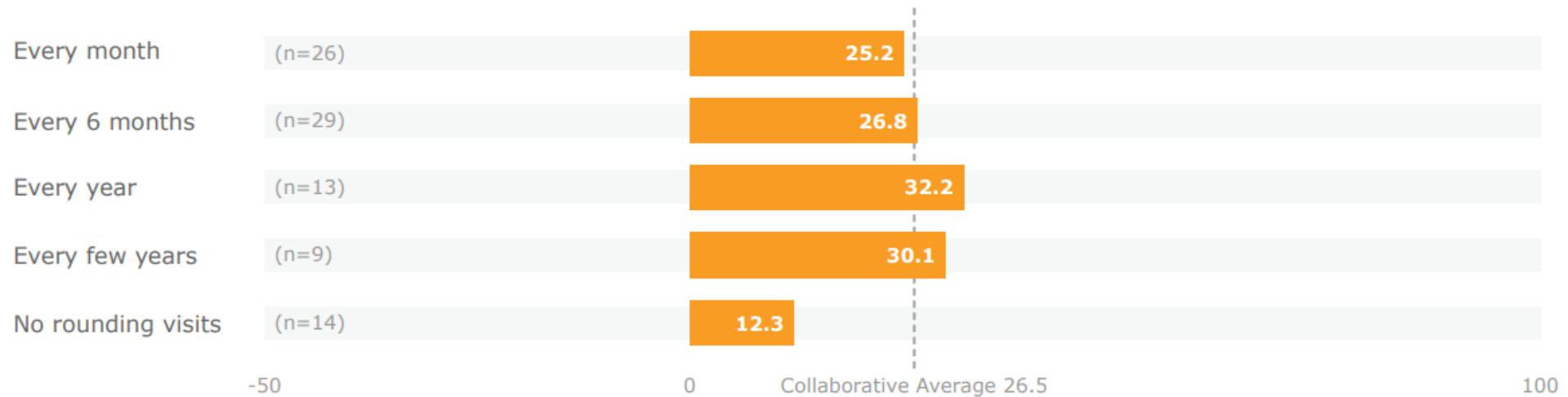
OrthoVirginia

Model For Improvement: Provider Support Specialist Program

- Pick the right time
- Service-oriented, quick visits

- Rounding with a purpose
- Come prepared with a tip

- Coordinate same day w/analysts
- Return often

https://klasresearch.com/archcollaborative/casestudy/a-model-for-improvement/248

UCLA Health
Ambulatory Rounding

In addition to having their nurse informaticists round to their plethora of clinics, UCLA also encourages IT analysts, training staff, and help desk support personnel to visit a clinic one day each month.

Keys to Success

- Rounding is a costly practice, but that does not negate its worth. There are ways to reduce the cost and still be effective. Utilize analysts, training staff, and help desk professionals; not only do they have the expertise to help, but giving them some field work helps them see their solutions in action and helps them approach problems with a new mindset.

- Prepare messages to help the rounders guide the conversation, but don't be too rigid to assume that the preassigned topics are all that can be discussed.

Outcomes

- 99th percentile for nurse trust in IT
- 99th percentile for nurse agreement that the EHR is easy to learn
- 97th percentile for nurse EHR satisfaction

Ambulatory Optimization Sprints Show Early Promise

Pre- and Post-Sprint Net EHR Experience Score—by Respondent Role (-100 to 100-point scale)

● Pre-sprint   ● Post-sprint

Role	Pre-sprint	Post-sprint
Allied health professional (n=54)	48.0	64.6
Nurse (n=113)	48.1	76.1
Provider (n=238)	32.7	58.7

0.0   100.0
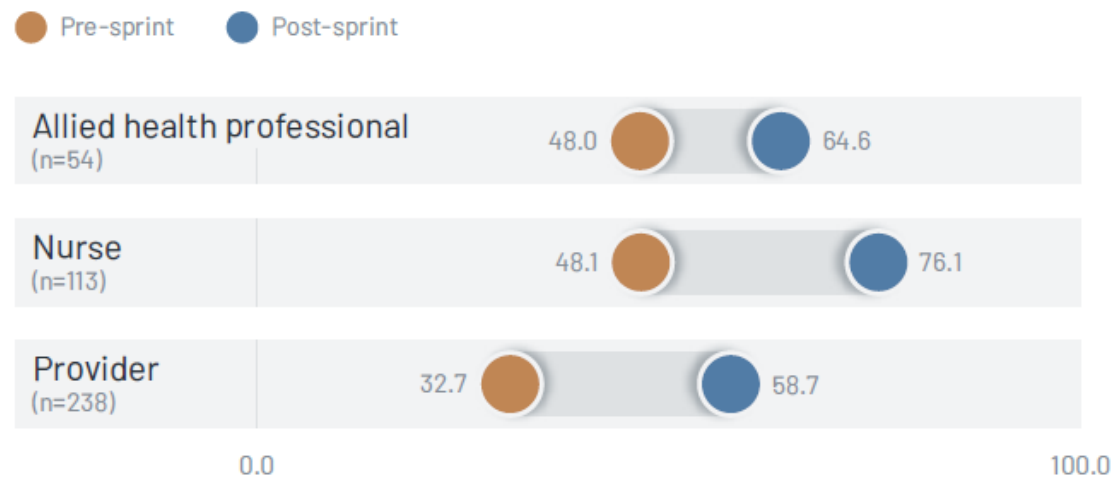
Pre- and Post-Sprint Burnout and Satisfaction with Ongoing Training

Providers only

● Pre-sprint   ━ Original outcome
● Post-sprint   ✚ Improved outcome

Percent reporting at least some degree of burnout (n=70)	34% ✚ ━ 43%	
Percent that agree ongoing training meets their needs (n=237)	59% ━ ✚ 88%	
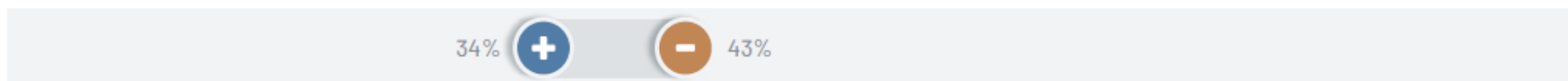
0%   100%

https://klasresearch.com/archcollaborative/report/improving-ehr-satisfaction-in-ambulatory-settings/401

KLAS RESEARCH
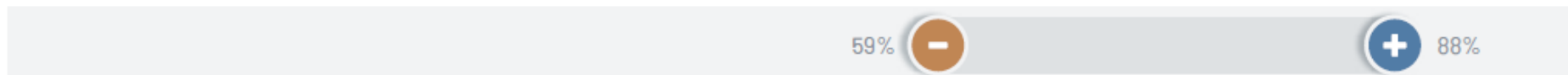
Ambulatory Optimization Sprints Show Promise

UCHealth

Pre- and Post-Sprint Net Promoter Score§—UCHealth
All clinicians (-100 to 100-point scale)(n=125)

● Pre-sprint ● Post-sprint

-15.0 ... 12.0

§ The net promoter score measures the user experience with a product via the question, "How likely are you to recommend the EHR to a friend of colleague?"

Rush University Medical Center

Pre- and Post-Sprint Net EHR Experience Score—Rush University Medical Center, 2017 vs. 2019
All clinicians (-100 to 100-point scale)(n=21)

● 2017 ● 2019

22.3 ... 44.3
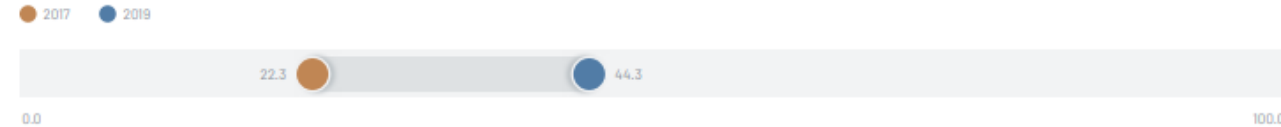
UC San Diego Health

Pre- and Post-Sprint Net EHR Experience Score—UC San Diego Health
All clinicians (-100 to 100-point scale)(n=29)

● Pre-sprint ● Post-sprint

36.9 ... 50.8
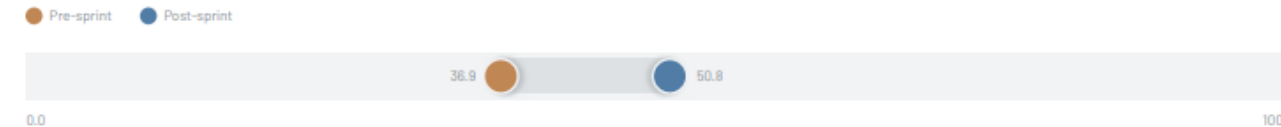
University of Vermont Medical Center

Pre- and Post-Sprint Net EHR Experience Score—University of Vermont Medical Center
All clinicians (-100 to 100-point scale)

● Pre-sprint ● Post-sprint

Clinic #1 (n=21)   44.0   63.0
Clinic #2 (n=17)   2.0   32.0
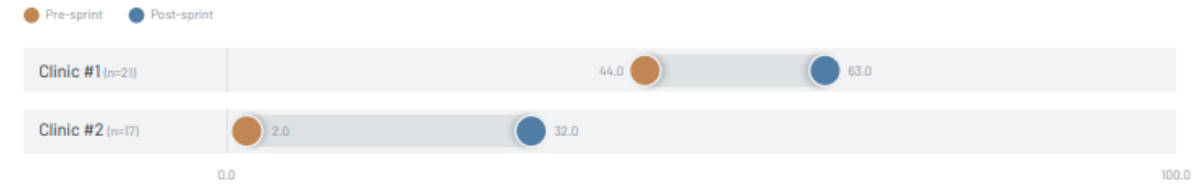
University of Texas MD Anderson Cancer Center

Pre- and Post-Sprint Net EHR Experience Score—University of Texas MD Anderson Cancer Center
All clinicians (-100 to 100-point scale)(n=170)   ● Pre-sprint ● Post-sprint

39.3 ... 62.8

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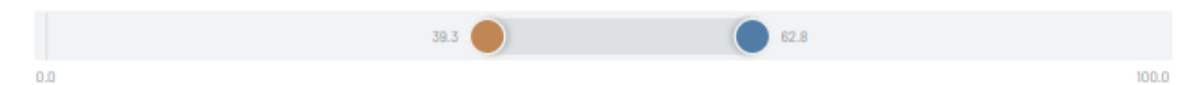
MD Anderson Cancer Center: 8-Week Sprints

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center

Developing a Solid Support Team
- Liaison Team
- EHR Officers

Implementing Changes
- Thrive Workshops
- Center Sprints

Measuring Outcomes
- KLAS Surveys
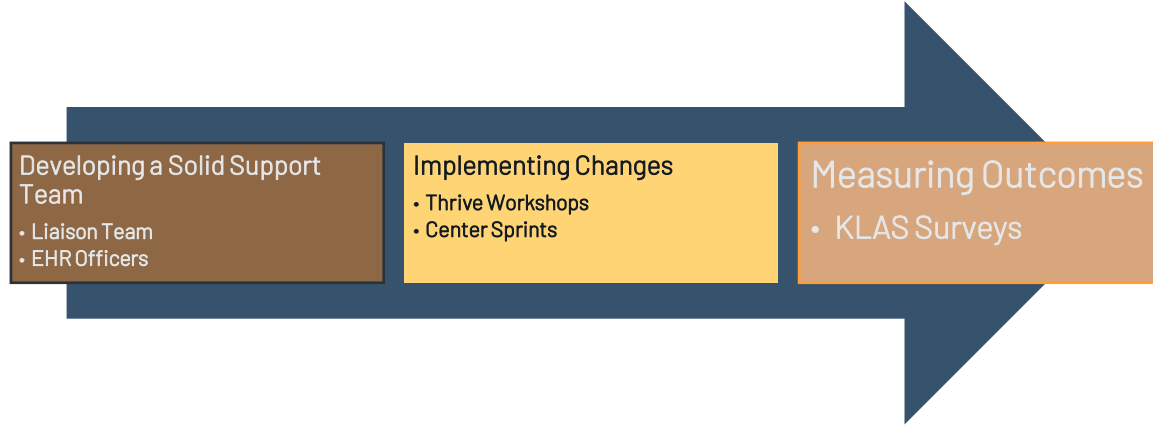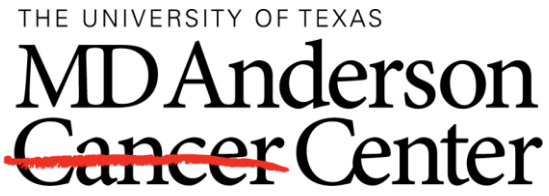
MDA Pre Satisfaction Metrics Dashboard
Providers only (n=560)

	Score/ Percent Agree	Overall Collaborative (n=474)	Epic Organizations (n=291)	Academic Health Systems (n=95)
Net EHR Experience	29	56th Percentile	31st Percentile	51st Percentile
Enables Quality Care	60%	62nd Percentile	43rd Percentile	54th Percentile
Enables Efficiency	44%	81st Percentile	70th Percentile	87th Percentile
Enables Patient-Centered Care	49%	62nd Percentile	52nd Percentile	66th Percentile
Has Needed Functionality	53%	43rd Percentile	21st Percentile	43rd Percentile

MDA Post Satisfaction Metrics Dashboard
Providers only (n=425)

	Score/ Percent Agree	Overall Collaborative (n=474)	Epic Organizations (n=291)	Academic Health Systems (n=95)
Net EHR Experience	64.2	98th Percentile	96th Percentile	99th Percentile
Enables Quality Care	77%	93rd Percentile	90th Percentile	93rd Percentile
Enables Efficiency	68%	98th Percentile	97th Percentile	98th Percentile
Enables Patient-Centered Care	73%	96th Percentile	95th Percentile	99th Percentile
Has Needed Functionality	78%	95th Percentile	92nd Percentile	96th Percentile

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Department Meetings

- Department meetings are a good time to focus on workflow training as they typically bring together **groups of similar clinicians**.

- Incorporating EHR training and education into departmental meetings means training is included in a **meeting that people are already expecting to attend** and allows clinicians the opportunity to learn without having to set aside extra time to dedicate to training.

Physician Satisfaction with Ongoing Training—
By How Often EHR Education Is Incorporated into Departmental Meetings
(1–5 scale)

Always	(n=2) — 3.4
Often	(n=27) — 3.4
Sometimes	(n=53) — 3.3
Rarely	(n=12) — 3.3
Never	(n=34) — 3.1

1.0 — 5.0

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Participation and Usefulness of Different EHR Education Modalities

- Overall participation rates could improve greatly

- High participation areas are considered the least useful

- 1x1 education considered most useful

- Virtual education and vendor education not there yet

Participation In and Usefulness of EHR Education Programs
Respondents in 2022 only; 11 organizations who asked about eLearning included

Legend:
- ■ Participated, useful
- ■ No participation, but want to
- ■ No participation, no desire
- ■ Participated, but not useful

Modality	Participated, useful	No participation, but want to	No participation, no desire	Participated, but not useful
Classroom	45% (n=5,129)	12% (n=1,309)	22% (n=2,541)	21% (n=2,317)
Self-directed eLearning	42% (n=4,707)	19% (n=2,192)	20% (n=2,267)	19% (n=2,128)
Training in a departmental meeting	37% (n=3,784)	25% (n=2,548)	26% (n=2,694)	12% (n=1,239)
Scheduled one-on-one	34% (n=2,505)	27% (n=1,974)	33% (n=2,380)	6% (n=443)
Impromptu one-on-one (rounding)	34% (n=3,542)	29% (n=3,026)	31% (n=3,266)	7% (n=731)
Instructor-led eLearning	31% (n=3,399)	25% (n=2,709)	29% (n=3,135)	14% (n=1,551)
Training provided by vendor	16% (n=1,268)	25% (n=1,947)	49% (n=3,746)	9% (n=726)

0%   100%

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What specifically about your EHR training did you enjoy?

One-on-One

"1 on 1."

"One on one."

"One on one instruction."

"Having 1 on 1 training is more focused on my specific needs."

"I liked when I was able to do 1:1 training. My questions were answered, and I was able to get individualized help learning thing that pertained to me and my department of care."

Live Feedback

"Ability to ask questions not covered by training and get a response either on the spot, or right away."

"Ability to ask questions during training."

"Being able to ask questions and learn hands on."

"The ability to ask questions & revisit topic if not completely understood the first time."

"Interactivity. Being able to ask questions specifically related to my job and duties."

Specialty-Specific

"Focus on workflow for my discipline."

"Focused on the workflow for the ED specifically."

"One on one and department/role-specific allowed me to have a conversation and discuss needs and useful tips."

"Getting answers to specific questions that affect my workday."

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Only 53% of Physicians Report Being Trained on Specialty-Specific Workflows

Percent Agree EHR Education Is Helpful and Effective
Physician respondents from Jan 2022—May 2023 only
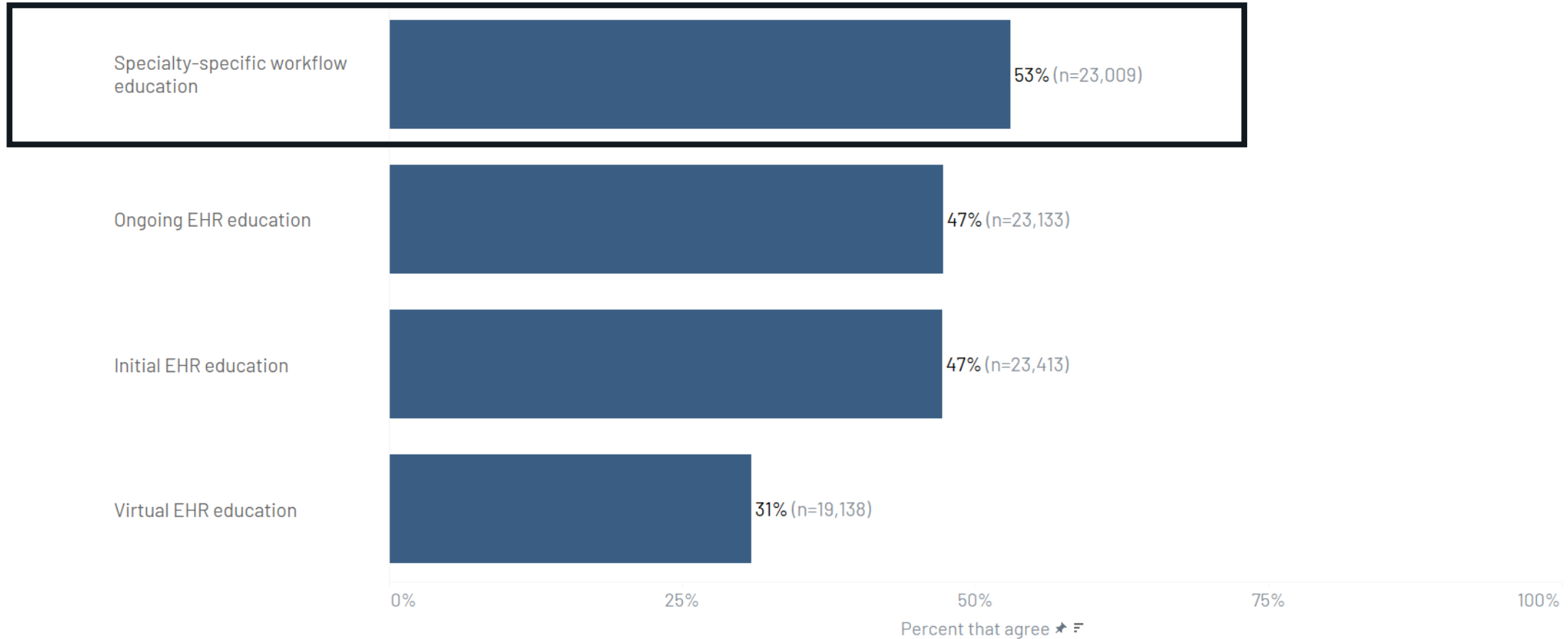
Specialty-specific workflow education — 53% (n=23,009)

Ongoing EHR education — 47% (n=23,133)

Initial EHR education — 47% (n=23,413)

Virtual EHR education — 31% (n=19,138)

Percent that agree

EHR Support

- Clinician-focused

- Strong two-way communication

- Upgrades, upgrades, upgrades
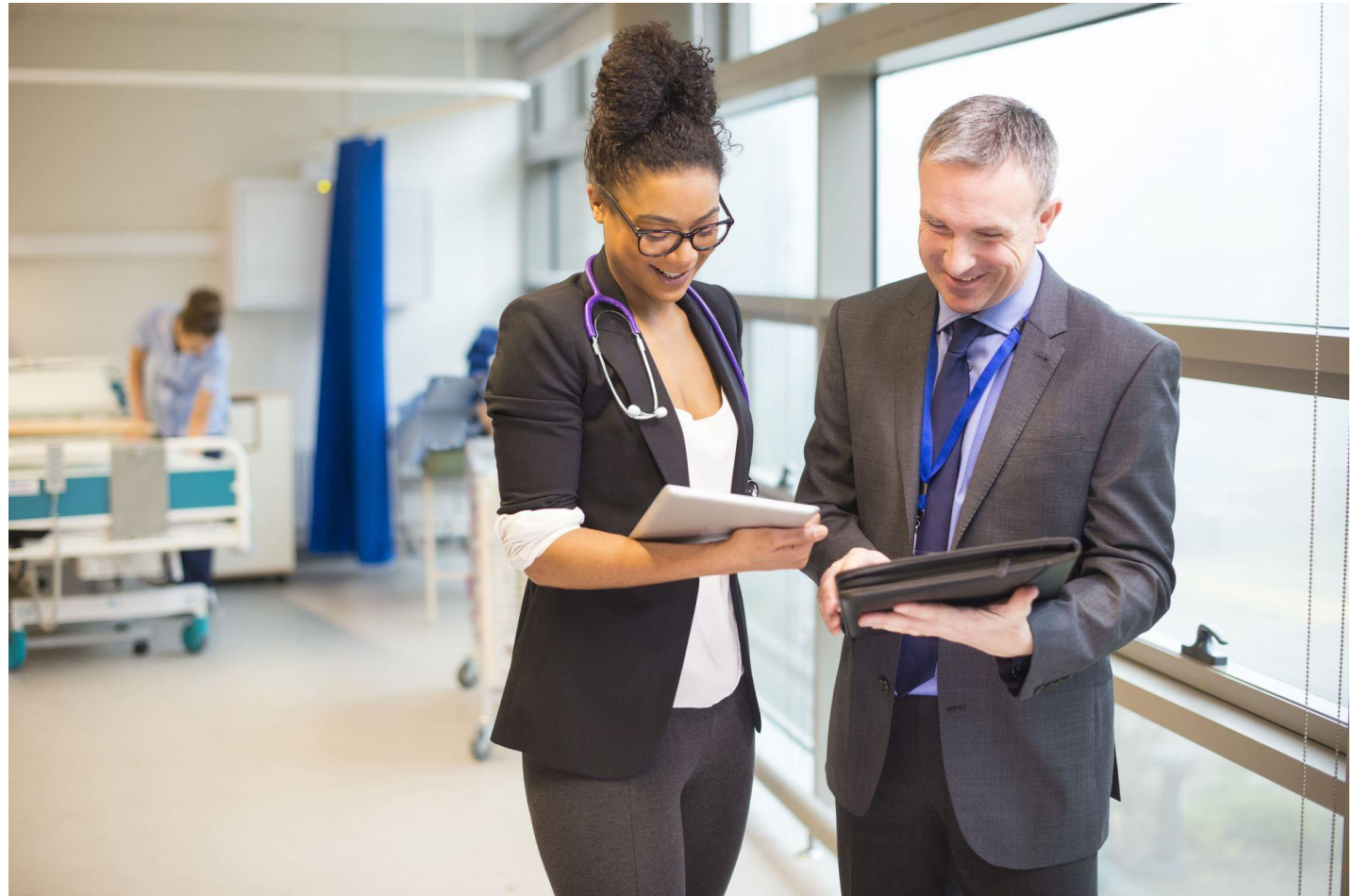
Organizational Leadership (IT) Considered Weakest Stakeholder

Percent Agree EHR Stakeholders Deliver Well
Physician respondents from Jan 2022—May 2023 only

Stakeholder	Percent that agree
Personal accountability	58% (n=22,307)
EHR vendor	54% (n=22,349)
Organization/IT	45% (n=22,321)

Percent that agree
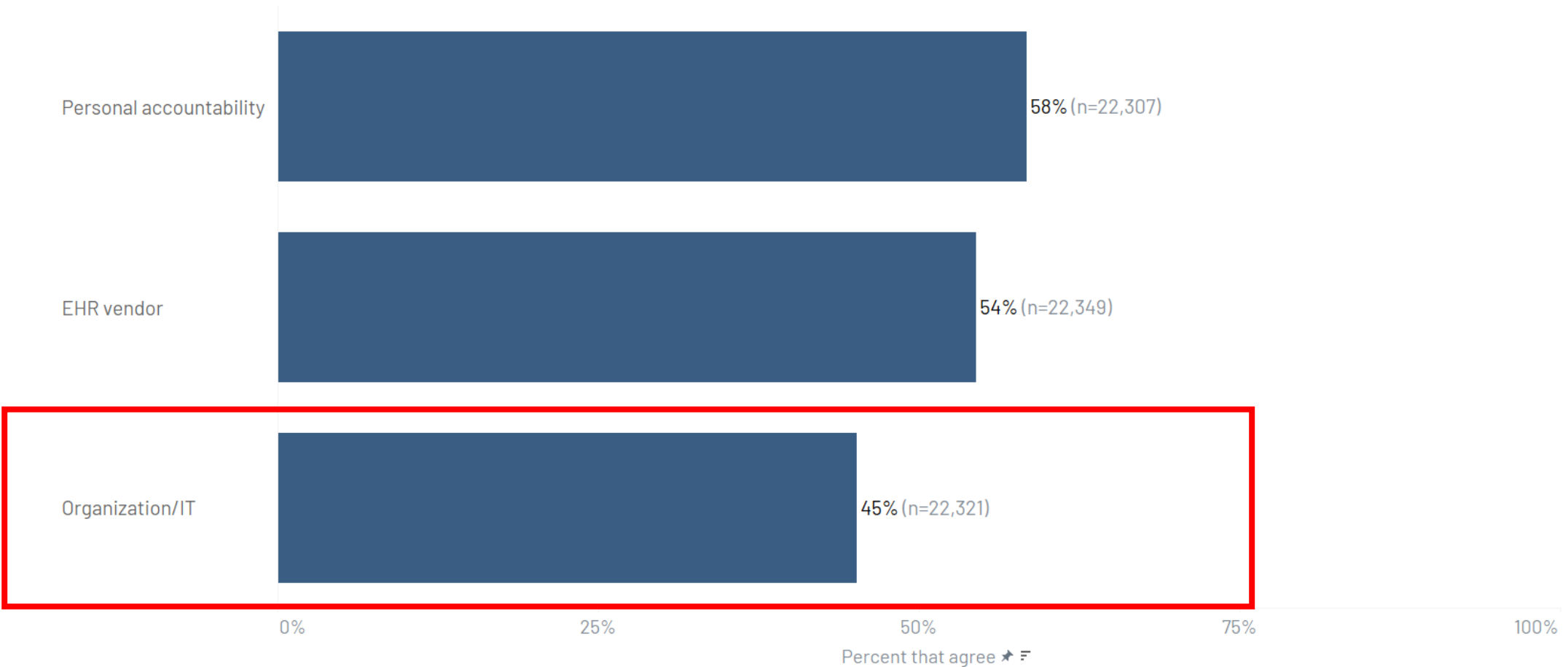
Organizational Delivery Has Major Impact on Overall EHR Experience

Providers who strongly disagree that their organization/IT leadership delivers well are about 85x more likely to report a poor EHR experience than those who strongly agree.

Odds of Reporting Dissatisfaction with the EHR—by Agreement That Organization/IT Delivers Well

(n=79,895)

Impact of Trust in Organization/IT on EHR Experience

Respondents with **low** trust in organization/IT ● ● Respondents with **high** trust in organization/IT

85x more likely to report a poor EHR experience if they strongly disagree that organization delivers EHR well
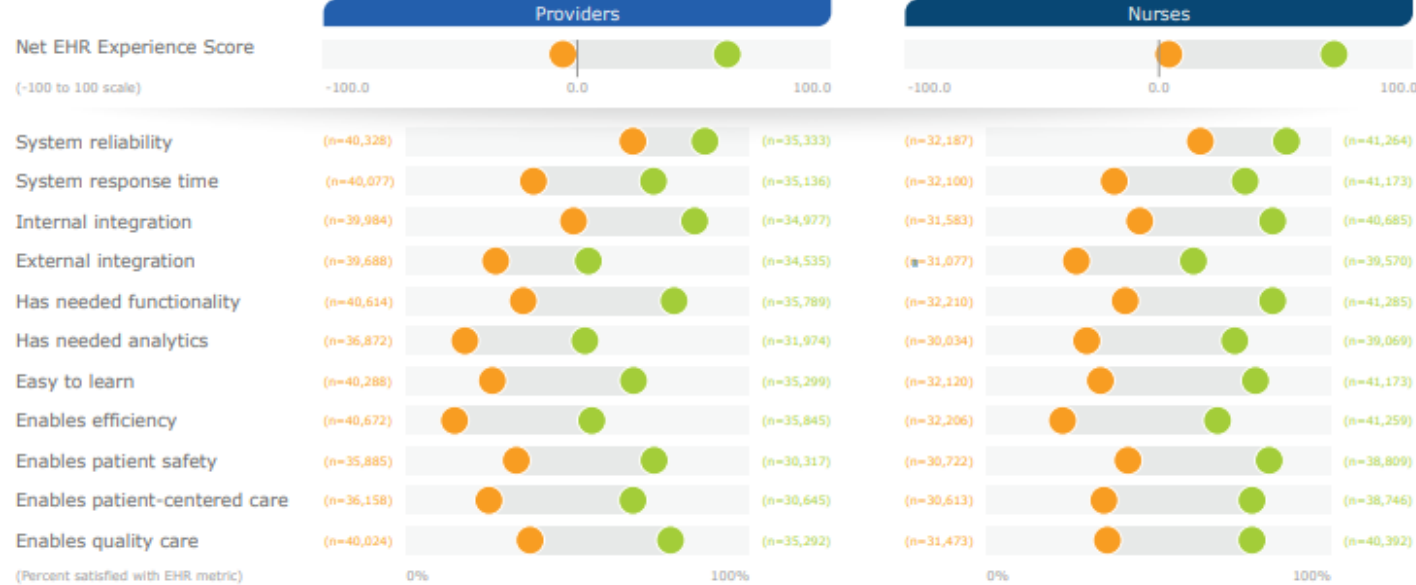
Organizational delivery touches on every aspect of the clinician EHR experience

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What Does Strong Organizational Delivery Look Like?

A New Set of Questions

Do you agree…

- I am able to get support in a timely manner when I have an EHR issue

- I know how to request a fix to the EHR

- I have a voice in trying to improve the EHR

- EHR fixes are made in a timely manner

- Changes to the EHR are well communicated

- There is someone assigned to help my department with the EHR

- The IT department is actively seeking to improve the EHR for clinicians

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Clinicians Associate EHR Upgrades with Overall Support Experience

Trust in Organization/IT Variable Importance
Respondents from Jan 2022—May 2023 only

Variable importance
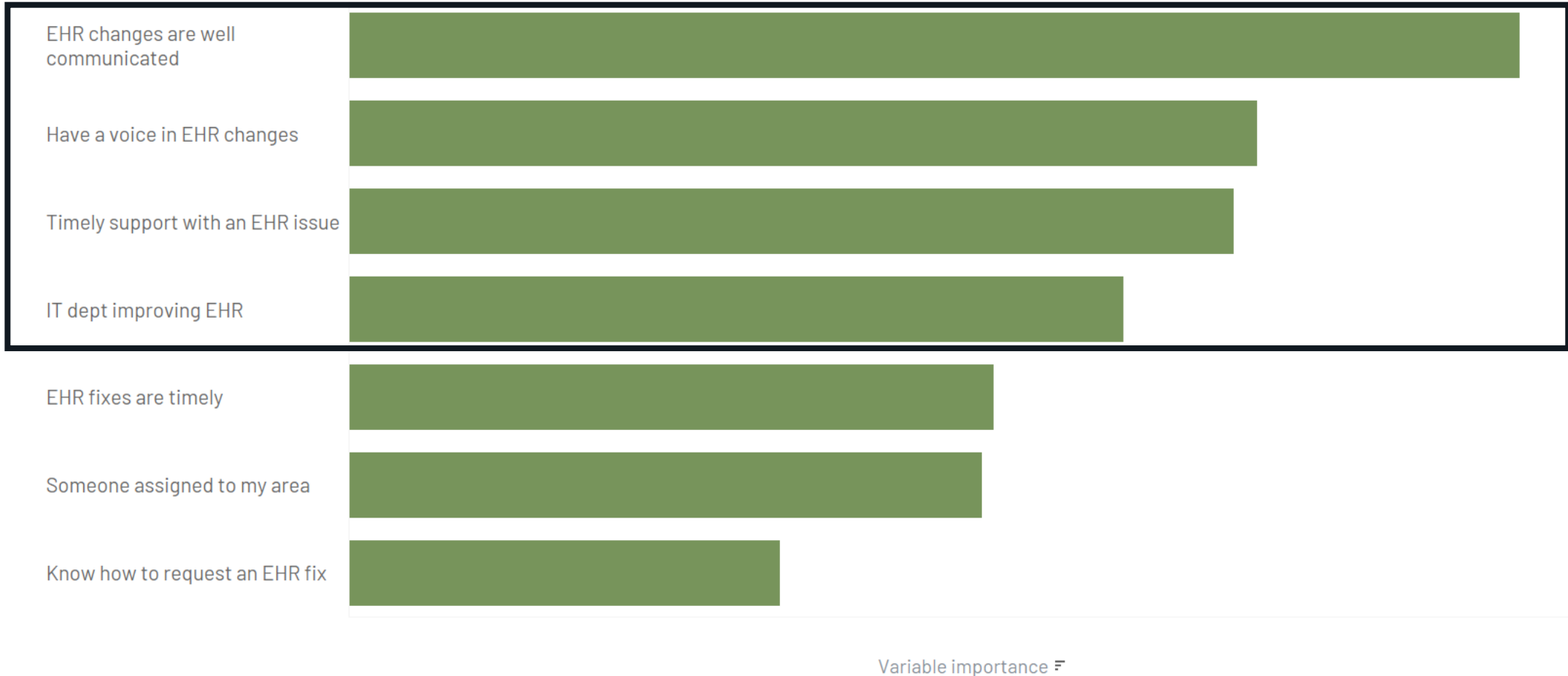
New Question Focused on EHR Upgrades

Do you agree that changes to the EHR in the most recent upgrade improved your experience using the EHR?

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Only 26% of Clinicians Feel Upgrades Are Improving the EHR

Agreement That Most Recent EHR Upgrade Improved the EHR Experience Includes data from Jan–Dec 2022
(n=12 organization measurements/12,094 clinicians)

Strongly agree	Agree	Indifferent	Disagree	Strongly disagree

6%	20%	44%	19%	11%

0%   100%
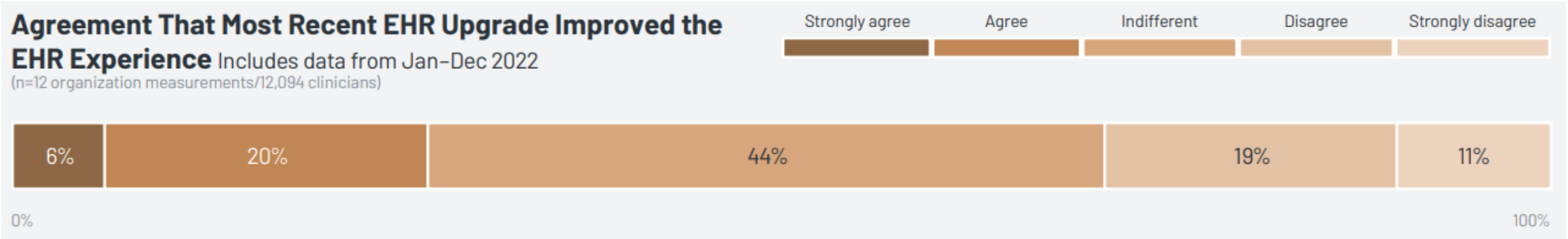
Organization leadership takes most blame for poor upgrade experience

Percent Agree EHR Stakeholders Deliver Well—by Agrees vs. Disagrees the Most Recent EHR Upgrade Improved the EHR
Physician respondents from Jan 2022—June 2023 only; sorted by biggest gaps in agreement

🟩 Strongly agree & agree
⬛ Strongly disagree & disagree

Organization/IT
20% (n=1,587)
77% (n=741)

EHR vendor
31% (n=1,583)
80% (n=743)

Personal accountability
47% (n=1,590)
83% (n=736)

0%   25%   50%   75%   100%

Percent that agree ✈
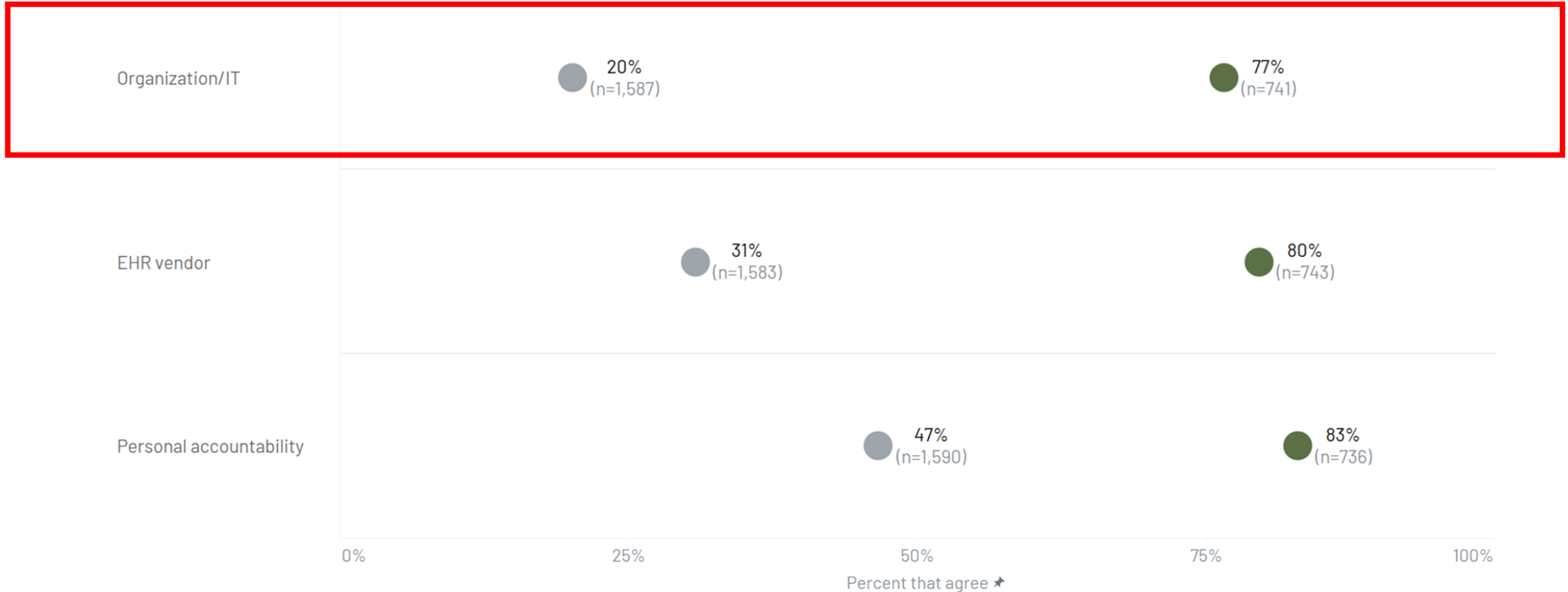
Clinician commentary on upgrades is extremely negative

Sentiment of Clinician Comments about EHR Upgrades
Includes data from Jan–Dec 2022 (n=2,694 comments from 1,855 clinicians)

Negative	Neutral	Positive

94.6%   3.1%   2.3%

0.0%   100.0%
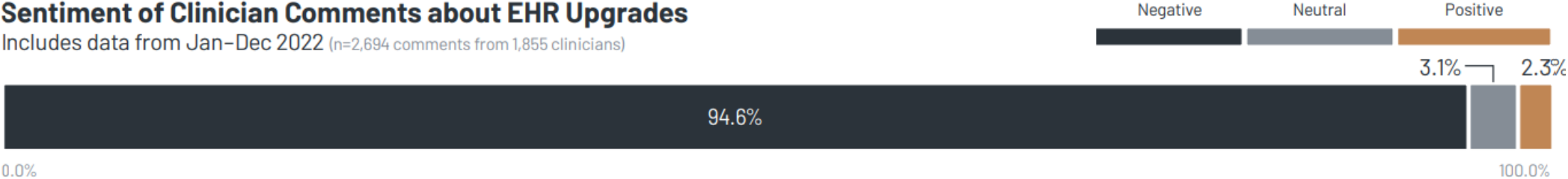
Common Topics in Clinician Comments about EHR Upgrades
Percent of clinician comments that mention topic; includes data from Jan–Dec 2022 (n=2,670 comments from 1,855 clinicians)

Topic	Percent
Disruptive	19.8%
Lack of communication	13.8%
Lack of education	13.7%
Changes to layout	12.8%
Too many changes	11.3%
Creates more issues	8.7%
Loss of functionality	8.6%
Lack of end-user input	7.4%
Creates more clicks	7.3%

0.0%   50.0%

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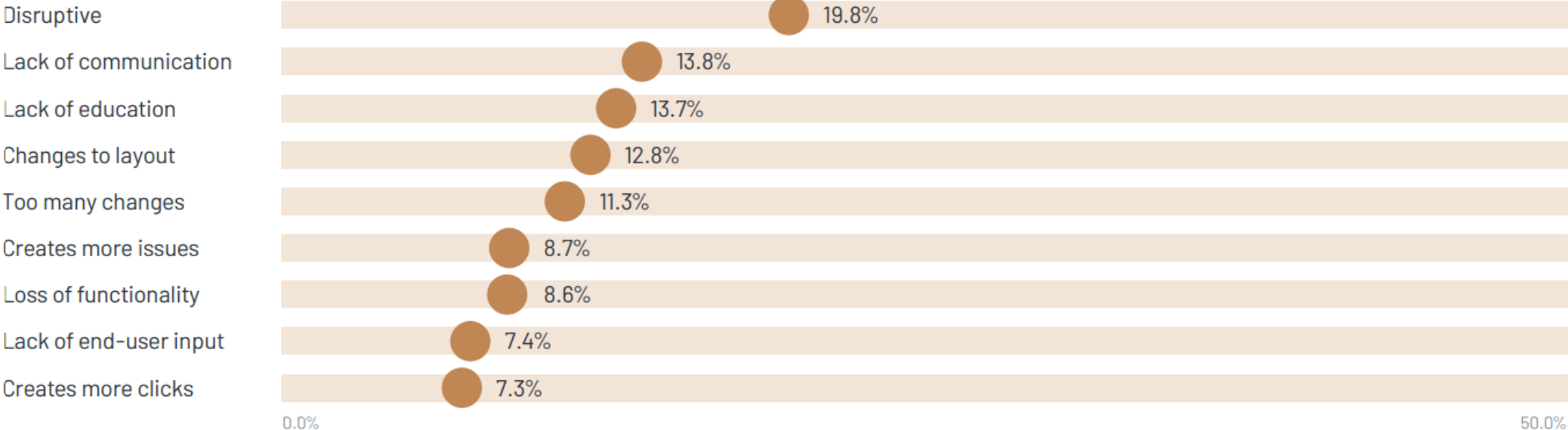
Clinicians Say EHR Upgrades Disrupt System Response Time and Reliability

Slowed system response time:

"The speed of the system seems to have diminished with each upgrade." – Physician, large health system

"With nearly every update, there are two to three weeks of significantly slower run time and troubleshooting of issues that weren't properly prepared for." – Nurse, large health system

"Since the last update the EHR is much slower and less responsive, taking longer and resulting in repeated tasks." – Nurse, large health system

"I had two weeks of errors and freezing after an update. This happens nearly quarterly." – Physician, large health system

System downtime:

"I don't want any more upgrades during the day that shut my computer down during a care session." – Allied health professional, large health system

"There is too much weekend downtime for upgrades." – Nurse, academic health system

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Insufficient Communication

Upgrade information is too generic:

*"It can be so overwhelming to keep up, so **most folks tune out the updates that don't apply to their daily use.** That means they can miss things that could be helpful."* —Physician, large health system

*"It is hard to read through update information when **I get details on 50 processes, only one of which applies to my area.**"* —Nurse, academic health system

*"**Too much of the information about updates is so generic that it is useless**, or at the least it isn't clear why I should pay attention to it. So I am still doing things the way I have for a while, and I am not taking advantage of the improvements that are being made."* —Physician, academic health system

Lack of information:

*"Updates are **constantly made and not explained.**"* —Nurse, community hospital

*"Send me an email that tells me what the updates were. **Don't just let me find out.**"* —Nurse, ambulatory care group

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Lack of input from end users

"Changes are made to the EHR without the frontline people being involved." —Nurse, community health system

"I want more of a voice in changes and updates." —Nurse, large health system

"Updates seem to have little clinical input from users." —Nurse, academic health system

"I have never seen any information about how we can give suggestions before upgrades or changes." —Allied health professional, large health system

"Modifications and updates are not user-focused and are for the benefit of IT." —Physician, large health system

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Getting water to the end of the row

Healthcare organizations need to improve their ability to communicate EHR changes to end users

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62

Leadership Teams Believe Their Super Users Communicate

Percent Selected As Roles Superusers Fill
Multiple selections possible (n=135 organizational responses)

Role	Percent
Communicating upcoming EHR changes	82% (n=111)
Communicating the needs of the department/group to IT	77% (n=104)
Attending a regular meeting	70% (n=95)
Obtaining a higher level of EHR training	52% (n=70)
Making specific code changes (physician builders who are actively building)	27% (n=36)

Percent selected

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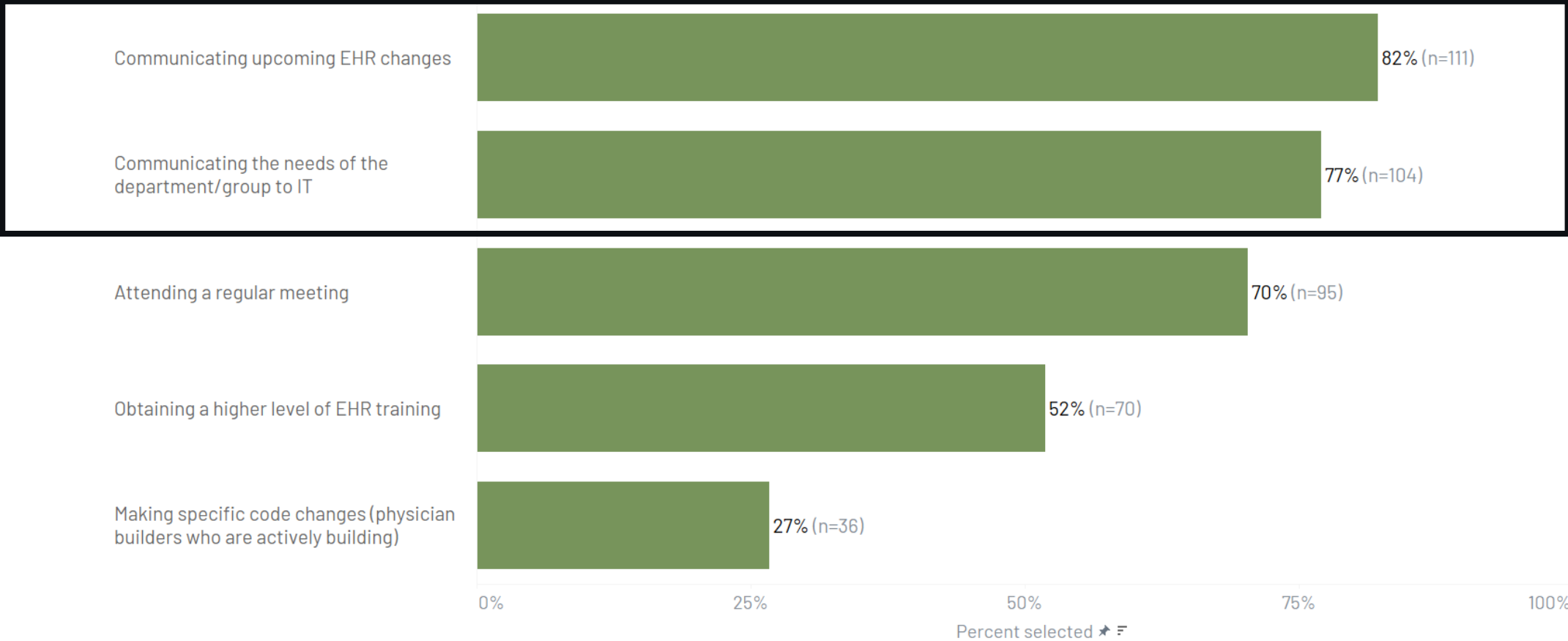
Only 60% of End Users Say Super Users Relay Clinician Feedback

Percent Agree About the Person Assigned to Help Their Department
Physician respondents from Jan 2022—June 2023 only

Is available when I need them — 75% (n=2,639)

Effectively trains users hwo to better use the EHR — 66% (n=2,589)

Helps me improve my workflows — 66% (n=2,578)

Brings my ideas to leadership — 60% (n=2,096)

0%   25%   50%   75%   100%

Percent that agree

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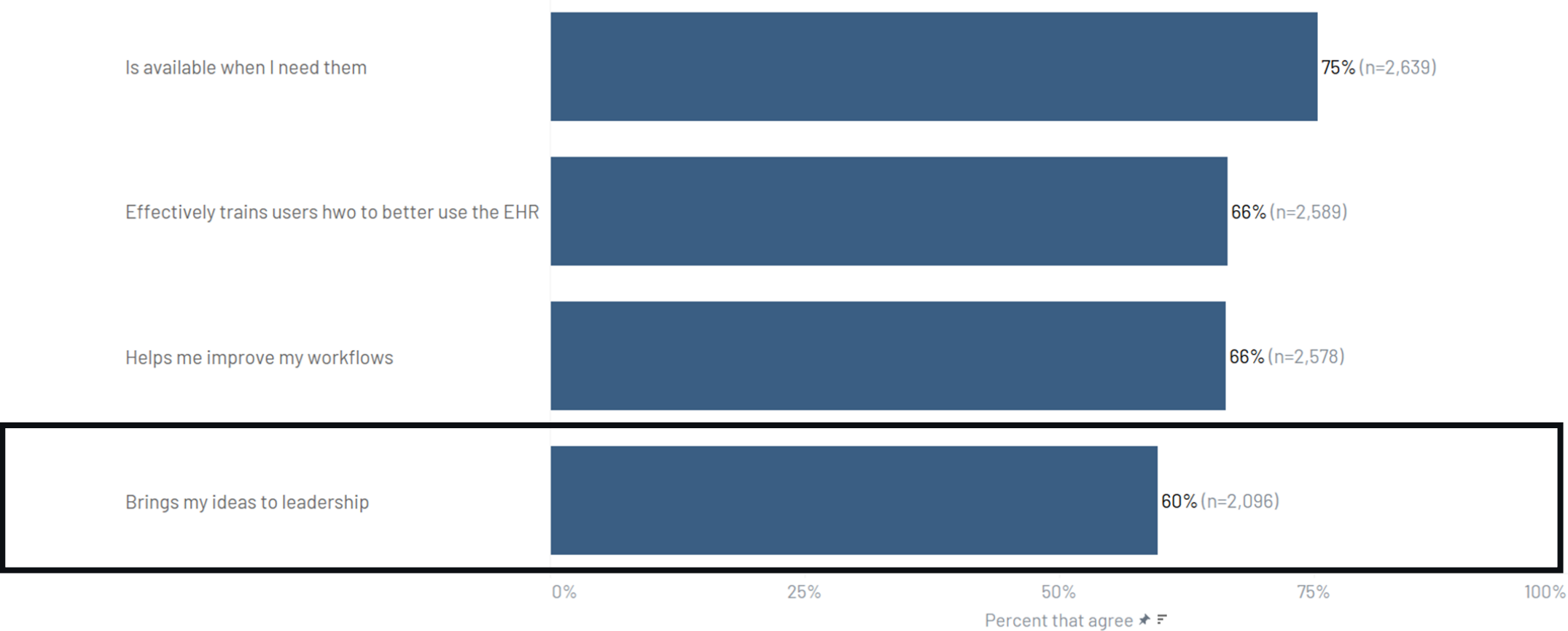
Less than 50% of Physicians Agree Changes Communicated Well

Percent Agree About EHR Support

Physician respondents from Jan 2022—May 2023 only

Category	Value
Timely EHR support	60% (n=18,397)
Know how to request an EHR fix	57% (n=17,119)
Someone assigned to my dept	53% (n=17,847)
EHR changes are well communicated	47% (n=18,252)
IT dept improving EHR	46% (n=17,203)
Have a voice in EHR changes	30% (n=18,190)
EHR fixes are timely	27% (n=16,859)

0%   25%   50%   75%   100%

Percent that agree ✦ ☰

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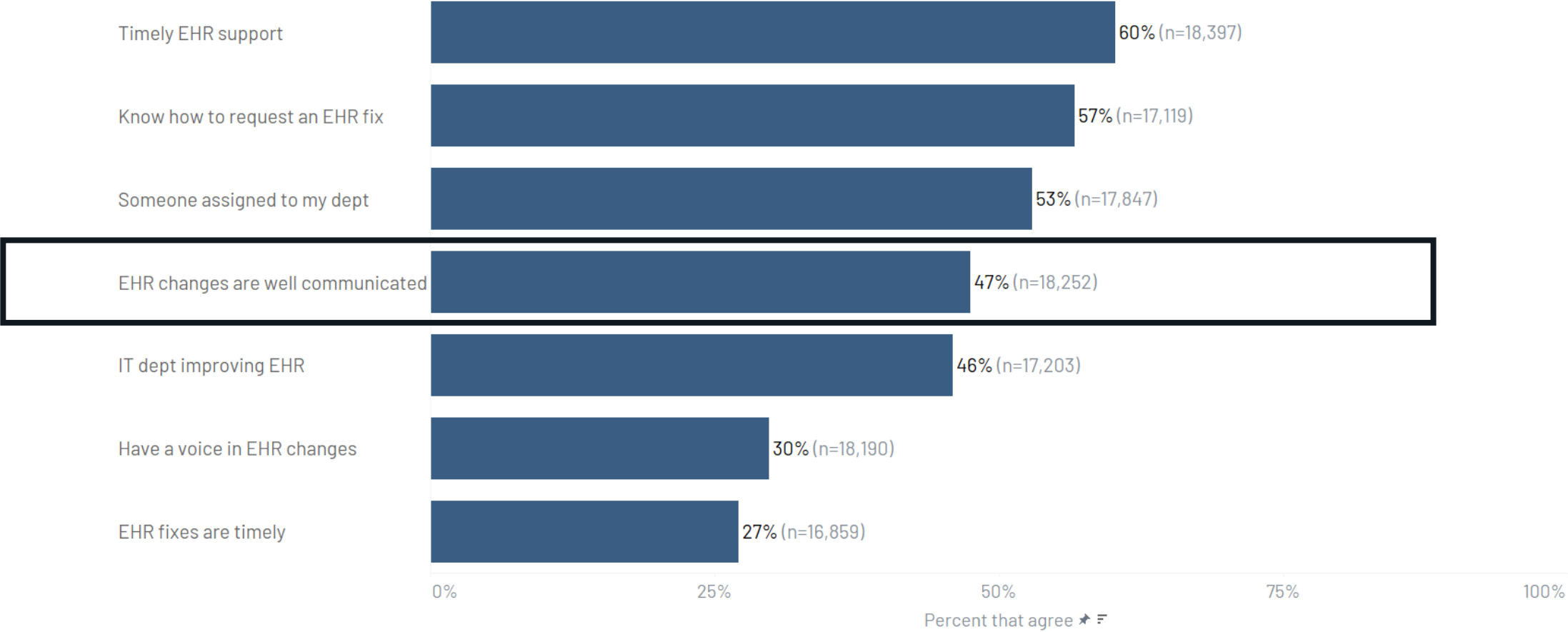
Clear Relationship Between Support, Burnout, and Turnover

Burnout & Plans of Leaving Organization—by Agreement That Their Organization/IT Delivers Well

Physician respondents from Jan 2022—May 2023 only
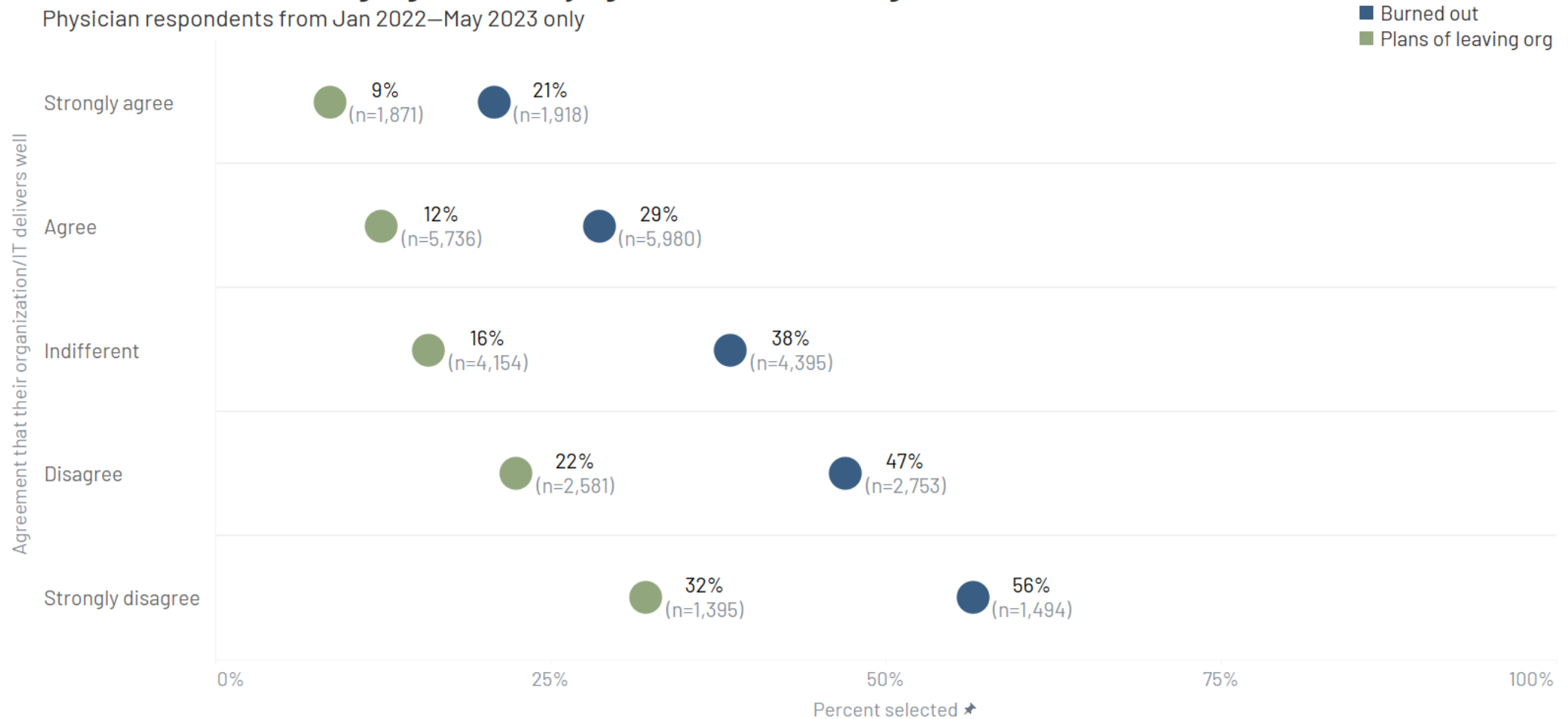
■ Burned out
■ Plans of leaving org

Agreement that their organization/IT delivers well

Strongly agree
9% (n=1,871)
21% (n=1,918)

Agree
12% (n=5,736)
29% (n=5,980)

Indifferent
16% (n=4,154)
38% (n=4,395)

Disagree
22% (n=2,581)
47% (n=2,753)

Strongly disagree
32% (n=1,395)
56% (n=1,494)

0%   25%   50%   75%   100%

Percent selected ★

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Harris Health System
Leveraging Informatics and IT Teams to Increase Feelings of EHR Support

HARRISHEALTH SYSTEM

Leveraging Informatics and IT Teams to Increase Feelings of EHR Support

February 2023

Harris Health' System's Informatics and IT departments work together with end users to understand and resolve issues, creating a robust EHR support for providers.

Program Goals
- Better understand the needs of end users through frequent engagements with the informatics and IT teams

Collaborative-Verified Best Practices
- Clinician Relationships and Communication
- Shared Ownership and Governance

Keys to Success
- IT/informatics teams' efforts are focused on making changes for clinicians instead of imposing changes on them
- Use EHR rounding to interact frequently with clinicians
- A fast track for quick, obvious changes
- Requests are submitted following a consistent process

Outcomes
- 84th percentile for provider agreement that the organization/IT department delivers well
- 81st percentile for provider agreement that they receive timely EHR support
- 84th percentile for provider agreement that they have a voice in EHR changes
- 99th percentile for agreement that EHR fixes are timely
- 80th percentile for provider agreement that the IT department is improving the EHR for clinicians

Prioritization Rubric:

Category	Description	Weighted Score
Patient Safety	Provides necessary structures or processes to minimize harm to patients with known or potential risk(s)	3
Regulatory	Provides necessary structures or processes to meet regulatory, professional, quality, legal, or ethical standards	2
Efficiency	Provides processes or outcomes needed to enhance workflow, content changes, or financial impact (cost avoidance, cost recovery, and reimbursement)	1

Impact	Description	Weighted Score
High	High volume (75%); high risk; multiple work groups (e.g., units) affected or whole organization affected; mission-critical service(s) affected; required for next release	3
Medium	Medium volume (26%-74%); single work group (e.g., unit) affected or VIP user affected; supports necessary system operations; required eventually but could wait until a later release date	2
Low	Low volume (25%); one user affected; low risk; noncritical service; functional or quality enhancement; would be nice to have someday if resources permit	1
None	No immediate impact on users	0

Urgency	Description	Weighted Score
High	No workaround exists; multiple services affected	3
Medium	No workaround exists; single services affected	2
Low	An immediate solution or workaround can be provided	1

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Cottage Health & Chartis: Clinical Informatics Improvement

Cottage Health partnered up with Chartis to restructure their clinical informatics team and processes, resulting in increased trust in the organization and IT efforts.

November 2022

Cottage Health and Chartis: *Clinical Informatics Improvement*

Cottage Health partnered with Chartis to restructure their clinical informatics team and processes to align with organizational priorities, decrease unnecessary variability in care, help drive improvements in care effectiveness and efficiencies, and reduce burnout potential. Leveraging this new clinical informatics structure, Cottage Health has also increased organizational trust in IT and informatics.

Keys to Success
•Remember that successful teamwork happens when IT/informatics efforts are focused on making changes for clinicians instead of imposing changes on them
•Use EHR rounding to interact frequently with clinicians
•Build teamwork and alignment by encouraging clinical leaders and IT/informatics groups to share their goals with each other

Outcomes
•15% increase in repeat respondent agreement that their organization/IT team delivers well.
•86th percentile for agreement that clinicians have a voice in EHR changes.

- Monthly scorecard

- Single page

- Easy to read and digest

- Clear communication tool

- Celebrate our wins – Quick and Big

- Accountability and Transparency

bellin health

Planning Consistent and Tailored Communication

March 2023

Bellin Health
Planning Consistent and Tailored Communication

Bellin Health built communication planning into their governance process and utilized leadership and superusers to help facilitate the communication for changes to the EHR.

Program Goals
•Effectively communicate EHR changes and other important information to clinicians

Collaborative-Verified Best Practices
•Clinician Efficiency and Personalization
•Shared Ownership and Governance

Keys to Success

• Push communication in many different ways and adapt communication methods to the type of message and audience

• Build communication strategies into the governance process

• Be consistent with delivery methods and formatting for regular communication

• Communication should come from a trusted source, such as a leader, educator, or superuser, rather than IT people

Outcomes
•Providers 99th percentile for communication satisfaction
•Nurses 94th percentile for communication satisfaction

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Dayton Children's
Best Practice Alert (BPA) Optimization

Dayton Children's Hospital uses a specific BPA committee and feedback from end users to create the most effective BPAs.

Program Goals

- Reduce unnecessary best practice alerts to improve alert effectiveness and create a smoother EHR workflow

Keys to Success

- Set aside one day each month when all necessary contributors can make quick and needed changes

- Use prioritization to avoid long lists of EHR enhancement priorities.

Outcomes

- 13-point percentage increase in agreement that EHR alerts prevent care-delivery mistakes

- 99th percentile for agreement that alerts prevent care-delivery mistakes

- 95th percentile in agreement that users have a voice in EHR changes

Feedback Outside Governance Meetings

- Not all requests rise to the level of optimizations needing governance

  - Break fixes

  - KLO work

  - Optimizations requiring less than four hours of build work

- Must be nimble; need input around satisfaction between meetings

  - **QR codes embedded in certain order sets facilitate in-the-moment feedback**

- Can use email updates and voting between meetings for requests that can't wait a month for the next governance meeting

Other Tools—Epic BPA Feedback

- DCH implemented BPA feedback when it became available from Epic.

- Feedback flows to a pool In Basket monitored by CIS and CI

- Allows builders and informaticists to investigate and respond to user concerns

- Helps capture information to show us when we are (and are not) meeting the needs of our users
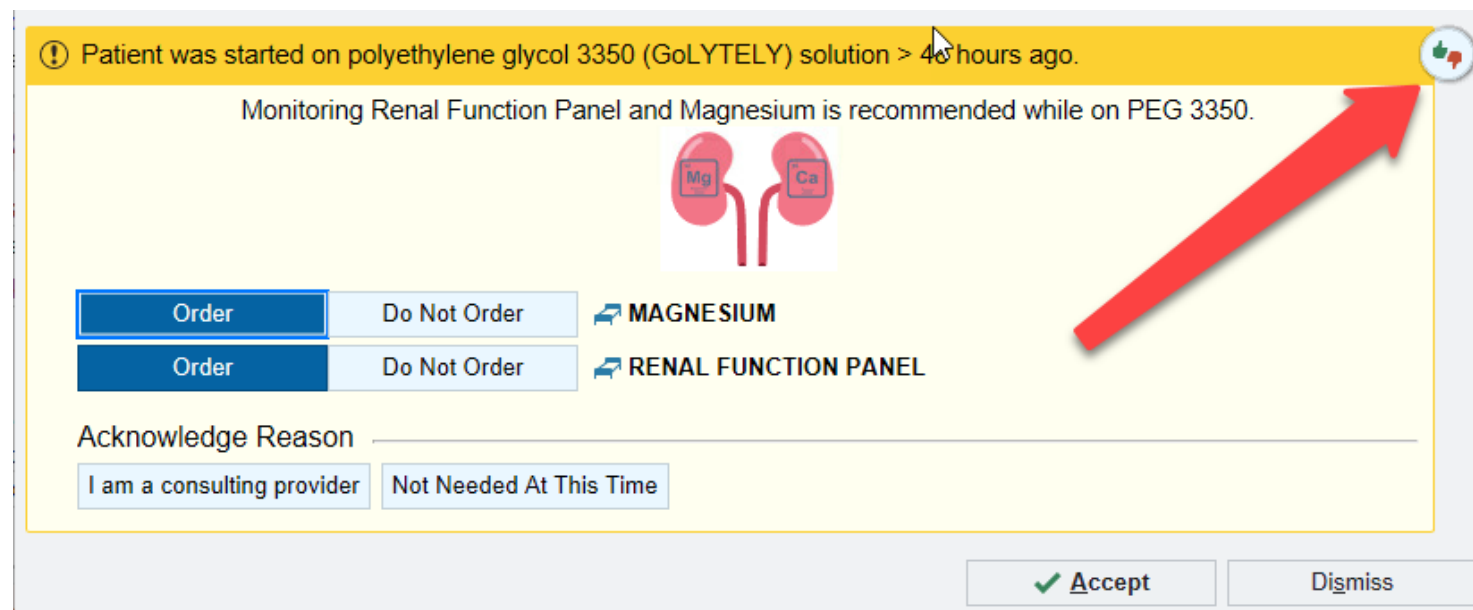
Summary

- Reported provider burnout has never been higher

- Efficient documentation and strong organizational support tightly related to burnout reduction

- Workflow-specific EHR education critical for improving provider efficiency

- Overall support experience goes hand in hand with EHR upgrade experience

- Organizations are doing these things well and are eager to share!

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Thank you ☺

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