Creating a Manageable Cockpit: A Shared Responsibility

HL7 EHR Clinician Burden Workgroup
9.20.21
1-2p CT
Christine A. Sinsky, MD, FACP
Vice President, Professional Satisfaction
American Medical Association
Agenda

• Research
• 3 EHR Tasks
• Action Steps
• Discussion
Quadruple Aim
Care of the Pt: Care of Care Team

Take-away

Ann Fam Med 2014
16 years wishing for an EHR
16 years with an EHR

EHR changed the nature of physician work and my ability to be the physician I wanted to be.
I am no longer a physician but the data manager, data entry clerk and steno girl.

I am frustrated, unhappy and I am unable to do my best in caring for my patients.

I became a doctor to take care of patients. I have become the typist.

Wrong work disconnected from purpose and thus burned out
On a recent visit to a new doctor I believe we made eye contact twice—upon her arriving and leaving.

And yet, I am much more able to receive advice

From people I feel are thinking of me as a person

rather than just

the next patient.

Nearly ½ of MDs Burned Out

(45% → 54% → 44%)

*40% > than gen’l pop: controlled for hrs worked, educational level, age, gender, relationship status
Burnout affects

**Patients**
- ↑ Mistakes (2x risk)
- ↓ Pt satisfaction (2x pt c/o)

**Physicians**
- ↑ Divorce
- ↑ Death

**Organizations**
- ↑ Malpractice
- ↑ Turnover (2x leave 2y)
The Business Case for Investing in Physician Well-being

Calculate the Cost of Physician Burnout for Your Organization\(^1,2\)

- **1,000 physicians**
- **44% burnout**

Impact of Physician Burnout in Your Organization

- **21 / year**
- **$10,694,444 / year**

Number of physicians in your organization turning over due to burnout per year

Estimated cost of physician turnover per year due to physician burnout

https://edhub.ama-assn.org/steps-forward/module/2702510
Burnout costs US Healthcare system

Estimating the Attributable Cost of Physician Burnout in the United States
Shasha Han, MS; Tait D. Shanafelt, MD; Christine A. Sinsky, MD; Karim M. Awad, MD; Liselotte N. Dyrbye, MD, MHPE; Lynne C. Fiscus, MD, MPH; Mickey Trockel, MD; and Joel Goh, PhD

Background: Although physician burnout is associated with negative costs, it cannot be mediated.

Object: Tional (l

Design: model.

Setting: Participants

Measures: Number of reports.

Results: On a national scale, the conservative base-case model estimates that approximately $4.6 billion in costs related to physician turnover and reduced clinical hours is attributable to burnout. The economic cost ranged from $4.6 billion to $7.6 trillion. Stochastic sensitivity analysis revealed that burnout can increase malpractice, medical errors, and reduced clinical satisfaction. The framework allows for calculations of any of the following in the cost of burnout:

- Physician burnout costs:
  - $4.6 B per yr
  - $7600 per MD per year

(limited to costs of turnover and reduced clinical effort; does not include costs for malpractice, medical error and satisfaction)

For author affiliations, see end of text.

This article was published at Annals.org on 28 May 2019.

Goh et al, Annals IM, May 27, 2019
http://annals.org/aim/article/doi/10.7326/M18-1422
Not a Resiliency Deficit

- 5400 physicians
- Resilience higher in MDs than gen’l pop ($p < 0.001$)

*Systems problem, need systems solutions* (not just self-care.)

West et al, JAMA Open 2020

30% of most resilient MDs burned out
While burnout *manifests* in individuals, it *originates* in systems.
More time documenting care, than delivering care.

$3 Trillion industry underperforming
EHR Tasks associated with Burnout

Documentation
- WOW OR 13 ↑ burnout
- Structured Text

Order Entry
- Cognitive load

Inbox
- Sisyphean
- OR 6 ↑ Burnout
57 MDs, 4 specialties, 4 states, 7 EHRs

- 50% day EHR/desk
- 1 hr F2F: 2 hr EHR
- 1-2 hr EHR at night “pajama time”
Tethered to the EHR: Primary Care Physician Workload Assessment Using EHR Event Log Data and Time-Motion Observations

Brian G. Arndt, MD

ABSTRACT

142 family physicians
3 year: 2013-2016
118 M EHR events
Validated by direct observation

50% of day on EHR

6 hr/d, incl 1.4 hr/d personal time
4 hr: CPOE, billing, coding, documentation, refills
(most of this can be done by team)

and system security accounted for nearly one-half of the total EHR time (157
“Pajama Time”
Sat nights belong to EHR

EHR Usage Frequency by Time of Day

Date night
Week nights

http://www.annfammed.org/content/15/5/419.full
Dissatisfaction w/EHR independently associated w/ intention

- ↓ clinical work
  - in next 12 months (OR 1.44, p<0.001)
- leave current position
  - in next 24 months (OR 1.57, p<0.001).
Cognitive load impacts burnout

The Joint Commission Journal on Quality and Patient Safety 2020; 000:5–10

Physician Task Load and the Risk of Burnout Among US Physicians in a National Survey

Elizabeth Harry, MD; Christine Skricky, MD; Lenn N. Deppe, MD, MHPE; Maryam S. Mahowald, PhD; Mickey Trekel, MD, PhD; Michael Tierney, PhD; Lindsey E. Carluccio, MBA; Colin B. Woo, MD, PhD; Salk D. Shangela, MD

Background: Cognitive task load can affect providers’ ability to perform their job well and may contribute to burnout.

Methods: The researchers evaluated whether task load, measured by the National Aeronautics and Space Administration (NASA) Task Load Index (TLX), correlated with burnout scores in a large national study of US physicians between October 2017 and March 2018 with a 17.1% response rate. Burnout was measured using the Emotional Exhaustion and Depersonalization scales of the Maslach Burnout Inventory, and a high score on either scale was considered a manifestation of professional burnout. The NASA-TLX was chosen to evaluate physician task load (PTL) due to its robust validation and use across many industries, including health care, over the past 30 years. The domains included in the PTL were mental, physical, and temporal demands, and perception of effort.

Results: Mean score in task load dimension varied by specialty. In aggregate, high emotional exhaustion, depersonalization, and one component of burnout were seen in 30.8%, 27.4%, and 44.3% of participants, respectively. The mean PTL score was 260/9400 (standard deviation = 71.6). The specialties with the highest PTL score were emergency medicine, obstetrics-gynecology, general surgery, urology, and internal medicine subspecialists. A dose response relationship between PTL and burnout was observed. For every 10-point (10%) decrease in PTL, there was 33% lower odds of experiencing burnout (odds ratio = 0.67, 95% confidence interval = 0.45–0.97, p = 0.004).

Conclusion: The relationship between PTL and burnout may suggest areas of particular focus to improve the practice environment and reduce physician burnout.

Health care is an intrinsically complex field, and in the wake of policy changes, an aging population with increasingly complex comorbidities, health care reform, advances in medical knowledge, and electronic health record adoption, it has been cited as one of the most complex industries ever created. This complexity is increasing at an alarming pace and directly affects the day-to-day work of health care providers. In 1973 Daniel Kahneman, the Nobel Prize–winning psychologist known for his work in judgment, decision making, and behavioral economics, postulated that human beings have limited cognitive resources available for attention.
Cognitive Load: CPOE

Introduced new safety hazard

https://ntrs.nasa.gov/search.jsp?R=20060017835
More training is not answer

EHR Workload

Cognitive load for RNs and MDs remains high 2 years after EHR implementation


It isn’t a learning curve issue
IB volume: OR 6 for burnout
  top v lowest quartile
  >300 messages/wk  v < 150

WOW: * OR 13 for burnout
  top v lowest quartile
  >3 hr/wk  v < ½ hr

*WOW on days scheduled to see patients/FTE-clinical (total hours did not count WOW on days without scheduled patients)
US vs International EHR-work (same vendor)

Figure 2. Distribution of Total Electronic Health Record (EHR) Time per Day Between US and Non-US Clinicians From 371 Health Systems

The brown color represents the overlap between the US and non-US health systems in this overlaid histogram.

US physicians at median spend same EHR time/d as International physician at 99%ile

2021 JAMA IM Holmgren https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2774129
Inbox messages

US physicians spend 2.6x more time on inbox than international physicians

2021 JAMA IM Holmgren https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2774129
Solutions

- Culture of Wellness
- Personal Resilience
- Efficiency of Practice

Stanford WellMD model
Save 3-5 hours/day

- Practice Re-engineering
  - Pre-visit lab
  - Prescription mgt
  - Expanded rooming/discharge
  - Optimize physical space
  - Inbox management
  - Team documentation

\[ \text{3+ hr/d} \]

stepsforward.org

Clinical Excellence Depends on Operational Efficiency
TEAM-BASED CARE TRAINING CAMP
An On-Site Intensive with Bellin Health and AMA

APRIL 20-22, 2020
Lambeau Field, Green Bay, WI
“Working Smarter”
2.5:1
“Working Smarter”
2.5:1

- 20% ↑
- 20% ↓
- 47% ↓ time on orders
- 50% ↓ burnout

Training Camp
4/1/19

Pts/day
- 13.6
- 14.4
- 13.2

Document’n
- 20% ↑
- 20% ↓

 time/pt
- 47% ↓ time on orders
- 50% ↓ burnout
Rethink Documentation

MDs/nurses hrs q wk providing doc that does not add value
Primary purpose: clinical communication
Clinical Documentation

The patient presents with palpitations. The onset was just prior to arrival. The course/duration of symptoms is resolved. Character of symptoms skipping beats. The degree at present is none. The exacerbating factors is none. Risk factors consist of none. Prior episodes: none. Therapy today: none.

– Six pages, no meaning; Pt’s story? Dr’s thinking? Care?
– Like many barriers, etiology complex
– End result: compromise of clinical quality and efficiency
More than waste

The patient’s story matters
Less is More

Smart phrases and
documentation by drop down
If it wasn't documented, it wasn't done.
Problem Oriented View

Impact of a problem-oriented view on clinical data retrieval

Michael G. Semanik¹, Peter C. Kleinschmidt², Adam Wright³, Duwayne L. Willett 4, Shannon M. Dean¹, Sameh N. Saleh 5, Zoe Co⁶, Emmanuel Sampene⁶, and Joel R. Buchanan²

Research and Applications

Auto-summarization:
- ↓ time to review data
- ↓ cognitive load
- ↓ errors
- ↑ EHR satisfaction

was to determine if problem-oriented view (POV) auto-summaries improve data retrieval workflows. We hypothesized that POV users would perform tasks faster, make fewer errors, be more satisfied with EHR use, and experience less cognitive load as compared with users of the standard view (SV).
PROBLEM LIST

- Diabetes Mellitus Type II
- Degenerative Joint Disease
- Epilepsy

MEDICATIONS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamotrigine</td>
<td>Take 2 tabs (200mg) AM and Take 1.5 Tabs (150 mg) PM Give crushed per G-Tube</td>
</tr>
<tr>
<td>Midazolam</td>
<td>Give 7 mL per G-Tube for seizures greater than 5 minutes.</td>
</tr>
</tbody>
</table>

LABS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Level</th>
<th>Reference Range</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamotrigine</td>
<td>4.8 µg/mL</td>
<td>(1.5 to 10 µg/mL)</td>
<td>1/11/2020</td>
</tr>
</tbody>
</table>

IMAGING

9/12/2018 MRI Head W & W/O Contrast

PROCEDURES

12/14/2019 Routine EEG

CLINIC NOTES

- 3/11/2020 Epilepsy Dr. Stanley
- 9/23/2019 Neurosurgery Dr. Livingstone

HOSPITALIZATIONS

- 7/31/2019 Neurosurgery Dr. Livingstone
- 8/2/2018 Neurology Dr. Stanley
Efficiency of Practice
Culture of Wellness
Personal Resilience
“Our physicians went from hating their EHR to finding it incredibly helpful in a matter of days.”

What changed?
Verbal orders became the norm
Med rec entrusted to RNs and MAs
Documentation for billing simplified
Role of Leadership: Hawaii Pacific Health

- EVP/CQO Dr. Melinda Ashton
- Eliminated 10 of 12 most common alerts
- Cord care field for non-newborns

“Everything that we might now call stupid was once thought to be a good idea.”
Debunking regulatory myths

The AMA provides regulatory clarification to physicians and their care teams in an effort to aid physicians in their day-to-day practice environment.

Pain assessments
Are clinicians required to ask patients about pain during every consultation, regardless of the reason for the visit?

Ancillary staff and/or patient documentation
Who on the care team can document components of E/M services and what is the physician required to do?

Medical student documentation
Are teaching physicians required to re-document medical student entries in the patient record?

Computerized Provider Order Entry (CPOE)
Can a nurse, certified medical assistant (MA) or non-credentialed staff enter orders in the EHR as requested by the physician?
Becoming people of “Yes”
**Attestation criteria**

For organizations with at least 100 physicians and/or APPs

The following recently revised criteria will be used for the 2021 Joy in Medicine Health System Recognition Program for organizations with 100 physicians/APPs or more. Supporting documentation is required.

<table>
<thead>
<tr>
<th></th>
<th>Bronze (need 5/6 criteria)</th>
<th>Silver (+ 5/6 Bronze criteria)</th>
<th>Gold (+ 5/6 Silver and Bronze criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commitment</strong></td>
<td>Organization has developed a formalized well-being committee and/or office of well-being. This must be separate from your Employee Assistance Program. Supporting documentation: • Provide the composition, structure, charter and key objectives of this committee.</td>
<td>Establish an executive leadership position (with at least 0.5 FTE) that is directly responsible for physician well-being. This individual must report directly to a C-suite leader. Supporting documentation: • Provide name of individual and job description.</td>
<td>Organization identifies formal strategic arm around improving physician well-being as part of organization's strategic plan. Supporting documentation: • Provide formal strategic plan from your organization that identifies physician well-being as a strategic aim.</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Provide aggregate findings from your most recent burnout assessment and demonstrate that these data are shared with your organization. Supporting documentation: • Agenda or slides from &quot;Grand Rounds&quot; or similar events.</td>
<td>Assessment of physician well-being every 12-24 months using one of four validated tools (Mini-I, Maslach Burnout Inventory, Mayo Well-Being Index, Stanford Physician Wellness Survey) for at least two consecutive intervals. AND Organization leadership/board reviews burnout metrics and establishes targets for improvement. Supporting documentation: • Provide aggregate findings from at least two consecutive survey administrations of burnout assessments. • Leadership/board meeting agenda and/or minutes.</td>
<td>The costs of physician burnout are estimated annually and reported to the organization’s leadership/board. (Consider using the AMA’s calculator which is based on algorithms found here.)</td>
</tr>
<tr>
<td><strong>Efficiency of practice environment</strong></td>
<td>&quot;WOW or WOW&quot; data is collected via EHR audit log data for select specialties. Supporting documentation: • Narrative statement summarizing the WOW or WOW data is reported confidentially to the AMA. • Share methodology for calculating WOW.</td>
<td>WOW or WOW results reported to organization leadership/board. Supporting documentation: • Board meeting minutes/agenda.</td>
<td>Demonstrate how the organization has developed an intervention plan based on results from WOW or WOW data. Supporting documentation: • Provide intervention plan and root cause analysis.</td>
</tr>
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</table>
De-implementation checklist

In an effort to reduce unintended burdens for clinicians, health system leaders can consider de-implementing processes or requirements that add little or no value to patients and their care teams. Physicians themselves are often in the best position to recognize those unnecessary burdens in their day-to-day practice. The following list includes potential de-implementation actions to consider.

**EHR**

☐ Minimize alerts
  - Retain only those alerts with evidence of a favorable cost-benefit ratio

☐ Simplify login
  - Simplify and streamline login process, leveraging options like single sign-on, RFID proximity identification, bioidentification (fingerprint, facial recognition, etc.)

☐ Extend time before auto-logout
  - Consider extending time for workstation auto-logout
  - Consider customizing workstation location and the security level to use patterns of the specific user

☐ Decrease password-related burdens
  - Consider extending the intervals for password reset requirements
  - Help users create passwords that are both strong and easy to remember (i.e., by allowing special characters and spaces, and by allowing longer passwords that can be passphrases)
  - Consider use of password keeper programs

☐ Reduce clicks and hard-stops in ordering
  - Reduce requirements for input of excessive clinical data prior to ordering a test
  - Eliminate requirements to fill fields attesting to possible pregnancy in males or women over 50 years old

☐ Eliminate requirements for password revalidation
  - Identify ways to reduce unnecessary requirements for users to re-enter username/password when already signed in to EHR, to send prescriptions (Note: Organizations may choose to keep this requirement in place for opioid prescriptions)

☐ Reduce note-bloat
  - Reduce links embedded in visit note documentation templates that automatically pull in data from other parts of EHR contributing to “note bloat,” but adding little if any true clinical value
Quadruple Aim
Care of the Pt: Care of Care Team

Take-away

Ann Fam Med 2014
Care better than we’ve ever seen;

health better than we’ve ever known;

cost we can all afford,

delivered by professionals who find joy in their work as they commit to serve others.

*Adopted from Dr. Catherine Lucey of UCSF.*