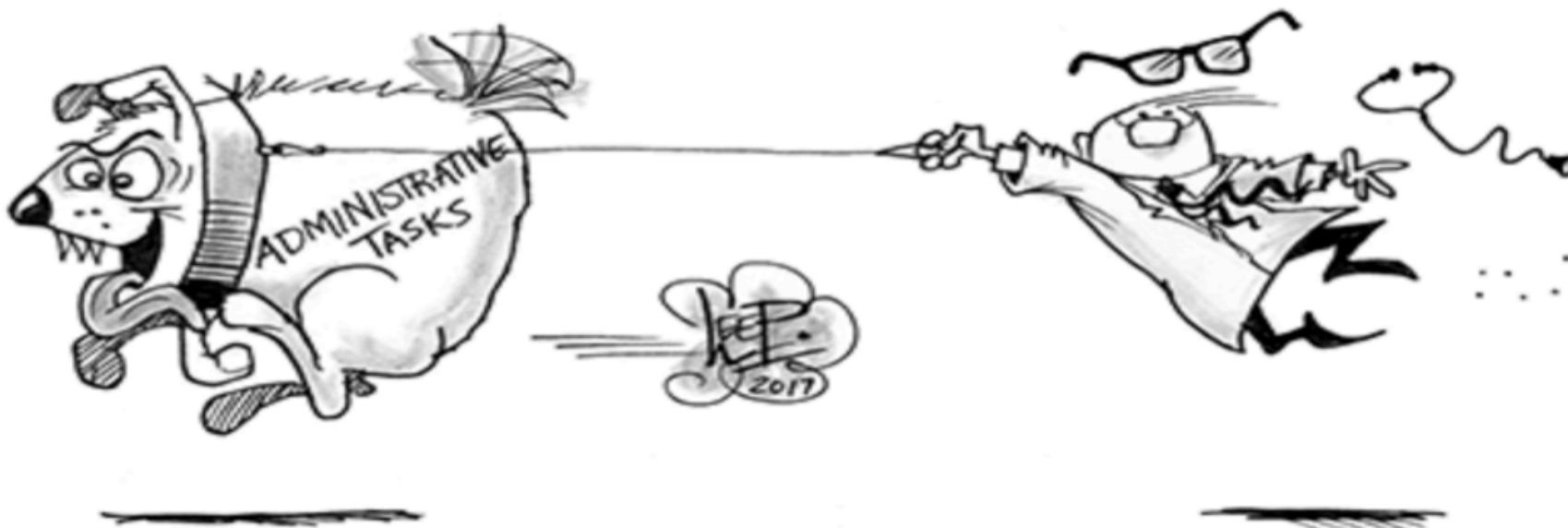


“Reducing Clinician Burden” Project

Health Level Seven (HL7)
Electronic Health Record Work Group
(EHR WG)

1 June 2020

HL7[®]
International



Moral Injury?

Clash of Clinical and Business Models?

- “[Clinicians know] how best to care for their patients but [are] blocked from doing so by systemic barriers related to the business side of health care.”
 - Washington Post: “Too many tests, too little time: Doctors say they face ‘moral injury’ because of a business model that interferes with patient care” – 1 February 2020

Quantifying the EHR Burden

Surveys Say...

- 3 out of 4 physicians believe that EHRs increase practice costs, outweighing any efficiency savings – Deloitte Survey of US Physicians, 2016
- 7 out of 10 physicians think that EHRs reduce their productivity – Deloitte
- 4 in 10 primary care physicians (40%) believe there are more challenges with EHRs than benefits – Stanford Medicine/Harris Poll, 2018
- 7 out of 10 physicians (71%) agree that EHRs greatly contribute to physician burnout – Stanford/Harris
- 6 out of 10 physicians (59%) think EHRs need a complete overhaul – Stanford/Harris
- Only 8% say the primary value of their EHR is clinically related – Stanford/Harris
- [Physicians express that EHR] systems had detracted from professional satisfaction (54%) as well as from their clinical effectiveness (49%) – Stanford/Harris

Quantifying the EHR Burden

Few Clinicians Involved in EHR Decision

- "No other industry... has been under a universal mandate to adopt a new technology before its effects are fully understood, and before the technology has reached a level of usability that is acceptable to its core users." — New England Journal of Medicine, Transitional Chaos or Enduring Harm? The EHR and the Disruption of Medicine, 22 Oct 2015
- "Many clinicians know what they want — but haven't been asked... Our biggest mistake lies not in adopting clunky systems but in dismissing the concerns of the people who must use them." — Ibid.
- "Few physicians and nurses were involved in the decision-making process of which EHR to implement in their workplace. Of physician participants, 66 percent said they had no input, 28 percent had input... Of nurse and [advance practice nurse] participants, 80 percent said they had no input, 18 percent had input..." — Becker's Healthcare - [Survey finds] Nearly half of physicians think EHRs have decreased quality of care, 1 May 2019
- "Of the physician and nurse/APRN participants who had input in choosing their workplace's EHR system, just 2 percent said the system they wanted was chosen." — Ibid.

Quantifying the EHR Burden

EHRs Co-Opted for Other Purposes

- “Although the original intent behind the design of EHRs was to facilitate patient management and care, the technology largely has been co-opted for other purposes.
 - “Payers see the EHR as the source of billing documentation.
 - “Health care enterprises see it as a tool for enforcing compliance with organizational directives.
 - “The legal system sees the EHR as a statement of legal facts.
 - “Public health entities see it as a way to use clinicians to collect their data at drastically reduced costs.
 - “Measurement entities see the EHR as a way to automate the collection of measure data, reducing their reliance on chart abstraction.
 - “Governmental entities see it as a way to observe and enforce compliance with regulations.

“All these impositions on EHR systems have created distractions from their potential value in supporting care delivery... The ability of these systems to support care delivery will not improve unless physicians and others who deliver care insist that the functions needed by clinicians and their patients take priority over non-clinical requirements.”

— American College of Physicians, Putting Patients First by Reducing Administrative Tasks... 2 May 2017

THE MODERN MEDICAL TEAM



Based on Mandates of...

External Entities

Internal Entities

WHAT – Mandate	WHO - Entity
Laws	Legislative Body
Regulations	Regulatory Agency – Federal, State, Regional
Claims, Payment Policies	Public and Private Payer
Reporting Policies	Public Health Agency
Accreditation, Licensing Policies	Accreditation, Licensing Agency
Practice Guidelines	Professional Society and others
HIT Standards	HIT Standards Development Organization (SDO)
Software Design and Implementation	EHR/Other System Software Developer
Organizational, Procurement Policies	Administration
Financial, Billing Policies	Finance
Unit Practices, Policies	Department, Service, Specialty
Software Management, Implementation	Information Technology (IT)
HIM Practices, Policies	Health Information Management (HIM)

Weighing Substantive Burden and Constraint on...
Clinician Practice – at the Point of Care
Supporting Patient Health – Serving Healthcare Needs – with Personal Interaction

Reducing Clinician Burden

Defining Terms

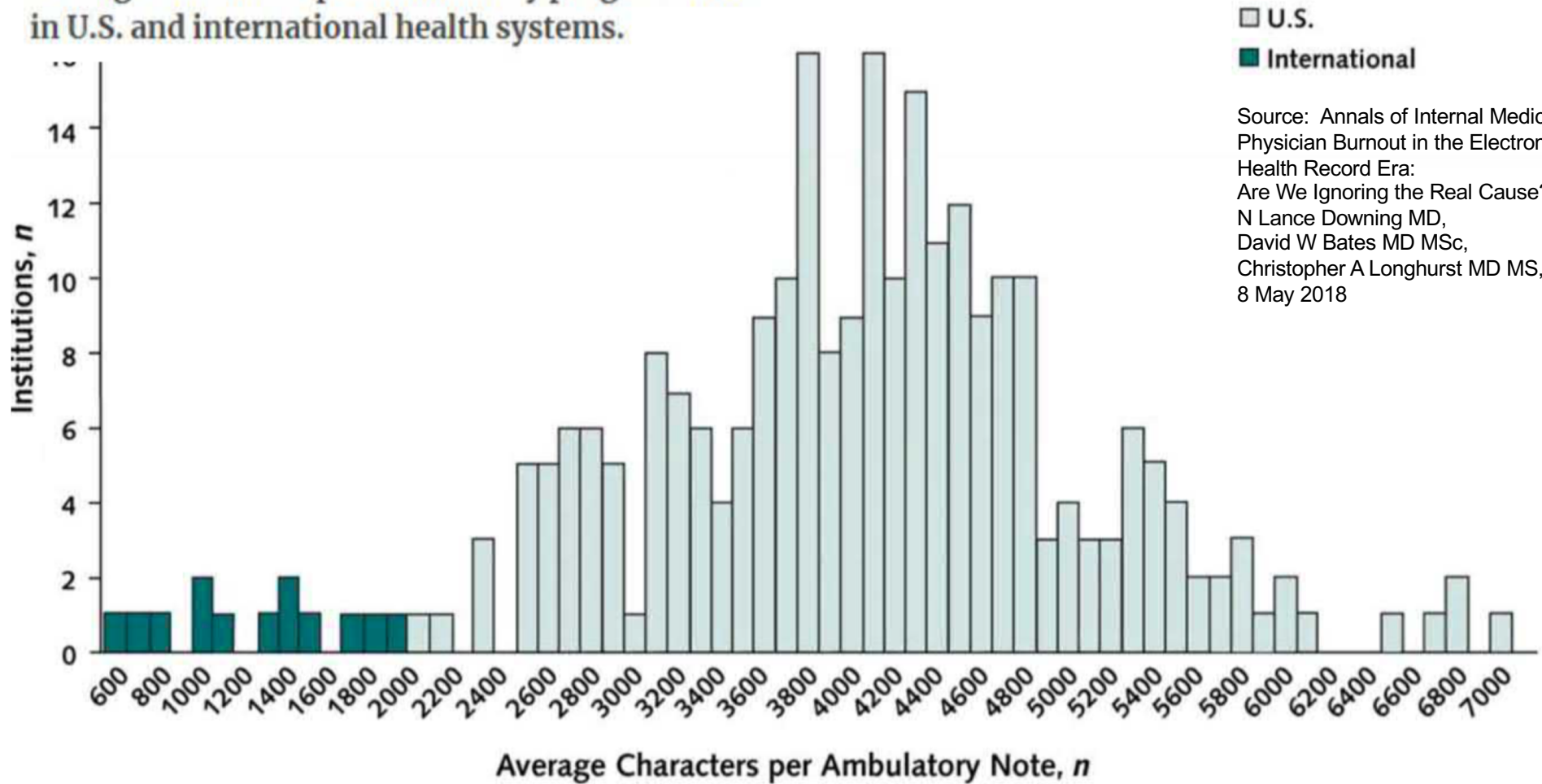
Reducing (reduce)	<ul style="list-style-type: none"> • “To bring down, as in extent, amount, or degree; diminish”, and “To gain control of... [to] conquer”, and “To simplify the form of... without changing the value”, also “To restore... to a normal condition or position” – The Free Dictionary • “To lower in... intensity” – Dictionary.com • “To narrow down”, also “To bring to a specified state or condition” – Merriam-Webster
Clinician	<ul style="list-style-type: none"> • “A health professional whose practice is based on direct observation and treatment of a patient” – Mosby's Medical Dictionary • “An expert clinical practitioner and teacher” – Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health • “A health professional, such as a physician, psychologist, or nurse, who is directly involved in patient care” – American Heritage Medical Dictionary
Burden	<ul style="list-style-type: none"> • “A source of great worry or stress”, and “[Something that] cause[s] difficulty [or] distress”, also “To load or overload” – The Free Dictionary • “Something that is carried, [as in a] duty [or] responsibility”, also “Something oppressive or worrisome” – Merriam-Webster Dictionary

Reducing Clinician Burden

Defining Terms

Clinician Burden	<p>Anything that hinders patient care, either directly or indirectly, such as:</p> <ol style="list-style-type: none">1) Undue cost or loss of revenue,2) Undue time,3) Undue effort,4) Undue complexity of workflow,5) Undue cognitive burden,6) Uncertain quality/reliability of data/record content,7) Anything that contributes to burnout, lack of productivity, inefficiency, etc.,8) Anything that gets in the way of a productive clinician-patient relationship. <p>-- Peter Goldschmidt, modified</p>
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Average characters per ambulatory progress note in U.S. and international health systems.



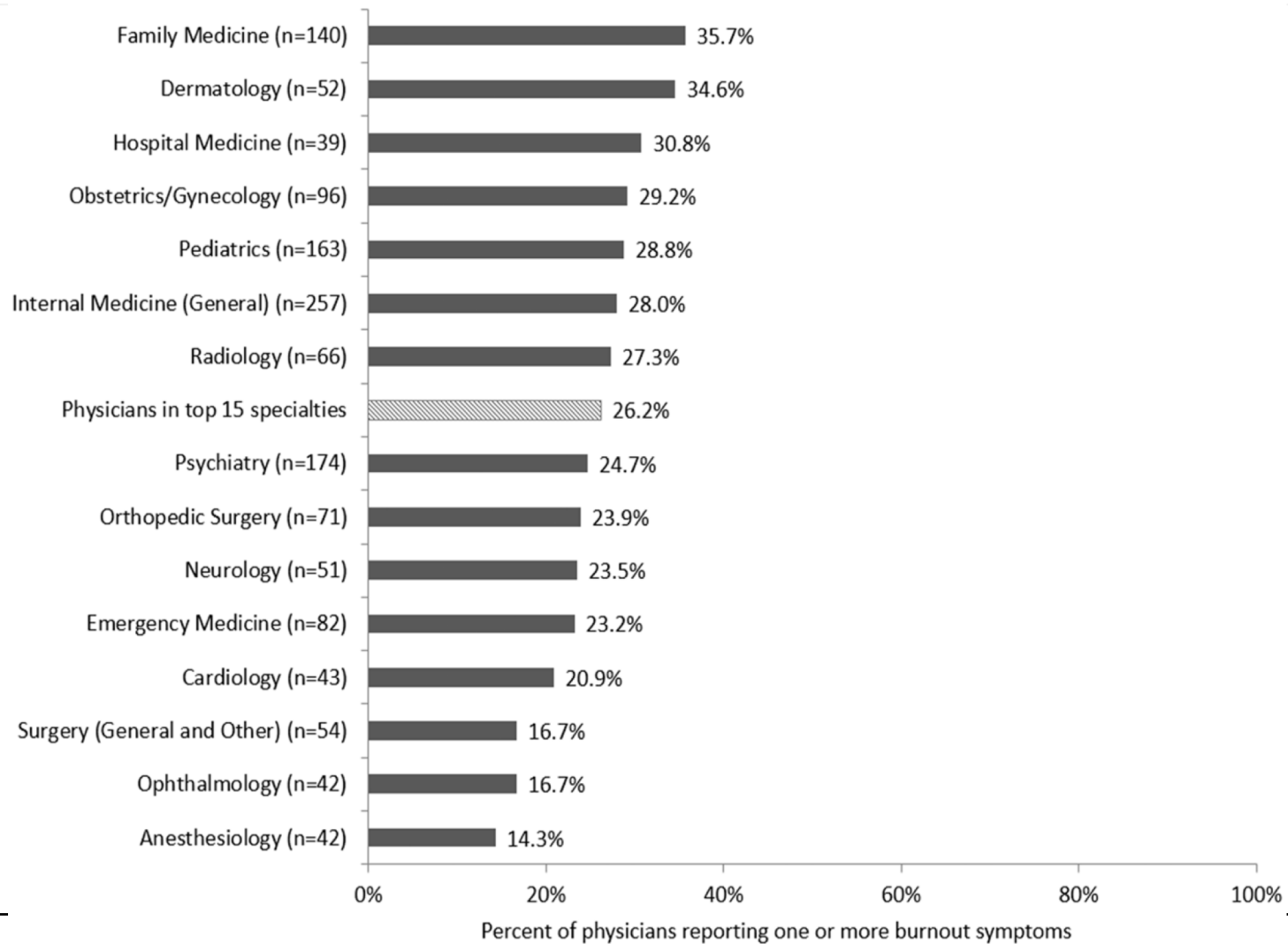


Reducing Clinician Burden

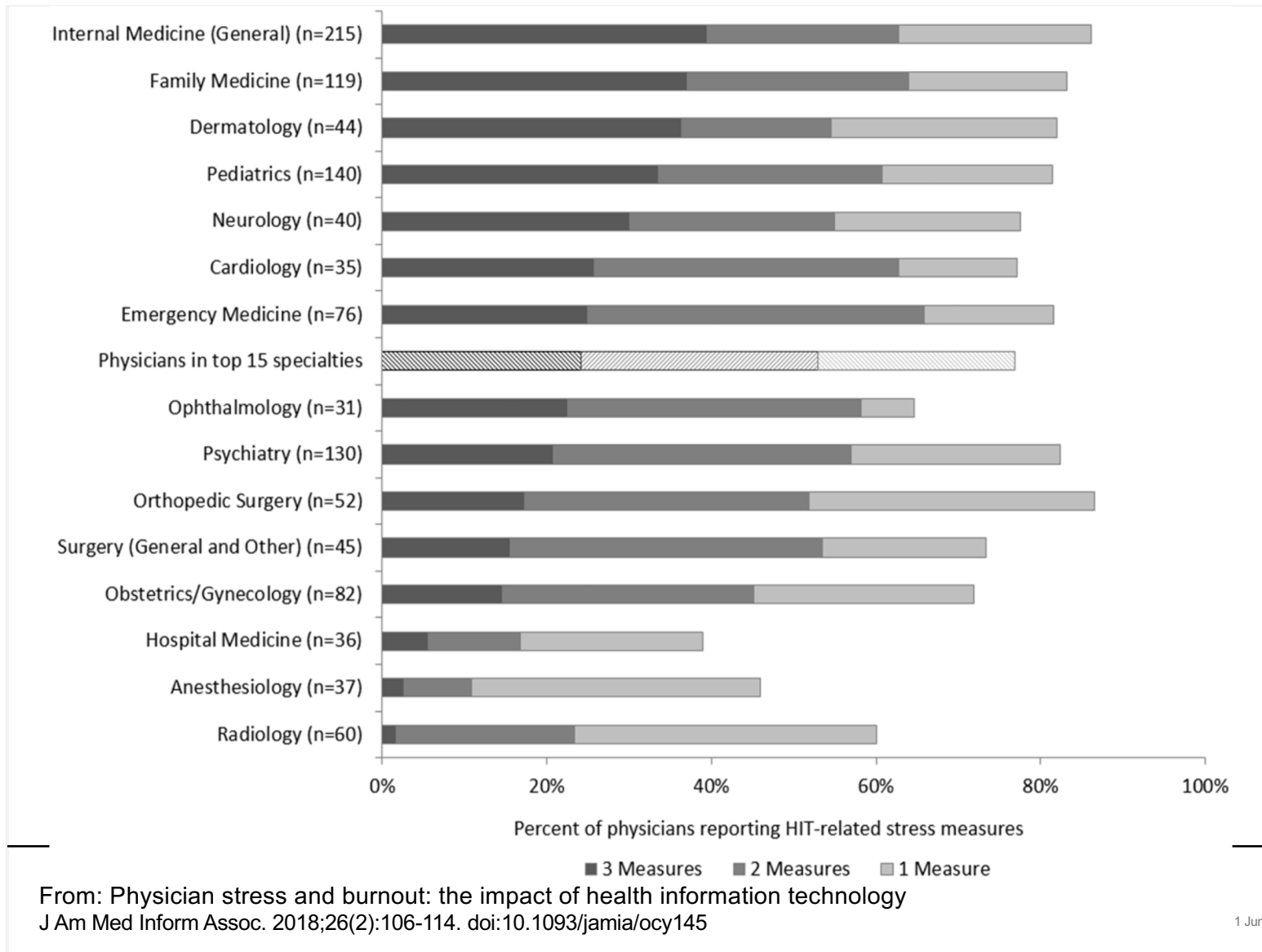
Burden Can Lead to Burnout

- “Physician burnout’ has skyrocketed to the top of the agenda in medicine. A 2018 Merritt Hawkins survey found a staggering 78% of doctors suffered symptoms of burnout, and [recently] the Harvard School of Public Health and other institutions deemed it a ‘public health crisis.’”

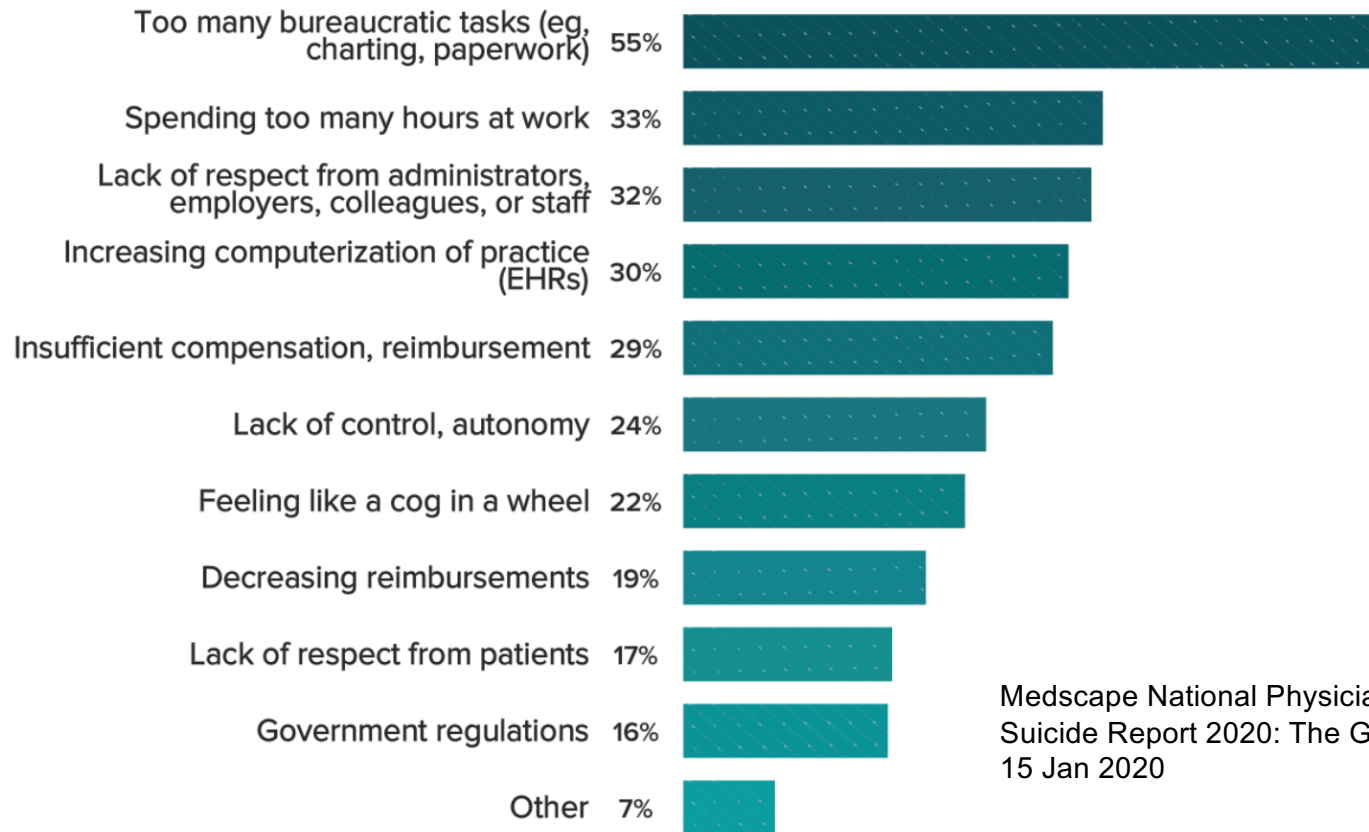
[Fortune and Kaiser Health News: “Death by a Thousand Clicks: Where Electronic Health Records Went Wrong”, Erika Fry and Fred Schulte, 18 Mar 2019](#)



From: Physician stress and burnout: the impact of health information technology
 J Am Med Inform Assoc. 2018;26(2):106-114. doi:10.1093/jamia/ocy145



What Contributes Most to Burnout?



Medscape National Physician Burnout & Suicide Report 2020: The Generational Divide
15 Jan 2020



Reducing Clinician Burden Project Overview

- As of late 2018, “Reducing Clinician Burden” is a formal project of the HL7 EHR Work Group
- Is open and collaborative – oriented to US and international interests
- Primary focus is on *clinician burden including time & data quality burdens* associated with:
 - Use/engagement of EHR/HIT systems
 - Capture, exchange and use of health information
- Considering:
 - Clinical practice – at the point of care
 - Regulatory, accreditation, administrative, payor, public health mandates
 - EHR/HIT system design, functionality, usability and implementation
 - Data quality and usability
- Have undertaken an extensive review of reference sources *to document the substance, impact and extent of clinician burden*
 - Trade publications, professional society journals, articles, studies, personal experience

Reducing Clinician Burden Project

Assessing the Burden

- Continuing work to identify root causes in each RCB topic area (not limited to EHR system functionality and usability issues - although that is important)
 - What is the problem and its source?
 - Why did it happen?
 - What will be done to prevent it from happening (now and in the future)?
 - Who (stakeholder(s)) might best address burden?
- Developing focused White Paper: *“Reducing Clinician Burden by Improving Electronic Health Record Usability and Support for Clinical Workflow”*
- *Looking for success stories specifically addressing burden reduction and burnout*
- Expect to influence future directions for HL7, ISO TC215 and other standards development efforts
- Goal is not to boil the ocean, rather to understand the substance, extent and impact of the burden, to recognize root causes and to identify success stories.

Reducing Clinician Burden – Breaking It Down

Topics/Categories

- | | | |
|---|---|--|
| 1) Clinician Burden – In General | management | process models |
| 2) Patient Safety (and Clinical Integrity) | 15) Information overload | 27) Software development and improvement priorities, end-user feedback |
| 3) Administrative tasks | 16) Transitions of care | 28) Product transparency |
| 4) Data entry requirements | 17) Health information exchange, claimed “interoperability” | 29) Product modularity |
| 5) Data entry scribes and proxies | 18) Medical/personal device integration | 30) Lock-in, data liquidity, switching costs |
| 6) Clinical documentation: quality and usability | 19) Orders for equipment and supplies | 31) Financial burden |
| 7) Prior authorization, coverage verification, eligibility tasks | 20) Support for payment, claims and reimbursement | 32) Security |
| 8) Provider/patient face to face interaction | 21) Support for cost review | 33) Professional credentialing |
| 9) Provider/patient communication | 22) Support for measures: administrative, operations, quality, performance, productivity, cost, utilization | 34) Identity matching and management |
| 10) Care coordination, team-based care | 23) Support for public and population health | 35) Data quality and integrity |
| 11) Clinical work flow | 24) Legal aspects and risks | 36) Process integrity |
| 12) Disease management, care and treatment plans | 25) User training, user proficiency | 37) List Management (problems, medications, immunizations, allergies, surgeries, interventions and procedures) |
| 13) Clinical decision support, medical logic, artificial intelligence | 26) Common function, information and | |
| 14) Alerts, reminders, notifications, inbox | | |
- Blue = Focus Teams Formed

Reducing Clinician Burden Project

Focus Teams

- Clinical documentation, quality and usability
 - Lead: Dr. Lisa Masson (lisa.masson@cshs.org)
- Clinical decision support, medical logic, artificial intelligence + Alerts, reminders, notifications, inbox management + Information overload
 - Lead: Dr. James McClay (jmccclay@unmc.edu)
- Clinical workflow
 - Lead: Dr. David Schlossman (dschloss39@gmail.com)
- Legal aspects and risks
 - Lead: Dr. Barry Newman (barrynewman@earthlink.net)
- System lock-in, data liquidity, switching costs
 - Lead: Dr. Michael Brody (mbrody@tldsystems.com)
- State of data content quality
 - Leads: Dr. Reed Gelzer (r.gelzer@trustworthyehr.com)



Reducing Clinician Burden Success Stories

1. [Reducing Clinician Burden: Cardiovascular Procedure Reporting at Duke](#)
James Tcheng MD, Duke University
2. ["Home for Dinner" - Reducing After Hours Documentation with Focused Training](#)
Greta Branford MD, University of Michigan
3. [Benefits of SNOMED CT from a clinical perspective, The Rotherham experience](#)
Monica Jones, NHS Rotherham Foundation Trust (UK)
4. [Getting Time Back in Your Day! Implementing a Multi-Faceted Approach to Optimizing Epic in the Ambulatory Setting](#)
Jeff Tokazewski MD, Carole Rosen, Shane Thomas, University of Pennsylvania
5. [Well-Being Playbook, A Guide for Hospital and Health System Leaders](#)
Elisa Arespacochaga, American Hospital Association

Reducing Clinician Burden Success Stories

6. [Understanding the Impact of the EHR on Physician Burnout and Wellness](#)
Christopher Sharp MD, Lindsay Stevens MD, Stanford University/Stanford Health Care
7. [SPRINT – An Organizational Strategy that Increases Satisfaction, Improves Teamwork and Reduces Burnout](#)
Amber Sieja MD, University of Colorado School of Medicine, UCHealth

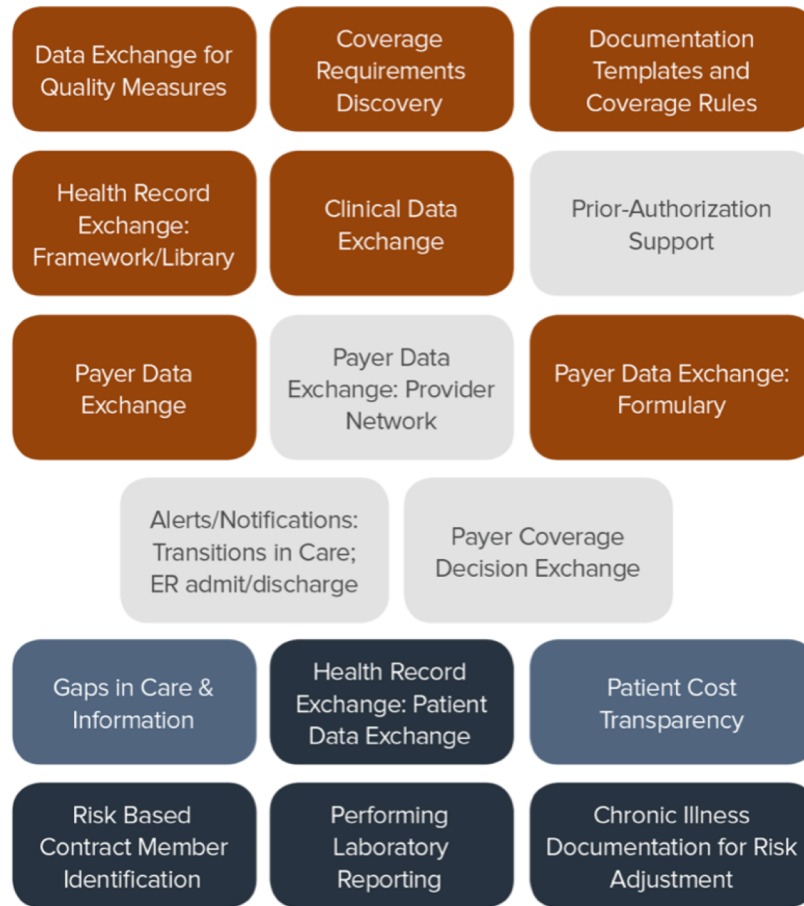
[More to come...]

Reducing Clinician Burden

New ISO TC215 WG1 Work Item

- ISO TC215 – Health Informatics, formed in 1999
 - Chair: Michael Glickman (US)
- Working Group 1 – Frameworks, Models and Architectures
 - Convenor: Björn-Erik Erlandsson (Sweden)
- ISO 4419 – Preliminary Work Item focused on Reducing Clinician Burden
 - Targeted as an Informative Technical Report
- Candidate: RCB Root Cause Analysis
 - Developed by HL7 RCB Project Team
 - With US and International Input
 - Promoted from HL7 to ISO under Partner Standards Development Organization (PSDO) Agreement (currently being formalized)
 - Ultimately – Published by HL7 and ISO

2019 USE CASE INVENTORY & STATUS



PROJECT PROCESS

Define requirements (technical, business and testing)

- ➔ Create Implementation Guide
- ➔ Create and test Reference Implementation (prove the guide works)
- ➔ Pilot the solution
- ➔ Deploy the solution

- In Ballot Process through HL7
- Targeted for September Ballot
- In Discovery targeted for HL7 January Ballot
- Use cases in discovery (some may be balloted in January 2020)

Source: HL7
<http://www.hl7.org/about/davinci/use-cases.cfm>

Some Standards Focused on Burden

- HL7 Da Vinci Project – Provider ↔ Payer Communication
 - Coverage Determination
 - Pre Authorization
 - and more...
- HL7 EHR System Usability Functional Profile
 - Functions and Conformance Criteria to Enhance System Usability
 - In preparation for publication
- ISO/HL7 10781 EHR System Functional Model, Release 3
 - In early design/development stage

Reducing Clinician Burden Project Materials

- Project Documents – Project Website
 - http://bit.ly/reducing_burden
 - Project Overview, Presentations
 - DRAFT RCB Analysis Worksheet
 - DRAFT RCB Comments related to Patient Summaries
 - Reference Sources
 - Success Stories

Reducing Clinician Burden Project

Schedule

- Teleconferences, Monday at 3PM ET (US/Canada)
 - 1st and 3rd Mondays each month
1 and 15 June 2020, 6 and 20 July...
 - <https://global.gotomeeting.com/meeting/join/798931918>
- Upcoming Virtual Meetings
 - HL7 Plenary and Working Group, Sep 2020
 - ISO TC215, Oct 2020

Reducing Clinician Burden Project

Contacts

Co-Facilitators:

- Gary Dickinson FHL7: gary.dickinson@ehr-standards.com
EHR Standards Consulting
- David Schlossman MD PhD FACP MS CPHIMS: dschloss39@gmail.com
MedInfoDoc LLC

HL7 EHR WG Co-Chairs:

- Michael Brody DPM: mbrody@tldsystems.com
TLD Systems
- Stephen Hufnagel PhD: stephen.hufnagel.hl7@gmail.com
Apprio Inc
- Mark Janczewski MD: mark.janczewski@gmail.com
Medical Networks LLC
- John Ritter FHL7: johnritter1@verizon.net
- Pele Yu MD: pele.yu@archildrens.org
Arkansas Children's Hospital/University of Arkansas

Reducing Clinician Burden Project

Comments to US Federal Government

- Comments may also be directed to:
 - US Centers for Medicare/Medicaid Services (CMS)
reducingproviderburden@cms.hhs.gov

Reducing Clinician Burden Project

RCB Analysis Worksheet – Tabs

- A. Burdens
- B. Burnout
- C. RCB Topics/Index
- D. Time Burdens
- E. Data Quality Burdens
- F. Clinician Stories
- G. Terms: Reducing, Clinician, Burden
- H. Root Causes
- I. Reference Sources
- J. Leads: EHR WG Co-Chairs
- K. Acknowledgements: Reviewers + Contributors

Reducing Clinician Burden Project
RCB Analysis Worksheet

First Tab – Burdens – Columns

- B) Clinician Burdens (the current situation) – Raw Input
- C) Recommendations – Raw Input
- D) Reference Sources
- E) Targeted RCB Recommendation(s) – refined from our reference (and other) sources
- F) RCB Proposals and Successful Solutions