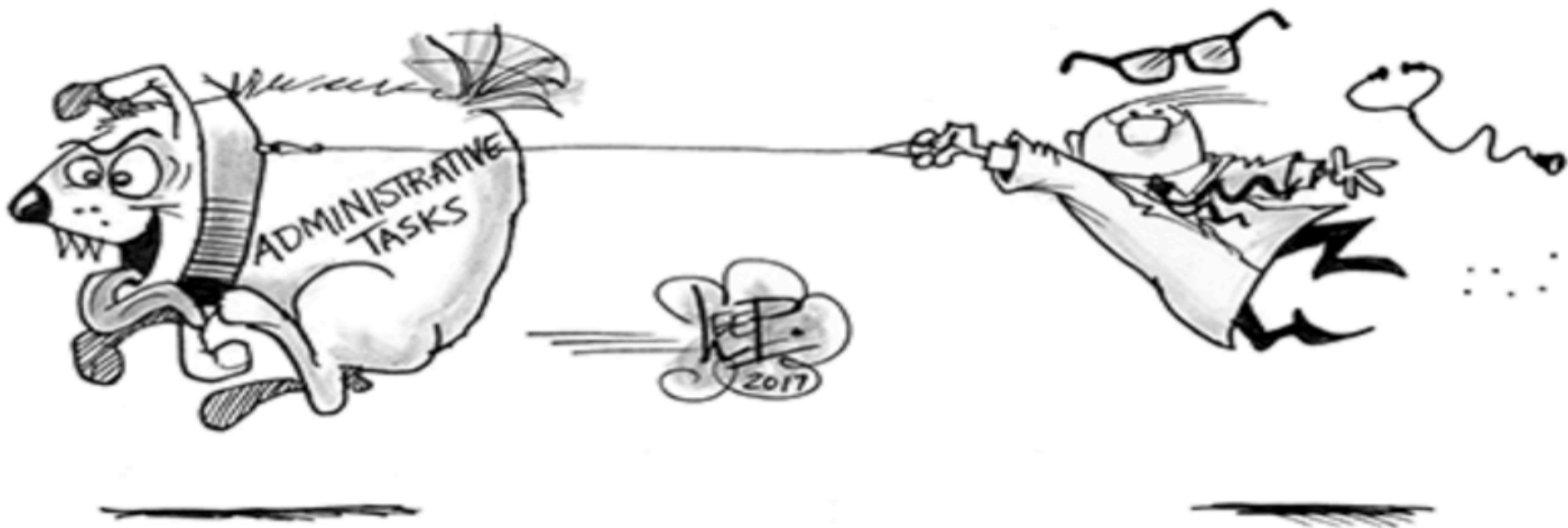


“Reducing Clinician Burden” Project Overview

Health Level Seven (HL7)
Electronic Health Record Work Group (EHR WG)
17 June 2019



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



Reducing Clinician Burden Stakeholders

WHAT – Burden Targeted	WHO – Might Best Address Burden	With Engaged Clinicians
In Clinical Practice – At Point of Care	Providers, Clinical Professional Societies	
In System/Software Design	EHR/HIT System Developers/Vendors	
In System/Software Implementation	EHR/HIT System Implementers, Providers	
In Health Informatics Standards, e.g. <ul style="list-style-type: none"> • EHR System Functional Model/Profiles • Messages (HL7 v.2x), Documents (HL7 CDA), Resources (HL7 FHIR) • Implementation Guides (C-CDA, IPS) • Vocabulary 	Standards Developers/Profilers: <ul style="list-style-type: none"> • HL7, DICOM, IHE, ISO TC215, NCPDP, ASC X12N, SNOMED... Standards Coordinating Bodies <ul style="list-style-type: none"> • Joint Initiative Council 	
In Regulation, Policies	Government, Accreditation Agencies	
In Claims, Payment Policies	Public and Private Payers	

Reducing Clinician Burden

Defining Terms (DRAFT)

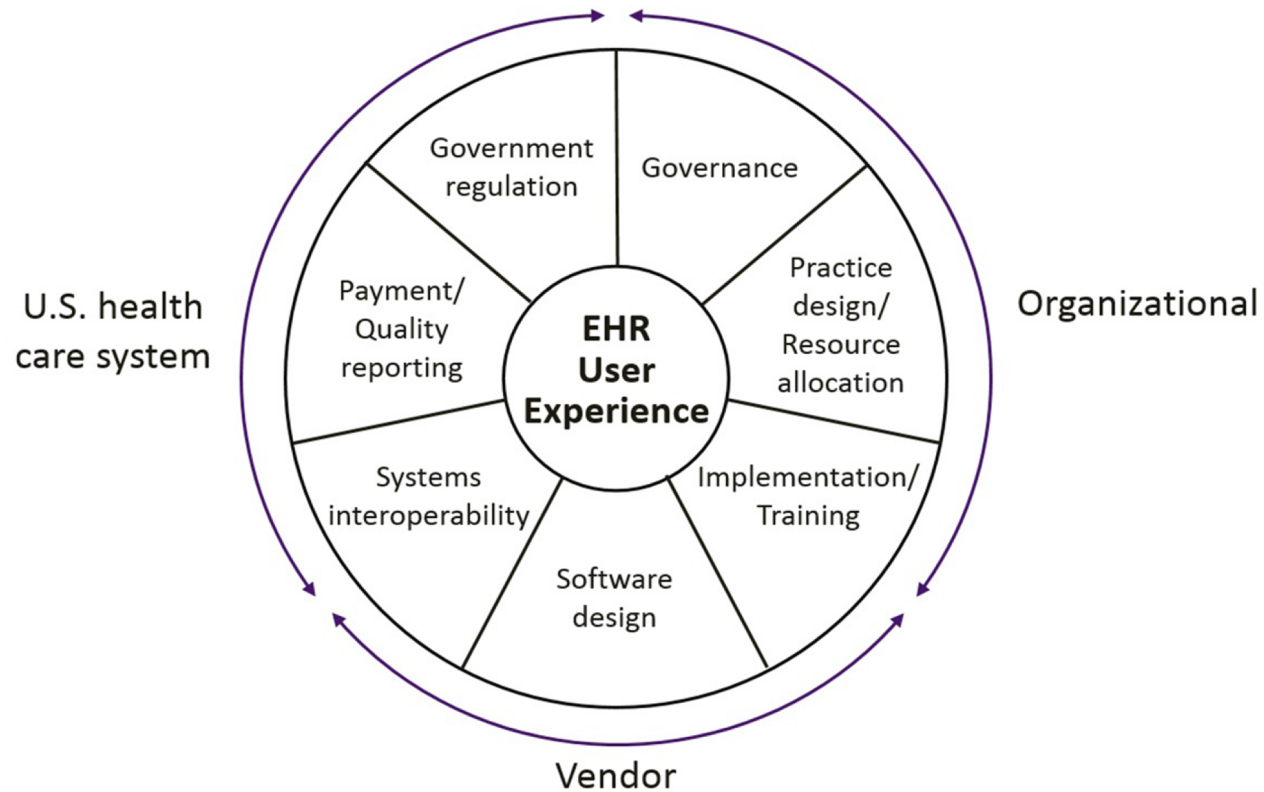
Reducing (reduce)	<ul style="list-style-type: none">• “To bring down, as in extent, amount, or degree; diminish”, and “To gain control of... [to] conquer”, and “To simplify the form of... without changing the value”, also “To restore... to a normal condition or position” – The Free Dictionary• “To lower 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

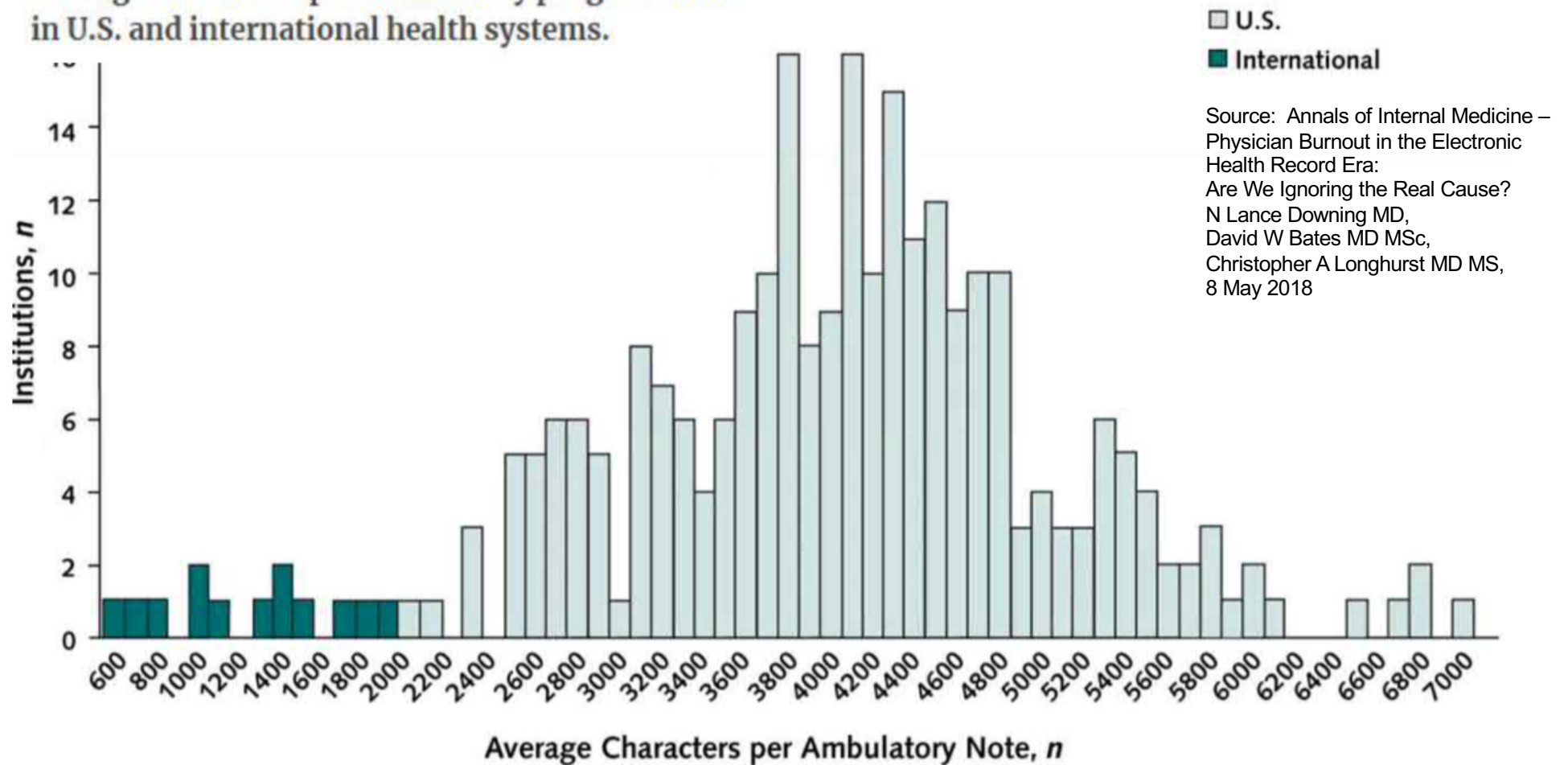
Defining Terms (DRAFT)

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</p>
------------------	--

Electronic health record (EHR) user experience influences: Analysis of environmental factors contributing to EHR end-user experience as documented in current literature

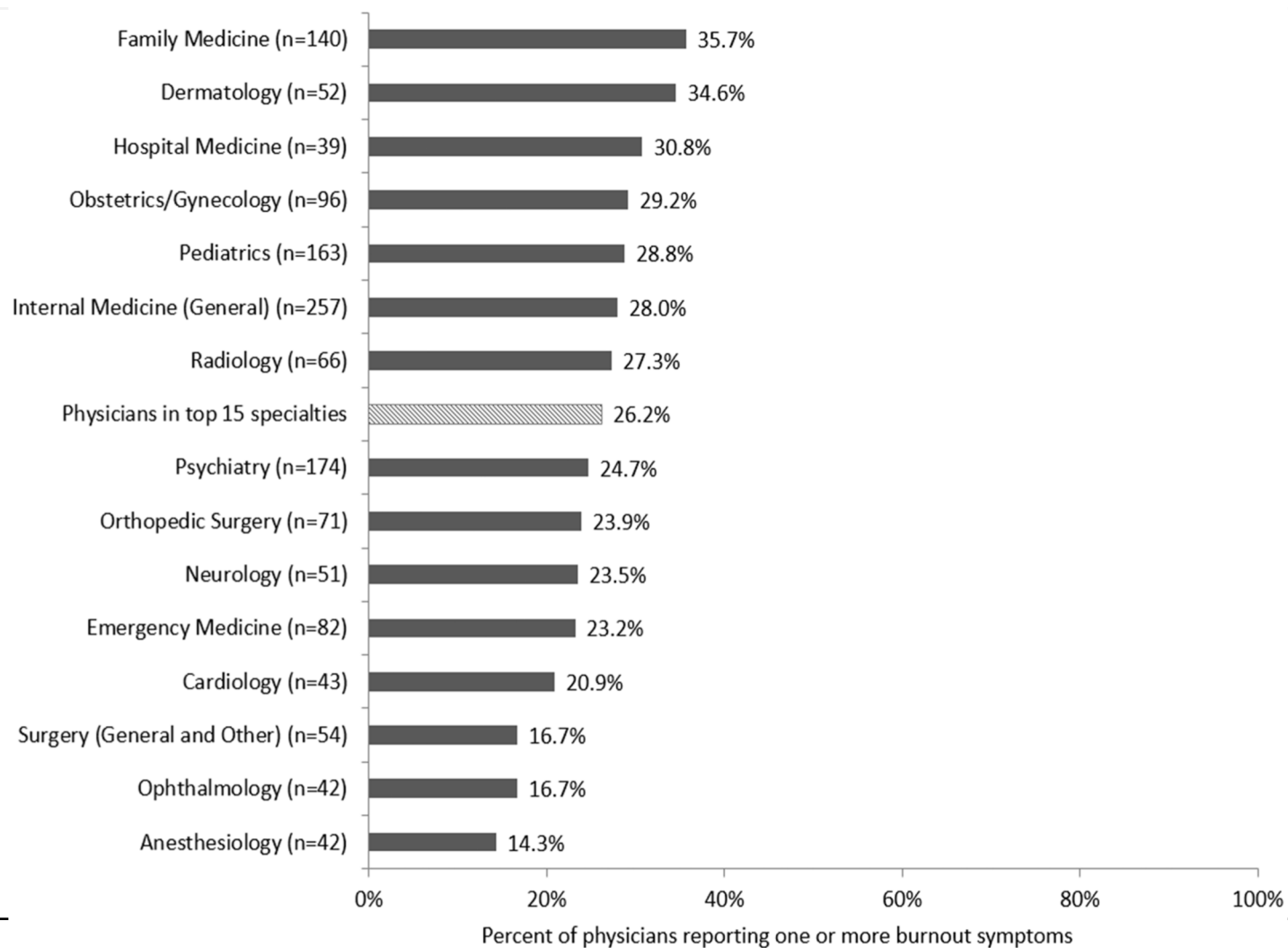


Average characters per ambulatory progress note in U.S. and international health systems.

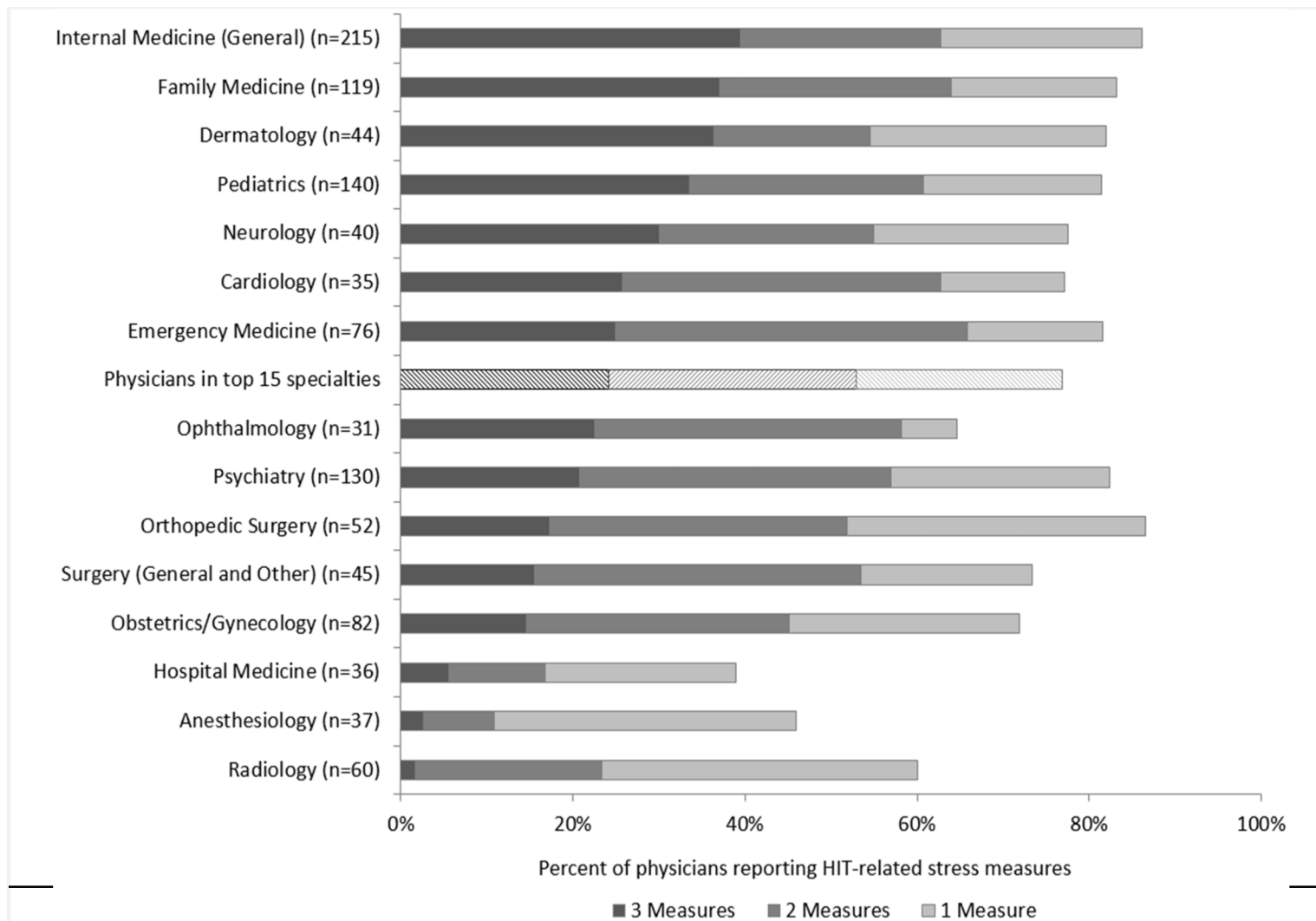


Burden Sometimes leads to Burnout

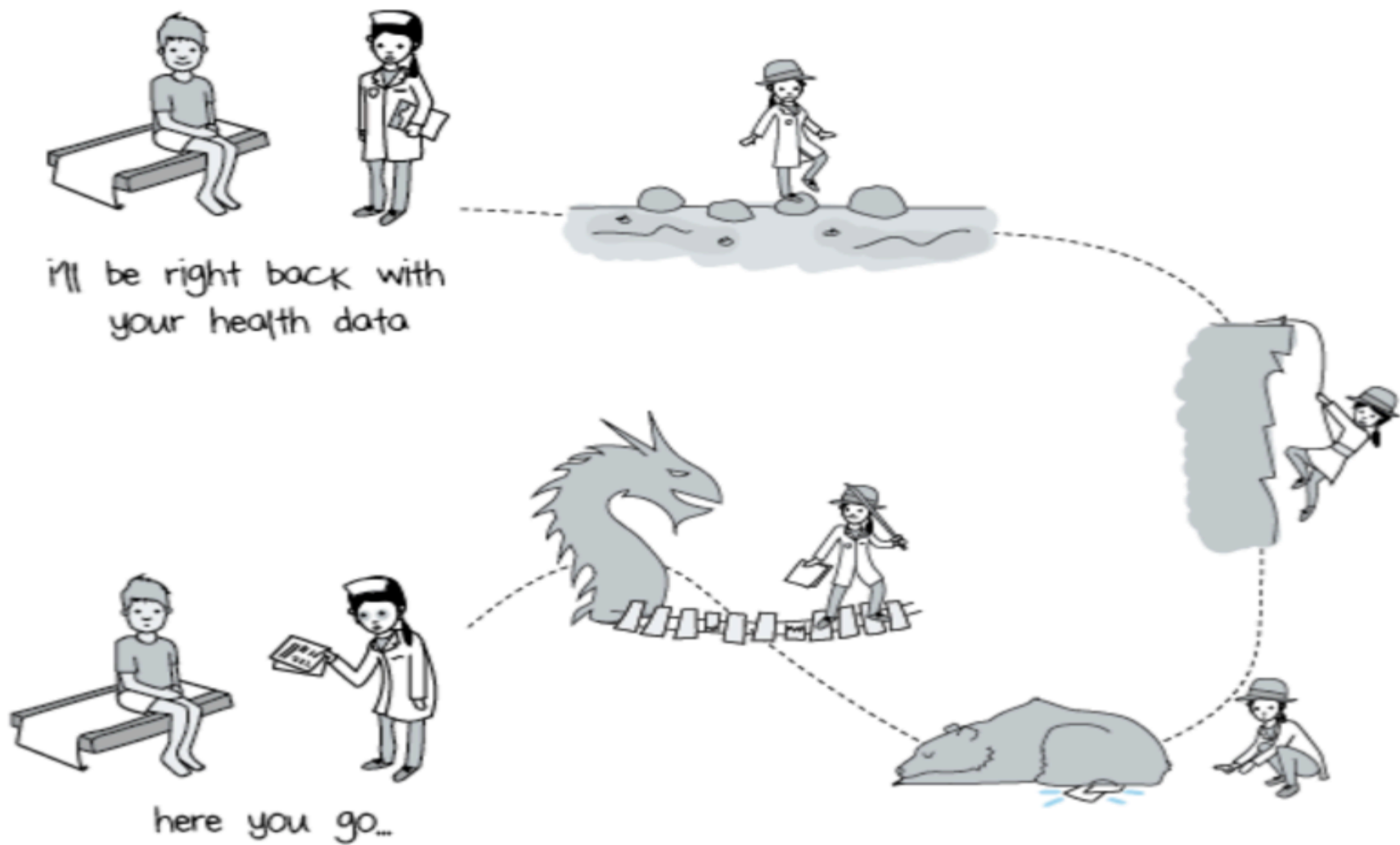
- “‘Physician burnout’ has skyrocketed to the top of the agenda in medicine. A 2018 Merritt Hawkins survey found a staggering 78% of doctors suffered symptoms of burnout, and in January [2019] the Harvard School of Public Health and other institutions deemed it a ‘public health crisis.’”
- [Fortune and Kaiser Health News: “Death by a Thousand Clicks: Where Electronic Health Records Went Wrong”, Erika Fry and Fred Schulte, published 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



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



Reducing Clinician Burden Project

Overview

- Is a formal project of the HL7 EHR Work Group
- Has an extensive list of active participants and followers
- Is oriented to both US and international interests
- Has undertaken an extensive review of reference sources to document the substance and extent of clinician burden
- Continues work to identify root causes in each RCB topic area (not just EHR system functionality and usability issues - although that is important)
- Is looking for success stories specifically addressing burden reduction
- Intends to use our findings as part of the foundation (and springboard) for EHR-S FM Release 3
- Will influence future directions for HL7 (beyond the EHR WG, e.g., Da Vinci), JIC, ISO TC215, SNOMED and other standards development efforts

Reducing Clinician Burden Project

Assessing the Burden

- Our primary focus is on clinician burdens including time and 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 mandates
 - EHR/HIT system design, functionality, usability and implementation
 - Data quality and usability
- Gather details from many reference sources:
 - Trade publications, professional society journals, articles, studies, personal experience
- Our goal is not to boil the ocean, rather to understand the substance and extent of the burden, to recognize root causes and identify success stories.

Reducing Clinician Burden – Breaking It Down

Topics/Categories

- | | | |
|---|---|--|
| 1.1) Clinician Burden – In General | 14) Alerts, reminders, notifications, inbox management | 27) Software development and improvement priorities, end-user feedback |
| 1.2) Clinician Burnout – Sometimes the Result | 15) Information overload | 28) Product transparency |
| 2) Patient Safety (and Clinical Integrity) | 16) Transitions of care | 29) Product modularity |
| 3) Administrative tasks | 17) Health information exchange, claimed “interoperability” | 30) Lock-in, data liquidity, switching costs |
| 4) Data entry requirements | 18) Medical/personal device integration | 31) Financial burden |
| 5) Data entry scribes and proxies | 19) Orders for equipment and supplies | 32) Security |
| 6) Clinical documentation: quality and usability | 20) Support for payment, claims and reimbursement | 33) Professional credentialing |
| 7) Prior authorization, coverage verification, eligibility tasks | 21) Support for cost review | 34.1) Identity matching |
| 8) Provider/patient face to face interaction | 22) Support for measures: administrative, operations, quality, performance, productivity, cost, utilization | 34.2) Identity and credential management |
| 9) Provider/patient communication | 23) Support for public and population health | 35) Data quality and integrity |
| 10) Care coordination, team-based care | 24) Legal aspects and risks | 36) Process integrity |
| 11) Clinical work flow | 25) User training, user proficiency | 37.1) Problem list |
| 12) Disease management, care and treatment plans | 26) Common function, information and process models | 37.2) Medication list |
| 13) Clinical decision support, medical logic, artificial intelligence | | 37.3) Allergy list |
| | | 37.4) Immunization list |
| | | 37.5) Surgery, intervention and procedure list |

Reducing Clinician Burden

Project Plan

- Now
 - Continue environmental scan – to document burdens
 - Engage focus teams to address burden topics
 - Focus on root causes
 - 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?
 - Have burden(s) already been tackled?
 - Are there RCB proposals and/or success stories that can be referenced?
- Then
 - Publish findings and work to implement solutions

Reducing Clinician Burden Project

Focus Teams

- Clinical documentation, quality and usability
 - Lead: Dr. Lisa Masson (lisa.masson@csbs.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@tldsistemas.com)
- State of data content quality
 - Leads: Dr. Reed Gelzer (r.gelzer@trustworthyehr.com)

Additional Considerations

- What are the risks if burden is not reduced?
 - e.g., clinician burnout, clinicians choosing other roles/assignments
- If clinician burdens are reduced...
 - Are burdens increased elsewhere (e.g., to other members of the healthcare team)?
 - Are benefits to other aspects of the health/healthcare business model also reduced?
 - What is the trade-off: Safety? Cost? Time? Efficiency? Effectiveness?

Reducing Clinician Burden

Success Stories

1. [Duke Heart Business Unit – Procedure Reporting](#)
James Tchong MD, Duke University
2. [Burnout: How EHR Usability Improves Efficiency & Satisfaction](#)
Greta Branford MD, University of Michigan (presented 15 April 2019)
3. [Benefits of SNOMED CT from a clinical perspective, The Rotherham experience](#)
Monica Jones, NHS Rotherham Foundation Trust (UK) (scheduled 1 July 2019)
4. [Getting Time Back in Your Day! Implementing a Multi-Faceted Approach to Optimizing Epic in the Ambulatory Setting](#) (scheduled 15 July 2019)
Jeff Tokazewski MD, Carole Rosen, Shane Thomas, University of Pennsylvania
5. [Well-Being Playbook, A Guide for Hospital and Health System Leaders](#)
American Hospital Association

[more to come...]

Reducing Clinician Burden Project

Reference Points

- Project Documents – New Project Wiki
 - http://bit.ly/reducing_burden
 - Project Overview
 - DRAFT RCB Analysis Worksheet
 - Reference Sources
 - Success Stories: http://bit.ly/RCB_success
- Comments may also be directed to:
 - US Centers for Medicare/Medicaid Services (CMS)
reducingproviderburden@cms.hhs.gov

Reducing Clinician Burden Project

Schedule

- Bimonthly teleconferences, Monday at 3PM ET (US)
 - 1st and 3rd Mondays each month
17 June, 1/15 July, 5/19 August, NOT 2 September (US Holiday)
 - <https://global.gotomeeting.com/meeting/join/798931918>
- Face-to-Face
 - HL7 September Working Group Meeting: Atlanta, Georgia, USA
 - Wednesday, 18 September 2019, 1:45 – 5 PM ET (US/Canada)

Reducing Clinician Burden Project

Contact

Co-Facilitators:

- Gary Dickinson FHL7: gary.dickinson@ehr-standards.com
CentriHealth/UnitedHealth Group
- 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

Outreach + Expressed Interest

- Standards Developers
 - Joint Initiative Council (JIC), comprising HL7, ISO TC215 (HIT/International), CEN TC251 (HIT/Europe), DICOM (Diagnostic Imaging), CDISC (Clinical Research), GS1 (IDs/Labeling), SNOMED (Clinical Vocabulary), IHE (Standards Profiling)
- International Healthcare Community
 - Australia, Canada, Chile, Finland, Italy, Netherlands, New Zealand, Norway, Poland, Sweden, United Kingdom
- Government
 - US Centers for Medicare and Medicaid Services (CMS)
 - US Office of National Coordinator for HIT (ONC)
 - US National Institutes of Health (NIH)
 - US Veterans Administration (VA)
 - UK National Health Service (NHS)
- Accreditation Bodies
 - Joint Commission
- Clinical Professional Societies
 - American College of Physicians (ACP)
 - American College of Surgeons (ACS)
 - American Medical Informatics Association (AMIA)
 - American Nurses Association (ANA)
- Providers
 - Adventist Health, Beth Israel/Deaconess, Cedars-Sinai Medical Center, Duke University, Intermountain Healthcare, Kaiser Permanente, Loma Linda University, Mayo, Sutter Health, University of Arkansas, University of Nebraska, University of Michigan, University of Pennsylvania, US Veterans Administration
- Payers
 - UnitedHealth Group
- EHR/HIT System Developers
 - CentriHealth, Cerner, Epic, TLD Systems
- Consortia
 - Health Record Banking Alliance
 - Health Services Platform Consortia
 - Clinical Information Interoperability Council

Reducing Clinician Burden

Analysis Worksheet – Tabs

1. Burdens
2. Time Burdens
3. Data Quality Burdens
4. Clinician Stories
5. Terms: Reducing, Clinician, Burden
6. Root Causes
7. Reference Sources
8. Leads: EHR WG Co-Chairs
9. Acknowledgements: Reviewers + Contributors
10. RCB Topics

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