HL7 Workgroup Meeting
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Cooperative Work in Standardization: An Approach to Reducing Clinician Burden

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Problems With Healthcare Information Technology

- Modest improvement in process metrics
- No change in large scale health outcomes
- Continued rise in healthcare costs

1. Decreased clinician efficiency due to
   a. Required nonclinical activities
   b. Unnecessary alerts and reminders and low value CDS
   c. Data obfuscation, obscure navigation, and redundant notes

2. Disconnect from patients and burnout
Why Health IT Has Not Met Its Design Goals

- Poor usability
  - Poor support for clinical workflow
  - Poor human factors engineering
  - Exacerbate other stressors

- Poor interoperability
  - Poor information exchange
  - Much unstructured data
  - Inadequate consensus on standards
What is Clinician Burden?

- Clinician: A health professional whose practice is based on direct observation and treatment of patients
- Burden
  - Increased stress
  - Increased physical workload
  - Increased cognitive workload
  - Unproductive time requirements
  - Decreased Efficiency
  - Decreased patient connection
Burnout is a syndrome characterized by

- Emotional exhaustion
- Feelings of cynicism and detachment from work
- Sense of low personal accomplishment

- 54% of US physicians report at least one symptom of burnout (twice the rate of the general population)
- 70% of US physicians report symptoms of health IT-related stress
- Annual US healthcare costs attributable to physician burnout = $2.6 – 6.3 billion
- 121,000 US physicians left the profession in 2021

I Cry But No One Cares

Medscape

US Physician Burnout & Depression Report

2023

Methodology

Survey Method
Physicians were invited to participate in a 10-minute online survey.

Screening Requirements
Respondents were required to practice in the United States.

Sample Size
9175 physicians in 29+ specialties met the screening criteria and completed the survey; weighted to the American Medical Association's physician distribution by specialty and state.

Recruitment Period
June 28, 2022 through October 3, 2022

Sampling Error
The margin of error for the survey was ±1.02% at the 95% confidence level using a point estimate of 50%.

US Rates of Burnout and/or Depression

Are You Burned Out and/or Depressed?

- Burned out: 53%
- Depressed: 23%
Clinician Burnout Is A Worldwide Problem

'It's like juggling fire daily': Well-being, workload and burnout in the British NHS - A survey of 721 physicians

Catherine Dominic 1, Dips P Gopal 2, Amandip Sidhu 3

Burnout Syndrome Among Medical Practitioners Across India: A Questionnaire-Based Survey

Deepak Langade 1, Pranav D. Modi 2, Yazad F. Sidhwa 3, Namita A. Hishikar 3, Amit S. Gharpure 4, Kalpana Wankhade 5, Jayshree Langade 6, Kedar Joshi 7

A systematic review of burnout among doctors in China: a cultural perspective

Dana Lo 1, Florence Wu 2, Mark Chan 3, Rodney Chu 2 and Donald Li 1

The consequences of burnout syndrome among healthcare professionals in Spain and Spanish speaking Latin American countries

Rosa Suñer-Soler 1, Armand Grau-Martín 1, Daniel Flichtentrei 4, Maria Prats 4, Florencia Braga 4, Silvia Font-Mayolas 1, Mª Eugenia Gras 1, 5
Commonwealth Fund Primary Care Physician Survey

Munira Z. Gunja, Evan D. Gumas, Reginald D. Williams II, Michelle M. Doty, Arnav Shah, and Katharine Fields

Stressed Out and Burned Out: The Global Primary Care Crisis
Findings from the 2022 International Health Policy Survey of Primary Care Physicians

- 9500 Participants from 10 high income countries
- February – September 2022
- Sample sizes 321 – 2092 per country
- Response rates 6 – 40 percent

Younger primary care physicians were generally more likely to report burnout than older physicians; physicians in the Netherlands and Switzerland were least likely to report burnout.

Percentage of primary care physicians who said they were burned out

• Increase EHR system usability through standards
• Translate well established principles from the usability literature into functional conformance criteria for the HL7 EHR-system Functional Model Release 2 (EHR-S FM)
  • Well defined function statements and descriptions
  • Criteria to evaluate conformance to the function
• Develop a user-centered design companion functional profile for the EHR-S FM
HL7 Usability Functional Profile

Usability Functional Profile, Release 1, of the Electronic Health Record-System Functional Model, Release 2.0.1

December 2022

HL7 Informative Document

Sponsored by:
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EHRSM_R2_USEGUIDE_R1_11_2022DEC

HL7 Reducing Clinician Burden (RCB) Project

- Physicians
- Nurses
- Clinical informaticians
- Software developers
- Standards developers
- EHR implementers
- Academicians
- Policymakers
HL7 RCB Project Goals

- Enumerate and define specific burdens related to EHRs and health IT
- Understand the history and underlying root causes of those burdens
- Proposing novel, innovative solutions for alleviating burdens that go beyond just incremental extension of current healthcare IT paradigms
- Share success stories and best practices in alleviating clinician burden
- Extend the work on the EHR usability functional profile to broader areas of clinician burden reduction

https://confluence.hl7.org/pages/viewpage.action?pageId=104568480
Problems Still Remain

- The impact of health IT on clinician workflows and UX continues to be a matter of great international concern.
- Many organizations have initiatives around improving the way healthcare IT supports clinician efficiency and workflow.
- These efforts have great potential to improve not just clinician satisfaction, but also care quality and the patient experience.
- These efforts occur in silos without cross-organizational or cross-border alignment.
- Burden and burnout among clinicians have never been higher.
Example Burden Reduction Programs

- AMA: STEPS FORWARD program and other work
- ISO International Patient Summary and interoperability standards
- KLAS and the Arch Collaborative: Experience scores and surveys identifying key factors contributing to burden
- ONC and CMS: Burden reduction initiatives
- HL7 UFP, RCB, SMART on FHIR interoperability projects
- National Academy of Medicine Reducing Clinician Burden efforts
Assessment

- Many burden reduction efforts show dedication, energy, and well-reasoned research and interventions
- But still little significant impact on burden and burnout among healthcare professionals
- Current efforts by international healthcare IT organizations are not coordinated or aligned
- This represents an opportunity to improve the efficacy of our efforts by collaborative efforts in the standardization space (and other areas)
Proposal

- Bring engaged national and international healthcare IT and standards development organizations together
- Share research, knowledge, and initiatives
- Identify opportunities to reduce duplication
- Explore synergies and enable collaboration
- Use combined influence to accelerate progress on desired outcomes
Regarding ISO/AWI TR 4419

ISO/TC 215 circulated ISO/AWI TR 4419 Health informatics — Reducing clinicians burden for comment and requests the committee manager to issue a call for experts for the project by 25 February 2022.
Call for Comments and Experts

ISO Volunteers
- Peter Williams (Australia)
- Dr. Alpo Värri (Finland)
- Dr. S. B. Bhattacharyya (India)
- Anders Thurin (Sweden)
- John Greaves (United States)
- Dr. Randeep Singh (India)
- Dr. Linn Brandt (Norway)
- Dr. Bente Christensen (Norway)

Contributors to HL7 White Paper (All US)
- Dr. Barry Newman
- Dr. Lisa Masson
- Dr. Jimmy Cheng
- Dr. LuAnn Whittenburg
- Gary Dickinson
Utilize well established human factors and usability principles to
- Suggest *disruptive* innovations in EHR design
- Improve EHR efficiency and usability
- Reduce clinician burden

Revise a draft HL7 white paper into an ISO technical report

Develop standards to measure whether health IT development processes conform to user-centered design principles

Engage with software developers and regulators to measure and prioritize EHR usability and mitigate current problems

Engage with software developers to develop more context aware, specialty specific EHR products.
US National Burden Reduction Collaborative (NBRC)

- American College of Medical Informatics (ACMI)
- Klas, Arch Collaborative
- DaVinci Project
- Electronic Health Records Associations (EHRA)
- Healthcare Information Systems Society (HIMSS) Physician Community
- Healthcare Information Systems Society (HIMSS) Nursing Community
- HL7 International
- National Library of Medicine (NLM)
- Office of the National Coordinator (ONC)
- Office of the Surgeon General (OSG)
- The Joint Commission
25x5 Symposium to Reduce Documentation Burden 75% by 2025

25x5: At a Glance
Symposium to Reduce Documentation Burden on U.S. clinicians by 75% by 2025

6 33 140 300
2-Hour Sessions Presentations Organizations Participants

82
Action Items

Calls to Action

Providers & Health Systems
• Establish guiding principles for adding documentation to EHRs and generating evidence for reduced documentation
• Develop a national roadshow and educate clinicians and clinicians in training on balancing brevity and completeness in documentation
• Increase support of functions like real-time information retrieval, documentation, and ordering in the EHR
• Implement interdisciplinary notes to decrease redundant documentation

Health IT Vendors
• Promote an ecosystem of interoperable systems to allow for complementary technology
• Develop measurement tools to categorize documentation practices
• Package best training practices into toolkits to promote best practice EHR use and plan recognition programs to publicize exemplars
• Create simplistic EHR views to see that new clinical data has been reviewed, then bookmark for the user and document as reviewed by that user in the EHR
• Implement user-personalized Clinical Decision Support to drive specific workflows

Policy & Advocacy Group
• Urge agencies to fund innovative research that captures all billing code information without taking up clinicians’ time
• Select the best of breed approaches to documentation and implement throughout the health care system
• Develop technology to reliably and accurately create reimbursement and payment data for all care settings

All 82 action items, as well as all 33 presentations, can be found at www.dbmi.columbia.edu/25x5.

Final Report:
25 x 5 Reducing Documentation Burden Toolkit Website
25 x 5 Reducing Documentation Burden Toolkit Document
Possible Next Steps

- Develop standards to verify robust, transparent, verifiable user centered design processes during EHR development
- Work with government partners to develop standards for realistic scenario-based user experience testing as part of new usability-related EHR certification processes
- Develop standards for automatic collection of usability metrics during EHR use with reporting to appropriate stakeholders
- Develop standards for shared patient safety and health IT usability databases to share best practices and help investigate problems
- Engage with software developers to develop more context aware, specialty specific EHR products
New Directions

Support disruptive innovation in healthcare information technology through cooperative standardization and research
Comments and Questions?

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