Symposium to Reduce Documentation Burden

# 25x5

on U.S. Clinicians by 75% by 2025

# SUMMARY REPORT

## December 2021

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# 25 by 5 Initiative to Reduce Documentation Burden on U.S. Clinicians by 75% by 2025

## Summary Report

## Abstract

Documentation burden is the stress imposed by the excessive work required to generate clinical records of healthcare-related interactions, occurring as a result of the imbalance between the usability and satisfaction of systems of health records keeping with clinical and regulatory demands of entering and consuming health records data. Examples include high time requirements for creating clinical documents, confusing user interfaces, and externally-imposed requirements for specific content that do not directly align with the needs of immediate clinical care activities. Documentation burden existed long before the implementation of electronic health records (EHR), with the impacts gaining increasing attention over the last few years as EHR use has increased. More recently, documentation burden has been linked to reduced workplace wellness, increased rates of clinician burnout, and a reduction in clinical care quality. The National Library of Medicine (NLM) funded the *25x5: Symposium to Reduce Documentation Burden on US Clinicians by 75% by 2025* with the overarching goal of developing a unified national action plan focused on short, medium, and long-term approaches to achieving this goal.(1) The Symposium activities were informed by one key theme: clinician documentation is for patient care delivery and clinician-patient communication.

The 25x5 Symposium-assembled stakeholders were convened from Columbia University, Vanderbilt University, the American Medical Informatics Association (AMIA), and the American College of Medical Informatics (ACMI) to form a Steering Committee to plan the meeting and related activities. This group then hosted the Symposium and took the outputs to summarize an action plan and next steps for the initiative.

Over 300 participants from about 140 organizations attended the Symposium; a series of 6 weekly sessions (2-hours each) between January 15th and February 19th, 2021, with 33 presentations from decision makers and influencers representing health systems, academia, industry, government[s], payers, professional societies, and international exemplars. Attendees included stakeholders from clinical settings, academia, industry (EHR vendors, technology companies and start-up companies), government, payers, professional organizations, and patients.

This report summarizes the products of the Symposium, including links to video and slide decks from the presenters, reference lists, key exemplars, and de-identified chat logs. It also includes results of a pre-symposium survey and analyses of the breakout sessions' action items. The 82 identified action items are organized in 3 domains and with 4 common themes to serve as a roadmap to developing solutions to reduce documentation burden. The report also includes post-symposium activities such as report out presentations and publications released since the Symposium. Not reported here is an explicit action plan outlined in recent discussions with the AMIA Board of Directors and other organizations seeking support to pursue implementation of these actions.

# Part One: Background

## Issue Summary

We define documentation burden as the stress imposed by the excessive work required to generate clinical records of healthcare-related interactions, occurring as a result of the imbalance between the usability and satisfaction of electronic health record (EHR) systems and clinical and regulatory demands of entering and consuming EHR data. Examples include high time requirements for creating clinical documents, confusing user interfaces, and externally-imposed requirements for specific content that does not directly align with the needs of immediate clinical care activities. Documentation burden has been linked to reduced workplace wellness, increased rates of clinician burnout, and a reduction in the quality of clinical care-related outcomes. Further, documentation burden has a number of contributing factors including but not limited to EHR design, implementation, and use. Envisioned to improve quality, safety, and access while reducing errors, EHR dissemination did not achieve all of its aspirations. Further, the urgency of identifying broadly applicable solutions to address clinician documentation burden has become even more urgent since the onset and persistence of the COVID-19 pandemic.

A national and international conversation to reduce burnout among clinicians has been occurring at organizations such as the National Academy of Medicine (NAM)(2), the American Medical Association (AMA)(3), the Office of the National Coordinator for Health Information Technology (ONC)(4), the Center for Medicare and Medicaid Services (CMS)(5), the American Nurses Association (ANA)(6), the Alliance for Nursing Informatics (ANI)(7), Health Level Seven International (HL7)(8), and the Healthcare Information and Management Systems Society (HIMSS)(9). Documentation burden is an especially pervasive and complex problem within the United States healthcare system. It stems from a misalignment between EHR usability, ever evolving clinical and regulatory demands, and changing clinician workflow. These factors have been shown to reduce clinician satisfaction related to entering and using EHR data.(10) Quantitative measurement of clinicians' interactions with the EHR highlight the frequency and duration of documentation activities during and after patient encounters.(11-13) One study revealed that in the USA, clinicians spend 75% more time with EHR documentation than clinicians in other economically developed nations, including in some instances EHRs from the same vendor. This study gave rise to the desire to develop an explicit 'stretch goal' of reducing this documentation burden to 25% of its current level within five years.(14)

Excessive time spent on documentation can lead to a variety of negative outcomes, including clinician burnout and decreased satisfaction, medical errors, and hospital-acquired conditions. To address this, the National Library of Medicine (NLM) funded *25x5: Symposium to Reduce Documentation Burden on US Clinicians by 75% by 2025(1)* to engage a diverse group of key stakeholders and thought leaders to develop a unified national action plan to address the issue, including short, medium, and long-term approaches to achieving this end. The Symposium served as a call-to-action to align inputs with a deliberate methodological design to foster the development of the national action plan, the process of which will be examined in this Summary Report.

The initiative to reduce documentation burden to 25% of its currently level in 5 years, herein called the 25 x 5 Initiative, focuses specifically on reforming clinician documentation burden from the current obligations, to a focus primarily on information needed for safe, high quality, high value, continuous patient care. Other considerations such as billing and payment uses, addressing medicolegal issues, and regulatory requirements, should be reduced, eliminated, or automated where possible, or rely on parallel documentation in the EHR where appropriate. Fundamental to this initiative is the broad recognition that documentation for these nonclinical purposes should not engage the clinician's time and attention. The action items generated as part of the 25 x 5 Initiative are not designed or anticipated to reduce each specific entry by 75%; rather, documentation burden taken in total will be reduced. We recognize that some notes may become longer while many current documentation burdens will be automated fully or eliminated altogether. The aim is to maximize the overall *clinical effectiveness* of notes, while reducing the *time* spent in creating them.

Reducing the overall documentation burden in healthcare is central to the 25 x 5 Symposium. However, specific burden reduction measurement metrics were not defined as part of the Symposium. Tools to measure documentation burden might include strategies such as: clinician surveys, time studies, EHR statistics, documentation audits, overtime or workload analysis. Action items for each class of stakeholder discussed in Part 4 and Part 6 of this report will offer opportunities to specify measurable metrics based on the item selection.

Over the last few years, much attention has been focused on the serious issue of clinician burnout and identification of the clinician activities that are responsible. Often mentioned in articles and studies on the topic has been the negative impact of widespread EHR implementation as a result of the incentives as part of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009. HITECH's requirements for achievement of "meaningful use" of EHRs is cited as contributing to clinician burnout. Additionally, efforts by government and private payers to achieve value-driven quality enhancements as well as to control over-utilization of care services are pointed to as causal factors. Unfortunately, many of these efforts considered clinician time to be essentially free of any costs, resulting in mounting documentation burden. Further, the U.S. payment system for healthcare services also adds to the documentation burden. Last, the multiplicity of EHR systems and the inadequacy of EHR system interoperability impacted any automation efficiency by creating duplication of efforts. It is clear that highly functional health care teams need easily sharable data necessary for good care outcomes and safe patient care which demonstrates greater respect for clinician time.

## Key Events Leading up to the Symposium

The storied evolution of the modern-day electronic health record dates back to a sequence of IOM reports beginning in 1990.(15) A recent publication from Johnson and Detmer summarizes much of this history.(11) Notably, the history of medical records dates back much further, before the times of Hippocrates. Dr. Johnson created a video summarizing this history for those with interest; it can be found in the References.(16) A sequence of IOM reports between 1990 and 2005 introduced the concept of a "computer-based patient record", which was a complete transformation of a paper-based record into a system that leveraged computational technology to become, in essence, a partner to the clinician in ways paper never could be. Despite advocacy for the term "computer-based patient record" by physicians and nurses, the world ultimately settled upon the title of electronic health record (EHR) to denote an electronic record that collected all health and disease-related patient information.

The introduction of EHRs was discussed and trialed at length before taking hold, as reviewed by Berner. (17) While not directly suggesting the role of electronic health records, standardization of medical documentation was a goal of the Institute of Medicine (IOM) report *To Err is Human*, motivated by both patient safety considerations as well as the ultimate goal of standardizing and reducing documentation burden.(15) However, the initial goals outlined in this and subsequent IOM reports failed to articulate the importance of balancing the new opportunities afforded by computation with the need for maintaining usability and user satisfaction. In economic terms, clinician time was being considered as 'free', e.g., its value heavily discounted. For both patient-facing activities as well as those seeking to access the data for non-clinical uses, the EHR has evolved to mimic a paper record in its sections and tabulated format, with mounting concerns that the usability and utilization may not match good clinical workflow.(18) A key aspiration has been to recognize and streamline these integrated actions and units, and leverage clinicians to 'work at the top of their licenses'.

The annual meeting of the American College of Medical Informatics (ACMI) in February 2020 addressed the broad issue of the relationship between the EHR and clinician burnout. The meeting served as a forum to: discuss the role that health information technologies have in causing and mitigating burnout, identify confounding factors, and consider informatics and policy-based solutions. The meeting began with a call to action from Dr. Don Detmer, who now serves as a member of the Symposium Steering Committee for the 25x5 initiative. He cited the National Academy of Medicine (NAM) 2019 report, *Taking Action Against Clinical Burnout* that identified heavy documentation demands and poor design for point of care interactions adversely effecting workplace wellness.(2) A further point from the NAM report that Dr Detmer highlighted was the potential beneficial impact of addressing the administrative burden associated with regulatory and other documentation requirements. Existing data demonstrates the correlation between documentation time and burnout, as well as the burden of documentation correlating with lack of time for that documentation to occur impacting risk of burnout within an individual. Concern was raised regarding the impact of regulatory and coding requirements on note content and size, as well as the reduction in clinical utility of increasingly long notes. Dr Detmer went on to highlight the impact of current practices and the impact of undervaluing clinician time as contributors to the ongoing documentation burden.

At the conclusion of the ACMI meeting, it was clear that AMIA and ACMI must play a pivotal role in improving the EHR through engineering, education, and advocacy at the national level. The meeting leaders and organizers decided that a symposium could kick off a movement among members and key stakeholders. The idea of a 25x5 Symposium was the by-product of the ensuing discussion, summarized in Figure 1.

Figure 1: Purpose of Symposium

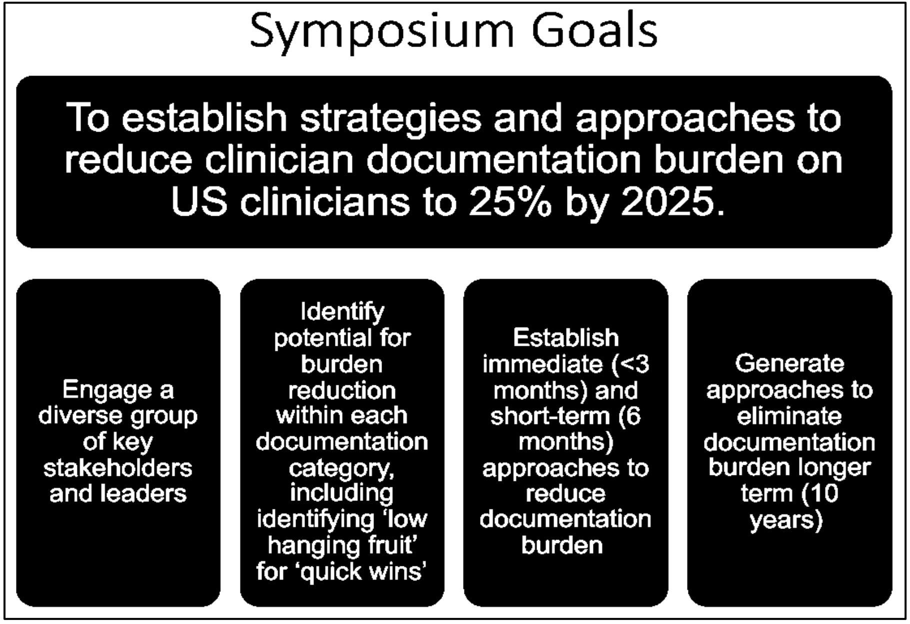
- Create a meeting that engages a diverse group of key stakeholders and leaders focused on reducing documentation burden
- Assess the likely potential for burden reduction within each category of documentation burden tasks
- Establish approaches for immediate (6 months), short-term (12 months), and longer term (30 months) elimination of clinical documentation burden
- Develop a 25x5 Community of stakeholders and allies to keep momentum going and to support dissemination and change
- Maximize techquity of any proposed solutions

# Part Two: Symposium Design

## Goals and Objectives

The Symposium initially was designed to provide a forum for nationally renowned experts to discuss the reality of clinician documentation burden and to propose and assign action steps. Key stakeholders were convened from Columbia University, Vanderbilt University, AMIA, and ACMI to form a Steering Committee to plan the Symposium. This group planned and hosted the Symposium, then organized the outputs to summarize an action plan and next steps.  Figure 2 lists the goals identified for the Symposium.

Figure 2: Symposium Goals



Symposium Goals

To establish strategies and approaches to reduce clinician documentation burden on US clinicians to 25% by 2025.

- Engage a diverse group of key stakeholders and leaders
- Identify potential for burden reduction within each documentation category, including identifying ‘low hanging fruit’ for ‘quick wins’
- Establish immediate (<3 months) and short-term (6 months) approaches to reduce documentation burden
- Generate approaches to eliminate documentation burden longer term (10 years)

The Symposium goals included engaging a diverse group of key stakeholders and leaders focused on reducing documentation burden and were designed to build towards the development of clear action items through the outputs of the sessions. Stakeholder engagement enabled a feasibility assessment of each burden reduction task, where approaches and action items were categorized as immediate (6 months), short-term (12 months), and longer term (30 months) in contributing to the elimination of clinical documentation burden. A central focus of the Symposium was to establish a 25x5 Community of stakeholders and allies to: gather momentum, facilitate dissemination and change following the completion of the initial six sessions, and maximize ***techquity*** of any proposed solutions – defined as the consideration, design, development, and implementation of technology solutions that promote, assure, and potentially enhance health equity.

In all Symposium discussions, the participants were encouraged to consider solutions while respecting the following constraints: 1) No shifting of work to others (e.g., from one clinician to another), 2) No erosion of care standards (e.g., quality, safety, value, efficiency, access), 3) Leverage technology and existing data inputs where appropriate (e.g., reduce re-documentation of items already captured during other intake processes), 4) Maximize clarity of proposed rules to minimize misinterpretation by health systems and providers.

As the situation with the 2020 COVID-19 pandemic became clear, it became necessary to change the format from an onsite meeting to a virtual one.  Given the cognitive burden of long virtual meetings, the sponsor team opted to extend the meeting from a two day in person event, to a 6-week set of 2-hour virtual sessions. The shift to a virtual, multi-week meeting allowed a widening of the participant base, and a more time to consider the problem of documentation burden and to ideate potential solutions.

### Provider and Health System Survey

The COVID-19 pandemic is a propitious time to re-evaluate and re-align the workflow and design of clinical documentation in a unified fashion, thereby meeting the demands on clinicians entering data into the EHR as well as the varied and growing list of users focusing on public health considerations. The continuing pandemic has further increased the challenge of burnout among clinicians across the health care team, enhancing the urgency for corrective reforms. At the same time, many providers and health systems were already addressing documentation burden with process changes during COVID-19 in response to increased patient loads and decreased clinical staff. It was determined that identifying some of the already-implemented changes and associated results might help inform the 25x5 initiative. To achieve this, a nationwide web-based survey was undertaken prior to the Symposium, the results of which have been published separately.(19)

The survey was designed based on existing post-COVID-19 policy and practice recommendations proposed by Sinsky and Linzer to examine documentation-related changes that clinicians and other healthcare leaders experienced during the pandemic, their perceptions, and whether they supported these changes to remain post-COVID.(20) The survey was comprised of 19 items which examined the following: (1) eight core documentation reduction strategies of interest (e.g., "verbal orders permitted in hospital setting"); (2) eleven additional documentation reduction strategies (e.g., "reduced frequency of order re-signatures") and (3) any additional documentation reduction strategies not described elsewhere through free text. Among the 19 items, participants were asked to indicate whether they experienced the strategy and preferred the strategy to remain permanent or supported implementation of the strategy, and to rate the projected impact of each strategy according to a sliding scale from 0 to 100. Additionally, the survey captured three professional demographic questions: profession, specialty and work setting. During the development phase, the survey achieved moderate to high face and content validity among clinical and informatics experts. The survey was disseminated using snowball sampling to healthcare professionals through email invitations, professional listservs (e.g., AMIA, ACMI), and social media (e.g., LinkedIn, Twitter, and Facebook).

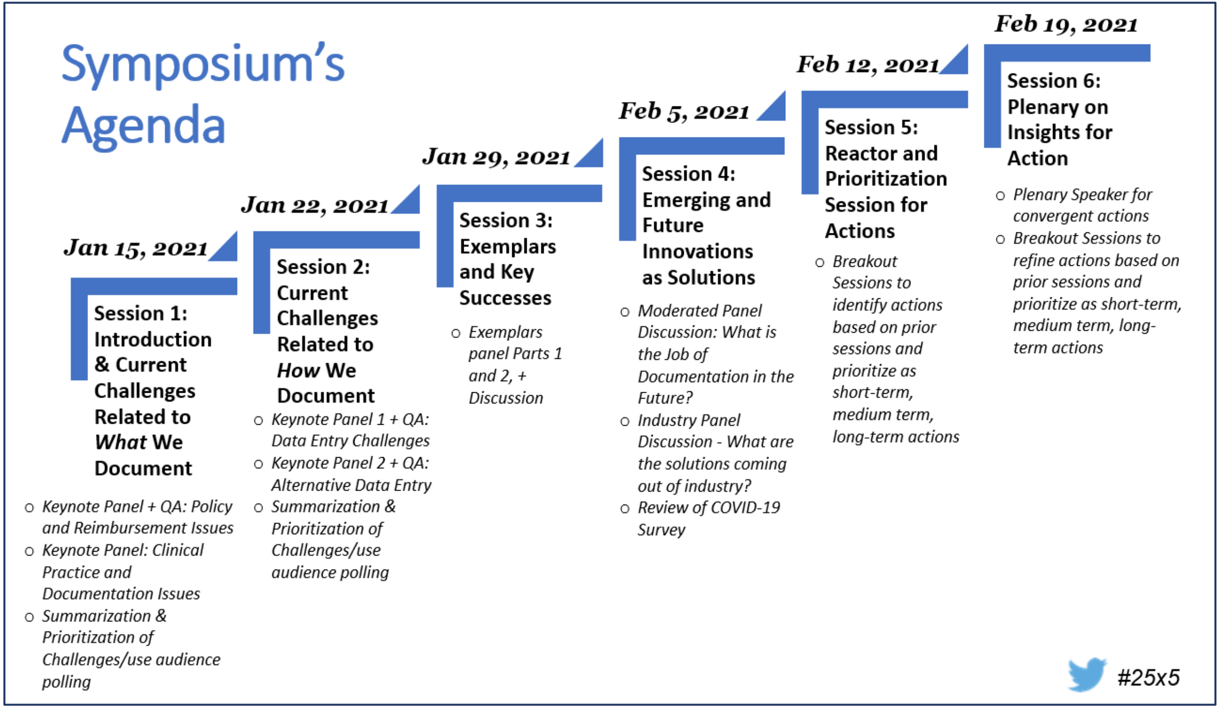
Among participants who completed the survey, the majority were informaticians and approximately half were prescribing providers. The majority of respondents: 1) experienced telehealth expansion, 2) preferred that the documentation changes made during COVID-19 remain permanent, and 3) rated the changes as having a moderately high impact for reducing burden. Over two-thirds experienced telehealth coding changes for the evaluation and management documentation required for provider billing, but the impact from the coding changes was less impactful than the telehealth strategy itself. Other core strategies that participants preferred to remain permanent and rated as relatively high-impact included disease-specific workflows. For example, respondents valued use of COVID-19 quick documentation templates and flexibility on quality assessment and performance improvement plans. Overall, prescribing providers consistently rated core strategies as lower impact compared to other clinicians who completed the survey. Among additional strategies, participants supported and rated the following strategies as moderately high for impact: implementation of EHR optimization sprints, eliminating alerts without evidence of net benefit and reducing note bloat through the documentation of pertinent positives. While increased use of documentation assistance was less likely to be supported among participants, it received moderately high ratings for impact. Prescribing providers were more likely to support additional strategies relative to other clinicians completing the survey, but consistently rated additional strategies as having a lower impact on average except for the use of documentation assistance, medication reconciliation by support staff, and changes to compliance rules and performance metrics.

Overall, the majority of participants supported improving EHR usability (e.g., alert elimination, login optimization, EHR optimization sprints, periodic usability assessments), data entry requirements (e.g., documentation of pertinent positives, device integration/efficient data capture), and not allowing any shifting of work to ancillary staff (e.g., documentation assistance, medication reconciliation by scribes). However, subtle contrasts were apparent between healthcare roles; as previously mentioned, prescribing providers were more likely to prefer verbal orders, and supported documentation assistance and medication reconciliation performed by support staff compared to other clinicians completing the survey. These findings suggest documentation burden must be examined within the complete documentation "ecosystem". It is important to note that some strategies were highly supported but experienced in low proportions among some participants. Qualitative analysis of narrative-text responses indicated there was considerable variability in the perception and experience of burden-related strategies, including the use of charting by exception and documentation templates, which were separately described as both contributing to and reducing burden. Future documentation reduction approaches targeting frontline clinicians must ensure that precision and succinctness of data capture do not come at a cost to patient care continuity, quality, and safety.(19)

## Structure and Agenda

Recognizing what would be feasible in an all-virtual format, the sponsor team constructed a modular approach with sessions that built from information-gathering content to sessions that allowed divergent ideas to surface, to a final set of sessions where convergence was facilitated, leading to prioritization of work that could be accomplished during different phases over the next five years. Figure 3 summarizes the six Symposium sessions.

Figure 3: Schematic of 25 by 5 Symposium Agenda



Symposium's Agenda

**Jan 15, 2021**

**Session 1: Introduction & Current Challenges Related to *What* We Document**

- *Keynote Panel + QA: Policy and Reimbursement Issues*
- *Keynote Panel: Clinical Practice and Documentation Issues*
- *Summarization & Prioritization of Challenges/use audience polling*

**Jan 22, 2021**

**Session 2: Current Challenges Related to *How* We Document**

- *Keynote Panel 1 + QA: Data Entry Challenges*
- *Keynote Panel 2 + QA: Alternative Data Entry*
- *Summarization & Prioritization of Challenges/use audience polling*

**Jan 29, 2021**

**Session 3: Exemplars and Key Successes**

- *Exemplars panel Parts 1 and 2, + Discussion*

**Feb 5, 2021**

**Session 4: Emerging and Future Innovations as Solutions**

- *Moderated Panel Discussion: What is the Job of Documentation in the Future?*
- *Industry Panel Discussion - What are the solutions coming out of industry?*
- *Review of COVID-19 Survey*

**Feb 12, 2021**

**Session 5: Reactor and Prioritization Session for Actions**

- *Breakout Sessions to identify actions based on prior sessions and prioritize as short-term, medium term, long-term actions*

**Feb 19, 2021**

**Session 6: Plenary on Insights for Action**

- *Plenary Speaker for convergent actions*
- *Breakout Sessions to refine actions based on prior sessions and prioritize as short-term, medium term, long-term actions*

*#25x5*

Participants were solicited through invitation, advertisement by AMIA and ACMI, and by word-of-mouth. They included representatives from clinical settings, academia, industry (EHR vendors and start-up companies), government, payers, professional organizations, and patients.

The first four Symposium sessions included keynote speakers, exemplar panels, industry panels, and moderated panel discussions. The last two sessions focused on brainstorming approaches for reducing clinical documentation burden, using breakout groups to identify actions items based on prior session content and exemplars, and to prioritize actions into short-term, medium-term, and long-term items. All presentations can be accessed on the 25x5 website.(1)

Outputs from the Symposium included recordings and slide decks from the Symposium sessions, reference lists of notable works available at the time of the Symposium, and de-identified chat logs. Each aspect of the Symposium was designed and considered in support of the development of action items, from the selection of exemplars to the dissemination of recordings and accessibility of the discourse in the chats to coincide with the exemplar presentations. The report out of breakout session findings and action items to multiple stakeholder organizations was also considered in the Symposium design, with a plan for dissemination of the action items following the Symposium.

# Part Three: Symposium Event

Over 300 participants from about 140 organizations attended these 2-hour sessions between January 15th and February 19th, 2021, with 33 presentations from stakeholders and participants who represented health systems, academia, industry, government, payers, and professional societies. Symposium attendees included representatives from clinical settings, academia, research, industry (including EHR vendors and innovative start-up companies), government agencies, payors, and professional organizations.

Below is a summary of each of the six sessions.

## Session 1: Introduction & Current Challenges Related to <u>What</u> We Document

Session Leaders: Kevin Johnson, MD, MS, FAAP, FACMI (Professor and Chair of Biomedical Informatics, Vanderbilt University) and Judy Murphy, RN, FACMI, LFHIMSS, FAAN (Previous IBM CNO and ONC Deputy National Coordinator for Programs and Policy)

<u>Symposium Introduction and Overview (21)</u>

I. Keynote Panel 1: Policy and Reimbursement Issues
    A ONC Cures Act Final Rule and Challenges Tackled: Andrew Gettinger, MD (Chief Clinical Officer, ONC)(22)
        1. Described the most recent updates from ONC on Clinical Documentation Interoperability, including types of data, and standards which are being updated.
        2. Shared timeline for Final Rule implementation, and adjustments occurring due to the pandemic.
    B. Documentation Requirements: Balancing Quality, Safety and Program Integrity: Mary Greene, MD (Director, Office of Burden Reduction & Health Informatics, CMS)(23)
        1. Described 4 key goals of the Office of Burden Reduction and Health Informatics at CMS, of which Dr Greene is the Director, to: reduce administrative burden in the health systems, advance interoperability and national standards, engage stakeholders to inform solutions, and infuse a ‘customer-focused mindset’. Documentation burden and cognitive burden were discussed.
        2. Highlighted key areas to focus efforts: Prior Authorization and Documentation Requirements.
        3. Reviewed concepts of clinical relevance balanced with program oversight and highlighted the need to approach the tension between what is needed that is clinically relevant, compared with extra information needed for oversight responsibilities. Shared goal to streamline requirements and make CMS documentation requirements more accessible.
    C. Quality Measurement for Ranking versus Change and Implications on Expense and Burnout: Brent James, MD (Clinical Professor (Affiliated), Dept of Medicine, Stanford University School of Medicine)(24)
        1. Introduced focus on 2 primary aims: Outside in (selection and ranking) vs inside out (change and improvement) and the connection between quality measures and improvement.
        2. Reviewed key points to consider when measurement for selection and ranking are attempted, concluding that selection of measures imposed in the name of accountability and quality often actively damage quality of care and have the unintended consequence of blocking improvement.
        3. Discussed a tool to measure change and learning, which can be very helpful to understanding quality.

4. Presented the aim of developing registries, which can be disease specific or focused, and can be systemic wide, and can support both care delivery (primary aim) and accountability (secondary aim).

D. Panel Discussion Topics:(25)

1. There were comments related to the role of Problem Lists on the burden of documentation, and also the variability depending upon how diagnoses are entered, impacting the quality of diagnoses listed.
2. Suggestion made to compare reducing versus eliminating burden, directly as it relates to the burden of reporting, and what would it take to achieve these goals. Corollary question of how to find and access the data that is needed, from within the record.

II. Keynote Panel 2: Clinical Practice and Documentation Issues

A. Nursing Documentation and Med Rec: Sharon Kirby, MSN, RN-BC (Previous Chief Nursing Informatics Officer, Department of Nursing, Mayo Clinic)(26)

1. Introduced the concept of a potential paradigm shift in documentation; need to be sure documentation burden is not simply shifted from one clinician to another as changes are implemented.
2. Reviewed impact of medication reconciliation workflow on nursing, which can vary from physician process.
3. Referred to a model of a 3-pronged approach to documentation reduction including addressing the documentation burden itself, standardizing terminologies, and datasets, as well as automating select processes.
4. Considered lessons learned from experiences with the pandemic and the need to carry them forward into practice as permanent changes.

B. Cognitive Burden: Sherri Hess, MS-IS, BSN, RN-BC, FHIMSS (Chief Nursing Informatics Officer, Banner Health)(27)

1. Reported that nurses spent 2-2.5 hours per shift documenting, and can experience information overload and a reduced ability to make decisions due to high documentation demands, leading to an associated risk of burnout.
2. Presented the concept of ‘decreasing the divide’ between documentation and hearing from front line clinicians for lessons learned.
3. Considered solutions that are generalizable across institutions and sites of care.

C. Diversity, Equity & Inclusion: Kenrick Cato, PhD, RN, CPHIMS (Assistant Professor, Columbia University School of Nursing; Nurse Researcher, New York-Presbyterian Hospital)(28)

1. Presented the findings of the Diversity, Equity and Inclusion (DEI) task force within the 25x5 Symposium, and the perspective that documentation matters. Considered how different documentation would be if it was written from the patient perspective.
2. Reviewed the impact of DEI on documentation related to structure, process and outcome: first approaching structure and how it impacts the domains of technology, culture, and people using the system; then, looking at the institutional characteristics that affect DEI and documentation across these domains. Consideration made to the process, particularly who is defining the goals of the process, including for regulatory requirements. Recommended further consideration be given to the impact of patient characteristics and how they are defined, used in the system, and weighed in importance.

D. Panel Discussion Topics:(29)

1. Consideration of what the social determinants of health are and how we approach them, and when it might make sense to go beyond them.

2. Impact of emergency COVID-19 changes in documentation and requirements, and also how to learn from current impact of disaster documentation modes.
3. Longitudinal role of documentation as a plan of care and a tool for understanding the trajectory of care over time, and not just what has already happened.
4. How do we consider patient characteristics and human factors, what is the patient role, and how do we integrate that into the care of patients across time?

## Session 2: Current Challenges Related to How We Document

Session Leaders: Patty Sengstack, DNP, RN-BC, FAAN (Senior Associate Dean of Informatics, Vanderbilt University School of Nursing) and Chris Lehmann, MD, FAAP, FACMI, FIAHSI (Director, Clinical informatics Center, UT Southwestern Medical Center)

Symposium Introduction and Overview(30)

I. Keynote Panel 1: Data Entry Challenges
    A. "Oh the pain" – Usability: (Aaron) Zachary Hettinger, MD (Director of Cognitive Informatics, MedStar Health National Center for Human Factors in Healthcare)(31)
        1. Presented the differences between usability and usefulness, and the evolving variety of inputs to health information
        2. Discussed the impact of user interface design or contextual independent design in comparison with cognitive task support and context dependent challenges.
    B. "Oh the interruptions" – Workflow: Kim Unertl, PhD (Associate Professor of Biomedical Informatics in the School of Medicine at Vanderbilt University)(32)
        1. Reviewed a socio-technical model of workflow, referencing published framework that includes a model of documentation and complex inputs to process.
        2. Described characteristics or stages of documentation ranging from the 'when & where' of documentation, followed by the 'who' is doing the documentation, and closing with the 'why' we document. Followed with consideration of 'usefulness' and value of clinical data.
    C. "Oh all these boxes" – Forms based documentation and device integration: Susan McBride PhD, RN-BC, CPHIMS, FAAN (Professor, Program Director Nursing Informatics Graduate Program, Texas Tech University Health Sciences Center)(33)
        1. Presented observations and data from two institutional nurses surveys in 2015 and 2020 with 2 main findings: 1) clicks can impact both creation and review of orders by the clinical team, and 2) clicks may replace the thoughtful completion of documentation, particularly for nursing documentation.
        2. Described the Competency Assessment in Simulation of Electronic Health Records (CASE) Tool, which is designed with 10 domains to determine best practices for clinical documentation by nurses.(34)
    D. Panel Discussion Topics:(35)
        1. Reflected on the themes from the online concurrent Chat discussion and compared computer and paper EHRs, including differences in interacting with both formats in areas such as usability, visual factors and user interaction.
        2. Described the potential positive impact of customization; but the risk that end-users may not always know how to use customization correctly in order to enhance patient safety or quality improvement.
        3. Considered how to integrate usability of devices within workflow, related to documentation in real time.

II. Keynote Panel 2: Alternate Data Entry
  A. "Is anyone listening?" Issues related to team-based documentation and use of scribes: Peter Chabot Smith, MD (Department of Family Medicine, University of Colorado)(36)
    1. Presented team-based documentation strategies including steps of a patient moving through an outpatient setting. Dr. Chabot Smith also presented various models of documentation that use scribes, teamlets (i.e., groups of team members), and teams of teams. These models were compared with the 'lone wolf' model of each documentation artifact completed by a single clinician.
    2. Described impacts, advantages, and differences between the three models, and shared concern that in some cases, there is shifting of documentation from one clinician to another, rather than a reduction of documentation overall.
  B. "Computer- are you there?" Voice recognition: Yaa Kumah-Crystal, MD, MPH, MS (Assistant Professor of Biomedical Informatics and Pediatric Endocrinology at Vanderbilt University Medical Center)(37)
    1. Highlighted definitions, limitations and impacts of speech recognition as transcription of the spoken word, including both front end/real-time speech recognition software and the more traditional transcription of the spoken word after the fact.
    2. Presented the cost versus benefit of dictation and speech recognition approaches, including citing homophones as one type of error that may occur when balancing the speed of documentation versus the need to make corrections. Dr. Kumah-Crystal reviewed availability of the 2 approaches, and the impact of social norms, background noise, privacy concerns, cognitive and physical comfort, and convenience, as well as how personal speech characteristics impact the need to correct errors.
  C. Copy & Paste – Benefits and other safety issues: Lorraine Possanza, DNP, JD, MBE (Former Program Director, Partnership for Health IT Patient Safety)(38)
    1. Reviewed competing goals of optimizing re-use of information and capture while maintaining information integrity and ensuring reliability.
    2. Reviewed benefits and potential costs or risks associated with copy and paste, including patient safety impacts and risk of internal inconsistencies.
  D. Panel Discussion Topics:(39)
    1. Described the need to consider the patient encounter holistically and how to integrate team perspective in documentation.
    2. Talked about the potential role of natural language processing, with future implications for ambient scribe products, balanced by the need for human curation of the content for it to be in documentation format.
    3. Expressed Discussed concerns about the copy & paste dilemma, and how to bring data forward and compile it in a meaningful way.

## Session 3: Exemplars and Key Successes

Session Leaders: Kenrick Cato, PhD, RN, CPHIMS (Assistant Professor, Columbia University School of Nursing; Nurse Researcher, New York-Presbyterian Hospital) and Karthik Natarajan, PhD (Assistant Professor in the Department Biomedical Informatics at Columbia University)

<u>Symposium Introduction and overview:(40)</u>

I. Keynote Panel 1: Exemplars and Key Successes:
  A. CDARS – Clinical Data Analysis and Reporting System: NT Cheung (Chief Medical Informatics Officer, Hong Kong's Hospital Authority)(41)
    1. Presented the development, origins, rationale, and current status of the Hong Kong Hospital Authority's home-grown electronic health system called Clinical

Management System (or CMS) starting in 1990; now used in a large proportion of Hong Kong Hospitals (43 hospitals, involving 90% of healthcare for hospital care in Hong Kong).

2. Presented patient or customer involvement, as well as governance and stakeholder engagement through project committees in support of ongoing clinician inputs, ‘to prioritize, review and exploit technology.

B. National Health Service (NHSx): Dr Natasha Phillips, RN (Chief Nursing Information Officer NHSx, London, England, United Kingdom)(42)

   1. Described the NHSx team, unique challenges faced related to adoption, and opportunities at the time of EHR rollout.
   2. Shared goal of EHR content for nursing care that is clinically led, workflow-based, and co-designed.
   3. Presented a 2020 update to an NHS case study including lessons learned and current priorities to empower the front-line clinicians, reduce documentation burden and maintain professionalization.

C. HL7: Viet Nguyen, MD (Founder, Stratametrics; Technical Director, HL7 Da Vinci Project)(43)

   1. Presented documentation burden reduction as one focus of the multi-stakeholder membership community of the Da Vinci Stakeholders; an example of a Fast Healthcare Interoperability Resources (FHIR) accelerator addressing the interoperability challenge.
   2. Reviewed three standardization guide outputs of the Da Vinci community focused on burden reduction in the areas of prior authorization, documentation templates and rules, and coverage requirements discovery.

D. Evidence-Based Documentation: William Dan Roberts, PhD (Vice President Care Delivery and Performance at Healthcare Corporation of America/HCA)(44)

   1. Described the mission and vision of HCA.
   2. Highlighted the principles that guide HCA’s evidence-based clinical documentation process for bedside nurses, including: the characteristics of governance and enterprise design in place to support clinical documentation workflow, sharing of performance factors, and real time data availability.

E. Panel Discussion Topics:(45)

   1. Dr Cheung shared how documentation duplication is reduced, how data is captured and made available, and how physicians’ reference other documentation instead of fully repeating it.
   2. How is patient centered design supported at NHSx? Dr Phillips noted that this is still in process but gave example of COVID-19 patients reporting home oximetry data for inclusion in the chart.
   3. Dr Nguyen described the impact of interoperability and data sharing for the purpose of serving the patient better, as Substitutable Medical Applications, Reusable Technologies (SMART) on FHIR applications and functionality has the potential to improve data flow and impact patient outcomes.
   4. Discussion took place related to the tension between the need for information entry and the value of information retrieval, and emerging efforts to balance this better in the current designs of EHRs.

II: Keynote Panel 2: Exemplars and Key Successes

- A. Project JOY: Bonnie Adrian, PhD (RN-BC, Research Nurse Scientist, Clinical Informatics, UC Health, Colorado)(46)
  - 1. Described design and timeline of Project Joy, which is focused on assessing and addressing nursing documentation burden by evaluating pre and post-intervention documentation process outcomes.
  - 2. Key result reported: Over the prior 2 years, Project Joy reported eliminating 496 flowsheet rows of nursing documentation and reducing the time spent in nursing flowsheets by 18 minutes in a 12-hour shift. These outcomes were measured using EHR vendor data and correlates across the organization to approximately 64,800 hours of nursing care time – a cost of $2.8 million annually.
- B Clickbusters: Adam Wright, PhD, FACMI, FAMIA, FIAHSI (Professor Department of Biomedical Informatics, Vanderbilt University)(47)
  - 1. Reported ongoing experiences with Clickbusters, an initiative focused on improving safety and quality and reducing burnout through the optimization of the EHR. Described the role of participants in the initiative, including informaticians, physicians (with Physician builder certification), nurses, and pharmacists.
  - 2. Described progression from the initial project design, baseline data collection on clicks to identify areas to focus interventions, and a novel approach to enable users to give point-of-care real time feedback.
  - 3. Presented the development of a community of engagement, as well as how participants receive recognition for their contributions.
- C. CareAlign: Subha Airan-Javia, MD (CEO & Founder CareAlign.AI; Associate Professor of Clinical Medicine, University of Pennsylvania)(48)
  - 1. Presented rationale and vision for concept of a shared documentation model that serves as the basis for the CareAlign program. Motivation for CareAlign includes current workflows that often involve printing patient lists that have inaccurate or short half-life.
  - 2. Highlighted the operational steps and sample screen shots of each step in the use of the team-based documentation model, culminating in adoption and engagement data, and challenges when implementing.
- D. DEI from a Cancer Survivorship Planning Perspective: Helen Palomino, LCSW (Chief Executive Officer, The Cancer Resource Center of the Desert)(49)
  - 1. Described the role of the non-profit organization and the population served which includes multilingual and underserved patients living with cancer in Imperial County, CA. Explained their role in assisting patients in navigating their own health care, while not providing the direct care itself.
  - 2. Presented their holistic and tailored approach for cancer survivorship, including the role of patient navigators helping remove and mitigate barriers to care on behalf of the patient, as many patients may have reduced health or general literacy, financial distress, and may be uninsured or underinsured.
- E. Panel Discussion Topics:(50)
  - 1. Discussed the inertia of existing policies, and the importance of incremental change, including the need for supported by institutional leadership.
  - 2. Described the importance of being thoughtful about extracting data from health records and about the interactions with the data.

## Session 4: Emerging and Future Innovations as Solutions

Session Leader and Panel Moderator: Kenneth D. Mandl, MD, MPH (Director, Computational Health Informatics Program, Boston Children's Hospital; Donald A.B. Lindberg Professor of Biomedical Informatics and Pediatrics, Harvard Medical School)

Symposium Introduction and Overview:(51)

I. COVID-19 Documentation Reduction Survey Results: Presenters: Jessica Schwartz MPhil, BSM, RN; Amanda Moy, MPH, MA; and Eugene Lucas, MD.(52) See Provider and Health System Survey in Part 2 of this report.(19)

II. Keynote Panel 1: What is the Job of Documentation in the Future? Moderated by Kenneth D. Mandl, MD, MPH (Director, Computational Health Informatics Program, Boston Children's Hospital)(53)
    A Jesse M. Ehrenfeld, MD, MPH (Immediate Past Chair, Board of Trustees, American Medical Association; Senior Associate Dean, Tenured Professor of Anesthesiology, Medical College of Wisconsin; Professor of Anesthesiology and Health Policy, Vanderbilt University)
    C Molly K. McCarthy MBA, RN-BC (National Director, US Health Providers and Plans, Microsoft)(54)
    D Marc Overhage, MD, PhD (Healthcare Information Technology Executive, Indianapolis, Indiana)
    E Eric Topol, MD (Founder & Director, Scripps Research Translational Institute, Executive Vice-President, Scripps Research Institute)
    F Ross Koppel, PhD, FACMI (Professor of Biomedical Informatics and Sociology, University of Pennsylvania; Professor of Biomedical Informatics, University at Buffalo (SUNY)
    G Panel Discussion Topics:
        1. Dr Ehrenfeld shared American Medical Association (AMA) work to enhance the Current Procedural Terminology (CPT) coding system to reduce the documentation burden, beyond what has been accomplished by the recent ambulatory Evaluation & Management (E&M) coding changes. Described how a new coding system will focus more on medical decision-making, and a digital 'front door' smart application to assist clinicians.
        2. Discussed artificial intelligence current and emerging applications to enhance the clinician patient relationship and reduce documentation burden. Mollie McCarthy provided update from Microsoft organization, including an example of digital 'bot' design.
        3. How to assess if and how new documentation methods work.
        4. Limitations and pitfalls related to AI-designed notes, including why some have not yet been implemented. Dr Topol commented on future implications of integrating natural language processing and AI into note generation, where the note could then be edited by both the patient and clinician. Discussion of addressing the clinician's ability to summarize an encounter to reduce ambiguity.
        5. Managing and monitoring the advancements in CPT workflow and coding of documentation, including efforts from the AMA to address related concerns.
        6. Described use and quality of EHR log data.
        7. Improving patient involvement to enhance trust and engagement. Reviewed emerging efforts to begin integrating AI into documentation and enhance patient access and involvement with their data.
        8. Considering the potential role of video and direct patient/physician interaction video capture, including limitations and risks.

9. Providing clinicians time and space to think and synthesize data also important to the process of documentation, leveraging technology to ensure time is available.

II. Keynote Panel 2: What are the solutions coming out of industry? Moderated by Kenneth D. Mandl, MD, MPH (Director, Computational Health Informatics Program, Boston Children's Hospital)(55)
  A Marshall Ruffin, MD, MPH, MBA (Founder and Chief Executive Officer, Salutary, Inc.) provided background on the work of Salutary to extract data from radiology reports and lab results using data extraction models.
  B Susan Kressly, MD, FAAP (Kressly Pediatrics, and Medical Director Office Practicum) introduced the concept of allowing more narrative, and integrating patient and family perspectives.
  C Jacqueline Gerhart, MD, FAAFP (Director of Clinician Engagement, Epic) presented how Epic is using existing tools within the EHR, including using encounter reports and leveraging patients' input.
  D Jeff Wall, MD (Senior Director, Clinical Innovation, Cerner) reported on Cerner efforts at expanding who can contribute to the patient's notes and development of a care plan, with a goal of team-based plans of care and care team documentation.
  E Peter Durlach (Senior Vice President, Healthcare Strategy and New Business Development, Nuance Communications) described Nuance efforts working on ambient clinical intelligence, which they are calling Dragon Ambient experience (DAX).
  F Panel Discussion Topics:
    1. Potential role of AI or ambient collected content.
    2. Highlighted the importance of generating an assessment and plan, even if employing ambient technology to collect initial data.
    3. How to address and avoid worsening of existing disparities while impacting AI technology.

## Session 5: Reactor and Prioritization Session for Actions

## Session 6: Plenary on Insights for Action

Both of these sessions included small group breakout sessions, with brainstorming of actions using Mural board(56) development and report back to the entire group. This work is detailed here. Session 3 and 5 each began with a keynote presentation.

I. Keynote Presentation Session 5: Where Might We Go from Here? by Isaac Kohane, MD, PhD (Marion V. Nelson Professor & Chair, Department of Biomedical Informatics, Harvard Medical School)(57)
  A. Reviewed a process improvement cycle of: Assessment -> treatment -> revise and cycle back to assessment.
  B. Highlighted the rapid information cycle and the development of communication strategies to track novelties about the COVID-19 disease process where comparative data can be shared across countries and hospitals.
  C. Discussed the existing opportunity for informaticians to drive progress in medicine and address clinician burnout.
  D. Presented opportunity for artificial intelligence in addressing reimbursement, compared with the higher risk of using AI related to complex disease states in actual patients.
  E. Reviewed several recent advancements in applications, such as SMART on FHIR and associated roll outs that he termed as a 'data liberation movement'.
  F. Highlighted the need to transform clinical practice by bringing the focus back to the clinician-patient encounter, making patients not the nominal but the legal and active

controller of their data and decision-making, and to leverage interaction between health systems.

II. Keynote Presentation Session 6: Convergent Actions by Christine A. Sinsky MD FACP, (VP, Professional Satisfaction, American Medical Association)(58)

A. Reviewed her reflections on the contributions to addressing burnout during the Symposium, including myths about burnout, and bright spots presented during the symposium, and then offered action steps.

B. Discussed a new 'doctor-patient' relationship that involves computers and the impact of commented on changes in technology's role in healthcare.

C. Highlighted four myths related to the clinician as a superhero: 1. Clinicians can balance the work and document simultaneously without impacting patient safety and satisfaction; 2. Clinician-patient encounters should be converted into digital data; 3. Clinicians have unlimited cognitive reserves, and 4. Patient encounters are a series of transactions.

D. Presented suggestions on rethinking documentation and how its purpose has changed over time, such as synthesizing medical thought and preserving the patient story.

E. Highlighted American Medical Association (AMA) efforts to address regulatory myths.

F. Discussed getting away from a transactional encounter, and trend towards relational care and building and supporting healing relationships.

III. Breakout Group Organization for Sessions 5 and 6

A American Nursing Informatics Association (ANIA) Six Domains of Documentation Burden: During these two sessions, 149 participants were assigned to 19 breakout groups organized using the ANIA Six Domains of Documentation Burden as an organizing framework: Reimbursement, Regulatory, Quality, Usability, Interoperability, and Self-imposed. Figure 4 shows the definitions for the 6 domains in the model.(59)

Figure 4: Definition of ANIA Six Domains of Documentation Burden (59)

| Domain | Definition |
|---|---|
| Reimbursement | Documentation, coding and administrative charting required for reimbursement, by payors such as: CMS, Blue Cross/Blue Shield, United Healthcare, Aetna, Anthem, Cigna, Humana. |
| Regulatory | Accreditation agency documentation requirements such as: The Joint Commission, Healthcare Facilities Accreditation Program and State Regulatory Agencies. |
| Quality | Documentation required to demonstrate that quality patient care has been provided. This includes documentation requirements by the healthcare organization itself, as well as by governmental and regulatory agencies. |
| Usability | Insufficient use of human factors engineering and human-computer interface principles. EHRs are not following evidence-based usability/human factors design principles. |
| Interoperability | Insufficient standards requiring duplication and re-entry of data even though it resides elsewhere, either internal to the organization or in an external system. |
| Self-Imposed: "We've done it to ourselves" | Organizational culture's influence on what should be documented can exceed what is needed for patient care, including fear of litigation, 'we've always done it this way,' and misinterpretation of regulatory standards. Includes insufficient education on system use. |

B Breakout Subgroups: For the purpose of the breakout groups, each of the six domains were further sub-divided into one to six subgroups to narrow the domain for discussion and identification of action items, as well as to keep the subgroups small enough for good discussion. This process resulted in 19 breakout groups, with each group consisting of 5-10 participants led by a facilitator with domain expertise and a note-taker to capture all discussion points using the online collaborative tool, Mural.(56) Discussion was structured and focused on current problems, with generation of ideas for optimization, and action items for the specific domain subgroup topic. Figure 5 shows the identification and organization of the 19 breakout groups.

Figure 5: Organization of 19 Breakout Groups under the Six Domains of Burden

C <u>Professional Facilitator and Mural Board Development</u>: A professional facilitator was hired to run the breakout discussions and facilitate summarization of identified actions from each breakout group. The online collaborative tool, Mural software was used to facilitate each breakout group to brainstorm and develop short, intermediate, and long-term goals to report back to the group through the facilitator at the end of Sessions 5 and 6.(56) The Mural boards highlighted key items from each group and were recognized to only begin to capture the complexity of the breakout session discussion. A considered limitation of the report back and mural board process was the constrained session time for each breakout groups' report back to the larger Symposium attendees. As such, there may have been a limitation of the completeness and thoroughness of the action items developed. In order to address this potential limitation, Mural boards were analyzed later by the Steering Committee members, which enabled an additional grounding to the action items. The goal was a transparent process to improve generalizability while honoring the contributions of the attendees and all stakeholders taking part in the 25 x 5 Initiative.

## Part Four: Methods for Analysis of Breakout Session Output and Generation of Action Items

The Symposium Steering Committee synthesized the comments from the online Murals and derived action items that were categorized into short-term, medium-term, and long-term. Next, a thematic analysis of action items across the six domains of burden was performed. Four themes emerged through group consensus and validation processes: Accountability, Evidence, Education and Training, and Innovation of Technology. Eighty-two action items were generated from the analyses.(60) Steering Committee group consensus sessions were used to validate final themes and action items.

The 82 action items were then further synthesized and prioritized into Calls to Action for three stakeholder groups: Providers and Health Systems, Vendors, and Policy Advocacy.(60) The specific Call to Action for each stakeholder group are described in detail below and summarized using the themes in Figure 6 to 8, as well as the Infographic in Figure 9.

**Call to Action for Providers and Health Systems**

- Establish guiding principles for adding documentation to the EHR and generating evidence for reduced documentation
- Develop a national roadshow and educate clinicians and clinicians in training on balancing brevity and completeness in documentation
- Support functions like real-time information retrieval, documentation, and ordering
- Implement interdisciplinary notes

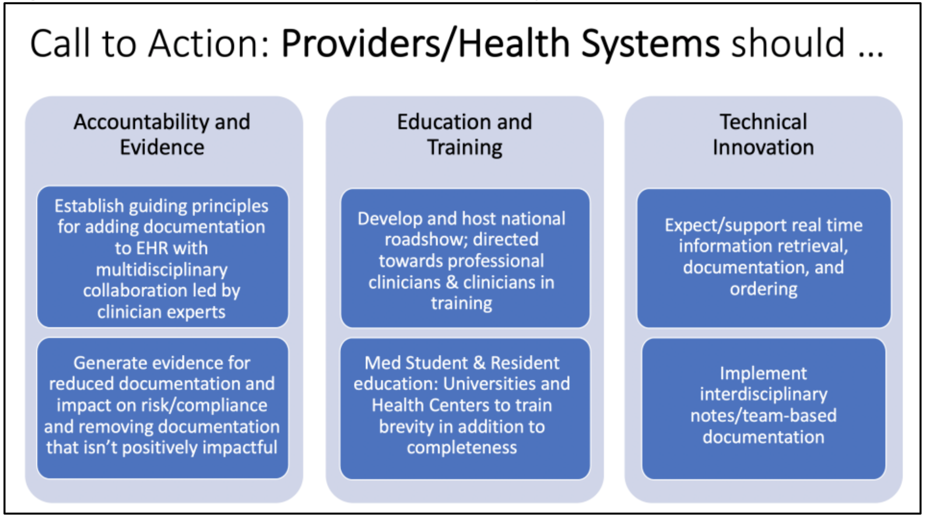
**Call to Action for Health IT Vendors**

- Promote an ecosystem of interoperable systems to allow for complementary technology
- Develop metrics to review and grade a user's documentation
- 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 personalized Clinical decision support (CDS) to drive user-specific workflows

**Call to Action for Policy and Advocacy Groups**

- Urge agencies to fund research that captures billing code information without engaging clinician time
- Select the best of breed and implement throughout the healthcare system
- Develop technology to reliably and accurately create reimbursement/payment data for all care settings

Figure 6: Call to Action – Providers/Health Systems



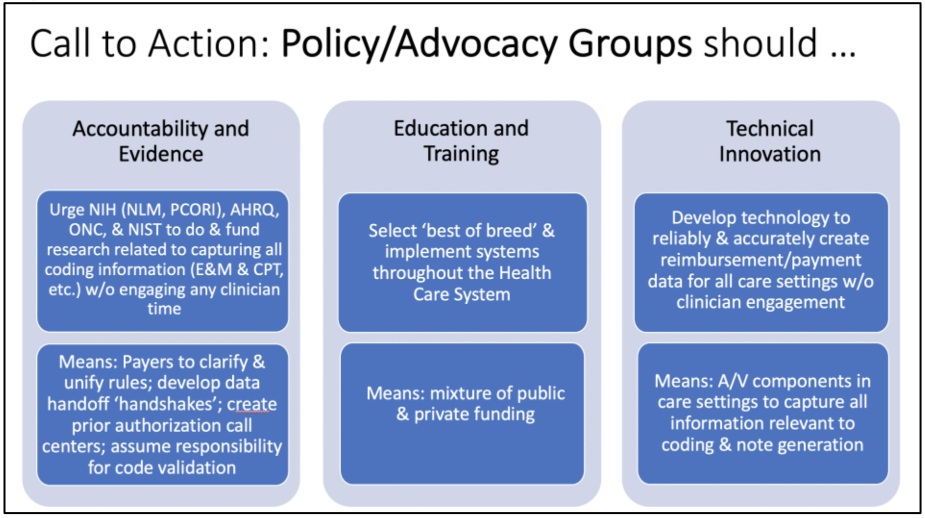
Call to Action: **Providers/Health Systems** should …

**Accountability and Evidence**
- Establish guiding principles for adding documentation to EHR with multidisciplinary collaboration led by clinician experts
- Generate evidence for reduced documentation and impact on risk/compliance and removing documentation that isn't positively impactful

**Education and Training**
- Develop and host national roadshow; directed towards professional clinicians & clinicians in training
- Med Student & Resident education: Universities and Health Centers to train brevity in addition to completeness

**Technical Innovation**
- Expect/support real time information retrieval, documentation, and ordering
- Implement interdisciplinary notes/team-based documentation

Figure 7: Call to Action – Policy/Advocacy Groups



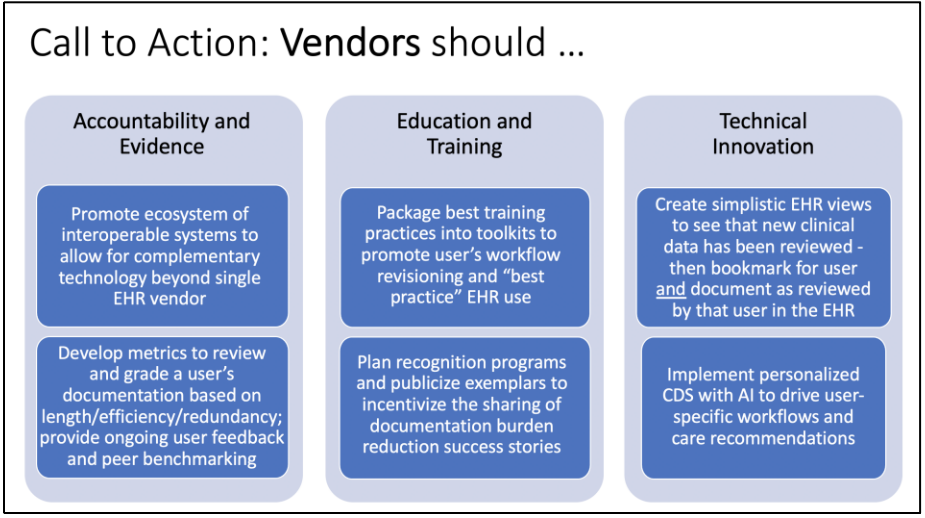
Call to Action: **Policy/Advocacy Groups** should …

**Accountability and Evidence**
- Urge NIH (NLM, PCORI), AHRQ, ONC, & NIST to do & fund research related to capturing all coding information (E&M & CPT, etc.) w/o engaging any clinician time
- Means: Payers to clarify & unify rules; develop data handoff 'handshakes'; create prior authorization call centers; assume responsibility for code validation

**Education and Training**
- Select 'best of breed' & implement systems throughout the Health Care System
- Means: mixture of public & private funding

**Technical Innovation**
- Develop technology to reliably & accurately create reimbursement/payment data for all care settings w/o clinician engagement
- Means: A/V components in care settings to capture all information relevant to coding & note generation

Figure 8: Call to Action – Vendors



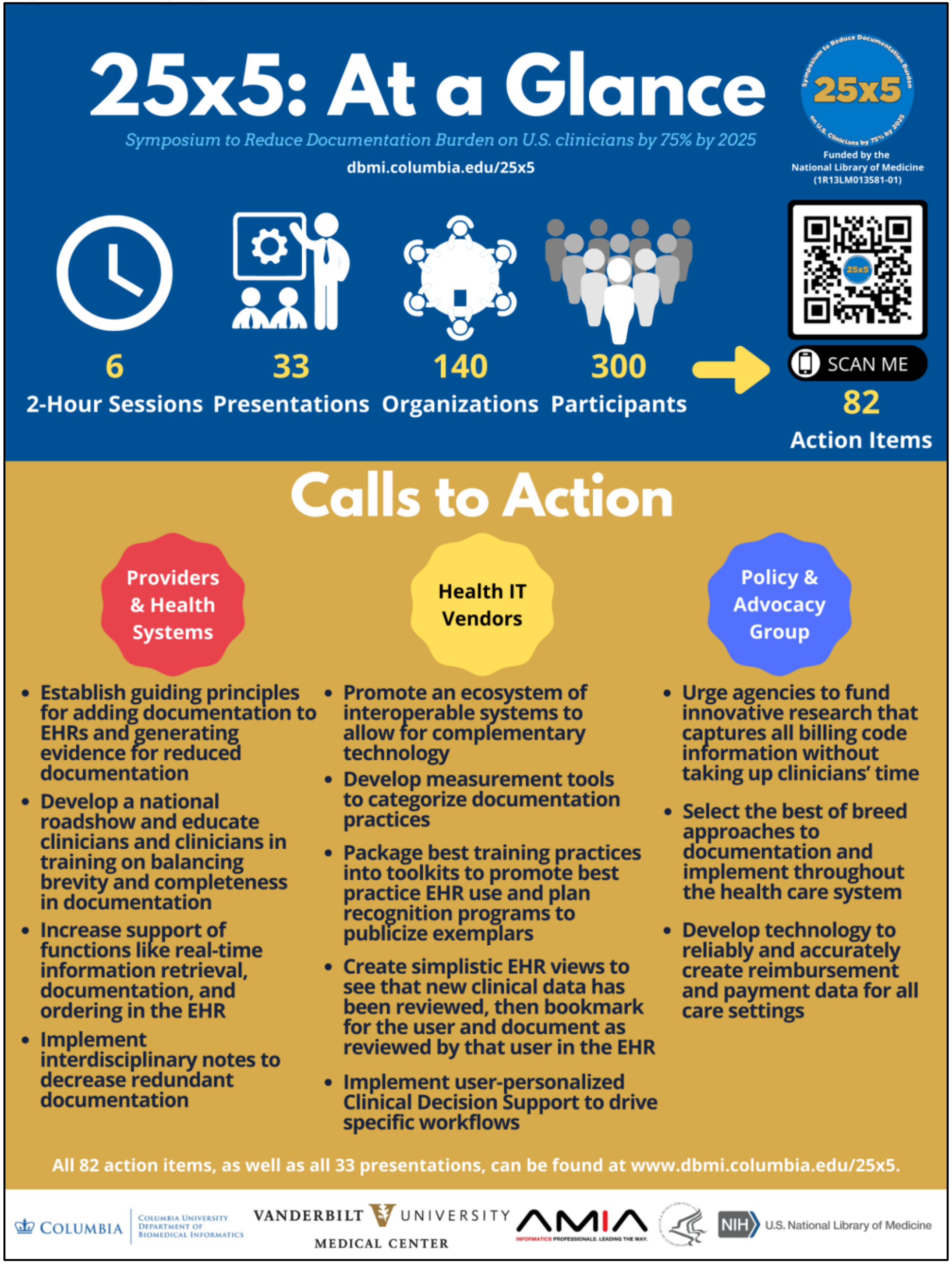
Call to Action: **Vendors** should …

**Accountability and Evidence**
- Promote ecosystem of interoperable systems to allow for complementary technology beyond single EHR vendor
- Develop metrics to review and grade a user's documentation based on length/efficiency/redundancy; provide ongoing user feedback and peer benchmarking

**Education and Training**
- Package best training practices into toolkits to promote user's workflow revisioning and "best practice" EHR use
- Plan recognition programs and publicize exemplars to incentivize the sharing of documentation burden reduction success stories

**Technical Innovation**
- Create simplistic EHR views to see that new clinical data has been reviewed - then bookmark for user and document as reviewed by that user in the EHR
- Implement personalized CDS with AI to drive user-specific workflows and care recommendations

Figure 9: Infographic:(61)



# 25x5: At a Glance

*Symposium to Reduce Documentation Burden on U.S. clinicians by 75% by 2025*

dbmi.columbia.edu/25x5

Funded by the
National Library of Medicine
(1R13LM013581-01)

**6** 2-Hour Sessions

**33** Presentations

**140** Organizations

**300** 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.

# Part Five: Online Chat Content, Engagement and Participation

A by-product of holding the 25x5 Symposium as a virtual meeting was the use of technology that allowed participants to use the online chat feature. Recognizing the significance of the online chat for advancing the conversation and for capturing qualitative data, we designed the Symposium to encourage chat participation. Chats also allowed capture of participant experiences and real-time participant interpretation of the presentations and session material. In the end, the chat files captured detailed and rich content covering multiple simultaneous and lengthy conversation streams. Participants were active in the chat forums, although in broad strokes the chat content did not always mirror the presentations that were occurring at the same time. At the time of this report, detailed content, thematic, or topic analyses have not yet been conducted on the de-identified chat logs, however, that work is in process by members of the Steering Committee. The chat logs also remain available to participants and interested parties to review and examine further. The chat logs are posted in de-identified format on the 25x5 website and remain available to download at the links below.

Session 1: Introduction & Current Challenges Related to What We Document(62)
Session 2: Current Challenges Related to How We Document(63)
Session 3: Exemplars and Key Successes(64)
Session 4: Emerging and Future Innovations and Solutions(65)
Session 5: Reactor and Prioritization, Session for Actions(66)
Session 6: Plenary on Insights for Action(67)

Chat logs from Sessions 1 through 4 were distilled into word clouds, demonstrating word frequency from the chat logs. The chats logs represent what participants were thinking, including open sharing of their preconceived ideas, and experiences about what the issues were. The chat output was considered to be significant as a 'bottom up' product, as the participants were sharing their ideas and what was on their mind in real time while the Session presentations were in progress. The bottom-up output could be considered in comparison to the selected exemplar topics and presenters of the program designed by the Steering Committee and assumptions made in the session development, which could be considered 'top down'. While detailed analyses have not been conducted in detail on the de-identified chat logs, the word clouds in Figures 10 to 13 below offer a broad overview of the common words in chat postings in each session. It is interesting to note the variability from session to session.

Figure 10 Word Cloud from Session 1 Chat

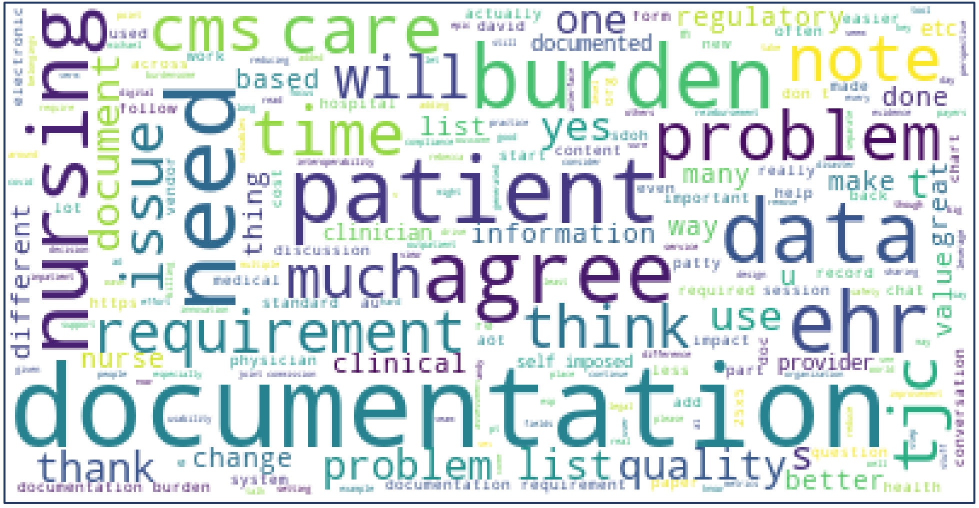


Figure 11 Word Cloud from Session 2 Chat

Figure 12 Word Cloud from Session 3 Chat

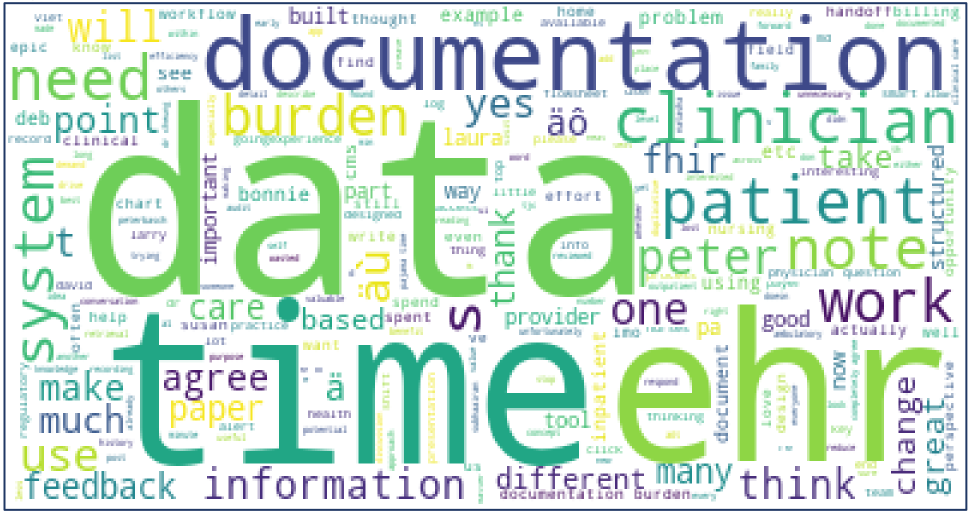
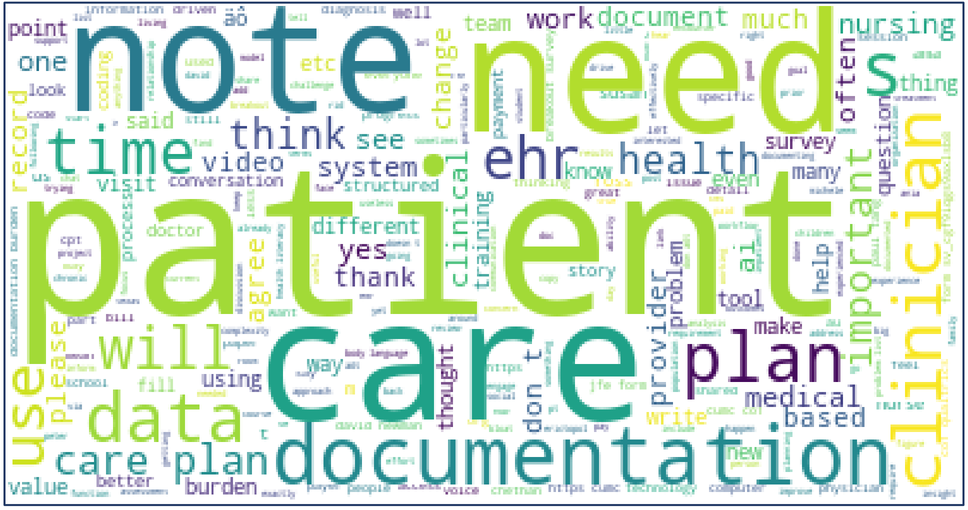


Figure 13 Word Cloud from Session 4 Chat



# Part 6: Next Steps

## Next Steps

The Symposium had one key theme that informed the prioritization and convergence phases: clinician documentation is for patient care delivery and clinician-patient communication. As noted in this report, the goal that clinician documentation be foremost to support patient care is often obscured by other factors. Examples include reimbursement and other regulatory requirements imposed on clinicians at the point of care; as well as by usability and design issues, and ultimately taking time away from patient care. This has undoubtedly contributed to clinician burnout and impeded patients' access to their own data.

Through an analysis of both the transcripts and the online chat logs, the following recommendations emerged:

1. While there is an existing robust body of research, innovation, and implementation in the reduction of clinician documentation burden, it was noted that, to date, **the broadest and most clinically significant advances have been borne out of paring back of requirements during the COVID-19 pandemic**. There is much to be learned and to scale nationally based on the crises of 2020-2021; perhaps some of our earliest improvements may be an outcome of pandemic-associated experimentation.
2. **Multidisciplinary collaborations across stakeholder classes will be important for unified action to build upon existing and ongoing scientific and data-driven interventions.** It will be essential to strike a balance between maintaining quality and complete documentation while capturing the patient's story, and optimizing interaction, usability and workflow for the clinicians entering the data. The risk/benefit discussion of interventions from Session 2 in particular such as clicks to enter data and copy and paste roles can be complex. In particular, copy and paste can be time-saving, and ensure content is carried forward clearly and accurately from a prior clinician input. Too often it leads to longer and less succinct notes while carrying forward inaccurate information. This dilemma highlights the need to identify generalizable and clear standardized approaches.
3. **Helpful aspects of the EHR, such as improved access to clinical data and reduced duplication of effort across team members, should be the focus of the health record**. Health records should not be used for validating billing or fulfilling other regulatory requirements unless the information needed can be automatically extracted from the notes already created for clinical use and patient care.
4. **Providers and health systems need to establish and adopt guiding principles and rigorous practices for any and all documentation requirements and develop collaborative efforts led by clinician experts.** Further, a thorough review of current requirements is needed as well. Changes to practices should be evidence-based and unessential elements removed, but tracked, to assess risks as well as compliance. Education and training for providers and health systems should target report-out efforts at regional and national meetings on the importance of documentation burden reduction, and aim interventions and presentations at all levels of trainees, from students, residents, and multidisciplinary clinicians in training. The key recommendation is for training initiatives to optimize brevity while maintaining completeness, from the earliest stage of clinician training. Innovations in the provider and health system context should optimize real time information retrieval, ordering and documentation. Implementation of interdisciplinary team documentation must support reduction of burden across teams of clinicians, with the potential for significant near-term improvement.
5. Policy and advocacy groups can build upon existing evidence, urging organizations including the National Institutes of Health (NIH), (Patient-Centered Outcomes Research Institute (PCORI), Agency for Healthcare Research and Quality (AHRQ), Office of the National Coordinator for Health Information Technology (ONC), and National Institute of Standards and Technology

(NIST) to coordinate and fund research related to automate completely all coding information from the EHR including clinician E&M and CPT coding and remove this burden from clinical work. This is a central recommendation to reduce clinician effort and time spent supporting these codes. The recommendation is for **payors to clarify and unify rules and develop 'data handoff handshakes' to reduce duplication of effort in meeting requirements, including assuming responsibility for coding validation**. There is a further recommend to optimize the prior authorization processes, with call centers that can centralize and streamline these activities.

6. **Vendors should play an integral role in promoting an ecosystem of interoperable systems to assure complementary technology across EHR products.** Documentation of transitions of care can be simplified in a number of common circumstances thereby reducing clinician time and effort while also improving interoperability. Vendors can offer metrics to review and assess an end-user clinician's documentation in terms of length, efficiency, and redundancy to enable real-time feedback and peer benchmarking. Training is essential and can be offered by vendors to develop and build best-practices promoting optimization of clinician user workflow. Further recognition of clinician champions in programs that publicize exemplars and incentivize the sharing of best practices can enhance the adoption of generalizable documentation burden reduction strategies. Vendors are recommended to create simple visualizations in their display of new clinical data to ease review and integration into decision-making. This will ease editing and integrated documentation. This central recommendation will be enhanced with personalized CDS approaches to enhance user-specific workflows and care recommendations.

Dissemination of the work of the Symposium has begun. Figure 14 identifies the presentations done to date. However, the real next steps involve action on the identified recommendations and actions.

Next steps include convening a network of allies and creating working groups from national health professional organizations to execute a national strategy for implementing and institutionalizing these changes to benefit clinicians' well-being and patient care. The stakeholder-specific recommendations build upon the robust existing research and knowledge base in the area of documentation burden reduction through assessment and interventions. The action items should be divided into short-, intermediate-, and long-term goals that will make a meaningful impact on deescalating the documentation burden and improving workplace wellness. Identifying specific burden reduction measurement metrics was not included in the Symposium and were therefore not defined in this report. Action items for each class of stakeholder as outlined will offer opportunities to leverage existing tools to assess documentation burden at the end-user, institution or enterprise level, as well as regional and national levels.

This Symposium and the subsequent analyses mark an important step towards action. The list of actions identified in Part Four and Figures 6-8 of this report are not conceived to be exhaustive nor final. The consensus is to proceed with unified strategies to make a significant impact as soon as possible, while continuing longer-term strategies building on existing innovations and emerging technologies. There are feasible, significant improvements that are currently actionable, and a reluctance to act or to move forward with these recommendations is unacceptable. There is a need to deliver on the belief that EHRs can and will improve care for both patients and clinicians.

Figure 14: Dissemination of 25x5 Symposium Information in Presentations

| **Date** | **Venue** | **Details** |
|---|---|---|
| May 19, 2021 | AMIA Clinical Informatics Conference | Panel: 25×5 Symposium to Reduce Documentation Burden: Report-out and Call for Action<br>• Sarah Collins Rossetti, RN, PhD, FAAN, FAMIA<br>• Trent Rosenbloom, MD, MPH, FACMI, FAMIA<br>• Kevin Johnson, MD, MS, FAAP, FACMI<br>• Kenrick Cato, PhD, RN, CPHIMS<br>• Judy Murphy, RN, FACMI, LFHIMSS, FAA<br>• Don Detmer, MD, FACMI |
| March 29, 2021 | ONC Annual Meeting | Panel: Efforts to Reduce Clinician Burden: Success, Partial Success, or a Future Not Yet Realized<br>Featured real-world input from clinicians discussing how the evolving regulatory landscape and advances in technology contribute to clinician burden reduction.<br>• Andy Gettinger, MD, ONC, Moderator<br>• Tom Mason, MD, ONC, Moderator<br>• Peter Basch, MD, MACP, MedStar Health<br>• Jackie Gerhart, MD, FAAFP, Epic and The University of Wisconsin<br>• Yaa Kumah-Crystal, MD, MPH, Vanderbilt University Medical Center<br>• Sarah Collins Rossetti, RN, PhD, FAAN, FAMIA, Columbia University Medical Center |
| Feb 24, 2021 | ACMI Winter Symposium | 25 By 5 Summary and Recommendations<br>• Sarah Collins Rossetti, RN, PhD, FAAN, FAMIA, Columbia University Medical Center<br>• Trent Rosenbloom, MD, MPH, FACMI, FAMIA, Vanderbilt University<br>• Kevin Johnson, MD, MS, FAAP, FACMI, Vanderbilt University |
| August 11, 2021 | NLM Musings from the Mezzanine Blog post | Guest Authors:<br>• Sarah Collins Rossetti, RN, PhD, FAAN, FAMIA, Columbia University Medical Center<br>• Trent Rosenbloom, MD, MPH, FACMI, FAMIA, Vanderbilt University |
| November 2021 | AMIA FYI Podcast | Recorded November 2021, publication pending December 2021<br>• Judy Murphy, RN, FACMI, LFHIMSS, FAAN<br>• Amanda Moy, MPH |

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