Physician-Focused Payment Model Technical Advisory Committee
Public Meeting Minutes

September 8, 2025
9:31 a.m. – 5:09 p.m. EDT
Hubert H. Humphrey Building
200 Independence Avenue, SW
Washington, DC 20201

Attendance

Physician-Focused Payment Model Technical Advisory Committee (PTAC) Members

Terry L. Mills Jr., MD, MMM, PTAC Co-Chair (Chief Medical Officer, Aetna Better Health of Oklahoma, and Owner, Strategic Health, LLC)
Soujanya R. Pulluru, MD, PTAC Co-Chair (President, CP Advisory Services, and Co-Founder, My Precious Genes)
Lindsay K. Botsford, MD, MBA (Market Medical Director, One Medical)
Jay S. Feldstein, DO (President and Chief Executive Officer, Philadelphia College of Osteopathic Medicine)
Lawrence R. Kosinski, MD, MBA (Founder and Chief Medical Officer, VOCnomics, LLC)*
Joshua M. Liao, MD, MSc (Professor and Chief, Division of General Internal Medicine, Department of Medicine, The University of Texas Southwestern Medical Center)*
Walter Lin, MD, MBA (Chief Executive Officer, Generation Clinical Partners)
Krishna Ramachandran, MBA, MS (Chief Information Officer, UnitedHealth Group)

PTAC Member in Partial Attendance

Lauran Hardin, MSN, FAAN (Chief Integration Officer, HC^2 Strategies)*

PTAC Members Not in Attendance

Henish Bhansali, MD, FACP (Chief Medical Officer, Medical Home Network)
James Walton, DO, MBA (President, JWalton, LLC)

Department of Health and Human Services (HHS) Guest Speaker

Abe Sutton, JD (Deputy Administrator, Centers for Medicare & Medicaid Services [CMS], and Director, Center for Medicare and Medicaid Innovation [CMS Innovation Center])

Office of the Assistant Secretary for Planning and Evaluation (ASPE) Staff

Marsha Clarke, PhD, MBA, COR III, PTAC Designated Federal Officer
Kaushik Ghosh, PhD
Steven Sheingold, PhD

Via Zoom

List of Speakers and Handouts

1. **Introduction**
   - **PCDT Presentation: Using Data and Health Information Technology to Transparently Empower Consumers and Support Providers**

     Krishna Ramachandran, MBA, MS, Preliminary Comments Development Team (PCDT) Lead

   - **ASPE Presentation: Measures of Patient Empowerment for Medicare Beneficiaries: Evidence from the Patient Reported Indicators Survey (PaRIS)**

     Kaushik Ghosh, PhD, Economist, ASPE Office of Health Policy

   Handouts

   - Public Meeting Agenda
   - PCDT Presentation Slides
   - ASPE Presentation Slides
   - Environmental Scan on Using Data and Health Information Technology to Transparently Empower Consumers and Support Providers

2. **Session 1: Improving Data Infrastructure to Empower Patients and Providers**

   Mark Scrimshire, Chief Interoperability Officer, Onyx Health*
   Kristen Valdes, Founder and Chief Executive Officer, b.well Connected Health*
   Hayes Abrams, Executive Director, Enterprise Health Care Management, Health Care Service Corporation*
   Ami Parekh, MD, JD, Chief Health Officer, Included Health*

   Handouts

   - Session 1 Day 1 Experts' Biographies
   - Session 1 Day 1 Presentation Slides
   - Session 1 Day 1 Facilitation Questions

3. **Session 2: Availability and Effectiveness of Digital Tools for Equipping Patients with Information About Their Health Care**

   Vishal Gondal, Founder and Chief Executive Officer, GOQii*
   Trevor Berceau, Director, Patient Experience, Epic*
   Pradnya B. Bhattad, MD, Interventional Cardiologist*
   Ricky Bloomfield, MD, Chief Medical Officer, ŌURA*

   Handouts

   - Session 2 Day 1 Experts' Biographies
   - Session 2 Day 1 Presentation Slides
   - Session 2 Day 1 Facilitation Questions

4. **Session 3: Emerging Data Strategies for Supporting Shared Decision-making Between Providers and Patients**

   Abhinav Shashank, Co-Founder and Chief Executive Officer, Innovaccer*

David C. Kendrick, MD, MPH, FACP, Chief Executive Officer, MyHealth Access Network Inc., and Chair, Department of Medical Informatics, University of Oklahoma*
Charles DeShazer, MD, Physician Executive, Healthcare Innovator, and Former Chief Quality Officer, The Cigna Group*
Thomas H. Lee, MD, MSc, Chief Medical Officer, Press Ganey Associates, Inc.*

Handouts

- Session 3 Day 1 Experts' Biographies
- Session 3 Day 1 Presentation Slides
- Session 3 Day 1 Facilitation Questions

***Via Zoom**
[NOTE: A transcript of all statements made by PTAC members and public commenters at this meeting is available online:
https://aspe.hhs.gov/ptac-physician-focused-payment-model-technical-advisory-committee].

Also see copies of the presentation slides, other handouts, and a video recording of the public meeting.

Welcome and Co-Chair Update

Soujanya Pulluru, PTAC Co-Chair, welcomed the Committee and members of the public to the September 8-9 public meeting. She explained that the Committee has been exploring themes that have emerged from proposals that the public has submitted to PTAC. Co-Chair Pulluru indicated that previous PTAC theme-based discussions have focused on topics such as reducing barriers to participation in Alternative Payment Models (APMs) and supporting primary and specialty care transformation; addressing the needs of patients with complex chronic conditions or serious illnesses; encouraging rural participation; and improving management of care transitions.

Co-Chair Pulluru stated that the Committee has convened subject matter experts (SMEs) to gain perspectives on using data and health IT to transparently empower consumers and support providers. She noted that this topic is of interest to the Center for Medicare and Medicaid Innovation (CMS Innovation Center). She introduced Abe Sutton, the Director of the CMS Innovation Center and the Deputy Administrator of the Centers for Medicare & Medicaid Services (CMS), who provided the opening remarks.

Mr. Sutton shared that he had provided a preview of the CMS Innovation Center's strategy during the opening remarks for the March 2025 public meeting. Since the March public meeting, the CMS Innovation Center has released its strategy outlining its portfolio and new models. The strategy focuses on evidence-based prevention, empowering people to achieve their health goals, and choice and competition in health care markets to transform the health care system, empower people to live healthier lives, and Make America Healthy Again. Mr. Sutton indicated that the CMS Innovation Center's first strategic pillar, evidence-based prevention, focuses on embedding prevention within each model, including primary prevention (i.e., disease prevention) and tertiary prevention (i.e., the management of chronic disease). He indicated that the third strategic pillar, driving choice and competition, focuses on reducing administrative burden for physicians engaged in models, simplifying and standardizing the portfolio of choices to make models easier to navigate, and creating more predictability in models by standardizing quality metrics. Mr. Sutton explained that the PTAC public meeting is focused on the second strategic pillar of the CMS Innovation Center's strategy: patient empowerment. He indicated that the second pillar is focused on ensuring that patients have the resources, information, and incentives needed to achieve their health goals. In future models, patients will be equipped with information that is presented in a clear format to support patients with goal setting, making informed decisions with their providers, and engaging more actively in their health care. To empower patients, models may focus on different approaches to data sharing; new CMS applications (apps) and associated reimbursement structures; testing wearable devices in the context of the CMS Rapid Cycle Innovation Program; and finding new payment flexibilities to activate patient engagement and promote healthy living. Mr. Sutton noted that the CMS Innovation Center considers the driver of provider and patient behavior when designing models. He explained that patient choice can be shaped by providing incentives to providers for engaging patients, opening markets to engage patients, and creating partnerships with industry and community advocates to promote awareness and uptake of different opportunities, flexibilities, and technologies as they are made available to patients in Medicare and Medicaid. In the coming months, the CMS Innovation Center will share more information about its work associated with the second pillar. Mr. Sutton emphasized that the CMS Innovation Center's new strategy—focused on empowerment, prevention, and choice and competition—is aligned with the Secretary's vision to Make America Healthy Again.

Co-Chair Pulluru reviewed the agenda for the first day of the public meeting and explained that the public comment period would occur during the second day of the public meeting. She indicated that the discussions, materials, and public comments will inform PTAC's comments in a report to the Secretary of Health and Human Services (HHS) on using data and health IT to transparently empower consumers and support providers. Co-Chair Pulluru shared that the Committee had received five stakeholder responses to the publicly posted Request for Input (RFI) for the September public meeting. She noted that the Committee was prepared to receive proposals on innovative approaches and solutions related to care delivery, payment, or other policy issues from the public.

Co-Chair Pulluru invited Committee members to introduce themselves and share their experiences with using data and health IT to empower consumers and support providers. Following Committee member introductions, Co-Chair Pulluru shared that four Committee members served on the Preliminary Comments Development Team (PCDT): Krishna Ramachandran (Lead), Lawrence Kosinski, Joshua Liao, and James Walton. She introduced Mr. Ramachandran, who presented the PCDT's findings from the background materials.

PCDT Presentation: Using Data and Health Information Technology to Transparently Empower Consumers and Support Providers

Mr. Ramachandran delivered the PCDT presentation. For additional details, please see the presentation slides, transcript, and meeting recording (17:51-40:15).

- Mr. Ramachandran shared the objectives of the September theme-based meeting: discuss approaches for improving data infrastructure and interoperability to support patient empowerment and provider decision-making; explore effective digital tools for equipping patients with information about their health care; examine emerging strategies for promoting shared decision-making between providers and patients; assess data-driven approaches for enabling patients with multiple chronic conditions to take control of their health care; and discuss payment models, provider incentives, and benefit design improvements to enhance patient empowerment. Mr. Ramachandran emphasized the importance of the fifth objective to PTAC's primary charter.

- Mr. Ramachandran shared that 25 of 35 physician-focused payment model (PFPM) proposals submitted to PTAC met Criterion 8 (“Patient Choice”), and 22 proposals met Criterion 10 (“Health Information Technology”) established by the Secretary for PFPMs.
- Mr. Ramachandran reviewed four topics that would be covered in the presentation: background; data infrastructure: challenges and opportunities; patient and provider-facing digital health tools; and patient empowerment and APMs.
- Mr. Ramachandran explained that many terms are used to describe patient-centered care concepts in research. Six commonly used terms include patient enablement, activation, empowerment, engagement, involvement, and participation. Although these terms have varied and overlapping definitions, they cover three concepts: having the knowledge and skills to understand and manage one’s health; having the confidence and motivation to be able to act and control one’s health; and actively taking part in decisions and behaviors related to one’s health. The focus of this theme-based presentation is on patient empowerment and patient engagement.
- Mr. Ramachandran presented PTAC’s working definitions of patient empowerment and patient engagement, which will likely continue to evolve.
  - Patient empowerment is defined as, “the process and state whereby a patient acquires and has the ability (knowledge and skills) and motivation (desire and confidence) to control and make timely decisions regarding their own health and health care.”
  - Patient engagement is defined as, “the process and state by which a patient actively communicates their health status, health care needs, and health care wishes; makes informed decisions regarding their health and health care treatments; and participates in shared decision-making regarding their health with their providers.”
- Mr. Ramachandran presented PTAC’s conceptual framework for patient empowerment. The left side of the conceptual framework presents inputs to the empowerment system, including health data/information, provider support, and organizational/social context. The middle section of the framework includes the empowerment system, which comprises three circular and self-reinforcing concepts: knowledge/skills, patient engagement, and patient empowerment. The right side of the conceptual framework reflects patient outcomes, such as improved patient satisfaction, financial health, and clinical health as a result of the patient empowerment system.
- Mr. Ramachandran explained three areas in which patients can be empowered to make informed decisions: in their choice of health insurance plans and providers; in their use of the health care system; and in their overall health, medical conditions, and choice of treatments. Patients’ ability to obtain and comprehend data is critical for enabling them to make informed decisions.
- Mr. Ramachandran identified five factors that influence patient empowerment: patient factors (e.g., education, literacy); provider factors (e.g., provider structure, goals, training); organizational factors (e.g., policies, practices); cultural factors (e.g., norms, values); and societal factors (e.g., local, state, and national policies and programs).
- Mr. Ramachandran provided examples of information and tools available to inform decisions about health insurance plans, including Medicare Plan Finder and insurance brokers. For commercial plans, patient choice can be limited because most people have employer-sponsored health plans, and only about 54% of people have more than two choices. Information and tools available to inform decisions about providers include the CMS online comparison tool, Consumer Assessment of Healthcare Providers and Systems (CAHPS) data, the proximity of the provider, and previous positive experiences with the provider.
- Mr. Ramachandran explained that telehealth platforms and other virtual care platforms can empower patients to effectively navigate the health care system and offer increased convenience and accessibility of health care.

- Mr. Ramachandran defined the concept of shared decision-making, in which a patient and their clinician work together to make informed decisions about the patient's health and health care. Shared decision-making involves three steps: patients are made aware that a decision needs to be made; patients work with their clinicians to discuss their options; and patients are supported by their clinicians to make an informed decision.
- Mr. Ramachandran described the importance of supporting providers to promote patient empowerment, including by engaging patients in shared decision-making; focusing on the complete patient experience, including lifestyle choices; engaging in emerging concepts such as social prescribing, where providers prescribe activities or resources for the patient (e.g., exercise, exposure to nature, volunteering); using asynchronous communication outside of visits; and using emerging tools such as artificial intelligence (AI) to review large amounts of patient data, such as data from remote monitoring.
- Mr. Ramachandran shared the limited but promising evidence showing a positive association between patient empowerment and patient experience, patient-reported outcomes, and clinical indicators.
- Mr. Ramachandran described three types of health IT that can promote patient empowerment: 1) digitized patient health information, including electronic health records (EHRs); 2) digital health tools, including patient portables, wearables, and apps that should be integrated with EHRs; and 3) AI and emerging technologies, such as chatbots and remote patient monitoring tools.
- Mr. Ramachandran emphasized the importance of interoperability for optimizing the value of health IT. Interoperability is an enabler of collecting, integrating, and sharing data across systems. CMS has pledged to improve interoperability through the health care technology ecosystem. Mr. Ramachandran presented examples of regulations over the past 15 years that promote data interoperability.
- Mr. Ramachandran presented challenges related to data interoperability and corresponding opportunities.
    - The first challenge is lack of standardization. Opportunities to address this challenge include the Health Level 7® (HL7) Fast Healthcare Interoperability Resources® (FHIR) national standard and CMS' Blue Button 2.0 for Medicare beneficiaries.
    - The second challenge is the integration of patient-reported data into the EHR. Opportunities to address this challenge include implementing standards such as FHIR and using application programming interface (API) technologies to integrate patient-generated data into the EHR.
    - The third challenge is resources and cost demands. Opportunities to address this challenge include incentive programs for organizations to adopt and upgrade health IT.
- Mr. Ramachandran presented challenges to patient use and access of data.
    - The first challenge is health literacy. Opportunities to address this challenge include tailoring materials to the needs of the patient and offering health literacy training to providers and staff.
    - The second challenge is barriers to accessing technology. Opportunities to address this challenge include simple technology design and inclusion of patients in the technology development process.
    - The third challenge is issues with real-time access to data. Opportunities to address this challenge include balancing providing real-time access to information for patients with the need for the provider's clinical knowledge to interpret results.

    - The fourth challenge is patient privacy and confidentiality concerns. Opportunities to address this challenge include tools to give patients more control over sharing their health data.
- Mr. Ramachandran presented a classification for digital health tools based on their role during the patient care journey.
    - The first category is health and wellness, which comprise most digital health tools. These tools are non-regulated and promote preventive health care and self-care.
    - The second category is health system clinical software for diagnosis. These tools are primarily clinician-facing and used for diagnosis. Examples of these tools include documentation, imaging, and clinical decision support.
    - The third category is digital diagnostics. These tools are highly regulated and used for diagnosis.
    - The fourth category is care support. These tools are used by patients for self-management of their conditions and include tools such as medication trackers and physical rehabilitation apps.
    - The fifth category is digital therapeutics. These tools are highly regulated and provide treatment and intervention.
    - The sixth category is patient monitoring. These are patient-facing tools that monitor health data to inform management of the patient's condition, such as remote patient monitoring.
    - The seventh category is health system clinical software for monitoring. These are clinician-facing tools that are embedded in the health system clinician software and document information such as telehealth visits.
- Mr. Ramachandran explained that digital health tools, particularly care support tools and remote patient monitoring tools, can promote shared decision-making.
- Mr. Ramachandran shared limited but promising evidence showing the effectiveness of digital health tools with increasing patient empowerment and improving clinical outcomes.
- Mr. Ramachandran presented examples of CMS Innovation Center models in which active empowerment of patients is incorporated. Examples of models include the Transforming Maternal Health (TMaH) Model launched this year and the recently announced Ambulatory Specialty Model (ASM) that will launch in 2027. Patient empowerment strategies will likely increase in CMS Innovation Center models as patient empowerment is a key pillar in the CMS Innovation Center's strategy.
- Mr. Ramachandran described patient empowerment in the context of the Medicare Shared Savings Program, the largest Medicare APM. Patient empowerment is an important component of the Medicare Shared Savings Program. The program offers a prime forum for promoting and testing patient empowerment and engagement strategies.
- Mr. Ramachandran described how total cost of care (TCOC) models provide opportunities for patient empowerment. For providers, financial incentives and waivers are opportunities to incentivize providers to promote patient empowerment. For patients, education on the value of TCOC models and benefit design improvements can incentivize empowerment.
- Mr. Ramachandran concluded the presentation by reviewing the five focus areas for the PTAC public meeting: improving data infrastructure to empower patients and providers; availability and effectiveness of digital tools for equipping patients with information about their health care; emerging data strategies for supporting shared decision-making between providers and patients; data-driven approaches for enabling patients with chronic conditions and enhancing secondary prevention; and payment models and benefit design improvements to enhance patient empowerment.

Co-Chair Pulluru introduced Dr. Kaushik Ghosh, who presented ASPE's findings from the background materials.

ASPE Presentation: Measures of Patient Empowerment for Medicare Beneficiaries: Evidence from the Patient Reported Indicators Survey (PaRIS)

Kaushik Ghosh delivered the ASPE presentation. For additional details, please see the presentation slides, transcript, and meeting recording (40:15-48:32).

- Dr. Ghosh noted that the presentation draws on new evidence from the Organisation for Economic Co-operation and Development's (OECD's) Patient-Reported Indicator Surveys (PaRIS). The PaRIS initiative focuses on people aged 45 and older with chronic conditions. Data are collected across 21 countries with a goal of aggregating comparable data.
- In the U.S., data came from a special segment of the Medicare Current Beneficiary Survey (MCBS) conducted in winter 2023 with 4,200 beneficiaries representing more than 50 million Medicare beneficiaries.
- PaRIS includes a structured set of questions in three broad domains: self-reported health, managing health and health care, and experience of health care. Dr. Ghosh explained that the presentation focuses on two domains: managing health and health care, and experience of health care.
- Dr. Ghosh presented key characteristics of the Medicare beneficiaries included in the U.S. sample. Seventy-four percent of beneficiaries are enrolled in Medicare Advantage (MA) or APMs; 80% live with two or more chronic conditions; 70% are overweight or obese; 28% have a high school education or less; and 22% reside in a rural area. This sample broadly represents the Medicare population.
- Dr. Ghosh reviewed key findings related to managing health and health care.
    - Limited exercise and poor dietary habits were reported. Discussion on lifestyle factors in the clinical setting highlighted the potential for improvement in nutrition and exercise counseling.
    - The majority of beneficiaries reported moderate or good confidence in managing their health. Confidence in managing health was lower among those with Alzheimer's disease, kidney disease, and diabetes.
    - Most beneficiaries reported being engaged and proactive about their health, with approximately three-quarters of beneficiaries actively engaging providers about their health. However, over half of beneficiaries relied heavily on their providers to make the right health decisions. Reliance on health professionals is especially high among certain groups, including those with a high school education or less and those aged 85 and older.
    - Health literacy continues to be a challenge, and difficulty understanding health information is concentrated among vulnerable groups, including those with a high school education or less and female beneficiaries who are 85 and older.
- Dr. Ghosh reviewed key findings related to the experience of health care.
    - About two-thirds of beneficiaries have someone to help coordinate their care across services.
    - Most beneficiaries feel included in care decisions and feel as though they are treated as a whole person instead of being defined by their condition.
    - About 65% of beneficiaries reported that they always or often receive enough support from their providers to manage their health.
    - Regarding care planning, only 28% of beneficiaries reported having a care plan that takes well-being into account. These findings highlight opportunities to improve structured care planning.

- Dr. Ghosh reviewed overall key findings. Beneficiaries reported high levels of engagement with providers. Potential areas of improvement were identified for certain groups, including the oldest adults, those with lower education, and beneficiaries with multiple chronic conditions, who often relied heavily on providers to make decisions, had trouble with understanding health information, and lacked a useful care plan.
- Dr. Ghosh reviewed the focus of the two-day public meeting on patient empowerment and noted that important takeaways will be implications for designing APMs that resource and incentivize patient empowerment.

Co-Chair Pulluru invited Committee members to ask questions about the PCDT and ASPE presentations. Committee members discussed the following topics. For more details on the discussion, see the transcript and meeting recording (48:32-58:17).

- One Committee member emphasized the challenge of integrating structured, patient-reported outcome data into the EHR, including data from wearables. This challenge must be addressed to promote proactive, high-touch care.
- One Committee member suggested converting EHRs to a population health structure instead of one patient at a time.
- Ideas generated and discussed during the public meeting should be incorporated into APMs that bring information to patients and offer appropriate incentives.
- One Committee member inquired how to bring forth technology-based patient empowerment solutions while accounting for unequal access to broadband and technology in large parts of the country.
    - There is tension in trying to move technology forward while bridging disparities. Incentives for infrastructure and technology are needed to increase adoption and ensure access for both providers and patients.
    - One Committee member requested recommendations on where infrastructure investments should come from.
    - Cross-functional, cross-stakeholder investment is needed. States can play an important leadership role in making core infrastructure investments for broadband and virtual care access.
    - There is a regulatory component as well, as access to the highest level of bandwidth available in an area can be restricted by regulatory control.
- One Committee member inquired how to align incentives to encourage use of technology and data services among patients and/or their caregivers.
    - Policies and strategies should be tailored to specific populations, including vulnerable populations that struggle to obtain information from doctors, such as those with lower education or older populations.
    - App developers should consider factoring into their design the possibility that the patient may not be able to use an app. Developers should consider allowing the ability to share records with caregivers, accounting for identity management, the consent process, and feature enablement. This change could provide caregivers with better access to health information.

Session 1: Improving Data Infrastructure to Empower Patients and Providers

SMEs

- Mark Scrimshire, Chief Interoperability Officer, Onyx Health
- Kristen Valdes, Founder and Chief Executive Officer, b.well Connected Health

- Hayes Abrams, Executive Director, Enterprise Health Care Management, Health Care Service Corporation
- Ami Parekh, MD, JD, Chief Health Officer, Included Health

Lee Mills, PTAC Co-Chair, moderated the session with four SMEs on improving data infrastructure to empower patients and providers. Full biographies and presentations are available.

Mark Scrimshire presented on the history of empowering patients through FHIR-driven interoperability.

- Mr. Scrimshire is a Co-Chair of the Da Vinci Payer Data Exchange Workgroup, a Co-Chair of the HL7 Financial Management Workgroup, and a Board Member of the FHIR Business Alliance.
- Mr. Scrimshire noted that despite data interoperability efforts, clipboards are still used in doctors' offices to manually collect medical history data from patients.
- Mr. Scrimshire outlined the progress of interoperability in breaking down barriers over the last 16 years. He described different regulations that have promoted data sharing, including the Health Information Technology for Economic and Clinical Health (HITECH) Act; Meaningful Use; Blue Button 1.0; Blue Button+; FHIR Standard for Trial Use (STU) 1.0; CMS Blue Button 2.0; CMS-9115; Patient Access API Enforcement/Information Blocking Rule; Trusted Exchange Framework and Common Agreement (TEFCA); CMS-0057 Prior Authorization Rule; Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing (HTI-1) Final Rule; Health Data, Technology, and Interoperability: Electronic Prescribing, Real-Time Prescription Benefit and Electronic Prior Authorization (HTI-4) Final Rule; and US Core 6.1. Mr. Scrimshire cited Blue Button 2.0 as the first major API, which enabled 53 million beneficiaries to have access to their claims data from CMS in a structured format. He explained that the Patient Access API Enforcement/Information Blocking Rule incentivized payers to implement Patient Access APIs and made a provider directory and formulary openly available. Mr. Scrimshire added that the CMS-0057 Prior Authorization Rule enables prior authorization forms to be accessible through a patient's API; permits provider-to-health plan information sharing for patients who are treated by the provider; and establishes payer-to-payer APIs to help build longitudinal member-specific health histories.
- Mr. Scrimshire outlined the expansion in the amount of data available since 2009. HL7 V2 was the first format used for data exchange, but it faced barriers to implementation. HL7 V3 (or Continuity of Care Document [CCD] formats) established structured documents that were computable but complex to exchange between data systems. Mr. Scrimshire explained that the focus of the most recent transition to FHIR is to increase access to more granular and focused data. Mr. Scrimshire added that since 2009, data availability has evolved from printed pages of unstructured data (such as from Blue Button 1.0) to accessing data that can turn information into insights.
- Mr. Scrimshire detailed the patient experience gap. He acknowledged that patients commonly have more data on their cell phones than providers have in electronic medical records (EMRs). However, it is challenging to access and transfer those data to one's doctor. Mr. Scrimshire urged that data interoperability needs to advance such that a patient can use their biometrics to gain access to their health data wherever the data are stored, without barriers to access. He hopes that data interoperability can advance so that a doctor can trust the data transferred from a patient's cell phone and use the data to analyze the patient's health. Mr. Scrimshire added that the solution is not to have numerous different portals on the market.
- Mr. Scrimshire explained that patients likely have more data accessible via their cell phones, watches, and household monitoring devices compared with the doctor's EMR. He added that

being able to use these patient-collected data points to age in homes can help lower costs, allow people to reside where they prefer, and maintain health. Mr. Scrimshire highlighted the importance of allowing patients to choose how much and what type of data they share with health plans, Internet of Things (IoT) devices, and providers. He also emphasized that the data collected by patients need to be trusted by providers.

- Mr. Scrimshire highlighted the concept of allowing use of digital insurance cards on patients' cell phones. He explained that an implementation guide for a digital insurance card exists. These digital insurance cards can be the gateway for a patient to decide what data to share with providers, health plans, and others. He added that a digital insurance card would also bring efficiency to CMS by not requiring the use of a physical insurance card for enrollees.
- Mr. Scrimshire described the utility of an AI advisor connected to a patient's health data on their cell phone. An AI advisor could help a patient interpret patterns of data over time and understand how the results may be interrelated. Mr. Scrimshire noted that this utility could help patients better manage their own health.

For additional details on Mr. Scrimshire's presentation, see the presentation slides (pages 2-13), transcript, and meeting recording (0:00-15:06).

Kristen Valdes presented on the history of patient access in the era of digital health.

- Ms. Valdes provided background on her expertise in health care data and interoperability. She is a Board Member of the CARIN Alliance and founded b.well Connected Health.
- Ms. Valdes discussed fragmentation in health care. She noted that the use of core operating systems, such as EHRs, requires patients' health information to be stored over different systems associated with multiple doctors' offices. Although companies such as Epic have helped bridge disparate platforms, they do not yet store all types of health data, such as data from wearable devices or nutritional health data. Ms. Valdes noted that consumers are demanding the development of simpler health data interfaces that are similar to cell phone apps developed for other purposes such as banking that can serve as a primary app for all health-related data.
- Ms. Valdes highlighted the history of federal rules and regulations associated with patient access to data from the past decade. She noted that information blocking and interoperability rules following the 21st Century Cures Act helped to establish a new, federally regulated technology standard: open APIs. The Health Insurance Portability and Accountability Act (HIPAA), Meaningful Use, and patient-facing APIs have served as building blocks to modernize technology.
- Less than a decade ago, some doctors would recommend that patients with chronic or rare diseases compile their health information in a binder so that the patient had easy access to the information. Technology has evolved from filling out paper forms to electronic access through digital portals. These portals have transitioned to patient-facing APIs, which ensure that every consumer in the U.S. has the right through a trusted third-party app of their choice to access their medical record without any special effort and without charge. These regulations have allowed trusted third parties such as b.well to create apps and onboard providers, payers, labs, and pharmacies. For example, b.well is connected to over 2.2 million providers and 340 payers, including Medicare, to allow patients to more easily aggregate their longitudinal health records in real time.
- Ms. Valdes explained that the next phase of interoperability is focused on the portability of data. A Smart Health Link (or quick-response [QR] code) will be available in 2026 to allow patients to

automatically share their medical data in the form of a full FHIR US Core V3 medical record with their provider.

- There are 2,000 EHR systems in the U.S. today, and many of the systems are not required to comply with Meaningful Use. Many of the EHRs do not exchange data with one another. Regulations such as TEFCA will support the development of a single onramp to nationwide interoperability. However, because TEFCA is voluntary, it will not ensure 100% inclusion of all doctors, payers, and other providers across the country. A new Network of Networks promotes nationwide coverage by allowing organizations such as b.well to connect to national networks, patient-facing APIs, and CMS Aligned Networks.
- Ms. Valdes discussed how patient portals are limited in their capacity to support interoperability. Portals can limit patients' access to their data due to login restrictions. When patients are required to manage multiple portals across providers to access their data, they may experience what she has termed as "portalitis."
- Ms. Valdes outlined the evolution of modern digital identity management. Traditionally, due to HIPAA regulations, a patient would obtain access to their medical information by requesting the records in person at a doctor's office. To obtain access to the records, the patient would need to verify their identity and provide their insurance card. This process now occurs virtually, which has required the creation of new vendors, such as CLEAR and ID.me, to scan government IDs and digitally verify the identification of the patient and the patient's device. These modern digital identification methods are already used in other domains such as the Transportation Security Administration (TSA).
- Ms. Valdes explained that the b.well Connected Health app uses a patient's face to verify their digital identity and compile their longitudinal health record. Record location services on the TEFCA national network are used to match patient demographic data to physician records on the patient. Patients can then compile their health information across doctors and EHRs and view the data via graphs to interpret the information.
- Ms. Valdes noted the importance of incorporating large language models (LLMs) into the broader discussion of digital health records since patients already use AI platforms to receive help with interpreting health information.
- Ms. Valdes described new CMS Aligned Networks, which will ensure that patients are not required to use portal credentials or have a portal account to access their information; provide patients with record location services to locate medical records; use FHIR to meet US Core V3 requirements; allow patients to track when their data are accessed by a health care provider; and allow patients to view upcoming appointments and other encounters.
- Ms. Valdes explained the importance of US Core V3, which expands data to allow personalization. Patients will be able to access standardized and unstructured data, such as images, reports, progress notes, clinical notes, and care plans from physicians. Over 60 organizations, including health systems and providers, conversational AI apps, payers, and technology companies, have pledged to participate in CMS Aligned Networks in 2025.
- Ms. Valdes concluded that the industry is at the point of portability. Patients will be able to facilitate their mediated medical record to providers at the point of care and capable to receive their information back in an instant transaction.

For additional details on Ms. Valdes' presentation, see the presentation slides (pages 14-30), transcript, and meeting recording (15:06-35:45).

Hayes Abrams presented on leveraging health data for member-level insights.

- Mr. Abrams executes the health data exchange strategies for Health Care Service Corporation (HCSC), including managing the data infrastructure to allow health plan data to be transmitted to patients and providers.
- Mr. Abrams outlined three potential sources of value for leveraging health data for member-level insights, including:
    - Reduce latency from health data: Clinical data are available before claims data. For example, clinical data can be attained within days of the event occurring, compared with claims data, which may take months to be useful for driving insights in care. HCSC has reduced the latency of data transfers to help drive health insights quicker.
    - Expand on existing domains of care in EHRs: Clinical data can be redundant with claims data. However, HCSC has found more robust historical information in clinical data than is generally found in claims data for some conditions, such as pregnancy-related codes.
    - Introduce novel data domains: Vital metrics, fiscal data, behavioral health data, and data on social determinants of health (SDOH) are new domains that have helped HCSC improve care management programs, member outreach, and clinical care support.
- Mr. Abrams presented the practical impact of including clinical data to identify members who are pregnant and in need of screening for maternity risk. He explained that clinical data helped to identify 2% more members who were pregnant and in need of maternity risk assessment that would have otherwise been missed using claims data alone. Identifying these additional members can support outreach to reduce risks during pregnancy or post-partem.
- Mr. Abrams presented the practical impact of including clinical data on obesity reporting. He noted that obesity is under-reported in claims data; the prevalence of obesity is roughly 40% in the U.S. population, but claims data from the member population indicated this prevalence as 12%. HCSC used body mass index (BMI) in clinical data to identify an additional 16% more members with obesity.
- Mr. Abrams summarized additional health data domains in which these strategies can be used, such as additional maternity risk models; obesity risk models; and better supporting holistic care by using patient APIs, payer-to-payer data, and payer-to-provider data.

For additional details on Mr. Abrams' presentation, see the presentation slides (pages 31-43), transcript, and meeting recording (35:45-43:48).

Ami Parekh presented on how providers have improved data infrastructure and addressed gaps.

- Dr. Parekh noted that she is the Chief Health Officer at Included Health. She speaks from the lens of a provider and not as an expert in data infrastructure. Specifically, she focused on how providers leverage data to improve outcomes and make health care better for patients.
- Dr. Parekh provided an overview of Included Health. Included Health provides personalized all-in-one health care by simultaneously addressing the mental, physical, and financial aspects of health care. Included Health provides primary care across all 50 states, as well as urgent care and behavioral health care for people of all ages. The organization also provides expert medical opinions on diagnoses and treatment plans.
- Included Health serves roughly 12 million individuals who are self-insured. Included Health also serves health plans that offer virtual health care services across all 50 states.
- Dr. Parekh explained that the integration of technology and humans is essential to improve health care.
- Dr. Parekh explained how Included Health integrates a wide range of data sources to improve health care. It integrates data from commercial clearinghouses, including claims data and

Medicare data; client-provided data; patient-provided data; nationwide sanctions data; and board certification data. Included Health considers the integration of these data as power.

- Dr. Parekh noted that Included Health assesses quality measures at the National Provider Identifier (NPI) level to identify providers who can best meet a patient's specific care needs and provide those details to the patient in a user-friendly format. She noted that this approach can improve care outcomes and reduce the TCOC.
- Dr. Parekh described how Included Health uses patient-reported outcomes. She explained that, historically, patient-reported outcome measures did not ask patients the right questions in a timely manner to drive insights and value. Included Health administers a Centers for Disease Control and Prevention (CDC)-validated measure that asks members about their mental or physical health through a cell phone app. It intervened with patients who reported experiencing multiple unhealthy days within the last 30 days. Dr. Parekh noted that this process showed an improvement in patients' number of healthy days per month and reduced TCOC over time.
- Dr. Parekh outlined how these processes can engage members at the right time to intervene and improve outcomes over time.
- Dr. Parekh discussed three areas where improvements can be made to use data to increase better outcomes in health care:
    - Data access and infrastructure: The industry needs consensus on who owns health care data, such as patients, health systems, or health plans. Dr. Parekh stated that patients own their data. She noted that not having consensus on data ownership allows data to be kept in silos.
    - Patient-reported outcomes standardization: Standardization in patient-reported outcomes is necessary to appropriately measure and improve outcomes.
    - Entity resolution: Inconsistencies exist in understanding how patients are doing.

For additional details on Dr. Parekh's presentation, see the presentation slides (pages 44-55), transcript, and meeting recording (43:48-53:54).

Following the presentations, Committee members asked questions of the experts. For more details on this discussion, see the transcript and meeting recording (53:54-1:29:29).

Experts discussed major barriers to interoperability over the past 25 years.

- The push to digitize health records occurred before requirements were established to standardize data formats, which allowed thousands of entities to develop proprietary digital data models. Now, the challenge is to develop a standardized approach to share data across the existing proprietary models. Entities also had financial reasons for not sharing data. Data standards, the necessary technology, and incentives have been created to promote interoperability.
- To date, people have been driven by achieving the minimum need to meet compliance. The prior authorization API regulations are among the first regulations that have an opportunity to transform health care. For example, instead of limiting regulations to only health plans, payers are implementing regulations across their entire membership.
- Instead of trying to solve challenges with interoperability, the focus should be on addressing challenges with patient use cases. For example, the focus should be on identifying the data pieces needed to solve a patient's problem instead of solving all data interoperability issues at once.

Ms. Valdes discussed specific consumer barriers that should be addressed to increase scale and value of interoperability for patients.

- The industry has already addressed two large barriers. The first barrier includes giving patients access to their health data free of charge via APIs. The second barrier includes the eradication of "portalitis"—when patients have too many portals to navigate to access their health information—which is the largest barrier to health information access today. The next barrier to overcome is unlocking the APIs for access. It is insufficient to help patients understand their information, give them insights into the data, and tell them what they need to do. The process must also be easy for the patient to do. One recommendation to accomplish this task is to move the Meaningful Use certification from EHR workflows onto the API stacks that surround the EHRs. Doing so would establish standards for scheduling, messaging, and prescription drug refills and encourage patients to follow their care plans.

Experts discussed new, motivating factors and associated payment model features that can activate patients to engage with their longitudinal health records.

- Earlier attempts to promote a longitudinal health record failed because it was too difficult for patients to use. One approach to increase engagement is to install digital appointment scheduling systems. These systems have shown increased access to care and increased appointment scheduling, particularly after hours. Similarly, natural language processing within the scheduling system is used to prompt patients for telehealth appointments available before in-person appointments. This approach has increased telehealth and overall appointment bookings. Platforms should be developed with patients in mind. When scheduling an appointment, one of the first questions patients are asked is to confirm a specialty with which they would like to book an appointment, yet many patients are unfamiliar with the specialty from which they need care. As a result, the pathway to patients receiving the care is broken at the first step of seeking care.
- Although APIs are required to be free of charge for patients to use, they still require financial investments. As a result, the customer of the APIs is commonly the health plan rather than the consumer. An alternative payment approach is for the patient to subscribe to the consumer app of their choice and have the costs offset through taxes or against their health plan.
- Patients engage with health care when they need help with addressing a medical problem. Data should be linked to insights that can impact care to engage patients with their health data.
- High-deductible health plans were the first attempt to encourage patients to be the client. This approach has not worked because these plans face the threat of negative financial outcomes. The transition to value-based care can help address this threat. If the provider is aligned with the patient, the data can be used to solve the patient's health problem.

Experts discussed efforts to improve the quality of the structured data in the medical record.

- Mapping measures used across different providers and programs can improve the capture, structure, and transfer of data between providers and health systems. Establishing joint operating committees can help reach consensus on data sharing allowances. FHIR may not solve the issue of standardized data sharing; efforts should be focused on improving workflow and data capture approaches.
- Organizations that consolidate data from the whole health care ecosystem develop a semantic interoperability layer. Specifically, these organizations establish reporting specifications to make the data more complete and accurate upon receipt.

- The new Patient Information Quality Improvement (PIQI) Framework allows companies who generate data to report a quality scorecard to providers and payers based on the quality of their data, not solely the completeness of their data.
- The science of medicine has far surpassed the administration of health care. Currently, there is a focus on digitizing manual processes that were established for a different period in health care. No amount of standardized data will solve that problem.

Experts discussed the use of federated identity models to authenticate health care users.

- The technology is currently used by health systems during check-ins. For example, one health system reduced duplicated health records by introducing Identity Assurance Level 2 (IAL-2) technologies, which have positive downstream effects on administration and billing. CLEAR and ID.me are increasing the adoption of patient authentication. Additionally, health practices are installing these technologies to authenticate employees.
- States are also adopting these technologies for patient authentication within the Medicaid population. States often do not have member portals but can use ID.me to establish digital accounts and authenticate Medicaid enrollees that could then be matched to patient data from Medicaid agencies.

Experts discussed purchaser and payer perspectives regarding strategies to overcome information blocking as interoperability is scaled.

- There is an inherent conflict of trust between providers and health plans where neither party trusts the other with their data. Value-based payment, or shared alignment between purchaser and provider, can help reshape trust by allowing providers and health plans to work together on behalf of the patient. To encourage data sharing, trust is needed on both sides. Aligned incentives are needed to promote trust. To align incentives, changes are needed in how people are paid.
- One concern with using AI in health care is that it will make providers better billing machines and health plans better denying machines.
- Trust between health plans and clinician communities has steadily increased. Health plans bring capabilities that align with a value-based care mindset to build trust.
- Challenges with information blocking are primarily driven by economic forces from some vendors. Other considerations include trust, particularly related to more timely payment distributions to providers. Restrictions exist with data sharing when behavioral health diagnoses are present, including blocking the data.
- Permitted use of operations is another factor to consider. Business Associate Agreements (BAAs) exist between payers and providers that supersede national standards permitting data sharing for operations use. Additionally, the definition of “operations” is too broad. If the definition of operations was limited to value-based care, more compliance and trust would be established.

Session 2: Availability and Effectiveness of Digital Tools for Equipping Patients with Information About Their Health Care

SMEs

- Vishal Gondal, Founder and Chief Executive Officer, GOQii
- Trevor Berceau, Director, Patient Experience, Epic
- Pradnya B. Bhattad, MD, Interventional Cardiologist
- Ricky Bloomfield, MD, Chief Medical Officer, ŌURA

Lindsay Botsford moderated the session with four SMEs on the availability and effectiveness of digital tools for equipping patients with information about their health care. Full biographies and presentations are available.

Vishal Gondal presented on the power and potential of wearable and AI technologies.

- Mr. Gondal shared that he created one of India's largest video game companies, which he sold to Walt Disney in 2012. In 2014, he began working on GOQii, a start-up company that combines health care with the world of gaming. GOQii has been in business for over 10 years and has a presence in multiple geographies.
- Mr. Gondal noted that despite infinite access to health information—where patients can use Google, chatbots, and LLMs—the population remains unhealthy. There are rising rates of obesity, chronic conditions, and mental health issues.
- Mr. Gondal indicated that health is not solely an information or access problem. Even with the best physicians, diagnostic tools, and therapeutics, people continue to lead unhealthy lives. For example, cigarette packs warn that smoking causes cancer, yet people continue to smoke. The issue is not solely about information; it is about motivation. The question is how physicians and the health care system can use tools effectively used by social media companies to engage people in their health.
- Mr. Gondal explained that data collected by devices (e.g., ŌURA Rings), siloed health apps, and flooded EHR inboxes result in unbillable physician hours. As health care shifts from a primary to a reactive to a proactive model, it is critical that data become accessible and easily processed and analyzed.
- Mr. Gondal noted that chronic conditions contribute to 90% of health care spending and require guided, continuous care rather than episodic interventions. Physicians are increasingly viewed as guides in the patient journey, which means the patient-physician relationship must shift from transactional to longitudinal.
- Mr. Gondal discussed the concept of the "internet of health." Whereas health data were once limited to hospital records and largely provider-centric, consumers now generate their own lifestyle and fitness data through wearable devices. Qualitative and quantitative data could potentially reside in a secure data lake. Using AI models and other tools—subject to HIPAA and privacy regulations—could unlock breakthrough innovations in medical research, insurance underwriting, and personalized medication. The data also hold potential for food and nutraceutical development.
- Mr. Gondal highlighted the global adoption of the Predictive, Personalized, Preventive (PPP) model in countries such as the U.K. (with the National Health Service [NHS]), India, and several Middle Eastern nations. This model leverages AI, wearable technologies, and integrated health care data—including medical records and lifestyle metrics—to shift health care from reactive to predictive. By analyzing data to predict the likelihood of a person having a stroke, heart attack, or Type 2 diabetes, care pathways can be personalized and implemented to prevent disease. Mr. Gondal compared this approach to self-driving cars, which are designed to avoid crashes rather than recover from them. Similarly, the health care system of the future will prevent conditions before they compound into a serious health issue. While there will continue to be solutions when someone falls ill and needs clinical care, AI will largely be used on the preventative side.
- Mr. Gondal emphasized the potential of integrating wearable technologies, AI assistants, and EHRs to enhance the patient journey. He described how gamification and AI can support improvements across sleep, nutrition, fitness, cognition, and happiness to improve a person's

health span. Mr. Gondal argued that health span—whether a person can live a long and healthy life—should be the north star metric, rather than Hemoglobin A1c (HbA1c) or other biomarkers.
- Mr. Gondal concluded by emphasizing that wearables, data, and gamification—particularly as a solution to the motivation gap—can drive meaningful patient engagement. He likened this concept to how users interact with popular apps such as Duolingo, suggesting that future platforms will center on gamification, engagement, and motivation. He believes this approach will lead to better health outcomes, greater physician efficiency, and increased happiness across the health care ecosystem.

For additional details on Mr. Gondal's presentation, see the presentation slides (pages 2-12), transcript, and meeting recording (0:00-11:08).

Trevor Berceau presented on the role of EHRs and integration with mobile apps.
- Mr. Berceau is part of the Research and Development (R&D) team at Epic and has spent the past 18 years designing software to support clinicians and patients across a range of care settings—from the hospital floors and intensive care units (ICUs) to emergency departments (EDs). He currently leads the team responsible for MyChart and other patient experience products. His work is focused on extending care into the home and helping patients manage their health and health care.
- Mr. Berceau explained that Epic has observed that patients engage with their health data when given the opportunity. Epic has almost 200 million active users on MyChart; these users have logged in over 6.3 billion times in the past 12 months. People desire to have a high level of engagement and control of their health and health care. Epic has observed that digital tools improve patient experience and outcomes. Care models should be designed to take full advantage of the digital tools that are available. Innovative care models are built with a combination of people, process, and technology, but led with a clinical viewpoint.
- Mr. Berceau provided several examples of innovative care models. For example, care in the home has been enabled through technology to provide patients with continuous guidance rather than episodic care that would occur only when the patient is in the clinic with the provider.
- There are two pillars that enable the model of continuous, home-based care. The first pillar is to continuously collect and understand key data from patients at home; for example, from a home device or patient-reported outcomes. The second pillar is to use the system to identify which patients need intervention. An intervention could include asking the patient to do something different, and, if needed, escalating the issue to a member of the care team who can proactively reach out to intervene. Mr. Berceau provided specific examples of improvements in outcomes and reductions in TCOC:
    - The University of California Los Angeles (UCLA) Health focused on postpartum hypertension patients after they went home to reduce readmission and ED visits by 75%.
    - Ochsner Health tracked how its chemotherapy patients were doing daily throughout treatment and observed a 33% reduction in ED visits and admissions.
- Mr. Berceau highlighted how just-in-time education can be powerful in terms of providing the right bite-sized pieces of information to patients at the right time, rather than providing a 20-page handout, for example, hoping that a patient will remember to look at the right page when it becomes relevant. He provided examples of how this approach has improved experience and patient understanding, as well as actions and outcomes at The Christ Hospital and New York University (NYU) Langone Health.

- Mr. Berceau described opportunities for technology to help patients adhere to the plan they discussed with a doctor during a visit. He noted that the problem is not focused on access to information or knowledge; instead, the problem is associated with behavior change. He discussed how traditionally, instructions that are discussed are often free text in a note or an after-visit summary that a patient must remember to go back to. He provided an example of groups such as Rush that are using AI in MyChart to extract follow-ups and turn them into discrete, actionable reminders to make it easier for patients to adhere to the plan discussed and agreed upon with their doctor.
- Mr. Berceau explained that while just-in-time education used by NYU Langone Health and The Christ Hospital is helpful, there is not a single video that can answer every question that every patient may have. He shared that Epic has been working with organizations such as the University of California San Diego Health (UC San Diego Health) to study what happens when patients can simply chat with an AI assistant in the context of their chart. For example, an AI assistant can answer questions about what a test result means using general knowledge, as well as information from the patient's chart, such as leveraging information in provider notes to understand how a test result might impact the patient's care plan or how the patient's other diagnoses or medications might impact the test result.
- Mr. Berceau noted that Epic has built a robust ecosystem for patients to connect their home devices and other apps. It is now easy for patients and device vendors to feed information into MyChart and into the EHR for patients and providers to use. Patients can connect their own apps if they wish to obtain data from Epic or MyChart and use the data in another experience that is more tailored to their needs at the time. Epic's focus has been on industry standards such as FHIR APIs or common datasets such as United States Core Data for Interoperability (USCDI) to make it easy for app developers to connect and deploy other technologies.
- Mr. Berceau discussed real-world adoption at scale, noting that over 850 different patient-facing apps are live across the Epic community. Across those apps, half a million are authorized by patients, and over two billion FHIR API requests are made by those apps over the last year.
- Mr. Berceau highlighted three key strategies needed to drive change in innovative care models. First, innovations need to be care model-driven and led by clinicians in partnership with IT to understand how technology can support different models of care. Second, for a care model to be adopted, it needs to be easy for clinicians. For example, care models should align with workflows and show insights while filtering unnecessary information. Third, patients need simplicity. He noted that MyChart allows patients to use a single app to manage all aspects of their journey in one place. He recommended making access simple for patients so they do not need to navigate between four or five different solutions.

For additional details on Mr. Berceau's presentation, see the presentation slides (pages 13-22), transcript, and meeting recording (11:08-19:30).

Pradnya B. Bhattad presented on tools to improve health literacy and empower patients.

- Dr. Bhattad explained that she is trained in internal medicine, cardiovascular disease, and interventional cardiology. She has recently been working on developing accessibility tools for patients and providers, including a digital platform to improve health literacy and care navigation.
- Dr. Bhattad emphasized that many patients face significant information gaps—not due to a lack of available data, but due to an inability to effectively navigate the health system. Patients often have a limited understanding of their diagnoses, treatment options, medication instructions,

and when to seek help. Educational tools and materials can empower patients to better understand their health conditions, treatment options, appropriate care settings, and provider types. Tailored patient education—rather than one-size-fits-all approaches—supports shared decision-making, improves health outcomes, and reduces unnecessary testing and defensive medicine practices. Improving patient autonomy enables patients to be more actively engaged in their own care.

- Dr. Bhattad highlighted the availability and effectiveness of digital tools, which can reach remote rural areas that experience challenges with health care accessibility. Digital tools include telehealth platforms, mobile apps, patient portals, online resources, and personalized health coaching.
- Dr. Bhattad highlighted telehealth as a powerful tool for reaching underserved populations and supporting ongoing management of chronic conditions. Telehealth facilitates goal setting between patients and providers encourages active participation, reduces travel burdens, improves continuity of care, and supports patient-centered care. She emphasized the potential of telehealth to improve outcomes and efficiency.
- Dr. Bhattad explained that mobile health apps can track a range of health metrics—from vital signs and activity levels to electrocardiographic (ECG) data and heart rhythm monitoring. These tools support behavior change, chronic condition management, and patient engagement. She shared examples of patients lacking an understanding of their medications, including long-term prescriptions taken without knowledge of their purpose or risks. Dr. Bhattad identified polypharmacy as a concern and noted the opportunity to reduce outdated or unnecessary medications through better education.
- Dr. Bhattad indicated that patient portals allow patients to access medical records, lab results, and physician notes; manage appointments; request prescription refills; and monitor health metrics. She noted that recent changes enabling patients to view their own clinical notes have increased transparency. Dr. Bhattad also emphasized the need for greater cost transparency, pointing out that both patients and providers often lack information about the cost of procedures or medications. She suggested that integrating cost estimates into patient portals could reduce unnecessary spending and improve decision-making.
- Dr. Bhattad described additional tools, including health literacy assessments, peer support groups, and patient navigators. She stressed the importance of training providers in health literacy, including providing education to help health care professionals clearly and effectively communicate complex information and educate patients every time they see the patient.
- Dr. Bhattad emphasized that effective communication helps eliminate misunderstanding and enables patients to make informed decisions. For example, when explaining the risks and benefits of a heart catheterization, she found that many patients were previously unaware of key information. Simple, transparent explanations can empower patients to take ownership of their care and improve satisfaction.
- Dr. Bhattad concluded by highlighting the importance of creating accessible, relevant materials tailored to individual patients. She advocated for two-way communication between patients and providers that is supported by digital platforms that enable direct follow-up. She noted that current systems often overwhelm providers with messages, leading to delays or missed responses. Enabling focused, streamlined communication could significantly improve outcomes and satisfaction.

For additional details on Dr. Bhattad's presentation, see the presentation slides (pages 23-34), transcript, and meeting recording (19:30-32:40).

Ricky Bloomfield presented on the use of remote patient monitoring tools.

- Dr. Bloomfield noted that he has a clinical background in internal medicine and pediatrics and holds a board certification in clinical informatics. Prior to joining ŌURA, Dr. Bloomfield led clinical and health informatics efforts on the health software team at Apple. He also previously worked in the Duke University Health System where he built an API infrastructure. At Apple, Dr. Bloomfield played a key role in developing the first app to use FHIR APIs at scale, collaborating with major EHR vendors to test and validate the APIs. The initiative launched with 13 health systems and expanded significantly during his tenure at Apple, ultimately reaching thousands of health systems using standards-based APIs. He noted that the use of open standards helped facilitate the development of other apps. Dr. Bloomfield emphasized the importance of helping patients access their health data securely and privately, underscoring the role of digital tools in empowering individuals to improve their own health.
- Dr. Bloomfield provided background on the Apple Watch, noting that it was among the first consumer devices to include features regulated for clinical use. He recalled that there was originally consternation among clinicians; many clinicians thought the device would result in a wave of misdiagnosis and an influx of “worried well” patients. However, he shared that most physicians he speaks with today have either personally treated someone, have a family member, or know of a colleague’s patient who received an alert from one of the many wearable devices and made an appointment with their clinician. He expressed enthusiasm about the potential of wearables—devices in continuous contact with the skin. He likened wearables to a “check engine light” or “guardian angel” for one’s health as they can detect conditions that otherwise would not have symptoms. Dr. Bloomfield emphasized the importance of ensuring that these alerts are evidence-based and have the appropriate sensitivity and specificity so they can guide timely interventions, improve outcomes, and reduce costs.
- Dr. Bloomfield shared that ŌURA’s goal is to give people a voice. Founded 13 years ago with an initial focus on sleep, the company aimed to make a device that could be worn 24/7 without needing to be charged to collect high-quality data and help users understand their sleep. He noted that ŌURA expanded its capabilities to measure a wide range of health metrics using sensors similar to those used in devices such as Apple Watch, including photoplethysmography (PPG) sensors to measure changes in blood volume under the skin, accelerometers for motion detection, and temperature sensors.
- Dr. Bloomfield shared that the ŌURA Ring can measure over 50 different metrics. Unlike early versions of the Ring that lasted a couple days on one charge, the latest models can endure for up to a week before needing to be charged. The opportunity to sense and potentially intervene, especially for individuals who are at home outside the clinical setting, is powerful. He noted incredibly high levels of engagement with the Ring; users wear the device an average of 23.5 hours per day and open the app multiple times daily. Dr. Bloomfield suggested that individuals see the direct benefits from using the device. For example, many users begin to understand the impact of alcohol consumption on their sleep. Being able to quantify the impact of alcohol on sleep has led many users to significantly reduce or stop drinking alcohol. He emphasized that shining a light on additional information in a consumer-centric way can have a dramatic impact on health and health outcomes.
- Dr. Bloomfield discussed the scientific validity of the Ring, noting the company has over 30 PhD-level scientists who work on building and validating its features. He shared that there are more than 170 peer-reviewed studies on the device and emphasized the importance of ensuring that the device is accurate and based on science. He highlighted recent work with the Department of Defense (DoD), including a study conducted by the Air Force Research Laboratory (AFRL). ŌURA has collaborated with the military, particularly to improve troop readiness, resilience, and stress

detection. Dr. Bloomfield explained that the Navy was interested in understanding how to measure and act on fatigue and burnout. He noted that the AFRL tested several major wearable devices and found that ŌURA Ring (Generation 4) was the most accurate for assessing key stress and resilience metrics, including resting heart rate and heart rate variability (HRV).

- Dr. Bloomfield explained that the device is built for accuracy. He highlighted that the heart rate measure is 99% accurate using ECG recordings to validate the accuracy of the ŌURA Ring heart rate measure, and noted similar results for body temperature, HRV, and sleep tracking. ŌURA Ring's sleep tracking uses the gold standard of an overnight polysomnogram to validate accuracy.
- Dr. Bloomfield discussed clinical use cases for the ŌURA Ring, beginning with its application in addressing clinician burnout. He noted that the Defense Health Agency (DHA) is studying burnout and stress among clinicians to understand how to help the clinician population detect and address burnout and stress. He emphasized that burnout is a serious issue across health systems and was magnified during the COVID-19 pandemic. He cited a study from the Association of American Medical Colleges (AAMC), which projected a shortage of 86,000 clinicians in the U.S. by 2036. Regarding primary care, Dr. Bloomfield noted that hundreds of clinics have implemented the ŌURA Ring and are exploring how it can support better decision-making. He emphasized the need to move from a reactive system to proactive care with a focus on prevention and to do so by improving the understanding of the time patients spend outside the health care system. He stressed the importance of helping patients live their fullest lives at home and maximizing their health span, or the number of days they are healthy. He also highlighted the importance of incorporating data into EHRs using open standards. In the context of chronic care management, Dr. Bloomfield shared that ŌURA has partnered with MA plans, including Essence in the Midwest which now offers the ŌURA Ring as a covered benefit due to observed high levels of engagement. He noted that uptake has been strong among individuals aged 65 and older. Dr. Bloomfield explained that the goal is not only to have patients wear the device, but also to share patients' data with the health system so action can be taken when metrics indicate care may be needed.
- Dr. Bloomfield emphasized that many individuals are opting out of organized health care and losing trust in the system. He warned that this trend could become a crisis if more people seek health care only when there is a problem. Prevention requires engagement with the health system.
- Dr. Bloomfield explained that ŌURA would like to partner with organizations that can help measure and interpret health data. For example, ŌURA partnered with Dexcom for the over-the-counter Stelo device, which helps users understand their glucose trends over time and how those trends relate to their meals to improve their diet. Dr. Bloomfield also explained that ŌURA partners with organizations such as Maven, the largest virtual clinic for women and families, to support members using the device for cycle tracking or pregnancy management.
- Dr. Bloomfield emphasized the importance of having a streamlined way for individuals to access trusted professionals to take the next step in their health journey.

For additional details on Dr. Bloomfield's presentation, see the presentation slides (pages 35-42), transcript, and meeting recording (32:40-48:29).

Following the presentations, Committee members asked questions of the experts. For more details on this discussion, see the transcript and meeting recording (48:29-1:30:05).

Experts discussed efforts to use clinical and patient-generated data to support evidence-based clinical decision-making, as well as opportunities to reduce administrative burden in utilization management.

- Epic is working with health care organizations to standardize certain clinical programs and clinical pathways. This work has entailed working with organizations with motivated clinical and operational leadership or working with steering boards focused on certain specialties to discuss the technical requirements needed for adopting innovative care models. For example, a key warning sign for potential readmission for patients with congestive heart failure (CHF) is weight gain due to fluid retention. A protocol might involve sending these patients home with a smart scale or enabling them to connect to a smart scale that they already have at home so that data can be shared with the system. Algorithms can then analyze the data to both prompt the patient to take action and alert a care manager or another team member to intervene and prevent readmission. Epic has been working to develop protocols and standards for these types of best practices. Through these practices, all data that led to clinical review and follow-up are documented. One expert described how Epic has started working to package information for payers to justify coverage decisions and reduce administrative burden. This effort includes eliminating unnecessary prior authorizations or automating them for faster turnaround.
  One expert cited early work with Essence, an MA plan in the Midwest that also delivers care through clinics. Essence is interested in integrating data into its clinical workflow so it can easily act on the data. Early use cases include night-time breathing disturbances and sleep apnea with the goal of improving triage and resource use. The expert described the development of a web-based clinical dashboard that integrates data directly into the EHR using open standards.

One Committee member inquired if Mr. Berceau had data on patient outcomes related to the use of tools at hospitals broken down by payer.

- Mr. Berceau confirmed that he does not have data on outcomes broken down by payer. The results shared were satisfaction scores from Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) data from patients.

Experts discussed how to ensure that everyone has access to tools and whether there is a need to offer tools across payers.

- One expert discussed different approaches to paying for their specific device and efforts to measure cost savings. The expert noted that MA plans generally cover their device; they are willing to take the risk as an innovative plan and assess how the device works. The end goal is to measure not only improved health outcomes but also cost savings. ŌURA has a director of health outcomes research to study and publish results. ŌURA is also working to produce the devices at a lower cost. It is also working on initiatives to compensate for the devices through Flexible Spending Account (FSA) and Health Savings Account (HSA) plans. In addition, ŌURA launched a partnership with a company that helps manage Individual Coverage Health Reimbursement Arrangement (ICHRA) plans, which are a new individual coverage plan as more employers are opting to share dollars directly with individuals versus covering insurance plans. The expert identified the need to show outcomes and demonstrate that the cost savings are greater than the cost of the device so that the device can be covered for everyone.
- Another expert discussed their experience working with governments across the world with populations at different socioeconomic levels and recognized the importance of accessibility. The expert suggested that the focus should be on creating community-based digital tools. Personal devices support community-based testing, enabling the health care system to cast a wide net to identify people in need of care early on versus after they fall sick.

Experts discussed how they and their organizations help providers navigate the growing volume of data from consumer health apps and identify meaningful, actionable insights.

- One expert described the proliferation of point solutions within EMR systems, noting that while the solutions worked when care was clinic-based, they now operate in silos that do not reflect the interconnected nature of patients' conditions, such as diabetes, heart disease, and mental health. As care becomes more remote, there is a growing need for unified solutions that offer a 360-degree view of patient data. Drawing a parallel to banking apps that consolidate multiple functions into one interface, the expert emphasized that health care is moving toward similar unified workflows for patients, providers, and clinicians—powered by AI and personalized copilots.
- While point solutions offer valuable competition and innovation, their proliferation creates challenges for providers. To address these challenges, continued investment in interoperability is needed. EHR vendors and HL7's Argonaut project are working to improve data exchange, especially the ability to write structured data back into EHRs. There have been recent federal actions on information blocking. There is still a need to standardize input and output to reduce friction, support provider workflows, and ensure that data reach the right place at the right time.
- Challenges include moving data across systems and making the data usable for clinicians. Continued support for standards such as FHIR, USCDI, and the Argonaut project is essential to ensure that organizations can offer supported devices while still allowing others to connect through standardized methods without needing custom integration for each one. Regarding the usability of data, the focus is on distilling data into clinically relevant formats. Rather than reviewing every data point, clinicians need summaries that show trends—such as whether a patient's hypertension is generally stable—and tools that flag when someone veers into a range that may warrant further exploration, based on best practices, targeted algorithms, or generative AI models. The goal is to tailor data presentation to the clinical context—whether it is a primary care physician preparing for a visit, a specialist seeing a patient for the first time, or someone managing a large patient panel.

Experts discussed how digital tools are driving patient engagement across the Medicare population—given its wide age range and varying levels of digital familiarity—and what evidence exists that shows that patient engagement leads to improved clinical and financial outcomes.

- Health care costs increase substantially after age 60, making this a global challenge and a key focus for intervention. Solutions are designed specifically for this population, ranging from simple tools such as using large fonts in apps to more hands-on approaches such as care navigators guiding patients through the process. In addition, initiatives such as the XPRIZE are developing accessible solutions for people aged 50 to 80, focusing on cognitive, immune, and muscle biomarkers to support age reversal through behavior and personalization. Rather than a one-size-fits-all model, hyper-personalization—such as sending tailored text messages—has shown an eightfold increase in engagement. Gamification is also playing a key role by using techniques from platforms such as Instagram and TikTok to incentivize behavior and engage users across age groups.
- There is an actuarial study showing that increased activity, tracked through wearables, can lead to cost savings in the Medicare population.[1] However, more investment in evidence is needed, especially to demonstrate impact beyond engagement metrics. Many wearable companies are not incentivized to conduct rigorous outcomes research, but some organizations are beginning to invest, such as hiring clinical outcomes researchers and partnering with MA plans to measure

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[1] Coughlan D, Saint-Maurice PF, Carlson SA, Fulton J, Matthews CE. Leisure time physical activity throughout adulthood is associated with lower Medicare costs: evidence from the linked NIH-AARP diet and health study cohort. *BMJ Open Sport & Exercise Medicine*. 2021;7(1):e001038. https://doi.org/10.1136/bmjsem-2021-001038

the effects of early intervention. The goal is to move beyond engagement numbers and generate data showing real improvements in outcomes.

Experts discussed gamification, including how it is deployed, the success it has produced, and how scalable it is.

- Gamification in health care is focused on balancing task difficulty with a patient's experience level—similar to games where having a beginner start at a hard level leads to frustration, and having an expert start at an easy level leads to boredom. In health care, patients are often asked to make drastic lifestyle changes immediately, which creates a mismatch between readiness and expectation. Gamification breaks these tasks into small, achievable milestones that are constantly rewarded, triggering dopamine. Group activities can induce oxytocin and serotonin, and physical activity induces endorphins. These techniques, widely used in social media to drive addictive behavior, are being repurposed to encourage healthy actions such as medication adherence, testing, and provider engagement. The approach has been scaled across multiple health care systems with strong results. One example involved a program for patients with diabetes, where participants were told that every one-point drop in HbA1c would earn them one gram of gold. Over 90 days, this incentive led to a 1.4-point reduction in HbA1C. One expert contrasted this with how junk food companies reward unhealthy behavior—such as earning stars for buying a sugary latte—while healthy behaviors often go unrewarded.
- It is important to align incentives with health goals. While gamification can be powerful, it must be balanced. Some wearable devices focus on streaks, which can push people to overexert even when rest is needed. Engagement should ultimately serve the goal of improving health, not solely driving usage. Equally important is how data are communicated. For example, instead of showing users a technical metric such as pulse wave velocity, showing users "cardiovascular age" helps them to understand how their vascular health compares to their chronological age and their peers. This framing has motivated many people to start exercising, especially when they observed their numbers improve over time. Understanding that one is becoming healthier may be more powerful than any specific gamification strategy.
- Additional innovations include avatar-based feedback where a user's avatar becomes younger as their health improves. This can create a sense of personal investment, such as caring for a virtual pet. Another innovation includes a blockchain-based reward system where a cryptographic token is earned by demonstrating healthy behavior.[2] This Universal Health Token (UHT) could potentially be traded or used toward insurance premiums. The integration of gaming, crypto, AI, and wearables is seen as a promising and exciting direction for the future of health care.

Experts discussed additional ways devices can be built into payment.

- One expert recommended viewing digital tools not as costs but as investments that reduce spending on sick care. For example, NHS data show that every pound spent on prevention and digital tools has saved four pounds. Data are increasingly seen as the currency of the future, and tools such as blockchain can unlock their value. As data become more interoperable and democratized—particularly through blockchain—they can drive the development of new drugs and tools. This shift is already enabling connections between health data, claims, and insurance premiums. Some providers are already using this approach to reduce premiums or expand coverage based on verified health behaviors.
- One important step to address this challenge includes showing that the data demonstrate improved outcomes. The CMS Innovation Center and others have focused on how to incentivize

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[2] https://universalhealthtoken.xyz/

providers to test and measure the impact of these tools. Wearables, especially for screening and detection, offer a clear opportunity. For example, if a device can screen for hearing loss or function as a basic hearing aid for a few hundred dollars, that is significantly less expensive than a full clinical screening or hearing aid. Similar opportunities exist for conditions such as atrial fibrillation and sleep apnea.
- Cost and reimbursement remain major barriers for organizations looking to implement care-at-home programs. There has been more progress in areas with well-defined value-based payment models, such as bundled payments for joint replacements. Forward-thinking organizations are finding ways to implement these programs and demonstrate both value and cost savings. For example, Ochsner's chemotherapy-at-home program not only reduced ED visits and readmissions but also saved over one million dollars in a year. The next step includes identifying programs with validated outcomes—both clinical and financial—and figuring out how to standardize them so that individual providers do not have to negotiate terms and metrics on their own.
- Offering affordable or free versions of digital tools can help increase adoption among providers and patients who are less familiar with them. Partnerships to expand access, particularly for underserved communities, are also important to consider.

Session 3: Emerging Data Strategies for Supporting Shared Decision-making Between Providers and Patients

SMEs

- Abhinav Shashank, Co-Founder and Chief Executive Officer, Innovaccer
- David C. Kendrick, MD, MPH, FACP, Chief Executive Officer, MyHealth Access Network Inc., and Chair, Department of Medical Informatics, University of Oklahoma
- Charles DeShazer, MD, Physician Executive, Healthcare Innovator, and Former Chief Quality Officer, The Cigna Group
- Thomas H. Lee, MD, MSc, Chief Medical Officer, Press Ganey Associates, Inc.

Jay Feldstein moderated the session with four SMEs on emerging data strategies for supporting shared decision-making between providers and patients. Full biographies and presentations are available.

Abhinav Shashank presented on integrating data-driven tools into the physician workflow.

- Mr. Shashank described key learnings from building Innovaccer over the last decade.
- Mr. Shashank explained that Innovaccer was founded to address the fragmentation of health care data. The flow of information between systems is complicated and leads to inefficiencies.
- Innovaccer's Data Activation Platform (DAP) is integrated with existing infrastructure, such as EHRs, claims systems, and lab systems, to create a 360-degree view of the patient and promote holistic value-based care. The platform has been deployed across more than 1,600 hospitals and clinics and is used by health systems and payers to measure patient outcomes and build strategies and programs to improve outcomes.
- Mr. Shashank cited Bill Gates' remark that we cannot improve what we cannot measure; Innovaccer has been trying to build measurement infrastructure to allow for more meaningful programs to be developed and scaled.
- Mr. Shashank explained that data must be embedded into the physician workflow to improve outcomes. Innovaccer is creating infrastructure to do this.
- Mr. Shashank noted that health care data—including EHR, device, and diagnostic data such as labs and imaging—make up 30% of data being generated in the world. The informational context

about a patient is rapidly increasing. For doctors' decision-making to be fully informed, technological infrastructure that allows doctors to parse, structure, and curate data into meaningful insights is required.

- Mr. Shashank described that most health care workflows are now digitized but noted that this produces a large amount of information. The next layer of infrastructure needed is to process this information; otherwise, the return on investment in digitizing health care workflows will not yield the value envisioned. This is the focus of Innovaccer's Gravity platform.
- Mr. Shashank presented learnings from deploying Innovaccer at health systems.
- Mr. Shashank explained that the platform is not focused on replacing systems; it is focused on two different and distinct approaches: 1) a system in which to put data, and 2) a system to fetch data that have been aggregated from across systems to present the data in a contextualized framework in front of a doctor. These systems work in harmony.
- Mr. Shashank indicated that doctors need data from all systems in one place, including clinical history from the EHR and other data, such as SDOH data. Having data in one place creates a 360-degree context for clinical decision-making and better engagement.
- Mr. Shashank described the challenge of harmonizing data across systems (e.g., EHR, claims, and lab data) to make a usable dataset. If time is not spent on harmonization, then usability of the data is limited at the point of care when shared decision-making should take place.
- Mr. Shashank presented key principles of Innovaccer's approach.
- Mr. Shashank explained that the tools are embedded in workflows using an overlay framework rather than requiring clinicians to go into another system. Mr. Shashank noted that the tools are designed to provide contextual nudges to doctors at points during a visit when they are actively engaging, rather than to provide too many prompts at the point of care, which are often ignored.
- Mr. Shashank explained that the overlay framework needs to work for all settings or aspects of care (e.g., inpatient, outpatient, post-acute, care coordination). He described health care as a team sport and noted that all players need to be working on a common type of technology or information stack to drive outcomes.
- Mr. Shashank shared strategies that have worked for Innovaccer's customers, including creating a full data context that sits in one system (e.g., not siloed information); having low workflow disruption; allowing use across settings; making iterative changes based on what works; and thinking of the data and information structure as a way to embed policy into care delivery at system-wide scale.
- Mr. Shashank presented different myths versus facts.
    - Having more data does not solve all problems. Having a curated context is the solution. It is necessary to invest in data, but the return on investment lies in converting data into curated information sets.
    - It is not true that clinicians and doctors do not like technology. When there is a user interface that improves their lives meaningfully, adoption is great. Innovaccer has seen this adoption as the technologies improve user experience.
    - Integration no longer takes years. Today, infrastructure can be set up within three months and quickly driving outcomes.
    - Although it is common to think of engagement and adherence through an artistic framework rather than as concepts that can be scientifically measured, Innovaccer has repeatedly created the measurement infrastructure for these outcomes. Innovaccer has also been able to successfully track improvements in provider or patient engagement from shared decision-making.

- Mr. Shashank presented examples of real-world outcomes for major health systems and explained that Innovaccer has thousands of similar case studies. Once the measurement infrastructure is in place, it is possible to view economic, quality, and other outcomes.
- Mr. Shashank explained that true interoperability requires existing systems to allow data to be entered and extracted; policy should enforce this and allow for free-flowing information exchange between regulated applications to drive progress. He indicated that creating intelligence infrastructure and a context that incentivizes clinicians will drive better outcomes.
- Mr. Shashank noted that billions of dollars have been spent on developing infrastructure, so overhauling current infrastructure frameworks is not recommended. He recommended considering how to make infrastructure work together with incremental tools, technology, and intelligence layered on top.
- Mr. Shashank concluded that clinicians and physicians should receive timely data to effectively empower patients, which can be achieved today. Moving forward, better quality at lower cost will be achieved.

For additional details on Mr. Shashank's presentation, see the presentation slides (pages 2-12), transcript, and meeting recording (0:00-25:58).

David C. Kendrick presented on health data utilities as critical national health infrastructure.

- Dr. Kendrick highlighted the importance of infrastructure for health data exchange.
- Dr. Kendrick presented a pyramid of critical national health infrastructure, with governance/trust at the foundation, followed by clinical data, claims data, analytics and measures, innovative workflows, and results at the top of the pyramid.
- Dr. Kendrick displayed 2020 OECD data on health expenditure per capita, showing that the U.S. has the highest health care costs.
- Dr. Kendrick described the challenge of provider burden; providers would like to provide high-quality care but are participating in too many programs with different documentation and measurement requirements that take time away from patient care. This is also a similar challenge for patients; every certified system has its own patient portal or app to download.
- Dr. Kendrick presented data depicting patient satisfaction with health care, with physicians ranked second lowest after pharmaceutical companies in the share of U.S. adults who report that health care players are providing excellent or good quality services. In addition, medical debt is high.
- Dr. Kendrick showed that claims data are wide but shallow, and clinical data are scattered across patient settings. Changes in coverage each year are common among the commercially insured population. These changes in coverage can make it difficult to present a consistent workflow.
- Dr. Kendrick displayed a map showing more than one million hospital, clinic, urgent care, and Federally Qualified Health Center (FQHC) locations across the country. He explained that data fragmentation among the five largest health systems in Oklahoma is represented by the number of places that patients receive care. Health systems usually do not have all the data they need to manage care for a patient. Similar data for EHR vendors show that the percentage of patients whose data reside in a single EHR is low and decreasing over time, even among major vendors with a large market share. These findings indicate that a vendor-driven interoperability model should not be relied upon.
- Dr. Kendrick noted that interoperability is needed for all patient age groups.
- Dr. Kendrick explained that another interoperability challenge includes patients' non-medical drivers of health that need to be addressed to improve outcomes.

- Dr. Kendrick noted that in the current model, providers face the challenging task of choosing vendors, partners, and clinically integrated networks, and building their own interfaces while managing treatment, payment, operations, filtering, and liability for data sharing. A similar issue resides in the federal systems that receive multiple feeds from every provider organization.
- Dr. Kendrick recognized the progress in moving beyond data accessibility to considering data quality. After focusing on building governance and local data exchanges, the focus is now on clinical data.
- Challenges to data quality include the involvement of multiple roles, such as the provider/practice and EHR vendor, and the standardization of codes and identifiers across different organizations and systems.
- Dr. Kendrick previewed a recent analysis of the latest Assistant Secretary for Technology Policy (ASTP)/University of California San Francisco (UCSF) Health Information Exchange (HIE) survey showing that almost all of the country is served by nonprofit networks with many areas having 100% of the Census population covered.
- Dr. Kendrick introduced the term health data utility (HDU), an update to the older concept of HIE. He shared an interactive map showing the percentage of the population covered by one of these networks. Approximately 2,500 ZIP codes are served by 41 or more HDUs. Patients are moving around the country and have critical elements of their health data in multiple places. HDUs will need to work together and exchange data.
- Dr. Kendrick presented a map showing interoperability among state HDUs through a patient-centered data home. He described how HDUs can take responsibility for enforcing state-specific privacy laws and practices. The same scenario applies to federal agencies.
- Dr. Kendrick displayed a chart showing use cases from the survey, including admission, discharge, and transfer (ADT) alerts, which show that over 300 million lives are covered by HDUs that offer live ADT alerts.
- Dr. Kendrick showed a chart from a recent Journal of the American Medical Informatics Association (JAMIA) article highlighting the difference between FHIR APIs. He noted that vendor-level FHIR requirements do not solve the challenge of obtaining a patient’s entire record. HDUs perform better than individual EHR vendors in the time it takes per patient to access a record.
- HDUs can assess data quality in real time before conducting analysis. Data quality includes three dimensions: plausibility, performance, and completeness.
- Integrating data-driven tools into the physician workflow is facilitated by having a HDU with a FHIR API in the middle and leveraging Substitutable Medical Applications and Reusable Technologies (SMART) on FHIR protocols. The concept for SMART on FHIR protocols began in 2009 and has evolved into a robust and secure foundation for an interoperable ecosystem.
- To support clinical decision-making, the referral process between primary and specialty care could be better coordinated with a central record via FHIR and an app that allows providers to discuss and triage cases before the patient is referred for a visit. This approach has realized savings for the Medicaid population in Oklahoma.
- Apps can be used by patients and providers to promote shared decision-making, such as to review possible medication side effects. These examples do not solve patient engagement, but an app store approach enables a community of ideas to develop.
- Dr. Kendrick presented sample data showing how HDUs can enable health systems to improve their performance on quality metrics such as colorectal cancer screening rate by pulling in claims and other clinical data. He also shared sample data quantifying social needs screening.

For additional details on Dr. Kendrick's presentation, see the presentation slides (pages 13-73), transcript, and meeting recording (25:58-48:44).

Charles DeShazer presented on data innovations to promote shared decision-making between providers and patients.

- Dr. DeShazer summarized his professional background and explained that he has formed a group to provide advisory services on leveraging AI to transform health care. He indicated that data are critical to integration across payers, providers, and technology organizations.
- Dr. DeShazer explained that shared decision-making is critically important. It builds trust, improves adherence and outcomes, and advances inclusion. Effective shared decision-making enhances patient activation and engagement, which helps achieve the triple aim of improving quality, reducing cost, and improving experience.
- Dr. DeShazer described the challenge of understanding how to make shared decision-making scalable, measurable, and practical in the everyday workflow. The complexity of the health care system contributes to this challenge as there are many failure points on the way to achieving actionable, real-time, holistic data. Data are fragmented by the structure of the health care system.
- Dr. DeShazer indicated that the traditional patient role is shifting from the former paternalistic era to the "Dr. Google" or "Dr. Chat Generative Pre-trained Transformer (ChatGPT)" era in which the information asymmetry between patients and providers has shifted and patients have robust views of their conditions. This provides an opportunity to empower and support patients in a different way using technology and AI.
- Dr. DeShazer explained that evidence-based medicine is shifting due to the ability for AI to pull information from large, complex datasets and personalize it.
- Dr. DeShazer outlined principles of technology that support shared decision-making, including the following:
    - Patient-centeredness, or incorporating individual goals, values, and preferences;
    - Accessibility and inclusivity to ensure that interaction is personalized and customized for language, literacy level, and other characteristics;
    - Personalization via data, as contextualization of EHR and social data is critical for better engagement and clinical outcomes;
    - Timeliness;
    - Workflow integration;
    - Transparency and explainability;
    - Clinician augmentation, which is especially relevant today as patients bring tools such as ChatGPT into patient-provider interactions;
    - Interactivity and dialogue;
    - Ethical and bias-aware; and
    - Continuous learning.
- Dr. DeShazer explained that technology is mature and capable enough to drive the vision of collaborative care planning, which requires shared decision-making. One challenge includes the tax on the health system in the number of people required to execute these models. Technology can reduce the overhead to achieve these objectives by visualizing and making sense of data that can be leveraged during patient engagement. This includes conversational intelligence and embedding predictive interventions in workflows. Key elements will be incentivizing, supporting, and executing shared decision-making strategies.

- Dr. DeShazer presented emerging best practices through case studies in shared decision-making technology. These practices show how AI is being embedded in workflows, delivering differentiated results, and inserting prediction and engagement tools in the workflow. For example, in Aifred Health's use of AI for antidepressant selection, the database is moving toward a model of facilitating personalized, shared medication decisions.
- Dr. DeShazer summarized his work across payers, providers, and technology organizations by noting that innovation is not about more data but about making data actionable in the exam room and meaningful for patients. This includes integrating data in the workflow, reducing fragmentation, and decreasing burden.
- Dr. DeShazer concluded his presentation by explaining that shared decision-making is the bridge between digital innovation and value-based care that can drive better outcomes and more efficiency. Data innovations will make shared decision-making scalable and measurable. Aligning payment models to reward shared decision-making will accelerate progress on quality, experience, and cost.

For additional details on Dr. DeShazer's presentation, see the presentation slides (pages 74-81), transcript, and meeting recording (48:44-1:01:31).

Thomas H. Lee presented on measuring improvement in patient engagement and outcomes.

- Dr. Lee began his presentation by reviewing six key points on how health care is doing and what should be done to accomplish goals moving forward. These points are informed by data on 10.5 million patient surveys conducted in 2024. He described the following key points:
    - Patients are reporting better experience;
    - Teamwork is patients' number one concern in all sectors;
    - How patients feel about safety is a powerful predictor of their trust and ability to engage;
    - Equity matters for patient experience;
    - Segmentation of data is critical; and
    - Building social capital to complement the data infrastructure is essential.
- Dr. Lee presented data showing that national patient experience continues to improve. Patients' likelihood to recommend their ambulatory surgery and medical practices has continued to increase, even during the COVID-19 pandemic. It decreased slightly for inpatient settings during the pandemic and has since plateaued for inpatient and ED settings.
- Dr. Lee shared that in 2023, teamwork emerged as the top statistical correlate of overall likelihood to recommend across all sectors (i.e., emergency, inpatient, medical practice, clinic, ambulatory surgery, and urgent care). Teamwork has always been valued by patients, and its importance has increased as care has become more complex. Patients tend to be concerned or scared when they believe care teams are not working together. When patients perceive good teamwork, their trust increases.
- Dr. Lee indicated that patient trust in inpatient and outpatient settings is influenced by feeling safe. He presented data from 200,000 surveys of hospitalized patients showing that the likelihood to recommend hospitals/practices was much higher among patients who reported feeling very safe compared with patients who reported at least one safety concern.
- Dr. Lee presented data showing that settings that incorporate equity have better overall trust from patients. Equity does not mean treating everyone the same; it means meeting everyone where they are and trying to help meet their needs. There are different social needs and other

needs among different groups. Overall trust in care is better at hospitals with small gaps in trust across racial and ethnic patient groups.
- Dr. Lee explained that there are no typical patients and that segmentation is important. For example, survey results indicate that patients 80 years and older do not feel as positive about their care as patients under 80 years. Although younger people are more critical in their ratings compared with older people, the needs of older people surpass the needs of younger people.
- Dr. Lee emphasized that social capital, such as treating people with courtesy and respect, matters. Patients rate these communications better and are less likely to have an ED visit after discharge or to be readmitted. They also have a shorter length of stay.
- Dr. Lee presented data showing that when hospital staff feel engaged, respected, and have a better safety culture, they tend to receive higher patient experience ratings.
- Dr. Lee concluded his presentation by returning to the six key findings from the 2024 survey data. He identified teamwork, patient safety, and equity as opportunities to improve, and reiterated the importance of segmenting data.

For additional details on Dr. Lee's presentation, see the presentation slides (pages 82-93), transcript, and meeting recording (1:01:31-1:11:21).

Following the presentations, Committee members asked questions of the experts. For more details on this discussion, see the transcript and meeting recording (1:11:21-1:39:36).

Experts discussed payment model recommendations or levers to incentivize or scale shared decision-making.

- Many payment models have failed; payment in health care is associated with risk of perverse consequences. The goal should be focused on not distracting people from doing the right thing and trying to improve outcomes as efficiently as possible. Payers recognize that it is not enough to change how they pay organizations; they must change how they pay doctors. Payment models should reward organizations that move away from paying doctors for volume.
- One expert described their experience with the CMS Innovation Center Comprehensive Primary Care (CPC) initiative in which providers, health plans, and employers came together and entered into a shared savings agreement that produced savings. Relative to other states, the CPC initiative was not as effective in states that had different incentive models in which the shared savings did not reach providers.
- One expert noted ongoing challenges related to the relative value unit (RVU) model for specialists and emphasized the importance of incentivizing primary care providers (PCPs), which should not be done incrementally.
- Value-based care incentive models suffer from a delay in compensation. It is difficult to drive change in providers' behavior through payment that is delayed by 18 to 24 months. In addition, there is a need for greater transparency in value-based payment so that providers understand the economic impact of their care decisions. The lack of visible, real-time incentives undermines the likelihood of actions being taken that lead to successful outcomes for the model.

Experts discussed the different lenses through which shared decision-making can be supported, the necessary elements for the background of a trusting relationship, including accurate information, and the most critical barriers that should be addressed.

- One expert advised not letting perfection be the enemy of the good by trying to more effectively use the data that are readily available. Providers can use the data they have, including outside data, and be transparent with patients about the process. Providers should not wait for data that are not yet integrated.

- Putting data in front of patients and providers as soon as possible with a feedback loop that allows mistakes to be identified and corrected is an important element for supporting shared decision-making. Many interoperability models are federated and do not lend themselves to this kind of feedback loop that allows data to be cleaned. Patients and providers are key actors.
- Shared decision-making depends on trust and the patient feeling that the provider knows them. This starts with having a shared context. It is important to figure out how to give providers enough data on the patient to establish a starting point for shared decision-making. This shared context must include the patient, caregiver, care manager, and providers across all care settings.
- Similar to Microsoft Office products, of which the average user uses only a small percentage of features, patients need reasons to engage with their data. For example, patient consent can be centralized and travel with the patient. This can give the patient some value beyond the data.
- As these tools become more robust and mature, it is increasingly important to provide contextualizing information and ensure that all parties are on the same page. The feeling of everyone working as a team occurs when everyone working with the patient has the same context.

Experts discussed how much more challenging it might be to put data into an EHR than pull data from an EHR. EHRs are designed for primary care; obtaining specialty-based data fields that can be populated with structured data into an EHR for specialists, who are a minority of users who report data, can be challenging.

- One expert reflected on the evolution of HL7 infrastructure. The expert shared that the experience of asking for specific data has improved since their state shifted its HIE to a FHIR data model in 2019. In terms of pushing new data into the EHR, there is a new model called Subscriptions that allows users to push data into the EHR if they set it up a priori. For example, users can request to be notified of a patient's emergency room (ER) visits in the 90 days following a procedure. The model is building toward more proactive alerting.
- Although pulling data from systems may be doable, it creates a lack of context if data cannot be pushed back into the system. For example, if data are pulled from claims to create predictiveness, but cannot be pushed back into the EHR, then people are not working from the shared context. There are ways to push data back into EHRs, but they are not easy, prevalent, or scalable, and they often depend on how the system was configured. In addition, it is challenging to push data back into the EHR for value-based care programs where actions happen at home and at multiple sites of care. Value-based care economics are structured for primary care. For specialty care, the value-based care economics and need for longitudinal data are not necessarily accomplished. Information flow follows economics and will continue to be a challenge without economic incentives.

Dr. Lee discussed findings from his presentation, including how little data access and digital tools appear to be driving patient experience; instead, patient experience is affected by courtesy and respect, staff who work together, and safe health care. One Committee member inquired whether Press Ganey has data on whether increased patient engagement through access to their own data or digital tools improves patient experience.

- Press Ganey has examined whether adoption of patient portals by organizations leads to improved patient experience; it has not found evidence. However, Dr. Lee noted that patient portal uptake occurs over time, and it may be too early to state that portal adoption does not impact patient experience. It is difficult to encourage people to work together as a team, reliably engage with patients, and take responsibility for their peace of mind. He noted that PTAC is a payment-oriented group that assesses the use of financial incentives. Dr. Lee recommended that PTAC also consider how the government can provide non-financial incentives.

Committee Discussion

Co-Chair Mills opened the floor to Committee members to reflect on the day's presentations and discussions. The Committee members discussed the topics noted below. For additional details, please see the transcript and meeting recording (0:00-29:00).

- Patient engagement is necessary but not wholly sufficient to transform the health care system. For patient engagement to be effective, patients need agency and the ability to make choices. Even if patients have information, there are still limitations in what they can choose, such as selecting networks or procedures. The increase of liquid data may have the potential to drive innovation and competition to address barriers and increase agency over time.
- More work is needed to address portalitis. Health plans and systems should consider adopting federated identity, such as CLEAR or ID.me, to address this challenge.
- Person-centered health data apps can gather and consolidate information from multiple sources to improve patient empowerment and agency.
- One Committee member emphasized the importance of using the data that are already available but in a more effective way.
- Data completeness is a critical component of data quality. For example, having only 60% of a patient's data will not provide a physician with a real view of the patient. It is critical to be able to quantify the amount of data available for a patient in the EHR at the point of care. Having a better understanding of data completeness is particularly important for electronic clinical quality measures (eCQMs).
- Additional work is needed to understand how to use APIs to improve access. For example, Meaningful Use requirements could be enforced for API stacks rather than vendors.
- One Committee member expressed concern about the potential for data to be used against an entity for the purpose of payment in value-based care. As wearables and other tools increase the amount of information available, additional work is needed to understand how the data might be used in adverse ways.
- In addition to aggregating and creating bundles of data, companies that develop wearables and AI tools should consider showing that the tools improve outcomes. There will be lessons learned from entities assuming risk and adopting wearables or other AI tools. These lessons learned could provide insights on potential improvements gained by wearables or other AI tools and how they may translate to other Medicare fee-for-service (FFS) or payment methodologies.
- There has been progress in increasing the amount of patient-mediated interoperability and data sharing, such as patients initiating queries and requests. There is a need to identify additional ways to encourage more liquidity in data, such as through benefit design or incentives.
- Regarding data interoperability, additional work is needed to understand what can be done with the data and how to make the data more presentable, understandable, and actionable.
- One Committee member recommended increasing the frequency and specificity of incentives to change certain behaviors in regard to data in value-based care.
- When wearables and digital tools demonstrate improved clinical outcomes, the tools should be available to all populations, including Medicare, MA, and Medicaid populations, and not solely available to self-pay and commercial populations.
- One Committee member noted a lack of discussion on the interaction between PCPs and specialists engaged in shared decision-making with patients. Primary care is fragmented, and

glucagon-like peptide-1 (GLP-1) inhibitors have contributed to this fragmentation. The interaction between primary and specialty care is an important component of care to consider when designing value-based care models.

- One Committee member emphasized the considerable amount of progress that has been made to make data more liquid and interoperable.
- One Committee member expressed interest in federated identity given the high labor and operational needs for data.
- There is a large gap between data and how providers and patients understand the data. Additional work is needed to address barriers to improving the understandability of data.
- There is a new convergence in data between health care and retail products. For example, patient-facing data come out of health care, while companies such as ŌURA have patient data that move into health care.
- Additional work is needed to determine how to reimburse physicians for interpreting and using the large volume of data produced by digital tools.
- There are existing solutions that integrate, compile, and make available digitalized health care data. However, additional work is needed to put patient- and provider-level data into a digital format. There are many apps available that produce information, but the apps are not integrated, and some apps should not be integrated. This lack of integration makes analyzing data challenging for physicians. There is also a lack of financial incentives for physicians to analyze the data. Studying gamification could generate insights on how to address the challenge of digitalizing data at the patient and provider interface.
- One Committee member praised the vision of the CMS Innovation Center, including its focus on the Rapid Cycle Innovation Program.
- There is a need for innovation and exploration to understand how to make markets work within policy and regulatory frameworks. Value should be accrued back to publicly administered programs and the beneficiaries and caregivers that pay into and benefit from the programs, such as Medicare and Medicaid.
- System solutions are needed rather than point solutions with different levels to consider, such as point data solutions and platform data solutions. Data themselves do not mean care delivery reform or reimbursement; there is a larger system to consider.
- Although having more liquid data can drive improvements, having more data also requires more time, energy, and changes to workflows. Devoting more time to managing data can result in having less time to devote elsewhere. In the context of payment models, there are tradeoffs between balancing fiscal responsibility with access, engagement, and high-quality care.
- Individualization is important. However, the Committee is focused on payment models that can help full populations, not individual people.
- There are different stakeholders that have multiple jobs to do, such as scheduling at the front desk or caregiving for a person with multiple chronic conditions.
- The examples of federated identity methods described during the public meeting were in highly regulated, top-down systems. Additional work is needed to determine how to balance these methods with individualization.
- One Committee member questioned whether companies that develop innovations will drive competition and innovation and determine what is best for the patient or consumer.
- The availability of data is leading to a Predictive, Personalized, and Preventive revolution in health. Data should accrue value for the groups that affect change, as well as for taxpayers and the people participating in the programs. The Committee member cautioned that different stakeholders may have different visions for data solutions.

- Black box solutions should be avoided. Transparency and safeguarding people in the use of data are important. Data presented to patients should be understandable.
- It remains unclear how empowering consumers and supporting providers with data and health information will be paid for. There is little evidence showing a link between empowering patients with data to health outcomes. However, some MA plans may be willing to pay for digital tools. Payment for these tools by MA plans could help to validate the tools and link the tools to improved outcomes.
- One Committee member was encouraged by the solutions available that make a large amount of data more actionable at the point of care. Using AI, different platforms can work with legacy platforms to assist providers with making better clinical decisions at the point of care.
- The most important choice a patient can make for their personal health care is selecting a health plan and provider. Additional work is needed to identify solutions that help patients understand the large amount of quality and cost data to make informed choices about providers.
- Payments for physicians have not changed in nearly 20 years. The Committee member recommended that the CMS Innovation Center consider designing model elements that require changes to physician payments that reflect APMs and value instead of continuing to pay based on volume.

Closing Remarks

Co-Chair Mills adjourned the meeting.

The public meeting adjourned at 5:09 p.m. EDT.

Approved and certified by:

//Marsha Clarke// 11/17/2025

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Marsha Clarke, PhD, MBA, COR III
Designated Federal Officer
Physician-Focused Payment Model Technical
Advisory Committee

Date

//Terry Mills// 11/7/2025

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Terry L. Mills Jr., MD, MMM, Co-Chair
Physician-Focused Payment Model Technical
Advisory Committee

Date

//Soujanya Pulluru// 11/7/2025

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Soujanya R. Pulluru, MD, Co-Chair
Physician-Focused Payment Model Technical
Advisory Committee

Date