

PHYSICIAN-FOCUSED PAYMENT MODEL TECHNICAL
ADVISORY COMMITTEE (PTAC)

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PUBLIC MEETING

The Great Hall
The Hubert H. Humphrey Building
200 Independence Avenue, S.W.
Washington, D.C. 20201

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Monday, September 8, 2025

PTAC MEMBERS PRESENT

TERRY L. MILLS, JR., MD, MMM, Co-Chair
SOIJANYA R. PULLURU, MD, Co-Chair
LINDSAY K. BOTSFORD, MD, MBA
JAY S. FELDSTEIN, DO
LAWRENCE R. KOSINSKI, MD, MBA*
JOSHUA M. LIAO, MD, MSc*
WALTER LIN, MD, MBA
KRISHNA RAMACHANDRAN, MBA, MS

PTAC MEMBER IN PARTIAL ATTENDANCE

LAURAN HARDIN, MSN, FAAN*

PTAC MEMBERS NOT PRESENT

HENISH BHANSALI, MD, FACP
JAMES WALTON, DO, MBA

STAFF PRESENT

MARSHA CLARKE, PhD, MBA, COR III, Designated
Federal Officer (DFO), Office of the
Assistant Secretary for Planning and
Evaluation (ASPE)
KAUSHIK GHOSH, PhD, ASPE
STEVEN SHEINGOLD, PhD, ASPE

*Present via Zoom

A-G-E-N-D-A

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P-R-O-C-E-E-D-I-N-G-S

9:31 a.m.

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2
3 * CO-CHAIR PULLURU: Good morning and
4 welcome to this meeting of the Physician-Focused
5 Payment Model Technical Advisory Committee, known
6 as PTAC. My name is Dr. Chinni Pulluru, and I'm
7 one of the Co-Chairs of PTAC, along with Dr. Lee
8 Mills.

9 Since 2020, PTAC has been exploring
10 themes that have emerged from stakeholder-
11 submitted proposals over the years. Previous PTAC
12 themed-based discussions have focused on topics
13 such as reducing barriers to participation in
14 Alternative Payment Models and supporting primary
15 and specialty care transformation; addressing the
16 needs of patients with complex chronic conditions
17 or serious illnesses; encouraging rural
18 participation, and improving management of care
19 transitions.

20 At this public meeting, we have brought
21 together various subject matter experts to gain
22 perspectives on using data and health information
23 technology to transparently empower consumers and
24 support providers. We know that this topic is
25 also of interest to the CMS Innovation Center.

1 MR. SUTTON: Thank you for having me
2 today, and good morning to all the members of the
3 Physician-Focused Payment Model Technical
4 Advisory Committee.

5 In March, I had the opportunity to join
6 you all for a public meeting where I delivered
7 some of my first remarks in any setting in this
8 role. In that conversation, I got to preview at
9 a high level some of our strategy before we came
10 out with it. Since that time, we came out with a
11 public-facing strategy describing how we were
12 approaching our portfolio at the Innovation Center
13 and what new models we would focus on.

14 I would like to take the opportunity
15 today to speak in a bit more depth about that
16 strategy, now that it is public. One of the
17 exciting things for me, leading the Innovation
18 Center, has been to see the PTAC show interest in
19 our strategy and to see the alignment between the
20 themes the PTAC is focused on and where we are
21 focused as a Center.

22 Our strategy -- focused on evidence-
23 based prevention, empowering people to achieve
24 their health goals, and choice in competition in
25 health care markets -- gets at the core of the

1 changes necessary to transform the health care
2 system into ones where people are empowered to
3 live healthier lives and to truly Make America
4 Healthy Again.

5 So, to get started on that, our first
6 strategic pillar is focused on evidence-based
7 prevention, where we're really working model by
8 model to embed prevention within each model;
9 taking a deliberate view on primary prevention or
10 disease prevention, to tertiary prevention, the
11 focus on managing chronic diseases.

12 We are also focused on driving choice in
13 competition in our third pillar; namely, through
14 reducing administrative burden for independent
15 physicians engaging with our models; simplifying
16 and standardizing our portfolio choices to make
17 them easier to navigate; and creating more
18 predictability in our models through standardizing
19 quality metrics.

20 It doesn't make sense to report things
21 six different times to CMS, so they show up in
22 different payment structures. If we could access
23 the data once, and then do the customization
24 required to put it in forms, or even use the same
25 exact measure, because we want the same incentive

1 facing people in clinical practice, that would
2 make things easier to navigate.

3 But today's conversation will mostly
4 focus on our second pillar: patient empowerment.
5 When we think about patient empowerment at the
6 Innovation Center, we really mean that we want
7 patients to be in the driver's seat for their
8 health care outcomes, which means they have the
9 resources, information, and incentives to achieve
10 their health goals.

11 That means we're working through our
12 future model tests to equip patients with the
13 information they need at their fingertips to make
14 informed decisions, to make the right choice, and
15 have it presented in a clear format where they're
16 positioned to understand their health status, to
17 set goals, and to make decisions with their
18 providers, engage more actively in their care.

19 In terms of what patient empowerment
20 means for our models in a more concrete sense, it
21 could be different approaches to data sharing, or
22 new CMS apps, and reimbursement structures for
23 them, or testing wearable devices in the context
24 of our Rapid Cycle Innovation Program. It could
25 mean finding new payment flexibilities to activate

1 patient engagement in their health and promote
2 healthy living.

3 Very often, in the Center's model design
4 experience, we think about the driver of behavior
5 and the driver diagram that is involved. And we
6 think about this often from the provider
7 experience. We are very focused on how providers
8 engage with our models, the experience they have,
9 what incentives they have to act in different
10 ways.

11 Taking that same perspective and now
12 applying it to patients is the core of this pillar.
13 Well, what is the patient experience? What are
14 the choices they are presented with at different
15 junctures? And how can we engage with them to
16 empower them?

17 Looking at their choices and what they
18 face, there are a couple of things that we can do
19 to shape them. We could shape the providers'
20 incentive to engage with them. We could open up
21 markets for people to go and engage with patients.
22 And we could also think, based off that, about
23 partnerships with industry and community advocates
24 to promote awareness and uptake on different
25 opportunities, flexibilities, technologies, as

1 they're made available to patients in Medicare and
2 in Medicaid.

3 In the months to come, we expect to be
4 able to share more about work coming out of this
5 pillar. And so, I am very excited for today's
6 conversation, which will help bring it to life for
7 us, bring examples to the fore, and spark
8 innovative ideas.

9 As I said in our last conversation in
10 March, I want to emphasize that this new strategic
11 work focused on empowerment, prevention, and
12 choice and competition is aligned to the
13 Secretary's vision to Make America Healthy Again.

14 To close, I want to thank the members of
15 the PTAC for their commitment to creating this
16 forum for robust discussion, where we hear from
17 those in the field directly about their ideas and
18 concerns for how to deliver high-value care for
19 Medicare and Medicaid beneficiaries. This
20 independent, expert Committee is a critical
21 resource as we develop the way forward to achieve
22 Secretary Kennedy and Administrator Oz's vision
23 and accomplish our goals as a Center.

24 So, thank you, and I look forward to
25 today's conversation.

1 * **Welcome and Co-Chair Update - Using**
2 **Data and Health Information Technology**
3 **to Transparently Empower Consumers and**
4 **Support Providers Day 1**

5 CO-CHAIR PULLURU: Thank you for sharing
6 those remarks, Abe. We appreciate your continued
7 support and engagement, and we look forward to
8 continuing collaboration with the CMS Innovation
9 Center.

10 For today's agenda, we will explore a
11 range of topics using data on health information
12 technology to transparently empower consumers and
13 support providers that include:

14 First, approaches for improving data
15 infrastructure and interoperability to support
16 patient empowerment and provider decision-making.

17 Then, effective digital tools for
18 equipping patients with information about their
19 health care.

20 Third, emerging strategies for promoting
21 shared decision-making between providers and
22 patients.

23 Fourth, data-driven approaches for
24 enabling patients with multiple chronic conditions
25 to take control of their health care.

1 And last, payment models and benefit
2 design improvements to enhance patient
3 empowerment.

4 The background materials for this public
5 meeting include an environmental scan will be
6 posted online on the ASPE PTAC website's meeting
7 page.

8 Throughout the meeting, you will hear
9 from many esteemed experts with a variety of
10 perspectives, including a previous PTAC proposal
11 submitter.

12 I also want to mention that tomorrow
13 afternoon will include a public comment period.
14 Public comments will be limited to three minutes
15 each. If you would like to give an oral public
16 comment tomorrow, but have not registered to do
17 so, please email [ptacregistration@norc, N-O-R-C,](mailto:ptacregistration@norc.norc.org)
18 dot org. Again, that's ptacregistration@norc.org.

19 The discussion meetings and public
20 comments from this public meeting will inform a
21 report to the Secretary of HHS¹ on using data on
22 health information technology to transparently
23 empower consumers and support providers. Over the
24 next two days, the Committee will discuss and

25
1 Health and Human Services

1 shape our comments for the upcoming report.

2 In July, we posted a request for input
3 on the ASPE PTAC website to give stakeholders an
4 opportunity to provide written comments to the
5 Committee on using data on health information
6 technology to transparently empower consumers and
7 support providers. To date, we have received five
8 responses that the Committee may consider during
9 their discussion today.

10 Lastly, I'll note that, as always, the
11 Committee is ready to receive proposals and
12 possible innovation approaches and solutions
13 related to care delivery, payment, or other policy
14 issues from the public on a rolling basis.

15 We offer two proposal submission tracks
16 for submitters, allowing flexibility, depending on
17 the level of detail of their payment methodology.
18 You can find information about submitting a
19 proposal on the ASPE PTAC website.

20 *** PTAC Member Introductions**

21 At this time, I would like my fellow PTAC
22 members to please introduce themselves. Please
23 share your name and organization. If you would
24 like, feel free to describe any experience you
25 have with our topic.

1 First, we'll go around the table, and
2 then I'll ask members joining remotely to
3 introduce themselves. I'll start with myself.

4 Hi. I'm Chinni Pulluru. I'm a family
5 physician by trade, having practiced for about 15
6 years. I led a large medical group in clinical
7 operations, Duly Health and Care, the largest
8 multispecialty independent group in the country.

9 After that, I found my way to Walmart,
10 where I led the expansion of Walmart Health and
11 their clinical operations nationally, including
12 integrating their telehealth platform.

13 Currently, I serve as a Co-Founder of two
14 organizations. I'm the Founding CMO² of an agentic
15 health care AI³ company that enables patients in
16 choice and a genetics company as well. I work
17 also as Fractional Chief Medical Officer at
18 Stellar Health, which is a value-based care
19 transformation platform.

20 Lee?

21 CO-CHAIR MILLS: Thank you, Chinni.

22 I'm Lee Mills. I'm a family physician.
23 I am Chief Medical Officer, Aetna Better Health of
24

25
2 Chief Medical Officer
3 Artificial intelligence

1 Oklahoma, one of the state's three contracted
2 managed care Medicaid organizations.

3 I've spent my career starting out in
4 rural primary care in central Kansas, and then I
5 worked up through multispecialty health systems
6 and multispecialty medical groups leading practice
7 transformation, clinical informatics, and into
8 value-based care. I've had the pleasure of
9 practicing in and/or leading operations through
10 five or six different CMMI⁴ models over the years.

11 DR. FELDSTEIN: Hi. I'm Jay Feldstein.
12 I was a practicing emergency medicine physician
13 for 10 years, and then, spent 13 years in the
14 health insurance industry in the commercial and
15 government space, running Medicaid plans in five
16 states. And for the last 11 years, I've been the
17 President, and currently, of Philadelphia College
18 of Osteopathic Medicine.

19 Thank you.

20 MR. RAMACHANDRAN: Hi. I'm Krishna
21 Ramachandran, Chief Information Officer for
22 Operations and Experience for UnitedHealthcare.
23 I've been in health care for 23 years in payer,
24 provider, and tech perspectives. And so, the

25

⁴ Center for Medicare and Medicaid Innovation

1 topic we're covering today on using technology and
2 data to empower consumers and support providers is
3 work I've done. It's been my life's work, and I'm
4 excited to dig deeper into this topic today.

5 DR. BOTSFORD: Good morning. I'm Lindsay
6 Botsford. I'm a practicing family physician in
7 Houston, Texas, where I continue to care for
8 patients and serve as Medical Director for the
9 Midwest and Texas with One Medical.

10 I started in large health systems and
11 multispecialty groups and graduate medical
12 education as residency faculty before
13 transitioning in 2019 to join Iora Health as we
14 expand into Texas. We are now part of One Medical,
15 where I support our practices across the Greater
16 Midwest and Texas.

17 DR. LIN: Good morning. Walter Lin, the
18 Founder of Generation Clinical Partners. We're an
19 independent practice that serves frail Medicare
20 beneficiaries in senior living settings, nursing
21 homes, and assisted living. We are also involved
22 with a variety of value-based programs, including
23 MSSP⁵, PACE⁶ programs, as well as institutional

25 5 Medicare Shared Savings Program

6 Program for All-Inclusive Care for the Elderly

1 special needs plans.

2 CO-CHAIR PULLURU: Now, we'll go to PTAC
3 members joining us on Zoom.

4 Lauran, please go ahead.

5 MS. HARDIN: Good morning. I'm Lauran
6 Hardin. I'm Chief Integration Officer for HC²
7 Strategies. I'm a nurse by training, and I've
8 spent the better part of the last 30 years in model
9 innovation and development.

10 Originally, in hospice, children's
11 hospice, and palliative care, which is deeply
12 focused on informed decision-making and partnering
13 with patients. And then, moved to Camden
14 Coalition to help serve the National Center for
15 Complex Health and Social Needs, innovating models
16 and development for those with the most complex
17 needs, and also, deeply partnering with clients,
18 including establishing programs like Consumer
19 Scholar surely informed policy and implementation;
20 you know, currently, with HC2 work across the
21 country on model implementation and partnerships
22 with patients in the dual eligible and Medicaid
23 space very deeply.

24 CO-CHAIR PULLURU: Larry?

25 DR. KOSINSKI: I'm Dr. Larry Kosinski.

1 I'm a retired gastroenterologist. I practiced for
2 35 years in private practice of GI⁷ in suburban
3 Chicago and was one of the founding partners of
4 the largest GI group in Illinois, the Illinois
5 Gastroenterology Group, which is now part of the
6 largest GI practice in the country, the GI
7 Alliance. Ten years ago, I entered the value-
8 based care space and founded a company named
9 SonarMD, which brings value-based care solutions
10 to the GI space. It started as a PTAC proposal.

11 Currently, today, I am the Chief Medical
12 Officer of Jona, which is an AI-powered microbiome
13 solution. I also recently founded my latest
14 company, VOCnomics, which is a company built
15 around a wellness product that uses AI to enable
16 people to monitor their soluble fiber intake, in
17 hopes of controlling their weight.

18 Been on the Committee for four years. I
19 am sorry I'm not there in person, but I will
20 participate remote.

21 CO-CHAIR PULLURU: Josh?

22 DR. LIAO: Internal medicine physician
23 by training and a professor and distinguished
24 chair at the University of Texas Southwestern

25 _____
7 Gastrointestinal

1 Medical Center. Over the last 10 to 15 years,
2 I've spent time, whether through research,
3 advisory, leading operational and strategic
4 programs in population health, value-based care,
5 and many kind of delivering payment topics --
6 salient to this issue of physician-focused payment
7 models.

8 Increasingly, over time, you know, data
9 and technology factor critically into this issue
10 in an increasing research pillar in our work, as
11 well as an advisory pillar that focuses on how
12 do we kind of, within a regulatory and policy
13 framework, deploy technologies and solutions, many
14 of which I think we'll talk about today, to improve
15 health outcomes, et cetera? And those things
16 relate to remote patient monitoring, wearables, et
17 cetera.

18 Excited to be here on the topic for this
19 meeting.

20 * **PCDT Presentation: Using Data and**
21 **Health Information Technology to**
22 **Transparently Empower Consumers and**
23 **Support Providers**

24 CO-CHAIR PULLURU: Thank you.

25 Now let's move to our introductory

1 presentation.

2 PTAC members, you'll have an opportunity
3 to share any comments or ask any follow-up
4 questions after both presentations.

5 First, four PTAC members served on the
6 Preliminary Comments Development Team, or PCDT,
7 which has collaborated closely with staff to
8 prepare for this meeting.

9 Krishna Ramachandran was the PCDT lead
10 with participation from Larry Kosinski, Josh Liao,
11 and Jim Walton. I'm thankful for the time and
12 effort they put into today's agenda.

13 The PCDT will share some of the findings
14 from their analysis to set the stage and the goals
15 for this meeting.

16 And now, I'll turn it over to Krishna.

17 MR. RAMACHANDRAN: Thank you, Chinni.

18 As Chinni mentioned, I'll provide an
19 overview of the work that the team had done there.
20 The topics will cover our five key objectives, and
21 Chinni shared some of them as well in the opening
22 comments.

23 One is on improving data infrastructure
24 and interoperability, largely to support patient
25 empowerment and decision-making.

1 Two is on effective digital tools for
2 equipping patients with information about their
3 health care.

4 Three, examining emerging strategies for
5 promoting shared decision-making between
6 providers and patients.

7 Four, assess data-driven approaches for
8 enabling patients with multiple chronic conditions
9 to take control of their health care.

10 And most importantly, given the charter
11 of their Committee, discuss payment models,
12 provider incentives, and any benefit design
13 improvements to enhance patient improvement.

14 Additional context:

15 So, PTAC has received 35 proposals for
16 physician-focused payment models. And as you
17 would imagine, nearly all of these proposals
18 addressed patient choice and health information
19 technology.

20 Specifically, 25 of the 35 proposals met
21 the criterion for patient choice, and 22 met the
22 criterion for health information technology
23 established by the Secretary.

24 And we found that four proposals provide
25 specific strategies to support patient choice, and

1 three proposals describe approaches to health IT
2 as well.

3 And in the rest of my presentation, I'll
4 cover these four topics, provide more background
5 on the themes that we're going to be talking about
6 today and tomorrow, including data infrastructure,
7 patient- and provider-facing digital tools, as
8 well as the empowerment, particularly in the
9 context of Alternative Payment Models.

10 And so what we've seen in our research
11 is that there are many terms that are used to
12 describe patient-centered care. And so, the
13 definitions, you know, have varied and have some
14 overlap, but the key terms are: patient
15 enablement, activation, empowerment, engagement,
16 involvement, and participation.

17 And conceptually, these cover, you know
18 a few areas. One is on patients' knowledge and
19 skills, their confidence and motivation, and their
20 actions and behaviors. And so, you'll see the two
21 central themes we will focus on in this
22 presentation are patient empowerment and patient
23 engagement.

24 And so, from a working definition
25 perspective for empowerment, we've come up with

1 empowerment as the process and state whereby a
2 patient acquires and has the ability -- so
3 knowledge and skills -- and motivation -- so
4 desire and confidence -- to control and make
5 timely decisions regarding their own health and
6 health care.

7 So, takeaways are our patient has ability
8 and motivation. And so, we'll keep using this in
9 the context of this meeting, and I presume we'll
10 evolve this thing, as we get more feedback from
11 our experts as well.

12 And then, the second concept is on
13 patient engagement. So, the definition we've come
14 up with is: the process and state by which a
15 patient actively communicates their health status,
16 health care needs, and health care wishes; makes
17 informed decisions regarding their health care
18 treatments; and participates in shared decision-
19 making regarding their health with their
20 providers. And so, the takeaways are: patients
21 communicates actively; makes informed decisions;
22 and participates in shared decision-making with
23 their provider there.

24 We've also come up with this conceptual
25 framework, which I thought it was helpful to tie

1 all these topics we have together. And so, this
2 framework is from existing literature.

3 On the left side of the framework are the
4 inputs into the empowerment system. So, think
5 health data, health information, provider support,
6 as well as organization and societal context.

7 And the middle section is really the
8 empowerment system, which touches on knowledge and
9 skills, patient empowerment, as well as
10 engagement. And they're meant to be circular, in
11 the sense that they are sort of self-reinforcing
12 behaviors as well. So, having the knowledge and
13 skills can make the patient feel empowered, and
14 feeling empowered can motivate the patient to seek
15 out more information as well.

16 And the right blue box are the important
17 outcomes that we want to achieve. And so, these
18 include things like patient satisfaction, improved
19 financial health, and clinical health as well.

20 And so, we'll use this framework in the
21 course of my overview presentation, as well as
22 touch on topics over the next two days.

23 And so, as I dig into the framework some
24 more, three areas where a patient can be empowered
25 to make informed decisions are: one, choice of

1 health insurance and their providers; two, use of
2 the health care system; and three, their own
3 health conditions and treatments.

4 Obviously, given the topic, the ability
5 for patients to obtain and comprehend data is
6 critical to their making informed decisions. And
7 there's, of course, various factors, which I'll
8 click on some more in the upcoming slides, that
9 can influence their empowerment.

10 From a factors perspective, we wanted to
11 introduce five factors that could influence
12 patient empowerment.

13 Patient factors, which include things
14 like education, literacy, beliefs, and
15 experiences.

16 Provider factors, like structure, goals,
17 training, incentives, and business models.

18 Three, organizational factors, like
19 policies and procedures.

20 Four, cultural factors. So think, like,
21 norms and values and communication styles,
22 language barriers, and conflicting information
23 sources.

24 And four, the five, societal factors,
25 such as state, local, and national policies and

1 programs.

2 The next three slides walk through key
3 areas where patients can be empowered to make
4 informed decisions.

5 The first area is choosing a health plan
6 and providers. And so, there are many tools that
7 are available to patients to make decisions about
8 their choice of health plans. So, Medicare Plan
9 Finder is one example, as well as brokers that can
10 give patients information on plan choices that
11 meet their needs.

12 As many of you know, in the commercial
13 space, the system actually limits choice, because
14 most of them, most beneficiaries, most people get
15 choice, get their coverage through an employer-
16 sponsored health plan, which we've seen only about
17 54 percent actually have more than two choices.

18 The other choices on providers, which,
19 you know, CMS provides a variety of tools for
20 selecting providers, including an online
21 comparison tool, consumer assessment tools, as
22 well as other factors, like provider proximity and
23 experience with the provider themselves.

24 The other aspect is on empowering
25 patients to navigate the health care system, and

1 patients can be provided different choice,
2 particularly around virtual options, like
3 telehealth or online appointment scheduling as
4 well, to help them navigate the system.

5 Patient empowerment, the third area I
6 wanted to cover is empowering patients to make
7 informed decisions about their own health
8 conditions and treatments. We believe shared
9 decision-making is a key concept, and it's
10 important to engage a patient in their own health
11 care journey.

12 This involves three steps:

13 Patient awareness on the need for a
14 decision and choices.

15 Patients discussing options in a two-way
16 conversations with their provider. So, the
17 emphasis is on aligning their medical conditions
18 with patients' personal goals.

19 And then, patients are supported by their
20 physician in making an informed decision.

21 We also think supporting providers is key
22 to empower patients. And this could be in engaging
23 the patients in shared decision-making.

24 This could be in encouraging and
25 supporting providers to focus on patients' overall

1 lifestyle choices. So, think exercise, social
2 activities, nutrition.

3 Engaging in the emerging concepts, like
4 social prescribing, in addition to prescribing
5 drugs and therapies.

6 And using asynchronous communication to
7 engage the patient outside of regular visits. So,
8 using a patient portal, so that patients can
9 submit questions, and doctors can review and go
10 back and forth with their patients beyond their
11 scheduled appointment times, as well as using
12 emerging tools, like artificial intelligence, to
13 review the large amount of collected information
14 from remote monitoring, as well as using that to
15 engage patients in communications as well.

16 From an impact perspective, we think
17 there's limited promising evidence showing patient
18 empowerment can be improved. Particularly, we are
19 focusing on three types of outcomes: improving
20 patient experience, so higher quality provider
21 interactions; more frequent communications;
22 improving patient-reported outcomes, so quality of
23 life, self-efficacy, as well as clinical outcomes.
24 So, lower blood pressure, fewer emergency visits
25 and hospitalizations.

1 My next topic is on data infrastructure,
2 the challenges and opportunities. You'll see
3 we'll follow similar conceptual diagrams and
4 lighting up certain areas that are relevant to
5 this section. So, health data information is lit
6 up, as well as use of digital health tools and
7 digital literacy.

8 From health IT types, there are three
9 kinds that we think can promote patient
10 empowerment.

11 One is information that's part of the
12 patient's electronic health record.

13 Two, information that helps patient
14 interpret their electronic health record -- so,
15 think patient portals -- or provides patients
16 directly with information about their health. So,
17 wearables, mobile apps⁸. Everything should be
18 integrated with the EHR⁹, so that it's cohesive,
19 comprehensive information there.

20 And then, three, AI and emerging
21 technologies that we think can further assist
22 providers and patients. So, chatbots and more
23 patient-monitoring tools.

24
25 8 Applications

9 Electronic health record

1 Interoperability is essential to make
2 sure we can really optimize the value of health
3 IT. So, we think being able to collect the patient
4 data across various domains is important, and we
5 think interoperability is a key foundation
6 enabler. We think it's also powerful to be able
7 to share that data and integrate that data into
8 many systems as well.

9 As many of you know, there have been many
10 regulations around and initiatives on
11 interoperability over the last 15 years, and we
12 have some examples of them. Obviously, we had a
13 recent pledge as well that CMS led with just
14 improving interoperability through the health care
15 tech ecosystem, and we want more such initiatives
16 to continue the promotion of interoperability, to
17 further sort of data liquidity between the
18 stakeholders there.

19 There are a number of challenges related
20 to interoperability that I wanted to highlight
21 today. One is on lack of standardization. Two,
22 on lack of integration of patient-reported data
23 into the electronic health record. And three,
24 just like resources and cost demands.

25 Of course, there are multiple efforts and

1 opportunity as well underway to improve the data
2 interoperability, whether it's promotion of HL7¹⁰
3 fire standards, using APIs¹¹ to integrate patient-
4 generated data, or furthering our incentive
5 programs to promote health care IT adoption.

6 Patient use and access of data also has
7 some challenges and opportunity. One is on just
8 general health literacy itself. Two is on
9 barriers to accessing technology. Three is issues
10 with having real-time access to data. And four,
11 patient privacy and confidentiality.

12 We think, of course, as with all of these
13 challenges, there are opportunities, of course, to
14 improve patient-related use and access barriers.
15 And some of those are tailoring patient education
16 materials to specific needs of the patient;
17 designing technologies in a simple and organized
18 and clear manner; determining the balance of real-
19 time data for patients, as well as ensuring
20 clinical interpretability before the data gets
21 pushed out. And more importantly, ensuring
22 patient control over their health data.

23 My next topic is on patient- and
24

25 ¹⁰ Health Level 7

¹¹ Application programming interface

1 provider-facing digital tools. Similar to our
2 previous sections, here are the sections of the
3 conceptual diagram that get lit up.

4 We've produced a few classifications
5 there. We've used the framework from the Digital
6 Therapeutic Alliance and Health Advances to
7 classify digital health tools across sort of the
8 journey of their use in the patient care process.

9 So, the first classification is just
10 health and wellness tools. And so, these
11 constitute the bulk of digital health tools we're
12 seeing. These tend to not be regulated. They're
13 aimed at preventive health care. So, think
14 wearables and apps focused on diet, exercise,
15 sleep, and other wellness factors.

16 Two other types of digital health tools
17 are used to help diagnose a patient condition.
18 So, these could be health system clinical
19 software. So, think, like, clinical
20 documentation, imaging, clinical decision
21 support, or telehealth tools. Primarily,
22 clinician-facing and involves diagnosing a
23 patient.

24 And the second category is digital
25 diagnostics tools, which are considered medical

1 devices, and highly regulated.

2 My other section is on tools that are in
3 the treatment and self-care categories. So, these
4 include care support tools that can promote
5 patient self-management of their conditions.
6 Includes tools like medication trackers, physical
7 rehab apps, and educational tools, as well as
8 therapeutics, which tend to be, again, highly
9 regulated; provide medical therapeutic
10 intervention to the patients. So, think like
11 sensory stimuli.

12 Finally, we have two types of digital
13 health tools targeting a phase during which
14 patients and providers monitor their patients'
15 conditions. One is on patient-monitoring tools.
16 So, sort of more tools that can help both patients
17 and physicians monitor the condition, as well as
18 tools that are in their health care clinical
19 systems as well. So, documentation, imaging tools
20 that document things like patient telehealth
21 visits, which can be used by clinicians to
22 facilitate ongoing monitoring of the patient's
23 condition.

24 We think digital health tools can really
25 promote shared decision-making, specifically, in

1 the care, support, and patient-monitoring
2 categories, that educate patients to encourage
3 their engagement, as well as tools that allow
4 patients' disease management data to be reported
5 back to the provider -- promoting a two-way
6 engagement between patient and provider.

7 Care support tools could include: apps
8 that aid in disease management; decision aids to
9 facilitate education, and monitoring tools as
10 well, so that active dialog can happen between
11 patients and providers, and encourage the patient
12 in participating in their health care journey.

13 From effectiveness, we're seeing
14 limited, but promising evidence that's showing
15 that digital health tools can increase patient
16 empowerment and improve clinical outcomes. For
17 example, we're seeing some evidence around patient
18 knowledge being improved, as well as activation.
19 And some studies have also shown that tools can
20 affect clinical indicators, such as hypertension,
21 pain management, and depression as well.

22 My last topic is on these tools and how
23 it relates to the primary charter of PTAC on
24 Alternative Payment Models. Again, I'll follow a
25 similar conceptual diagram highlighting the areas.

1 These could be incentives to empower patients, as
2 well as incentives from the provider perspective
3 as well.

4 And so, I wanted to share some examples
5 where active empowerment of patients is being
6 incorporated into payment models. And so, I have
7 some examples here, not intended to be exhaustive,
8 on Innovation Center models where these patient
9 empowerment and engagement is incorporated.

10 One is this Transforming Maternal Health
11 (TMaH) Model, which launched at the start of the
12 year, which encourages providers to actively
13 listen to their patients to promote greater
14 patient empowerment over the birth experience.

15 And the recently announced Ambulatory
16 Specialty Model, scheduled to launch in 2027,
17 targets specialists and includes components that
18 promote patient engagement and interactions, such
19 as discussion of lifestyle-based interventions.

20 We expect patient empowerment strategies
21 in Innovation Center models to continually
22 increase. As you heard from Abe, it's a key pillar
23 in the Innovation Center's strategy as well.

24 We've also seen patient empowerment in
25 the Medicare Shared Savings Program. As you are

1 aware, that's the largest program in Medicare
2 related to Alternative Payment Models.

3 We have 480 ACOs¹² covering 608,000
4 clinicians, and nearly 11 million Medicare
5 beneficiaries. So, it is a pretty big program.

6 The Shared Savings Program includes
7 patient empowerments in their models by promoting
8 patient-centered care, involving patients in their
9 decision-making process. It also aims to improve
10 communication between patients and providers,
11 allowing for patients to choose their providers.
12 The Shared Savings Program is a prime opportunity,
13 we think, to promote and test patient empowerment
14 strategies.

15 From a total cost of care, these models,
16 we feel, provide opportunities for patient
17 empowerment in a few dimensions.

18 One, for providers, we think it has
19 financial incentives to encourage patient
20 empowerment, including waivers that can allow
21 providers to offer patient engagement incentives.

22 And from a patient perspective,
23 education elements to promote participation in
24 total cost of care models, as well as benefit

25
12 Accountable Care Organizations

1 design improvements that we think can incentivize
2 patient empowerment as well.

3 With that, you'll see in the next two
4 days, we will focus on the key topics that I
5 shared: infrastructure, availability and
6 effectiveness, data strategies for shared
7 decision-making, data-driven approaches for
8 enabling patients, particularly with chronic
9 conditions, to enhance secondary prevention, as
10 well as payment models and benefit designs.

11 And so, you will hear from our subject
12 matter experts nationwide. I hope it's an
13 enlightening discussion in the next two days.

14 Thank you all for joining us.

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

19 Chinni, I'll give it to you.

20 CO-CHAIR PULLURU: Thank you, Krishna.

21 Next, we have Kaushik Ghosh, an economist
22 with the Office of Health Policy at ASPE, who will
23 share the results of an analysis of patient-
24 reported health outcomes and experience measures.

25 Kaushik, please go ahead.

1 DR. GHOSH: Thank you.

2 Good morning, everyone.

3 This presentation draws on new evidence
4 from OECD¹³'s PaRIS Survey, which is focused on
5 patient-centered outcome and experience measures.

6 So, PaRIS is an OECD initiative that
7 focuses on people aged 45 and older with chronic
8 conditions. The survey collected patient-reported
9 outcomes and experiences across 21 countries with
10 the goal of generating comparable data to improve
11 primary care performance and highlight patients'
12 perspectives on health outcome and care
13 experiences.

14 In the United States, participation came
15 through a special segment of the Medicare Current
16 Beneficiary Survey. It focused on beneficiaries
17 65 and older living in the community and surveyed
18 in winter of 2023. The sample included 4,200
19 beneficiaries representing more than 50 million
20 Medicare beneficiaries nationwide.

21 The PaRIS Survey asked a structured set
22 of questions that fall in three broad domains.
23 Together, these domains capture health outcome;
24 how people manage their health; and their

25

1 experiences with the health care system.

2 The first domain is self-reported health
3 with 15 questions. This covers areas like general
4 physical and mental health, as well as social
5 functioning and overall well-being.

6 In this presentation, we will focus on
7 two key domains of the survey related to patient
8 empowerment and provider decision-making.

9 First, managing health and health care.
10 This focused on people's behaviors and engagement
11 -- things like confidence in managing health,
12 health literacy, and shared decision-making with
13 providers.

14 The second is experience of health care.
15 This focused on survey questions related to usual
16 source of care, care coordination, support for
17 self-management, and person-centered care.

18 This slide provide an overview of the
19 characteristics of the U.S. beneficiaries included
20 in the PaRIS Survey. Seventy-four percent of the
21 beneficiaries are either enrolled in a Medicare
22 Advantage or an Alternative Payment Model, like an
23 MSSP or an Innovation Center model. Roughly 28
24 percent have a high school education or less; 22
25 percent live in rural areas. Seventy percent of

1 the beneficiaries are either overweight or obese,
2 and 80 percent of the beneficiaries live with two
3 or more chronic conditions.

4 So, overall, the U.S. PaRIS sample
5 broadly represents the elderly Medicare population
6 residing in the community.

7 So, let's start by looking at some of the
8 key findings on how Medicare beneficiaries are
9 managing their health.

10 When it comes to lifestyle, there are
11 some areas of concern. Nearly 30 percent of
12 Medicare beneficiaries report getting no weekly
13 physical activity at all.

14 Dietary habits also raised concerns.
15 About one in five beneficiaries report eating
16 fruits and vegetables only once per week.

17 We also see potential issues on how often
18 these activities are addressed in clinical
19 settings. Around 60 percent of beneficiaries say
20 they talk with a provider about physical activity,
21 but only 40 percent report conversations about
22 healthy eating. So, this clearly indicates the
23 potential for improvement in nutrition and
24 exercise counseling.

25 On the positive side, most beneficiaries

1 express confidence in managing their health.
2 About three-quarters say they are confident in
3 identifying medication side effects, knowing when
4 to seek medical help, and managing their overall
5 well-being. However, the confidence in managing
6 health is significantly lower for beneficiaries
7 with Alzheimer's and dementia at 32 percent;
8 kidney disease at 62 percent; and diabetes at 66
9 percent.

10 Most beneficiaries report being engaged
11 and proactive about their health. Ninety-three
12 percent feel they receive enough support from the
13 providers, and nearly all, 97 percent, say they
14 try to understand their personal health risk.

15 About three-quarters of the
16 beneficiaries actively engage providers with
17 health information, and the majority feel they are
18 working with the providers to manage health and
19 raises concerns when needed.

20 However, there is heavy reliance on
21 providers to make right health decisions. Over
22 half of beneficiaries, about 54 percent, rely on
23 them to make the right decisions to manage health,
24 and 53 percent depend on providers to supply all
25 the information they needed to manage health.

1 Again, health literacy continues to be a
2 challenge. About 22 percent struggle to
3 understand health information, and 17 percent say
4 most health issues are too complex to follow.

5 Reliance on health professionals is
6 especially high among certain groups. About 70
7 percent of the beneficiaries with high school
8 education or less and those aged 85 and older
9 report depending heavily on providers to make
10 decisions.

11 Difficulty understanding health
12 information is also concentrated among more
13 vulnerable groups. About 41 percent of those with
14 high school education and less and 38 percent of
15 females 85 years and older, they struggle with
16 understanding health information nearly double the
17 average rate.

18 Finally, perceptions of complexity
19 mirror these disparities. About 34 percent of
20 those with less than high school say health issues
21 are too complex to follow compared to 17 percent
22 overall.

23 Now, turning to care coordination and
24 patient experience, two-thirds of beneficiaries,
25 about 67 percent, report having some help

1 coordinate their care across services, but that
2 still leaves about one in five who do not have
3 this support.

4 In addition, about 20 percent report
5 having to repeat information that should already
6 be in their medical records -- pointing to
7 persistent challenges in record sharing and care
8 coordination.

9 Encouragingly, most beneficiaries feel
10 included in care decisions. About 74 percent also
11 feel they are treated as a whole person, not just
12 as a patient defined by their condition. So, this
13 shows progress towards more patient-centered care.

14 About 65 percent say they often or always
15 get enough support from providers to manage their
16 health, but formal care planning is less common.
17 Only 28 percent report having a care plan that
18 considers well-being. So, this suggests that,
19 while providers offer general support, there is
20 room for improvement in structured care planning.

21 So, overall, beneficiaries report high
22 levels of engagement with providers. Most
23 surveyed beneficiaries reported they participated
24 in shared decision-making, were motivated to
25 understand their health risks, and feel confident

1 they are getting information to manage their
2 health.

3 There are potential areas of
4 improvement. Many Medicare beneficiaries,
5 especially oldest adults, those with lower
6 education, and people with multiple chronic
7 conditions, struggle with understanding health
8 information and rely heavily on providers for
9 decisions and often lack a useful care plan.

10 So, the focus of the two-day meeting will
11 be technology, infrastructure, data, and
12 incentives, and that will empower patients by
13 enhancing patient-provider engagements, providing
14 better information to patients for managing
15 health, and improving health literacy.

16 So, important takeaways from the meeting
17 will be the implications for designing
18 Alternative Payment Models that resource and
19 incentivize these elements of patient empowerment.

20 Thank you for joining.

21 CO-CHAIR PULLURU: Thank you, Kaushik.

22 Before I open it up to the full
23 Committee, do any of the PCDT members have
24 something to add?

25 DR. KOSINSKI: I would be happy to start

1 this piece.

2 First of all, we were very fortunate to
3 have Krishna with his expertise to lead the PCDT.
4 It was a pleasure to work with him on this team.

5 I just would like to emphasize the
6 challenges.

7 Integrating structured patient-recorded
8 outcome data into the EHR is a significant
9 challenge, and integrating structured data from
10 wearables is a significant challenge. We really
11 can't promote proactive, high-touch care unless we
12 can accomplish this.

13 We also need to convert our EHRs from a
14 one-patient-at-a-time structure to more of a
15 population health structure.

16 And then, finally, we have to figure out
17 how to incorporate all of this into Alternative
18 Payment Models that incentivize -- that brings
19 information to the patients and intelligence and
20 appropriate incentives.

21 I look forward to the discussion these
22 next two days.

23 CO-CHAIR PULLURU: Thank you, Larry.

24 We have about 10 minutes prior to break,
25 but I would love to open it up to the Committee

1 for questions.

2 So, PTAC members, do you have any follow-
3 up comments or questions for Krishna and PCDT or
4 for Kaushik? To indicate you have a question,
5 please flip your name tent up on its side for our
6 virtual Committee as well. And on the screen, if
7 you have questions, please raise your hand.

8 I'll actually start with a question to
9 Krishna, as well as the PCDT members. And anybody
10 on PTAC, please weigh-in.

11 Your know, part of the struggle here is
12 equity, in the sense that any time we bring in
13 data, infrastructure, or patient empowerment tools
14 that are based on technology, you do run into the
15 fact that large parts of this country don't have
16 broadband access or don't have access to the
17 technology that's needed in order to make these
18 solutions work.

19 So, from your perspective, how do we
20 bring forth these solutions and, in parallel,
21 solve for some of these challenges?

22 MR. RAMACHANDRAN: Yes, a great question,
23 Chinni.

24 I think, for me, yes, this is sort of the
25 tensions of technology, right? How do we continue

1 to advance and move forward while still making
2 sure that, you know, sort of disparities are sort
3 of bridged in the process there?

4 So, from my perspective, I think
5 continuing to emphasize some of the incentives
6 that are available, so that we can increase
7 adoption, I think would be key, whether it's base
8 technology adoption, core infrastructure
9 adoption, to ensure that both providers and
10 patients have access to the technology will be
11 important. Because, otherwise, we're going to be
12 creating a just expanded divide that we already
13 have in technology adoption in our country.

14 CO-CHAIR PULLURU: Lauran, I believe you
15 have a question.

16 MS. HARDIN: I was going to ask exactly
17 the same thing, Chinni. So, you covered it.

18 MR. RAMACHANDRAN: And, Lauran, I'd love,
19 if you have perspectives on the ideas you think
20 we should do as well to bridge -- I know this is
21 work you've done as well, Lauran. I'd love your
22 perspectives as well.

23 MS. HARDIN: I think it's a really
24 important question to consider because there is so
25 much promise from all of these different ways of

1 engagement and that can be so helpful, especially
2 in rural, when you think about telehealth or
3 wearables, and just the ability to access a high
4 level of care without needing to have
5 transportation and drive and really go long
6 distances.

7 But where the investment in that
8 infrastructure comes from I think is a key
9 question in advancing patient choice and patient
10 engagement in this sector. So, I'm seeing
11 different statewide initiatives, but I'm curious,
12 for both you and Kaushik, if anything came up in
13 recommendations in the incentives or in who should
14 invest in building that infrastructure.

15 MR. RAMACHANDRAN: Yes, I think it, I
16 mean as with most of these incentives, we've
17 seen it has to be sort of cross stakeholder, cross
18 functional there.

19 I do think, particularly states that have
20 invested in infrastructure I think certainly have
21 benefits, particularly on, like, one of the things
22 that has come post-pandemic, at least for me, was
23 the ability of virtual care to really expand
24 access in rural parts. It's quite remarkable to
25 see the power of technology.

1 But I do think that the core
2 infrastructure has to be -- you know, the
3 investments have to be made as well to even, you
4 know, get broadband access, to even get access to
5 virtual care. Obviously, it's a cross-functional
6 effort there. I would love to see just more
7 leadership from the states as well on that.

8 MS. HARDIN: I do think there's a
9 regulatory component as well. So, I work
10 nationally, and my company is in California, but
11 I live in Kentucky in a rural area. And in our
12 local town, the person that has control, the
13 company that has control over internet access is
14 a much lower delivery or much lower capacity than
15 is actually available. But because of political
16 control in the area, higher levels of bandwidth
17 and higher levels of access, it's not an option
18 to put it in place, even though it's actually,
19 technically, available. So, there's the
20 investment, and then, there's also the regulation
21 of how that gets rolled out on a national level.

22 MR. RAMACHANDRAN: Now it makes sense.
23 Thank you.

24 CO-CHAIR PULLURU: We have time for one
25 more question. So, if anybody wants to ask a

1 question?

2 (No response.)

3 CO-CHAIR PULLURU: Well, I'll ask a
4 question again. Sorry, I was trying to get someone
5 else to ask this.

6 But, Kaushik, in your presentation, you
7 spoke a lot about caregivers. And you know, what
8 I'd love to hear from the team is, how do you feel
9 that, given what patients that were surveyed were
10 saying about how important caregivers are, how
11 those incentives need to be aligned in order to
12 move the needle on using technology and using data
13 sort of services?

14 DR. GHOSH: I think that there should be
15 strategies that focus on specific age groups who
16 are most vulnerable, like people with lower
17 education and elderly, because it looks like the
18 services -- that they are struggling with even
19 getting information from the doctors. And so, I
20 think any policy has to be tailored towards
21 specific groups and there cannot be just one
22 thing, standard strategy for everyone. So, it has
23 to be tailored strategy, therefore, for the needs
24 for a specific population.

25 CO-CHAIR PULLURU: Krishna, do you have

1 any thoughts on caregiver alignment using
2 technology?

3 MR. RAMACHANDRAN: Yes, I think,
4 particularly for app developers out there, right,
5 I think like factoring in the fact that, you know,
6 the patients themselves may not be able to use it;
7 that we'll need to have abilities for the record
8 to be shared with caregivers, whether it's to
9 translate information or to engage in
10 communication. So, I think just factoring that
11 sort of stakeholder into the mix I think will be
12 key.

13 I do think this provides opportunities
14 for caregivers to have just a better view of the
15 health information. So, I think that in terms of
16 making the data more liquid and available to
17 people that are taking care of the member, I think
18 there's definitely some power there.

19 So, I'm excited for the opportunities
20 that come with it, assuming the features are
21 actually enabled. The key would be just identity
22 management, of course, the consent process, and
23 feature enablement from my perspective.

24 CO-CHAIR PULLURU: Great. Thank you.

25 Thank you, Krishna, and the rest of the

1 PCDT team, as well as to Kaushik. Those were
2 wonderful presentations and invaluable background
3 information for our discussions over the next two
4 days.

5 We now have a break till 10:40 a.m.
6 Eastern Time. Please join us then as we welcome
7 a great new group of experts for our first session
8 on Improving Data Infrastructure to Empower
9 Patients and Providers.

10 (Whereupon, the above-entitled matter
11 went off the record at 10:29 a.m. and resumed at
12 10:39 a.m.)

13 * **Session 1: Improving Data**
14 **Infrastructure to Empower Patients and**
15 **Providers**

16 CO-CHAIR MILLS: Welcome back at PTAC.
17 I'm Dr. Lee Mills, one of the Co-Chairs of PTAC.
18 Krishna and the PCDT, as well Kaushik, laid the
19 foundation for this public meeting and some of the
20 questions we want to explore.

21 I'm now excited to welcome four esteemed
22 experts to share their perspective on improving
23 data infrastructure, to empower patients and
24 providers. You can find their full biographies
25 and slides posted on the ASPE PTAC website and the

1 public meeting registration site.

2 At this time, I'll ask our participants
3 to go ahead and turn their videos on. And I see
4 you have, thank you.

5 After all the experts have presented, the
6 Committee will have plenty of time to ask
7 questions, and engage in what we hope will be a
8 robust discussion.

9 First, we're pleased to welcome Mr. Mark
10 Scrimshire, Chief Interoperability Officer at Onyx
11 Health. Mark, welcome.

12 MR. SCRIMSHIRE: Okay, good to be here.
13 So I'm going to take about five minutes and
14 hopefully give you a bit of a rapid history of
15 interoperability over the last 15 to 16 years.
16 And hopefully my fellow presenters here will take
17 us forward.

18 First, let me cover my background and
19 where I sort of fit in. I've been Co-Chair of the
20 Da Vinci Payer Data Exchange workgroup. We cover
21 things like provider directory, formulary
22 implementation guides, but also Payer Data
23 Exchange, which is actually cited in the CMS-0057
24 prior authorization regulations.

25 I'm also a Co-Chair of Financial

1 Management and a board member of the FHIR¹⁴
2 Business Alliance where we're really trying to
3 promote the use of FHIR.

4 So, that's a bit of the framework of
5 where I'm coming from. Let me tell you just a
6 little bit if you go on to the next slide, of why
7 should I be here, I suppose.

8 Working at Onyx, we were actually -- I
9 was the first person on the what became Blue Button
10 2.0 API at CMS. And we have built a platform,
11 really, primarily for payers that enables those
12 payers to actually comply with the CMS
13 regulations. And we very much are supportive of
14 the work going on in HL7 in the CARIN Alliance,
15 the Da Vinci accelerators, and elsewhere.

16 And we're lucky to have a very esteemed
17 board that also includes Grahame Grieve, the
18 father of FHIR, that really enables us to
19 accomplish a lot of this interoperability.

20 So, let's move on and actually talk a
21 little bit about interoperability. And I started
22 from this point, I know there's been a big
23 initiative about killing the clipboard, but we
24 really need to get beyond that.

25
14 Fast Healthcare Interoperability Resources

1 I know you know we have invested billions
2 in trying to achieve interoperability, but how
3 often do you end up in the doctor's office, and
4 you're presented with that clipboard, and you have
5 to pass that memory test of all of the meds that
6 you're on, every procedure you've had since you
7 were a kid? I know I fail every time.

8 There has to be a better way. And that's
9 really what's certainly driven my passion for
10 enabling and empowering patients through the
11 basics that we need, which is interoperability.

12 So let's move on to the next, the next
13 slide. And here's, really, the core. What has
14 happened, really, over the last 16 years? We
15 started back in 2009 with the HITECH¹⁵ and
16 Meaningful Use, and that was rapidly followed by
17 Blue Button 1.0 and the enhanced Blue Button Plus.
18 Then we started to see real initiatives happening
19 around FHIR. And that continued.

20 And so, when we launched CMS Blue Button
21 2.0 back in 2018, that was really the first major
22 API. It enabled 53 million beneficiaries to be
23 able to access primarily their claims data from
24

25 ¹⁵ Health Information Technology for Economic and Clinical
Health

1 CMS in a structured form.

2 So instead of having 1,700 pages of just
3 text file, you now have structured data. That led
4 to CMS-9115, the patient access API, which really
5 drove payers to have to implement patient access
6 API to enable access to their claims and their
7 clinical data. It also made provider directory
8 openly available, and your formulary.

9 So think about that when you are thinking
10 about moving health plans. Potentially, you could
11 have apps that could look at the formularies to
12 understand the drugs that you're on, and have a
13 fit within your health plan's proposed offerings,
14 and whether your provider is actually in network.
15 Critical things that you want to understand when
16 you change from one plan to another.

17 And so, we had that in place for three
18 to four years. Now we're seeing a couple of real
19 key themes. We saw TEFCA¹⁶ released in 2022, and
20 that is now starting to go live, and really
21 starting to be used.

22 And we also had the prior authorization
23 rule from CMS, which affects potentially about 900
24 plans across the country, on really delivering a

25

16 Trusted Exchange Framework and Common Agreement

1 standard prior authorization API so that providers
2 can get an answer in a consistent manner about
3 whether a prior auth is required. And, if so,
4 what data they need to provide in order to get a
5 decision.

6 But it also expands the use of that
7 patient API. You would be able to get those prior
8 authorization details through that API.

9 Also, it enables providers to access
10 information from the health plan about the members
11 they are treating.

12 And then, as we know, we as patients tend
13 to move from one plan to another. Wouldn't it be
14 great if we could take our health history with us?

15 So then that sort of longitudinal health
16 record, that's the payer-to-payer API. And that
17 is really going to drive significant more
18 utilization of this data that can float across the
19 system, particularly between providers and payers.

20 So we'll see that rule go into place in
21 2027, but we've also seen HTI¹⁷-1 and HTI-4 go into
22 place.

23 So, in 2026, we're going to see the core
24 U.S. clinical data, specifically in its FHIR

25
17 Health Data, Technology, and Interoperability

1 representation. So USCDI¹⁸ Version 1 will be
2 replaced by USCDI Version 3. That means US Core,
3 that the structured data version of that
4 interoperability dataset, will move to US Core
5 6.1.

6 And so, we're raising the bar expanding
7 the amount of data that's going to be available.

8 And then, in 2027, we're seeing all of
9 those CMS APIs will go live on January 1st. So
10 we're expecting that increase in the amount of
11 data that's going to be flowing through between
12 providers and payers particularly.

13 Let's move on to the next slide. So,
14 thinking about this in a slightly different way,
15 what have we seen is the expansion in the amount
16 of data available.

17 And I know my friend and colleague
18 Kristen will go into this in more detail, but you
19 basically, we initially had HR7 v.2 and almost
20 every implementation of v.2, which is just subtly
21 different. And so it created a barrier in itself.
22 Then with HR7 v.3 or the CCD¹⁹ formats, we saw
23 structured documents that were somewhat

24
25 18 United States Core Data for Interoperability

19 Continuity of Care Document

1 computable. But again, pretty complex to
2 exchange.

3 And, really, I think back to some of my
4 history of while I was at CMS. And being involved
5 in conversations where it says how much data
6 should be put into a document.

7 It's sort of a crazy concept. You really
8 want to be able to access the data that you need.
9 And that's really what has been happening with
10 this transition to FHIR in that we're seeing more
11 data, but it is also more granular.

12 So you can actually go and ask a
13 question. If for example, I want to see the A1C
14 results of this patient, you can make that inquiry
15 and just get the discrete data that you want.

16 And that means that we can be far more
17 focused. And I think as we look at bulk exchange
18 of data as we go forward, I think it's going to
19 get more targeted, rather than just being blanket.
20 We'll say, give me all the data you've got for all
21 the members that I have shared with you.

22 We need to become more explicit about the
23 data that we want. But at the same time, with the
24 EHI²⁰ rule, and the information blocking rule, we

25

1 see the scope of data that is going to be
2 available, just continuing to expand.

3 And so, this has been the journey that
4 we've been on. And hopefully now, patients are
5 really getting to the point where they can make
6 use of this data.

7 If you see how patients are now starting
8 to use AI to understand the data that they have
9 at their fingertips, this is just an ongoing
10 journey. And we're going to see more and more
11 data broken out. So let's go to the next slide.
12 I'm going to keep up the momentum here.

13 We've really -- we are starting to go
14 from just data and being able to move data, and
15 I'm not joking when I said that with the original
16 Blue Button 1, it was transformative.

17 But printing out your three years' worth
18 of health history on simple Times Roman pages, you
19 literally ended up with hundreds and hundreds of
20 pages of data that you couldn't easily do anything
21 with.

22 So we've got better. We've got that into
23 more of a structured form. So now we really have
24 information, but we're really on the cusp now of
25 turning those, that information, into insights.

1 And I think there's another important
2 thing that is coming here. Let's go to the next
3 slide. It's what I call really the -- we've had
4 this experience gap, right? So, we've had
5 patients are now able to tap into more data.

6 I know the data that I have got on my
7 phone far outweighs the data that my practitioner
8 has in their EMR²¹. And so, it's been a case of
9 now I get access to that data. And also, why do
10 you make it so hard for me to get access to my
11 data?

12 I often joke, you know, I try to change
13 my password on the internet. It only took six
14 months because I have like 200 accounts. That's
15 actually an underestimation, right?

16 We need to move to the point where I can
17 use my biometrics to get access to wherever I have
18 my data, and be able to pull that without it being
19 a barrier. And wouldn't it be great if I could
20 give that data to my doctor, and he trust it so
21 that he could make use of that in also analyzing
22 my problems?

23 We have to make this more interoperable.
24 We're really still at the start, but hopefully the

25
21 Electronic medical record

1 changes that we're seeing happening, is really
2 going to transform this.

3 And I'm sure Kristen will point to the,
4 this fact that having 27 portals out there is not
5 the answer. And I see what we are really heading
6 for, is what I call the data inversion. The
7 question is, who has the most data?

8 And, actually, it's not the doctor's EMR.
9 It's more likely my phone. I have my watch. I
10 have my phone. I have things monitoring in the
11 house where I spend a lot of my time. I have so
12 many data points that could be of value. And as
13 we think about how we bend the cost curve, how can
14 we keep us as we age in our homes where we want
15 to be, but be able to tape in and make sure that
16 we are maintaining the health as best we can?

17 And we're wreaking this point at this
18 stage of inversion in that the patients will have
19 more of that data, and providers will want to tap
20 into that. And I should be able to choose if --
21 how much of that data I'm giving to health plans,
22 how much data I'm collecting from IoT²² devices,
23 and what I can share with my provider. And have
24 my provider trust me, instead of me having to come

25
22 Internet of Things

1 in and getting asked what was your weight reading
2 this morning, and reading it off my phone.

3 Why can't it be a feed? That's where we
4 need to go. We need to recognize that we need to
5 be able to go to where the data is, and be able
6 to access that, and trust it.

7 Let's move on to the next slide. The
8 other thing I would say with this is this
9 increasing analysis of whether we can use our
10 phone effectively, as our insurance card.

11 There is an implementation guide for a
12 digital insurance card. We have driver's licenses
13 now on your phone. Before long, we'll have
14 passports on our phone.

15 We need our digital insurance card for
16 our health plan on there. It needs to be the
17 gateway to allowing me to decide what I am going
18 to share with my providers, with my health plans,
19 and others.

20 And that will also potentially become the
21 tap into my AI advisor. So, I want to be able to
22 connect in AI to me, to my data, to get to make
23 sense of all this data.

24 What does it mean when I see those
25 readings from the labs that I had at my last

1 doctor's visit? How do I correlate those? When
2 one moves, why does another move in sync with that?

3 I could use an AI advisor to help me make
4 some better understandings and therefore, better
5 manage my health. And if you think about it, if
6 CMS was to relax the constraints around digital
7 insurance cards and not require the use of a
8 physical card, it could actually be an efficiency
9 gain as well.

10 Let's move on. And so, that's it. I'm
11 going to now pass off I think to Kristen for you
12 to pick up and carry the torch, Kristen.

13 MS. VALDES: Sounds great, thank you so
14 much, Mark. Well, like Mark gave you a wonderful
15 history of interoperability, I'm going to talk to
16 you about the history of patient access.

17 And why I'm here, in terms of background,
18 is I sit a board of directors member to an
19 organization called the CARIN Alliance, which is
20 a private-public partnership that works on
21 consumer data liberation and transparency to
22 patients and caregivers.

23 This is near and dear to my heart as I
24 am the mom of a child with rare disease. And so,
25 my daughter Bailey, has more than now 30 different

1 patient portals, none of which are accurate, and
2 none of which talk to each other. And that is just
3 on the current side of her care, not even
4 historically.

5 So, 10 years ago I founded an
6 organization called b.well Connected Health --it's
7 actually named for Bailey; I've called her B since
8 the day that she was born -- as a way to give all
9 consumers and caregivers access to the information
10 that they need. Because, in our lives, that
11 information is lifesaving.

12 So, let's move on and talk a little bit
13 about patient access. Fragmentation in health
14 care is very real. It's experienced more by
15 consumers than anyone else.

16 I know that we have a tendency to rely
17 on core operating systems, like our EHRs, but the
18 reality is that patient information is now sitting
19 in on average for any human, including yourself,
20 more than 70 different disparate locations. And
21 that's because you don't often only have one
22 doctor or one operating system that you deal with.

23 And even though organizations like Epic
24 have done a phenomenal job at trying to bridge
25 together all different kinds of Epic instances

1 together so that doctors can have better
2 visibility, and patients can log in now with one
3 universal login, that doesn't cover all of their
4 health. And health care, on average for a human,
5 is people actually see the doctor, on average, 2.4
6 times per year. So, all of the interoperability
7 that we're talking about is on an average for our
8 population of only 2.4 events.

9 And so as Mark talked about when we think
10 about health, we don't just have our doctors, our
11 hospitals, our labs, our pharmacies, our
12 radiologists. We also have vision and hearing and
13 eye exams. But we also have our wearables and our
14 sensors. And our life, and our goals, and our
15 social determinants, and all kinds of things that
16 actually make up our health, including even our
17 nutrition.

18 So as we think about health and/or
19 connected data is, consumers are now also
20 demanding a much simpler interface that is
21 personalized because like every aspect in our
22 digital lives, we typically have a primary app
23 that targets all of something that we might need.
24 Like a banking application. Or a ride
25 application. Or the ability to book an

1 appointment for dinner.

2 So we tend to choose something that works
3 for us and that is convenient. But, in anywhere
4 in America, what patients and caregivers do not
5 have today is a single mobile experience that
6 manages all their health care in one place.

7 So, moving on to the next slide, let's
8 talk about the history of patient access. So Mark
9 talked to you about interoperability as a whole.
10 This slide specifically talks about all of the
11 rules and regulations that have something to do
12 with patient, and patient access.

13 And probably the most transformational,
14 as Mark said, as kind of one of the godfathers of
15 the Medicare Blue Button, which we're very
16 grateful for, was that there was this, a new
17 technology standard that started to become
18 utilized. And the information blocking and
19 interoperability rules, which came to be after the
20 21st Century Cures Act, came into play and were
21 the first time in federal history that the
22 technology standard to be utilized, was indicated
23 in a federal regulation.

24 And that was open APIs. And what that
25 did was that actually forced us to move into the

1 cloud, which we'll talk about in just a moment.

2 What's the most transformational, and
3 we'll talk about in just a minute, is the new CMS
4 digital health ecosystem. Because at each one of
5 these regulations from HIPAA²³ through meaningful
6 use, through patient facing APIs, all the way to
7 the new technology infrastructure, is that these
8 are really just building blocks on top of each
9 other to get us to not only modernize technology
10 stacks, but also to get more and more information
11 available that's necessary at the point of care,
12 and in between care to power personalized and
13 digital experiences.

14 So if we move to the next slide, let's
15 look at the history of patient access. It was not
16 less than a decade ago where the majority of
17 patients with chronic disease, or with rare
18 disease, were told to carry a binder in their cars
19 to make sure that they had that with them.

20 In fact, when my daughter was
21 hospitalized just two years ago, one of her
22 physicians said, Bailey, you're not like others,
23 and I would encourage you to put a binder together,
24 because you having access to your health

25 _____
23 Health Insurance Portability and Accountability Act

1 information anytime you could potentially need to
2 go to a hospital could be lifesaving for you.

3 And my daughter laughed, and she says,
4 mom, I really don't think she knows what you do.
5 And so what's great is that we have evolved beyond
6 that, although a lot of folks are still promoting
7 the use of thousands and thousands of patients'
8 records. And so we moved from filling out paper
9 forms into electronic access through portals.

10 And this was incredibly important,
11 because for the first time, in a digital manner,
12 patients could start to see their information.
13 And then they started to move into with
14 information blocking rules, patient-facing APIs.

15 And so, patient-facing APIs means that
16 every consumer in the U.S. has the right through
17 any trusted third-party application of their
18 choice, so any app, to access their medical record
19 without any special effort, and without charge.

20 And so, that allowed organizations like
21 b.well and others to create apps and onboard
22 something called trusted third parties, where, one
23 by one, we would onboard to every provider, every
24 payer, every lab, every pharmacy. And today at
25 b.well, we can now connect more than 2.2 million

1 providers; 340 payers; Medicare; the Veterans
2 Administration, as well as pharmacies and labs
3 like Walgreens, LabCorp, and Quest.

4 So, for the most part, consumers today
5 through an application that aggregates information
6 on their behalf with their consent, can pull in
7 the large part of a longitudinal health record
8 instantly.

9 Because we're on FHIR API, that data can
10 actually come in, and we are tracking, on average,
11 even for complex patients, in under 2.5 minutes.
12 So we're talking about real-time historical data
13 exchange. And now we're moving into portability.

14 So it's not just enough to have
15 information on our phones because for the first
16 time patients are seeing their data, and they're
17 realizing that there's errors in their records.
18 And that sometimes when you haven't seen a doctor
19 in more than a year, that you're getting
20 information that is outdated.

21 Those are not currently the medications
22 that are being taken. Or you started and stopped
23 those meds. But, in FHIR, the way the data comes
24 across is the most recent, active information on
25 a patient as of the last time you saw that doc.

1 So think of it as a point in time.

2 Now with portability and the rules and
3 regulations, we will -- any patient demonstrated
4 by early next year will be able to have something
5 called a smart health link, or a QR²⁴ code, where
6 doctors and EHRs who have raised their hand to the
7 pledge, will be able to receive a full FHIR
8 USCoreV3 medical record on behalf of the patient.

9 And you might be thinking, wow, that's a
10 lot of data. And if you saw my daughter's data,
11 yes, it is. But that information coming in at the
12 point of care can be used to help facilitate a
13 movement that we like to call "kill the
14 clipboard."

15 So, at a minimum, the things that stay
16 stagnate about us. Our family medical history;
17 historical medications; diagnostics; procedures
18 that we had years ago. Being able to port that
19 using a QR code to fill out the forms at the
20 doctor's office, that we expect that our doctors
21 know about us, that they've received about us
22 every single time that we've seen them, but yet
23 we fill out that form every year anyway.

24 Those pieces of information will

25

24 Quick response

1 transmit directly into the EHR at the point of
2 care. And that within 24 hours on the way out of
3 the doctor's appointment, we will now be able to
4 receive our comprehensive care record from that
5 visit to add to the longitudinal record. All using
6 FHIR.

7 So, as you can see, it's only been about
8 a decade, and we have actually moved pretty far
9 in that timeline.

10 Now, is it far enough for patients? They
11 would tell you absolutely not. But it is certainly
12 progress. So let's move to the next slide.

13 So as we think about data and data
14 exchange, most from the physician perspective
15 think about things like, well, wait a minute, we
16 have national networks. We have CommonWell and
17 Carequality, and eHealth Exchange. Or my EHR
18 system has things like Care Everywhere that bring
19 data in.

20 It's important to know that while that
21 data, from a regional perspective, might look
22 comprehensive, is that it's nowhere near
23 comprehensive. There are 2,000 EHR systems in our
24 country today, and only a small percentage of them
25 are actually what is known as required to comply

1 with meaningful use.

2 And so, when we think about things like
3 hospice and SNF²⁵ and home health and vision and
4 dental and eye, those EHRs are not yet transacting
5 in data under a required mechanism on either our
6 national exchanges, our regional HIEs²⁶, or through
7 organizations like Epic and Care Everywhere. In
8 fact, EHRs often don't share information with one
9 another.

10 So the reason that it's become so
11 important to create things like TEFCA, which came
12 out and was launched and deployed in December of
13 last year, is that it held the great promise of a
14 single on ramp to nationwide interoperability.

15 However, it's voluntary. So we know that
16 it is not going to be 100 percent coverage of every
17 doctor in the country. It's not going to be
18 representative of every payer, and so all data is
19 not flowing through any one of these networks.

20 And so, there was a new concept for
21 patients coming about that we call a network of
22 networks, where organizations like b.well and many
23 others like us, have the ability to go out, and
24

25 _____
25 Skilled nursing facility

26 Health Information Exchanges

1 we can connect to the national networks.

2 We can connect through TEFCA. We can
3 connect to the patient-facing APIs, which are the
4 only mandatory patient-facing required
5 interoperability mandate today. And now CMS
6 Aligned Networks.

7 And so, we'll talk a little bit about
8 what that means on the next slide. But pretty
9 much, we can get to nationwide coverage using a
10 network of networks, rather than just relying on
11 one singular location for data exchange. And that
12 is becoming critical to patients and their
13 families. So let's move on to the next slide.

14 One of the most important concepts for
15 you all to understand because you might think
16 well, my portal gives my patient everything that
17 they might need.

18 Did you know that 75 percent of patients
19 who want access to their information, actually
20 abandon at the step of logging in?

21 This is really important because the
22 other concept about portals that breaks down when
23 we think about a longitudinal health record, is
24 the fact that there are use cases that a portal
25 just simply cannot support. And that's because of

1 how HIPAA grew up in our country, and the
2 protection mechanisms.

3 So my daughter Bailey has just become an
4 adult. She is now 22 years old. And in order for
5 her to gain access to her longitudinal record
6 using a portal account, she would have to have an
7 active portal account with a login and a password.
8 The challenge is when she identifies that she has
9 data from when she was in pediatrics, that she
10 would need to call to get an account with a login
11 and password.

12 And the first thing that she's asked is,
13 do you have an upcoming appointment? Are you a
14 patient? And if the answer to that is no, she
15 couldn't even generate an appointment because she
16 is no longer going to see a pediatrician, she's
17 not going to be able to access her information
18 through portals.

19 So, we cannot keep using portals as a
20 gating factor. One, because it is too hard to
21 refresh tokens on a portal for someone like my
22 daughter with more than 30 different portals that
23 need to remain active in order for her to get her
24 current longitudinal medical record, let alone
25 bring her historical data with her.

1 And so, we are now moving into an age of
2 what Mark already mentioned of modernized digital
3 identity. So let's go to the next slide.

4 I like to deem what we are trying to do
5 portalitis. This is something that we've been
6 coined with over the last decade. But this is a
7 little bit of fun for you all.

8 Portalitis is the diagnosis that I think
9 we can eradicate in our lifetimes. And the way
10 that we're going to do that is through using modern
11 identity, which is actually more private and more
12 secure than using a portal and password.

13 Portalitis is actually quite fun because
14 for those of you who understand that most people
15 with complicated conditions and/or rare disease,
16 have caregivers in their lives.

17 And 80 percent of health care decisions
18 in our country today are made by women. So most
19 of the time my daughter's doctors don't know
20 whether it's myself or my daughter that is
21 corresponding with them through the portal.

22 So, as you can imagine, without the right
23 paperwork in place, right, this would be
24 considered technically a breach. But this happens
25 all the time because caregivers will do what they

1 need to care for the people that they love.

2 So when we move to the next slide, we
3 will talk about what identity looks like then
4 versus now. And this is an important concept.
5 Because through HIPAA, the way that people gain
6 their access to information today, is that they
7 show up at a doctor's office in person.

8 And the first thing that they're asked
9 for at the desk when they're checking in, is
10 driver's license and insurance card.

11 Well, let's just pretend that every front
12 desk office staff was trained like a TSA²⁷ agent.
13 Their job is to make sure that you look like the
14 picture on your ID²⁸, and that the information on
15 the ID matches the information on the insurance.
16 And that is how they verify you to give you a
17 credential to a digital portal.

18 But, more and more often, the way that
19 we're accessing physicians is digital and virtual
20 first. And that means that we can't show up in
21 person. And so now we need a new way to identify
22 people's privacy and security. And so I always
23 like to say, if you can use your face to board an
24

25 ²⁷ Transportation Security Administration
²⁸ Identification

1 airplane, you should be able to use your face to
2 collect your medical record.

3 So, if we go to the next slide, the
4 concepts of modern digital identity is that there
5 are Kantara-certified vendors, and this is
6 important, organizations like CLEAR or ID.me,
7 where they can not only scan a government-issued
8 ID, like the driver's license, just like you do
9 in the doctor's office, but they can actually
10 verify it back with the DMV²⁹ instantly, by being
11 able to capture a live selfie and a biometric match
12 to make sure that you are, in fact, who you say
13 you are, and they can confirm the information
14 about the device you're using belongs to you, like
15 the metadata on a computer or a phone. And they
16 can validate with issuing authorities like the
17 passport association.

18 So we now have much better confidence
19 with IAL³⁰ identity that someone is, in fact, who
20 they say they are behind the digital device. Let's
21 move to the next slide.

22 So when we think about the ability to
23 pull in a longitudinal health record, we are
24

25 ²⁹ Department of Motor Vehicles

³⁰ Identify Assurance Level

1 actually now at the stage, and we've proved -- we
2 demonstrated this live on TEFCA at the most recent
3 HIMSS³¹ and HLTH³² conferences. You can use your
4 face in order to verify your digital identity. We
5 can do something called record location services
6 on the TEFCA national network where people
7 participate.

8 Most patients don't remember the names
9 of every doctor that they ever saw. So, now we
10 can tell them where your demographic information
11 matches physician records where we believe through
12 patient match services, that they have information
13 on you.

14 And patients can now decide to bring in
15 information from every doctor that's presented to
16 them, including those they may have forgotten that
17 they saw at one point in their lives. That
18 information can be used to be brought in across
19 all EHR instances, normalized under a semantic
20 interoperability layer, and then shown trend lines
21 and graphs, and things that they can see across
22 their entire longitudinal health and be able to be
23 given information on how to simplify or understand
24

25 ³¹ Healthcare Information and Management Systems Society

³² Healthcare Reimagined

1 and interpret that information. And I don't mean
2 diagnostics, but I mean more of a copilot in your
3 hand.

4 And this is important because if you talk
5 to any of the foundational LLM³³ models, they will
6 tell you that consistently between 15 and 30
7 percent of all queries, to date, using AI are
8 health-related queries or interpretation of
9 results for labs and images.

10 So patients are already using this
11 technology, and so it's important, that as a
12 health care delivery system, that we embrace it to
13 make sure that we can give accurate and well-
14 trained information that does not hallucinate and
15 does not diagnose, to be able to give patients
16 their information, because they're already doing
17 it.

18 Next slide, please. So as we think about
19 the new CMS Aligned Networks which were just
20 announced, and that are going to have a number of
21 different participants be able to demonstrate
22 these, this new floor of technology live by the
23 end of this year, the most important things to
24 know about it are that one, patients are not

25
33 Large Language Models

1 required to use portal credentials or even have a
2 portal account in order to access their
3 information.

4 That they will be provided record
5 location services so that we can help them
6 identify where their data is, where they may not
7 already remember. That it will use FHIR, the Fast
8 Healthcare Interoperability Resource, as the
9 floor. Not CCD, not HL7, but FHIR. And that it
10 must meet the floor today of USCoreV3 And this
11 is important for a reason that we'll talk about
12 in one minute.

13 But also, that we're going to go beyond
14 what has been transparent to patients before, and
15 everyone who participates in this new model must
16 be able to not only track and store each time a
17 patient's information was accessed, who it was
18 for, for what permitted use case, but they must
19 actually show that to a patient in real-time so
20 patients will have visibility into all times that
21 their data and information are shared.

22 And we have to go beyond USCoreV3 to show
23 them upcoming appointments and other encounters
24 that are not mandatory, but these organizations
25 volunteered to say we will share this information

1 back to patients. Next slide.

2 So, Mark showed you this slide, and I'm
3 going to talk about it from the perspective of the
4 patient. The reason that this matters is that we
5 are getting closer and closer to a full electronic
6 health information export, or EHI export.

7 That means both standardized and
8 unstructured data. So for the first time that
9 USCoreV3, which is the floor, you can see images,
10 and you can see reports. And you can get document
11 attachments, but also unstructured data, progress
12 notes, clinical notes, my care plan from my
13 physician.

14 Imagine an entire army of trusted third-
15 party apps with patient consent who can pull in
16 the care plans that you prescribe to your patients
17 and who can help successfully educate and nudge
18 them to follow those care plans in between doctor
19 visits.

20 So, USCoreV3 expands data to a point
21 where it is actually useful for a patient, for the
22 purpose of personalization. Next slide, please.

23 These are the first 60 organizations that
24 took the pledge to be live in 2025. Some of the
25

1 things that you will notice is every QHIN³⁴ in
2 TEFCA put their hand up to be a CMS-Aligned
3 Network, as well as new organizations who have not
4 been networks before, like Innovaccer, Datavant,
5 b.well, and many others. But also, health systems
6 and providers. Conversational AI apps, big payers
7 have combined.

8 So, and then you think about the big
9 technology companies, Samsung, Google, Apple.
10 They're all here. And they're saying it is time
11 for us to provide personalized health care at
12 scale , direct to patients, and this is a must-
13 share model.

14 Next slide, please. So, we are now at
15 the point of portability. And that means that
16 patients will be able to facilitate their mediated
17 medical record to providers at the point of care.
18 And they will be able to receive their information
19 back in an instant transaction. And that's very
20 exciting to patients and caregivers. I know it
21 is for myself and for Bailey. Next slide, please.

22 If you have any questions, obviously,
23 feel free to reach out. There is certainly a
24 number of questions that might come to play. There

25
34 Qualified Health Information Network

1 are also a number of blog posts we can point you
2 to around privacy and security, and trust over
3 third-party apps, and who oversees and regulates
4 them.

5 So if any of that can be useful, please
6 don't hesitate to reach out. We're happy to point
7 you, and you can always find things at the CARIN
8 Alliance website as well.

9 Thanks for having me.

10 CO-CHAIR MILLS: Thank you so much,
11 Kristen.

12 Next, we're happy to welcome Mr. Hayes
13 Abrams, who is the Executive Director of
14 Enterprise Health Care Management, at Health Care
15 Service Corporation.

16 Welcome, Hayes.

17 MR. ABRAMS: Thank you very much. Thank
18 you, Mark and Kristen, very informative
19 discussion, and I really appreciate your journey.

20 Likewise, I have been in the industry for
21 a little over three decades. I've held roles in
22 many data exchange opportunities, admin side,
23 clearinghouse, and then ultimately moved more into
24 the clinical space.

25 And I work for one of the big Blues, it's

1 called Health Care Service Corporation. Blue
2 Cross/Blue Shield of Illinois, Texas, Montana, New
3 Mexico, and Oklahoma. And I support and execute
4 against our health data exchange strategies here.

5 I will be stressing a little bit more if
6 you can go to the next slide, please Amy, a little
7 bit more on the data. Yes, I can tell a story of
8 depth and breadth, and I can tell a story of
9 economic value realization.

10 I chose to take a little bit more of
11 attack in hearing so many decades of providers
12 concerned about insights not being actually
13 correct from the health plan, and how to get them
14 into the workflow, which we are doing with
15 providers. But how to build those data silos today
16 and reduce what I perceive as actually far fewer
17 care gaps in the industry. It's more of a data
18 silo gap.

19 So, I've spent a better chunk of the last
20 decade building similar data bridges as Mark and
21 Kristen had stressed, to get that sort of coast-
22 to-coast data access so that we can have the best
23 insight.

24 So when we do give a care gap insight or
25 other things to a provider or a member/a

1 provider's patient, we're giving the best we can
2 in today's, in today's state. And in year insight.

3 So I appreciate the journeys that
4 everybody's on. I've been on them as well, but
5 this is a little bit more of a lean towards how
6 do we get the best data in now, to help people who
7 need the care today?

8 So we get a lot of data. We're a big
9 health plan. We bring it in, put it through all
10 of our big infrastructure. But really this is a
11 presentation on the impacts that it's having on
12 certain areas of care. Next slide, please.

13 So we see potential sources of value.
14 Definitely reduce latency from health data.
15 Expanding on what we do today in our existing sort
16 of domains of care that we're able to use the
17 electronic health records to see if we can eek out
18 more insights in today's use cases.

19 And then we've got more and more insights
20 that we can provide today, whether it's sourced
21 from vitals, clinical notes to et cetera. But
22 really changing sort of in the year behaviors of
23 the health plan to provide better insights.
24 That's the data type of deliveries we give today.
25 Next slide, please.

1 Clinical data is faster, right? Faster
2 than claims. So the legacy x12 world of health
3 plans looking at claims, you could be days if not
4 weeks, if not months, of orders behind. And taking
5 the data and turning it into an insight. And we
6 have seen that our health data is anywhere from
7 hours if not a day or so, from source to target
8 here at Blue.

9 And that, of course, now brings a whole
10 bunch of insights that we can do differently than
11 we have always done with claims. So, health data
12 first is obviously the way to go for us. Next
13 slide, please.

14 So expanding existing data. So, I guess
15 there's some redundancy in what you get in the
16 clinical data versus claims, but we're seeing more
17 and more insights of this is some pregnancy-
18 related condition codes.

19 So we're saying an additional match with
20 information from the clinical versus the claim for
21 pregnancy-related codes. And, again, it's not all
22 net new, but it's definitely bigger, faster,
23 stronger, and we get a better sense of historical
24 information that you generally do not get in
25 claims today.

1 So, next slide, please. Maybe not lost
2 on the clinicians in the world, but definitely in
3 health plans the new discovery, more discovery, by
4 having novel domains. So, vitals that we
5 traditionally never got. Physical information and
6 observations that we had never seen.

7 The behavioral health data that's
8 expanding our SDOH³⁵ opportunities and social
9 needs. And then, obviously, just the problem is
10 the medical history. We get so much more insights
11 and discharge, discharge instructions that is
12 providing the tome of data that we can go mine
13 against to help in our care management programs,
14 and member outreach, as well as the clinical gaps
15 in care delivery we do with clinicians today. Next
16 slide, please.

17 So, on maternity, our problem was we were
18 trying to figure out where our pregnant members
19 were before we even knew they had a need, and what
20 was our ability to outreach to our members.

21 And so, how could we use the health data,
22 so EHR data, the labs. Even ADT³⁶ information can
23 tell you when someone's scheduling a C-section
24

25 35 Social determinants of health

 36 Admission, discharge, and transfer

1 seven months from today so you can say oh, I know
2 that member is possibly pregnant. So, maternity
3 risk was a great place for us to focus on the
4 current domain state. Next slide, please.

5 So what we were able to do is find 2
6 percent more of our members who, if we tapped into
7 the LOINC³⁷ code and obviously CPT³⁸ ICD-10³⁹, but
8 we found by tapping into the claim alone, we were
9 missing 6,400 members who were actually were in
10 the maternity risk bucket.

11 That's 2 percent of our pregnant
12 population, which is a huge impact. And that ties
13 to pregnancy risk, as well as anything to do with
14 postpartum outreach.

15 So, big uplift for us. We are very
16 excited that we can now make outreach to these
17 extra 2 percent of the members, as well as put
18 information in their clinicians' workflow to
19 inform them that there is potentially the
20 pregnancy, good thing, or postpartum issues.

21 So, we'd like to cut that off. And we
22 have put this into our risk programs, and into the
23 information that goes out to the providers today.

24
25 ³⁷ Logical Observation Identifiers Names and Codes

³⁸ Current Procedural Terminology

³⁹ International Classification of Diseases, Tenth Revision

1 Next slide, please. Obesity reporting.
2 Underwhelmed with their ability to report to the
3 state of, I use the example, state of Illinois.

4 We had the state of Illinois tell us that
5 -- or we told the state of Illinois that our
6 patient member population was only 12 percent
7 obese in Illinois. And the state of Illinois
8 laughed at us and said, you're actually going to
9 be closer to 40. If you go to the next slide.

10 Well, they were right, and we tapped into
11 the BMI⁴⁰ information in the EMR records, and we
12 were able to identify an additional 16 percent
13 more members who had obesity. I think we tapped
14 out right around the 39 percentile of our member
15 population in Illinois, that was obese.

16 So, just generally, folks in the past --
17 I've been doing this a long time -- saying we're
18 going to deliver gaps in care to providers or
19 patients. We would have been off a heck of a lot
20 with obesity reporting if we weren't tapping into
21 the data infrastructure that we've built. Next
22 slide, please.

23 So where can we go with that? Additional
24 maternity risk models, obesity models, better

25
40 Body Mass Index

1 supporting that holistic care that Kristen talked
2 about. And when people do tap into the patient-
3 facing API, or payer-to-payer, or payer-to-
4 provider information, our data stores will be
5 filled with more insights.

6 Mark talked -- or Kristen talked about
7 data insights, and information and insights. We
8 will have better insights to deliver into the
9 types of exchanges that they stressed.

10 So, next slide, please. I'm going to
11 pause there. Next to Ami.

12 DR. PAREKH: Yes, thanks, Hayes. Thanks
13 for having me. I'm Ami Parekh. I am our Chief
14 Health Officer at Included Health. I think we can
15 move to the next slide. Next slide.

16 So just really quickly, I will come to
17 this maybe from a different angle than the
18 previous speakers. I come to this not as a
19 technologist or a data expert. I come to this as
20 a provider. A provider who takes care of a lot
21 of patients who want better health care. And what
22 we have focused on is how do we use data to
23 actually improve the outcomes, our patients, or
24 Americans, generally need in their health? And
25 that they deserve.

1 So it's really how do we leverage the
2 data to show up for the patients in a way that
3 they can make their own health care better, and
4 to show up to the providers in a way that they can
5 make their own health care better?

6 I'll switch to the next slide. A little
7 bit about Included Health, because it might be a
8 type of entity that many of you don't know much
9 about.

10 We provide personalized all-in-one
11 health care. So we are trying to be that place
12 where members can come whether they need help with
13 their mind, body, or wallet.

14 A lot of what happens in health care is
15 clinical. That's a place I sit very comfortably.
16 They want to know what's the next best action that
17 they need to take for their health. But a lot of
18 health care is honestly about the money. It's
19 about what's the bill that I have to pay. Do I
20 actually have to pay it? Is it too much? Is it
21 going to bankrupt me?

22 Or it's about the mental stress, the
23 administrative burden that we put people through
24 as they manage through the course of their health
25 care. So at Included we're trying to bring all

1 of that together, that mind, body, and wallet.

2 And, as a clinic, we provide primary care
3 across all 50 states, as well as urgent care and
4 behavioral health for all ages. We also do expert
5 medical opinions so if you're in any part of this
6 country and want to get an expert medical opinion
7 to make sure you're on the right course for your
8 diagnosis or treatment plan, we'll make sure you
9 get that expertise.

10 So, that's who we are as an entity. You
11 might wonder who do we serve? Next slide.

12 We serve mostly folks who are self-
13 insured. So folks who bear the cost burden of
14 taking care of large populations. We also serve
15 health plans as their virtual provider, again
16 across all 50 states. And, we do this for now
17 about 12 million Americans.

18 Next slide. So a little bit about data.
19 So, data for data's sake, we don't think actually
20 makes health care better. What makes health care
21 better is when data enabled with technology, and
22 a user platform that people can use easily,
23 whether you're a Medicare patient, whether you're
24 a Medicaid patient, whether you're a commercially-
25 insured patient, it actually has to work for you.

1 Combined with humans who can help guide you in
2 understanding that data; understanding what to do
3 with that data. That's where the magic happens.

4 Really, that integration is the
5 innovation. One without the other isn't really
6 that helpful.

7 And before I go to the next slide, I'm
8 actually going to go off script a little bit and
9 just, I was actually on a plane this weekend and
10 had to be the emergency doctor for a patient who
11 was sick. Or a person who was sick on the plane.
12 And I was so thankful because this patient
13 actually had a piece of paper that explained all
14 of their medical problems in a half a page.

15 That's what you need. You don't need
16 reams and reams and reams of data if you're having
17 to make a decision for yourself, your loved one,
18 or your patient. You need the insight. You need
19 it to be synthesized. You need to be able to make
20 quick decisions based on that data. And, that's
21 the next level we're trying to get to. Next slide.

22 So how do we do this at Included? We
23 purchase large amounts of data from commercial
24 clearinghouses. This is mostly commercial data;
25 it's all the claims data, but it also includes

1 some Medicare data. We also get data from our
2 clients who, again, are trying to improve the
3 health of the populations that they serve.

4 We bring in other data, whether that's
5 data from the patient directly as they interact
6 with our app, or they answer our questions. We
7 bring in sanctions data from across all 50 states.
8 We bring in board certification data.

9 And so, all of this goes into what we say
10 is power. But again, that data, in and of itself,
11 isn't actually that helpful. What's helpful is
12 how it shows up to the member. Next slide.

13 So what's one example of how this can
14 show up to a member to actually drive better
15 outcomes? We've taken all the data and at the
16 NPI⁴¹ level and regardless of the specialty, assess
17 a number of quality measures.

18 And, again, maybe you're the patient who
19 can go up and look up every single quality measure
20 by the provider in the sort of search. But
21 honestly, what you want to know is who should I
22 see right now.

23 And so, we take that data, we match it
24 to you so that if two people are looking for the

25
41 National Provider Identifier

1 same doctor in the same specialty, in the same
2 city, they actually don't get the same list
3 because it turns out they're different people.

4 And we match it to you in a way that's
5 very user friendly so that you can just quickly
6 scan who should I see, and go on your way and make
7 that appointment. That allows people to actually
8 get better outcomes, and actually decrease the
9 total cost of care.

10 Because turns out when you're seeing the
11 best matched provider for you, you're going to get
12 on the right path quickly. Next slide.

13 This is different than most places
14 because most places again, you can just go into a
15 provider directory and look for a neurologist. But
16 you might not need a general neurologist. You
17 might need somebody who is focused on stroke. Or
18 you might need someone who is focused on
19 Parkinson's or on multiple sclerosis.

20 Those three are not created equal, and
21 it's important for whoever's providing you with
22 the information, to understand what your needs are
23 so that they can best match you. And that's where
24 we come in.

25 Next slide. I'm going to transition from

1 how we use large datasets to drive real outcomes,
2 to actually something more basic.

3 Using patient-reported outcomes because
4 again, ultimately you can have all the data in the
5 world, and we're not going to become healthier as
6 a population.

7 What we're focused on is how do we
8 actually make people healthier? Leveraging data.
9 And some of that data comes from the patient
10 themselves.

11 We've talked a lot about patient-
12 reported outcomes in health care, at least for the
13 25 years I've been trying to make health care
14 better for people. But we all know we haven't
15 really succeeded. And part of it is because we're
16 not asking members the questions they need to be
17 asked in timely ways where they can see the value
18 that they, themselves will derive from the
19 information.

20 So what do we do? We started asking our
21 members very easy in the app through a text
22 message, in the last 30 days, how many days has
23 your health not been great due to mental or
24 physical reasons? It's a CDC⁴²-validated measure.

25 42 Centers for Disease Control and Prevention

1 And we took that and measured it. We
2 intervened on those patients who had a lot of
3 unhealthy days, and we made it better. And the
4 patients know that their healthy days are getting
5 better.

6 Turns out this also links to reducing
7 total cost of care over time. It's patient-
8 centered. It's predictive. It's intervenable.
9 That's how data can make a difference. Next slide.

10 And then, how does this all come
11 together? It comes together because we can use
12 data to engage members at the right time. We can
13 present them with the types of interventions that
14 might actually make their health care journey
15 better. And we can re-engage them when it's time
16 to do the next action. Whether that's getting a
17 mammogram, a colonoscopy, going to the next type
18 of specialist if they are complex. And that all
19 builds trust, and actually delivers health care
20 outcomes over time. Next slide.

21 Where do we need help to continue to make
22 data actually drive outcomes in health care? You
23 know, I think there's still confusion about who
24 owns the data.

25 In my opinion, the patient owns the data.

1 You could argue health systems sometimes think
2 they own the data because they're, they have the
3 labs that are generating it.

4 Some people think health plans own the
5 claims data because they might be doing things
6 with it, and generating insight based on those
7 claims. But, ultimately, every person owns their
8 own data, whether that's because somebody paid for
9 the intervention. Whether that's because somebody
10 did the intervention. But we actually need to
11 align on that, because not aligning on it allows
12 people to keep the data in silos.

13 As we want to move towards data leading
14 to better outcomes, we have to think about
15 patient-reported outcomes. But we need
16 standardization. What are the patient-reported
17 outcomes that we should all be measuring? How
18 should we be measuring them so that we can actually
19 decide what makes health care better, and what
20 isn't actually making health care for people
21 better?

22 And then entity resolution. I know we've
23 already heard a little bit about that, but really
24 trying to make sure that we know exactly for whom
25 what is happening. There continues to be

1 inconsistencies there throughout.

2 So, with that, I think I'm done. Of
3 course open for questions or comments as we move
4 to the next section.

5 CO-CHAIR MILLS: Thank you so much for
6 that, Ami. And thank you for all of those great
7 presentations that were truly thought-provoking.

8 We're going to move on to a time of
9 Committee questions. We've got about 30 minutes
10 it looks like, which is fantastic.

11 At this time, I'll ask PTAC members,
12 please flip your name tent up. And for our virtual
13 Committee members, please raise your hands, and
14 Amy will help me keep track of the questions
15 online.

16 In the interest of ensuring balance
17 across different perspectives of questions, I
18 encourage experts to keep each response to a few
19 minutes, and then certainly feel free for
20 questions often will be pointed to one or two
21 panelists, but then feel free to pass it among the
22 group as you have perspectives.

23 So let me start with Jay.

24 DR. FELDSTEIN: That was a great
25 presentation, thank you. This is for everybody.

1 From your perspectives, what's the major barrier
2 to the interoperability that we've been dealing
3 with for the last 25 years?

4 Whoever wants to go first, feel free to
5 jump in.

6 MS. VALDES: I will -- I'll go ahead and
7 join. There have been a couple of challenges.
8 One is that as we move to digitize records through
9 meaningful use, is that we made a core mistake by
10 allowing thousands and thousands of entities to
11 create their own proprietary data models in that
12 digitization. And we have now had to find a way
13 to standardize that in order to share information
14 across all of those proprietary data models.

15 But I also think that it's important to
16 understand the elephant in the room, which is that
17 there are a lot of entities in health care who
18 have, make a lot of money on data, and data
19 selling, and data sharing.

20 And there are a lot of challenges from a
21 competition standpoint, when you make it easy to
22 port data from one system to another because you
23 have effectively taken away switching costs
24 between technology vendors.

25 And so, there are a lot of folks who have

1 tried very hard to make it difficult to extract
2 information from a core system of record. And I
3 think that that time has now passed, and I think
4 that's why we're seeing so much optimism from the
5 community because we'll be able to make a lot more
6 progress moving forward now that we've created
7 standards; we've created technology; and, we've
8 created the incentives.

9 And, quite frankly, the market pressure
10 for folks to start competing on top of the data
11 versus on the data itself.

12 MR. ABRAMS: Hear, hear. Quest for
13 relevancy, and focusing too much on the how, not
14 the what.

15 MR. SCRIMSHIRE: Yes, I would agree. The
16 other issue you have I think, has been the fact
17 that people have been driven by compliance.

18 And to date, it's largely been what's the
19 minimum I need to do to tick the box. And I think
20 as we look at the prior authorization API,
21 regulations, it's probably one of the first real
22 regulations that has the opportunity to be
23 business transformative.

24 We're seeing a lot of payers that are
25 saying okay, I've got to do this to my regulated

1 plans. But what's it going to take to do this
2 across my entire member base?

3 And that is really, I think, where we've
4 got to go. And I agree about we've got to get
5 past the, this state where people are making money
6 off just simply connecting to actually looking at
7 how you add value to the data, and really deliver
8 results.

9 DR. PAREKH: Yes, I would plus-one what
10 everyone said. It has felt like interoperability
11 has been a compliance issue, not a way to actually
12 make health care better for people.

13 I guess one proposal I would make is
14 that, instead of trying to solve the
15 interoperability problem, we try to solve actual
16 use case problems that patients feel, and really
17 try to figure out what are the data pieces that
18 we would need to solve that problem for the person.
19 And tackle it from that approach versus we need
20 everything all the time, all at once. That would
21 be a very different approach to the one that's
22 being taken.

23 CO-CHAIR MILLS: Outstanding, thank you.
24 I've got Krishna, then Walter, and then myself if
25 no one else. Krishna?

1 MR. RAMACHANDRAN: Yes, excellent job,
2 team. Great perspectives from each of your
3 domains there. Yes, loved it.

4 So mine was sort of another barrier
5 follow-up, and Ami, both you and Kristen
6 mentioned so the consumer owning the data. And
7 obviously we've had, over the decades, many sort
8 of failed attempts at the -- some personal health
9 records by many big names in technology, too.

10 Kristen, I guess directed at you, you've
11 had, it sounds like, pretty good success in,
12 clearly, the connecting with providers and payers,
13 and really having the consumer be the part of the
14 access and the control there. I guess if you were
15 to unlock more value, or more scale, like what do
16 you spend thinking about sort of resolving from a
17 barrier perspective?

18 So more barrier, but more fine-tuned on
19 the consumer? Like what's the next unlock for
20 you, I guess, I'd love to learn.

21 MS. VALDES: Absolutely. So, first and
22 foremost, I think we've accomplished two great
23 barriers in the past. One is just getting patients
24 access free of charge through an API to their data.

25 The second, which was just announced, is

1 the eradication of portalitis, which is the
2 biggest barrier to people being able to access
3 their information and the workflows today, and the
4 next, I believe, war to be won, is in unlocking
5 the APIs for access.

6 Because it is not enough to help patients
7 understand their information, and give them
8 insights about it, and tell them what they need
9 to do. You need to make it easy to do it.

10 So, one of the recommendations that we've
11 made to the administration through the CMS RFI⁴³
12 response and others is to move the meaningful use
13 certification off of the EHR workflows itself and
14 onto the API stacks that surround the EHRs, and
15 what that does is it allows for standards to emerge
16 around things like scheduling, and messaging, and
17 Rx refills, and it allows patients access, so when
18 we're encouraging them to follow their care plans,
19 that we can make it easy for them to do those
20 things.

21 And today, that's very difficult because
22 those APIs are sitting in a category we call
23 proprietary, and oftentimes they are provided only
24 to an EHR or a payers first-party product versus

25
43 Request for Information

1 the broader innovation ecosystem where I think you
2 could see a lot of value emerge very quickly.

3 MR. RAMACHANDRAN: That's great. Thank
4 you.

5 CO-CHAIR MILLS: Walter?

6 DR. LIN: Krishna actually asked my
7 question in a way because I think the promise of
8 an interoperable patient-controlled longitudinal
9 health record has been around for, I don't know,
10 like 15, 20 years. I remember the days of Google
11 Health and Microsoft Health Vault, just those
12 efforts kind of failed because of lack of user
13 adoption, patient engagement.

14 And I've always kind of thought a large
15 part of this was in part a technology problem, but
16 so much more than that, because patients often
17 just weren't activated, or engaged, or cared
18 enough it seemed, to really do the work to
19 understand their health conditions and make
20 decisions from their health records that would
21 impact their care.

22 So, I guess maybe a different spin on
23 Krishna's question would be what would really be
24 the motivating factor now that's different from
25 before to activate patients to really engage with

1 this longitudinal health record that hopefully
2 they'll control? And, you know, since we are
3 focused on payment models, if there are any
4 payment model suggestions, we would really
5 appreciate those.

6 MS. VALDES: I'll start on the access
7 part. I think Mark will probably join right in.
8 The reason that those earlier attempts at the
9 longitudinal record failed is we made it too
10 difficult for people.

11 Until we started publishing data showing
12 that for everyone who showed the intent of wanting
13 to collect their longitudinal data and keep it on
14 their phone, that 75 percent of them drop off the
15 minute you ask them to log into an account because
16 they don't have or remember their portal
17 credentials for something that they might have
18 accessed one time.

19 It wasn't for a lack of people wanting,
20 although that was how I would say the PR was spun.
21 There are a lot of people who want engagement where
22 it's just simply too difficult.

23 In the same way, and from a physician
24 perspective, why I think access is the war to be
25 won, we do scheduling for one of the health systems

1 in the country, and one of the things that we
2 learned was that, one, the more access you open
3 up, the more people will take those appointments,
4 because what they want is they want care, and they
5 want it quickly.

6 However, there are a lot of physicians
7 in specialties who still have not opened up their
8 schedules to online and mobile scheduling, even
9 where it's possible to connect to a patient, but
10 some of the more interesting stats are that most
11 net new patient acquisition comes in after hours
12 when the call centers are closed.

13 So, for people who have online and
14 digital booking, they actually get more
15 appointments filled in the evening hours because
16 people work. And then when they say hey, listen,
17 you know, we built up all of this capacity for
18 things like telehealth during COVID, but we're
19 only getting about 30 percent of our appointments
20 booked, we're thinking about tearing down this
21 infrastructure, and I said well, wait a minute.
22 Give me a shot at putting it as part of the
23 scheduling workflow.

24 So, when we say hey, if your doc's not
25 available to see you, here is the next available

1 doc who is, or based on what you're searching for
2 using natural language, it looks like we could
3 treat you through telehealth today. Would you
4 need care sooner?

5 One hundred percent of those appointment
6 slots are booked from that point forward for two-
7 and-a-half years, and now it's expanding the
8 capacity needs, because what we failed to do is
9 give people the easy button to get the job done,
10 and when we do, they will comply.

11 So, I actually believe that we are at the
12 point where you will see a tremendous amount of
13 adoption proving things wrong once we eliminate
14 the requirement of having to go through a portal
15 or a portal rule set in order for patients to
16 access what they need. And if you think about
17 even scheduling, the number one thing we ask
18 people to do is start with the specialty that they
19 need.

20 If you think about and compare the health
21 literacy of America with the fact that they need
22 to search for an otolaryngologist, or know how to
23 spell it, or even know what it is, we've already
24 broken down the pathway for them to access care
25 in step one.

1 MR. SCRIMSHIRE: Let me add another
2 perspective since, Walter, you asked about
3 relation to payment models. We've done some great
4 things in terms of requiring APIs to be made
5 available to these consumer health apps for free.

6 It still requires investment. And one
7 of the challenges I think we have is this perverse
8 payment model where I, as a patient, am not the
9 customer, because it's maybe my health plan that
10 is paying a large part of the bill.

11 And I feel that it ought to be possible
12 for me to be able to subscribe to the consumer app
13 of my choice and effectively either offset that
14 against my taxes or against my health plan so that
15 I'm actually the customer and not my health plan
16 or my provider, so that I can choose the apps that
17 work for me.

18 It's not to try being force-fed to say
19 you have to use this app because the health plan
20 offers this. It's if you look at everybody's smart
21 phone today, I'll bet you my front screen doesn't
22 look anything like yours.

23 Everyone has a personalized requirement,
24 and let you choose the apps that really work for
25 you and be able to pay a subscription fee that is

1 offset in some way, and that way we can probably
2 really provide a business model for these consumer
3 health apps to really take off.

4 DR. PAREKH: I think one thing I would
5 build on that Kristen started and I think, Mark,
6 you were building on this, is exposing data needs
7 to be linked to solving somebody's problem, and so
8 I think scheduling is an interesting example of
9 this.

10 What is the problem people face? They
11 can't get in to see their doctor. They're dealing
12 with a bill they can't handle. They don't know
13 if they're taking the right meds. When you ask
14 people to see all of their health care data, but
15 you can't actually solve a problem for them by
16 exposing that data to them, they have no need to
17 engage with their data.

18 Now, one of the things I joke about,
19 because I love being a doctor, but most people
20 don't wake up in the morning wanting to see me.
21 If they did, we would be pretty messed up as a
22 society.

23 Most people wake up, and I did this, this
24 morning, trying to get their kids to school,
25 trying to get to their job, trying to make sure

1 their car is running, you know, all of the things
2 that should occupy a productive human's mind.
3 They're not trying to engage in health care.

4 They come to health care when they need
5 us, and so trying to put data in front of people
6 without solving their problem isn't going to get
7 people engaged in their data, so it really does
8 have to be linked, and I think that could be a big
9 unlock.

10 How we think about payment models with
11 this, you know, I think Mark has an interesting
12 idea about really making the person the customer.
13 I think the trend towards high-deductible health
14 plans helps us do that, but it hasn't worked
15 because then you're just sort of threatening bad
16 financial outcomes with health care versus good
17 financial outcomes, which is, I think, a place
18 where you were starting to lean to.

19 But I do think the transition to value-
20 based care helps with this, because if the
21 provider is actually aligned with the patient, you
22 should actually be able to use this data in a way
23 that can then actually solve the problem for the
24 patient.

25 DR. LIN: Yeah, just a quick follow-up.

1 I mean, I appreciate that because I guess I'm
2 personally skeptical that access is the main
3 barrier in this day and age of, you know, we access
4 everything through two-factor authentication, our
5 bank accounts, our email accounts.

6 I think this idea that Kaushik actually
7 presented in his presentation earlier on that
8 patients often, like most patients rely on their
9 providers to help them understand their health
10 information and what they should do. It makes
11 that provider, I guess, leveraging the provider
12 input through this increased patient access really
13 important, so I appreciate that.

14 CO-CHAIR MILLS: Okay, I'm going to skip
15 myself for now and go to Larry.

16 DR. KOSINSKI: Thanks, Lee. You know, I
17 enjoyed all four of the presentations and compiled
18 a lot of notes here, but something that really
19 stuck out for me was Hayes' example of obesity,
20 how extracting the diagnosis of obesity from
21 claims failed miserably, but having a BMI, having
22 a structured data input that could be queried all
23 of a sudden fixed the problem.

24 The subject of this session has to do
25 with infrastructure, infrastructure of our data.

1 How do we improve it so that it can help patients
2 empower their futures?

3 And so, you know, I'm sure you all have
4 gone through data analysis with claims and seeing
5 all of these nonspecific ICD-10 codes that
6 physicians use because it just happens to be the
7 next one that shows up on their drop-down for the
8 illness they're seeing, or maybe they code the
9 reason the patient came in for the visit, the
10 symptom rather than the fact that they have
11 inflammatory bowel disease, and it becomes --

12 The problem we have, one of the problems
13 we have is there's no financial incentive for a
14 physician to code to a complex level, and we are
15 faced with a lot of garbage in and garbage out.

16 And we may be able to transfer it between
17 each other and open up all of these pathways, but
18 unless we fix the quality of the original data,
19 we're not going to get to where we want to get to.
20 So, my question is what are you all doing to
21 improve the quality of the structured data that
22 becomes part of the medical record?

23 MS. VALDES: Yeah, go ahead, Hayes.

24 MR. ABRAMS: Yeah, part of my role, I
25 work with a lot of the EMR companies and the

1 providers, you know, from the federated to the
2 SaaS⁴⁴ models. I'm a big champion of what we call
3 mapping for measures. And if you've seen one
4 provider's office, you've seen one provider's
5 office.

6 And we spend -- a great example is here
7 with Northwestern. We sit down with them and have
8 them take it through their value-based care
9 committee where they can actually better structure
10 and transfer data to us, so capture, structure,
11 and transfer. Because there's a lot of data that's
12 non-transferable that comes across.

13 So, yeah, so Epic now calls it mapping
14 for measures too, but we spent a lot of time
15 sitting down with the providers so that when we
16 talk about payment, and we sit around at the joint
17 operating committees and say hey, my score is X
18 or my score is Y, we're not in a debate so we can
19 see as much data shared as possible.

20 So, we do a lot of activity. It's pots
21 and pans. It's a lot of work. Yes, you'll see a
22 lot of the SaaS-based EMRs or even the hybrid ones
23 have a lot of restrictions about what they can and
24 cannot capture and share. Behavioral health is a

25
44 Software as a Service

1 great example there.

2 So, it's really about getting into that
3 old clearinghouse model of if you've seen one
4 provider's office, you've seen one provider's
5 office, and I don't think FHIR's going to solve
6 it because it's all the way, you know, further up
7 the stream than the modality of transmission.
8 It's really about workflow and data capture.

9 MS. VALDES: So, I've got two points on
10 this. One is that organizations like ours that
11 consolidate data from across the entire ecosystem
12 must have a semantic interoperability layer. I
13 mean, even things that are very simple, such as
14 some EHRs report in metric units, and some report
15 in imperial units. Some mandate, you know, NDC⁴⁵,
16 but leave RxNorm blank. There are a lot of
17 enrichment activities that have to happen from a
18 data perspective to make it more complete and more
19 accurate just in the data that transacts today.

20 And Hayes is right, even in FHIR, you
21 know, we are a co-development partner with NCQA⁴⁶
22 and CMS on their digital quality measures, trying
23 to move things to be able to be more automated,
24

25

45 National Drug Code

46 National Committee for Quality Assurance

1 and we might see that, well, the definition of
2 FHIR has, you know, mammography is recorded, and
3 these two resources that will see it show up in a
4 third and a fourth resource, so we have to go find
5 it and move it in order to make it work for
6 structured analytics, but the point that I'd
7 really like --

8 And there is a new framework that has
9 come out called PIQI⁴⁷, and I think that you should
10 take a look at that. It is the ability for
11 companies who transact in data to report almost a
12 quality scorecard back to providers and payers
13 based on the quality of their data, not just the
14 completeness of their data. And so, PIQI is
15 something that I think you're going to start
16 seeing widely adopted in the industry from a
17 digitized standpoint.

18 But as a mom of a child with a rare
19 disease, the thing that I would leave you with is
20 that no matter how much we clean, and structure,
21 and train to the data, it's that we are in a world
22 where the science of medicine has far surpassed
23 the administration of health care.

24 And I have a child with a rare disease

25

47 Patient Information Quality Improvement

1 that is unnamed, that is N-of-1, so as she, of
2 course, needs to be billed for as a multi-million
3 dollar patient, my daughter requires \$550,000
4 worth of medications to stay alive every year.
5 She is 22 years old. We actually offshore one of
6 her medications to save \$250,000 on the same brand
7 name drug from the same manufacturer, just
8 imported from another country.

9 With her, my biggest fear as a parent is
10 not that doctors will not be able to treat her and
11 keep her alive. It's that she's going to have to,
12 at some point, change insurance, because she is on
13 an off-label use of a medication that is
14 prescribed only for three types of blood cancer,
15 but she's never had blood cancer, and because her
16 diagnosis is not named, there are no protocols for
17 it.

18 So, all of the diagnoses that she does
19 have in her chart would show up as a red flag for
20 any prior authorization for an experimental use of
21 a medication. So, until we get better about
22 looking at prior trends for episodic care --

23 And anybody who looked at my daughter's
24 record historically would say oh, wow, she was
25 uncontrolled for this period of time where she was

1 hospitalized for a year. She was a multi-million
2 dollar patient.

3 She has been controlled on these
4 medications with perfect labs for two years, but
5 the minute she switches insurance, they're going
6 to flag her medication and make her go through all
7 of the different things where we failed peer
8 review over, and over, and over again.

9 So, I really think we need to start
10 thinking differently about how we look at care as
11 a whole and unique to an individual, because we've
12 finally now unlocked the data to allow that to be
13 possible, and I don't think that we have looked -
14 - I think right now, we're doing a lot of
15 digitizing manual processes that were built for a
16 different day and time than today, and no amount
17 of data quality is going to fix that problem right
18 now.

19 CO-CHAIR MILLS: Yeah, great answer. I'm
20 going to pitch it to myself and go down to,
21 Kristen, this is mainly for you, but others will
22 have comments.

23 So, I was really struck by the comments
24 around moving to a federated identity model and
25 trying to break portalitis. I have the pleasure

1 of using ID.me as a veteran accessing Department
2 of VA and other military records, and it works
3 seamlessly every time, and it's simple, though
4 hard to set up.

5 So, unpack that a little bit for us.
6 When and how do you see federated identity really
7 moving out into practice? Are there any, you know,
8 EHR companies that are starting to use it for their
9 portals? When would most consumers start seeing
10 this concept move into their realm of health care?

11 MS. VALDES: Yeah, I think the exciting
12 part of this is that it's happening now. Third-
13 party applications are already using IAL2
14 technologies for identity verification. Many
15 health systems are using this to check in. It
16 also, in addition to it being a better identity
17 pathway for individuals, it also creates a lot of
18 downstream -- it creates solutions to downstream
19 problems that health systems have.

20 By using identity at check-in, you're not
21 keying in what people are writing and making
22 mistakes, creating duplications. One health
23 system actually reduced the duplicates in their
24 health records' system by over 90 percent once
25 they instituted IAL2 technologies, which, of

1 course, impacts revenue cycle management and their
2 ability to collect a bill.

3 So, based on -- CLEAR, I would say right
4 now, is overwhelmingly becoming adopted by health
5 systems and by payers. ID.me is probably the
6 second. ID.me is more on the federal side, and
7 Clear is more on the commercial side.

8 But knowing all of the health systems and
9 the payers that are adopting, I would say inside
10 a year, you are going to see IAL2 tokens be the
11 predominant method for creating accounts, and for
12 sharing of accounts, and for recovery of accounts,
13 not just on the patient side, but providers as
14 well and hospital staff.

15 Because a lot of health systems are doing
16 this also to credential the people that are coming
17 in to work, which solves a lot of problems in their
18 workday, and patient management flow, and making
19 sure that providers are, in fact, credentialed and
20 not sanctioned.

21 So, it solves a lot of problems, but it's
22 being widely installed right now, and I would say
23 it would be the primary method of account creation
24 in under a year.

25 MR. SCRIMSHIRE: I'd add to what you're

1 saying, Kristen. At Onyx, we implemented patient
2 access for a number of Medicaid state agencies,
3 and they had the problem that they don't have a
4 member portal in many cases, and so we actually
5 worked with ID.me.

6 So, ID.me provided the identity
7 verification and created the digital account, and
8 then we were able to match that to the data that
9 the state was giving us, and it really simplified
10 that.

11 Because in many cases, those states were
12 also using ID.me, for example, for things like
13 employment verification when people are going to
14 the Department of Labor, so it has -- the
15 technology is there. The technology is
16 implementable. It's all standard APIs to
17 integrate with.

18 MS. VALDES: And it's also like a three-
19 step process for patients, like it's the first-
20 time setup where you need to document ID. And the
21 more we see adoption of the mobile driver's
22 license and the more states who adopt the mobile
23 driver's license, the biggest friction point in
24 the setup goes away because you're not having to
25 actually go find your purse, find your wallet, dig

1 out your ID, a little harder for females than
2 males, and take a photo of it.

3 So, when the mobile driver's license
4 continues to get adopted at higher standards, even
5 IAL2 verification and setup becomes much simpler,
6 but you can do it -- even the average Medicare
7 beneficiary can set up their identity in under a
8 minute and a half, so it's a pretty frictionless
9 experience.

10 CO-CHAIR MILLS: Okay, and last question
11 to Krishna.

12 MR. RAMACHANDRAN: Thanks, Lee. Yeah,
13 excellent comments on identity management,
14 Kristen. I'm excited to see it sort of expand
15 because I think that's definitely a barrier we
16 have to overcome from a consumer perspective.

17 Mine is more, maybe the question is more
18 for maybe Hayes and Ami there, but obviously,
19 you're all welcome to answer as well. So,
20 particularly for Hayes, wonderful to see the sort
21 of work we've had to do to bridge the sort of
22 clinical data divide in the payer, and sort of
23 what you and the team have been able to do,
24 particularly in obesity, or blood pressure, other
25 elements there as well.

1 I guess from a purchaser and a payer
2 perspective, so giving, Ami, you represent some of
3 the sort of purchasers that are self-insured ones,
4 and then Hayes, from your broad lines of business
5 there, information blocking, I'd love perspectives
6 on that, like how are you all overcoming that?

7 Hayes, when you and I worked together,
8 clearly there was a lot of value-based care
9 incentive and just brute force, you know --

10 MR. ABRAMS: Brute force.

11 MR. RAMACHANDRAN: -- conversations, the
12 pots and pans as you would call it, you know, going
13 from provider to provider and being like let's
14 talk and how we bridge the divide? But I'm curious
15 on, as you both are seeing scale, like what are
16 sort of, you know, strategies that have worked
17 from a blocking perspective, both incentives as
18 well as, you know, other techniques you've used
19 from your sides?

20 MR. ABRAMS: Ami, do you want to take
21 that first?

22 DR. PAREKH: Sure, I'm feeling a little
23 bit like a broken record, but I think as you think
24 about the inherent conflict between providers and
25 health plans, I think it's about trust. I think

1 neither party trusts the other party with their
2 data because they don't interact in trusting ways
3 in the rest of health care.

4 So, you know, one of my fears with AI
5 right now is it won't actually make people's
6 health care better. Instead, it will just make
7 providers better billing machines and health plans
8 better denying machines, because that's sort of
9 the structure, and then you put technology into a
10 structure that isn't serving people, and it will
11 just do that 10 times better.

12 And so, I think -- and this is why I'm a
13 big fan of value-based payment or shared alignment
14 between purchaser and provider. You've got to be
15 in the boat together on behalf of the patient.

16 The provider system has to be partnered
17 with the health plan, around the member
18 ultimately, to make their health care better, and
19 that is just not how we've set things up. We've
20 set this up as a game that does better when you
21 don't trust each other, and you're not going to
22 share your data with someone you don't trust.

23 So, I know that was really in
24 generalities, but to get people to start sharing
25 data, you're going to have to get trust. To get

1 trust, you're going to have to give them aligned
2 incentives. To get aligned incentives, we're
3 going to have to change how people get paid.
4 That's sort of how I get to where we start.

5 MR. ABRAMS: I've always told my team
6 we're in the trust business. Back when, many years
7 ago, I co-chaired the state of Illinois Health
8 Information Exchange, and I was the Co-Chair, and
9 they would ask me to leave because I was the, you
10 know, the evil health plan coming across.

11 I don't have -- I'm not naive that
12 there's not always trust issues, but for obtaining
13 data and exchanging data with the clinician
14 communities today, I've found the scaling of that
15 has been incredible.

16 I think I connected to nine health plans
17 just over the weekend, provider systems. I get
18 charts from 55 miles from the U.S.-Russian border
19 today. So, we're doing fairly well in the trust
20 game because we're bringing capabilities that
21 align to a value-based care platform mindset
22 locally and nationally.

23 As far as true, true information
24 blocking, I think mostly it's, you know, if we're
25 not aligned -- our number one thing is to align

1 to the network contract. That's my number one
2 guiding principle, so follow the money. With
3 that, you have some of the trust.

4 I put something in the chat about working
5 with providers on legacy contracts and trying to
6 get them paid more in year. Talk about fire in
7 the future, in-year payment, in six months'
8 payment. And that 6.4, 6 percent I put in there,
9 there's a very, very large provider just across
10 the river here, and I'm just south of
11 Northwestern, so that's a lot of money for them
12 on one contract that's spread across everything.
13 That builds trust.

14 I do get the information, not so much
15 blocking. It's probably maybe some more
16 information filtering, and that gets to the
17 behavioral health comments I made earlier, some
18 other things that are limiters where if you had
19 at least a behavioral health instance in a
20 provider setting, the EMRs, some of them shut down
21 sending the physical health, and so then all of a
22 sudden, you have a data silo.

23 You know, then there are other vendors
24 that have the information blocking, and they just
25 want the economics. We touched on that earlier,

1 but I think it's really about getting over some
2 of the legacy patterns of oh, we've never shared
3 this information, although they have the ability
4 to, but everything ties about to the, you know --
5 Krishna, you know this, right?

6 So, align to the network contract. Put
7 information where the clinician and patients do
8 business. Wherever possible, you multi-payer,
9 because Blue, plus government, plus one or two
10 commercials is going to get you 65 percent. That's
11 provider office workflow, as well as revenue, so
12 you will change behaviors. Standards is a
13 guidepost, not an absolute.

14 Avoid point solutions, i.e., portals,
15 and acquire once and consumed by many. So, I think
16 one of the other things with trust is that if you
17 are just abrading the market with requests, after
18 requests, after requests, they don't think you've
19 got your game together.

20 So, you've got that, and for the health
21 plans, you know, consume what we've acquired and
22 bring the value in year, but again, pure
23 information blocking, it really gets back to
24 probably economic forces of some of these vendors.

25 MS. VALDES: I do think that there's a

1 policy consideration here. Having built a health
2 plan prior to launching b.well, is the concept of
3 the permitted use of operations. Data freely
4 flows under treatment, and it is now starting to
5 flow under individual access or patient rate of
6 access.

7 When you get to operations, it becomes
8 very sticky, and the reason that it does, and this
9 was the great promise of TEFCA opening up to
10 operations, is that there's two challenges to
11 solve. One is that there are already BAA⁴⁸
12 agreements between payers and providers that would
13 be superseded by a national standard that said you
14 can share for operations, but I actually think the
15 bigger problem is the operations definition is too
16 broad.

17 And the reason that it's too broad is
18 because a health plan knows that if you obtain
19 clinical information for any purpose, whether it's
20 for prior auth, whether it's for an audit and desk
21 review, you know, it could be for quality
22 reporting, is that you can use that clinical
23 information for any other purpose under payment
24 and operations.

25

⁴⁸ Business Associate Agreement

1 So, the challenge becomes when a health
2 system wants to share information to get in the
3 same boat -- because I completely agree that
4 you've got to be in the same boat. If you want
5 to share information for the purpose of value-
6 based arrangements and being in it together, you
7 can't use that same clinical record to then go
8 bang a provider over the head on a retrospective
9 review and claim that they were paid too much or
10 that use that same information in contract
11 negotiations.

12 So, I think if you actually restricted
13 the definition of operations in any type of a
14 federal rule to the purpose of value-based care
15 and only value-based care, not to be used for
16 payment purposes, that you would actually get a
17 lot more compliance and a lot more trust.

18 MR. RAMACHANDRAN: Excellent comments.
19 Thank you.

20 CO-CHAIR MILLS: Fantastic. I want to
21 thank all four of you for your insights and your
22 lived experience. It's been really a powerful
23 discussion, and you've helped us cover a lot of
24 ground in this session. You are certainly welcome
25 to stay and listen in as much as you can throughout

1 the remainder of the meeting.

2 At this time, we're going to take a break
3 until 1:10 Eastern Time. Please join us then. We
4 have a great next set of experts from our second
5 session which focus on the availability and
6 effectiveness of digital tools for equipping
7 patients with information about their health care.
8 I look forward to talking then and we stand in
9 recess.

10 (Whereupon, the above-entitled matter
11 went off the record at 12:09 p.m. and resumed at
12 1:11 pm.)

13 * **Session 2: Availability and**
14 **Effectiveness of Digital Tools for**
15 **Equipping Patients with Information**
16 **About Their Health Care**

17 CO-CHAIR MILLS: All right, thank you so
18 much for rejoining us after our lunch break. We're
19 going to begin immediately with session two, and
20 I will kick it to the facilitator, Lindsay.

21 DR. BOTSFORD: Thanks, Lee. So, welcome
22 back. I'm Dr. Lindsay Botsford. I'm one of the
23 PTAC members, and I get the privilege of
24 facilitating this next session.

25 So, I'm happy to welcome our next session

1 four experts who will share various perspectives
2 on the availability and effectiveness of digital
3 tools for equipping patients with information
4 about their health care. You can find their full
5 biographies and slides posted on the ASPE PTAC
6 website and the public meeting registration site.

7 At this time, I ask our session
8 participants to turn on your video. It looks like
9 you're all good. After our experts have
10 presented, our Committee members will have plenty
11 of time to ask questions.

12 To kick it off first, we're excited to
13 welcome Mr. Vishal Gondal, who is the Founder and
14 Chief Executive Officer of GOQii. Welcome,
15 Vishal.

16 MR. GONDAL: Thank you. Thanks a lot for
17 inviting me at this prestigious event. I will get
18 started with my slides. I think I'm just waiting
19 for Amy to put that together.

20 So, a quick background, I actually
21 started my career in the world of video games, and
22 I ended up creating, when I was in school, I
23 started the company, and I ended up creating one
24 of India's biggest video games company. I ended
25 up selling it to Walt Disney in 2012, and since

1 then, from 2014, I started working on my next
2 start-up, which is GOQii.

3 GOQii combines health care with the world
4 of gaming. And I know it sounds interesting for
5 a lot of people because if you really see the
6 problem which we are trying to solve, you will
7 realize that how a lot of health care challenges
8 stem from how gaming can really solve it.

9 A little bit about GOQii, we are now 10
10 years in the business. We have presence in
11 multiple geographies in the world, and recently,
12 our solution is part of the semi-finalist in the
13 prestigious \$101 million XPRIZE competition, which
14 is around improving health span.

15 So, it's really interesting to have this
16 amazing group here together, the Committee, where
17 we will talk about how AI and all the amazing tools
18 are going to make the life of physicians very,
19 very different. Can we go to the next slide,
20 please?

21 So, as we know, right, we now have
22 infinite information on health. Every patient is
23 either on Google or now using their favorite
24 chatbots or LLM tools to figure out about health,
25 and even after so much information, we see the

1 population is only more unhealthy.

2 And you all know the statistics of rising
3 obesity rates, or chronic conditions, and mental
4 health issues, compounded with all this health
5 information is not really solving the problem.
6 And next slide, please?

7 You will realize that the reason this is
8 having a challenge is because we believe that
9 health is not just an information or access
10 problem. We have the best of the physicians. We
11 have the best of the technology and diagnostic
12 tools, as well as therapeutics.

13 In spite of that, people continue to lead
14 unhealthy lives. The way to think about it is
15 that, you know, the cigarette pack tells you don't
16 smoke, it's going to cause cancer, but people
17 still do that, so it's really a problem of
18 motivation, not just information.

19 And now the goal is how can physicians
20 and the health care system use these tools, which
21 are effectively used by the social media companies
22 to engage people for not the right reasons, but
23 how can we use this to engage people around their
24 health? Next slide, please?

25 And this problem is even more compounded

1 because physicians now, you know, people are
2 walking into their doctors' clinics with all kinds
3 of wearable devices, and WHOOP, and their ŌURA
4 Rings, and have so much data, and at the same time,
5 physicians have almost 350,000-point solutions,
6 siloed health apps, with most of the data being
7 unlinked, and flooding EHR boxes, and unbillable
8 physician hours.

9 And what's really happening is that as
10 health care moves from a primary, to a reactive,
11 and now to a proactive approach, it's important
12 that all this data becomes accessible, and not
13 just accessible, the data also can be processed
14 and analyzed. Next slide, please?

15 And we all know that i the world and
16 especially the U.S., chronic conditions contribute
17 to 90 percent of the health care spends, and these
18 chronic conditions not just require medication,
19 this finally requires guided care rather than
20 episodic interventions.

21 And physicians are now increasingly
22 being seen as a guide in the patient journey than
23 just somebody who was kind of episodically making
24 interventions. So, it really has to become
25 longitudinal and become from a transactional

1 relationship to a much more longer, deeper
2 relationship. Next slide, please?

3 And here is where what we are calling,
4 and popularly, a lot of people are referring to
5 as the Internet of Health, and now the data, the
6 amount of data which is flowing in, previously,
7 the data was restricted to just hospital records,
8 which was largely provider-centric.

9 Now, consumers are having all kinds of
10 wearable devices. They have their own lifestyle
11 data. They have their medical data. They have
12 their fitness data. They have their doctor notes.

13 Imagine if all of this data, both
14 qualitative and quantitative, can lie in a data
15 lake which can securely then, using AI models and
16 a variety of other tools subjected to privacy
17 regulations and HIPAA, it can unlock some
18 breakthrough technology when it comes to medical
19 research, insurance underwriting, and
20 personalized medication.

21 Not only that, I believe that this data
22 can also unlock food and nutraceutical
23 development. Because currently, all of this data
24 is lying in silos, and the doctors and the
25 physicians don't really have a common view of

1 this. And here is where -- next slide, please?

2 And here is where I think the whole
3 technology is going to, especially in the world of
4 AI. I'm sure this is a question every physician
5 is asking, every health care system is asking.
6 How does one leverage the Internet of Health and
7 AI?

8 And we have been doing extensive work in
9 the U.K. with the NHS⁴⁹. We are working in the
10 Middle East with several governments. We also
11 have presence in India. And what we are seeing
12 is the new model of PPP⁵⁰, which is using a good
13 AI model, and there are a variety of them,
14 combining that AI model with wearable data, health
15 care data, and even medical records, you can make
16 health care predictive.

17 And once you are able to make a
18 prediction, like we see this person is going to
19 have a very high degree of probability of getting
20 a stroke, or a heart attack, or can turn type 2
21 diabetic, we can then personalize their pathway,
22 and that personalization can be implemented, and
23 hence, the system becomes preventative.

24

25

49 National Health Service

50 Predictive, Personalized, Preventive

1 The best example I give here is imagine
2 yourself driving a car. The AI technology in a
3 self-driving car is designed so that the car never
4 crashes. It's not designed for the car to crash
5 and then self-heal itself.

6 Similarly, the health care system of the
7 future will be designed to prevent all these
8 conditions to compound into a serious health
9 issue, and predictively make sure that does not
10 happen. Of course, there will be solutions once
11 you fall ill, and once you come into the clinical
12 system, but I think largely, AI will be used on
13 the preventative side. Next slide?

14 And here is where I think that, you know,
15 if you look at the new framework, how can
16 physicians with data integrations, AI assistance
17 can really think about how they're going to, in
18 the world of gaming, level-up the consumer or the
19 patient journey.

20 And I believe that's going to happen with
21 gamification, AI assistance at all levels, and
22 integration with health care records, and that,
23 combined with the framework of improvement of
24 sleep, nutrition, fitness, cognition, and
25 happiness, leads to improvement in health span.

1 So, I think the core metric is not just
2 about how long you live, but how healthy is your
3 quality of life? So, health span becomes the North
4 Star metric, not HbA1C⁵¹ or any of those other
5 biomarkers which are mere indicators. The final
6 thing is can you live a long and healthy life?
7 Next slide, please?

8 So, in conclusion, all I have to say to
9 this amazing group is that I think wearables,
10 data, and gamification, which solves the problem
11 of motivation, will lead to a very important
12 thing, that is an engaged patient.

13 Just the way people engage with apps like
14 Duolingo, which has become one of the biggest
15 learning apps, I do believe that the future
16 patient engagement platforms with their doctors
17 and clinicians will have gamification, engagement,
18 and motivation at its core, and this will lead to
19 better outcomes and improved physician efficiency,
20 as well as happiness for the entire ecosystem.
21 Thank you very much.

22 DR. BOTSFORD: Thank you, Vishal. So,
23 we are saving questions from the Committee until
24 the end of all presentations, but I know there's

25
51 Hemoglobin A1c

1 some that we'll want to follow up on. So, next,
2 we're glad to welcome Mr. Trevor Berceau, who is
3 the Director of Patient Experience at Epic.
4 Trevor, please go ahead.

5 MR. BERCEAU: All right, hey, folks.
6 Thank you very much for inviting me here today,
7 and Vishal, thanks for that overview as well. My
8 background, I'm on the R&D⁵² team here at Epic,
9 and I have spent the last 18 years designing
10 software to help clinicians and patients across
11 many areas of health care, so from the hospital
12 floor in the ICU⁵³, to the emergency department,
13 the OR⁵⁴, and now I lead the teams for MyChart and
14 the patient experience products, really looking at
15 how do we extend into the patient's home to empower
16 patients as people to just better manage their
17 health and health care? Next slide, please?

18 And one of the things we've seen across
19 our customer base is that patients are engaging at
20 scale when given the opportunity. We have almost
21 200 million active users on MyChart, and they
22 logged in over 6.3 billion times in the past 12
23 months. That shows a tremendous appetite from
24

25 ⁵² Research and Development

⁵³ Intensive care unit

⁵⁴ Operating room

1 people to have that level of engagement and
2 control of their health and health care.

3 What we've seen along the way, digital
4 tools can and do improve the patient experience
5 and outcomes today, and the key is really
6 designing care models that take full advantage of
7 the digital tools that are available, that
8 innovative care models are built when you have
9 that combination of people, process, and
10 technology, but really led with that clinical
11 viewpoint. Next slide, please?

12 I want to share just a couple examples
13 of how this plays out. One big one is looking at
14 how care in the home has been enabled through
15 technology today, providing more continuous
16 guidance for patients rather than that episodic
17 care that would only happen when the patient's in
18 the clinic with the provider.

19 Organizations today have built care
20 models around this and show some pretty amazing
21 outcomes, and there's really two pillars, I think,
22 that enable this. The first is to continuously
23 collect and understand key data coming from
24 patients at home, whether that's home device data
25 automatically filing in, or patient-reported

1 outcomes where they're letting you know how
2 they're feeling and how they're doing.

3 And then the second piece is letting the
4 system do the up-front analysis to identify which
5 patients need intervention. Now, intervention
6 could be first just asking the patient to do
7 something a little bit different, and then if
8 necessary, escalating to a member of the care team
9 who can proactively reach out to intervene.

10 And we've seen plenty of examples of this
11 across the community. Just to zoom in on two,
12 UCLA⁵⁵ looked at their postpartum hypertension
13 patients after they went home from delivering a
14 baby to reduce readmissions and ED⁵⁶ visits by 75
15 percent.

16 And Ochsner did a similar thing looking
17 at their chemotherapy patients, looking at how can
18 we keep track of how they're doing every single
19 day throughout this treatment? And they saw a 33
20 percent reduction in ED visits and admissions.

21 Those are huge in terms of outcomes for
22 the patients, but also for the health care
23 organization and the overall health care delivery
24

25 ⁵⁵ University of California Los Angeles
⁵⁶ Emergency department

1 system in terms of reducing total costs of care.

2 Next slide, please?

3 The other area I'll call out is improving
4 education along the way. Just-in-time education
5 can be really powerful in terms of giving the right
6 bite-sized piece of information to patients at the
7 right time rather than giving them a 20-page
8 handout and hoping that they remember to look at
9 that right page when it becomes relevant.

10 We've seen this improve experience and
11 patient understanding, and therefore their actions
12 and outcomes, and again, just a couple of examples
13 in the hospital space.

14 Groups like The Christ Hospital have seen
15 significant improvements in their patient
16 satisfaction and education scores, and then NYU⁵⁷
17 Langone Health, looking outside of the hospital at
18 longer patient journeys like surgery, saw, again,
19 significant improvements in patient understanding
20 and preparedness for those procedures. Next
21 slide, please?

22 Now, this is obviously great for
23 established care journeys like a surgery, but
24 there's a huge opportunity for technology to also

25
57 New York University

1 help patients adhere to the plan that they
2 discussed with a doctor during a visit. And like
3 Vishal said, I think that it's not an access to
4 information or a knowledge problem. A big part
5 of this is behavior change.

6 And traditionally, those instructions
7 that were discussed are often just three texts and
8 a note, or an after visit summary, and then you've
9 got to remember to go back or actually use it, but
10 now groups like Rush are using AI in MyChart to
11 extract those follow-ups and turn them into
12 discrete, actionable reminders, so it's easier for
13 patients to adhere to that plan that they
14 discussed and agreed upon with their doctor. Next
15 slide, please?

16 The other thing that we're looking at and
17 really excited about looking into the future of AI
18 in health care is that while that just-in-time
19 education like we talked about with NYU or The
20 Christ Hospital is tremendously helpful, there's
21 not a single video that can answer every question
22 that every patient might have, which is why we've
23 been working with organizations like UC San Diego
24 to study what happens when patients can just chat
25 with an AI assistant in the context of their

1 charts, doing things like answering questions
2 with, not just general knowledge about what does
3 that test mean, but with the context of what the
4 provider put in their note regarding what they're
5 looking for in their plan based off of the results,
6 or other diagnoses or medications on the chart
7 that might impact that value. Next slide, please?

8 Now, those are just a couple example of
9 all of the different things that patients and
10 health care providers are doing with MyChart
11 today. There's a ton that patients can do
12 themselves.

13 Now, obviously, MyChart is what I know
14 best, where I've seen a lot of these outcomes, but
15 we've also built a robust ecosystem for patients
16 to connect their home devices or other apps. On
17 one end, that means making it easy for a patient
18 or device vendors to feed information into MyChart
19 and into the EHR for patients and providers to
20 use.

21 On the other hand, that also means
22 patients being able to bring and connect their own
23 apps if they want to get data from Epic or from
24 MyChart and use it in another experience that's
25 more tailored to what they're looking for at that

1 point in time. And our focus here has really on
2 industry standards like FHIR APIs or common data
3 sets like USCDI to make it easy for app developers
4 to connect and deploy those other technologies.

5 And if you go to the next slide, you'll
6 see that this is working. We have real-world
7 adoption today at scale. Right now, over 850
8 different patient-facing apps are live across the
9 Epic community, and across those apps, we've seen
10 half a million of them authorized by patients and
11 over two billion FHIR API requests made by those
12 same apps over the course of just the last year.
13 If you go to my next slide?

14 Rounding all of this out, I think there's
15 certainly a tremendous amount of things being
16 achieved with MyChart today, but regardless of the
17 technology, I think there's three key strategies
18 that are needed to drive change and innovative
19 care models.

20 First, those innovations do need to be
21 care model-driven. They should be led by
22 clinicians in partnership with IT to understand
23 how tech can support different models of care.

24 Second is in order for it to be adopted,
25 it needs to be easy for clinicians. Usually, this

1 means things like inline in workflow and then
2 having the system summarize key insights and
3 present them proactively rather than hitting
4 providers with yet one more fire hose of data that
5 they need to figure out how to make sense of.

6 And then third is simplicity for patients
7 is also key. One of the things that we have seen
8 be tremendously helpful with MyChart is that it is
9 that single app that they can use to manage all
10 aspects of their journey in one place. I think
11 the more that we can roll things up and make it
12 simple for patients so they're not trying to go
13 between four or five different solutions, the more
14 successful we're going to be. And with that, I
15 will wrap it up and turn it over. Thank you.

16 DR. BOTSFORD: Thank you, Trevor. So,
17 next, we're pleased to welcome Dr. Pradnya B.
18 Bhattad, an Interventional Cardiologist in
19 Minneapolis, Minnesota. Pradnya?

20 DR. BHATTAD: Thank you very much for
21 this opportunity. Good afternoon, everyone. It
22 is an honor for me to be speaking with you all
23 regarding various tools to enhance health literacy
24 and patient empowerment.

25 I'm trained in internal medicine,

1 cardiovascular disease, and interventional
2 cardiology, and recently, working on developing
3 tools to basically have a direct patient and
4 provider accessibility on more of a digital
5 platform, which is coming up soon. Next slide,
6 please? We'll get started. Next, please?

7 So, patients often have a lot of
8 information gaps, which is not necessarily from
9 the lack of available data, but it's that they're
10 not able to navigate the health system
11 effectively. They may have limited understanding
12 of their diagnosis, of their treatment options,
13 about medication instructions, about when to call
14 for help.

15 And the tools, the educational materials
16 are basically to empower them to understand their
17 health conditions better, to understand what
18 treatment options they have, what health care
19 settings they can access, and do they need care
20 in what particular system, what different kinds of
21 providers they can go to, what other treatment
22 options.

23 Basically, they need to understand their
24 condition, get not only directed treatment
25 strategies, but also should understand the risks,

1 benefits, and alternatives to what they are being
2 told, and tailored patient education, which is not
3 one-size-fits-all.

4 This is something to empower the patients
5 so that they can make a shared, informed decision,
6 which can improve health outcomes, to reduce
7 unnecessary testing, because there is a lot of
8 defensive medicine practice which utilizes a lot
9 of health care resources which can be minimized to
10 a great deal, which I think it's creating a lot
11 of health care junk in the background, which is
12 not helping our patients at all.

13 And if we clean up that and reduce that
14 unnecessary testing with the goal to where it's
15 improved patient autonomy so that they are more
16 actively involved in their own care. That's the
17 main goal in terms of patient empowerment. Next
18 slide, please?

19 There are several digital tools in the
20 current times, and we must acknowledge that these
21 are some of the strongest tools that we have than
22 we have ever had before, especially reaching some
23 of the most remote, rural areas where health care
24 accessibility is a big concern even in the most
25 developed nations.

1 There are several tools such as
2 telehealth and mobile applications, patient
3 portals, online resources, and personalized health
4 coaches and navigators. Next slide, please?

5 With the telehealth, it's one of the
6 strongest mode, digital tool that we have, which
7 has the ability to reach some of the most
8 underserved populations. It is not only for a
9 regular virtual visit, but ongoing follow-up of
10 chronic conditions.

11 The vast majority of conditions that we
12 have are a lot of chronic, and to support that for
13 regular follow-up, and to make sure that the goals
14 that we develop with our patients together so that
15 they reach their health care goals, are actually
16 there in line with that. I think those are some
17 of the most important things for which, in the
18 underserved areas, it is very, very unlikely that
19 rural populations will seek regular chronic
20 follow-up.

21 And telehealth can have this ability to
22 encourage active participation in their own health
23 care, better understand their care, sorry about
24 that, better understand their own health care, and
25 encourage active participation in their own care,

1 increasing patient autonomy.

2 So, this is more efficient from a
3 provider standpoint, and this can be more
4 efficient in terms of their travel times, the
5 costs, the continuity of care. These are all
6 minimized, and we are able to provide patient-
7 centered care and improved outcomes. Next slide,
8 please?

9 We, as mobile health applications, can
10 also be used not just for telehealth, but several
11 health metrics can be tracked. For instance, it's
12 not just about the vital signs and activity
13 levels, but there are already a lot of
14 applications, for instance, electrocardiographic
15 data, ECG⁵⁸ data, heart rhythm monitoring can be
16 done without the need for event monitors.

17 A lot of times, common arrhythmias are
18 detected with just these mobile health
19 applications, and these can be followed up and can
20 be treated accordingly. It can be used to
21 encourage them for healthier habits and through
22 virtual follow-up to support the behavioral change
23 and manage these chronic conditions so that
24 they're more active in their own wellness.

25

58 Electrocardiographic

1 Also, these mobile health applications
2 can provide resources on various treatment
3 modalities to understand it, because it's very
4 alarming when I see patients oftentimes who do not
5 understand their own health conditions.

6 For instance, they might be taking a
7 blood thinner, and they don't even know what
8 they're on it for, what the risks are, benefits
9 are. This is just an example. And I've seen
10 patients who have been on certain medications for
11 20, 30 years, and they have no idea what they are
12 taking it for.

13 All that I hear is my doctor told me to
14 take it, and I'm taking it, and then they just
15 keep taking it for years and decades, and that
16 just increases polypharmacy, and there could be a
17 potential for decreasing that.

18 So, the goal has to be to eliminate
19 excessive junk, which is not current, which is not
20 up-to-date, and to have the data that is needed
21 for very specific patient education, and for this,
22 provider training is important as well. Next
23 slide, please?

24 So, patient portals can do the same as
25 well in monitoring health metrics, lab results.

1 For instance, you are monitoring certain, for
2 instance, aortic dimension, and close follow-up
3 through those, besides regular administrative
4 tasks, but related to their appointments,
5 medication refills, for instance.

6 And in the past, I remember when I
7 started my training, patients were not able to
8 access their own medical notes, for instance,
9 which eventually changed, and now they're able to
10 access their own notes through the patient
11 portals, which is a great change in the last few
12 years increasing the transparency.

13 But there can be a more tailored
14 complement wherein the transparency and patient
15 care, for instance, patients should have
16 information about their billing system, how their
17 insurance works, how much they are going to be
18 billed for a certain procedure or a certain test.

19 Even the providers are not very well-
20 equipped to understand how that happens, and
21 neither are the patients, so there is a huge gap
22 in providing that clear transparency onto how the
23 billing process works, what would be the up-front
24 estimated costs. Because nobody really knows what
25 the rough average estimated cost of a certain

1 health care would be or for a certain medication
2 would be.

3 If I am prescribing somebody a
4 medication, but I do not know what it would cost
5 to a specific patient, and it changes based on
6 everyone's insurance plans, I think having that
7 key transparency can be very much cost-effective
8 to the entire economy, as well as to the patients,
9 and could reduce unnecessary costs, and patient
10 portals do have the ability to incorporate these
11 and further encourage active participation. Next
12 slide, please?

13 There are several additional tools
14 besides what we discussed. There could be health
15 literacy assessments, and peer support groups, and
16 patient navigator resources, but some of the most
17 important and most impactful would be if the
18 providers undergo health literacy training in
19 which the health care professionals, the providers
20 are educated to help impart patient education
21 every single time they see them. Next slide,
22 please?

23 The most important thing is if they're
24 able to clearly communicate in an unbiased way,
25 provide the patients with the most transparent

1 information, the most complex information, can
2 eliminate misunderstandings and better make the
3 patients understand, very well inform them about
4 their conditions, about their treatment options.

5 And if they understand their treatment
6 options, they can take active roles in what they
7 want. Oftentimes, if I have a patient who is
8 referred for a certain heart catheterization
9 procedure, and if I am explaining to them, these
10 are the risks, these are the benefits, these are
11 the alternatives, and it doesn't take me too long
12 to explain this, but what happens is I'm
13 surprised.

14 Oftentimes, patients are not even aware
15 of all of these by the time they come and see me,
16 and they're ready to be going for a procedure which
17 does have some life-threatening risks.

18 And I'm alarmed with the fact that how
19 uninformed patients can be, and it just takes some
20 simple disclosure, key transparency, complete
21 transparency in the process, and conveying more
22 complex information in a very simple format to
23 educate the patients, that they understand.

24 Because if I understand something, then
25 I can make a complex decision for myself, and that

1 is what we can call as a shared decision-making
2 and not a one-sided decision-making, and that can
3 give the patients the most autonomy, and that can
4 improve patient satisfaction, and that is how they
5 will know what they need to follow up on their own
6 care.

7 Because it is the patient's health care
8 ultimately, and they have to take a full lead in
9 this, and we are supposed to help them every step
10 of this way, and the most important part starts
11 with this health literacy training, which I think
12 is the most simplest form we can start with. Next
13 slide, please?

14 And some of the most useful information
15 in this would be to create certain accessible and
16 relevant materials which are tailored to our
17 individual patients that can be used.

18 Instead of just imparting, this has to
19 be a two-sided conversation between the patients
20 and providers, and a long-term follow-up wherein
21 there should be some virtual, or telehealth, or
22 digital platforms to be developed in which the
23 patients and providers can directly communicate
24 hey, I saw this result in this particular test.
25 What do I do next?

1 This should be directly approachable to
2 the physicians, there is no reason to not, and
3 should initiate a direct conversation, but there
4 are too many obstacles in between that flood the
5 providers' charts, their inboxes to the point that
6 they may mute them and may not ever get back to
7 them timely as it is needed.

8 So, if we're able to eliminate the junk,
9 have a focused approach, and to double-up direct
10 patient-provider communication and long-term
11 follow-up with minimizing the junk in both the
12 patient, as well as the providers' boxes, I think
13 that is going to be the most effective
14 communication strategy, and organizations can
15 improve patient outcomes and satisfactions to
16 their best.

17 I thank you all very much for this
18 opportunity.

19 DR. BOTSFORD: Thank you, Pradnya. So
20 last on our panel we are happy to welcome Dr. Ricky
21 Bloomfield, who's the Chief Medical Officer at
22 ŌURA. Please go ahead, Ricky.

23 DR. BLOOMFIELD: Thank you so much. And
24 thank you to Vishal, Trevor, and Pradnya as well
25 for your comments. Plus-one to everything that

1 you said, as well.

2 So a little bit of background about
3 myself. I'm a Chief Medical Officer at ŌURA, which
4 is a smart ring company. And my clinical
5 background is internal medicine and pediatrics, as
6 well a board certification in clinical
7 informatics.

8 Prior to joining ŌURA about six months
9 ago, I led the clinical and health informatics
10 work on the health software team at Apple, where
11 I worked on a number of the things that Trevor
12 actually touched on, including sort of at the dawn
13 of the FHIR API ecosystem.

14 I had spent some time at the Duke
15 University Health System building out an API
16 there, before there was formal support for FHIR
17 APIs, or before most people knew how to pronounce
18 FHIR, and saw it as a real way to lower the
19 barriers for access.

20 And I had the opportunity to go to Apple
21 where we built the first app to use FHIR APIs at
22 scale. And we're able to work with the major EHR
23 vendors to, you know, test and validate these APIs
24 initially.

25 And were able to grow that from I think

1 13 health systems when we launched in 2018 to over
2 10,000 unique health systems by the time we left,
3 all with standards-based APIs.

4 And one of the reasons that I'm most
5 proud of that effort is because not only did that
6 help to kind of smooth the path for an organization
7 like Apple to access, but also because it's an
8 open standard it helps move the path for everyone,
9 and the, you know, 800 plus apps that Trevor showed
10 right there to be able to access.

11 And at the end of the day that's what we
12 have an obligation to do, which is to help more
13 patients access their data securely and privately,
14 so that they can have, and be more empowered to
15 improve their own health.

16 And also at Apple, you know, Apple is a
17 company that produced hardware. And the Apple
18 Watch had some of the first features that are
19 regulated. For example, atrial fibrillation as a
20 regulated device.

21 And at the time there was a lot of I
22 think consternation among the clinical community.
23 And, you know, I spoke with many clinicians that
24 this would result in just a wave of misdiagnosis
25 and a worried well.

1 And while there will always be some
2 amount of worried well, I think in general most
3 physicians now that I've spoken to have either
4 directly, you know, treated someone, or have a
5 family member, or know of another, you know,
6 patient of a fellow clinician who has come in with
7 an alert from one of these, you know, many medical
8 devices now, or wearable devices that have
9 software as a medical device, FDA⁵⁹ cleared
10 features, and that it was true.

11 And this is what I'm most excited about
12 in the future is, how can we, with these devices
13 that are the most intimate devices you can have,
14 that's in contact with your skin 24/7, how do we
15 use that as a force for good, to be that check
16 engine light for your health, or the guardian
17 angel to find these things that otherwise would
18 not have symptoms, not have obvious symptoms?

19 And how can we help alert someone to the
20 risks of these features earlier so that they can
21 go in and get checked out? And of course do that
22 in a way that is evidence-based with the right and
23 appropriate sensitivity and specificity, in order
24 to make these tests powerful so that they can

25
59 Food and Drug Administration

1 improve health at reduced cost.

2 So, speaking about ŌURA, our goal from
3 the beginning is to give everybody a voice. And
4 ŌURA was a company that was founded 13 years ago,
5 and was really focused on sleep initially.

6 Then the goal was how do you make a
7 device that can be with you 24/7, that you don't
8 have to charge at night, so that you can get the
9 highest quality data to help someone understand
10 their sleep?

11 And of course sleep is something that
12 impacts every aspect of our lives. We know if we
13 don't have good sleep, we're not going to have a
14 good day. And we know that there are many, many
15 different things that can impact sleep.

16 But we actually grew from sleep into, you
17 know, measuring many other things, using similar
18 sensors to a device like Apple Watch, with a PPG⁶⁰,
19 motion detection using the accelerometer,
20 temperature detection, and can put these together
21 to actually measure a number of different things.

22 So, you can go to the next slide. Just
23 for some context and background. Now there are
24 over 50 different metrics that the Ring can

25

60 Photoplethysmography

1 measure. And unlike, you know, early versions of
2 the Ring that lasted a couple of days on a charge,
3 the latest versions in, you know, a very small
4 device can last up to a week.

5 And what that means is the opportunities
6 that you have to sense and potentially intervene,
7 especially for individuals that are at home,
8 outside the clinical setting is really, really
9 powerful.

10 And we've seen incredibly high levels of
11 engagement that, you know, I was very skeptical
12 when I first looked into the Ring. But we found
13 that individuals wear the device 23 and a half
14 hours per day. They open the app multiple times
15 per day.

16 And that's true because they see the
17 direct benefits, that it helps with them. Just
18 as one example, even though the device was not
19 intended to have this impact, we've seen that for
20 many, many people once they start wearing the Ring
21 and measuring their sleep, they've seen the impact
22 of alcohol consumption on their sleep.

23 And for some people, just a single drink
24 will disrupt their deep sleep. It will impact
25

1 their HRV⁶¹. And while they may not have felt
2 great in the morning, they've never been able to
3 quantify that.

4 So being able to quantify the impact of
5 alcohol on sleep has resulted in many people
6 significantly, you know, cutting down, or
7 completely stopping alcohol all together.

8 And that was a surprise to us. That
9 wasn't something the device was designed to do.
10 But it was designed to be very, very accurate, and
11 based on a foundation of science.

12 So when we heard of these things, it
13 wasn't surprising to us, because of the amount of
14 validation that we put into the device. But it
15 shows that shining a light on additional
16 information in the right way that is consumer
17 centric can have a dramatic impact on health and
18 health outcomes.

19 Next, slide. And just to talk a little
20 bit more about the foundation in science. See,
21 the slide hasn't switched for me yet. Maybe
22 there's a lag on my side. So I'll talk just a
23 little bit about the sort of scientific validity
24 of the Ring.

25 _____
61 Heart rate variability

1 sailors who died in those accidents. And it was
2 traced to fatigue and burnout.

3 And so the Navy is very interested in
4 understanding what they can do to number one,
5 measure that, and number two, once they have that
6 information, how do they act on it?

7 And so other branches of the military,
8 including the Air Force, have had an interest in
9 the same thing. And so the Air Force Research
10 Labs did a test of some of the major wearable
11 devices, and found that ŌURA, you know, Generation
12 4 was the most accurate for resting heart rate and
13 HRV, compared to all the other devices.

14 And that's really important, because
15 these are the metrics that can serve as a
16 foundation for a lot of the stress and resilience
17 information that comes from it.

18 And talking about the accuracy, if you
19 go one more slide, to the next slide. And so, as
20 I mentioned the device is built for accuracy. So
21 heart rate, 99 percent accurate compared to ECG.
22 Same thing with body temperature, heart rate
23 variability, and sleep tracking.

24 Sleep tracking is compared to the gold
25 standard of an overnight polysomnogram. And

1 again, this is important for everything else that
2 we would like to do, especially for caring for
3 patients at home.

4 Next slide. Just to briefly talk about
5 some of the use cases we've seen. I've mentioned
6 burnout already on the DoD side. But also very
7 interested in burnout across a number of areas.

8 And so DHA⁶³ is also very interested in
9 studying burnout among clinicians. And
10 understanding how do we help the clinician
11 population, again detect burnout and stress. And
12 also intervene sooner before it becomes a crisis.

13 And we know that across health systems
14 today, burnout is a serious issue that was
15 magnified from COVID. And a lot of the, you know
16 the work that happened there.

17 And burnout is one of these,
18 unfortunately a negative cycle where the more
19 clinicians you have burn out, the more that exit
20 their profession. And the worst burnout becomes
21 for those that are left.

22 And we also know that there is going to
23 be a shortage. There's already a shortage of
24 clinicians. But that will only become magnified.

25
63 Defense Health Agency

1 The AAMC⁶⁴ actually did a study last year
2 and showed that by 2036, the physician shortage
3 will be 86,000 clinicians. And that's just in the
4 U.S., not including the rest of the world as well.

5 Also talking about primary care. We
6 have, you know, hundreds of clinics that have
7 implemented this in their clinic. And very
8 interested in understanding how these devices can
9 help them make better decisions.

10 And again, because, you know, we want to
11 move from this break/fix sort of reactive system
12 of care to something more proactive where we can
13 focus on prevention.

14 And the best way to do that is to improve
15 our understanding of, you know, the 99 plus, at
16 least we hope it's 99 plus percentage of time that
17 patients spend outside the care system.

18 We don't want our patients to spend more
19 time in the care system. We want them to be at
20 home living their fullest lives and having, you
21 know, maximizing their health span, the number of
22 days of their lives that they are healthy.

23 And so working with clinics on how to
24 incorporate that data into electronic health

25

⁶⁴ American Association of Medical Colleges

1 records, how to incorporate that in a way that
2 uses open standards that were talked about before
3 is really, really important.

4 And that also goes into chronic care
5 management. So we partnered with MA⁶⁵ plans,
6 including Essence, an MA plan in the Midwest to,
7 and they are offering the ŌURA Ring as a covered
8 benefit now because of the high level of
9 engagement that they see.

10 And their interest of course is, if we
11 can improve engagement, they can improve health
12 outcomes. And these are, you know, 65 plus, not
13 what you would call digital natives. But the
14 uptake has been very, very strong, to the extent
15 that they want to expand this.

16 And this includes the ability to, you
17 know, not just wear the device, but also to share
18 that data back into the health system so they can
19 take action when there are metrics that are off.

20 You can imagine a CHF⁶⁶ patient or a
21 COPD⁶⁷ patient that are having an exacerbation.
22 They want to prevent those readmissions. And they
23 see this data as a way to help close that loop.

24
25 _____
65 Medicare Advantage

66 Congestive heart failure

67 Chronic obstructive pulmonary disease

1 Next slide. I believe this is the last
2 slide. Finally, we understand that, you know,
3 it's not just about measuring the data at home,
4 and helping users to access that data themselves.
5 Although that is a major part of it, what we can
6 do to empower users with their own data.

7 Unfortunately we've seen, especially
8 post-COVID, that many individuals are opting out
9 of organized health care. They are becoming very,
10 they're losing trust in general.

11 And I worry that that could become a
12 crisis, that we have more and more people that
13 only go when they absolutely have to, when there's
14 something that is obviously wrong.

15 And this means that our opportunity to
16 engage meaningfully in prevention is diminished.
17 Because prevention is something that really
18 requires engagement with a health system, with
19 those that can help you, you know, understand what
20 vaccines you need, what screening tests that you
21 need.

22 And the more that we can do to help
23 surface some of these risks earlier, and then
24 encourage people to, you know, enter into the
25 health system again to get the care that they need

1 is I think a growing, there's a growing urgency
2 around something like that.

3 So what we want to do is partner with
4 organizations that can number one, help us to
5 measure things. So we've partnered with Dexcom
6 for the over-the-counter Stelo device to help
7 people understand their glucose trends over time,
8 and how it relates to their meals, so they can
9 improve their diet, improve their overall health.

10 I wore this device for the first time
11 earlier this year. And I learned how big of an
12 impact a late meal has on both my sleep, as well
13 as my glucose.

14 And as a clinician, those things should
15 be obvious. But we're not taught all of these
16 details in medical school. So it's really
17 interesting to start to see how some of these
18 devices have opened up our eyes around the impact
19 of some very, very basic daily routines.

20 And then we also partner with
21 organizations like Maven, which is the largest
22 virtual clinic for women and families, to help our
23 members who are using the device for cycle
24 tracking, or for their, you know, to manage their
25 pregnancy. That when they have questions or

1 concerns, they have someone that they can turn to.

2 We know that we can't do everything for
3 those members. So we want to be able to have a
4 streamlined way for them to get access to trusted
5 professionals to help them take the next step on
6 their journey.

7 Thank you very much for your time and
8 attention. And I'll turn it back over to the team.

9 DR. BOTSFORD: Thank you, Ricky. And
10 thank you to all our experts for those great
11 presentations. So next we're going to open the
12 discussions to our Committee members.

13 At this time, PTAC members, feel free to
14 flip your name tent up if you haven't already.
15 Although I see many already up. And for our
16 virtual Committee members, please raise your hand
17 in Zoom.

18 In the interest of ensuring balance, and
19 to try to get through all the questions that are
20 up here, please try to keep your answers to just
21 a few minutes, so we can get to all of the
22 questions. I think I'm going to start off with
23 Lee.

24 CO-CHAIR MILLS: Sure. This, well, I
25 guess it's directed to Trevor and Ricky. But I

1 guess love everybody's thoughts. And I come to
2 this question having been a, you know, primary
3 care leadership operator for 25 years before I
4 flipped to the plan side.

5 And so I must say I've got a challenged
6 relationship with UM⁶⁸ activities. And the
7 unfortunate reality in the world that there is
8 both waste and abuse, as well as fraud at times.

9 And UM serves an important role. But we
10 certainly want to lean into using data and HIT⁶⁹
11 to transparently empower both customers and
12 support providers.

13 And so I'm just wondering if you can
14 unpack a little bit for us things that maybe Epic
15 is doing working with partners, or piloting using
16 the clinical data we have in health records to
17 automatically meet transparent, you know,
18 clinical, evidence-based clinical decision-making
19 guidelines, and serve health plan partner UM needs
20 up front, instead of it being an administrative
21 process, driving it from the provider side.

22 And then ask, Ricky, have you ever
23 thought about, is there any chance that patient
24

25 ⁶⁸ Utilization management

⁶⁹ Health information technology

1 provided information could be paired in that same
2 space?

3 I could definitely see, you know, we've
4 got UM guidelines that tell us which patient can
5 have a home sleep study versus an in-lab sleep
6 study.

7 And I suspect that information coming
8 from the Ring could differentiate that up front,
9 and again remove some administrative burdens. So
10 love your thoughts on that.

11 MR. BERCEAU: Yes. Great question. And
12 I can start. We have been working very closely
13 with many folks across the Epic community to look
14 at how do we kind of standardize some of those
15 clinical programs and clinical pathways that they
16 have done?

17 Often this looks like working with an
18 organization who has motivated clinical and
19 operational leadership. Or sometimes working with
20 our Steering Boards, focused on specialties,
21 whether that's cardiology or, cardiology pediatric
22 medicine, any of those specialties to say, okay,
23 what can be done?

24 What are the types of innovative care
25 models that you would want to stand up? And then

1 how do we put together all of the technical pieces
2 and parts to make it happen?

3 That could be for something as
4 straightforward as looking at a CHF patient post-
5 discharge, right. Obviously for congestive heart
6 failure, one of the big warning signs is if weight
7 is going up for fluid retention.

8 And that's often a warning sign that you
9 might be looking at someone coming back to the ED
10 or the hospital. So being able to get it
11 protocolized.

12 So as you send these patients home, you
13 send them with a smart scale, or the ability to
14 connect to a smart scale that they already have
15 at home, feed that data in.

16 And then the algorithm can look at it to,
17 both prompt the patients to take additional
18 action, as well as alert a care manager or another
19 person at the organization to then reach out and
20 see, what do we need to do to prevent this from
21 turning into a readmission?

22 So we've done a lot to track, and
23 protocolize, and standardize some of those best
24 practices, and choose how you put it together.

25 And then of course all of the data is

1 there from a documentation standpoint for, here's
2 the data sources that led to this in a clinical,
3 this clinical review.

4 That then led to this prescription
5 adjustment or this telehealth visit, or whatever
6 that follow-up may have been.

7 And then we have been doing more as well
8 to look at, how do we package all of that up and,
9 you know, collaborate on the payer side as much
10 as possible to say, hey, here's all the
11 information that you need that outlines the
12 clinical decision-making that went into it, and
13 why it should be allowed.

14 And honestly, our goal has been starting
15 to do more work with payers in recent years as
16 well. The goal being, looking at where are some
17 of those forms and ways for it.

18 Where can we get rid of prior
19 authorizations? Where can we say, hey, we can
20 make these prior authorizations applicable in much
21 smaller amounts?

22 Or where a prior authorization is needed,
23 how do we automate it as much as possible? We're
24 trying to get that turnaround as fast as possible.

25 So we've been looking at it all the way

1 from the clinical program side to the how does
2 this get communicated and documented side of
3 things. That communication between payers and
4 providers remains a challenge in many spots. But
5 it's something where we are starting to see some
6 progress and have a lot of optimism looking
7 forward.

8 DR. BLOOMFIELD: Yeah, and I would just
9 briefly add to that, the short answer is yes to
10 your question. Those absolutely are things that
11 we are looking into.

12 In fact, the early work that we've done
13 with Essence, this MA plan in the Midwest, they're
14 a payvider. So they have a number of clinics that
15 they are overseeing as well, many of whom use Epic.
16 And they're very interested in getting that data
17 into their clinical workflow so that they can
18 action on that data as easily as possible.

19 In fact, some of the early things that
20 they're interested in are, you know, nighttime
21 breathing disturbances, including looking at sleep
22 apnea.

23 So the use case that you mentioned is
24 exactly what we would like to try to improve, so
25 that you can, you know, try to triage and use

1 resources more effectively.

2 At the end of the day, they want to
3 improve health and save money. And that's what
4 patients want. And, you know, that's what we want.

5 And so if we can do that with a, you
6 know, relatively inexpensive home-based device,
7 and help them connect with their clinician in a
8 way that allows them to get the right information
9 to the right doctor at the right time to make that
10 decision, then that's a win all around.

11 And so we're already seeing a lot of
12 progress on that front, and are actually building
13 a web-based clinical dashboard that can integrate
14 right into the EHR with a single click so that
15 they can view that data, again using the open
16 standards that have been developed over the past
17 decade.

18 DR. BOTSFORD: Thank you both. Jay.

19 DR. FELDSTEIN: Thank you. Great
20 presentation. A couple of questions. One for
21 Trevor. And it's really specific. And then a
22 follow-up, which is kind of related to Ricky.

23 And it is, in the outcomes you showed,
24 Trevor, at Christ Hospital, NYU, were you able to
25 break it down by line of insurance, whether they

1 were commercial insured, whether they were
2 Medicare insured, or whether they were Medicaid
3 insured?

4 MR. BERCEAU: I do not have that
5 breakdown. Those were, the satisfaction scores
6 they --

7 DR. FELDSTEIN: Yes.

8 MR. BERCEAU: -- showed were the, from
9 the HCAHPS⁷⁰ data that they were getting from their
10 patients. We can follow up with them to see if
11 they have that. But I don't have that --

12 DR. FELDSTEIN: Okay.

13 MR. BERCEAU: -- by payer --

14 DR. FELDSTEIN: All right. I was just
15 curious. And then somewhat related, Ricky, you
16 know, ŌURA's started out as a direct-to-consumer
17 purchase. And it's interesting to hear that now
18 Medicare Advantage is going to cover it.

19 And one of my concerns is just kind of
20 for everybody, but really crystalized with ŌURA
21 is, how do we make sure that digital tools don't
22 become another health care disparity?

23 In that, you know, that everyone's got
24

25

70 Hospital Consumer Assessment of Healthcare Providers and
Systems

1 equal access to these tools. And I'm just curious,
2 you know, what ŌURA's approach is going to be.
3 And, you know, and across for everyone as we
4 consider, you know, how we're going to leverage
5 these digital tools.

6 That we really be able to need, to offer
7 them across the health care continuum, you know,
8 for all payers, quite frankly. So I guess, Ricky,
9 I'll start with you first.

10 DR. BLOOMFIELD: Yes. That's such a
11 great and important question. And first of all,
12 I would say that Essence has chosen to cover this
13 themselves. I don't want to spread misinformation
14 that --

15 DR. FELDSTEIN: No. Understood.

16 DR. BLOOMFIELD: -- MA plans generally
17 are covering this. And so they are, you know,
18 willing to take the risk as an innovative plan
19 and see how it works. And so far they've been
20 very happy with that.

21 And the goal, we can't call it a success
22 until we've actually measured it. And that's the
23 end goal. Can we measure not only improved health
24 outcomes, but also, you know, cost savings?

25 We have to do that before we can declare

1 a victory. And so I think that's really important,
2 you know, foundational point. And I'm sure you
3 all would agree with that.

4 And so we actually have a Director of
5 Health Outcomes Research that joined, that is
6 helping to lead these efforts to study and publish
7 transparently, you know, these results.

8 At the same time, we recognize that these
9 devices can be expensive. And so we're working
10 all the time to reduce, you know, to produce these
11 at lower cost. We also are working on initiatives
12 to help, you know, compensate for these through
13 FSA⁷¹ and HSA⁷² plans.

14 We also launched an initiative earlier
15 this year where, is our first partnership with a
16 company that helps manage the ICHRA⁷³ plans, if
17 you're familiar with those.

18 It's a newer individual, you know,
19 coverage plan, as more people are opting to, or
20 more employers are opting to share dollars
21 directly with individuals versus covering
22 insurance plans, or giving them the option. The
23 ICHRA plan is one of those options.

24
25 71 Flexible savings account

72 Health savings account

73 Individual Coverage Health Reimbursement Arrangement

1 But at the end of the day, we need to
2 show outcomes, and ultimately show that the cost
3 savings are greater than the cost of the device,
4 so that these can be covered for everyone, so that
5 the benefits are available to everyone.

6 Interestingly, what we've seen, and
7 you've probably seen a similar thing, is that if
8 you look at the demographics of who owns a
9 smartphone today, almost everybody, you know.

10 And so it comes down to, is this device
11 useful for you? And for a lot of people, the
12 evidence around a wearable is questionable,
13 whether it's useful for you or not.

14 And so I think as we start to see that
15 change, and as we start to see more and more
16 devices that are FDA-cleared, that are, you know,
17 proven with the science to be beneficial, we'll
18 start to see that calculus change over time.

19 DR. FELDSTEIN: Thank you.

20 DR. BLOOMFIELD: You're welcome.

21 DR. BOTSFORD: Did any of our other
22 panelists want to answer? Vishal, I saw you
23 unmute. You don't have to --

24 MR. GONDAL: Yes. I just wanted to add
25 something. Because we work with several

1 governments across the world. And accessibility
2 is a very important question.

3 In India, we have extensive experience
4 on that. And similarly in the NHS, we work with
5 several counties which are having population which
6 are at a very different socioeconomic level.

7 So what we are seeing is, it's not just
8 about wearables. it's actually creating
9 community-based digital tools where there is even
10 at the clinical end when you enter a clinic, itself
11 there are tools which are able and devices which
12 are available, which can be used for remote
13 testing. Or there could be people in the field
14 who are enabled with these devices.

15 So a lot of times when you look at
16 devices, they are not all just personal devices
17 which people kind of carry and own. It's also the
18 community-based testing.

19 So think about it that you are able to
20 cast a much wider net in the health care system
21 to catch people early on, versus waiting for them
22 to have a symptom, fall sick, and then come into
23 the system.

24 So it is like having a digital
25 surveillance network which kind of keeps expanding

1 in these communities. And as you identify people
2 at risk, you kind of zero in on to them. So that
3 is an approach which we've been taking very
4 effectively.

5 DR. BOTSFORD: All right. I see Krishna,
6 then Walter, then Larry. Krishna.

7 MR. RAMACHANDRAN: Okay. Thanks, and
8 great work on this. Mine's maybe for all of you.
9 I mean, we're obviously seeing this like
10 proliferation of apps.

11 Obviously, Trevor, your, the 860
12 something number, that's just the sort of Epic
13 store. Clearly there's more. And the Apple app
14 store there. So clearly it provides consumer
15 choice, obviously more competition. So we like
16 that part.

17 But I also hear from the provider
18 community, it just adds more sort of noise into
19 the mix. And, you know, teasing out signals is a
20 challenge there.

21 So the second half of our, our sort of
22 theme meeting which, one is on empowering
23 consumers, the other is on supporting providers.

24 I'd love your perspectives on, like how
25 are you approaching the provider support piece, so

1 you can surface up more signals from obviously a
2 plethora of data that will be collected by all
3 these apps?

4 MR. GONDAL: So I'll go first on this.
5 So you raise a very important point, Krishna. I
6 think what has happened is that the world has got
7 filled with point solutions. And on one EMR
8 system, there are now 50 or 100 point solutions
9 which are sitting each operating in a silo.

10 This was all good when it was clinical
11 solutions when a person was within the clinic.
12 The doctor could kind of connect the dots and make
13 distilled decisions.

14 But now, as the care is becoming more
15 remote, imagine a patient who is having diabetes.
16 And then also having a heart disease, and also
17 having mental health challenges. They're all
18 connected.

19 But the solutions don't look at it as
20 connected problems. It could be connected to your
21 sleep, for example. So what we are seeing is
22 unified solutions which are almost anti-point
23 solutions.

24 And now especially payers, who are
25 controlling the purse, are seeing that I want to

1 have a 360 degree use and view of the data, and
2 then get inside all of that.

3 So just think about your banking app in
4 a way. Previously banks had a different app for
5 savings account, and different apps for credit
6 card, a different app for different things. But
7 now most of the banking apps and fintech apps are
8 combining into a unified interface for the
9 consumer.

10 The same thing is what we are seeing
11 happening in the health care domain. Both for the
12 provider, as well as the patient, as well as the
13 clinician. They're all going to work on a similar
14 workflow.

15 And AI is then going to power each one
16 of them with their own copilots. So that's really
17 where the direction of what we see going.

18 DR. BLOOMFIELD: I would, yes, I would
19 add to that. I think that's a good point. And I
20 think it's definitely a balance where one of the
21 reasons point solutions exists is because there
22 are many ways to solve the same problem.

23 And at the end of the day, we want the
24 best solution to win. And we want that competition
25 in the marketplace so that you can have the, you

1 know, the solution that improves health at the
2 lowest cost.

3 From my perspective, the best way to
4 mitigate the challenge of having so many point
5 solutions is to continue to invest in
6 interoperability. And that's something that I've
7 spent a decade of my career doing. You've
8 certainly seen, you know, the work that EHR
9 vendors have done, like Trevor, you know,
10 highlighted here.

11 And I had the opportunity to attend the
12 White House for the MAHA⁷⁴ event where, you know,
13 there's a focus on kill the clipboard, and
14 conversational AI agents, and improving identity
15 management at a, you know, at a scalable way so
16 that you break down the remaining barriers to true
17 interoperability.

18 And I think that's what, you know, CMS,
19 ASTP⁷⁵ is currently focused on, ONC⁷⁶. And I
20 support those efforts. Because there's still too
21 much friction in the ecosystem.

22 And there's still, as we saw just I think
23

24 ⁷⁴ Make America Healthy Again

⁷⁵ Assistant Secretary for Technology Policy

⁷⁶ Office of the National Coordinator for Health Information
25 Technology

1 it was a couple of days ago, additional action on
2 information blocking. It's still harder for some,
3 you know, individuals to access data when they
4 want it at the point of care.

5 I think the other thing that's also
6 really challenging is, it's become much, much
7 easier to get the data out of the EHR systems.
8 It's still, the standards still don't exist to get
9 the structured data back into the system.

10 And so I know, you know, I've worked with
11 Argonaut for many years. This is a project within
12 HL7, which is the health data standards
13 organization, to, you know, work to standardize
14 how data can go back into the EHR. And I think
15 that's a really, really important, sort of
16 unsolved problem at scale.

17 There are a lot of proprietary ways to
18 do it. But ultimately having, you know, strong
19 standardized solutions for both input and output
20 are how you can, you know, take action with a
21 number of disparate systems to maintain the
22 competitiveness, and the benefits from that, as
23 well as, you know, getting the data to the right
24 place at the right time.

25 DR. BOTSFORD: Trevor.

1 MR. BERCEAU: Yes. I would, I don't
2 think, I really like to think about this in two
3 categories. One is just how does the data get
4 moved across the different systems?

5 And, Ricky, 100 percent agree with you.
6 Also very supportive of the work the Argonaut
7 Project is doing to standardize how do you get
8 data across.

9 Because that's exactly the goal of those
10 standard FHIR, USCDI, other definitions like that,
11 is so that while an, most of our organizations
12 will pick, these are the couple of blood pressure
13 cuffs that we use. And we will help you get set
14 up with those.

15 But if you want to go and buy a different
16 blood pressure cuff, that can still connect
17 through these standardized ways. And kind of the
18 organization can provide a few, but still have the
19 gate open for any that wants to file data back in
20 without needing to do work with every single blood
21 pressure cuff that is out there.

22 So 100 percent agree that we need to
23 continue pushing forward. The FHIR standard, the
24 work of groups like the Argonaut Project, and
25 others.

1 The second, you also made the point of
2 this clinician burden, knowing what to do with all
3 of this. And that's really I think the other big
4 piece of the puzzle is, what is the usability and
5 display?

6 And thinking back, Ricky also mentioned
7 early on the Apple Watch, and the concerns about,
8 oh man, it's going to be this whole new fire hose
9 of data. What are we going to do with it?

10 Really looking at what's the clinical
11 relevance of the different pieces of data. Almost
12 no one is going to want to go in and look at every
13 single data point that comes in.

14 Maybe ahead of a visit, the primary care
15 doc wants to see a summary of the trends. This
16 patient has had hypertension. Is it generally
17 stable? Is it trending in the right direction,
18 the wrong directions? Being able to distill it
19 down.

20 Or conversely the kind of, if they're
21 using risk stratification, or things like that,
22 being able to see in general, has someone veered
23 into a range where just based off of known clinical
24 best practices, targeted algorithms, or new kind
25 of generative AI-based models? We might want to

1 explore them.

2 So I think it's looking at no matter
3 where the data came from, getting it distilled
4 down into simple ways to use it. And again, that
5 needs to be handled at a --

6 Is this for a primary care doctor, ahead
7 of a visit. Is this for a cardiologist, ahead of
8 their first consult with a patient? Is this for
9 managing a panel of 10,000 Type 1 diabetic
10 patients?

11 DR. BOTSFORD: Thanks, Trevor. We have
12 about 15 minutes left for discussion. Walter, and
13 then Larry.

14 DR. LIN: Thank you, everyone, for
15 sharing your time and expertise with us. My
16 question has to do with something that Ricky
17 mentioned, which was kind of the evidence that
18 these digital tools increase patient engagement,
19 which hopefully will result in improved outcomes,
20 both financial and clinical.

21 Now while PTAC is focused largely on the
22 Medicare population, the older population, maybe
23 not as digitally native than some of the younger
24 populations.

25 And even within the Medicare population

1 of course, we have the recently retired, just
2 turned 65, all the way up to, you know, my oldest
3 patient is 107.

4 And I'm just kind of wondering two
5 things. One, what does patient engagement look
6 like in the Medicare population with these digital
7 tools across the kind of various age ranges?

8 And then two, what are kind of the latest
9 and greatest results in terms of patient
10 engagement actually resulting in improved outcomes
11 with these digital tools?

12 I know Trevor mentioned a couple of
13 examples, I think primarily in a younger
14 population. And maybe this can be directed
15 initially towards Vishal and Ricky, and then
16 anyone else who wants to jump in.

17 MR. GONDAL: So thanks for this important
18 question. Because as we know, the bulk of the
19 health care costs is concentrated on people as
20 they age. And especially after they turn 60,
21 that's where, you know, burden of health care
22 costs really balloons. And this is a global
23 problem.

24 The way we are addressing this is at
25 multiple levels. Firstly, if you look at the lot

1 of intervention, especially in the U.K. or NHS,
2 and these kind of markets, it's all focused around
3 people above the age of 60. And all our solutions
4 are specifically targeting this population.

5 And there are simple tools, like even
6 using very big fonts in your apps, all the way to
7 having what we call very, very hands-on care
8 navigators guiding them through the process. So
9 there are some soft and hard tools which we deploy.

10 But I just want to add another very
11 important aspect to this. I briefly mentioned
12 about the longevity XPRIZE. This is a solution
13 we are working with. And there are several, or I
14 think 40 people are now in the semi-finals.

15 This is a solution only for people above
16 the age of 50 to 80. So what they are trying to
17 do is design accessible solutions for people in
18 the age of 60 to 80, and focus on cognitive
19 biomarkers, immune biomarkers, and muscle.

20 So based on these three biomarkers, they
21 are literally talking of age reversal. And the
22 kind of interventions we are talking about are
23 largely behavior combined with personalization.

24 So one of the key goals as you age, it's
25 really about not the one-size-fits-all model.

1 It's about hyper-personalization. And I think now
2 with digital tools, you can deliver the same
3 therapy to the same person.

4 But if you can personalize the
5 experience, and this could be even going as a
6 simple text message. The response is eight times
7 more with personalization.

8 And we have seen that across markets.
9 And that is one of the reasons why gamification
10 as a tool is so important. Because we are all
11 used to getting incentivized with behaviors.

12 I'm sure we have all used Instagram and
13 TikTok. And we can see how these interfaces are
14 engaging people. So similar techniques are now
15 used from a gamification perspective. And this is
16 working across age groups.

17 DR. BLOOMFIELD: Yes. I would agree with
18 that. And I would add that there actually is an
19 actuarial study on the benefit of activity, and
20 activity trackers in the Medicare population.

21 I actually just put that in the chat. If
22 you have access to the Zoom chat, or hopefully the
23 team can share that with you all.

24 This was done a little while ago. But
25 it, you know, shows that increased activity can

1 result in lower costs, or cost savings. But I
2 would be the first to say that we don't have enough
3 evidence for all of this. And we need to do more,
4 and invest in evidence.

5 One of the biggest challenges is a
6 pragmatic one, which is many of the companies who
7 are creating wearables aren't necessarily
8 incentivized to spend the significant time and
9 money it takes to measure these things.

10 We are, as I mentioned, we hired a
11 Director of Clinical Outcomes Research. We're
12 investing in this area. I feel like we're an
13 outlier. But it's still early days. And it's
14 going to take time for us to generate that
15 evidence.

16 But it's so, so important that we
17 actually prove the benefit, not just in the
18 general population, but specifically in the MA
19 population.

20 And that was one of the reasons we're
21 really excited about the partnership with Essence
22 and their MA plan, is so that we can measure this.
23 So that we can measure the impact of early
24 intervention on some of the metrics that we
25 discussed before.

1 And my hope is that over the next few
2 years, more organizations will invest in showing
3 the hard data on how this is beneficial, and not
4 just talking about engagement numbers, which, you
5 know, it's always fun to talk about levels of
6 engagement and, when that's all you have, you
7 know. That's what you talk about.

8 But at the end of the day, we want to
9 actually see change in outcomes like this study
10 that I shared shows.

11 DR. BOTSFORD: All right. Larry, thanks
12 for your patience. You're up.

13 DR. KOSINSKI: Okay. Last, last of all.
14 I, we heard from Abe earlier the word
15 gamification. We've heard it a little bit from
16 Vishal.

17 But I would like you to expand a little
18 bit more. It's more than just personalization.
19 Your corporate roots started in the gaming
20 industry.

21 So, you know, I'd like you to elaborate
22 for us, how is it deployed? What kind of success
23 has the gamification component produced? And how
24 scalable is it?

25 MR. GONDAL: Yes. Thanks, Larry, for

1 this question. Just to simplify the world of
2 gamification. Imagine you are new to a game, and
3 you are given a very hard level. You will get
4 frustrated.

5 And then imagine if you are very
6 experienced in the game, and you are given a very
7 easy level. You'll get bored. That's what's
8 happening in health care.

9 We are asking patients to change
10 lifestyle. And the doctor says to him tomorrow,
11 you have to go on a 1,200 calorie diet, and
12 exercise for two hours a day, and walk these many
13 steps.

14 So while we have given them the right
15 therapy, there is an imbalance between the
16 experience level and the difficulty level of the
17 task which we are giving the patient to do.

18 The world of gamification understands
19 this. And we are able to break these tasks into
20 small milestones for which they are constantly
21 rewarded. And this behavior induces dopamine.

22 We then are able to pair them in groups
23 and make them do activity which induces oxytocin.
24 And we also are able to then engage with them, and
25 even do what we call group tasks, where they do

1 things together as a group, which induces things
2 like serotonin. So, and then of course and often
3 speaking when you are doing activity.

4 So actually the gamification actually
5 has a lot of deep science. And all the social
6 media tools use these techniques exactly, but for,
7 I would say the wrong reason. They are using it
8 for you to be addicted to using their apps and
9 finally click on their ads.

10 Now imagine if the same tools which are
11 used by the social media platforms to make you
12 lazy are now used for you to engage a patient to
13 do a behavior which you want them to do, to adhere
14 to the medication, to do their tests, and talk to
15 their doctors.

16 So we are able to map out behaviors which
17 we want to do. And then in a game design,
18 incentivize, balance those behaviors, put the
19 right counter behaviors, and put a framework which
20 engages.

21 We have done this now at scale, at
22 multiple health care systems itself. And systems
23 are seeing a lot of benefit. Because now you are
24 actually not having headwinds. But you are having
25 tailwinds.

1 I will give you one example of a program
2 we ran with gamification. And the outcomes were
3 incredible. This was done for a group of diabetic
4 patients where in 90 days, we were able to reduce
5 their levels by 1.4 points HbA1C in 90 days.

6 And the only gamification was we told
7 them that all the behavior you do compounds. And
8 for every one point drop in HbA1C, you will get
9 one gram of gold.

10 So people were all suddenly competing for
11 winning that one gram of gold which was correlated
12 to the one point HbA1C. And then they were
13 multiple behaviors. Of course this was, you know,
14 we have put a paper out on this.

15 But the example I'm giving you is that
16 for doing all the bad behavior, you know, all the
17 junk food companies are rewarding you. You know,
18 every time you go to Starbucks and have that latte,
19 they are giving you stars and points.

20 But that's not happening when we want
21 them to do the good behaviors. So that's really
22 what in a nutshell, if integrated well into the
23 health care system can be a complete game changer.

24 DR. BLOOMFIELD: Yes. I think it's such
25 a good point about incentives, and making sure the

1 incentives are aligned for individuals. And one
2 of the things that I've seen is that especially
3 when it comes to health gamification can be
4 really, really powerful.

5 There is another side to that though.
6 And some, you know, wearable devices are focused
7 on streaks, meaning you don't want to break your
8 streak. It's more, and more, and more every day.

9 And sometimes, you know, there are days
10 when you shouldn't exercise, when you're sick, or
11 when maybe you've overdone it the day before.

12 So it's also really important to take
13 into account, how do you find balance so that you
14 are pushing when you should be pushing, but also
15 holding back?

16 And so I think that's something that the
17 industry overall could do better. Because it's
18 not - engagement in health shouldn't be about just
19 driving more usage.

20 But it should ultimately be in service
21 of improving health. And sometimes those two
22 aren't aligned. So it's really important to keep
23 that into, you know, keep that in mind.

24 The other thing I would say is, when it
25 comes to presenting data to the user, there are

1 so many ways to do that. And the last thing that
2 people want is to be overwhelmed with, you know,
3 spreadsheets of numbers.

4 And so one of the things that was really
5 interesting to me -- so we have a feature called
6 cardiovascular age, where we will, we actually
7 use, measure a metric called pulse wave velocity,
8 which is a measure of large artery stiffness,
9 large blood vessel stiffness.

10 And that can correlate with, you know,
11 the age of your cardiovascular system overall.
12 And if I told you that your pulse wave velocity
13 is 6.8 meters per second that would probably not
14 be very useful.

15 But if I say that your cardiovascular age
16 is five years older than your chronologic age and,
17 you know, other in, you know, other in your peer
18 group, all of a sudden it becomes a metric that
19 helps you understand where you're at.

20 And when we released this feature, we had
21 a number of people both inside the company as well
22 as, you know, externally, on Reddit saying that
23 that was the trigger they needed to motivate them
24 to start exercising again.

25 Because knowing that their

1 cardiovascular system was older than it should be,
2 meaning your vessels are stiffer than they should
3 be made them realize, well, I want to be around
4 when my kids graduate from college, or to see my
5 grandkids.

6 And it motivated them to take that step
7 that they otherwise were not willing to take. That
8 is some of the most powerful, you know, ways that
9 we can help people improve, is by giving them the
10 motivation and incentive to change behavior.

11 And fortunately for something like
12 cardiovascular age and pulse wave velocity, it's
13 a modifiable factor, meaning once people started
14 exercising, they saw that number come down over a
15 number of months.

16 And so seeing that number come down is
17 some of the most powerful validation that you're
18 on the right track. More powerful than any
19 specific gamification strategy is understanding
20 that you're getting healthier. That's what keeps
21 people motivated.

22 So finding ways to continue to do that
23 and help people make the right decisions is an
24 ongoing process. But I think there's a lot of
25 promise there.

1 MR. GONDAL: Yes. I just want to add one
2 thing which Ricky mentioned about the age. So
3 what we did is, we took your age, and we connected
4 it to your avatar. And as you become healthier,
5 your avatar becomes younger. So you become your
6 own virtual pet.

7 And what we saw that was now suddenly you
8 want to take care of this virtual pet. And as you
9 become healthy, it kind of corresponds to that.
10 And we have seen amazing interaction. And people
11 are all wanting to take of this avatar.

12 And connected to that we are just about
13 to launch a blockchain-based reward system for
14 health. We are calling it Proof of Health Protocol
15 Universal Health Care Token. We are hoping to get
16 it listed very soon.

17 So this is the world's first
18 cryptographic token when you can get, and for
19 demonstrating health behavior, on chain. So you
20 validate the behavior. And then on the other side,
21 you can actually start trading this. And you could
22 even sell it on an exchange.

23 Or an insurance company would say, you
24 know what, this proves that you are actually
25 demonstrating health behavior. I'm actually

1 willing to take that token as an insurance
2 premium.

3 So we are actually as we speak, and I
4 would, you know, I would give you the website of
5 UHT⁷⁷. It's called UHT.xyz. Where you can
6 literally go and start earning health behavior on
7 chain.

8 So I think the world of gaming, crypto,
9 AI, and variables, it's all going to combine. And
10 that's going to be a very exciting world in the
11 space of health care. And I'm so excited that we
12 are all discussing this here.

13 DR. BOTSFORD: All right. Lots of
14 excitement. I think we've heard, I'll take the
15 privilege of asking the last question and maybe
16 tie some of these together here.

17 But I think we heard a couple of things
18 around payment models. Or how is all of this paid
19 for tied into some of your answers. But I'm
20 curious to tease out if there's any others we
21 should think about.

22 So almost infinite possibilities for
23 ways that AI, wearables, gamification could
24 influence health. Is it a tool? Is it a service?

25

77 Universal Health Token

1 And how do we pay for it?

2 We heard it talking about in the MA
3 space, you know, how could you, how could, you
4 know, giving a device be part of a benefit?

5 I heard it talked about direct marketing
6 to consumers as just their individual motive for
7 better health. And then, Vishal, you just talked
8 about it in the last space of a payer creating
9 credits or incentives.

10 We also see I think on the provider side
11 all of the AI tools have a cost to them. And
12 adding this cost to your EMR. And is this part
13 of a practice expense? Or is there another way
14 to think about the payment for it?

15 But how else should we be thinking about
16 ways to build in all of the promising technology,
17 either in the AI, the gamification, or the
18 wearable space into payment?

19 MR. GONDAL: So I would just add that
20 the way we have to think about these tools is not
21 as cost, but investments to save on spending on
22 sick care.

23 So we have data for the NHS for every
24 pound spent on prevention and digital tools.
25 We've been able to save them four pounds. So you

1 have to first think about it really about not an
2 expense but an investment to save.

3 The second thing really is that I
4 personally believe that data is the currency of
5 the future. And that currency is going to get
6 unlocked with tools like the blockchain.

7 And which is why we are very bullish that
8 eventually the data will pay for itself. Because
9 this data is going to enable new drugs to be
10 created, new tools to be created.

11 And currently the data is locked in
12 fragmented systems across the world, even though
13 while they're trying to make it interoperable.
14 Eventually we believe that this will get
15 democratized on a blockchain. And that is what
16 is going to start paying for itself.

17 And finally, all the payers will be able
18 to actually connect these data points directly to
19 claims, and even their premiums. And we are
20 already working with many providers where we are
21 able to reduce premiums or increase their coverage
22 based on this data. So that's already happening.

23 DR. BLOOMFIELD: Yes. I think this is
24 such a good question. I don't know that I have
25 too much more to add. It's a really, you know,

1 challenging problem. And there are, for any
2 challenging problem, there are going to be a
3 number of likely, you know, synergistic solutions
4 to this.

5 As I mentioned before, I think showing
6 the data around this is going to be the most
7 important for - and I think, you know, as we've
8 had conversations with folks like CMMI around
9 this, how do we incentivize providers to, you
10 know, to test these things and to measure the
11 outcomes?

12 Ultimately, I think when we look at what
13 wearable devices can and will be able to do in the
14 future, especially as it relates to detection and
15 screening.

16 It becomes very clear that if, you know,
17 a device can, for example screen for hearing loss,
18 and it's, you know, a couple of hundred dollars,
19 that's much less expensive than a full, you know,
20 hearing screening with an audiologist.

21 And if those devices can serve as a, you
22 know, as a, you know, makeshift hearing aid and,
23 you know, the, you know, Apple announced features
24 like that last year. That's way less expensive
25 than a full hearing aid.

1 And so I think you can extrapolate that
2 over, you know, other regulated features like
3 AFib⁷⁸ detection, like sleep apnea, many others
4 where the full, you know, full in-clinic diagnosis
5 can be hundreds or thousands of dollars. And, you
6 know, one of these devices could be a few hundred,
7 and hopefully coming down in price over time.

8 So I think there's definitely a path to
9 eventually getting there. We need to measure it.
10 We need to show the data. And then we need to,
11 you know, work with organizations that are forward
12 thinking like Essence and others to, you know,
13 start implementing this in the ecosystem and
14 proving their worth so that these benefits can
15 scale.

16 MR. BERCEAU: I agree with all of that.
17 And I'll just quickly add is, we look at
18 organizations deploying this as care at home
19 programs. Cost and reimbursement is one of the
20 biggest barriers that I think stops a lot of groups
21 from even getting started.

22 It's why we've seen more traction in some
23 of the areas that have more well-defined kind of
24 value-based payment mechanisms like the bundled

25
78 Atrial fibrillation

1 care for total joint replacements, for example.

2 But I agree completely with Ricky on we
3 need to look for the organizations that are
4 forward thinking, are figuring out how do they do
5 this in a way where they can then demonstrate the
6 value and the savings.

7 Ochsner with their chemotherapy example
8 that I shared, over that in a year's stretch of
9 time that they had that reduction, they also
10 measured well over a million dollars in savings
11 based off of kind of the reduction, and what they
12 would have been likely to see for ED visits or
13 readmission.

14 So I think it's going to be looking at
15 how do we work with organizations like that to
16 identify, these are the programs that have real
17 validated outcomes in terms of improved clinical
18 outcome and reduced cost of care.

19 And then figure out how do we standardize
20 that so it's not a negotiation that every provider
21 organization needs to go through on their own to
22 say, hey, here's what we think we can do. Here's
23 how we're going to measure it.

24 DR. BHATTAD: I would like to add as
25 well, if the digital tools in these spaces are

1 able to offer affordable or free versions of these
2 digital tools, especially in the initial stages
3 when more people and provider are not familiar.
4 And consider partnerships to provide access,
5 especially to the underserved communities.

6 DR. BOTSFORD: Thank you, Pradnya. So
7 I'd like to thank all of you for joining this
8 afternoon, and sharing your insights. You're
9 welcome to stay and listen for as much of the
10 meeting as you can.

11 It is now just a minute after 2:40 p.m.
12 And at this time we have a break until 2:50 p.m.
13 Eastern Time. Please join us then, as we have a
14 great lineup for our third session on emerging
15 data strategies for supporting shared decision-
16 making between providers and patients. You're on
17 break.

18 (Whereupon, the above-entitled matter
19 went off the record at 2:42 p.m. and resumed at
20 2:51 p.m.)

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

24 DR. FELDSTEIN: Well, welcome back,
25 everyone. I'm Dr. Jay Feldstein, one of the PTAC

1 members. And at this time, I'm excited to welcome
2 four distinguished experts for our third and last
3 session today -- and I honestly can say, I think
4 we saved the best for last -- on
5 emerging data strategies for supporting shared
6 decision-making between providers and patients.

7 You can find their full biographies and
8 slides posted on the ASPE PTAC website and the
9 public meeting registration site.

10 At this time, I ask our session
11 participants to go ahead and turn on your video,
12 if you haven't already.

13 After all four experts have presented,
14 our Committee members will have plenty of time to
15 ask questions.

16 First up, we are happy to welcome Mr.
17 Abhinav Shashank who is Co-Founder and Chief
18 Executive Officer of Innovaccer.

19 Welcome, Abhinav.

20 MR. SHASHANK: Thank you so much for
21 having us.

22 DR. FELDSTEIN: You're going to kick us
23 off.

24 MR. SHASHANK: Perfect.

25 Could we put on the slides?

1 DR. FELDSTEIN: Just give us one second.

2 MR. SHASHANK: Perfect. Let's see really
3 great to be here, and thank you so much for having
4 us to discuss what we've sort of we learned over
5 the journey of building out Innovaccer over the
6 last like decade or so. And really excited to
7 sort of share like some of the key learnings that
8 we've had like in the entire process.

9 So, if you'd go to the next slide, just
10 some background on Innovaccer. We started up the
11 company with the core pieces that one of the
12 biggest challenges that we face in health care
13 today is the fragmentation of health care
14 information that exists at health systems and
15 payers more broadly.

16 Like, a lot of the challenges that stem
17 in inefficiencies that we are seeing, like, in
18 health care is just the fact that, like, health
19 care information and the flow of health care
20 information between, like, different systems is an
21 incredibly complicated thing. And with all of the
22 technological progress that we've made as a
23 country in various basically elements, we still
24 don't live in some ways, like, in a pre-internet
25 era like in health care. And because of that, a

1 lot of the processes that are underlying are
2 effectively, like, I think also are fairly broken
3 in broad senses.

4 So, that's what we sort of we started
5 Innovaccer for. We built out what we call the
6 data activation platform, which really sits on top
7 of existing informational infrastructure, whether
8 that's electronic health records, claims systems,
9 lab systems, and things of that nature, and
10 creates what is like a 360-degree view of the
11 patient, bringing data from a lot of these systems
12 to be able to really understand, like, who the
13 patient effectively is. And, therefore, make
14 clinical decisions, as well as basically think
15 about value-based care, in more holistic patient
16 constructs, rather than basically in broken and
17 discontinued constructs that each of these systems
18 basically ends up sort of really providing.

19 We've now deployed I think the platform
20 at 1,600-plus in health systems, like, hospitals
21 across the country. We have, like, hundreds of
22 health systems and payers as customers. Today,
23 we're -- the system is being used to aggregate
24 information from a wide variety of systems.

25 And then, firstly, basically measure

1 what are the outcomes that we are effectively
2 delivering for our patients. And then build out,
3 like, strategies on top of it to be really able
4 to drive better programs and things that improve
5 these outcomes from there.

6 Bill Gates basically said this, I think,
7 like, 20 years ago, where we cannot basically
8 improve what we cannot measure. And to a certain
9 degree, what we've been trying to build at
10 Innovaccer is the measurement infrastructure that
11 then allows for more meaningful programs to be run
12 at a system-wide sort of scale.

13 As we've sort of we've built this, what
14 we've realized in the process is also the fact
15 that, as you have a bunch of this data that
16 basically comes through, none of this is actually
17 useful until you are able to embed this into the
18 physician workflow and into the patients'
19 workflow.

20 And if you able to create a technology
21 infrastructure that allows for you to sort of redo
22 that, you can really think about like any outcome
23 and meaningfully, I think, like, go and improve
24 that.

25 So, that's, I think, a little bit of the

1 context of what we've basically been doing at
2 Innovaccer and what we've been trying to
3 accomplish. And then I'd love to talk about, like,
4 other elements on what these micro-learnings
5 across these areas have been as well.

6 So, if you move to the next slide? One
7 of the key themes that we have sort of really
8 starting see is that 30 percent of the data that's
9 being generated like across the world today is
10 effectively being generated in health care.

11 Now, some of this is the EHR data, but
12 we also having more and more devices and more and
13 more diagnostic systems, more and more lab
14 systems, et cetera, imaging data, and all of those
15 sort of really being generated at such massive
16 paces that the knowledge base of health care and
17 the health care context around the patient is
18 increasing at a massive pace.

19 Now, what that also leads to is the fact
20 that you could, like, even though you want most
21 of the decision-making, like, from a doctor's
22 perspective to be fully informed, if you don't
23 build the right kind of technological
24 infrastructure to process and parse and structure
25 a lot of that data and provide meaningful insight,

1 you also then sort of really start risking
2 overloading the provider with a bunch of the data
3 that is being created and which, therefore, would
4 sort of lead to, like, poorer outcomes than
5 better.

6 So, as much as I think the data is, like,
7 exploding the ability for us to contextually look
8 at that and then parse out a lot of that
9 information into meaningful insights and curated
10 in a way that it's consumable for, like, the
11 physician is an incredibly important element of
12 what we need to sort of rebuild from a
13 technological infrastructure perspective.

14 We spent, like, billions of dollars over
15 the last, few decades into digitizing each of
16 these workflows. And as we've basically got into
17 success on that where like most workflows in
18 health care are being digitized, the amount of
19 information that it's producing, if we don't set
20 up, like, the next layer of infrastructure that
21 now takes a lot of this information, processes it,
22 puts it into contextualized and consumable bits
23 of information, we risk the fact that all of the
24 ROI⁷⁹ for the investments that we've made over the

25 ⁷⁹ Return on investment

1 last, like, multiple decades, is effectively I
2 think going to not yield the same kind of value
3 that we had initially envisioned when we, like,
4 went into those investment areas.

5 So, this is the reason we've sort of
6 built out most of our products. And that is where
7 Gravity, which is our data and AI orchestration
8 platform, or other products that we've built out,
9 like, have been focused on that.

10 If we move to the next slide? Like, the
11 key theme that -- I think we probably skipped a
12 slide is my sense, yes. So, I think if we look
13 at the broad learnings that we've sort of really
14 had across -- well, when we've re-deployed it at
15 hundreds of health systems, one of the key things
16 that we sort of realized is that this is not about
17 replacing the existing systems.

18 A lot of times we feel like, one, if we
19 had one system, like everything is basically going
20 to go and then happen on top of that system. But
21 it's -- what we need is to be able to think about
22 these things, like, as two different and
23 distinctive, like, approaches.

24 Like, in our normal lives, we use
25 Microsoft and a bunch of Microsoft tooling to sort

1 of really like get a lot of the data into these
2 places. But we use Google to -- on another level
3 to fetch information from all of the systems that
4 are effectively created.

5 So, in the same way, there is on the
6 enterprise side and for our doctors, we need a
7 system that basically we put data into. And then
8 we need something that basically fetches data
9 across all of these systems, aggregates that, and
10 is able to put that into a contextualized
11 framework in front of the doctor.

12 So, that's the area that we sort of
13 really seen that if you -- a lot of our initial
14 struggle was around the fact that health systems
15 and everyone from a physician perspective felt
16 like, okay, am I going to need to use two systems?
17 But that's not necessarily the conflict that we
18 should be thinking of. These things, when they
19 work collaboratively and when they work in
20 harmonization, that system of intelligence is
21 effectively working with a system of record, it
22 just produces incredible outcomes.

23 So, thinking of the system of
24 intelligence in a way where these are overlays on
25 top of the existing system of records allows for

1 both systems to, therefore, get better, and
2 eventually lead to better outcomes, because at the
3 point of care and at the point where you're
4 basically taking a decision, you are able to sort
5 of really drive a bunch of these action items that
6 lead to meaningfully better sort of outcomes.

7 The other thing that we've also sort of
8 we felt is that the clinical history in EHRs is a
9 part of the information that the doctor really
10 needs to know. Like when you're talking about the
11 decision-making that is happening at the point of
12 care, you really want that decisioning to be based
13 on a wide variety of information sets, including
14 social determinants of health information,
15 including their historical longitudinal
16 information, including and also, obviously, the
17 EHR data, et cetera.

18 And unless you get data from all of these
19 different constituents into one place, the
20 decisioning that you are providing from a context
21 perspective to the doctor is not necessarily the
22 best suited or the next best action for the
23 providers.

24 So, therefore, aggregating data across
25 these various systems and creating what could be

1 a 360-degree context on which decisioning is being
2 made is actually an incredibly important piece to
3 be able to drive towards, whether that's better
4 engagement from a provider or also basically
5 better decisioning for the patient outcome, per
6 se.

7 The third thing that I'd also mention is
8 that all of these datasets, we've been spending a
9 bunch of time as an industry on setting up prior
10 infrastructures for the clinical data sources.
11 But what we have to realize is that harmonizing
12 this data across these systems is an incredibly
13 hard challenge.

14 Even if all of these things remain in a
15 certain format, getting data to coming from a wide
16 variety of systems, whether that's claim systems,
17 lab systems, EHR data, and harmonizing that into
18 what could be a usable information set from a
19 machine and AI readability perspective is a hard
20 problem to solve.

21 Like we've spent like in the tune of \$500
22 million over the last five, six years to sort of
23 really build what could be the harmonization
24 engine and layer on top of it. And what we've
25 sort of really realized is that, if you don't

1 basically spend the time in harmonization of that
2 data, the usability at the point of care where you
3 want to drive shared decision-making actually
4 becomes like fairly limited.

5 So, just also to add, that context, that
6 harmonizing this information into usability --
7 usable pieces is actually as important as setting
8 up the standards for information exchange per se.
9 And we've taken a bunch of these things and said
10 that, okay, our tools are going to be embedded
11 into the provider workflow and not -- this is not
12 EHR versus a new system. This is all of the things
13 actually working together and creating an overlay
14 framework rather than going into an antagonistic
15 EHR versus another framework.

16 The second is you have to think about the
17 context of the visit and the context of when the
18 doctors are effectively engaging. And you have to
19 provide nudging to happen in a way where most
20 these things are contextual rather than creating
21 what is now called alert fatigue for doctors per
22 se.

23 So, that's the other thing that we've
24 sort of really put into as principles, that if you
25 had a measurement system and then you bombarded

1 the provider with 500 things at the point of care,
2 no one's going to really do anything.

3 So, how do you basically take that entire
4 context and really put what is the total next best
5 action that we want the provider to sort of really
6 know about, from a holistic data and analysis
7 perspective, and put it there in a consumable sort
8 of reformat that would sort of really be helpful.

9 And then, finally, I just say, one thing
10 that we've sort of solved for from technological
11 perspective, is to make sure that if something
12 works on top of an inpatient EHR, it should also
13 work on top of an outpatient setting. It should
14 also work for the person who is doing care
15 coordination. It should also work for the person
16 who is basically at the post-acute care setting.

17 And so, providing all of these people to
18 be working on a common technology effectively, the
19 stack or information stack, at least, is going to
20 be critical if we are going to drive any outcome.
21 Because as we sort of -- we all know that health
22 care in totality is going to be a team sport. And
23 if we don't get everyone working on a common
24 context in general, we could have the best doctors
25 in the world, but wouldn't sort of be able to get

1 these longitudinal pathways into effect in any
2 particular meaningful way.

3 If you go to the next slide. I know I'm
4 short on time. This is things that we've sort of
5 we re-learned from what our customers have
6 effectively done, is that they've all basically
7 been trying to create the full data context. Not
8 work on the siloed basically information that sits
9 in one system, but creating a full data context,
10 drive very low workflow disruption to a certain
11 extent with the overlay framework. Make it in
12 such a way that it could be used across various
13 settings.

14 And because you have an infrastructure
15 in place that is able to measure, then see like
16 what worked from a programmatic perspective versus
17 not and, therefore, make iterative changes on your
18 system while basically, like, thinking.

19 Then, think of this as the data
20 infrastructure and information infrastructure as
21 a way to embed policy into care delivery at the
22 system-wide scale rather than thinking of this as
23 a siloed information set.

24 If you move to the next slide? These are
25 things that we've sort of really now understood

1 more broadly, that more data actually doesn't
2 solve all of the problems. I think overly curated
3 context infrastructure -- context for providers is
4 actually the answer.

5 So, if we put 200 pages in front of the
6 provider, that doesn't necessarily mean that
7 they're going to go and do anything about it. How
8 do you make it a curated context is the important
9 thing.

10 So, yes, everyone should be investing in
11 data and all of the things around it. But just
12 knowing that there is a step beyond that to convert
13 it into curated consumable information sets, that
14 is where most of the ROI effectively lies. That's
15 one of the things that we've sort of really
16 learned.

17 The other thing that we've learned is,
18 when we started the company, everyone said, hey,
19 clinicians and doctors really don't like
20 technology, and they would still like to basically
21 be adverse -- they would adverse to technology.
22 That's actually not true at all.

23 Whenever you have a user interface that
24 actually improves their lives meaningfully, the
25 adoption of that is actually really, really great.

1 We've seen that in most of our products that, as
2 we improve the user experience for the doctor, and
3 they're able to sort of really get more things
4 from their patients, they adopt it, and they're
5 able to sort of really drive more meaningful
6 changes based on that.

7 The third thing that I've heard recently,
8 which is a myth, it's widely, I think everyone
9 sort of thinks about, oh, like creating like a
10 integration framework and integrating all of these
11 systems would take years. We've now gotten to the
12 point where we can take a system off the site like
13 a National ID and with basically multiple states
14 and get basically all of this infrastructure up
15 and running within three months across the
16 country. Right? Like, there was a point in time
17 in which you could have argued that integration
18 into these systems could basically takes years. I
19 think that time is passed and we are now at the
20 point where some of these things are incredibly -
21 - I think it can be done very, very quickly and
22 can basically like drive like meaningful outcomes
23 per se.

24 And then the final thing is that we think
25 all of this is art-like skill to a certain degree,

1 that engagement adherence seems basically like
2 things that are being talked about as like
3 artistic frameworks rather than basically
4 something that could be scientifically measured
5 and correlated back to outcomes.

6 We've now seen that every time we track
7 engagement and we are able to get provider
8 engagement or patient engagement, we are then
9 three months later tracking what is the outcome of
10 that in claims. And every time, there is a
11 meaningful outcome.

12 So, once you have the measurement
13 infrastructure effectively in place, you could
14 basically start seeing like a lot of these themes
15 around how some of these shared decision-making
16 across the provider and the patient, as well as
17 across the entire ecosystem really measurably
18 drive better outcomes.

19 If we go, some of the outcomes that we've
20 seen, like if we go to the next slide? Like, we've
21 seen, we have some of the largest health systems
22 across the country, basically, on top of the
23 platform. Every time we've seen higher
24 engagement, we've seen a metric or a measure
25 improving. And we can send you thousands of these

1 case studies now. Like, we can pick up every
2 customer and pick up like 20 outcomes that they
3 wanted to sort of really improve, what was the
4 program that they ran, and how did that create a
5 measurable outcome? Whether that was an economic
6 outcome or it was effectively a quality outcome or
7 any one of the things that you were sort of really
8 focused on.

9 So, we have seen that once you have some
10 of this measurement infrastructure in place, you
11 can measurably say that, like, what are we going
12 to do? What is the engagement levels that we are
13 going to track? And how will we predict what is
14 effectively going to happen? And you could set a
15 systemic framework for creating a care pathway and
16 guideline-based framework per se.

17 And, lastly, I sort of like just -- if
18 we go to the next slide, what I've -- I'd say
19 basically, interoperability, to a certain extent,
20 to interoperability where some of the existing
21 systems actually allow for data to be pulled out
22 from these systems, as well as data to be put in
23 into these system, making policy enforce that is
24 critical for national outcomes to a certain
25 degree.

1 If this system of health care does not
2 allow for free-flowing information between like
3 regulated applications or applications that health
4 systems want to sort of really use, we are going
5 to get stuck and not see progress that we want
6 from our health care ecosystem.

7 So, driving more and more of the push
8 towards true interoperability both ways, not just
9 data flowing out but also data flowing back in
10 into these systems, is probably of national
11 significance in the tunes of hundreds of billions
12 of dollars of outcomes that we can sort of really
13 drive, and that should be a focus from a policy
14 perspective.

15 The other thing that we would sort of we
16 say, from a physician perspective, adding
17 basically or thinking incentivizing more and more
18 context providing tools for our physicians is
19 effectively going to drive better outcomes.

20 And so, to a certain degree, context and
21 intelligence infrastructure tooling and
22 incentivization that needs to happen, like, at
23 much larger scales than what we are sort of really
24 seeing today. Like, we still basically are
25 investing, like, billions of dollars in system of

1 record systems. But I think, like, a fraction of
2 that incentivization towards, like, more context
3 and intelligence infrastructure tools would
4 basically be, like, massively, outcome-oriented
5 for, like, our national health care ecosystem.

6 And then the time for overhauling is
7 done. Like I just feel, we have to basically think
8 about the -- we've spent billions of dollars in
9 setting up infrastructures already. And we should
10 be thinking about how do we sort of really make
11 this work together from with the incremental tools
12 and technologies and the intelligence layer on top
13 of these things. And if we are able to sort of
14 really do that, we would see a bunch of these
15 things automatically sort of really improving.

16 And so, like, if you go to the next
17 slide? Like, this is the summary slide, from our
18 perspective, on our learnings, that broadly, like,
19 to truly empower patients, we will need to start
20 thinking about empowering our physicians and
21 clinicians first. And if we can do that today,
22 the cost structure to do that is not the hundreds
23 of millions of dollars that it was maybe like five
24 or 10 years ago. It's basically doable. It can
25 be done, today.

1 And we need more push towards that. And
2 if we do that, we are all going to see better
3 quality at a lower cost and the key -- the Triple
4 Aim in that particular way. So, that would sort
5 of, be our summary of what our learnings have been.

6 Thank you so much for patiently hearing
7 through some of this. I'm very grateful for us
8 to have the opportunity to present this.

9 DR. FELDSTEIN: Well, thank you, Abhinav.
10 We appreciate your passion.

11 So, next, we'd like to welcome back Dr.
12 David Kendrick who is the Chief Executive Officer
13 of MyHealth Access Network and Chair of the
14 Department of Medical Informatics at the
15 University of Oklahoma.

16 David, great to have you here.

17 DR. KENDRICK: It's great to be here.

18 Can you guys hear me okay?

19 DR. FELDSTEIN: Yes.

20 DR. KENDRICK: All right, so, I'm going
21 to share a portion of my screen and see what --
22 which portion comes up. There we go. All right,
23 let me just grab it over the right spot.

24 The reason I'm sharing live is I've got
25 some live data I wanted to go through with you

1 all. And, hopefully, the first part of my talk
2 will be a good refresher for you, and I can go
3 through it quickly.

4 But the first thing I would say, I love
5 your questions that were sent this year. And they
6 are absolutely the right questions. But I want
7 to make sure we talk about the ante first. I feel
8 like, as a nation, we're still sort of stuck on
9 this model notion of whether we're going to do
10 direct current or alternating current for our
11 health data exchange in this country.

12 And, really, until we make that choice,
13 it's going to be difficult to go all in on a model
14 of interoperability and, therefore, user
15 experience, whether it's a patient or a provider,
16 at the point of care or not at the point of care.

17 So, I'm going to start with that, the
18 ante. Right? I've shown you this before, and
19 that's what I'm going to build up again. So, you
20 know, our costs are too high. We aren't getting
21 what we're paying for.

22 We have this problem with provider burden
23 because we all want to provide high-quality care,
24 but we also have to do adverse event reporting,
25 which requires a six-page PDF to be filled out and

1 sent to the FDA.

2 We all want to be participating in ACOs,
3 which have us focusing on some measures for some
4 part of our population. We all know we need to
5 be participating in some syndromic surveillance.

6 We need to be doing electronic case
7 reporting from a public health perspective. We
8 need to be measuring quality. And all of that
9 takes time away from actually thinking about
10 patient care. No news there.

11 But, inadvertently, we've also created
12 the same problem for patients because, while we've
13 pushed every certified system to also offer a
14 patient portal, now, every certified system offers
15 a patient portal.

16 So, while I have my primary care
17 provider's portal and now, I go to my pharmacy who
18 has another app that I need to download and get
19 my medications in. And then I go to an urgent
20 care for a fever and now, I have another patient
21 portal. And then I, heaven forbid, need a
22 behavioral health provider and have another
23 patient portal with its own set of laws governing
24 it, by the way.

25 So, I'm just restating the problem that

1 you all know exists. But I'm doing so because I
2 see a light in the end of this tunnel. And so,
3 you know, people are getting less and less and
4 less satisfied with health care.

5 I point out to my physician colleagues,
6 we're now next to the bottom of the list here next
7 to pharmaceutical companies only. And the medical
8 debt is off the charts.

9 So, we have to address this. You've seen
10 this slide before which is what health data really
11 looks like, claims data is a mile wide, but only
12 an inch deep.

13 The clinical data is scattered across
14 every place the patient has received care. And
15 we cannot present a consistent workflow for the
16 provider or the patient if we can't paint this
17 full picture, that's really the burden before us.
18 And then you add to that the 20 percent of
19 commercially insured patients change insurance
20 every year. So, we're starting again. Right?

21 I pulled down the data from NPPES⁸⁰ and
22 loaded it to a map. More than a million hospitals,
23 clinics, urgent cares, and FQHC⁸¹ locations across
24

25 ⁸⁰ National Plan and Provider Enumeration System

⁸¹ Federally Qualified Health Center

1 the country, and patients get to vote with their
2 feet where they go for care.

3 So, this is really the biggest -- the
4 challenge facing us is how do we connect these
5 things together with the hope of having a
6 consistent workflow for providers and for patients
7 as they go through this?

8 So, this is showing in Oklahoma, data
9 fragmentation by health systems. So, these are
10 our five largest health systems. This is to put
11 numbers behind what I just showed you.

12 And across the X axis, you see the number
13 of places patients have care ranging from 1 to 34.
14 And you see these curves, and let's just take
15 Health System E. Health System E has 18 percent
16 of the patients they take care of, have data in
17 six places. Right?

18 So, really, the only column that matters
19 here, if I'm walking into an emergency room, is
20 what's in that column. This is the percent chance
21 that that health system has all the data available
22 to them that's needed to give me care. And it's
23 a very small percent, way less than 10 percent.
24 And by the way, it shrinks over time.

25 So, I often hear from colleagues, in

1 large health systems especially, not small
2 clinics, well, we use Epic, or we use Cerner, or
3 we use an EHR that has a lot of market penetration.

4 And so, I sliced the data that way as
5 well. And I should remind you guys, my Pham paper
6 showed that the average PCP⁸² way back in 2007 was
7 trying to coordinate care with 225 other providers
8 and 117 other organizations. Right?

9 So, if we now slice this by EHR vendor,
10 because at least I'm using a common EHR product
11 with everyone else. And we know that some of these
12 have massive market share. But guess what? That
13 one column is still very small.

14 Only a small percentage of patients keep
15 all their data within one EHR vendor platform.
16 So, that is not really the right axis along which
17 to slice the data or, particularly, to drive
18 interoperability, in my opinion.

19 Now, this is the end of 2023, the level
20 of fragmentation we saw by an EHR vendor. Focus
21 on these numbers in the one column, fast forward
22 just six months, right, just six months, and you
23 can see that fragmentation double or the number of
24 patients or all their data in one system was cut

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1 in half.

2 So, this presents a pretty sobering view
3 of where we are from an interoperability
4 perspective if we vet fully on the vendor-driven
5 model of interoperability.

6 This is fragmentation of data by age
7 group. And what this is showing is that,
8 essentially, and there's CDC age groups along the
9 bottom, even at zero to four, an average of four
10 different places for patient data to exist. So,
11 there's not a window in a patient's life where
12 interoperability is not needed among provider
13 organizations.

14 And then, of course, we have this
15 inconvenient challenge of the fact that giving
16 people pills is not the only way to improve their
17 health and to improve their lot in life. And so,
18 we have the non-medical drivers of health, as we
19 call them in red states, that are, you know,
20 essential to address in order to get patients
21 where need to go for care.

22 Compounding this is the fact that
23 providers, the folks that we want to be doing, you
24 know, be supported in their care, have this really
25 daunting task when they try to choose vendors,

1 choose partners, do clinical integrated networks,
2 all the innovations we think are going to help
3 them, they find themselves in the model where they
4 have to build their own interfaces, manage
5 treatment, payment, operations individually.

6 And every single interface they build,
7 they are responsible for all the filtering and all
8 the liability that they take on for maybe
9 inadvertently sharing a piece of information that
10 they didn't know was restricted by law or that was
11 federated out of their system.

12 On top of that, the federal systems that
13 we're required to interoperate with are in a
14 similar scenario where we build multiple feeds out
15 of the every provider organization. And so, it
16 becomes this challenge that is almost
17 insurmountable to get that interoperability done.

18 And then, finally, and I this is a sign
19 of how much progress we've made, we're talking at
20 least about data quality and not just whether the
21 data can be reached or not in interoperability.

22 And the challenge is that all of these
23 are real. There's the provider and practice role
24 in data quality, getting the right information in
25 the right field.

1 There's the vendor role. But then,
2 there's this whole secondary component of
3 interoperability around normalizing patient
4 identities when they go to multiple organizations.
5 Right? And normalizing a code so that the same
6 representation of congestive heart failure is
7 understood across multiple organizations. And we
8 have to address that.

9 All right, so, the solution or that I
10 suggest here is, first of all, we've spent about
11 15 years now, and 20 in many cases, building
12 governances and local alliances a trust of where
13 communities have come together to build data
14 exchange among them.

15 And these are the critical voices they've
16 pulled to the table, those who receive care and
17 services and those who deliver them and those who
18 pay for them. Right? And so, that moves us up
19 now to talk about the clinical data.

20 The latest round in the ASTP UCSF⁸³
21 survey, Julia Adler-Milstein leads that survey
22 effort, is available or is about to be available.
23 This is sort of a preview of an analysis that we
24 did for the federal government recently.

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1 And we were able to identify quite a
2 number of the Health Information Exchanges and to
3 get some detailed survey numbers on them. And I
4 wanted to show you what I view as some really
5 bright spots.

6 First of all, this is the amount of the
7 country that's served by those networks, which is
8 darn near all of it. We have a few spots where
9 there are gaps. But by and large, the nation is
10 covered.

11 And the darkest blue there is networks
12 who report a 100 percent of their population,
13 census population, is covered in their master
14 person index. Alright?

15 So, and then, every star you see on the
16 map is the location of one of these nonprofit
17 networks.

18 Then, on top of that, we've got the --
19 another set of data that I've been able to receive
20 from my peers across the country who run these
21 networks. And it's time, I guess, now, to
22 introduce the term Health Data Utility, if you
23 haven't heard that before.

24 So, health information exchange is the
25 old term to describe what we do. But it's both a

1 noun and a verb and a bit complex to describe since
2 every vendor claims to do health information
3 exchange.

4 Whereas, as local governances and
5 networks, we provide health data utility services,
6 which I think is a much more appropriate metaphor
7 for the services we're providing in the first
8 place.

9 And so, what I have now are ZIP Code-
10 level data population from these same networks,
11 most of them, anyway. You'll see that some haven't
12 shown.

13 So, this is a map of the country. Red
14 indicates where a 100 percent of the census
15 population is covered by one of these networks.

16 I will point out, I don't have data from
17 Ohio, Kentucky, Tennessee, or Florida at this
18 point, or Idaho at this point, but a pretty good
19 sample.

20 Now, let me show you an interactive
21 version of this. All right? So, and this is the
22 reason I've pulled this for interactivity.

23 What's interesting about this map is not
24 just what percent of the population is covered,
25 but how many other networks serve the same

1 geography.

2 So, you can see there, I've put my cursor
3 on Lewellen, Nebraska, ZIP Code 69147. All right?
4 And there are what, 15 different Health
5 Information Exchange or health data utility
6 networks that have a patient in that ZIP Code.
7 Right?

8 If we go over here to another ZIP Code,
9 there you go, there's one that at least 20, 25
10 other networks around the country that serve a
11 patient.

12 The point is, patients are moving much
13 more than we anticipated around the country, and
14 critical elements of their health data are in
15 those various places.

16 I will also add that behind each of these
17 networks you see listed like Alabama One Health
18 Record and Arkansas Share and Big Sky Care
19 Connect, they're connecting something like 100
20 different hospitals, 100 to -- 200 different
21 hospitals behind those networks.

22 So, pulling those together is really
23 essential. And I'm going to show you just quickly,
24 this I call the -- my John Deere slide, it'll be
25 obvious why in a moment.

1 This is showing you the same map of the
2 country, and the histogram across the bottom is
3 showing how many health data utility networks have
4 data in the ZIP Code.

5 So, just to cut to the punch line, you
6 can see over here in the number of ZIP Codes,
7 around 2,500 ZIP Codes, right, are served by 41
8 or more health data utilities.

9 So, that means that these health data
10 utilities need to work together and to exchange
11 data with one another.

12 And what you see on this map is how these
13 networks have begun working together. This is
14 something called the patient center data home.
15 And every star shown in orange on this map is
16 already connected to every other star on this map.

17 So, for example, if a patient from
18 Oklahoma goes to Arkansas or goes to Idaho or to
19 Colorado for care, their data is routed in real
20 time back to Oklahoma.

21 This is the kind of nationwide
22 interoperability we've never had in real time at
23 a state-to-state level among these health data
24 utilities. And I give you all of this information,
25 probably too much information, to tee up what I

1 think is possible now for your questions.

2 So, remember this problem, right, so at
3 a state level now, because there are health data
4 utilities in existence that are high-trust
5 certified, that understand their state laws, now
6 the data can simply be routed to the health data
7 utility where state laws can be applied,
8 interactivity and access to that data at the state
9 level as needed.

10 And then, that data is routed out to
11 partners where state law can be enforced. There
12 are plenty of audit logs and so on in place, and
13 performance is met.

14 One place to do the filtering, every
15 individual provider practice no longer has to be
16 in the business of enforcing their own state laws
17 and privacy rules.

18 This is another similar challenge,
19 right, with the federal government. The same
20 scenario applies. By having a health data utility
21 in every state, we now have the ability to have
22 one single set of outbound pipes to these federal
23 agencies that meet all the requirements on behalf
24 of these providers.

25 All right, so, this is where it gets very

1 interesting now for your purposes and the
2 questions you asked today.

3 This is a chart showing the use cases in
4 that survey, a number of them. One of them on the
5 far left was live ADT alerting. And you can see
6 the number of lives on the left, over 300 million
7 lives covered by health data utilities that can
8 offer live ADT alert.

9 But the part of this chart I want to
10 focus on for our purposes today is right here.
11 That's the number of lives supported by health
12 data utilities that already have FHIR support,
13 Fast Healthcare Interoperability Resources.

14 That means, for example, in the state of
15 Oklahoma, our health data utility has a single
16 FHIR API that provides access to all of the
17 clinical and claims data that's shared with the
18 health data utility in Oklahoma, which is the vast
19 majority, 90-something percent of all of the
20 clinical activity. That gives you and providers
21 a tremendous opportunity to support innovation.

22 And I'll just say one more thing about
23 that. By having the FHIR API at a health data
24 utility level, this chart, from a recent JAMIA⁸⁴

25 ⁸⁴ Journal of the American Medical Informatics Association

1 article, really highlights the difference in FHIR
2 APIs.

3 So, a lot of, you know, the requirements
4 for EHR certification have come down to each
5 vendor needs a FHIR API, and those are okay to
6 have, but they don't solve the global problem of
7 -- from a -- of getting the patient's entire
8 record.

9 I'm still going to each different EHR
10 instance and calling its FHIR API. Whereas, the
11 bottom row on this chart that I've highlighted, if
12 you look to the far right, you can see how many
13 seconds it takes per patient to access a record.
14 And you'll see two to three orders of magnitude
15 better performance for a FHIR API at a health data
16 utility level rather than an individual EHR vendor
17 level.

18 And that's essential for all the things
19 we need to do. For example, this problem with
20 data quality, right, a health data utility can
21 assess this in real time and, of course, data
22 quality is three dimensions. It's conformance,
23 it's plausibility. And it's completeness.

24 And I will emphasize Big C completeness
25 which means, do I have all the visits I should

1 have no matter how many places the patients have
2 been for care? Right? And different health data
3 utilities may well be at different locations on
4 this three-dimensional chart. Right?

5 So, we have the opportunity, because we
6 are building out the FHIR APIs, to offer data
7 quality scores in real time, right, so that before
8 I do a measurement of quality, I can check the
9 health data utility scoreboard to see, is this
10 health system or is this patient grouping got
11 high-quality, complete, plausible, and conformant
12 data before I run my analyses?

13 Okay, so now, we're finally to the
14 questions you had asked. Sorry for that
15 background, but integrating data-driven tools into
16 the physician workflow here is made very much
17 easier by having a health data utility with a FHIR
18 API in the middle.

19 And then, leverage the SMART⁸⁵ on FHIR
20 protocols such that everybody remembers when we
21 moved from dumb phones to smart phones, and we got
22 the app store, and innovation have exploded.
23 Right?

24 I mean, everybody was able to design

25 ⁸⁵ Substitutable Medical Applications and Reusable Technologies

1 something as long as they understood the rules of
2 the way the app store worked. And they were able
3 to bring their innovations to the table.

4 And I see -- I feel that we're right on
5 the brink of that kind of explosion of activity
6 with these health data utilities finally credibly
7 having the complete patient story and a FHIR API
8 to offer such that, not just an EHR, but also from
9 patients' own apps and they can interactivity.

10 And of course, there is a store,
11 basically an app store for SMART on FHIR where one
12 can go and download apps and point them at a FHIR
13 server and have these applications run, you know,
14 risk calculators and blood pressure centiles and
15 so on.

16 And so, to the first question around
17 integration into the workflow, this is how it's
18 done. We've now launched SMART on FHIR integrated
19 provider portals. And it's much easier using
20 SMART on FHIR because the EHR vendors, certainly
21 the certified ones, support that. And we can make
22 a single click into the workflow.

23 Once we're into the workflow, then lots
24 of apps can be valuable in that setting and there
25 are, you know, a range. You can start light and

1 just show a portal all the way down to enabling
2 calculations and quality measures and things like
3 that.

4 I won't go over this, but SMART on FHIR
5 has, you know, starting in 2009 just as an idea
6 has really evolved into something that is robust
7 and secure and is, from my perspective, our best
8 hope of getting to this interoperable ecosystem
9 where providers can use it for decision-making in
10 real time.

11 And it doesn't have to be a product from
12 their EHR vendor, it can be from their state or
13 their community, but it appears in the workflow
14 like this, morphine equivalent dose calculator.

15 Supporting clinical decision-making
16 between providers, this is work I did long, long
17 ago and showed that, while referrals, and we're
18 still struggling with this with prior
19 authorizations and so on, the referral process in
20 health care is a mess between primary care and
21 specialty care.

22 And we could coordinate that a lot better
23 starting with essential record available via FHIR.
24 But then, also, enabling providers to have an app
25 to connect to one another and discuss the case,

1 triage the case electronically before that
2 referral ever has to go for a full visit.

3 And we were able to demonstrate that
4 workflow show saved us a significant amount of
5 funding in our Medicaid population in Oklahoma,
6 reliability year over year.

7 So, that's, you know, a workflow that has
8 existed previously but is certainly enhanced by
9 SMART on FHIR applications.

10 The third one is data innovations to
11 promote shared decision-making. Many, many of the
12 applications already developed are intended to be
13 put in front of the patient.

14 Here's the classic out of a 100 people
15 who take this drug, this many are going to have
16 this side effect to share -- to help providers
17 with their discussion of a new treatment or
18 medication. And, you know, there are lots of ways
19 to drill into that and present that better.

20 And the point is, I don't think any of
21 us feel we've really solved patient engagement
22 well. But I know is not going to get it done is
23 only having one shot on goal every year from a
24 vendor. We need the field of ideas, the community
25 of ideas to be able to play as this app store

1 approach enables us.

2 Patients engaged in providing data on
3 their charts and then, even able to do their own
4 med reconciliation before they ever come to a
5 visit. Show them the pills, let them tap on the
6 pills. This is super easy.

7 But if it's separate from every hospital,
8 a separate activity or every clinic, patients are
9 never going to engage and be able to keep up with
10 it.

11 And then, finally, measuring
12 improvements, these health data utilities are
13 really built to measure things.

14 As you can see this chart is colorectal
15 cancer screening performance rate for a \$2 billion
16 health system. And the blue bar at the bottom is
17 what the provider was going to report for their
18 performance.

19 A \$2 billion health system was going to
20 report 11 percent as their performance score. And
21 because the health data utility had all of those
22 patients' long history from all other providers,
23 as well as the claims data history, they were able
24 to perform well above the 65th percentile on their
25 colon cancer screening. And so, that's really

1 important.

2 And so, in that same vein, things like
3 the social needs screening, the ability to
4 quantify how many patients, what percent of
5 patients actually receive this alert, how many
6 engage with it and responded, what are the
7 numbers, and we've now hit six million offers to
8 screen for social needs.

9 And that enables us to measure very --
10 the level of engagement of the patient very well
11 and to know when their links are bad, if their
12 mobile phone is bad, but also when they're heavily
13 engaged in what's going on.

14 And there are great metrics there, so
15 much so that we've, in the past, reported the same
16 set of quality measures across 40 different
17 electronic health record vendors on the same
18 population.

19 And I'll stop there.

20 DR. FELDSTEIN: Thank you, David.

21 We're going to hold questions until we're
22 finished.

23 Next, we're excited to welcome back a
24 previous PTAC member, Dr. Charles DeShazer who is
25 a Physician Executive, Healthcare Innovator, and

1 Former Chief Quality Officer for The Cigna Group.

2 Wonderful to have you here, Charles.

3 Please go ahead.

4 DR. DESHAZER: Thank you so much, really
5 appreciate the opportunity, and the prior two
6 presenters are tough acts to follow. And so, I'm
7 just going to kind of bring things back up to a
8 higher level and just try to point out and
9 underscore some of the points made earlier.

10 We can go to the next slide. Just a
11 short introduction of me. I'm an internist by
12 training, practiced for 12 years and got into the
13 administrative side. Worked in the C-suite with
14 payers, Cigna, Highmark, providers, Kaiser
15 Permanente, BayCare, and also worked with Google
16 high tech. And I recently retired from Cigna in
17 order to, in my semi-retirement years, to focus on
18 my passion and excitement around leveraging AI to
19 transform health care.

20 So, I'm formed a group to provide
21 advisory services in that space. But what I'll
22 say is that, throughout my career, you know,
23 payer, provider, and tech orgs, you know, I really
24 wanted to underscore the points that have been
25 made around how data is so critical that

1 integration is critical if we really want to
2 transform shared decision-making between
3 providers and patients.

4 The thing that I can say for sure is that
5 shared decision-making isn't optional. It is
6 critically important. It's essential. It builds
7 trust. It improves adherence and outcomes.

8 It advances inclusion by making sure
9 patients from all backgrounds are heard and
10 supported. And effective shared decision-making
11 has been shown to improve patient activation and
12 engagement which, study after study after study
13 shows that you can achieve the triple aim if you
14 achieve that kind of holy grail in a sense. You
15 improve quality, reduce costs, and you improve
16 experience.

17 But the challenge is how do we make
18 shared decision-making scalable, measurable, and
19 practical in everyday workflow?

20 So, we can go to the next slide.

21 And so, why is it a challenge and, again,
22 it's been well-stated a very concrete, detailed
23 level by prior speakers, but, you know, complexity
24 of the health care environment really makes it
25 extremely difficult and challenging.

1 There's so many failure points along the
2 way to getting to actionable data.

3 Again, it's been stated previously, the
4 data fragmentation driven by just the structure of
5 our system. And it makes access to real-time
6 holistic data, you know, during these critical
7 moments, nearly impossible. But, again, you know,
8 I'm optimistic as well in terms of the solutions
9 that have already been discussed.

10 The other thing is important as well,
11 though, is that the traditional patient role needs
12 to shift, and it is shifting. To me, what's really
13 interesting is how we're shifting from, you know,
14 the paternalistic role early in my career, that's
15 how I practiced, to the Dr. Google role, you know,
16 where patients have a little bit empowerment, you
17 know, little more data, et cetera. The
18 information asymmetry shifted.

19 But it's really interesting in the Dr.
20 ChatGPT⁸⁶ era where patients are now, you know,
21 coming in with very robust views of their
22 condition.

23 And so, I think we've got to take
24 advantage of that opportunity, and I'll touch on

25
86 Chat Generative Pre-trained Transformer

1 that. And, again, I know the other panelists are
2 all over this, but we have to take advantage of
3 this opportunity to empower and support patients
4 in a different way and because of the technology
5 and AI capabilities.

6 And then, obviously, the evidence-based
7 medicine limitations, this is another space where
8 things are shifting because of AI and the ability
9 to really pull information that's large datasets
10 complex and make it personalized.

11 So, we'll go to the next slide. I'm just
12 going to touch on these points very quickly --
13 Siri is listening here, turn her off.

14 The principles that are going to drive
15 effective shared decision-making, one, of course,
16 the patient-centeredness. And this is part of the
17 challenge is ensuring that we incorporate
18 individual goals, values, and preferences.

19 This has been a challenge, frankly,
20 because it added more complexity to an already
21 complex, chaotic data environment. But again,
22 we're beginning to have tools that can really
23 begin to address that complexity.

24 Accessibility and inclusivity, ensuring
25 that, you know, the interaction is personalized

1 and customized to literacy levels, language, et
2 cetera. Again, very challenging in the past, but
3 now, because of new technology, that can be done
4 fairly, you know, fairly effectively.

5 Personalization, again, through the
6 data. Again, prior speakers talked about this
7 contextualization of the data is critical for
8 effective engagement and better clinical outcomes
9 as well.

10 And not just the EHR data, but also their
11 social data, recognizing EHR data is just about
12 the encounters and the visits. Patients have an
13 entire, you know, additional life beyond the
14 physical clinical encounters.

15 So, that social data and that context
16 is critical. Again, timeliness. And, again has
17 been emphasized, the workflow integration is
18 absolutely essential.

19 Transparency, explainability, these two
20 should augment clinicians and not replace them.
21 And I think that's the risk that -- I was recently
22 at a National Medical Association meeting, and one
23 of the doc's comment, younger doc's, new in
24 practice, they were really concerned about Dr.
25 ChatGPT positive patients coming in and basically

1 making her feel like an order taker rather than a
2 doctor and rather than engaging in that
3 interaction.

4 So, again, I think we're at a critical
5 inflection point here where we've got to, you
6 know, guide this evolution and not let it be
7 haphazard. Again, driven by policy, incentives,
8 payment structures, we really have to make sure
9 this doesn't just happen by -- where we land
10 doesn't happen by chance. We really need to guide
11 this development.

12 Obviously, ethical and bias-awareness is
13 critical, interactivity and dialogue. And then,
14 finally, continuously learning.

15 We can go to the next slide. And so, I
16 think the opportunity here is to really be able,
17 for the first time, you know, I've been in
18 Informatics and Quality for the 30 years, and
19 we've been chipping away and nibbling, but what I
20 see now, and this is what's exciting to me is that
21 I think we finally have technology that's mature
22 enough and capable enough to actually drive this
23 vision of true collaborative care planning.

24 And, again, that's where shared
25 decision-making really makes the difference. And

1 to be able to individualize care and engage
2 patients in making choices and decisions in an
3 informed way that doesn't tax the health system.

4 You know, that's been the issue to really
5 execute on these models, it takes a lot of people,
6 a lot of FTEs⁸⁷. But now we're finding ways to
7 leverage technology that reduces that overhead and
8 reduces the friction to achieve these objectives.

9 Being able to visualize value, I think
10 the visualization that David just revealed shows
11 how you can use data and visualize it to make sense
12 out of the data. And we can, you know, really
13 leverage that in these interactions and engagement
14 strategies with patients.

15 Again, conversational intelligence is
16 available now. That's new. That hasn't existed
17 before. So, that's a huge opportunity.

18 And then, embedding these predictive
19 interventions in workflows. Again, which David
20 demonstrated, I think is another huge opportunity.

21 So, I think we are at a place, and an
22 inflection point where we can truly transform the
23 system. And one of the key elements will be, you
24 know, incentivizing, supporting, and executing on

25
87 Full-time equivalents

1 shared decision-making strategies.

2 We can go to the next slide. And I'm not
3 going to go through, you know, every example here,
4 but these are just emerging best practices where
5 you're starting to see how AI is embedded in the
6 workflows, how AI is beginning to deliver
7 differentiated results based on shared decision-
8 making and embedding, you know, predictions and
9 engagement tools within the workflow.

10 The last one, I'll just highlight is AI
11 Alfred Health which is AI for antidepressant
12 selection. And through their database integration
13 of guidelines, et cetera, they're really moving
14 towards a model of facilitating personalized,
15 shared medication decisions in this very tough
16 area, very challenging area for deciding which
17 direction to go.

18 And you know, everyone knows the data,
19 you know, that, you know, it's really, you know,
20 eventually depends more on personal preferences
21 and choices in terms of the, you know, the
22 direction to take.

23 So, again, real opportunity here to
24 reshape, you know, how we engage with patients and
25 how we drive towards these results.

1 If you go to the next slide? This is my
2 last slide here. I just want to just summarize
3 here that, you know, essentially, you know, and
4 again, in my work across payer, provider, and tech
5 organizations, you know, I've seen, and it's been
6 emphasized by the prior two speakers that
7 innovation is not about more data. You know, it's
8 really around making data actionable in the exam
9 room and making that data meaningful for patients,
10 integration in the workflow, reducing the data
11 fragmentation, reducing the burden of collecting,
12 managing, and presenting, and integrating data is
13 critical.

14 And shared decision-making is the bridge
15 between the digital innovation and value-based
16 care that we believe is going to drive better
17 outcomes and more efficiency.

18 And data innovations will make shared
19 decision-making scalable and measurable. And I
20 think the key is the -- to, again, get a prior
21 member knowing the focus of the Committee here, we
22 really have to align those payment models to
23 reward SDM⁸⁸ and by doing so, we're going to
24 accelerate progress on quality, experience, and

25
88 Shared decision-making

1 costs simultaneously.

2 So, I think that huge opportunity for us
3 in the next year or two, I think we're going to
4 begin to see true traction and transformation in
5 this space and shared decision-making, I think, is
6 going to be critical to get to the core of that.

7 So, I'll stop there.

8 DR. FELDSTEIN: Thank you, Charles.

9 Finally, we're glad to welcome Dr. Thomas
10 Lee, who is Chief Medical Officer for Press Ganey
11 Associates.

12 Tom, welcome.

13 DR. LEE: Great. And if we advance a
14 slide or two where it says the key findings from
15 10.5 million, I promised the organizers I'd take
16 like six minutes to go over six quick points that
17 are informed by data on how we're doing and what
18 we should be trying to accomplish going forward.

19 And very quickly -- and this will be my
20 last slide as well -- things are actually getting
21 better in terms of what patients report. Teamwork
22 is the number one concern that patients have in
23 every sector, not just inpatient. How they feel
24 about safety -- do they feel safe -- is a powerful
25 predictor of their trust and therefore their

1 ability to engage.

2 Equity really matters. I know this is a
3 politically fraught term these days, but I'll show
4 you something interesting. Segmentation of data
5 is critical, and building social capital to
6 actually improve to complement the data
7 infrastructure is essential.

8 So, very quickly -- next slide -- this
9 is a good new slide. I mean, I know it feels like
10 we're living in times where everything is getting
11 worse and civilization is collapsing, but if you
12 look at the top two lines, over the years, in terms
13 of patients' trust, their likelihood to recommend
14 their ambulatory care -- that's ambulatory surgery
15 and medical practices -- has actually been going
16 up. It never went down during COVID.

17 During COVID, you can see it did go down
18 on the inpatient side and is slightly improved.
19 It's certainly flattened out, and is probably
20 improving on the inpatient side. And the same is
21 true in the ED. Both have been are under a lot
22 of stress.

23 But most people are not inpatients. Most
24 people are not in the ED. Most people are seeing
25 doctors in the offices, and that has actually been

1 improving.

2 If we go to the next slide, this shows
3 you a remarkable finding that came out in 2024
4 when we look back at the last 12 months of data,
5 which would be 2023 data. For the first time ever
6 in Press Ganey's 38-year history, the same
7 variable emerged at the top as the number one
8 statistical correlate of overall likelihood to
9 recommend. It was teamwork in every sector: the
10 emergency department, inpatient, the offices, and
11 so on.

12 Teamwork has always been valued by
13 patients. It's always been in the top five, but
14 it's been migrating upwards so that now -- I think
15 care is so complex today, there's so many people
16 involved, that patients are scared that we are not
17 working together, that we do not have our act
18 together. And when they do feel the teamwork is
19 good, that is the number one thing that drives
20 trust right now.

21 If we go to the next slide, it shows you
22 something else that drives trust, which is do they
23 feel safe? This is true on the inpatient side and
24 is true on the outpatient side. This particular
25 slide shows you data from a large client and from

1 hospitalized patients, and for this, the left-hand
2 ball shows you that overall, like this 200,000
3 patients returning surveys -- they were average,
4 48th percentile. Seventy percent were giving a
5 top likelihood to recommend.

6 And you can see that top line is the 70
7 percent of patients who reported no safety
8 concerns. And overall, that group subset was in
9 the 92nd percentile. But almost a third, 29.8
10 percent, did have at least one safety concern,
11 something that made them feel less than fully
12 safe. And that group was in the first percentile.

13 So, even if people actually are safe, if
14 there's something going on where they don't feel
15 safe, they lose their trust. And that will
16 compromise their ability to be engaged and have
17 peace of mind about their care.

18 The next slide -- okay. So equity -- I
19 know equity is a politically charged topic these
20 days. And I'm not making an argument that we
21 should be trying to make care more equitable. But
22 I'm showing you data that places where there is
23 more equity have better overall trust by patients.

24 Equity, we should understand, is not
25 treating everyone the same. Equity is meeting

1 everyone where they are and trying to help meet
2 their needs. And there are different social and
3 other kinds of needs in different groups in our
4 society. And what this figure shows you is that
5 our hospitals across the country -- when there is
6 a small gap between the overall trust that
7 patients feel across racial groups and ethnic
8 groups, when the gaps are very small, overall
9 trust in care is better.

10 As you can see, the hospitals with the
11 smallest gaps are 2.8 percent more likely to be
12 in the top quartile for overall likelihood to
13 recommend. So I'm not making an argument that we
14 should be trying to improve equity, but I am
15 showing you data that places that have more equity
16 are considered excellent by their patients more
17 often. So equity and excellence go together. And
18 you can do with that what you wish.

19 Next slide.

20 Now, this is a slide that's showing you
21 how critical segmentation is. To consider
22 patients the same -- there are no typical
23 patients. And segmentation is absolutely
24 important. This just goes -- when you look at
25 likelihood to recommend their care but then break

1 it down to the components -- and in this case,
2 we're breaking it down by age group. And what you
3 see is that, basically, patients -- when they get
4 to be in their 80s, they feel less good about their
5 care. They're more concerned about, did they get
6 the information they need? Was it personalized?
7 Do they feel like the discharge process went well?

8 And it's not because we -- you know, if
9 you look closely at the data, you'll see that
10 younger people are more critical, and they get
11 more and more generous in their ratings up until
12 they get into their advanced ages. But when they
13 get over 80, they suddenly are not happy with their
14 care. What's really going on is that their needs
15 are greater, and we're doing a less good job of
16 meeting their needs.

17 So segmentation is critical. This isn't
18 the only type of segmentation that's essential, of
19 course.

20 Next slide.

21 This is -- you know, the message is that
22 social capital really matters. If you're going to
23 have people engaged, yes, the tech stuff that
24 we've been hearing about is important. But how -
25 - if people are treated with courtesy and respect,

1 what we find is that they're much more likely to
2 rate the communication from doctors and nurses
3 better. And then, if they feel respected and they
4 rate communication well, our data show they're
5 less likely to return to the ED, less likely to
6 be readmitted. They actually have a shorter
7 length of stay because they can work together with
8 their colleagues.

9 So, as important as the tech stuff is,
10 the interpersonal stuff, the social stuff really
11 matters as well.

12 Next slide. And this will be the last
13 of my data slides.

14 This just shows you that what's good for
15 patients is also good for employees. When we
16 segment our hospitals and other clients into
17 quartiles based on do the employees feel engaged
18 with their institution, and then look at do
19 patients rate -- on the L Y-axis is how did
20 patients rate their care?

21 And what you see is that when employees
22 feel better about a place, patients feel better.
23 The middle graph -- when employees feel the
24 organization treats them with respect, patients
25 rate their likelihood recommend as higher. And

1 then safety culture on the right-hand graph -- the
2 better the safety culture, the better patients
3 feel about their care. Good things actually do
4 go with good things in health care.

5 Next slide.

6 So this is just that summary again. The
7 data from -- this is 10.5 million surveys from
8 2024. They give these messages. We're actually
9 getting better, but we can still do better.
10 Teamwork is critical, helping people feel safe.
11 We want to keep them safe, but they need to feel
12 safe as well. If they see something like a dirty
13 bathroom, they're thinking, yuck, what else is
14 going on that might hurt me here?

15 Equity is associated with excellence. Do
16 with it what you want. Segmentation of the data
17 is critical, and then how people organize to work
18 with the information is critical as well.

19 Thanks very much, and I'm looking forward
20 to our discussion.

21 DR. FELDSTEIN: Thank you, Tom.

22 And thank you, all, to our experts for
23 those great presentations.

24 Now we'll open the discussion to our
25 Committee members. At this time, PTAC members,

1 please flip your name tent up. For virtual
2 Committee members, please raise your hands in Zoom
3 if you have any questions for our guests.

4 In the interest of time, for our
5 panelists, please try and keep your response to a
6 few minutes. We're on a bit of a tight time frame.
7 We're scheduled to stop at 4:20, but I think we
8 want to take this and let it go a little longer.
9 Unless the Committee objects, we go to 4:30.

10 So, with that, who's up?

11 All right, Krishna. You go first.

12 MR. RAMACHANDRAN: I'll get us started.
13 Thanks, all. Great perspectives from everybody.
14 Appreciate the sharing there.

15 Charles, you brought this topic as --
16 well, on sort of payment model. I mean, I'd love
17 if you all have any perspectives on, like, any
18 payment model recommendations or any particular
19 levers to pull, particularly to incentivize or
20 help scale shared decision-making. Love to get
21 perspectives. This is for everybody.

22 DR. LEE: Yeah. I'm happy to chime in,
23 and this is based upon not my Press Ganey
24 experience but my experience working in senior
25 management at Mass General Brigham. And I have a

1 PhD in what does not work with payment models
2 because of so many times I've had my heart broken
3 with things that seem to make sense that led to
4 disappointing outcomes.

5 And I think that from looking at a lot
6 of payment models, I would say there is no good
7 way for money to change hands in health care
8 without the risk of perverse consequences. And
9 our real goal, frankly, is to keep money from
10 distracting people from doing the right thing,
11 from trying to improve patients' outcomes and then
12 try to do as efficiently as possible.

13 So trying to reduce the distraction is
14 important. I'm on the -- I chair the board for
15 Geisinger Health Plan, and I'm on the board for
16 Blue Cross Blue Shield of Massachusetts. And as
17 both places, the discussion is moving to we have
18 to actually try to change how doctors are paid.
19 It's not enough to change how we pay the
20 organizations.

21 If those organizations continue to pay
22 their physicians, and especially their
23 specialists, for generating RVUs⁸⁹, it produces
24 effects that work -- it distracts them from

25
89 Relative value units

1 focusing on the things that we really want, which
2 are trust, peace of mind, shared decision-making,
3 and so on. So I do think getting at rewarding
4 organizations that move away from paying their
5 doctors for volume is what I would recommend --
6 easier said than done.

7 DR. KENDRICK: So I'll chime in there,
8 and I totally agree with Dr. Lee. I had a front-
9 row seat for one of the models early on in CMMI
10 called the Private Care Collaborative, the initial
11 model, CPC⁹⁰, Comprehensive Care Initiative. And
12 what emerged in our community was that providers
13 came around the table with health plans and with
14 employers and began to develop a working
15 relationship together. And it was multi-payer, so
16 it was maybe 90 percent of the patients in every
17 primary care provider's practice.

18 And it was straight-up shared savings.
19 It was very simple, and the providers could
20 understand the math and the numbers and knew that
21 it was worth now taking a phone call at midnight
22 on a Friday night to redirect somebody to a clinic
23 visit in the morning.

24 And that set of simple interactions

25

90 Comprehensive Primary Care

1 produced -- I think we were 5-to-6-percent-a-year
2 savings in the Oklahoma edition of the model. And
3 the other versions of the model didn't fare as
4 well in other states, but they had, I think,
5 different incentive models in place a much higher
6 degree of employed providers, where that
7 compensation model of shared savings didn't make
8 it all the way down to the provider.

9 And you have to pay attention to those
10 kinds of structures. If that shared savings
11 doesn't get to the person whose pen is writing the
12 orders, then it's not going to be a very effective
13 model. And so I was really impressed that that
14 brought a whole community together.
15 Unfortunately, CPC+ kind of changed the model a
16 little bit, and the Oklahoma story separately was
17 never really told; it was just sort of buried in
18 the report.

19 DR. DeSHAZER: Yeah. I'll just say I've
20 practiced in the Kaiser system, where incentives
21 were very different. And I've worked in the
22 Highmark system, where we really drove that
23 alignment I think that, Tom and David, you guys
24 are alluding to.

25 And it's absolutely critical, I think,

1 the -- and Tom stated it. The RVU model,
2 especially for specialists, is going to
3 continually muck up the system, and -- you know,
4 for the technical term. And you really have to
5 get the primary care more incented.

6 And, David, you mentioned that -- I mean,
7 to take that call at midnight, to be available on
8 Saturday, et cetera -- and you just don't do that
9 with piecemeal type of activities, especially --
10 I'm a primary care doc, and this is too much to
11 piecemeal my salary. You know what I mean?

12 So I think those points -- I just want
13 to underscore the two points already made.

14 MR. SHASHANK: I think there are a few
15 things that I'd sort of restate, Krishna, on that.
16 One, I think the value-based care incentive model
17 is effectively like suffering from delay in
18 compensation to a certain degree, right? If I do
19 something today and if I'm going to get paid for
20 it, like 18 - 24 months later, it actually is --
21 it just basically becomes very hard for me to sort
22 of really think through, what is basically going
23 to happen if I really do this?

24 Just economically speaking, I'm sure
25 basically everyone is sort of redoing, like,

1 what's the right thing to sort of redo, like --
2 but if you really wanted to basically think about
3 the fact that we're living in a world where instant
4 gratification is effectively something that
5 everyone is solving for, and if we create, I think,
6 a system in which everyone is getting paid like
7 18 months later for work that they're sort of
8 redoing today, it just causes basically lower
9 likelihood of that model to be successful, even
10 if, I think, the model is incredibly valuable to
11 a certain degree.

12 That would sort of be one. I would also
13 basically -- so that's one. The second thing that
14 I would also sort of really say is that it's very
15 hard for anyone to really understand, what am I
16 going to basically get paid today in a value-based
17 care construct? So maybe some degree of, I think,
18 like, transparency or prepayment or visibility --
19 because all of the technology has effectively been
20 structured in a way where it sort of really
21 incentivizes for like CPT, DRG⁹¹, like codes to a
22 certain degree, right?

23 But there isn't basically, I think, that
24 degree of visibility that has been created, I

25

91 Diagnosis-related group

1 think, to a certain degree. Like if I basically
2 enroll someone on a chronic care management
3 program or whatever is basically like the action
4 that you're sort of retaking, is there basically
5 incremental economics of that in any meaningful
6 way?

7 That's basically a challenge. What we've
8 sort of really seen and what we've sort of
9 implemented is that if you are able to create some
10 degree of real-time physician incentives and
11 that's basically visible, and even if those
12 incentives are that you put a ranking of quality
13 measures that where do you sort of really rank and
14 based on basically these things, so on a real-time
15 basis, we'll tell you the path to basically be in
16 the top quartile or decile. That just changes so
17 much behavior.

18 So I think that the thing that I'd really
19 say from an economics perspective as we design
20 these things -- if we can't basically make it, I
21 think, more real-time, it will always basically be
22 back of the mind and not basically front and
23 center.

24 And the second thing is, if we can't
25 basically create transparency into what people are

1 going to get paid if they did something, then
2 they're never going to basically do that. Like
3 incentives said this really well, that show me the
4 incentive, and I'll show you the outcome. If you
5 can't show it to them -- show was also the
6 operative word there, right? If you can't
7 basically show it to them, then there is not
8 necessarily going to be an action that sort of
9 really ends up happening.

10 So I think that those would be the two
11 things that I would sort of really think about.
12 Like getting people paid, I think, more real-time
13 and really getting them to know what they're
14 basically going to make are going to be, I think,
15 meaningful drivers for, I think, more effective
16 change management in broad terms.

17 MR. RAMACHANDRAN: That's very helpful.
18 Thank you all.

19 DR. FELDSTEIN: Lee?

20 CO-CHAIR MILLS: Yeah. Thank you, Jay.

21 So I've got a two-part question. First,
22 I'll just say we're talking about strategies for
23 supporting shared decision-making providers and
24 patients moving into the future of health care,
25 and there's multiple lenses. We've spent a bunch

1 of time talking about the technological
2 possibility or achievements and getting the data
3 to flow, and I heard someone earlier talk about
4 making the data more liquid, which I thought was
5 a great example.

6 I mean, that makes that shared decision-
7 making possible. We've spent time talking about
8 what are process barriers, whether it's workflow
9 or physician compensation that may make that
10 shared decision-making more probable.

11 But I think there's a piece that I want
12 to double-click on a little bit and discuss more
13 about. And that's, what's the necessary elements
14 that are the background of the trusting
15 relationship? For a community organization,
16 that's about governance. And for individuals,
17 that's about knowing that the data they see has
18 face validity. I mean, a primary care doctor can
19 look at a list of their missing mammograms and
20 know in the first page whether your data is
21 accurate or not.

22 A patient can do the same thing. When
23 they've got their apps pulling all their data,
24 you're going to have them or lose them in the first
25 45 seconds they're looking at that, right? And

1 so, if you can, talk about what you see as the
2 most important considerations as we move into the
3 future of health data utility and patient-centric
4 apps vacuuming all of their information from
5 across all these disparate systems. What are the
6 most important elements to that?

7 And then, secondly, what do you kind of
8 see as the top one to three barriers that need to
9 be addressed to move into that future?

10 DR. LEE: Well, I'll just start things
11 off by saying I think we should not let perfection
12 be the enemy of the good. And we should be doing
13 a lot better with the data that we actually do
14 have readily available.

15 So, even though only a portion, a very
16 small percentage, of people have all their data in
17 one place as David showed, yeah, I mean, I do
18 primary care at Brigham Women's Hospital part-
19 time, but I get a ton of data now from lots of
20 places around the country, so much data I'm
21 feeling kind of overwhelmed.

22 I think the ability to use AI to
23 integrate the data that I already have accessible
24 to me is going to be very important. But I think
25 that for clinicians to feel like it's their job

1 to use the data they have and then be transparent
2 to patients. Part of generating trust is
3 transparency to show them that -- you know, make
4 it clear -- hey, you know, I actually see the data
5 from this other place, and frankly show off a
6 little bit. Make sure the patient knows we've got
7 it all; we can look at it all.

8 Again, some of the social aspects around
9 how we use what we already have, I think, are
10 important. I don't think we can wait and get
11 paralyzed because we don't have everything from
12 their bathroom scale coming in automatically to
13 Epic, which is what we use.

14 DR. KENDRICK: Yeah, I'll agree with that
15 fully. I mean, it's -- you know, what's the mantra
16 of start-ups? It's fail fast. And I think we
17 need to get the data in front of patients and
18 providers, for that matter, from outside their
19 systems as soon as possible with a credible
20 feedback loop so we can hear in as close to real
21 time as possible when something is the wrong
22 patient or is incorrect and then cure that, that
23 problem.

24 And most notably, most interoperability
25 models today are federated where I go get a big

1 document from somewhere, and it comes to me, and
2 I leaf through page after page after page looking
3 for the most recent hemoglobin A1C. That model
4 doesn't really lend itself towards feedback loops
5 and cleaning up data.

6 We really have to bring that data to rest
7 somewhere and give it an opportunity to be
8 optimized and cleaned and tuned with multiple
9 actors, the patient first and foremost, but also
10 providers contributing to the cleanliness of that
11 data. And that's the reason I pointed out the
12 opportunity the FHIR API broad availability gives
13 us to be able to score data quality in real time.

14 And the big-C Completeness is no small
15 component of that, right, because without -- the
16 big-C Completeness gives us the denominator we
17 have to have. If I don't know that there were
18 three other hemoglobin A1Cs available on this
19 patient that this didn't respond because the
20 patient identity didn't match or because they had
21 a policy somewhere that made it slow or broken
22 wire, then I'm not treating the right number when
23 I take care of the patient.

24 MR. SHASHANK: The only thing that I'd
25 sort of really just add -- like, I think it was

1 very well said by others as well. The only thing
2 that I'd sort of really just say is that trust
3 starts with shared context, almost always. And
4 Thomas already pointed this out. But just that
5 warm gooey feeling, like I think, like at the
6 start, that as a provider, you know me -- just
7 goes, I think, a really long way.

8 And if we can get some of the data that's
9 already sort of really present and always
10 effectively had -- like if you want shared
11 decision-making, you will need to basically build
12 shared context first. And how do we -- like, I
13 think, from a provider perspective, give them
14 enough information, I think, around the patient,
15 and then basically, I think, have that as the
16 starting point of the conversation.

17 I think that would sort of really, I
18 think, be the starting point of shared decision-
19 making overall. But I also agree with the fact
20 that we have a lot of data already. I think this
21 is going to improve -- like, just only increase.
22 I think that is going to be like more real-time
23 information that sort of really comes up as we
24 sort of, I think, grow.

25 But we have a lot of that information

1 already, and if we can sort of get to the point
2 where, for the doctor -- or for the caregiver, we
3 basically have shared context -- the care manager
4 is working on the same shared context. Then you
5 go to basically, like -- your post-acute care
6 setting they're working on the same context. That
7 really goes a really, really long way in terms of
8 building out shared decisioning down the road as
9 well.

10 DR. FELDSTEIN: David, did you have
11 another comment before I go to Larry or Charles?

12 DR. KENDRICK: Yeah, I forgot to add
13 something I think is really important is everybody
14 has used, say, Microsoft Word, for example. And
15 you know that there are 1,000 settings in there,
16 that you can tune that application to do anything
17 you want, right? Excel-- all of these apps.

18 People use -- the general users -- maybe
19 a half a percent of the features that we use.
20 Patients are going to be the same way, I think,
21 with this data. And so I think we need to add
22 reasons for them to want to engage with this data
23 to the flow. Notably, I think centralizing
24 patient consent in a place that enables patients
25 to see who's using their data and for what, and

1 also what to set permissions at levels that are
2 appropriate for access to their data -- right now,
3 if I want to change my consent, I have to go to
4 every hospital and clinic I've ever been to and
5 sign a new document.

6 We should be centralizing consent to
7 travel with that patient app or access so that
8 they can have some -- see some value in that beyond
9 just the data itself.

10 DR. FELDSTEIN: Charles, did you have
11 anything to add on this question?

12 DR. DeSHAZER: Yeah, I'll just actually
13 support both ideas because, in my prior life at
14 Google, I was working on two components. I was
15 leading the development of Care Studio, and we
16 were developing the centralized consent
17 capability, exactly to that point.

18 And also, Abhinav, to your point, when
19 we did focus studies with Care Studio -- this is
20 at the beginning of using AI, et cetera -- the
21 thing that blew folks away was contextualizing
22 information and getting everybody on the same
23 page. I mean, this was happening, at that time,
24 for the first time to really make that happen.

25 So, to me, I think, again, that's such a

1 critical piece. And I think that's going to make
2 a big difference, as these tools become more
3 mature and robust, to provide that
4 contextualization.

5 And I think, Thom, gets to your point,
6 when it feels like everyone is working as a team,
7 part of it is because they all have the same
8 context working with that patient, which builds
9 trust.

10 DR. FELDSTEIN: Larry, and then we'll go
11 to Walter.

12 DR. KOSINSKI: Well, it's a great
13 discussion. I'm focused on one thing, though.
14 And there's a difference between the push and the
15 pull. Pulling data-- any EHR is going to give it
16 to you. Pushing it in, there's a stop sign on
17 every one of them.

18 And I come from the specialty space. And
19 I've spent so much time on committees coming up
20 with quality measures and trying to build
21 outcomes-driven data in the specialty space. EHRs
22 are designed for -- it's probably the one thing
23 that's designed for primary care.

24 And getting the specialty-based fields
25 that can be populated with structured data in EHRs

1 so that specialists who represent a minority of
2 the users can report data is one of the most
3 challenging things we deal with. It's hard enough
4 getting the measures approved through the process,
5 but then getting them implemented is extremely
6 difficult. Any ideas.

7 I know, David, you mentioned about the
8 push and the pull, and that's what got me thinking
9 about it.

10 DR. KENDRICK: I mean, I'll start. I'll
11 bite. But I mean, the reason -- so I will say
12 this. I don't want to get too wonky, but we
13 started with HL7 v2, and we did ADT messages and
14 ORU⁹² messages, and those were used to drive mainly
15 in-hospital processes, patients moving from one
16 room or bed to the next and down to the lab and
17 so on.

18 And then, in the, say, early aughts, we
19 shifted to this XML-based document, CCDs, which
20 contain all the patient's story. We're still kind
21 of stuck there in that you and I as providers are
22 being asked to read one of those, or maybe 20 of
23 those. Any time we see somebody new, that's what's
24 put on our desk to read.

25 _____
92 Observation result unsolicited

1 And I was somewhat -- because of that
2 experience, I was somewhat dismissive of FHIR when
3 I first started to experience it and hear about
4 it. And now, starting in 2019, our entire State
5 Health Information Exchange, now health data
6 utility, shifted 100 percent of our data into that
7 FHIR data model so that now I can say I just want
8 the latest blood pressure, I want the latest
9 ejection fraction, and I want the last note from
10 somebody with a cardiology specialty. And that's
11 it.

12 And so it's very much better experience.
13 Even though it is still me asking for a piece of
14 data, I can ask for the very specific thing that
15 I want. And it performs very well, as I was
16 showing in that slide.

17 DR. KOSINSKI: But you can't push new
18 data in.

19 DR. KENDRICK: Yeah, you can, actually.
20 There's a model within FHIR called Subscriptions
21 that we're starting to roll out now so that if you
22 knew a priority that you needed this but say you
23 just have done a procedure on a patient, and you
24 want to subscribe to the patient's ER⁹³ visits for

25
93 Emergency room

1 the next 90 days to make sure they don't show up
2 in one, then you automatically will be notified if
3 any ER visits happen on that patient.

4 So that's the model we're building
5 towards to be able to do that proactive alerting.

6 MR. SHASHANK: I think that I'll just say
7 basically this is like one of the things that is
8 not talked about often but is probably one of the
9 largest, I think, problems, that pulling data, I
10 think, from the systems is still basically doable,
11 but unless you basically push it back, then there
12 is, I think, suddenly, I think, another lack of
13 context that you effectively created.

14 Like let's say you measured -- you pull
15 data from this system. You pulled it from claims.
16 Like, you created, I think, some degree of, like,
17 I think predictiveness. You can't basically push
18 it back into the EHR system. Then everyone is
19 suddenly not really, I think, working on shared
20 context again.

21 So pushing data back into, basically,
22 EHRs has been an incredibly hard thing. Everyone
23 is basically, I think, trying from -- and I agree
24 with, I think, like, David, that there are
25 basically ways to sort of redo that, like you could

1 basically, I think, send HL7 documents or
2 basically, I think, FHIR pushbacks like -- I think
3 like in EHRs today.

4 But it's not easy, and it's not
5 prevalent. And it's still basically, I think, in
6 the hand of how that system was basically
7 configured that -- like every health system like
8 today and whether they have the availability of,
9 I think, pulling this data back up again.

10 We basically had these challenges in
11 operationalizing, like I think any of the value-
12 based care programs, like I think like ADT feeds
13 and like a bunch of things happen at home. A bunch
14 of things basically happened at a care manager
15 site, and how do you basically push this sort of
16 really back into the system?

17 And in some cases, with the same vendor,
18 you could basically do it where verses like in
19 other systems. Basically, with the same vendor,
20 you can't sort of redo it.

21 So there is a little bit of, I think,
22 challenge that we will have to basically push
23 towards. The other piece is basically -- like
24 given most of the value-based care economics are
25 effectively structured for, I think, primary care.

1 You would see basically that doing this from a
2 primary care side is actually a much more easier
3 thing. And where you need longitudinal data. And
4 with specialists, given, basically, I think
5 longitudinal data and value-based care economics,
6 are not necessarily there. Like you see some of
7 these things to be harder there.

8 Information flow would eventually
9 basically follow economics. And unless there is,
10 I think, economic incentive to a certain degree,
11 it's, I think, continuing to sort of be like a
12 hard thing.

13 All that to say, basically, I agree with,
14 I think, your point around the fact that there is
15 basically, I think, a challenge in pushing,
16 basically, I think, data back into structured
17 elements within the EHR today. There are solves
18 to it in bits and pieces, but I don't think there
19 is a systemic way to basically do that at scale
20 today.

21 DR. FELDSTEIN: Okay. Walter, you've got
22 the last question of the day.

23 DR. LIN: That's a lot of pressure, Jay.

24 DR. FELDSTEIN: You can handle it.

25 DR. LIN: Yeah, so our two-day public

1 meeting is on looking at increasing patient
2 engagement through data access and digital tools.
3 And what really struck me about Dr. Lee's
4 presentation was how little of that was actually
5 driving patient experience, right?

6 So I think what Dr. Lee presented was --
7 what really kind of drove patient experience was
8 kind of like apple pie and ice cream and
9 motherhood-type things, like you have to have
10 patients -- you have to have providers who show
11 courtesy and respect. You have to have staff who
12 work together. You have to give patients safe
13 health care.

14 I'm just wondering if Press Ganey has any
15 data on whether increased patient engagement
16 through access to their own data, which is what
17 we talked about mostly today, or through digital
18 tools actually improves the patient experience.

19 DR. LEE: Mm-hmm. And I would say that
20 the short answer is, not really. We have to try
21 to take a look at whether adoption of patient
22 portals and by organizations leads to improved
23 patient experience, and we can't see any evidence
24 of that. But that's because patients' pickup of
25 the patient portals is something that happens over

1 time.

2 So I think it's too early to say it
3 doesn't matter for patients to have access to
4 information. I do think, though, that even though
5 I know you weren't being pejorative when you said
6 Mom and apple pie because you probably do feel
7 good about your mother and feel good about apple
8 pie, I think to make the point that those social
9 -- it's hard to make a good apple pie. It's hard
10 to get people to work together and show teamwork
11 and to reliably engage with people and take
12 responsibility for giving them peace of mind.

13 I just think that this is a payment-
14 oriented group. I think thinking about how money
15 provides incentives and disincentives and how
16 government can provide nonfinancial incentives for
17 the right things -- I'm hoping that will be a real
18 focus.

19 DR. LIN: Thank you.

20 DR. FELDSTEIN: Well, I'd like to thank
21 all four of our experts for joining us this
22 afternoon for a robust discussion. You're welcome
23 to stay and listen to as much of the rest of the
24 meeting as you can.

25 We're going to take a short five-minute

1 break and then come back for the Committee to
2 reflect on today and have some comments and
3 recommendations for the report to the Secretary.
4 Thank you all.

5 (Whereupon, the above-entitled matter
6 went off the record at 4:31 p.m. and resumed at
7 4:38 p.m.)

8 *** Committee Discussion**

9 CO-CHAIR MILLS: Okay, thanks for
10 returning after the break. I'm Dr. Lee Mills, one
11 of the PTAC Co-Chairs.

12 As you know, PTAC will issue a report to
13 the Secretary of HHS that will describe our key
14 findings from this public meeting on using data
15 and health information technology to transparently
16 empower consumer and support providers.

17 We now have time for the Committee to
18 reflect on our three incredibly rich and
19 informative sessions today.

20 We will hear from more experts tomorrow,
21 but we want to take the time to gather our thoughts
22 before adjourning for the day.

23 So Committee members, you know the drill.
24 Flip your name tent up when you have comments.

25 We do have a page of potential topics for

1 deliberation document if you want to reference
2 that.

3 And please raise your hand on Zoom, and
4 who would like to start?

5 (No audible response.)

6 CO-CHAIR MILLS: Okay, well, I'll jump
7 in there, then. Going first means I have original
8 things to say. That dwindles over time.

9 So, I was struck throughout the day today
10 as we talked, so originally about patient
11 engagement, that the, as someone said work to make
12 the data more liquid, which I just thought was
13 such a rich analogy.

14 But as we do that, the whole patient
15 engagement is necessary but not wholly sufficient
16 in and of itself, to get to where we want the
17 health care system to go.

18 And, engagement to be effective,
19 requires a principle concept of a free market
20 economy as if the consumer has agency and can make
21 choices.

22 And, it's unfortunately true that at
23 many, many steps in the health care ecology,
24 patients' choice, even if they had perfect
25 information, is very limited in what they can

1 choose.

2 Whether it's a network; whether it's a
3 procedure; whether it's their limitations of
4 transportation; and social determinant
5 limitations. All sorts of limitations.

6 But I do wonder if in the fullness of
7 time, the increase of liquid data will drive and
8 spur natural explosion of innovation and
9 competition, that will break down those barriers
10 and increase agency at the end.

11 So in a sense, it comes into its own over
12 time.

13 Thought the concept of the coming of the
14 idea of a federated identity is really, really
15 key.

16 And, Ami spoke so eloquently about
17 breaking down portalitis. I think that is really
18 a powerful concept.

19 And, I heard her say that it's happening
20 right now all over health systems, and health
21 plans are using federated identity whether it's
22 CLEAR, whether it's ID.me for that.

23 And, I'm very grateful to hear that.
24 Would love to know others' experiences, but at
25 least in the region of the country I am familiar

1 with, I don't know of a single health system or
2 health plan that's actually doing that, or talking
3 about it now. And so, innovation diffuses.

4 Ami also spoke very eloquently about the
5 importance of the person-centered health data apps
6 that aggregate from across.

7 And, we saw how the fragment, in David's
8 talk, how the fragmentation is so dramatic. Way
9 larger than any one health system or ecology.

10 And so, it's really going to require, for
11 true patient empowerment and to improve agency,
12 it's going to require a person-centered app that
13 can go out and gather that information from all
14 sources, and consolidate it in a way the patient
15 can use and that's really powerful.

16 Love Tom Lee's statement that there is
17 no best way for money to change hands in health
18 care. That was just really, really great.

19 There's only a list of things that we've
20 tried that don't work, and so that and the idea
21 from, later from Tom saying we just simply, the
22 way to begin is to just do better with the data
23 we have and not let perfect be in the way of the
24 good.

25 I think that's just really wise. And we

1 do have lots of data that isn't used terribly well
2 today.

3 And so, that just spurs us on each and
4 all of our own individual venues to try to use
5 what we have better.

6 And then, I enjoyed Dr. Kendrick's
7 comments about having visibility and a view of
8 data completeness as a critical component of data
9 quality.

10 You think you've got what you need, but
11 if you only have 60 percent of the patients, the
12 patient in front of you of their data and it's
13 fragmented all over, you really never will have a
14 view of the patient that's real.

15 And being able to quantify at the point
16 of care what view of the data you're seeing in
17 your EHR system, and what is known to it, is
18 really, really important.

19 And it seems like that ought to be a
20 critical component. And this idea we've talked
21 about other metrics of clinical quality metrics
22 moving towards eCQMs⁹⁴.

23 Knowing that I'm only at 65 percent for
24 this metric, but that I only have 40 percent of

25

94 Electronic clinical quality measures

1 all of my patient's data contributing to that, is
2 an important concept.

3 Versus I'm at 45 percent and I've got 90
4 percent of the data, meaning I'm actually at 45
5 percent.

6 So, okay, that's what I've got. I will
7 go next to Lindsay.

8 DR. BOTSFORD: Yes, thanks, Lee. Maybe
9 just one tangible recommendation I heard, and then
10 maybe a couple cautions.

11 I think the tangible one that just is
12 worth repeating, is I think just the call out to
13 think about how we could unlock APIs for better
14 access.

15 For example, I think given, moving the
16 meaningful use requirements on to API stacks, as
17 opposed to on the vendors themselves.

18 I think I heard a caution with regards
19 to payment that I think is worth restating. So
20 one of the concerns around the increased use of
21 data was around a hesitation of data sharing, or
22 restrictions on the use of information that's
23 provided for value-based care then being turned
24 and used against someone for the purpose of
25 payment.

1 So when a entity would provide the
2 clinical information or data for the purpose of
3 clinical quality improvement, for example, then
4 that information could be used against them.

5 And I think as we think about the
6 increased information we'll get from wearables, or
7 other health data from things worn by a patient
8 24/7, I think there's real potential that that
9 data could be used for adverse determinations or
10 other things as well.

11 And so, I think a word of caution around
12 as we think about all the uses of data when it
13 comes to payment.

14 And I think exciting to see what we will
15 learn from the use of wearables and AI to actually
16 show improvement in outcomes.

17 I think the, there is a lot of data out
18 there, but it will be important I think as Ricky
19 called out, for companies who are in this space,
20 to show that they're not just aggregating and
21 creating bundles of data, but that it's improving
22 outcomes.

23 And so, I think it will be interesting
24 to see the lessons that are learned from entities
25 that are taking risk and incorporating the use of

1 wearables or other AI tools, to see how we might
2 value, value the improvement it provides in, for
3 translating to other fee-for-service, or other
4 payment methodologies.

5 CO-CHAIR MILLS: And, Krishna?

6 MR. RAMACHANDRAN: Yes, from my sense,
7 three things sort of stood out for me. One is on
8 just I think I was pleasantly surprised hearing
9 Kristen from b.well, and Epic, just the amount of
10 patient mediated interoperability and data
11 sharing.

12 Like they are initiating queries and
13 initiating requests. It's great to see the
14 progress made there. There's obviously billions
15 of data points.

16 That was interesting for me, and then how
17 do we sort of find ways to encourage more of that,
18 whether it's through benefit design, whether it's
19 through incentives I think is one to sort of make
20 them be in control of the data.

21 But also initiate sort of more liquidity
22 and movement, was interesting for me. So I thought
23 it was interesting.

24 This second one was on just consistent
25 thought on just like what people are doing to make

1 the data more usable.

2 I just feel like we were so focused in
3 the world of interoperability around just
4 liberating the data.

5 And I think I like the pivot we're making
6 in this sort of second decade of interoperability,
7 on what do we do with it? And, how do we make the
8 data more usable?

9 And, we saw that sort of interspersed in
10 many speakers, whether it's Ami from Included,
11 particularly around sort of integration is
12 innovation type catch phrase she had on how
13 they're combining data, presenting it in a way
14 that's usable, useful for them to sort of engage
15 and take action. I thought was helpful there.

16 And similarly, in the ŌURA Ring approach.
17 How do they get the data, and how do they actually
18 make it usable and presentable in a way that was
19 understandable and actionable?

20 Whether it's the cardiovascular age-type
21 concept as opposed to a sort of a nerdy bit of a
22 pulse velocity metric.

23 Or an example like Vishal had on just a
24 sort of gamification modification, just sort of do
25 something with data to make action happen.

1 So I thought it was interesting the
2 things we can learn particularly as we have all
3 these pledges that are doing the CMS
4 Interoperability Framework. We can see more data,
5 more apps coming in.

6 The third point was really around value-
7 based care. I think for me, just more
8 opportunities for us to I think I would emphasize
9 the point on speeding up incentives, incentivizing
10 more specific things.

11 Because sometimes we're using like
12 shared savings and capitations. We get sort of
13 a, lots of things get sort of stuck under the wash.

14 And so, being able to sort of like change
15 certain behaviors on data as where there is more
16 frequent incentives, I think that's just something
17 for us just to keep thinking about as we continue
18 to get feedback on payment models as well.

19 Those are three themes that stood out for
20 me.

21 CO-CHAIR MILLS: Thank you, Krishna. I'm
22 going to go to Jay, and then Larry.

23 DR. FELDSTEIN: Well, I was encouraged
24 to hear during the wearables session, that these
25 companies are taking into consideration that when

1 the business case is made in terms of improved
2 clinical outcomes for wearables and digital tools,
3 that it needs to be made available to all
4 populations.

5 That it just can't be self-pay and
6 commercial populations. It's got to be available
7 to Medicare, Medicare Advantage, Medicaid plans as
8 well, and Medicaid patients.

9 Otherwise, we're just going to have a
10 whole new bucket of health care disparities in
11 terms of a digital divide.

12 And the second thing that kind of struck
13 me as being absent in today's conversation, was
14 the lack of attention to the interaction between
15 primary care physicians and specialists in
16 decision-making for a patient.

17 It never came up. It's kind of okay,
18 we've got this great data for this specialist to
19 make a decision with the patient.

20 And we've got data for the primary care
21 to make a decision about the patient, but I heard
22 very little about the interaction between the
23 primary care physician and the specialist making
24 a decision shared about the patient, with the
25 patient being part of that process.

1 And I don't know whether it just didn't
2 come up or was an oversight, or whatever, but I
3 was struck by the absence of that.

4 Especially in today's world with the
5 fragmentation of primary care, which from my
6 perspective, is being driven by GLP-1⁹⁵ inhibitors.

7 When you've got Weight Watchers; when
8 you've got Hims and Hers; when you've got Noom now
9 into the weight loss and diabetic care business,
10 it's getting even more fragmented.

11 Which means you're going to have less
12 interactions between quote primary care and
13 specialty care.

14 So I think they ought to pay attention
15 to that as we build out value-based care models,
16 not to lose that component of care.

17 CO-CHAIR MILLS: All right, great
18 thoughts, Jay. I'm going to go next to Chinni.
19 And after, sorry, after Chinni is Larry.

20 CO-CHAIR PULLURU: You know, I'll echo a
21 lot of what everyone said except I have a couple
22 of additions.

23 The first being that I'm optimistic after
24 today because just seeing that there is a march

25

⁹⁵ Glucagon-like peptide-1

1 towards more and more liquid data that is becoming
2 more and more interoperable, accessible.

3 It's today was a positive meeting in that
4 sense. The just having been in that chair and
5 looking at data 10 years ago in Excel
6 spreadsheets, we've come a long way.

7 Second, I love the idea of federated
8 identity, and I think that that's one of the things
9 that you mentioned, the amount of people that look
10 at clipboards, and the amount of staff that has
11 to interpret that data and enter it in, right,
12 just from a pure labor perspective and operations.

13 So the more we can do that and the
14 frustration I, so it was really rewarding to see
15 that that is coming.

16 And then, understandability. A lot of
17 our speakers struck on that but I did think that
18 it wasn't, nobody sort of brought it to home base.

19 Because there is a big gap between data
20 and how providers and patients understand the
21 data, and what those insights mean.

22 And even though they're generating those
23 insights, I still think that there's a big
24 arbitrage in that understandability barrier in
25 knowledge.

1 And I didn't really sense that addressed
2 that well, except for a couple of people.

3 What I did like is that there seems to
4 be a convergence where historically, it was like
5 health care existed in this silo. And retail
6 products existed somewhere else.

7 There seems to be a convergence where
8 health care has this sort of patient/consumer-
9 facing data coming out of it.

10 And then, things like the Ring has, the
11 ŌURA, has patient data that is moving into health
12 care.

13 And so, that convergence of data I feel,
14 is sort of a new place in health care right now.
15 And it seems to be sort of moving.

16 What I would have liked to have seen more
17 of is ideas around reimbursement, and how we
18 reimburse not just the accessibility of that data
19 better, but also how to, being a primary care
20 physician, it's like now it's replacing the EMR.

21 Like EMR just gave us volumes and volumes
22 of documentation. I had to fill out 10 pages of
23 documentation.

24 Now that's replacing it with now I have
25 all this data to interpret, right? And I'm getting

1 people's sleep record from when they're sleeping
2 24/7, and what am I going to do with that?

3 And so, as a family doc between seeing
4 my 30 patients a day at 15 minutes and filling out
5 my quality and my AWVs⁹⁶, now I have Ring data
6 that, of someone maybe not sleeping on a Thursday
7 night, and what am I supposed to do with it?

8 So, I think there's got to be some
9 conversation around how do we reimburse for the
10 incredible volume of data that's going to be
11 heading towards doctors.

12 CO-CHAIR MILLS: Okay, Larry, thanks for
13 being patient with me. Larry, and then we'll go
14 to --

15 (Simultaneous speaking.)

16 DR. KOSINSKI: No problem, no problem.

17 I also, I think I'm going to have a
18 little Chinni, a little Jay here because I had
19 some things that I was encouraged with, and some
20 things that I remain disappointed and fearsome
21 about.

22 And certainly, I think we've made
23 tremendous progress that once information gets
24 digitalized, we are coming up with better

25

1 solutions to integrate it and make it available.
2 And, compile it.

3 And, there's been a lot of progress
4 there. I still think that the problem that
5 troubles me is the digitalization period.

6 The point. The interface that both
7 happens at the patient and at the provider level,
8 in getting health care information into digital
9 format so then it can go on that super highway.

10 Where we have an ŌURA Ring, that's cool.
11 Okay, but there are so many apps out there now,
12 and we heard this over and over again, that are
13 producing information that are not integrated.

14 Some of them shouldn't be integrated.
15 And we're having -- and it creates challenges for
16 us to try to analyze.

17 And I love the story about basically
18 between reporting it on claims or picking it up
19 from BMI. Again, BMI a very definite
20 digitalization of health care information that you
21 can do something with.

22 And yet, on the claims side, it's a
23 morass. There's too much heterogeneity in what's
24 being done. There's heterogeneity in the
25 abilities of the providers to provide it, and

1 lack, we still lack financial incentives for
2 anybody to do it.

3 So, I still did not hear enough of what
4 we need to do at the patient and the provider
5 interface, to get data digitalized.

6 I was really blown away by the
7 gamification piece. I love that. I think we need
8 to study that more and more about how to continue
9 to motivate people. And the gaming space is a
10 wealth of information for us on there.

11 Finally, end on a positive note. Abe
12 left me positive. I feel like I heard from him
13 and from his team failures for our Committee. I
14 agree with what they see. I also was happy to
15 hear that rapid cycle innovation is something
16 they're focusing on.

17 So it's a mixed bag. It was a mixed bag
18 of positives and negatives but overall, I thought
19 it was a great day.

20 CO-CHAIR MILLS: Thanks, Larry. Josh and
21 then Walter.

22 DR. LIAO: Great. I agree with
23 everybody. I think this is a really great meeting.
24 I think my comments stem from a few kind of core
25 principles that I'll highlight.

1 I think the first is that I think we
2 definitely need innovation. We need markets to
3 work within our policy and regulatory frameworks,
4 and I think efforts to explore this are good.

5 That said, kind of my north star so to
6 speak, really is thinking about the public good.
7 What we're charged with, and thinking about what
8 benefits people who are taxpayers and
9 beneficiaries in these programs, Medicare,
10 Medicaid, and the like.

11 And I think I'll come back to that as I
12 go through here.

13 I think within that what I've heard from
14 people today and I fully agree with, is we need
15 system solutions rather than point solutions.

16 I just say here that there are levels to
17 this, right? We're talking these point data
18 solutions versus platform data solutions.

19 But if you take a big step back, I've
20 heard from around the table and from our SMEs⁹⁷
21 that data itself, even if it's full of sense,
22 doesn't mean care delivery reform, reimbursement,
23 et cetera.

24 There's a bigger system we're talking
25

97 Subject matter experts

1 about here. So I would hope that we would think
2 about that as we interpret what we're hearing.

3 And then the third kind of like principle
4 which is overarching, is kind of the tradeoffs to
5 the inherence.

6 And so, no doubt data, more data, more
7 liquid data, can drive better. No doubt more data
8 requires more time, more energy, work flows,
9 changes.

10 Not all of those, in my opinion, are
11 always better. And more time managing data means
12 less time elsewhere.

13 In the context of payment models, more
14 payment or incentives for data has to come at a
15 tradeoff somewhere if we want to balance fiscal
16 responsibility with access, engagement, and high-
17 quality care.

18 So I think, I mean I'm not saying
19 anything I think the Committee doesn't recognize,
20 but no one said these things directly, but they
21 kept coming up as I listened to each person.

22 And I'll just be brief, but as I think
23 through what Mark talked about, individualization,
24 he held up his cell phone and looked, and talked
25 about apps.

1 I think that's great, but we're in some
2 ways talking about system solutions, right?
3 You're talking about payment models that can have
4 full populations, not a spoke for every single
5 person. And that's a tough thing to do.

6 Ami talked about the need to kind of
7 solve for use cases and deliverized data for jobs
8 to be done.

9 I agree with that. I also think there
10 is an array of stakeholders that have multiple
11 jobs to do.

12 Whether that's that person scheduling at
13 the front desk, or the caregiver working with
14 someone with multiple chronic conditions, and
15 spanned the gamut. So again, tradeoffs there.

16 Kristen talked about federal ID methods.
17 Really like that idea. I share the excitement
18 about that.

19 I also recognize that the examples given
20 today also happen within pretty tightly regulated
21 arguably top-down systems. TSA being one example
22 of that.

23 So again, how do you balance that with
24 individualization?

25 Trevor talked about innovations in Epic.

1 I think that's fantastic. I think any strategy
2 that is blank group or company will do it, will
3 fix it, leads to this question of, is that how we
4 drive competition, innovation, and what's best for
5 the patient and the consumer? I'm not sure.

6 Vishal mentioned the three Ps. I like
7 that as a ration very much. He also hinted at
8 something though, which is that again, whether you
9 go to the chain or you tokenize things, there is
10 this question of all of this stuff we do with data.

11 And the payment and the delivery models
12 around it, it should accrue value to the groups
13 that are effecting change.

14 But ultimately, it needs to accrue value
15 back to the taxpayer. Americans, and the people
16 in these programs.

17 And so I just want to be very careful
18 about that, right? I don't know that there are
19 probably different visions of what solutions and
20 idea looks like here across stakeholders, and we
21 should be very mindful of that, my own personal
22 opinion.

23 Ricky mentioned not wanting to kind of
24 drown people under spreadsheets and mountains of
25 data. I agree.

1 Krishna had mentioned this pulse wave
2 velocity bit. That's how we also don't want black
3 box solutions, right? We want transparency, and
4 we want to safeguard people in use of data. So
5 another tradeoff.

6 And the last thing I'll say because I'm
7 getting long-winded here is, I really appreciated
8 Tom Lee and David Kendrick talking about getting
9 data in front of patients and physicians.

10 And I have to admit, I'm still cogitating
11 on this point, but I think the idea of getting
12 data there compels us to make sure that those data
13 are real.

14 So for those practicing clinicians
15 around the table or those in the past, you know
16 there are data that are put in front of you, you're
17 not quite sure is it statistically reliable, is it
18 mined?

19 Lee mentioned there's level to it. Only
20 40 percent of your patients to get to some higher
21 percentage. That's real easy to say; much harder
22 to do.

23 And I think both gentlemen referenced
24 that, but I think there is just these tradeoffs
25 here.

1 And I just return to that north star of
2 we need innovation and we need data, but there are
3 bigger systems solutions that we need.

4 And, I would love to see it and make sure
5 that we accrue value back to publicly administered
6 programs and the beneficiaries and the caregivers
7 that pay into and benefit from it.

8 And in that, I don't think tradeoffs are
9 a bug of the system, I think they're a feature and
10 I hope we elevate that. Thanks.

11 CO-CHAIR MILLS: Thanks, Josh. Walter,
12 bring us home.

13 DR. LIN: Yes, I know it's a bit past
14 5:00 and we're overtime, so I'll try to keep my
15 remarks short.

16 And actually going last has its benefits
17 because a lot of what I had in mind, has already
18 been said. So I won't repeat all of that.

19 I guess I should just say I kind of came
20 into this public meeting as a bit of skeptic.

21 And I'm sorry to say I still am a bit of
22 a skeptic in terms of exactly how we are going to
23 use data and health information to better empower
24 consumers, and support providers.

25 Now maybe I should just pick up where

1 Josh left off in terms of how we're going to pay
2 for all this, right?

3 And I think without that link from
4 empowering patients with this data to health
5 outcomes, I think that's going to be very, very
6 difficult to figure out.

7 We do have a whole session on payment
8 models and benefit designs tomorrow, and so I'm
9 hoping to find answers there.

10 I'm encouraged by and a good example that
11 Ricky gave about how there's one Medicare
12 Advantage Plan who is willing to pay for the
13 digital tool that his company makes because they
14 find value in it.

15 And I think probably a canary in the coal
16 mine will be seeing Medicare Advantage Plans
17 actually start paying for some of these tools to
18 validate that there is indeed, a link to good
19 outcomes.

20 I am encouraged by the idea that we can
21 actually turn the enormous amount of data that we
22 have, into more actionable, more actionable
23 information at the point of care.

24 I think Innovaccer made that point very,
25 very well. And as did others during our sessions

1 today.

2 The idea that maybe there are platforms
3 that can sit on top of legacy platforms using AI
4 to really help make, help providers make better
5 clinical decisions at the point of care, I think
6 is really important.

7 And the last thing I'll say is, Krishna
8 started off the PCDT presentation by listing out
9 a lot of different areas that patients can be
10 empowered to better data.

11 And one of the first things he said was,
12 patients can be empowered to make informed
13 decisions about their choice of health plans and
14 providers.

15 Now I think that's probably the most
16 important choice that a patient can make about
17 their personal health care.

18 And I kind of hoped that we would have
19 heard a bit more about that. About how solutions
20 are out there to help patients digest the enormous
21 amount of quality and cost data that's available
22 to help them make better informed choice about
23 providers.

24 And so I think that's just something I'm
25 hoping to hear a bit more about tomorrow.

1 CO-CHAIR MILLS: Thank you, Walter. And
2 then one last dangling chad that occurred to me
3 that I want to be sure we get in the minutes and
4 reflect on, is two, at least two speakers spoke
5 to as we engage patients with all this rich data,
6 and it becomes more liquid, and we start
7 innovating a new drive value, we've got to pay
8 attention.

9 And because we are the PTAC, we talk a
10 lot about how to pay for value-based care. But
11 the last mile of that payment going to the
12 physician has in general, stagnated and not
13 changed in nearly 20 years.

14 So, we need to be thoughtful but advise
15 as CMMI innovates that they use, their tools of
16 policy, their waiver power, and build model
17 elements that require or make mandatory in some
18 fashion, the last mile of payment changes to
19 reflect alternate payment models and value as
20 opposed to continue pay based on volume.

21 *** Closing Remarks**

22 So, with that, I'd like to thank my
23 colleagues. Incredible sessions, wonderful
24 discussion, and thank you for all of those of you
25 who listened in.

1 We will be back tomorrow morning at 9:00
2 a.m. Eastern Time to start Day 2. We will be
3 joined by eight incredible experts with varying
4 perspectives.

5 Our Day 2 agenda will feature two
6 different sessions. The first will be on data-
7 driven approaches for enabling patients with
8 chronic conditions and enhancing secondary
9 prevention. And the final session will be
10 covering payment models and benefit design
11 improvements to enhance patient empowerment.

12 There will also be an opportunity for
13 public comments tomorrow afternoon before the
14 meeting concludes with the Committee discussion.

15 *** Adjourn**

16 We hope you will join us then. Thank
17 you. For now, this meeting is adjourned for the
18 day. Thank you.

19 (Whereupon, the above-entitled matter
20 went off the record at 5:09 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Public Meeting

Before: PTAC

Date: 09-08-25

Place: Washington, DC

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate complete record of the proceedings.



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