

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  
SOUJANYA 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

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

9:31 a.m.

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

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

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

Mr. Sutton previously served as the Principal at Rubicon Founders, where he co-founded two health service companies, Honest Health, which focuses on enabling primary care physicians, and Evergreen Nephrology, which focuses on enabling nephrologists.

From 2017 to 2019, he also served at the National Economic Council, Domestic Policy Council, and the Department of Health and Human Services. In these roles, Mr. Sutton coordinated health policy across the federal government with a focus on value-based care, increasing choice and competition in health care markets, and updating the federal government's approach to kidney care.

\* Abe Sutton, JD, Director, Center for Medicare and Medicaid Innovation (CMS Innovation Center), and Deputy Administrator, Centers for Medicare & Medicaid Services (CMS) Remarks

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](mailto:ptacregistration@norc.org), N-O-R-C,  
18          dot org. Again, that's [ptacregistration@norc.org](mailto:ptacregistration@norc.org).

19                  The discussion meetings and public  
20          comments from this public meeting will inform a  
21          report to the Secretary of HHS<sup>1</sup> 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

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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 CMO<sup>2</sup> of an agentic  
15 health care AI<sup>3</sup> 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

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25 2 Chief Medical Officer  
3 Artificial intelligence

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

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

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

Thank you.

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

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<sup>4</sup> 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 MSSP<sup>5</sup>, PACE<sup>6</sup> programs, as well as institutional  
24

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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 HC<sup>2</sup>  
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 GI<sup>7</sup> 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

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25 <sup>7</sup> 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 apps<sup>8</sup>. Everything should be  
18          integrated with the EHR<sup>9</sup>, 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.

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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 HL7<sup>10</sup>  
3 fire standards, using APIs<sup>11</sup> 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

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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 ACOs<sup>12</sup> 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

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25 <sup>12</sup> 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.

DR. GHOSH: Thank you.

Good morning, everyone.

This presentation draws on new evidence from OECD<sup>13</sup>'s PaRIS Survey, which is focused on patient-centered outcome and experience measures.

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

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

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

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13 Organisation for Economic Co-operation and Development

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 FHIR<sup>14</sup>  
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.

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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 HITECH<sup>15</sup> 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

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25 <sup>15</sup> 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 TEFCA<sup>16</sup> 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 HTI<sup>17</sup>-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

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25 <sup>17</sup> Health Data, Technology, and Interoperability



1 representation. So USCDI<sup>18</sup> 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 1<sup>st</sup>. 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 CCD<sup>19</sup> formats, we saw  
23 structured documents that were somewhat  
24

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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      EHI<sup>20</sup> 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 EMR<sup>21</sup>. 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

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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 IoT<sup>22</sup> devices,  
23 and what I can share with my provider. And have  
24 my provider trust me, instead of me having to come

25

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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 HIPAA<sup>23</sup> 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

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25 <sup>23</sup> 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 QR<sup>24</sup> 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

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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 SNF<sup>25</sup> 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 HIEs<sup>26</sup>, 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 TSA<sup>27</sup> agent.  
13      Their job is to make sure that you look like the  
14      picture on your ID<sup>28</sup>, 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

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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 DMV<sup>29</sup> 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 IAL<sup>30</sup> 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

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25 <sup>29</sup> Department of Motor Vehicles

<sup>30</sup> 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 HIMSS<sup>31</sup> and HLTH<sup>32</sup> 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

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25 <sup>31</sup> Healthcare Information and Management Systems Society

<sup>32</sup> 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 LLM<sup>33</sup> 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

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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 QHIN<sup>34</sup> 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

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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 SDOH<sup>35</sup> 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 ADT<sup>36</sup> information can  
23          tell you when someone's scheduling a C-section  
24

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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 LOINC<sup>37</sup> code and obviously CPT<sup>38</sup> ICD-10<sup>39</sup>, 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.

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24  
25 <sup>37</sup> Logical Observation Identifiers Names and Codes

<sup>38</sup> Current Procedural Terminology

<sup>39</sup> 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 BMI<sup>40</sup> 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

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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 NPI<sup>41</sup> 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

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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 CDC<sup>42</sup>-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?

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

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

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

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

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

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 RFI<sup>43</sup>  
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

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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 SaaS<sup>44</sup> 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

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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, NDC<sup>45</sup>,  
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 NCQA<sup>46</sup>  
22 and CMS on their digital quality measures, trying  
23 to move things to be able to be more automated,  
24

25

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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 PIQI<sup>47</sup>, 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

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25 <sup>47</sup> 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 BAA<sup>48</sup>  
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.

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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 XPRIIZE 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 NHS<sup>49</sup>. 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 PPP<sup>50</sup>, 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.

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25

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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 HbA1C<sup>51</sup> 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

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25          <sup>51</sup> 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&D<sup>52</sup> 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 ICU<sup>53</sup>, to the emergency department,  
13 the OR<sup>54</sup>, 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

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25 <sup>52</sup> Research and Development

<sup>53</sup> Intensive care unit

<sup>54</sup> 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 UCLA<sup>55</sup> looked at their postpartum hypertension  
13 patients after they went home from delivering a  
14 baby to reduce readmissions and ED<sup>56</sup> 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

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25 <sup>55</sup> University of California Los Angeles

<sup>56</sup> 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 NYU<sup>57</sup>  
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

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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, ECG<sup>58</sup> 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.

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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, FDA<sup>59</sup> 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

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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 PPG<sup>60</sup>,  
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

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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 HRV<sup>61</sup>.   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 DHA<sup>63</sup> 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 AAMC<sup>64</sup> 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

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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 MA<sup>65</sup> 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 CHF<sup>66</sup> patient or a  
21 COPD<sup>67</sup> 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.

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24  
25 <sup>65</sup> Medicare Advantage

<sup>66</sup> Congestive heart failure

<sup>67</sup> 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 UM<sup>68</sup> 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 HIT<sup>69</sup>  
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

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25 <sup>68</sup> Utilization management

<sup>69</sup> 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 HCAHPS<sup>70</sup> 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

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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 FSA<sup>71</sup> and HSA<sup>72</sup> plans.

14 We also launched an initiative earlier  
15 this year where, is our first partnership with a  
16 company that helps manage the ICHRA<sup>73</sup> 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.

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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 MAHA<sup>74</sup> 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 ASTP<sup>75</sup> is currently focused on, ONC<sup>76</sup>. 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

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24 <sup>74</sup> Make America Healthy Again

<sup>75</sup> Assistant Secretary for Technology Policy

<sup>76</sup> 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 XPRIIZE. 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 UHT<sup>77</sup>. 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

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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       AFib<sup>78</sup> 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

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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      ROI<sup>79</sup> for the investments that we've made over the

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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 NPPES<sup>80</sup> and  
22      loaded it to a map. More than a million hospitals,  
23      clinics, urgent cares, and FQHC<sup>81</sup> locations across  
24

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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 PCP<sup>82</sup> 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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25  
82 Primary care provider

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 UCSF<sup>83</sup>  
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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25          83 University of California San Francisco

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 JAMIA<sup>84</sup>

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25 <sup>84</sup> 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 SMART<sup>85</sup> 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

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25 <sup>85</sup> 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 ChatGPT<sup>86</sup> 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

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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 FTEs<sup>87</sup>. 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

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25 <sup>87</sup> 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 side? 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 SDM<sup>88</sup> and by doing so, we're going to  
24 accelerate progress on quality, experience, and

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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 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 RVUs<sup>89</sup>, it produces  
24 effects that work -- it distracts them from

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25 <sup>89</sup> 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, CPC<sup>90</sup>, 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

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, DRG<sup>91</sup>, 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

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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       ORU<sup>92</sup> 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.

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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 ER<sup>93</sup> visits for  
25

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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 eCQMs<sup>94</sup>.

23 Knowing that I'm only at 65 percent for  
24 this metric, but that I only have 40 percent of

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 pledgees 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-1<sup>95</sup> 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

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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 AWVs<sup>96</sup>, 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

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96 Annual wellness visits



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 SMEs<sup>97</sup>  
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

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<sup>97</sup> 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

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my direction; further, that said transcript is a  
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