Boston Children's Hospital

SMART® Quality Measures Symposium SMART Health IT

EXECUTIVE SUMMARIES

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SMART Principles on Designing Quality Metrics

Ken Mandl, MD, MPH, Director, Computational Health Informatics Program, Boston Children's Hospital; Donald A.B. Lindberg Professor of Pediatrics and Biomedical Informatics, Harvard Medical School; Co-Founder and Lead, SMART Health IT

CONTEXT

In opening the Symposium, Ken Mandl provided background by summarizing the SMART journey, work to date on bulk FHIR for population health, and relevant parts of the 21st Century Cures Act. He also framed the focus of this Symposium and questions to be considered.

OVERVIEW

There is near-term universal availability of the United States Core Data for Interoperability (USCDI) via the SMART/HL7 FHIR access API. However, despite the availability of this data, today current measures of quality often require substantial one-off efforts for data acquisition, manipulation, and transmission. These efforts are expensive and are not consistent across providers and payers.

Thus, the focus of this Symposium is: Taking advantage of what is universally available, can we spark an ecosystem of quality measurement, based on native, universally available FHIR resources?

SUMMARIZING THE SMART JOURNEY

Ken Mandl provided background for the Symposium by summarizing the SMART journey to date.

A few key highlights were:

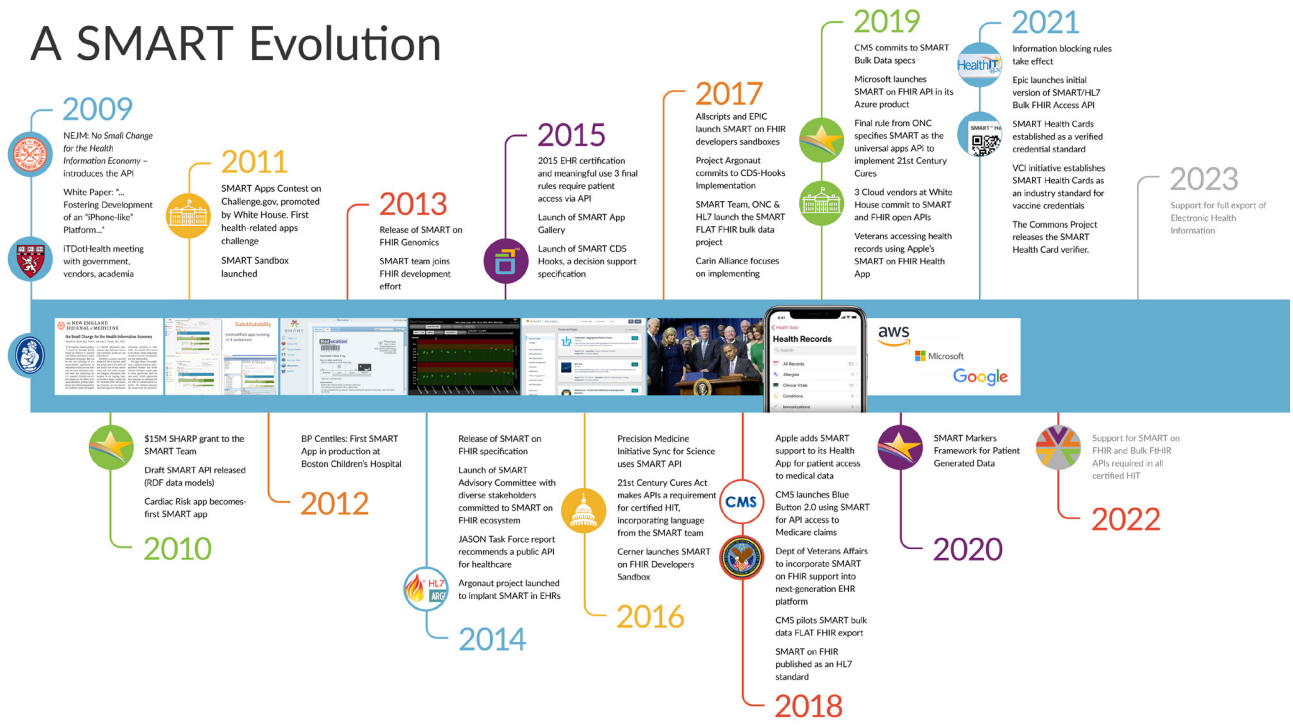
- **2009:** Ken published an article in the *New England Journal of Medicine* about getting more value out of the massive investment in EHRs by allowing substitutable apps, produced by third parties, analogous to iPhone apps.
- **2010:** ONC provided a substantial contract to SMART focused on determining whether EHRs can behave like iPhones and Androids in that innovators can create and distribute substitutable apps across thousands of installs.
- Following this contract, an incredible ecosystem began emerging around the SMART on FHIR API idea.
- **2011:** SMART held a SMART Apps Contest, promoted by the White House. The winner developed a reusable, substitutable, working SMART app in one week that pulled in data about a patient's cardiac risk factors.
- **2016:** One sentence from Dr. Mandl was included in the 21st Century Cures Act, which was passed in December 2016. This sentence made APIs a requirement for certified HIT. Specifically, an APIs must give access to all elements of a patient's medical record without special effort. Passage of this Act was followed with a lengthy rule from ONC (in 2020) with interoperability and information-blocking provisions.
- **By 2018:** Apple used the SMART on FHIR API to connect to (eventually) 800 health systems, 12,000 sites, caring for 200 million patients, who can get their patient records from their iPhone. (This occurred before the 21st Century Cures Act regulations were published.) CommonHealth created the Android equivalent.
- **2018:** ONC National Coordinator Don Rucker asked SMART to create a population-level analog to the SMART on FHIR API. After two meetings involving multiple stakeholders, it was determined to be possible to have standardized FHIR data in a streamable flat file from any EHR. One output of these activities was creation of a population-level view of cardiac risk using the bulk FHIR API.

> "We see this incredible opportunity to look at individual care and management of populations and to create metrics that are useful in both spheres."
>
> —KEN MANDL

WHERE WE ARE TODAY

The ONC rules contain timelines with a few key dates in 2022 related to the implementation of the information and interoperability provisions. Of particular relevance for this Symposium is that by the end of 2022 it is necessary to have the SMART on FHIR individual and bulk APIs active in all EHRs.

- **April 1:** Conditions of certification attestations begin
- **October 16:** All EHI must be made available (nonstandard EHI too)
- **December 31:** New HL7 FHIR API update capability must be active



WHAT THIS MEANS FOR HEALTH SYSTEMS

It means that FHIR will be available for all certified HIT across an API.

It also means that preparation is key. Preparation includes:

- Health systems must be made aware of the APIs
- Common data models (CDMs) and data warehouses are powerful, where available (e.g. PCORNET, NCATS ACT Network, OMOP), but the cost and complexity of data extraction put them out of reach for most institutions
- More native FHIR tooling is needed
- It is essential to evaluate the EHR vendor bulk FHIR implementations

WHAT THIS MEANS FOR PAYERS

Payers have the opportunity to align in thinking about rules, requirements, and metrics.

> "Starting in December 2022, we can get data from both providers and payers, in standardized format, at scale. That's only a few months away."
>
> —KEN MANDL

FRAMING THE SYMPOSIUM

Based on the background of the SMART journey—including both the individual and the bulk FHIR APIs—and regulations with rapidly approaching deadlines, Ken laid out the following as the focus for this Symposium, which involves looking at emerging opportunities around the bulk FHIR API:

- There is near-term universal availability of the USCDI via the SMART/HL7 FHIR bulk access API.
- Current measures of quality often require substantial one-off efforts for data acquisition, manipulation, and transmission.
- Taking advantage of what is universally available, can we spark an ecosystem of quality measurement, based on EHR-supported, universally available FHIR resources? The idea is for this ecosystem to focus on computable metrics.

This framing raises some **important questions**:

- How do we think about this from regulatory, technical, and community consensus/action perspectives?
- If data is universally available, why not start with this data?
- Also, why not also attempt to advance the number of data elements that are truly implemented through subsequent updates to USCDI?

The idea of computable metrics isn't new.

- In 2014, Eric Schneider from NCQA was part of a group that published an article coming out of the Choosing Wisely program ("Evaluating the feasibility and utility of translating Choosing Wisely recommendations into e-Measures") stating that many metrics were not very computable. The authors raised the question about which metrics could be computed from data that the program already had and not from a burdensome chart review.
- In 2015, Ken Mandl and Josh Mandel published an article ("Building a self-measuring healthcare system with computable metrics, data fusion, and substitutable apps.") This article asked if it was possible to take what has been created through the interoperable ecosystem and turn it into a self-measuring property of healthcare itself.

"The time is now for standardized digital metrics of quality and value that underpin a self-measuring healthcare system. There is a choice to be made. We can either design measures using data that we know will be there because they are in the US Core, or seek more complex measures that require health systems to manually curate the information."

—KEN MANDL

Evaluating the Computability of a Quality Measure

Dan Gottlieb, MPA, Principal, Central Square Solutions, LLC; Senior Technical Advisor, Computational Health Informatics Program, Boston Children's Hospital; Clinical Informaticist, Harvard Medical School, Department of Biomedical Informatics

CONTEXT

Dan Gottlieb summarized some of the advantages and questions that need to be considered regarding using FHIR to compute quality measures.

OVERVIEW

There are opportunities to use FHIR for computing quality measures. These opportunities include potential for reducing data extraction costs, creating repositories that integrate clinical data and claims data, and using modern off-the-shelf data tooling.

However, in using FHIR, several questions must be addressed. Where does the computing take place (at the payer, provider, or a hybrid)? Is the necessary data in FHIR? How do we evaluate and manage data quality—both initially and ongoing? And how much custom tooling will be needed?

THE FHIR QUALITY MEASURE OPPORTUNITY

This opportunity comes with multiple advantages, discussed below.

REDUCED ETL COSTS

One of the most obvious advantages is around reducing the cost of extracting and loading data from clinical systems, particularly via FHIR bulk data interfaces that will be rolling out at the end of 2022. Reasons costs will be reduced include:

- **Data mappings are maintained by the EHR vendors.** This means that rather than every site having to maintain data mappings, organizations are able to leverage the data mapping work the vendors have done.
- **Standardization across different vendors and sites.** While standardization is not 100%, it is fairly close, which is a huge advantage.
- **Using FHIR to share data, calculate quality measures, and improve quality of care aligns with ONC's aim** to "improve interoperability, while not protecting rent-seeking, opportunistic fees, and exclusionary practices." This provides some confidence that there will be regulatory support for use of FHIR going forward.

INCREASED MEASURE PRECISION

Using FHIR provides opportunities to improve the measures themselves due to:

- **FHIR-based repositories that integrate clinical and claims data.** This will provide the opportunity to pull the best pieces from both types of data rather than being limited to calculating entirely off of claims or payment data, or calculating entirely from clinical data.
- **A well-documented data dictionary.** A great advantage of FHIR is how well documented it is. There are thousands of pages of documentation around what can go into each FHIR element. In fact, healthcare institutions are looking to adopt FHIR as a data warehouse format, not necessarily because it's a better format than what they have now, but simply because then they don't have to worry about what's in the field because it is already well documented by the community.

OFF-THE-SHELF TOOLING WITH MODERN DATA PLATFORMS

Moving to FHIR offers opportunities to take modern data platforms with off-the-shelf tools where there has been enormous investment, and leverage these tools and this investment for measuring quality. Advantages of off-the-shelf tooling includes:

- **Robust low-cost analytics platforms from cloud vendors and high performance for fast execution (possibly even real-time data).** For example, Google's Cloud Healthcare API platform can stream inputs into their FHIR server directly. This provides the ability to create real-time dashboards using off-the-shelf tooling that Google has deployed for all types of use cases (including those in other industries). These dashboards can update live as new patients come in, almost in real time.

> "This gives us the opportunity for high performance, fast execution, and potentially even real-time data."
>
> —DAN GOTTLIEB

- **Ability to adapt measures for internal use cases and/or iterate rapidly.** Off-the-shelf tools offer the opportunity for healthcare institutions to have their data analysts customize their measures and reuse them for internal use cases. As new measures are developed, it is possible to try new things quickly and to pull data out and transform it at minimal cost.

- **Ability to incorporate state-of-the-art machine learning engines.** By using off-the-shelf platforms, it is possible to leverage the managed ML technologies in which cloud vendors are investing heavily and apply these technologies in healthcare rather than having to develop ML technologies from scratch.

KEY QUESTIONS TO BE CONSIDERED

While the opportunity to use FHIR for computing quality measures is significant, there are multiple questions that need to be considered and addressed.

DATA AND COMPUTE LOCATION

Data is split between payers and providers. Payers have claims data, showing information such as medication refills. Providers have clinical data from the EHR, such as blood pressure measurements. Today, providers typically send clinical data to payers, who do the computation. The question for the future is: where do we compute quality measures? Options include:

- **Payer computes.** Provider sends clinical data to the payer, which does the computation.
- **Provider computes.** Payer send payment data to the provider, which computes. Potentially providers could do some computation on their infrastructure and get more real-time data.
- **Third party.** Both payer and provider send data to a third party for computation.
- **Hybrid.** In this scenario, computation is split. The provider sends partially computed measures to the payer for computation. This option limits the data that is shared.

FHIR DATA AVAILABILITY

The question is what data is available for computation? Considerations include what data is mapped to FHIR.

- **USCDI.** This provides a practical baseline for data that is available and can be used to compute quality measures. USCDI data is mapped in a standard way to FHIR and is well defined from the US Core FHIR profiles. Also, there are efforts to expand USCDI, with USCDI v2 and v3 (under development) and the concept of USCDI+.

> "Thinking about what data are in USCDI and what we want to be in USCDI can provide a baseline of what's available to calculate [quality] measures."
>
> —DAN GOTTLIEB

- **Data not in USCDI but has been widely implemented in FHIR by EHR vendors.** This provides data that is vendor specific but is widely available.
- **Data that is not exposed via FHIR today but is structured in the EHR.** An example is consult notes that are part of USCDI and that would show up in FHIR but the referral would not.
- **Some financial FHIR data models are not well defined.** Financial data is important but FHIR financial resources such as claims are immature.

In addition to data availability is a question around how to maintain data quality as healthcare organizations start to use FHIR as a data source for things that matter in care. Data quality can be thought about in two categories:

- **Initial.** This means making sure that the FHIR data coming out of an EHR is what is expected.
- **Ongoing.** For example, maintaining accurate terminology mappings requires ongoing monitoring.

MEASURE CALCULATION

There are two directions that measure calculation could go in, and possibly the correct answer is a hybrid of these two approaches:

- **Simplified measures.** One approach is to simplify measures. This would enable use of off-the-shelf tooling, simplification of measure development and maintenance, potential for continual computation (e.g. live dashboards), and greater computation accuracy.
- **Aligned measures.** This approach involves aligning as much as possible with how some of even the more complex existing measures are calculated. This has the property of being able to swap out the data source but not really change the measures that are used. The downside is that this may require technology specific to healthcare.

> "It's worth thinking about where we want to have that balance. How many measures can we develop that are lightweight and simplified? And how often do we need to do something that's a little bit more complicated to really meet the quality use cases that we want to address?"
>
> —DAN GOTTLIEB

Payer Perspective

Aneesh Chopra, MS, Former US Chief Technology Officer (Moderator)
Kirk Anderson, Vice President, Cambia Health Solutions
Ashok Chennuru, MS, Vice President, Chief Data and Insights Officer, Anthem
Mary Greene, MD, Director, Office of Burden Reduction, CMS
Michelle Block Schreiber, MD, Director of Quality Measurement, CMS

CONTEXT

Representatives from CMS and from commercial payers shared their perspectives on the importance of and barriers to implementing electronic quality measures.

OVERVIEW

Among these panelists representing CMS and commercial payers, all parties share a common vision, are strongly supportive of electronic quality measures, and want to see this concept become a reality. There are barriers that must be addressed, such as data aggregation, which is difficult and will take time. These barriers can be overcome through listening to all stakeholders, collaboration, policy and regulation, investment, and pilots. These are all incremental steps along the road to creating an interoperable digital ecosystem.

CMS'S PERSPECTIVE

Aneesh Chopra framed a CMS policy objective to move towards electronic quality measurement, framed as both a quality improvement and burden reduction initiative. The panelists from CMS pointed out that many providers and facilities are already successfully reporting electronic clinical quality measures (eCQMs). However, thus far, electronic quality measurement has posed a challenge to organizations that need to aggregate information from multiple electronic medical records, such as some ACOs.

In an attempt to simplify ACO quality reporting, and to reduce the number of measures required, CMS had proposed that ACOs would report only three eCQMs. However, in order to comply, many ACOs have reported costly IT fees, an increased burden to align data elements, and difficulty with data aggregation. As a result, CMS met a surprising backlash among MSSP ACOs and extended the voluntary time for reporting. CMS has also held listening sessions and outreach with numerous ACOs to identify specific issues and concerns.

Michelle Block Schreiber described CMS's vision as: "CMS is committed to transition to fully digital measures," but doesn't have a time frame for doing so. Mary Greene said, "We're working with ONC closely to align with the direction they want to see us trying to go." In recent years this direction has involved APIs and FHIR.

> "Through our rules, we're trying to put in place the building blocks needed to be able to create that interoperable ecosystem that includes the FHIR standards."
>
> —MARY GREENE

CMS is moving toward achieving this vision by having more electronic clinical quality measures, based on data from the EHR. It is possible that CMS's future strategy will involve hybrid measures, such as claims data plus clinical data, or even claims data plus clinical data plus other digital information, such as data from devices. Achieving this vision is expensive and it will take time to get there. For now, CMS is focused on taking baby steps to push forward and is working to better understand the challenges that stakeholders face and the barriers that must be overcome.

Among the barriers are:

- Varying data infrastructure, fluency, and resources among providers. Because CMS wants to prevent a "digital divide" from becoming a barrier, for many of its programs CMS has offered some flexibilities (such as extended timeframes to comply) to providers or facilities who have difficulty implementing health IT.
- Difficulty with data aggregation, which is based on difficulty getting data out of their EHRs and difficulty because systems don't communicate very well. Aneesh Chopra commented that this difficulty is because the "last mile functionality of aggregating the records . . . is an unregulated activity." Because it is unregulated, it isn't included as a core functionality by EHR vendors and is a costly custom project.
- Challenges in workflow mapping, where there is a lack of standards, and where the EHR vendors don't seem to emphasize workflow mapping.
- Preference among private payers for current claims-based measures. However, many private payers are interested in better understanding digital quality measures. The NQF/AHIP/CMS collaboration of the CQMC (Core Quality Measures Collaborative) has a digital measures subcommittee looking to bring private and public payers together to advance digital measurements.

Despite these barriers, CMS is completely supportive of the direction of digital quality measures and wants to be an active collaborator. Dr. Schreiber said that interoperable digital data is an essential step of advancing healthcare, not only for quality measurement but for improved operations, public health, and making data more available for providers and patients so they can make more informed care decisions.

> "We'd be happy to pilot things. We'd be happy to look at changing our quality measures. We already have a lot of work going on around aligning quality measures and simplifying quality measures. Also, CMS is working on advancing digital quality measure reporting through FHIR and has been working with ONC to advance digital data element standardization through USCDI and USCDI+."
>
> —MICHELLE BLOCK SCHREIBER

COMMERCIAL PAYERS' PERSPECTIVE

Leaders from two payer organizations—Anthem and Cambia Health Solutions, both of which are engaged in active real-world testing around FHIR interoperability with providers—offered their perspectives, with Symposium participants from other payers also chiming in.

CAMBIA HEALTH SOLUTIONS

Kirk Anderson is CTO of Cambia Health Solutions and chairs the HL7 Da Vinci Project, a national consortium of Payers, Providers, and Health IT vendors focused on leveraging FHIR APIs to improve interoperability between Payers and Providers. He emphasized Cambia's support for FHIR-powered interoperability and is grateful for the leadership that ONC and CMS have shown. As a Payer, Cambia has worked with multiple Provider partners to implement production uses of FHIR APIs in areas such as clinical data exchange, member/patient roster exchange, and prior authorization.

Historically, these critical business processes in healthcare have been very costly to support as data moves between payers and providers in myriad, ad hoc ways or via expensive third-party intermediaries whose proprietary solutions are a barrier to nationwide scalability. The idea of standardizing data acquisition and exchange by taking advantage of secure, open standard FHIR APIs on both the payer and provider side, will not only reduce costs in the healthcare system but will lead to better clinical outcomes and better experiences for patients, providers, and payers alike.

> "The basic exchange of data between all of us in healthcare should be a utility, it should be something that we all take advantage of. Then, we can compete like dogs and cats on top of that basic level of interoperability—and the whole country will benefit."
>
> —KIRK ANDERSON

Among the activities underway at Cambia are:

- Multiple FHIR-powered Da Vinci use cases in production with multiple Provider partners.
- Collaborations with multiple provider partners under a waiver provided by CMS to implement a FHIR API driven prior authorization solution that allows Providers to complete prior authorizations in real-time without leaving their EMR workflow.

> "As more payers start to understand that this is an opportunity for them to remove a lot of waste out of their current infrastructure, there will be a tipping point of adoption. I think it's coming very soon."
>
> —KIRK ANDERSON

ANTHEM

Like Cambia, Anthem is all in and committed to work with CMS and other payers on digital quality measures. And, even without a mandate, Ashok Chennuru sees digital quality measures as a differentiator in the marketplace. He sees opportunities for reducing burdens and using data for prior authorization, to streamline claims payments, and to improve collaboration. The nature of payer/provider collaborations will vary based on the market and the players involved.

> "We have been trying to be flexible in terms of trying to meet the providers where they are."
>
> —ASHOK CHENNURU

CONCLUDING THOUGHTS

Aneesh Chopra observed that he is hearing a great deal of interest among the payers (CMS and private payers) in electronic quality measures and a great deal of good will. He is also hearing from payers a willingness to invest before everything is perfect.

However, if one payer is focused on electronic quality measures, it is essentially a project with limited scope in a local market. For electronic quality measures to happen at scale across the entire country, CMS and multiple payers must engage in early testing for bulk FHIR over the next 6 to 18 months, which will force the vendors to come to the table and will force all stakeholders to wrestle with key questions.

Provider Perspective

Josh Mandel, MD, Chief Architect for Microsoft Health and SMART Health IT (Moderator)
Jesse Ehrenfeld, MD, President Elect, American Medical Association
Bill Gregg, MD, Chief Clinical Transformation Officer & Vice President, Clinical Informatics, HCA
Semira Singh, Director, Pop Health Informatics, Providence
Anna Taylor, MS, Director of Operations, MultiCare Connected Care

CONTEXT

The panelists, representing different provider organizations, discussed how providers can benefit from population-level quality metrics, described multiple challenges in today's quality-reporting landscape, and shared their thoughts on a future vision for quality metrics and reporting.

OVERVIEW

Providers want quality data for both internal and external purposes, including value-based contracts. However, today there is a significant cost and burden to create quality reports, especially due to differing demand from various payers. Providers see great value in simplified, standardized quality reporting requirements and moving to consistent electronic reporting.

WHY PROVIDERS ARE INTERESTED IN POPULATION-LEVEL QUALITY METRICS

Josh Mandel shared his perspective on the main reasons why a healthcare provider organization might want to track population-level metrics. He sees three main reasons:

1. **Internal operations.** Population-level quality data could help a provider organization deliver better care and/or work more efficiently.
2. **External results.** Population-level quality metrics could show the outside world—including payers and patients—the quality of care that the organization is delivering.
3. **Supporting a payer's obligations.** A provider's data contributes to the total data set that a payer such as an MA plan needs to demonstrate effectiveness (e.g., supporting determination of a Star rating for the plan)

The panelists largely agreed with these reasons why a provider would want quality data. However, as Josh pointed out, "All three of these today tend to use different technology stacks, different data extraction processes, very little alignment or shared infrastructure."

> "Those separate areas, that's exactly what we see, with misalignments. As we try to do a lot of metrics internally, as well as external reporting, never the twain shall meet."
> —BILL GREGG

CURRENT CHALLENGES IN PROVIDING POPULATION-LEVEL QUALITY METRICS

In addition to having different technology stacks, processes, or shared infrastructure, the panelists highlighted several other challenges that make it difficult and expensive for providers to generate quality metrics.

- **Lack of interoperability.** Healthcare organizations often have very heterogeneous technology environments with dozens of different EHR systems that don't talk with each other. And the EHR vendors often aren't very cooperative in providing interoperability or charge exorbitant fees to enable customer connectivity.

> "EMR vendors are hesitant to invest in unregulated capabilities, including quality measure reporting. This can be difficult and costly for providers in a value-based commercial agreement that requires specific quality measurement reporting."
> —ANNA TAYLOR

- **Lack of scalability.** It is possible for health systems to gather quality metrics on a small scale to do proofs of concept. But to gather data at scale across a large health system and/or network of providers is currently extremely difficult and expensive.
- **Provider workflows.** Currently, gathering some quality data can impact provider teams by requiring that they change their workflows. An example is when a payer demands that a provider has a proprietary app that lives within the provider's EHR. In an environment with high provider burden and staffing shortages, altering workflows to capture unique data is not desirable.

> "Separate EMR workflows for each individual partnership are not viable solutions. We should aim to create FHIR-based scalable processes that are applicable to multiple payers and providers with a single provider workflow."
>
> —SEMIRA SINGH

- **Provider burden.** Physicians are exhausted and burned out from the last two years and the burnout is compounded by excessive time on administrative tasks and changes in workflow. Adding complexity is an obstacle to success.
- **Excessive cost.** The number of resources currently required to produce various quality reports is excessive and redundant, and a great deal of effort is wasted. Jesse Ehrenfeld said his hospital has 30 FTEs that do quality reporting. Data has been published showing that the cost associated with quality programs is more than $12,000 and 200 hours per physician per year.
- **Lack of usefulness.** Despite his hospital's enormous quality reporting infrastructure and investment, Jesse Ehrenfeld said he can't think of one example of how the quality data being produced today actually influences the care that is delivered.

  Anna Taylor described a significant investment her health system made to create a repository of C-CDA documents across providers in an Accountable Care Organization, producing a negligible improvement in quality scores. The investment that was made didn't yield a worthwhile return, as the available standard data exchanges and the CHERT requirements have not matured to the current value-based cases.
- **Delay in creation of data.** Currently, physician-level quality measures get submitted yearly and quality data from administrative claims can be viewed two years after the service occurred. This is far too much of a delay in reporting of data to be useful.
- **Burden for small and medium-sized practices.** Smaller practices have little ability to impact the metrics that are incorporated into value-based contracts and face significant challenges and expense in gathering this data.
- **Variation in quality data desired.** Bill Gregg sees regional variation among payers in the quality data that is desired. There is also variation in the rate of adopting new measures, such as HEDIS. When different payers adopt different measures at different rates, it adds tremendous complexity and cost to providers.
- **Identifying patients.** Anna Taylor said, "If you can't identify your populations and have the right data about who's in there and who's not, you can't do this work." There is no identifier to link members and patients across the desperate systems; because of this, significant infrastructure investments need to be made to do the job of matching identities across technical platforms. Ensuring accurate identification is a difficult, complex process and requires significant investment in systems just for this purpose.

VISION OF THE FUTURE

There was consensus that because of the various challenges that exist today in reporting quality data, change is essential—and change represents an opportunity.

> "If we don't take a different approach, we're just going to add to clinical burden, and the system will come close to breaking . . . we may need to pull back 50% or more of what we're currently doing and just turn it off and say, 'let's start again.'"
>
> —BILL GREGG

Among the changes desired are:

- **Transparency** between providers and payers.
- **Simplicity** in what is reported. "It is incumbent on us to not only make the measures electronic but also to make them simpler," said Bill Gregg. This might involve lowering the number of quality measures, Semira Singh suggested.
- **Real-time data** is needed to drive quality improvement.

> "We need to have real-time information if we're going to get real quality improvements. And that can only happen when we have digital measures where there's real or near real-time feedback to promote interoperability and information sharing across settings and providers."
>
> —JESSE EHRENFELD

- **A positive return on investment** is desired. Anna Taylor described that by shifting to FHIR for connectivity—instead of custom solutions from EHR vendors—the investment required was far less and the returns were far faster and far greater.

> "Let's compete like cats and dogs on top of the foundation of interoperability. Let's compete on care and product rather than who has the data."
>
> —ANNA TAYLOR

Panelist Discussion: Pilot Opportunities and Next Steps

Ken Mandl, MD, MPH, Director, Computational Health Informatics Program, Boston Children's Hospital; Donald A.B. Lindberg Professor of Pediatrics and Biomedical Informatics, Harvard Medical School; Co-Founder and Lead, SMART Health IT (Moderator)
Aneesh Chopra, MS, Former US Chief Technology Officer
Eric Schneider, MD, Executive Vice President, The National Committee for Quality Assurance (NCQA)

CONTEXT

In wrapping up the Symposium, Aneesh Chopra, Eric Schneider, and several Symposium participants shared their thoughts on near-term actions to improve quality measurement, especially in light of looming regulatory deadlines.

OVERVIEW

There is broad agreement that this moment represents a tremendous opportunity to rethink quality measurement to lower the burden and cost on providers, and to produce more actionable real-time data. But driving change will take effort and collaboration among all parties—regulators, payers, providers, vendors, and quality-focused organizations. There is optimism that specific actions within the next 6 to 12 months can initiate significant, sustainable change.

COMPETING APPROACHES TO QUALITY MEASUREMENT STRATEGY

Having listened to the introductory sessions and the payer and provider panels, Eric Schneider of NCQA shared his reflections. He noted that he had actually written a paper in 1999 about the future of digital performance measurement and the direction the country needed to go in to have a more efficient performance measurement system.

Dr. Schneider described the current moment as an "awkward phase" of trying to figure out a new approach to digital quality measurement while still operating with the vestiges of traditional approaches.

There are currently three competing approaches to digital quality measurement strategy.

1. **The status quo.** There is still a lot of status quo happening, which involves bolted-on activities to collect data and report it to meet mandates in contracts from payers. It is necessary to pull back on this status quo activity to make room for the other approaches.
2. **Retooling existing performance measures into digital form.** Retooling has significant costs and may be serving as a diversion from building new and more relevant quality measures that could drive quality improvement.
3. **Creation of new, digitally born measures.** The FHIR standards and the conversation at this Symposium point to creation of new, digitally born measures. The idea is to start with a blank slate, think about quality improvement use cases, and make necessary investments in the clinical data definitions and data aggregation protocols to enable creation of new digitally born quality measures that take advantage of bulk FHIR capabilities.

From Eric Schneider's perspective, the current goals are to:

1. Improve care for patients and the population. This primary goal has not changed.
2. Align stakeholders on trusted definitions of quality; there are mechanisms for this alignment.
3. Standardize the measurement systems to support improvement and reduce the clinical and administrative burden.

REGULATORY PERSPECTIVE: CMS NATIONAL QUALITY STRATEGY

A priority at CMS has been development of a national quality strategy. As part of this strategy CMS has been looking to develop a list of universal quality measures that would apply across multiple settings and that could be benchmarked globally.

As an outcome of this Symposium, it may be appropriate for CMS to consider adding that quality measures need to be digitally interoperable and computable. It also may be appropriate for CMS to consider a smaller, simpler set of universal quality metrics that all parties agree upon and to demonstrate and prove that digital quality measurement can work through some specific use cases.

From CMS's perspective, a priority among participants in this ecosystem needs to be ensuring IT literacy throughout healthcare. Some big health systems have IT literacy, but it is often lacking elsewhere.

APPLE HEALTH AS AN ANALOG

Aneesh Chopra referred to comments during the Symposium about how more than 10,000 practices are live on Apple Health. As a result of Apple working directly with EHR vendors through the Argonaut project, this came at no cost for the practices and no cost for the Apple community, and required no extra consulting projects for EHR vendors. Consensus was that EHR vendors use FHIR at the individual data element level, and, powerfully, Apple requires any site wanting to connect to go through a local conformance testing step to deliver content in the consistently defined FHIR format, down to the data element level.

The industry is now in a similar situation related to quality. It would be beneficial if, related to quality, there were a party that could play a role similar to Apple that said all measures must be computable using only what is currently available in USCDI.

One idea would be that if CMS could lend leadership and regulatory authority to a coalition of parties willing to do this voluntarily, an effort similar to that led by Apple could be begun and scaled at low cost. It doesn't need new regulation; it's simply ONC pointing to industry consensus as a way to proceed with urgency.

CQMC AS A PLATFORM

The Core Quality Measures Collaborative (CQMC) was born in 2015 out of a public/private partnership between CMS and the private sector, and was convened by CMS and AHIP. Its participants include approximately 80 organizations, which extend beyond payers.

The original vision for CQMC was to create alignment across payers about the measures that would be used in performance-based payment programs, specifically on the ambulatory side, in response to the outcry about fragmentation of measurement and the burden that fragmentation creates.

A recent development is agreement among CQMC participants to create a measures-driven approach to prioritizing the data elements needed from the clinical record for quality measurement, and by doing that, to inform USCDI and USCDI+.

CQMC agrees with the idea of not trying to retrofit yesterday's measures into some mechanism to source from the digital record and instead move forward to a new generation of digital measures. CQMC provides a platform to say, "Where do we start?" This may be a very small group of core measures, which would lead to a discussion about what are the data elements for those measures.

OTHER IDEAS

The panelists and other Symposium participants shared additional ideas for moving forward.

- **Focusing on a limited number of measures.** Mentioned in previous sessions was the idea of one single measure or a limited set of high-priority measures that could serve as a quality indicator. Agreement on a narrower set of measures would make it more practical to drive the FHIR and bulk FHIR agenda forward.
- **Piloting.** The idea of piloting new measures and digital quality systems and doing so under CMS waivers that create safe harbors could be valuable.
- **Using NCQA as a lever.** An idea suggested by Aneesh Chopra was that NCQA could deem the clinical content used in computable digital measures as standard supplemental for use in auditing purposes. Eric Schneider said that NCQA is already working on it. NCQA recently announced a pilot effort with six other organizations to work on measures for a digital platform. Additionally, NCQA continues to expand on the existing data aggregator validation program, which looks at pre-validating data for a variety of quality-related use cases.
- **Regulating to minimize cost for health systems.** Dr. Mandl said that most APIs, including the bulk FHIR APIs, are allowed to be profit centers for EHR vendors, which imposes a cost on healthcare organizations. He asked if regulators would be able to prevent the EHR vendors from imposing a cost on providers for satisfying quality reporting requirements. There was agreement that this is a huge issue, but it is not clear which entities would have the authority to regulate this.