

Data in Direct Primary Care: Striking the Right Balance in Measuring Clinical and Business Outcomes

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To start: we hate data.

When I asked for general feedback from the DPC community about data in medicine and primary care, I literally had one response that looked like this a gif of Snoopy running. As in -- running away. Quickly. I think this response is warranted.

I don't think I need to be overly explicit in explaining this; if you're in healthcare and you're sitting here today, you know why.

It's because: when we hear the word data, we think of this.

- We think of checkboxes.

- We think of regulatory compliance.

- We think of prior authorizations.

- We think of MIPS, MACRA.

- We think of the garbage we have to sift through as we try to take care of a patient while swamped with noise and alerts and risk scores and and notes copied forward and so pre-populated that we legitimately can't tell what's going on with a patient.

It is sad. For so many reasons, but one large reason it saddens me is because -- by virtue of our training and the principles that guided the decade we spent obtaining our training -- we are all empiricists by nature. So it's sad to think that -- and I don't think I'm being too bold when I say:

- To many of us us, data = garbage.

- Data does not = better care.

How in the world did we get here?

It is very likely that this love/hate relationship with data started when computing entered the realm of healthcare.

1. The Endless Possibility of Computing

When we brought computers and their infinite possibilities of computational power into healthcare, we -- correctly -- marveled at the possibilities. Consider how much you could learn about a population! How truly personalized medicine could become -- how we could trend values and outcomes over a lifetime for a person, then use that data trend over many people to come up with robust indices and indicators for our population! The possibilities were, quite realistically, endless.

2. The EHR

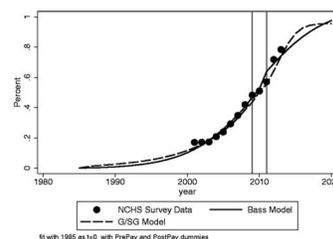
So. If healthcare was going to capture the computational power out there, we needed software to capture our data and make our data work for us. EHRs became that software solution.

But in the decades that have passed since the first lines of code were written for some of the biggest EHR systems, we've gotten lazy.

Because we could measure anything, we did. We started tracking all sorts of things. Nuanced stories and variables were shortened into drop-down menus. Checkboxes proliferated.

As technology and computing and EHRs became more ingrained in the healthcare process¹ -- this is a graph showing the curve of adoption of EHRs -- more and more payers started asking for more and more data because it was "easy" to ask for a little more data, then a little more data.

Figure 1: Bass and G/SG models of Any EHR Adoption.



Journal of the American Medical Informatics Association, Volume 23, Issue 2, March 2016, Pages 375-379, <https://doi.org/10.1093/jamia/otk003>
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But that easy road bred laziness, and payers got lazy with the things they were asking for. They started asking for metrics and reports simply because they could -- and not necessarily because they were associated with better outcomes or quality.

3. Data, but from Whom?

This should have been an oasis of opportunity for the healthcare system to come together to truly capitalize on the wide world of computing and big data. But it took a huge, irrevocable turn for the worse -- almost without realizing it had happened.

¹ T, Stephen, et al. "Impact of the HITECH Act on Physicians' Adoption of Electronic Health Records." OUP Academic, Oxford University Press, 30 July 2015, academic.oup.com/jamia/article/23/2/375/2572425. Accessed 10 June 2019.

Incrementally, the onus of collecting and reporting the vast amount of data in healthcare fell largely on those providing direct clinical care².

4. Clinicians as Data Entrants

An Annals of Internal Medicine time and motion study from 2016 showed this in stark revelation: “For every hour physicians provide direct clinical face time to patients, nearly 2 additional hours is spent on EHR and desk work within the clinic day. Outside office hours, physicians spend another 1 to 2 hours of personal time each night doing additional computer and other clerical work.”³

That’s greater than a 2 to 1 ratio of clerical work to clinical time.

And this partly why we hate “data:” we had somehow been turned into clerical data entrants.

5. Unintended Consequences: Burnout, Patient Safety, and Cost

This explosion -- of EHRs and metric reporting and data entry -- wasn’t without ramifications. Starting in the early 20-teens, a rash of studies and papers poured forth documenting the progressive toll our data-entry-focused, EHR-beholden behaviors had incurred.

Studies have borne out that physicians generally aren’t satisfied with the software that was -- at its origins -- supposed to be helping patients and bettering health as a whole. Physicians are pissed about the amount of time spent on clerical tasks⁴. More aggravating: visits are increasingly directed at a computer screen rather than at the patient in the room -- with significant consequences on the patient-physician relationship⁵.

Physicians are frustrated. Patients are frustrated as well.

But it’s worse than just frustration.

² “EHR Documentation and the Patient–Physician Visit.” AJMC, www.ajmc.com/journals/evidence-based-oncology/2017/december-2017/ehr-documentation-and-the-patientphysician-visit. Accessed 2 June 2019.

³ Sinsky C, Colligan L, Li L, Prgomet M, Reynolds S, Goeders L, et al. Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. *Ann Intern Med*. 2016;165:753–760. doi: 10.7326/M16-0961

⁴ Shanafelt, Tait D, et al. “Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction.” *Mayo Clinic Proceedings*, U.S. National Library of Medicine, July 2016, www.ncbi.nlm.nih.gov/pubmed/27313121. Accessed 2 June 2019.

⁵ Margalit, Ruth Stashefsky, et al. “Electronic Medical Record Use and Physician-Patient Communication: an Observational Study of Israeli Primary Care Encounters.” *Patient Education and Counseling*, U.S. National Library of Medicine, Apr. 2006, www.ncbi.nlm.nih.gov/pubmed/16533682. Accessed 2 June 2019.

Some studies have associated dissatisfaction with EHR-mediated clerical tasks with higher risk for professional burnout⁶.

And that's really important because the majority of studies show that physician burnout and poor wellbeing are associated with poor patient safety outcomes. Things like medical errors tend to go up as physicians experience increasing burnout⁷. So does physician suicide.

Beyond these troubling outcomes regarding physician and patient wellbeing, clerical work performed by clinicians is also damn expensive with a questionable ROI. A 2016 report showed that approximately \$40K per physician per year is spent on reporting these so-called quality metrics. Across the whole healthcare system, that amounts to \$15.4 billion a year⁸. Billion. With a B.

And our healthcare system still ranks as mediocre at best.

In essence, in our attempt to measure all things measurable at the *insistence* of payers and with the assistance of our new-fangled EHRs, we started to adversely affect the exact thing we were trying to measure and improve -- while spending obscene amounts of money in the process⁹.

This, my friends, is the other reason we all cringe and run when we hear "data" and "metrics" -- because you and I know these things intrinsically. We didn't need all these studies I just reviewed to prove it. As direct primary care doctors, we left the old system because we knew something was irreparably wrong.

As all of this was happening over the last several decades -- adoption of EHRs and increasingly varied and duplicative reporting mandates from all sorts of payers -- it feels as though nobody stopped to ask: what are we really measuring? And why? And for whom? With all this work and effort and money, are we actually measuring quality?

6. No Clear Quality Metric

I know I've taken quite a bit of time to set this up and -- realistically -- I probably didn't need to do it. I think if you're here today, you already understood the

⁶ Shanafelt, Tait D, et al. "Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction." Mayo Clinic Proceedings, U.S. National Library of Medicine, July 2016, www.ncbi.nlm.nih.gov/pubmed/27313121. Accessed 2 June 2019.

⁷ Hall, Louise H, et al. "Healthcare Staff Wellbeing, Burnout, and Patient Safety: A Systematic Review." PloS One, Public Library of Science, 8 July 2016, www.ncbi.nlm.nih.gov/pmc/articles/PMC4938539/. Accessed 2 June 2019.

⁸ "US Physician Practices Spend More Than \$15.4 Billion Annually To Report Quality Measures." Health Affairs, www.healthaffairs.org/doi/full/10.1377/hlthaff.2015.1258. Accessed 2 June 2019.

⁹ "Measuring and Reporting Health Care Quality Is a Barrier to Improving It." STAT, 14 Dec. 2017, www.statnews.com/2017/12/13/health-care-quality/. Accessed 2 June 2019.

problem as I've laid out. But there is a flip side to this problem that I didn't think about critically until well after I started my direct primary care practice.

I hope this isn't as much of a surprise to you all as it was for me, but here's the bomb:

We do not know how to measure quality in primary care.

No joke. We really don't.

As a group and an industry, those of us working in primary care have not come up with a standard way to measure or prove quality.

7. The Primary Care Paradox

The problem with measuring the quality of any given primary care provider or clinic lies in the vastness of the services and nonlinear pathways undertaken in primary care. Primary care is, in essence, a nonlinear process. Compare this with, for example, a knee replacement.



The March/April 2017 issue of the *Annals of Family Medicine* contained a fantastic piece detailing this problem, entitled *The Challenges of Measuring, Improving, and Reporting Quality in Primary Care*. The authors outlined the following example:

“...in primary care, even though many patients say they are willing to undergo colon cancer screening when asked by their physicians, uptake of recommended screening is low, often measured at less than 50% of eligible patients. Even in primary care centers of excellence, chronic disease targets are met and sustained less than 50% of the time, despite extra resources, such as health coaches. The impossibility of achieving 100% uptake makes it much more difficult to draw a summative conclusion about which primary care practices are providing high-quality care *when contrasted against* elective surgeries where nearly 100% compliance with preoperative antibiotic guidelines could reasonably be achieved.”¹⁰ (Italics added.)

¹⁰ Young, Richard A., et al. “The Challenges of Measuring, Improving, and Reporting Quality in Primary Care.” *The Annals of Family Medicine*, 1 Mar. 2017, www.annfammed.org/content/15/2/175.full. Accessed 2 June 2019.

Herein is the problem: traditional quality paradigms -- the ones that have guided the last several decades of checkboxes and clicking and reporting -- assume: "there is a definite and measurable right answer in a given situation. In contrast, primary care physicians often deliver high-value care by doing the best they can with the patient care card they are dealt, knowing that perfection will never be achieved."¹¹

This is known as the *paradox of primary care*, as outlined over a decade ago by the editors of the *Annals of Family Medicine* in a different piece:

"Compared with specialty care or with systems dominated by specialty care, primary care is associated with the following: (1) apparently poorer quality care for individual diseases, yet (2) similar functional health status at lower cost for people with chronic disease and (3) better quality, better health, greater equity, and lower cost for a whole people and population."¹²

In plain English: while primary care misses targets on specific disease metrics and data points, we accomplish the Triple Aim of improving population health at a reduced cost through a better patient experience -- but only when you take a look with a wider lens and back off from the minute details.

Great.

So I've wasted a ton of time today to both tell you that we've been doing data wrong for decades but also that we really don't know how to do it right. At least at this point.

And this is where all of this gets exciting (I hope).

Because there are no rules, it means that we have the opportunity to write the rules.

Let me say that again, in another way: direct primary care doctors -- all of you sitting here -- and those of you creating the technology platforms to support us can re-think how we measure success in healthcare.

We have a blank canvas. A clean slate. A fresh start.

So where should we start?

¹¹ Ibid

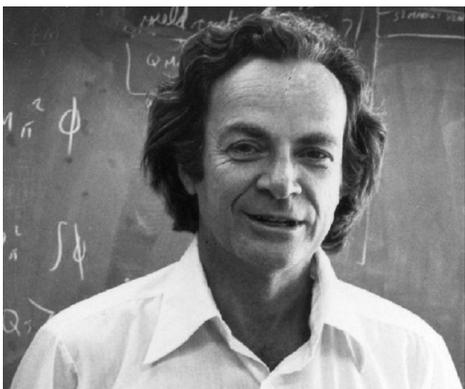
¹² Stange, Kurt C, and Robert L Ferrer. "The Paradox of Primary Care." *Annals of Family Medicine*, American Academy of Family Physicians, July 2009, www.ncbi.nlm.nih.gov/pmc/articles/PMC2713149/. Accessed 2 June 2019.

8. New Rules

I propose 3 rules for metrics and data reporting:

1. We Measure Data for Ourselves and our Patients. And Nobody Else.
2. Metrics and Data Collection Should Never Interrupt Flow.
3. Metrics Can -- and Should -- be Retired over Time.

Let's talk about Rule #1.



I love this quote from Richard Feynman, the acclaimed astrophysicist and author: “You must not fool yourself, and you are the easiest person to fool.”

Part of the reason we need to get smart about data and measuring what we're doing is because we have to protect ourselves...from ourselves.

So let's build a framework that works.

Helpfully, there are parameters regarding best practices in tracking metrics¹³:

- “They cannot be punitive.
- They must be used to foster reflection, experimentation, and assessment of assumptions and knowledge.
- They're most useful in environments that enable reflection and have systems in place for rapid-cycle learning, institutional memory, and a pathway for collective action.”

The good news? All of the DPC practices in here -- led by physicians engaged in the betterment of both their business and their patients' health -- have these tenets intrinsically. Conveniently, we have nobody to punish (#1).

If we're looking into our practice's data/metrics, we're certainly doing it as a means to foster reflection and experimentation and to test our assumptions (#2).

¹³ Stange, Kurt C, et al. “Metrics for Assessing Improvements in Primary Health Care.” Annual Review of Public Health, U.S. National Library of Medicine, 2014, www.ncbi.nlm.nih.gov/pmc/articles/PMC6360939/. Accessed 21 June 2019.

Lastly, (#3) we're at the point that as individuals contributing to a larger group, we are developing the scale to share our experiences and quickly adapt and change what we're all doing.

Because of this this, I'm arguing that as a group, us DPC doctors are the best possible people to create a set of data and metrics that may actually indicate quality in primary care.

9. Future Directions

Going back to rule, #1, think about how this pertains to your practice today. How are you determining that what you are doing is bettering either yourself or -- by extension -- patient care?

Using the online feedback tool, take 2 minutes to jot down the things that adhere to Rule #1 that you are either currently measuring or monitoring in your practice -- or -- data that you think would be meaningful that you would like to start measuring.

Seriously. Do this. Spend no more than 5 min going through this and don't overthink it. Just get something out and on paper.

I have conceptualized metrics that generally adhere to rule number one into three basic categories, listed here. I'm going to go through them and give a few examples along with the pluses and minuses of each.

EVIDENCE-BASED PRACTICE METRICS

I'm not going to spend much time on this subject. Evidence-based practice metrics largely fall into the category of metrics that don't adequately measure the success or robustness of primary care. I just spent the first 10-15 minutes of this talk discussing how badly they've failed us as a cohort. Measuring things like systolic blood pressure targets, A1cs, beta blocker or ACE use in heart failure, etc. all *seem* well and good as proxies of quality, but they simply don't work in measuring the quality and success of primary care.

That's not to say they aren't important; rather, that the average A1c of your population isn't a marker of your level of quality as a primary care physician.

In essence, these are just easy metrics, not correct metrics. They're a prime example of streetlight effect research. For those of you not familiar with the concept it goes something like this:

You come across a man as you're walking home at night, it's dark, but he's bathed in a pool of light under a streetlamp. He seems a little distraught and is bent, sweeping his hands along the gutter, seemingly looking for something. Now -- because you're helpful to a fault -- you stop and ask if he needs help. He does. He says, "I've lost my keys and cannot find them." You're game to help and ask -- "Where do you think you lost them?" He straightens, looks you in the eye, raises his arm, pointing straight up the street, and shares, "I think I lost them about a block and a half that way, but there's no light there to search for them."

This is streetlight research. It's lazy and focuses on measuring and tracking "easy" things without making any progress or getting closer to the truth.

You can measure and track and report your average A1cs until you're blue in the face, but the truth is that reporting this relatively easy-to-track number (*depending on your software*) doesn't actually measure quality in primary care.

These evidence-based metrics are goofy -- so be careful when you have the impulse to measure and report them. They may not actually adhere to Rule #1 -- though may be really, really important to any one individual patient.

So. Moving on.

BUSINESS-ORIENTED METRICS

There are a couple ways to think about measuring money in our world: you can measure the money that your practice generates as a business and, on a separate path, the money saved by preventing downstream health costs for patients who have a direct primary care doctor.

On the first: This was the first thing I measured in my clinic. I didn't have much other data, and my panel was so small, it seemed like the most reasonable first step. I had a monthly board meeting -- our board was and still is comprised of myself and my husband -- and we'd discuss all sorts of business metrics. We'd review our monthly PMPM, our enrollments over the last month, our growth trajectory, and the number who had been taken off our roster. Each member removed would be tagged with a reason for quitting so we could track why people were leaving, and we would also calculate their per-visit cost and determine their lifetime value to the business. We calculated the lifetime value of each current member to figure out our acquisition cost and checked it against industry standards. And we'd keep an eye on our profit and loss, our margins on labs and

prescriptions, and (based on those numbers) we'd set revenue projections for growth for the next month, quarter, and year.

If our business metrics alone were an indicator of the value of the patient care we provided, we were batting at a perfect thousand. We were nailing every business metric we could measure.

But running a sound business -- while important -- is not the whole story to quality in direct primary care. I bring it up briefly for one reason: as direct primary care doctors who are, ultimately, working in a subscription model industry where customers are paying monthly out of their discretionary income, we have to consider our business metrics as one part of the feedback we give ourselves. To boil it down to the most basic business questions, we have to figure out if we are giving our customers -- our patients -- value on a monthly basis. This is integral to our success, because if you cannot keep your doors open, it doesn't matter how great of a doctor you are. You'll be out of business.

So keeping a close eye on your business outcomes adheres to Rule #1.

Regarding second way to measure money -- the downstream effects direct primary care has on a population -- we've been able to have a glimpse of this when larger organizations have shared their data. For example:

- Paladina showing downstream effects in cost savings when combined w/ self-funded health care plans.
- Early in their trajectory, Qliance was able to show multiple, positive downstream effects in a piece in Health Affairs in 2010.
- Multiple insurers and TPAs have shown that self-funded organizations have protected their claims pool by partnering with direct primary care options.

But all these measurements get a little trickier with regard to Rule #1 -- because: who are we measuring for? Are we measuring this to satisfy an insurer? An employer? Or do these metrics actually matter to patients? Or to ourselves?

Be careful as you're measuring these. It's easy to convince yourself that you're reporting some sort of a measure to the insurer or the employer "because it's good for the patient," only to find yourself 5-10 years down the road back in the same situation we all just escaped from. So proceed with caution -- if you proceed at all -- and frequently ask yourself if the metric and/or data reporting needs to be retired (Rule #3).

PATIENT-ORIENTED METRICS

This is the most exciting part of the talk, because this is what really matters. This is what we have to figure out.

Truthfully, I had no idea what to say during this part for a long time. I called so many people, messaged them, texted, arranged interviews, participated in a few journal clubs, interviewed a couple academics who work on this subject, and badgered a few DPC docs on Slack just to see what everyone was doing. And thinking. I wanted to know if anyone had really figured this out.

Through these discussions, several clear themes emerged. When people talk about measuring things that matter to patients, they're generally wanting to see data that points towards one or all of the following:

- "Better health outcomes"

Nobody seems to know how to explicitly and objectively define this. Do we distill it into quality adjusted life years? Mortality? Morbidity? Is there another easily quantified data point that we can use to measure this?

Pulling from the DPC mantra of letting the patient decide, I'm going to talk in a minute about a patient-driven answer to measuring this outcome.

- Prevented hospital admissions, ER visits, and Urgent care or Minute Clinic visits

This subset of outcomes is far more discreet, though equally hard to measure. Since we all work independently, and proving prevention requires more than any one of our individual clinics can do, we are going to have to rely on the bigger players -- with their access to insurance, claims data, and, frankly, funding -- to prove this for us for the time being. That's a little frustrating at first glance, but I'm actually ok with this. In order for us to prove downstream effects, we'd have to not only operate a little more in the insurance and coding world (in order to create a standard, interoperable data set), but we'd also have to figure out how to get claims data for our disparate patient populations, then set up some sort of a cohort or case-control study. I'm not ready to go down that road. So let's let the bigger corporate players play in that sandbox -- and keep showing the data they have. And in the meantime, we can all share our anecdotes about ER and Urgent Care visits avoided and create a powerful narrative of direct primary care. After all -- some would argue that data is the plural of anecdote, and storytelling is a powerful tool; we shouldn't lose sight of that.

- Cost savings -- for the patient

We often sell our members on this point -- and there are easy examples to point to here. We quote price savings on labs, on medications, and on referrals. We share our rock-bottom radiology prices. With the right

software options, we could report cost savings for each of these categories -- then maybe retrospectively survey our patients for their spending habits in the prior year and compare that to their first year spent with a DPC practice. While that methodology has flaws, it is objective and has real value -- for patients.

- Patient-oriented goal % completion

This idea interests me the most. I cannot count the number of times patients have come to me, sat across my desk, and simply said that they want to be healthier. Or that they want more energy, or that they don't want to take medicine. They're not asking me to treat their diabetes. Or their high blood pressure. Or their anxiety. They're asking, globally, to be healthy.

As it currently stands, we are not equipped nor are we trained to effectively accomplish this task. (Going back to my first bullet -- it's because "health" is somewhat hard to define empirically and is further complicated by the fact that health largely depends on execution of lifestyle changes by the patient.) Let's take obesity as an example. The United States Preventive Services Task Force gives a grade "B" recommendation for referring obese adults to intensive, multicomponent behavioral interventions. And while we can't be everything to everyone, when I looked into the recommendation, these intensive, multicomponent behavioral interventions are probably doable in the DPC setting -- if we had the right tools and systems in place. And if we could help people decrease their weight by even 5%, for example, it would make a notable difference.

Regardless, let's say a patient sets a goal of weight loss. They identify the first step in that process as cutting sugar out of their daily coffee. So what if that became the metric? What if our job was really to just become a coach? What if our software enabled us to input a goal, invite our patient into a portal or app somewhere where they could see the plan we make -- together -- and we could work on the goal together. We would set measurable objectives and timelines -- and would assess how well we're doing at helping our patients meet their goals. (And by "we" -- us doctors don't necessarily need to be the ones running this.) If they aren't meeting goals, we could readjust and -- as coaches -- figure out what the next smallest step is to help them get there -- and incrementally move the needle forward. The wellness industry has tapped into this, making it a \$50 billion-plus industry in the US. We could learn something from them here -- and this metric would sit squarely in the patient's control.

- The Person-Centered Primary Care Measure¹⁴

¹⁴ Etz, Rebecca S., et al. "A New Comprehensive Measure of High-Value Aspects of Primary Care." *The Annals of Family Medicine*, 1 May 2019, www.annfam.org/content/17/3/221.full. Accessed 2 June 2019.

Taking the patient-directed measurements one step further, what if we just asked patients if we were doing a good job? And not like Press Ganey does -- don't worry! I'm not going there.

Recently released by the Larry A Green Center, the Person-Centered Primary Care Measure is "an 11-item patient-reported measure that assesses primary care aspects rarely captured yet thought responsible for primary care effects on population health, equity, quality, and sustainable expenditures." After going through a few demographic questions, it measures things like accessibility, comprehensiveness, integration, coordination, relationship, advocacy, family and community context, goal-oriented care, and disease/illness/and prevention management. The kit is available online, where they also describe the methods used to validate the survey.

These questions here are ultimately what matter. They matter to our patients. They matter to us -- as clinicians, as business owners, and as humans with empathy for our brothers and sisters. These things aren't sexy and aren't objective data points measured by a lab or a machine, but they're some of the most important things influencing outcomes in primary care.

Person-Centered Primary Care Measure

Please circle the response that best fits your experience for each item. Thank you.

PATIENT'S GENERAL ASSESSMENT OF TODAY'S VISIT	RESPONSE
The practice makes it easy for me to get care.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
This practice is able to provide most of my care.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
In caring for me, my doctor considers all factors that affect my health.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
My practice coordinates the care I get from multiple places.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
This doctor or practice knows me as a person.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
My doctor and I have been through a lot together.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
My doctor or practice stands up for me.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
The care I get takes into account knowledge of my family.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
The care I get in this practice is informed by knowledge of my community.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
Over time, this practice helps me to meet my goals.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all
Over time, my practice helps me stay healthy.	⁴ Definitely ³ Mostly ² Somewhat ¹ Not at all

So forget about A1cs. Forget about systolics for a second. Great primary care is defined by these things that capture the bigger picture: people want better health. They want to avoid hospitalization. They want to get the best price. They want to connect and have a relationship.

Looking at those 3 subsets of measures under Rule #1 (evidence-based, business-oriented, and patient-oriented outcomes), I think we can find a sweet spot where we're able to easily measure things that really matter to patients that also matter to us as DPC doctors, running DPC practices.

I believe that the PCPCM survey actually fits here. It makes sense from a business perspective, it's relatively easy to measure as a patient survey -- one could administer it annually -- and it hits on the points that patients actually care about. It may fit right into that sweet spot.

And I'm sure there are more things out there that land in this area -- we've just got to find them.

RULE #2: "2. Metrics Should Never Disrupt Flow."

This rule is included specifically for the non-physicians in the room. This is for my colleagues here today who work to develop the software and tech ancillaries that support what we do.

Because -- and this is no exaggeration -- you all are the only ones that can control this. What you do, and how you design your software, either allows us to adhere to rule #2 while creating outcome measurements that can robustly improve the patient and physician experience -- or not. You're the ones who sit behind the curtain and pull the levers, constructing little nudges by way of design decision -- from front end to back end, you have to understand the balance between Rule #1 and Rule #2.

To follow Rule #2, you cannot -- *and must not* -- design or develop your products without the continual input of providers and patients. If we are to make any headway on Rule #1, we need your help. And you need ours if you're going to follow Rule #2.

Up until now, the software supporting the US healthcare system has largely let us all down.

(And by "us," I mean all of us here today. As both doctors and -- because we all become one at one point or another -- patients. It matters to all of us.)

The development of the EHR over the last several decades has been so focused on all these shoddy metrics and reporting and billing requirements and discrete data inputs that we've sucked all the oxygen out of the room for real, impressive EHR development.

If we're going to rethink how we define quality in primary care, we need you all as partners.

I'm going to say some words that I have a marginal understanding of, but I'm going to say them with confidence, which is really what matters (right?). Heading forward, we must expect things like:

- Natural language processing and all that deep learning and artificial intelligence and yada yada (enter buzzword here) for pulling out trends, diagnoses, and patterns without interrupting physician flow or creating extra patient input.
- I expect our tech partners to provide both patient and provider interfaces into the EHR to enable patients to truly own their records as they move throughout the healthcare system.
- I also expect software to support the wei-ish interoperability standards like FHIR and HL7 to foster forward-looking creativity and value to both patients and providers in this new and growing direct care marketplace.
- I also hope for seamless integration of algorithms, decision rules, and best practices into the EHR's flow -- without overburdening the physician -- with an exhaustive focus on making the right (evidence-based) choice the easy choice through clinical attention to the user interface and experience

RULE 3. Metrics Can -- and Should -- be Retired over Time

This may be the simplest -- but most important rule. If a metric doesn't adhere to #1 or #2 it must be reconsidered as a valid metric to pursue -- and it warrants a closer look

Because, after all: When a metric becomes a target in itself, it ceases to be useful

¹⁵.

There is interesting data out there about pay-for-performance -- that I'm not going to get into in detail -- but it shows that when you incentivize doctors to achieve certain targets or metrics or to report certain data, doctors and health systems will do it. But they do the processes to prove the metric more than they actually move the needle on the metric/outcome that's supposed to be measured. In other words: data reporting becomes a game, and we're quite good at playing games. Pay for performance turns into payment for those who know how to report better.

¹⁵ Marilyn Strathern (1997). 'Improving ratings': audit in the British University system. *European Review*, 5, pp 305-321
doi:10.1002/(SICI)1234-981X(199707)5:33.0.CO;2-4

There's a very good article¹⁶ about the Quality and Outcomes Framework started in the early 2000s out of the UK that demonstrated this in a harrowing, expensive way.

So it's important to rethink these things as time goes on -- and to have the confidence and agility to scrap programs that aren't working.

Ultimately, this is what we care about:

- *Does this metric improve the experience of the people we're caring for?*
- *Does it make the physician experience better or worse?*
- *Who is the data collector?*
- *For whom are we collecting data?*

And remember -- metrics should not become punitive, they're best when they're used to foster reflection, experimentation, and assessment of assumptions and knowledge. And they *must* be used in environments that enable adaptation.

OK. So. A lot to think about. And I will be the first to admit that these are only my thoughts after reading through the literature on measuring quality and success in primary care -- then augmenting it through a direct primary care lens; I am not the final word here.

How can we use these rules that I've laid out to create a better paradigm for quality in primary care? What should we measure? Have I dismissed something important? Or missed something?

I'm going to end here -- without a grand proclamation or declaration. We have the power to define this conversation, and I hope that this gives everyone permission to maybe love data a little more. I am hoping that -- at the very least -- this has left everyone with something to think about.

We're all highly intelligent empiricists. Let's start acting that way.

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¹⁶ Gillam, Stephen J, et al. "Pay-for-Performance in the United Kingdom: Impact of the Quality and Outcomes Framework: a Systematic Review." *Annals of Family Medicine, American Academy of Family Physicians*, Sept. 2012, www.ncbi.nlm.nih.gov/pubmed/22966110. Accessed 20 June 2019.