Good morning – and thank you. Let me begin by saying what a privilege it is to be speaking with you, and sharing the story of Toronto’s Bridgepoint Active Healthcare with you, as we consider what is happening in population health and what that means for quality now and in the future.

I especially want to thank Tracey Cooper, the President of ISQUA, whom I met when speaking about our new approach to care in Dubai, and she thought that the Bridgepoint story would be useful and important to share. So thank you, Tracey.

Although I live in Toronto, and I’m going to talk about my experiences there, my roots are a little closer to where we are today. I originally hail from Newfoundland, at the far eastern tip of North America, which is a good bit closer to Scotland than it is to, say, British Columbia on the west coast of Canada, or California.

Newfoundland was the first part of North America to welcome Europeans, when the Vikings landed there over five hundred years before Columbus. But that particular international exchange never took. For centuries afterward, Newfoundland, and indeed, the Americas, was uncharted territory.

As a proud Newfoundlander, I’ve embraced that status, because I’ve spent my career working on issues in health care that also feel like uncharted territory. I started off my career as a social worker in Newfoundland, where I watched people being admitted to nursing homes – permanently institutionalized – day after day, with demand and wait lists growing exponentially. And you know, there wasn’t much wrong with most of these people! They just thought they were old – they were in their 70s… which used to be considered old when the facilities had been built in the 1950s. And back then, it was just assumed that this is what you did when you got old.

It wasn’t rooted in evidence. It was rooted in habit. Nobody had changed the definition of “old people” when life expectancy grew from 65 to 80. Nobody had thought through what health conditions make it truly necessary that somebody live in a nursing home instead of their own home. Nobody had even measured whether admitting people to these nursing homes was doing any good.

Like others around the world, I thought we could do better. That nursing home model was old thinking, being applied to a world where a lot had changed. I was intrigued by the innovation of providing care in people’s homes, instead of sending them to live in institutions. Europe was ahead of North America on this, and other parts of Canada were ahead of Newfoundland.

But when I was just 23, I wound up being president of the first home care program in St. John’s, Newfoundland. For me in that home care program at that time … I was in uncharted territory.

What we had to do then… and what we have to do even more today… is to shift our way of thinking to fit with a new reality, as our health system gets ever better at helping people to live longer, and with more chronic health conditions. Thirty years later, it is time for a new set of innovations just as big as the idea...that we
could bring care to elderly people and since then to many other patient groups, rather than making these people live or receive their care in hospitals or institutions.

Fast forward from there...fifteen years ago, I became President of what is now Bridgepoint, in Toronto.

Bridgepoint Active Healthcare is a hospital, along with a primary care practice and a research and innovation collaboratory... with a unique focus on not just chronic disease, but “complex chronic disease”.

The burden of multiple or concurrent chronic conditions, often complicated by poor social determinants of health. At Bridgepoint, we believe that the challenge of complexity is a new frontier of health care – an uncharted territory.

Bridgepoint’s campus is near downtown Toronto, Canada’s largest city, with six million people.

Toronto faces all of the challenges that everyone from the World Health Organization to the OECD observes throughout the developed world:

- A rapidly aging population, with a growing burden of chronic disease in every age cohort;
- Increasing income disparities;
- Increasing prevalence and diagnosis of mental illness;
- Growth in obesity and related chronic health conditions;
- And health spending growth that far outstrips economic growth, even though population health outcomes are improving only marginally, if at all

Toronto has the most culturally-diverse population in the world...

46% of Toronto residents were born outside Canada, and 47% have a mother tongue other than English. We have an urban aboriginal population that tragically far exceeds the rest of the population in every measure of disadvantage, from poverty to addictions. And the diversity of Toronto is greatest in the downtown core, where Bridgepoint is located. Like in the rest of the developed world, our health system has been under enormous financial pressure for years - worsened since the 2008 financial crisis. Like many of you, we see more and more patients living with chronic diseases.

And also like many of you, our health system was not designed to understand, let alone focus on, our increasingly complex patients. To understand why that is – why we have such a mismatch between the needs of our population and the capabilities of our health system – we need to understand how we got to where we are today.

I don’t think many people would disagree that the first part of the last century saw the greatest improvement in population health in human history... in the industrialized world, at least.

Clean water and better hygiene helped us conquer infectious disease. Better health care played a part too, especially through antibiotics and vaccines. But this first wave of health innovation had its limits. Once your drinking water’s clean, there’s little to gain by making it even cleaner. These great advances resulted in new
challenges. As the incidence of diseases like cholera plummeted, cancer rates grew. People began living long enough to develop more cancer, heart disease, and a host of other chronic conditions, like severe diabetes and COPD.

We responded with a second wave of innovation, this time focused mainly on basic science... and life-saving acute care. From the 50s right through to the turn of this century, science and medicine turned its attention to understanding human biology - how to diagnose and treat things when they go wrong. And, we’ve been very successful... in many cases; we have the evidence to prove it too!

Once again though, this second wave of health innovation has its limits. And as a function of our success, many people now find themselves managing one or more chronic diseases. And the longer people live... and the more successful we are at saving lives... the more likely it is that people will live with not just one, but multiple conditions. It’s already happening. In Canada, the majority of people over age 65 are living with two or more chronic diseases. Over a quarter are living with four or more.

And this isn’t just a problem for the elderly – rates of chronic disease at every age cohort including younger people are exploding as well. One in four overnight hospital visits in Canada is for a complex patient. And each of these visits is about three times as expensive as a visit for someone with no chronic conditions.

This is not a failure of our acute-focused health care systems. The paradox is... it’s a consequence of their success. This fast-growing group of patients with complex conditions consumes enormous resources. In Canada, the 5% of our population with the most complex health needs is now consuming over 70% of our healthcare budget. A little over 1% of the population has the most complex health conditions, and these patients use an average of 55,000 Canadian dollars a year of health care often without good outcomes... and the challenge is growing exponentially as our population ages.

And yet, we treat complexity as an afterthought or without much thought at all. The way we think about quality, and the way we think about care delivery... are both rooted in an acute-focused, disease-specific framework that was never intended to deal with complexity.

Now as I mentioned ... I was first asked to lead Bridgepoint 15 years ago. The good news is – more through good luck than good planning – Bridgepoint had come to focus almost entirely on providing restorative care for patients with complex chronic conditions.

The bad news ... was that I had been hired to shut it down.

The government of Ontario – our state-level government – had launched a program of hospital consolidation, led by an expert commission. And the expert commission didn’t see why we’d want hospitals focused on complex patients. I will spare you the specific details of what we had to go through.

But we made the case that what’s now Bridgepoint was ideally positioned to tackle complex chronic disease, the biggest emerging challenge to the health system in the 21st century. Whether or not they fully believed us, they at least decided not to shut us down. In the intervening 15 years, we’ve been on the long, slow path to build awareness and partnerships.
In April, Bridgepoint’s patients moved into a brand-new, state-of-the-art hospital, designed entirely to meet the needs of people with complex chronic diseases. This is a first in Canada, and pretty distinctive anywhere in the world. It required an investment of over a billion dollars from our government – a big change from trying to shut us down.

Today we’ve re-organized our hospital to be a resource for complex patients and their caregivers …

Established what we believe to be the first Research Collaborative exclusively focused on complexity... Set up a primary care practice to model and teach complexity management…and committed to “changing the world” for these patients. We’re not done yet, and we can’t do it all by ourselves, but we now have an increasingly clear view of the model of care needed for our most complex patients. And we’re putting it into practice.

We knew we had to start by building a deep understanding of who these complex patients are, why they are complex, and what we need to do to optimize both their experience and their outcomes, at the right cost. We looked at leading systems and managed care organizations. An approach to thinking that resonated with us, was Kaiser Permanante’s population stratification model. This was a moment of insight for us.

We started to look at our own population and health system through this lens. And of course, one of the most obvious findings was the concentration of health care utilization among a small number of people – in our system, 5% of patients using 70% of the resources. These are the people at the top of the Kaiser pyramid… and they are largely characterized by multiple, complex, ongoing health issues. They are the patients we focus on at Bridgepoint.

Apart from utilization data, we knew very little about them.

There was very little evidence-based medicine and there were virtually no clinical pathways for treating these patients. Because virtually all clinical trials and most clinical pathways are built around patients without complications. We know for example that 75% of stroke patients have multiple morbidities. There was a classic study of hypertension in the elderly, called “SHEP” that screened 400,000 people to find 4,000 “clean” patients to study. This is also a classic example that is repeated in most scientific studies...typically our patients are excluded because of their complexity and co-morbidities – even though there are more of them every year.

To get better clarity and more evidence about what constitutes quality care for these patients we concluded that Job 1 was to understand our patients better. There was nothing in the existing literature... so we had to do some research ourselves. We examined Bridgepoint’s own population of patients as rigorously as we could, including a retrospective look at how they became complex in the first place.

This work came to be called “The Bridgepoint Study”.

The results of that study have allowed us to build our new model, based on important findings about complex patients.

These patients are characterized by clinical complexity on the one hand:
- Multi-morbidity
- Poly-pharmacy
- High treatment burden
- Fragmented care (in our predominately acute, reactive, highly specialized and fragmented health care delivery system)

And... they are also characterized by social-complexity:

- Social vulnerability (like poverty and unemployment)
- Depression
- Addictions
- Social isolation, and
- Coping and adaptation challenges

We learned that the complex patient’s journey often presents with a single chronic disease... but that is just the tip of an iceberg. What appears at first belies the multiple layers of potential complexity that... left unaddressed... will erupt into a very complex patient.

Further, there are clear and obvious tipping points in each patient’s journey... of a clinical and social nature... that provide real opportunities for preventative interventions.

If these tipping points are ignored, they will contribute directly to burden of illness and disability. This is a huge threat to the sustainability of health systems and an even bigger threat to quality care and outcomes for patients.

And while there is enormous upside in getting primary and secondary prevention right, we can also do a great deal to provide better care to people who already have complex chronic conditions.

In fact, the right care model helps us to optimize what IHI calls the “triple aim”: outcomes, and costs, and the patient experience.

Innovating for complex patients is not like innovating in cardiac bypass surgery. Leaning out processes is great, and so is avoiding unnecessary variation. But there cannot be a checklist for complexity like the checklist for removing a gallbladder. The very meaning of quality and safety, and what it takes to achieve them, has not been fully considered for complex patients, and it is not the same as for typical acute interventions.

We are not dealing with large numbers of similar cases – but rather smaller numbers of highly variable cases that present unique challenges.

The processes and safety protocols used for common, single-disease cases in acute care ... can actually create barriers for quality in complex patients.
To illustrate this point...just last week we had a lively discussion at our medical advisory committee about required organizational practices that we are implementing on our complex care medical units to be in compliance with hospital accreditation standards. One of the themes was Venous Thromboembolism protocol.

The literature on this, in places very convincing, has all been conducted in acute care. Every few years there is a huge (>300 page) evidence-based consensus guideline printed in CHEST.

There is an absence of literature regarding the necessity/efficacy/ethics of using VTE prophylaxis in Rehab/CCC/Long-term care, outside of the orthopedic population, who are continuing anticoagulation for 30 days or more while in Rehab. In addition, our patients (i.e. older and more complex) are clearly at higher risk for bleeding while on a VTE prophylaxis protocol. If we treat all patients with blood thinners and one or more of those patients has a serious, untoward event due to hemorrhage, do we declare victory for quality and safety?

Bridgepoint has taken the approach of calculating both a thrombosis risk score and a bleeding risk score on each patient, and asking the physician to use due diligence in making the decision to use VTE prophylaxis or not, based on the risk scores and overall clinical judgment. We hope to be able to be able to publish results based on our data going forward, on the efficacy of these protocols in our setting with our complex clientele.

Now consider infection control. If a patient with a drug-resistant infection comes into our hospital, we have to isolate that patient, so she sees almost nobody, and the clinicians that interact with her are always gloved and using precautions. There’s a logical reason for this especially in acute care, but for a complex patient...in a restorative care hospital like Bridgepoint...this can pose significant patient safety risks, impact mental health and well-being and result in less care at the right time...all of which has a negative impact on outcomes.

Is that safe high-quality healthcare?

Just as managing a complex patient requires that we consider the whole trajectory of her care in an integrated way, assessing quality requires that we place each intervention in a broader context. If we treat the kidney disease and ignore the heart disease, that isn’t quality care.

We’re still in the earliest days. We lack a clear, shared view on the right metrics of clinical effectiveness for complex patients, let alone the right ways to measure and manage them. Some would say the challenge is daunting... but I prefer to think that the opportunity is enormous. And we increasingly know key elements of what needs to be done.

Once we understood who these patients are, and the challenges they face, we had to consider how we would develop a new model of care to embrace the challenge of complexity.

Based on our research, on best practices used in related areas, and our own experience in delivering care... we concluded that we need to do things differently at two levels – what happens directly with the patient, and how providers and our health care delivery system are organized. And all of this needs to be fueled with new data and new knowledge, including putting complexity at the center of our work on quality and safety.
It all begins with the patient. Consider a complex patient’s experience with health care - someone like Mr. McLeod, a 66 year-old patient who lived at home with his wife. He had diabetes, failing kidneys, congestive heart failure, and arthritis. He was on eleven different medications.

One of Mr. McLeod’s encounters with health care began when he got dizzy and fell down, noticed a painful crack in his spine, and found that he was unable to walk. His wife took him to his doctor, who suspected a tailbone fracture and ordered tests at two different locations, and physiotherapy at a third, all scheduled for the following week.

But Mr. McLeod’s started experiencing more pain and more trouble moving, so his wife took him to the emergency department, where doctors changed three of his medications, and admitted him for evaluation. After discharge, his pain was still so severe... he could not go to his scheduled medical tests or physiotherapy.

Mr. McLeod was admitted for emergency care six more times in the next eight months, and eventually died in the hospital.

He never received a comprehensive assessment of his overall condition. He received care from a dozen different physicians, few of whom ever talked to each other. He visited the emergency department – the most expensive source of care in the system – eight times. Not because it was the best place to get care, but because he had no alternative.

Despite receiving nearly 130,000 dollars’ worth of care, Mr. McLeod’s health outcomes continually worsened and his situation became even more complex. And needless to say, he and his family had a horrible, frustrating, powerless experience at one of the most vulnerable times in their lives.

So, what are we doing or planning to do to change the experience of people like Mr. McLeod?

Ideally we need to see patients early - before they reach acute care. That’s when we’re in the best position to avoid preventable acute care hospital visits. The sooner we can intervene, the better...because the future path for these patients depends more on their trajectory into complexity, than on a single primary diagnosis. Through our research, we defined a set of archetypes for those trajectories.

These range from “life as expected” – patients experiencing the many illnesses associated with advanced age... to “life interrupted” – relatively young patients who experienced a serious medical event, and may have the opportunity to resume normal life.

At the level of the individual patient, we want to change the slope – if not the direction – of people’s trajectories. To do that, we begin with a detailed 360-degree assessment for every patient’s health and context. There has been talk for many years about truly putting the patient at the center of the system. By organizing ourselves to conduct assessments that look at the whole person and their environment – from a genuinely multi-disciplinary perspective – we are finally re-framing how we do things.

Our 360-degree perspective – with the patient at the center – is at the very core of the Bridgepoint model.
We also work with patients on collaborative, goal setting and attainment plans - involving them in decision-making surrounding their own care. We provide support and education to the people who care for or live with patients...because they are part of the team – and essential when it comes to helping to get our patients on the right path. We address issues of physical, social and mental well-being and put a great deal of emphasis on coping and adaptation.

Beyond the individual themselves, our study results also emphasized the need to provide a truly integrated care experience – one without hand-offs – for complex patients. In our research on tipping points, we saw again and again that many of them occurred during handoffs gone awry. We are building a model that provides “one-stop shopping” for patients - providing an integrated and comprehensive set of services for complex patients, with a particular emphasis on services in the community.

At the center of this is a partnership between Bridgepoint Hospital and a primary care practice, to take ongoing, “buck stops here” accountability for all aspects of the complex patient’s care. This means networking together in a seamless way some services that already exist, like inpatient restorative care beds, acute care, community mental health and social services.

It means filling gaps that exists in ambulatory, community-based and home-based services, at least in systems like Canada’s. Now, I’m sure there’s somebody from Denmark thinking that swapping out acute capacity for community outpatient capacity is last decade’s innovation, but in North America – this remains fresh thinking.

In the coming year, Bridgepoint will launch a day hospital specifically tailored for patients with complex chronic conditions, along with a set of complexity-specialized clinics.

We will partner with existing organizations delivering home-based clinical care, and in the long run we anticipate expanding these services, again with a focus on complex chronic conditions. We will allow local primary care practices to admit patients directly to Bridgepoint, eliminating the need for an acute or emergency room intervention.

And to ensure true integration at the patient level, we will be providing system navigation through dedicated nurse “care integration specialists” for patients. These are not just utilization managers, but health professionals who are a core part of the overall care team – for all the services provided by the health hub, and for any specialized services the patient requires outside it. All patients in the health hub will be enrolled and followed on a proactive basis.

Beyond our Bridgepoint health system needs major change, to manage a world of complexity.

The best way to manage patient handoffs is to avoid patient handoffs. But at the very least, we must seek to remove barriers, create smoother transitions from one care provider to the next, and communicate, so that handoffs and transitions feel nearly invisible to our patients and their families.

Funding and incentives need to support – and reward – earlier treatment and prevention, and treatment in the right setting of care. We know that’s true for all patients, but nowhere is it more urgent than for the complex patients that are the highest users of health services.
Ultimately, we need a more vertically integrated health system, with more elements of the care continuum for complex patients within the same provider organizations. Much of what we do today in health policy ultimately boils down to work-arounds for organizations that sub-optimize their narrow bits of the care puzzle… we need providers that are accountable for a complex patient’s whole experience, and capable of managing the most important parts of it.

We’ve taken steps to encourage that system change. In 2005 we began a campaign to put complexity into the vocabulary of health providers and policy makers. We declared that there is a new disease out there:

It’s not just chronic disease…it's complexity. Things like neurodiabetes, osteocanceritis, and a host of others. Patients with more than one condition represent a fundamental need for change to the models and approaches that are typically used in health care. This situation of patients living with four, five, or six diseases all at once is, for our health care systems, uncharted territory.

At the system level, we also need data, research and knowledge on complex patients that simply does not exist today. We need to reconceive what quality and safety mean for these patients, including how we measure it. And that means working with organizations addressing quality and safety, like ISQua. Remember Mr. McLeod? The need for innovation and improved quality in how we care for patients like him couldn’t be clearer. Still, we face some important barriers.

As I said before, nobody wants Mr. McLeod in their study, because he’s just too complex. So we have no solid evidence of what actually works for patients like him. This lack of evidence and data is a critical patient safety issue. We do not know... we simply do not have the evidence to know... the risks to a patient of eleven or more different medications, for diseases affecting three or four organ systems.

These are the patients least able to cope with drug-to-drug interactions. Yet we are compromised from the start in delivering better, safer care to them... because we don’t know what “safe” looks like. Even when we look at much broader samples, like the registries that are so central to the value-based health care movement... the focus is still on a disease, or an intervention. We know a lot about what quality looks like in cataract surgery.

We know what facilities have better and worse 30-day survival from heart attacks, and we know a fair bit about what drives that. But we know almost nothing about what works when a patient with diabetes, Parkinson’s Disease and a broken hip... is on 14 medications and appears to be reacting badly. This message is not just for health care delivery organizations and researchers – it’s for our work on quality and safety too.

A central challenge for us in the global quality and safety movement is to use a wider lens on quality. One that wherever possible embraces complexity as the next core challenge in health care, rather than wishing it away because it’s messy, complicated, and doesn’t fit within our existing paradigms. There’s a whole population of people out there, for whom the very definitions of quality and safety are different from what is needed in acute care... and for whom the answers on how to deliver quality and safety are different too.

Putting the right services and systems in place is not enough by itself. We need the knowledge to fuel those services – we need the software that makes the new hardware work. Many of you will have heard the
metaphor of the three-legged stool, with clinical care, research, and education forming the foundation for excellence in health. Well, as far as we have to go in clinical care, there is even more to be done to give complexity its appropriate focus in research, and in education.

The research we have already done at Bridgepoint was hugely influential in defining our new model of care. But we remain in the very early stages. That leaves us a huge opportunity. More research into complex care – the next unexplored frontier of health care knowledge and research.

At Bridgepoint, we have three areas of research focus – all ultimately focused on improving the lives of our patients. The first area of focus is population-based health service and policy research, which zeroes in on the profiles and needs of people with complex health conditions. This includes the social determinants of health, and isolating the key trigger points where interventions or prevention activities could change the whole trajectory of complexity.

It extends to the way systems have been built for acute care and how they need to change to manage complexity, including how funding needs to change. What one of our clinicians calls “widget-based funding” cannot provide the right incentives to manage care holistically for complex patients, and we’re working on a better funding alternative.

Our second area of research focus is technology and design innovation. We are looking at how tools and facilities impact health outcomes, and how they should be designed from the perspective of their end users – whether they are patients, clinicians, or families. We’re currently leading the largest evaluation of hospital design in Canada, to understand how hospital design influences health outcomes. And, we are taking advantage of our move to our new hospital to do rigorous analysis of the impact of facility design on care for complex patients.

Our third area of research focus is on clinical research - looking at the day-to-day role of healthcare providers, and how they interact with patients, families and colleagues. We are taking advantage of the living laboratory that is Bridgepoint Hospital, to understand what really works clinically for complex patients, and to design care interventions that optimize quality specifically for them.

We also need to translate and teach what works through our education systems. It is no longer sufficient to drive towards greater and greater disease focus in our medical specialties. We’ll always need oncologists, but we will also need “complexity specialists” – hospital and community-based professionals with deep training in how to manage multiple conditions in multiple organ systems, in the same patient.

As we work our way through the transformation of complexity care at Bridgepoint, we are designing our approaches and methods to think beyond clinical delivery – designing in research and knowledge translation. The measurement of outcomes. New care pathways, based on new research and solid evidence. The idea is to address deficits we’re seen in other aspects of our system from the get-go – allowing us to continuously improve, and share what we’re learning over time.

There is no question that complexity is an area of growing interest worldwide, not just at one hospital in Toronto. We see complexity mentioned prominently in NIH presentations on top health challenges. We have
universities and acute hospitals approaching us about making complexity central to research and teaching, rather than just listening politely to our pleas. Even politicians are beginning to see the link to sustainable budgets. And I might add for our friends in the US that the challenge of complexity is about to grow even faster for you than for anyone else in the next few years. You’ll understand better than any of us that your new health care law suddenly provides coverage for thousands and thousands of highly complex patients, who were previously managed largely by limiting their access to health services. As you build a more universal system to manage all of these patients, many of whom have both complex medical conditions and challenging social determinants, you have the opportunity to embrace the reality of complexity, to build it right.

The most important impact of the Bridgepoint Model is on people’s health, but let me just take a moment to talk about the financial benefits. The payoff of this is enormous. Our early work attracted the attention of the Boston Consulting Group, a top-tier global consulting firm. BCG did a detailed analysis, and concluded that applying this new model of care for complex patients province-wide could save Ontario between 4 and 6 billion dollars a year, which is over 10% of its health budget. You won’t be surprised that our Ministry of Health is very interested to learn more!

Now, I’ve talked a lot about the mechanics of our model. What may be more important, however, is our ethos. Our belief in genuinely wanting to make these people’s lives better. While others may seek to replicate our model – and I would encourage them to do so – the cultural ingredient of not giving up on people is the energy that makes our model work. It’s as simple as that. When you have a team of passionate believers, making the model work is a lot easier.

I began by saying that complexity is uncharted territory in the way we deliver health services, and in the way we measure and manage quality. It’s not that we don’t know it’s there – the high utilization of a small number of patients is probably one of the most widely discussed topics in health policy, at least among payers. But I believe we’re just in the earliest stages of rigorously exploring what really works in managing complexity – of mapping out the territory in a serious way.

Bridgepoint is a small organization in the global health care world. But we do have the advantage of being highly focused on adults with complex conditions. I believe – indeed I know from our patients – that we are already making great progress. But there is so much remaining to do, it is going to take a truly global effort.

ISQua, and the whole global quality and safety movement, have a central role to play. Our quality and safety movement began when we were focused on the last frontier of acute-focused, life-saving care. Let the time come to embrace complexity and the next frontier of health care – putting it at the center of the policy, research and education agendas. I’ve been greatly encouraged by the discussions this week, and I look forward to your help in mapping out the next frontier in health care.