

Remarks to the Canadian Club of Toronto

By Dr. Ed Brown, OTN CEO

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It's a real pleasure to be here and look around the room at so many colleagues, friends and partners. People who make it possible for me to be here and who make it possible for the Ontario Telemedicine Network to do its work.

Today, I am here to talk to you about change and about innovation.

These are words you will hear again and again because I'm talking about re-inventing our healthcare system. About a new system that says goodbye to fragmented care and hello to an integrated patient-centred system.

We've all heard the vision before: a health care system that provides the right care in the right place at the right time. A system that is sustainable.

That's a vision that's always seemed aspirational and unattainable.

Well I'm here to tell you that, in fact, that vision is closer to reality than you might think. Technologically, getting to that vision will not be dramatic. It's not rocket science. It is simply going to be a system that integrates information technology into health care the way it has already been integrated into banking and retail and travel.

What you already know how to do on your smart phone will be a fundamental part of your health care.

You will no longer be a passive recipient of healthcare system output. You will be part of your connected health care team - a team that includes your healthcare providers and your family caregivers.

As you know, Telemedicine is a set of tools that links patients to their providers and providers to each other and enables them to exchange information.

With the rapid proliferation of these tools and the public's readiness to use them, we suddenly find ourselves on the verge of a great opportunity - a tipping point if you will. The vision of a patient-centred system suddenly feels practical and attainable. We have been handed a license to create a better system at a cost we can afford.

But there's a catch.

To get there from here, we need to boldly go where health care has never been before. If you are a healthcare organization, you will need a new business model. If you are a healthcare provider, you will be working less in isolation and more collaboratively. If you are a government, you will need new policy.

Success will require a lot of fundamental change and realignment at every level of health care delivery.

But when we are done, it will be worth it.

Our healthcare system will be more efficient. There will be fewer errors. Care teams will have the technology to work together.

More care will take place in the community than in hospital. People burdened with chronic disease will have the tools to manage their health in their own homes.

You may not know it, but in Ontario, we already have a program that does that. It's OTN's Telehomecare, a collaborative program with the Ministry of Health and Long-Term Care, Canada Health Infoway and eight Local Health Integration Networks.

Patients who are living with Chronic Obstructive Pulmonary Disease (COPD) or Congestive Heart Failure (CHF) monitor their vital signs — such as blood pressure, weight and pulse oxygen — and track how they're feeling. A nurse monitors the data remotely, but more importantly, coaches each patient so that they learn about their illness and are motivated to make lifestyle changes that will keep them healthier.

Telehomecare can't cure the incurable. But it can help patients with chronic disease live their best possible life in their own homes and avoid hospitalizations.

Without this kind of monitoring and education, patients have relapses or get very frightened and end up in Emerg when they don't want and don't need to be there. Data from our LHIN partners shows that Telehomecare has cut those Emerg visits by roughly 50%. It has equally reduced hospital admissions by the same amount - 50%.

There is not much else in the health care system that delivers these kinds of results.

In health care we talk about "patient-centred care". Well I can tell you this is the real deal. I've heard family physicians say that some patients look like different people - moving from scared and sickly to empowered and confident. It's patient-centred care so tangible, you can feel it in your gut.

Consumers and patients out there are more than ready for this kind of change. We know that at least 75% of consumers want to connect to their health care providers electronically.

The majority of people already own their future telemedicine device - on their desk or in their pocket or purse. They are already connected and ready to BYOD - bring your own device.

These trends have not gone unnoticed by industry. Mobile health technology is expected to be a 15 billion dollar industry in 2015, but its impact across the health economy will actually be a lot bigger than that. mHealth is enabling companies to deliver health care services in entirely new and innovative ways and to generate new revenue streams.

We already know that global tech giants have entered the health space, like Google, Cisco, AT & T and, most recently, Apple, but what is even more interesting is the vast array of consumer-oriented companies looking to take advantage of the new tools to deliver health care directly to consumers. Companies like JP Morgan and Walmart.



I've even been told that Ford Motor Company is in the mix, developing a chronic disease app for use in their cars.

I wonder if we'll need a new law about "hands-free" chronic disease management!

So what will your health care look like?

You will be able to connect with your providers remotely – to ask a question, schedule an appointment or request a prescription refill.

You will be able to deal with many of your health problems through an eVisit from the comfort of your home or office.

You will also find that, rather than a single provider; you will have a care team, even if you are well and don't use them much. There will be an online, documented health plan for you if you want it.

It may include recommended dates for your next booster shot, your next check-up and any screening tests you should have in the years to come. It may inform you of education, games or social media opportunities. You will know how to connect with your health care team when you need them.

If you are a parent, you will probably buy something like the Cellscope — a device that connects to your phone and allows you to send pictures of your child's eardrum to your nurse-practitioner.

If you are one of the 85% of Canadians who develop a chronic disease by the time they're 45, your care team will take on a more active and hands-on role, using a shared care plan and eVisits. They may recommend an app or device that helps you self-manage your health.

In the last few years, many new monitoring devices have become available. I've told you about the devices we use in Telehomecare, but there are many more low-cost devices that can broadcast your heart rhythm, send continuous blood sugar readings or do an EEG. If you're pregnant, fetal movements can be tracked using a device called a tocometer, paired with a smart phone. There are even trackable smart pills, so there is no reason your new iWatch can't remind you to take your medication and then broadcast a signal when swallowed.

The bad news is your doctor will actually know if you finished all 10 days of your antibiotic prescription!

Those devices are all available in the marketplace today.

And there are more coming. Already in the lab is the concept of nanosensors that are injected into your blood stream to detect specific changes in your DNA and wirelessly signal them to your smart phone. Dr. Eric Topol, a cardiologist and futurist at Scripps University, is developing a nanosensor that will detect when a blood vessel cracks — the precursor to a possible heart attack. The idea is to send out an early warning signal allowing a health team to intervene and prevent the heart attack. I've also been told that, right now, in California, there are university students walking around with nanosensors in their blood stream that are continuously tweeting their

blood sugar readings to their phones. The devices are actually powered by the flow of their blood. Other researchers are doing similar work for cancer, immune problems and stroke. And, of course, there are many things to come that we have not yet dreamed of.

Having said all this, the simplest innovation is the most important: Every patient will have a care team and a plan. They will know what to do when they need help and they will be part of the planning, along with their family caregivers.

People will feel cared for, connected and in control like never before.

At OTN we call this vision “one patient, one team, one plan”.

So what will enable all of this to take place sooner rather than later?

Besides the technology — which largely already exists — we need a different kind of innovation.

Call it political will.

Because virtual health care is a hard sell.

That’s because the existing health care system — here and in most places — is entrenched and difficult to disrupt.

In health care, we usually think of innovation as a new treatment or test. And in that regard, we have had amazing, relentless progress. Even just a few weeks ago, we saw a report of a paraplegic man in Poland walking again because nerve cells from his nasal cavity were transplanted to his spinal cord.

However — with the exception of some pioneers who are here in this room, in fact — we have not been so good at innovation in business process and business models.

For example, the health care system is the last industry to rely on the fax machine and the pager.

Here’s another example.

We all know that right now, the biggest challenge facing our health care system is chronic disease management. 5% of our population accounts for 66% of our total health care spend and those are mainly people living with chronic disease. Two of the most expensive illnesses are heart failure and COPD — exactly the health problems served by the Telehomecare program.

Telehomecare avoids hospital costs, is much loved by patients and is free. So — you might assume that Telehomecare devices would be flying off the shelves like an iPhone on opening day.

But you’d be wrong.

While it is growing, the program is not expanding at the rate we think it should.



It turns out that our health system is not set up in ways that support this new model of care. For Telehomecare to work, we are basically asking independent providers and organizations to work together in a new process – one without any particular policy to support or mandate it. The result is the equivalent of turning a cruise ship. It's happening but it's going to take a bit of time.

You already know that, as Canadians, we're very very proud of our health care system. We consider it one of the most important things that make us different.

And, truth be told, comparatively speaking, we are right to be proud.

But we are at a crossroads.

We know a lot more now than we did back in the 60s when we created a health insurance system focused on acute care that paid for episodic visits to doctors and hospitals. Now we know that chronic disease is both not well-served and too costly in that model. And there's a lot more chronic disease than there used to be.

That's why we need to move away from paying for inputs, such as individual services, to paying for outputs, such as quality of care. This will liberate organizations in both the public and private sector to innovate and disrupt within our publicly funded system.

Our system payor — namely government — in Ontario has already started this journey. It's called the transformation agenda and we have been working on it for a decade. Changes have included the introduction of family health teams, Health Links, the Excellent Care for All Act and bundled payment to hospitals, called quality based procedures. This is all very good and important work but it's time to pump up it up even faster.

We need to move at the speed of the digital age.

That said, there is some danger if we don't get it right. Real danger, in fact.

Because like power, technology can be used for good or evil.

It can usher in that new era of integrated care or we can just layer technology on top of what is an already fragmented system and accomplish nothing.

Three weeks ago, the Economist ran an intriguing article on the global acceleration of telemedicine. It said "if you have a chaotic system and add technology, you just get a chaotic system with technology." It said that telemedicine may even add to costs if it is added to old routines rather than replacing them.

Here's an example.

The B.C. government implemented physician fee-for-service billing codes for telemedicine, hoping to encourage tele-services for rural and underserved communities.

Last year, a few entrepreneurial organizations introduced some very nifty technology that could provide direct-to-consumer telemedicine visits. A good number of physicians began to offer the service, leading to an eight-fold increase in the number of such services billed. Many family physicians bitterly complained that the telemedicine doctors were running virtual walk-in clinics, rather than providing more desirable holistic primary care.

The result? Health Minister Terry Lake ordered a sweeping review of telemedicine care in B.C. because he fears unsustainable costs and fragmented care.

Compare this to Kaiser Permanente in Northern California, which has been supporting e-visits since 2008. E-visits include secure messaging, the telephone (remember that?) and videoconferencing.

In 2013, the 7,000 physicians of Kaiser Northern California group provided 10.5 million eVisits. The physicians have worked eVisits into their regular health care delivery process and there is no additional billing since all physicians are salaried.

Patients report increased satisfaction. Ninety per cent of physicians reported that the technology has enabled them to provide higher quality care. Kaiser expects that telemedicine visits will exceed in-person visits by 2016.

I've learned a few things from these examples. The Kaiser experience shows us that virtual care can improve quality and be implemented in a sustainable way that does not fragment care. Both examples show us that physicians in BC and California (like in Ontario) will happily use virtual care if it works for their practice workflow and business model.

So with all of this background under our belt, how do we put all these pieces together?

Well, that's the job of OTN. We believe telemedicine is the only way to achieve an equitable, effective, efficient and sustainable healthcare system.

Our job is to advance telemedicine solutions and to inspire adoption by health care providers, organizations and the public.

We work with thousands of organizations and thousands of individual providers across Ontario.

Our roots are in improving access to care for people living in rural and underserved areas. And I'd like to tell you a story about that.

One morning in July, Brandy Engelsdorf, who was just 35, headed to the second floor of her Shannonville home to wake up her three children. When she reached the top of the stairs, in her words "the world turned sideways."

She didn't know it then, but she was having a major stroke. A 1.4 cm blood clot was blocking blood flow to her carotid artery. Before losing consciousness, she called her husband and asked her seven-year-old daughter to call 911.

At Belleville General Hospital, through OTN's Telestroke program, doctors connected with David Gladstone, a stroke neurologist at Sunnybrook Health Sciences Centre. Dr. Gladstone examined Brandy by video, viewed her brain scan images and discussed diagnosis and treatment with her husband.

Dr. Gladstone determined that Brandy was a candidate for treatment with a clot-dissolving drug called TPA. The challenge for emergency rooms is that the drug needs to be administered within three or four hours but it can also cause massive bleeding or even death if it is given to the wrong patient. Telestroke ensures that doctors use the drug for the right patient as safely as possible.

In Brandy's case, the drug worked and likely saved her life. She recovered fully and, in her own words, is "better than ever."

Dr. Gladstone says Telestroke has completely revolutionized stroke care delivery in this province.

Now, that's a dramatic example of our work. But there are about 390,000 less dramatic but equally important stories. That's the number of healthcare consultations we facilitated last year — enough to avoid 260 million kilometres of travel for people living in rural and northern communities of Ontario — the equivalent of going to the moon and back about 338 times.

In Northern Ontario, telemedicine avoided 146 million kilometres of travel, enough to help the government avoid \$62 million in Northern Health Travel Grants last year. That's more than double – almost triple - the base funding the government of Ontario provides to OTN each year.

Over the years, OTN has added new services that provide value to both rural and urban areas, including Telehomecare and eConsult.

Our flagship eConsult application has been Teledermatology, currently used by 2,800 primary care providers in Ontario. They send pictures of skin problems, along with a medical history, to specialists. The specialists provide a consultation back in less than 5 days, compared to the weeks or months people usually wait for an in-person appointment. We are using similar technology to provide retinal screening services for diabetics. And we are working with OntarioMD to expand the eConsult service across the province in many more specialties.

For the patient, telemedicine means convenience, reduced wait times and better care. For the system, it means reduced cost.

This year, OTN is working on expanding its Telehomecare program and has developed a plan to make it as easy as possible for healthcare providers to use the best self-management apps and remote monitoring devices with their patients. A big part of the plan is a distribution strategy that will enable vendors to implement new business models that can scale quickly and widely across our health care system.

In other words, it's about accelerating the innovation agenda.

Our work requires collaboration from across the spectrum of our health care partners and the vendor community. I hope you will all pitch in.

The mandate of Ontario's new Minister of Health, the Honourable Dr. Eric Hoskins, is to ensure that patients receive timely access to the most appropriate care in the most appropriate place.

Without telemedicine, there is no possible way to make this happen.

But let's face the facts - in health care we don't change fast and everything is stacked against disrupting the status quo.

But right now - today - it looks like the stars are aligning. We have a universally shared vision of an affordable, patient-centric system. We have the technology to do it. The patients are ready, the entrepreneurs are knocking at the door and if we can make it simple and practical through policy and business models, the providers will also pile in.

Necessity and opportunity have arrived together.

We actually can create a better way to deliver care.

Thank you.