

The Empire Club Presents



**JOSH BLAIR,
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PRESIDENT, TELUS HEALTH
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OFFICER, TELUS**

WITH: CREATING HEALTHIER COMMUNITIES IN THE DIGITAL AGE

Welcome Address, by Barbara Jesson, President of Jesson + Company Communications Inc. and President of the Empire Club of Canada

March 9, 2018

Good afternoon, ladies and gentlemen. From One King Street West Hotel in downtown Toronto, welcome, to the Empire Club of Canada. For those of you just joining us through either our webcast or our podcast, welcome, to the meeting.

Before our distinguished speaker is introduced today, it gives me great pleasure to introduce our Head Table Guests. I would ask each Guest to rise while your name is called, and then remain standing. I would ask the audience to refrain from applauding until all of the Head Table Guests have been introduced.

HEAD TABLE

Distinguished Guest Speaker:

Mr. Josh Blair, Executive Vice President, TELUS Health; Chief Corporate Officer, TELUS

Guests:

Dr. Doug Austgarden, Chief, Department of Critical Care, Royal Victoria Regional Health Centre

Ms. Janet Grove, Managing Partner, Norton Rose Fulbright, Vancouver Office

Ms. Mary Jo Haddad, Corporate Director at TELUS and TD Bank Group; President, MJH & Associates; Past President and Chief Executive Officer, Hospital for Sick Children

Mr. Andrew Marrant, Key Account Director, Oracle Corporation

Mr. Orestes Pasparakis, Partner, Norton Rose Fulbright Canada LLP, Toronto Office

Ms. MJ Perry, PhD Candidate, Theology (University of Toronto); Vice President and Owner, Mr. Discount Ltd.; Director, Empire Club of Canada

Ms. Andrea Wood, Senior Vice President, Legal Services, TELUS; Past President, Empire Club of Canada

My name is Barbara Jesson. I am the President of Jesson + Company Communications and the President of the Empire Club of Canada. Ladies and gentlemen, your Head Table Guests.

The smartphone has been one of the disrupters in the digital revolution. Somewhere, recently, a journalist reported on trying to explain to her young son about landlines, rotary dial-up and rural party lines.

It is hard to remember that the graduation from cellular phones to full-service handheld personal computers with integrated broadband, cellular network connection for voice,

SMS and internet data occurred just over a decade ago.

Smartphones largely fulfill their user's needs for a telephone, a digital camera, a video camera, a GPS navigation system, a media player, clock, news, calculator, web browser, handheld video game or flashlight, compass, address book and so much more.

Our speaker, today, comes to us from TELUS, one of our national telecommunications companies that provides the network that makes all of this possible, unleashing the power of the Internet to deliver services to Canadians at home, in the workplace and on the move. TELUS business activities do not stop there. In addition to voice communication, Internet access, video computing and IPTV, TELUS also is a leading player in advancing healthcare information management so critical to better integrated patient support.

Josh Blair is the Chief Corporate Officer at TELUS where he oversees TELUS Health and Payment Solutions, as well as TELUS Employer Solutions, a leading provider of innovative human resources. He is the Chair of TELUS International and leads the TELUS Internet of Things team.

Clearly, Josh has a lot on the go. If all of that is not enough, he oversees TELUS Ventures, a team dedicated to investing in promising start-up companies with innovative technology solutions.

Josh serves on the Board of Governors and Executive Committee for the Business Council of British Columbia and the Governors Council of i-CANADA. As a strong supporter of TELUS's commitment to give where it lives, he serves on

the Board of directors for the Sandbox Project and the board of Advisors for the Cures for Kids Foundation. He is also Vice-Chair of the TELUS Vancouver Community Board.

Before we welcome Josh to the stage, we are going to watch a brief video from TELUS Health.

[VIDEO]

Josh Blair

Thank you, Barbara. All right, who here is a parent? Let us see if you can relate to my story. I remember I first became a dad at the age of 28. I remember my wife and I driving home and our little boy, about this big, I think, was in the backseat, buckled into his car seat. I think I was driving home at about five kilometres an hour, maybe six. I remember thinking to myself over and over, "I am freaked out; I have no idea what to do, how to raise this child. What am I going to do next?" It would have been so wonderful, back then, to have something like this free Baby Health app that we have now rolled out where I could go to for education on how to raise our newborn, where I could record immunization history, or just milestones that our new son was going through as he was growing up.

I feel so lucky now that I am in a role at TELUS where I have the opportunity to bring healthcare technology and advancements to life. What I have realized over the past few years, and what I want to talk to you about today, is I have learned technology advancements in healthcare are

only successful when they are underpinned by both innovation and collaboration.

Take this free Baby Health app, by way of example. The innovation comes in the form of this digital app, online education, the ability to record immunizations, have a personal health record for your newborn throughout their life as they grow up. The collaboration comes in the form of we partnered with a company called the Baby Box Co. What the Baby Box Co. does is they work off a Finnish tradition, and this Finnish tradition is to provide a box full of baby supplies to new parents to help them through their first few weeks with their newborn. They also provide a box that doubles as a safe sleeping bassinet for the first few months of the child's life. We all know how important that is. You have that nice combination of innovation and collaboration.

Let me hit pause for just a moment on this speech because, when Barbara introduced us, she talked about the telecom industry and all the changes in the telecom industry, and you may be thinking to yourself right now—and it would be a good question—“Why is this guy from TELUS, the telco that we think of around cute critters and all of that, up on the stage and talking to us about healthcare?” As I said, it is a good question, but the answer is quite simple. Much like the Empire Club, our roots go back well to the 1900s, even the 1800s. Over that time, our main objective, as a business, has been to transmit and store data and information on a secure and reliable basis. That is exactly what we are doing in the healthcare space, too, but we are trying to go a step further,

and we are trying to provide better health information to the point of care, so the right decisions can be made either by the healthcare professionals or by the citizens themselves so that you can get better outcomes. Ideally, those better health outcomes come with less money spent in the healthcare system.

To this end, at TELUS, we have invested approximately \$2 billion over the last decade to build our suite of healthcare solutions, so electronic medical records for doctors (EMRs, for short); pharmacy management systems; benefits processing for insurers, for dentists, for extended healthcare professionals; solutions for citizens, you name it.

We have built a team of about 1,800 people across the country that make up the TELUS Health division within our company, now. Approximately 100 of those are healthcare professionals—so doctors, nurses, pharmacists. Against this backdrop, let me dive into that thesis of healthcare technology advancements needing to be underpinned by innovation and collaboration to be successful.

Let me start with our collaboration with positions across the country. As some of you may know, we are one of the largest providers of EMRs to doctors across the country to run their practices, to store their patient records. A few years ago, we developed a mobile app version of our EMR. We built charting capability into this; we built schedule review capability into this; and we thought it would allow our doctor clients to get home for a few more meals with their families, maybe finish off their wrap-up work for the day in the evenings, like so many of us do across so many industries.

That innovation worked in and of itself. We were pleased with that, but we went further when we started collaborating with the physicians because the physicians said, “I want to use this app during my day-to-day practice with my patients.” The reason they wanted to do that is because they now had the power of the smartphone camera or the tablet camera, and they could take a picture of your sprain or your break or your rash and upload it instantly into their main EMR system. It was a process that was previously very cumbersome for them, very time consuming for them.

Fast forward to today, and we have thousands upon thousands of physicians using this capability. They tell us that not only does it make them more efficient in their practice, but it allows them to provide more effective care to their patients. We did not want to stop there. We did not want to be the only ones providing innovation to physicians. We built a platform that we call the TELUS Health Exchange. The TELUS Health Exchange is basically a platform that is networked across the information technology within the healthcare world, so it connects to doctors’ EMRs; it connects to pharmacy management systems; it connects to the benefits claims processing of insurers and extended healthcare providers to systems that citizens use and interconnects all of that. We built it such that it had open APIs. The reason we did that was so that smaller-scale health tech companies in Canada could also innovate. They need to collaborate with us, so their innovations need to pass our security tests, our reliability tests, our privacy tests, but then their innovation can come to life.

Let me give you a couple of quick examples. Health Myself, is a company based here in Toronto, and their innovation was to create a patient portal. This allows doctors now to have an online line of communication with their patients to share health information with their patients. When they get that health information shared with you, as a patient, you typically take more ownership of it, and you want to see your trends improve. It is almost like gamesmanship, if you will—so a powerful innovation there.

Another example is a company called Chronometriq. Chronometriq is based in Montréal. They developed scheduling software, which we have across so many aspects of our lives, but often do not in health. Now, doctors’ patients can book appointments online. They can get notifications if those appointments have moved or if they just need a reminder of when their appointment is, so the power of all of that collaboration and innovation is coming together.

That TELUS Health Exchange is also at the core of our collaboration with the federal government. Canada Health Infoway—many of the team members are here today. I think Michael Green, the president, is here in the room with us. They took on, in 2016, a very ambitious project. They said, “We are going to look at the 30% of prescriptions that get written in Canada, but never get filled.” Imagine that: Thirty per cent of prescriptions get written, in Canada, but never get filled. You can then imagine further what that leads to.

That leads to individuals not following their prescribed medication pattern, getting ill, being in the hospital, which

are obviously poor health outcomes for them and are unnecessary burden on our acute care system, which is so expensive for us in this country.

Canada Health Infoway, with an innovative mindset, looked around the world, and they said, “What are other jurisdictions doing?” What they discovered is there were certain countries that implemented online prescribing, e-prescribing, and that it was making a huge dent in that 30% of prescriptions, which seems to be a common number. It was making it much smaller, and allowing better health outcomes as a result. After an extensive RFP process, we were very pleased and very fortunate to be selected. We were selected, I think, because we brought that TELUS Health Exchange platform to bear. Canada Health Infoway then worked with us to start building their PrescribeIT platform for the TELUS Health Exchange. The platform is already live in communities here in Ontario as well as Alberta. The roll-out in Canada is happening so much faster than other parts of the world, thanks to this focus on technology advancements through innovation and collaboration. And, quite simply, it enables the doctor; she can prescribe a medication, a prescription, directly from her EMR to the pharmacy’s pharmacy management system at the pharmacy of the patient’s choice.

I am super-excited about this in terms of how this is going to change healthcare in Canada for the better: Fewer illnesses, fewer hospitalizations, better health outcomes and less money spent as a result of less hospitalizations.

The federal government is also pursuing technology ad-

vancements, innovation and collaboration through their Superclusters project. As the lead applicant for Canada’s Digital Technology Supercluster headed out of Vancouver, we were super-proud that we were one of the five Superclusters picked as one of the winning Superclusters to move forward with this vision. We are now going to partner with over 250 organizations from the federal government to the public sector, to the private sector, to the not-for-profit sector, to the academic institutions in our area, and we are going to leverage the power of data collection, data analytics and data visualization and productivity breakthroughs in several different industries.

In healthcare, specifically, we are going to look at the emerging power of genomics. What we know now through extensive research is if we know your genomic profile, and you consent to have your genomic profile known by those who are taking care of you, we can do much better medication for you. We can look, and, based on your genomic profile, there will be prescriptions that you are a poor metabolizer of, so you either need a bigger dosage or that medication will not work for you at all. You will be a normal metabolizer of many prescriptions, and so the standard approach works well, and you will be what I call an ‘uber-metabolizer’ of some prescriptions, and that can lead to an adverse medical event, something you do not want to have happen, so you probably do not want that prescription, or you do want it in a very small amount.

If you have cancer, we can now map what is the best can-

cer treatment based on your genomic profile, something that is going to be so powerful. This is a very large-scale collaboration, obviously, to bring this innovation to life, this technology advancement to life. But, again, this is super-exciting, how we are going to change the face of healthcare through technology underpinned by innovation and collaboration over the next many years.

Provinces, of course, are also leading the way when it comes to technology advancements underpinned by innovation and collaboration. Obviously, that is the thesis behind Bill Charnetski being appointed as Ontario's Chief Health Innovation Strategist. I think Bill is a great choice in that role. I love how he is approaching it, and I wholeheartedly, in general, applaud this approach because I have seen what happens when provinces put their back into leveraging technology to evolve and improve the healthcare system.

An example that is near and dear to my heart is in British Columbia, where we are partnering with the province on home health monitoring. This solution is about taking an innovative system that we have developed along with collaboration and professional services from British Columbia, so that someone who has been in the hospital, either with heart failure or with a COPD episode, is equipped with the system when they get home, and it helps them in their recovery effort.

Let us take, as an example, someone who is coming home after heart failure. We would equip them with a blood pressure cuff, a pulse oximeter, a weight scale—all of them would

be Bluetooth-enabled so that you can take your measurements two or three times a day. That information would go through Bluetooth to a tablet and then be relayed to a central station where you have got a nurse monitoring your progress.

Juxtapose that against the previous world where you come home; you are kind of told what to do, how to make sure you get healthy again. You go to see your doctor once a week, and, perhaps in between those visits, your vital measurements have gone off track, and you now need to be re-hospitalized—unfortunately, quite a common occurrence.

With this new approach, with this innovation and collaboration being applied, your measurements are being tracked in real time. Your nurse can work with you and make tweaks to your medication, make tweaks to your sleep patterns, your nutrition, your exercise to get you back on track. The results have been very inspiring. In one study done by the Vancouver Island Health Authority, 100% of the patients on the system self-reported as being physically healthier by having access to this capability. Amazingly, 41% went on to say, “I feel mentally healthier because I’ve got peace of mind that someone is with me on this journey.”

Then, Vancouver Health Authority looked at financials, and they measured that individuals on home health monitoring used the healthcare system on a follow-up basis after returning home 76% less than individuals who did not have access to the system, and then calculated that that was saving them \$12,500 per patient. What a wonderful example of using technology, underpinned, again, by innovation and

collaboration, to realize better health outcomes and have less money spent by the healthcare system.

Let me close—before we open up for any questions you might have—by talking about the not-for-profit sector. They have an equal role to play and do a great job in terms of bringing innovation, collaboration and, thus, healthcare technology to life.

A little over a decade ago, Upopolis was an idea that was presented to us by the Kids' Health Links Foundation. It was a very innovative idea, so we collaborated to bring it to life. What is Upopolis? It is a safe web space for kids that are hospitalized. It does many, many things for these children, but two that I think are worth highlighting, in particular, are the following: One is it allows them to access information, written in kid-friendly language about their condition and about their treatment process. You can imagine how important that is if you are a 10-year-old or a 12-year-old or a 15-year-old or a 6-year-old going through something, and you want to understand in your own language what you are going to go through.

Also, equally, if not more importantly, is it allows these kids to connect with other kids going through similar journeys—kids across 27 hospitals and health centres across Canada now and growing each and every month. And it allows these kids to connect, have a bond, have a connection, maybe find a mentor in terms of a child who is further in the journey than they are. I think I could try to do justice with my words on this, but I would rather show you a video that really brings it to life.

[VIDEO]

In closing, I would say let us continue to work together to bring healthcare technology advancements to life. Let us make sure we do it through a focus on innovation and collaboration. In doing so, I truly believe we will realize better health outcomes for all Canadians and do it for less money spent by our healthcare system. Thank you very much.

Questions & Answers

Q: Hi, quick question about the Supercluster, especially, the TELUS-led one—and we are involved with some of the others, too. I think success and collaboration really depends on culture, in part, and also agility around getting agreements done, sharing risk, managing risk. How do you feel about the culture piece in Canada? Do you see positive parameters around collaboration that can make it successful? If there is some work to do, how can we improve that part of our culture?

JB: Yes, it is a great question. My first observation would be when we started building the team around the Canada Digital Technology Supercluster, I have never seen collaboration of that magnitude, at least in Western Canada, which is where we were headquartered. Now, we have become national with everyone who has wanted to join the Supercluster. I think that bodes well. I think

that means there is an undercurrent, a desire to come together and to do things that, as individual companies or universities or not-for-profits, we could not do alone. I know, by way of example, the Terry Fox Foundation is super excited about what we will do together on the example that I talked about.

That said, the task ahead is a tough one. Getting 200—and I think it is now 270 organizations just in our Supercluster—to collaborate, to work together well, is a huge task. I think you hit the nail on the head. The most important part of whether this is going to work or fail is going to be culture. What culture can we build into this organization? For a few of us who are effectively the working executive committee of the Supercluster, our first thought is it all comes down to who is the leadership to build that culture.

We have had underway—even before we even knew we would be a winner or not, just in case maybe if we were a winner—we have had a CEO search underway. We think we have got to get the right leader and the right team under them in order to build that culture. Obviously, we have to have the right board, the right governance practices, but to make something that complex and comprehensive work is going to be all about culture. Culture is hard work, I can tell you. Just putting my TELUS hat back on for a moment, we worked hard at evolving our culture when our new CEO, Darren Entwistle, came in, in the year 2000. I do not think

we could say we were satisfied with what we built until probably a dozen years later. It is hard work, and it takes a lot of thought. It takes a lot of purpose, and it is not just about words on paper and value statements; it is about how does your organization operate day in and day out? What are your norms? What are your practices? How do you check in with all levels of the organization, etc.? I think the core want is there, in Canada. It is a matter of how we bring it to life. Yes, a lot of work ahead. Good question.

Q: I love your emphasis on stories. I always say that stories really help tell the why and the whys about people. At risk of shooting myself in the foot, I am from the most innovative university in the country, but, to me, technology and innovation are the how. The people are the why. From your perspective, what is the barrier? Where do we fall down in terms of better talking about the why and talking about the how through the why?

JB: Great question. Because you have coached me on this, I am going to use a story to answer your question. There are a lot of people in here who know this far better than I, but from my observation, our healthcare system is so taxed and so stretched. We have got healthcare professionals who are working to the point of exhaustion to get stuff done. It is hard to put new things into the system. I remember—and this is a wonderful example that I shared on home health monitoring in British Columbia—when

I first went to the minister of health and talked to him about the idea, the concept that we would like to do. He said to me, “Josh, it sounds very neat. It sounds very powerful. I get the why. I get that it would be better for the people of British Columbia. My challenge is I am in the process of building two new hospitals. I have got to implement a thousand new emergency rooms in my existing hospitals, or emergency beds in my existing hospitals. I probably need to hire 600 new nurses, and the doctors want a 5% raise. I have got pretty much zero bargaining power against them, and I have got a 2% budget increase, and I would need a 15% budget increase to afford what I just said.” He said, “As oxymoronic as it sounds, I do not believe I can free up the money to invest in innovation.” We had to find a creative solution where TELUS could largely front some initial pilots and some initial trials and prove out the health outcomes, the why, that I talked about in my speech, and then that made the difference. Then, the minister was able to say, “Now I have got the proof. Now, I can take this to cabinet. Now, we can roll this out across the province.” I think the health system is just so busy, so focused, so taxed, that we have got to come up with really creative ways to show that innovation through collaboration, get the results. Start small.

Often, when I am talking, another angle I will go on when I am talking to teams is start your innovation small scale. They do not have to be big bang out of the gate.

Prove them. A bunch will fail, and then sunset them. For the ones that succeed, then expand those out; scale them out further. I think it is a great question and a tough one to tackle, but worth tackling.

Q: We developed the remote monitoring solutions, similar to yours. We are in talks right now with the province and the local hospitals. One of the biggest concerns for adoption is risk management. Back to the elderly person with a cuff, when you are allowing or enabling a hospital to be able to see a heart palpitation, for example, that will lead to a stroke or heart attack, and the concern from risk management perspective is how fast did the hospital respond and, if they did not and a heart attack actually happened, who is liable? How did you address that in B.C.?

JB: I would love to say it is much better in different provinces. I think the risks and the liabilities—it took us to two years to legally work that out between ourselves and the province of B.C. I think those worries are there in whatever jurisdiction you are working in. I just think it takes what I would call a coalition of the willing to get through it and figure it out and think about all the different permutations, and then bring it to market.

I would go back, similarly to the last question, and just say let us remember to focus on the why versus the what or the how, and then that propels you. That gives you the energy and the enthusiasm to get to the end game on it. Yes, you are right, there are a lot of those sorts

of risk-management ideas and thoughts and worries to work through.

Q: My question is about big data, health and analytics. I think a lot of what you are talking about is so exciting in terms of putting together the genomic data with prescriptions and combining pieces of data that might otherwise, in the past, have been in different places and that you cannot leverage. I guess one of the concerns that goes along with that is, once all that data is under one roof, what if my insurer is looking at my genomic data and saying maybe you are predisposed to this condition, so that the amount you are going to pay to insure against it is much higher? Once all that data is in one place, the concern about it being shared with different people or used for different purposes increases. I am wondering how you think about that, in particular, as a company that is kind of the one roof that all of the data is going underneath?

JB: Another great question. For years, when we have built data-based systems, data-analytic-based systems, at first, if you went back ten years ago, you focused on reliability by design. The question was how can you make sure the uptime is going to be there, the reliability is going to be there right from the get-go? Then, kind of in that ten- to five-years ago window, we started focusing on privacy by design: How do you build privacy into your systems right from the get-go?

I think what you are hitting on now, and it is the next by-design we are working on, is consent by design.

How do you give the user the ability to control their consents right from the get-go? Now, think of a genomic profile or even a personal health record and giving the citizen the option to say, “I want my doctor to be able to see this information or not; I want my doctor to be able to upload information into my personal health record or not; I want my pharmacist to see this or not; I want my health insurance company to see it or not; I want my kids who take care of me to see this information or not.” Building that capability, that consent by design into your systems right up front is, I think, going to be critically important to develop the trust that we need to have to make any of this work out. Great point.

Q: You have clearly built TELUS Health into an important part of overall TELUS. One of the constituencies that finds it very hard to find out about TELUS Health is your investor constituency. It was a bit of a surprise to the markets when you monetized the portion of the equity interest in TELUS International. The street said, “Oh, my god, that is a billion-dollar business!” I am curious as to what corporate objective is served by not providing more disclosure about the TELUS Health business?

JB: This is great. It is an IR meeting now. We pretty much doubled the value of TELUS International since, if you are interested—we can take that offline. I would say,

at this point, we feel that TELUS Health is that much core to our business than TELUS International. TELUS International has been a wonderful business for us. We have been able to return billions of dollars back into our networks in Canada, into our health systems in Canada. With TELUS Health, we feel like there is a lot more work to be done before we would even consider whether we might increase disclosure or bring in a partner or monetize an aspect of it. I think you will see TELUS Health be a core part of who TELUS is for many years to come. I also know where you are coming from. We have got lots of investors who would like more disclosure on TELUS Health. At this point, we have committed to providing annual disclosure on TELUS Health, but not yet quarterly disclosure on TELUS Health. We feel that is the right balance between the two. That is a great comment.

Concluding Remarks, by Barbara Jesson

At the Empire Club, we are so proud of our tradition of bringing important dialogue like this to our podium. While we do have some staff, and they are absolutely amazing, this would not be possible without a wonderful board of directors. I am so grateful to Andrea Wood for organizing this lunch and bringing this to us. Thank you so much.

It also would not be possible for us to do this without sponsors because events like this are major undertakings, so

we are so grateful to our sponsors, both to Norton Rose Fulbright and to Oracle, because we could not make it happen without your support. Thank you so much to all of you.

I would also like to thank mediaevents.ca, Canada's on-line event space for webcasting today's event for thousands of viewers around the world. Also, thank you to the National Post, as our print media sponsor and to Toronto Life, as our media sponsor.

Although our club has been around since 1903, we have moved into the 21st century, and we are active on social media. Please follow us on Twitter at @Empire_Club and visit us online at www.empireclub.org. You can also follow us on Facebook, LinkedIn and Instagram.

Finally, please, join us at our next event scheduled for April 13th, featuring "The University Presidents' Panel: The Future of Education" at the Arcadian Court in Toronto.

Thank you so much for joining us attendance, today.

This meeting is now adjourned.