

Hamilton Health Innovation Check-up: Meeting Minutes
January 28th, 2019

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STANDING AGENDA TOPICS:

- **Guest Speaker Discussion:** insights around the experience and expertise of an invited speaker, focusing on a subject that may be of interest to the broader community
- **Communicate:** share recent successes, upcoming events, innovation pipeline and new products, health innovation trends, etc.
- **Collaborate & Accelerate:** welcome new members to community, partnership opportunities, discover programming and resources available to the community, discuss market gaps and challenges, learn about potential funding opportunities, new RFPs issued, etc.

Facilitator & Note Taker	Alex Muggah, Synapse Consortium
Location	McMaster Innovation Park, 175 Longwood Dr, 9:00-10:00am

Please note that minutes for our monthly check-up meetings are not published and are for reference purposes only. We do our best to ensure all information is accurately portrayed, and that no privileged/private information is inappropriately disclosed.

Past meeting minutes can be access through a public Dropbox, using the following [link](#). For additional information on any subject, to contact a presenter directly, or should you have an adjustment to make to the notes made here, please contact: Alex.Muggah@SynapseConsortium.com. Updates will be reflected in a new section titled "Amendments from Previous Meeting".

Next Monthly Check-up: February 25th | 9:00 – 10:00am | McMaster Innovation Park
Please contact Alex Muggah at Synapse to be added to the meeting invite list / minutes distribution lists

Time allotted | 20 Minutes

Topic: **Guest Speaker Discussion**

Insights around the experience and expertise of an invited speaker, focusing on a subject that may be of interest to the broader community

Guest Speaker Discussion

Guest Speaker(s):

- [Dennis DiValentino](#)
Physician & President of Hamilton Medical Academy
dennis.divalentino@gmail.com
- Topic: [Technology and the Future of Healthcare](#) 2019 Conference
[presentation slides, available for download in Health Check-up [drobox folder](#)]



Monthly Minutes -
Guest Presentation - J

[the following is a synopsis of the discussion, and has been lightly edited for length and clarity]

Introduction

Thank you for having me. This is an interesting and diverse group of professionals [here at the Hamilton Health Check-up], the type of group that will be required to successfully move technology into the healthcare system.

I want to give you some background about myself and the [conference](#) I'm planning for May 8th. I've been a family physician for 7 years, using telemedicine for 5 years and the OTN platform. A couple of years ago, several physicians and I started talking about how the healthcare system wasn't addressing the needs of our patients – and in particular, marginalized patients. Our healthcare infrastructure is set up to meet people a few days after they're presenting symptoms and know how to access care. But for marginalized patients, they don't get care and get worse until they present to the hospital – then we've spent lots of money fixing an issue that could have been prevented earlier, with less resources.

We talked about how to direct care to marginalized patients – like house calls. In many cases, the limiting factor is how many patients you can see a day, and while the most effective way is to do house calls, this leads us to sending out a bottleneck resource all around the community. My colleagues and I wondered about solutions that might be easy to find and acquire. We spent the better part of a year looking for the right technology but couldn't find it. We went looking to conferences in the US, but found they were focused on large hospitals, major data security issues, etc. We went to HIMSS, and didn't find anything we could use in a family clinical setting – we looked at other conferences and found there was nowhere we could (a) tell innovators what we need, and (b) acquire technology that we could be quickly deployed in our clinic.

What we want to do at the [Technology and Future of Healthcare](#) Conference is appeal to front line physicians – so they can acquire novel health technology that can be used the next day, and to talk to health innovators and share with them what we need.

Discussion

Guest Speaker Discussion

I'll start with my thoughts around key healthcare concerns, which need to be considered in order to integrate new technology into the healthcare system. Where are our problems, or gaps, and where do we insert technology to fix those gaps? We have high level of technology deployed across other industries, but we're just now starting to talk about a digital revolution in healthcare. It's coming to a head, because healthcare is sputtering in its current form.

We have an underfunded system. We aren't using our systems efficiently. We have a great hospital system, but some of the supporting mechanism and institutions aren't adequately supporting the hospital. Rates of re-admission are very high, and some of my patients end up back in the hospital before I even know that they had been admitted the first time.

In Canada, we have an aging population – which results in a double whammy. They're aging into a resource-intensive time of their lives, but we're also keeping them alive much longer. They're living into their 80s, even if they had their first heart attack in their 60s. This is expensive. It's a growing cohort, and they're living longer.

Healthcare isn't GEICO – we're not educating our patients about the realities of how healthcare is delivered, and thus having trouble meeting their expectations. It is not possible to get healthcare in 15 minutes or less. There is limited integration between care delivery silos, which is causing issues when patients move between care providers.

There is also a provider burnout issue. Innovators can create an amazing idea and bring them to the front line, but if providers aren't engaged with their job then the solution won't work. The effects of burnouts are hard to calculate – but a recent Harvard Health publication measured this level at north of 70% - it's tough to assign a frequency to something that is so hard to describe. That said, I see it anecdotally, and believe it's a key barrier we're going to have to address.

When talking about the healthcare system, everything is connected. You can't fix one part of the system without fixing another part. You can't become more efficient at the discharge process, if you don't have post-discharge beds to send them into. Discharge doesn't work if you can't effectively communicate with community care providers, because patients end up back in the ER two weeks later. Everything is connected, and each part is connected to another part.

Technology can help address some of these problems. We know technology can solve problems, but how far into the future are we looking? We're all hopeful that we can solve problems quickly, but I think we're being overly optimistic. There are a lot of barriers around healthcare integration and adoption. It will probably take longer than we expect to see the promised digital revolution in healthcare – especially for frontline family physicians. For example, I've seen a lot many applications and remote monitoring technology in a hospital setting – but not much as changed in the primary care setting.

What is digital health? We've been doing digital health for 15 years (if you assume that digital is not analog). An EMR is digital, but instead of looking at our patients and writing, now we're looking at our screens and typing. When we talk about digital health, I think we're referring to disruptive technology that will allow us to change how healthcare is delivered.

For me digital health can be categorized into five groups:

- Confidential storage systems (e.g., universal health records, EMRs, future forward contribution to charts, etc.)
- Cyber security (e.g., large-scale intentional data breaches, hacking, unintentional breaches – not putting a screen lock on, since we're not fearful of intentional hacks. As a side note, when we talk about PHIPPA

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we're hyper-focused on digital health records, but we send results in the mail. This morning, we'll open 50 patient results that have been arrived through mail – but we forget the fact that we're holding the digital world to a higher standard than the analog world)

- Artificial intelligence (e.g., large amount of misunderstandings, but talking about algorithms to aid in clinical settings, read x-rays and assist diagnosis, future forward patient-facing algorithms like chatbots to provide diagnosis and make treatment recommendation, scan large quantities of data, etc.)
- Telemedicine (e.g., direct provider-to patient contact, video-conferencing, peripheral devices, examine patients remotely, etc.)
- Genetic testing and personalized medicine (e.g., patient-initiated contacts and requests, integrating direct-to-patient consumer technology, etc.)

There are stakeholder impacts to consider as we introduce technology – for example how different physician are being remunerated and pay rates structures across specialities. We need to be realistic about the types of technology that can be successfully adopted. If it doesn't improve the providers convenience, increase revenues, or decrease costs, there will be headaches around adoption – even if it's what we want, and it can improve patient outcomes. We need to consider how technology will appeal to those physicians who are going to drive its adoption – and this remains a key barrier.

What about patient impact? Most are expecting technology to result in equal or better patient health outcomes. But the opposite might happen; technologies are often adopted by those who need them the least, not those who need them the most. More affluent populations often have the required resources, education and inclination to adopt technology, but they already have better health outcomes. For example, a [Code Red project](#) published in the Hamilton Spectator found that in the poorest parts of Hamilton life expectancy was 65, while being 83 in Ancaster, one of the richest neighbourhoods. In effect, less-well off economic groups may not be able to, or be interested in, adopt new technologies, further widening health outcomes across socio-economic groups.

The differences between PHIPA and HIPPA technology compliance continues to be a barrier to technological progress. If you're only HIPPA technology-compliant, getting your innovation across the border into Canada can be a challenge. For example, is it necessary that American companies have the Canadian-based servers because this requirement is preventing some technology from coming across the border. Eliminating barriers between Canada and the US may help front-line providers find technology that can then be deployed in Canada – because right now the US-based companies are not interested/able to sell here.

That said, even after a great deal of effort has been put into them, many new health technologies introduced into the market do not address real problems. More conversations between innovators and front-line providers would help avoid investing in technology that doesn't actually help. We're hoping that our conference will help break down silos, and help different parts of the systems work together.

On the provider side, there is a high level of fear and lack of understanding about what is coming. They are apprehensive about participating in AI programs, fearing that the new tech will take my job – a sentiment that is not true, but reflects lack of understanding. Some providers may also not be inclined, or capable, of undertaking the necessary change to adopt new technologies. In Hamilton, I'm on the physician recruitment and retention committee – looking at provider demographics to ensure we have a good pipeline of physician talent. A third of our providers are over 65, and they are not the keenest to adopt new technology and change how they deliver care.

There is also a lack of funding and resources. Even where we have interest, there often isn't enough money to support the deployment and adoption process. Even for physicians leveraging OTN, if we have a breakdown it is unclear who we call to fix our issues. When doctors look at new adoption projects, they may think that the

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technology is cool, but remain cautious because in the event of tech breakdowns they don't have an IT team who can fix it. With frontline providers already struggling to fulfill all the obligations of their roles, there is diminished appetite to adopt new technology and take on the extra work to drive a successful deployment.

On the patient side, there are times that a technology would be very positive to support the patient, but they don't know how to use it. For example, we started a program to have follow-ups for some routine meetings (e.g., mental health discussions, follow-up on drug prescriptions, etc.) We tested the technology by sending a link to the patients, who then needed to click it and fill out a form to create a remote follow-up meeting. We tested it on a business owner, it worked. I tested on my mother, it worked. We put it in practice, but 9 out of 10 patients couldn't open and use the remote monitoring technology tool. I'm practicing in a distressed neighbourhood, so I would have expected this to be a much higher adoption rate in a more affluent neighbourhood. But in a universal healthcare system, how do we deploy technology that might only benefit 20% of the population?

How much information is too much information? We're enabling patients to make decisions based on an enormous amount of data – and they're feeling the pressure to make decisions about their healthcare. We're looking at opening up more information in the EMR to the patients, but I don't think that this is necessarily a positive thing. We, as physicians, have a tough time figuring out how much information to provide. Putting too much information in the patient's hands may lead to overreactions causing a greater draw-down on healthcare resources.

Regulatory barriers – it is often said that perfectionism is the enemy of progress, or profit. We see new waves of technology development the temptation is to test earlier, trouble-shoot on live patients, etc. But can we do that in healthcare? If we move technology forward prematurely it may have significant consequences. Progress in the healthcare industry moves a little more slowly – things have to be pretty close to perfect: "Good enough, is not good enough". There are regulatory barriers that cause issues resulting in delivery being inconvenienced, resulting in patient complaints. Physicians who are out on their own as first-adopters are then exposed to negative patient reaction if things don't work well. As a physician, I may want to wait for a more coordinated roll-out that protects me if things go poorly, or be a late-adopter to ensure the technology is sufficiently mature.

On the system side, there is a lack of integration and lack of funding. Technology does have the ability to deal with the lack of integration – but funding remains an issue.

So, what is the path forward? Come to our conference to find out more. We need to get more people into rooms that look like the one we have here today – with a wide range of practitioners, innovators and government actors – and I think that is the key going forward. In effect, the healthcare system has to stop talking about apples, when the other side is talking oranges. Hospitals have to talk the same language as the LHINS, the family care providers, etc. The left hand should be doing the same thing as the right hand, since the two hands have to come together at the end of the day.

Question & Answers

Question: How do you see the conference taking place – are there going to be lectures, booths?

We want our exhibitors to access our attendees. We're going to have some booths. We're hoping exhibitors will be able to access front-line users, but also to get information about how to move forward. We're going to be doing a series of key lectures, with a couple of break-out sessions. Some didactic stuff, and also where we can debate new ideas.

Guest Speaker Discussion

Question: Is there going to be a focus on bringing in procurement managers so companies know what that process looks like?

We feel that the procurement side on hospitals is pretty well understood – but what does procurement for the community look like? If you want to sell something to 300 family doctors in a city, is there a single contact. But that approach isn't going to work – so it's a question about how we define community procurement.

Question: Can you share your thoughts around preventive care? Where should the start of change happen – the patient (i.e., customer, market) or the technology that is working with the physician. Do we start with the technology push, or the market pull? Keeping in mind preventative care, is it about patients who want to manage their health proactively.

What do we do about preventative care – I don't like the idea of preventive care, it's a marginal improvement on the illness model that we're already using. Our model is predicated on the absence of illness – we'll try to make you not sick, rather than make you well. In preventative care, you're diagnosing it before it becomes a costly or more difficult challenge to treat. We need to take a focus on wellness, engaging patients to focus on things that make them healthy and prevent disease in the first instance. How do we integrate this into healthcare? There isn't one answer. Despite the fact that it's a universal system -- it's going to be heterogeneous, and work different for some people. We should focus technology on subsets of the patient population, rather than a one-size fits all model. Which would lead us to multiple solutions.

If some people choose to adopt technology, that's ok, even if it leads to stratifications of adoption rates. There will be some top-down approach where we provide technology that will improve healthcare delivery. There may be some that is for a specific group and there may be some that is direct to consumer, or patient driven (which are brought by the patient).

Question: Primary attendees of the conference?

We want a diverse group. The information and talks are aimed at front-line practitioners (physicians, nurses, etc.) We understand that physicians are making most of the decisions around procuring technology but we do want this to be open to everyone. We are trying to build a group of physicians, who can be brought in to engage with innovators. That is what we want to come out of this project.

Question: Do you have needs that you want to resolve?

Yes – there are a few. A good example is technology to improve communication/collaborative efforts between hospitals and home/primary care in order to prevent readmission. We often receive information a week after the fact, and information is provided by the patient (and through their lens) rather than by a fellow physician. We would also like to improve transitional care processes. If we could collaborate with the hospital before the patient is discharged (e.g., virtual discharge systems), we would have all of the important information before we even see the patient.

Another type of technology that would be useful is one that would improve workflows and integration. For example, I send a referral to a specialist, who declines it, and I have to send 3-4 additional referrals to other specialists until someone says yes, resulting in multiple conversations with the patients. There is a full-time employee in my office who manages referrals – a waste of healthcare resources. We need an e-referral program that sends referrals in, but doesn't come back to the physician until a positive referral hits.

Guest Speaker Discussion

Finally, eConsult is good. But it now means that we need to have multiple tabs open when dealing with a patient (e.g., EMR, eReferral, eConsult, etc.). So I now have ten things together, but none talk to each other. Finding how to integrate new systems/solutions would be extremely valuable.

Question: What is the ideal stage of an innovator who should be coming to your conference? For early stage companies, they want to connect earlier in their development stage than being able to provide you with a finished product.

We may do this on a small scale on the inaugural, for companies who aren't ready to exhibit, but who are looking for ways to integrate them. We are interested in technology that is ready to use tomorrow – but also things that are specifically for front-line physicians in 6-12 months. They should reach out to me if they're interested at: dennis.divalentino@gmail.com

Upcoming Calendar Highlights (Selected)

February

- Jan 31: [Cross-Border Investing](#) (OBIO)
- Feb 5: [The Purpose of Living Long](#) (MIRA)
- Feb 7: [Yordas North American HQ Grand Opening](#) in Hamilton (Yordas Group)
- Feb 7: [Linker Series, Biomedical Innovations Panel Discussion](#) (HLA)
- Feb 15: [The Reimagining Respiratory Protection QuickFire Challenge](#) (JLABS)
- Feb 18-25: Ontario Life Sciences Trade Mission to Japan and Korea (MEDG)
- Feb 19-23: [Ontario Medtech/Device Mission to Medical Fair India](#) (MEDG)
- Feb 20-22: [OBIO 2019 Niagara Investment Summit](#) (OBIO)
- Feb 27: [The LSO Celebration of Success Awards Presentation](#) (LSO)
- Feb 27: [Innovation Factory Pitch & Networking Night](#) (Innovation Factory)

March

- Mar 2: [The Greatest Show – Hamilton Health Sciences Foundation Gala](#) (HHS Foundation)
- Mar 26-27: [Clinical Trials Conference 2019](#) (CTO)
- Mar: 25-29: Digital Healthcare and Artificial Intelligence Trade Delegation to Germany (Canada-German Chamber of Commerce)
- Mar 27: [Synapse Life Science Competition: Pitch Competition](#) (March 27) 
- Mar 26-29: [eHealth Conference 2019](#): Health Canada's National Conference & Tradeshow (ICS)

April and Beyond

- Apr 1-5: [Toronto Health Innovation Week](#) (TOHealth!)
- Apr 3-4: [Canada's MedTech Conference](#) (MEDEC)
- April 28 – May 11: [McMaster Emerging Health Leaders Program](#) (McMaster)
- April 29: Next Great Big Ideas (CBRE)
- Apr 29 – May 3: Hamilton Health Innovation Week (Synapse Consortium)
- May 8: [Technology & Future of Healthcare 2019](#) (Hamilton Academy of Medicine)
- May 10: [Medical Imaging Informatics and Teleradiology Conference](#) (May 10, 2019)
- May 26-27: [e-Health Conference and Tradeshow](#)
- June 3-6: [BIO International Convention](#) (Biotechnology Innovation Organization - BIO)
 - Register with Ontario Government Trade Mission by Feb 28 (see [below](#))

Time allotted | 20 Minutes

Topic: **Communicate**

Recent successes, upcoming events, innovation pipeline, new products, health innovation trends, etc.


Discussion	Presenter
<p>The Purpose of Living Long (Feb 5th)</p> <p>Huge advances in public health and awareness have helped our life expectancy increase significantly over the past 150 years. Dr. Parminder Raina will explore what it means to live a longer life - for individuals and for our society - and what we can do to ensure our longer lives are lived well and with purpose.</p> <p>Dr. Parminder Raina is the scientific director of the McMaster Institute for Research on Aging (MIRA) and the Canada Research Chair in Geroscience. As principal investigator for the Canadian Longitudinal Study on Aging, Dr. Raina's work brings together experts in physical, psychological and social health fields to uncover what has the most impact on the health of Canadians over time.</p> <p>MIP Conference Centre on Tuesday, from 7-9pm. To register, click here</p>	<p>Cori Wiseman (MIP)</p>
<p>Yordas Grand Opening (February 7 2019)</p> <p>Come and join Yordas for their official opening of their Hamilton office on Thursday, February 7th 2019!</p> <p>To celebrate, they are holding a one-day conference including a chance to meet with their experts one-to-one to discuss your regulatory needs. The official opening will follow the conference with a wine reception featuring the Mayor of Hamilton and leaders from McMaster University and local industry.</p> <p>Take advantage of this free opportunity to advance your business and network with others from near and far.</p>	<p>Giselle Vincent (Yordas Group)</p>
<p>Linker Series, Biomedical Innovations Panel Discussion (Feb 7)</p> <p>Engage with industry, researchers, clinicians and students to discuss trends in biomedical innovation and how medicine, engineering and business come together to create bold ideas and high-impact enterprises. Panel discussion will include:</p> <ul style="list-style-type: none"> • SERGIO AGUIRRE: Chief Executive Officer, Epineuron • RICHARD FANSON: Chief Science Officer and Co-Founder, Intellijoint Surgical • FRAN LASOWSKI: Chief Executive Officer and Co-Founder, 20/20 OptimEyes • PAUL WEBER: Chief Business Officer and Co-Founder, Perimeter Medical <p>To learn more, please contact Sarrah Lal (lals2@mcmaster.ca) or click here</p>	<p>Sarrah Lal (Health Leadership Academy)</p>

Discussion	Presenter
<p><u>Upcoming Ontario Government Trade Missions</u></p> <p>Government of Ontario is promoting two upcoming trade missions in eHealth sectors to India and Asia. Please contact the respective person for each mission and note that I will be away leading the Canadian trade mission to CES from Jan 7 to 11 - details on each mission below.</p> <ul style="list-style-type: none"> • Ontario Life Sciences Trade Mission to Japan and Korea (Feb 18-25) <ul style="list-style-type: none"> ○ Health IT and Medical Imaging companies are invited to participate. May be of interest to Ontario companies that provide medtech solutions to healthcare, clinical testing, diagnostics and medicine industries. The Mission includes two one day business programs at the Canadian Embassies in Japan and Korea, and exhibiting at Ontario pavilion in Medical Japan 2019, the largest annual health show in the country. ○ Participation fee: CAD1,000 per company. Available spots: 4. ○ To discuss further, contact: Wenbo.Pan@ontario.ca or 416-433-4992. • <u>Ontario Medtech/Device Mission to Medical Fair India</u> (Feb. 19 – 23, 2019) <ul style="list-style-type: none"> ○ The Ontario government is recruiting companies involved in medical technologies, equipment and devices for a mission to the 25th Medical Fair India slated for Feb. 21-23 in New Delhi. The Indian market for medical device technology and medical products is thriving and will be among the fastest-growing worldwide in the coming years. The sector is forecast to rise to US\$50 billion by 2025. Ontario companies will be offered booth space at the trade show, B2B meetings in Mumbai/New Delhi, and site visits. ○ For details, please contact fawzia.sheikh@ontario.ca, Tel. 647-262-2593. 	<p>(MEDG - Ontario)</p>
<p><u>OBIO 2019 Niagara Investment Summit</u> on February 20-22, 2019</p> <p>OBIO is pleased to announce a national call for applications from Canadian-based health science companies who are seeking Series A or beyond investments to participate Niagara Investment Summit. 30 companies will be selected who focus on developing health science products or services including but not limited to therapeutics, medical devices, diagnostics, or digital health to join top-ranked global investors in Niagara-on-the-Lake.</p> <p>This year's Summit will highlight companies across three fast-growing sectors:</p> <ol style="list-style-type: none"> 1) New Frontiers in Medicine, including regenerative medicine, rare diseases, therapeutics, and medical devices 2) Artificial Intelligence in Health 3) Digital Health and Diagnostics <p>To apply or learn more, please email to Christina Yeh (christinayeh@obio.ca) and include a non-confidential pitch deck (15 slides maximum), demonstrating your company's investor readiness and fit within the Summit themes.</p>	<p>Klaus Kiebig (OBIO)</p>
<p><u>Clinical Trials 101: How to Run a Successful Research Trial</u> (Synapse Partners @ JLABS, Feb 26)</p> <p>Come to JLABS on February 26th to hear from experts from Hamilton Health Sciences, St. Joseph's Healthcare, and Bay Area Research Logistics (all 3 are core Synapse Consortium partners), who will walk you through the basics. From the preparatory processes and</p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>procedures, to funding and logistics, we're going to help you avoid the common pitfalls and challenges of running a trial in a hospital setting.</p> <p>In this half-day workshop, you will hear about:</p> <ul style="list-style-type: none"> • How to stand up and execute a clinical trial • Processes, requirements, and pitfalls of conducting a clinical trial in a hospital setting • Importance of securing a champion • How to secure Research Ethics Board (REB) approval • mechanics and logistics of conducting a trial – from trial design, to packaging and labeling <p>To learn more or register, click here</p>	
<p><u>Participate in Health Venture Program (Starting Feb 25)</u></p> <p>The Health Venture Program is designed to equip individuals with skills to explore health innovation opportunities and create socioeconomic impact. This experiential learning program combines cases with interactive seminars. The program is based on immersive skill application, enabling participants to demonstrate competency, gain feedback from industry professionals and develop their innovation portfolio</p> <p>Development Stream:</p> <ul style="list-style-type: none"> • Targeted audience are researchers, clinicians, students and staff. Participants are required to apply with a capstone or thesis project, clinical challenge or other independent initiative • Cohort 1 Schedule: <ul style="list-style-type: none"> ○ Feb 25: Commercialization Overview and Market Research ○ March 25: Intellectual Property and Venture Creation ○ April 29: Innovation Design, Prototyping and Iterative Development ○ May 27: Team Creation, Value Articulation and Pitching ○ June 24: Business Development and Capital Raising <p>Faculty Stream:</p> <ul style="list-style-type: none"> • Targeted audience is researchers, clinicians, staff, and practicing professionals. Participants are encouraged to apply with an innovation project in mind to maximize their experience • 2019 Category-Specific Schedule (Thursday Afternoon + Friday Full Day): <ul style="list-style-type: none"> ○ April – Medical Devices ○ May – Therapeutics ○ September – Data Sciences ○ October – Digital Applications 	<p>Sarrah Lal (Health Leadership Academy)</p>
<p><u>Innovation Factory Pitch & Networking Night</u> (Innovation Factory)</p> <p>Join us at our Pitch & Networking Night, enjoy some appetizers, network with local industry and hear from some up-and-coming start-ups!</p>	<p>Innovation Factory</p>

Discussion	Presenter
<p>Companies will be pitching for the chance to take home a \$750 or \$250 prize! We are also giving away an extra \$150 cash prize to the presenting company that wins the most audience votes. Help an early-stage local company get an extra boost by choosing your favourite or get connected and give these startups a helping hand, whether that is an introduction to a contact, advice, or mentorship.</p> <p>To learn more, or register, click here</p>	
<p>LSO 2019 Celebration of Success (Feb 27)</p> <p>Now in its 16th year, LSO's Annual Celebration of Success provides an opportunity for networking within the Life Science sector, with ~450 industry members attendance from the private sector, government, and academia. This legacy event has formed a reputation as an important platform to recognize the individuals and companies driving the success of Ontario life sciences.</p> <p>Click here to learn more or register</p>	<p>Jason Field (LSO)</p>
<p>Invitation to Participate in the Ontario Trade Mission to BIO 2019, June 3-6 (Deadline, Feb 28)</p> <p>The Export Business Services Branch (ESB), Ontario Ministry of Economic Development, Job Creation, and Trade, is organizing a Trade Mission to the BIO 2019 International Convention and Business Partnering Forum, one of the world's premier biotech partnering events. BIO 2019 is organized by the Biotechnology Industry Organization (BIO), located in Washington, D.C. (www.bio.org).</p> <p>12-15 Ontario biotechnology companies will be invited to participate in this Mission. Only one person per company is eligible to participate in this program. Additional registrations may be purchased directly from BIO.</p> <p>BIO Business Partnering Forum and Convention Overview</p> <p>The BIO One-on-One Business Partnering Forum is the world's largest biotech partnering event hosting over 30,000 partnering meetings at BIO 2018. Powered by BIO's state-of-the-art One-on-One Partnering System, the Business Forum provides the opportunity for your company to initiate business contacts in a friendly environment and schedule meetings prior to the Convention. Participating in this event will provide companies with a unique opportunity to have face time with potential partners, industry leaders and deal makers from big pharma and biotechnology companies that they might not otherwise have. Life Science partnering meetings are one of the most efficient ways for small biotechs to find the partners they need.</p> <p>Mission Objective</p> <p>The objective of the mission is to facilitate introductions for Ontario companies that require partners and strategic alliances to sustain growth. The BIO Business Partnering Forum will serve as a one-stop shop for Ontario companies to meet potential partners from all over the world.</p> <p>Participation Fee: C \$2,100 and includes:</p> <ul style="list-style-type: none"> • Full convention access registration fee for one company representative • Participation in the Bio Business Partnering Forum • Access to Exhibit Hall and Access to Exhibitor Booth Partnering 	<p>Patricia Cosgrove (Ontario-MEDJCT)</p>

Discussion	Presenter
<ul style="list-style-type: none"> • Attendance at all educational sessions and super sessions • All networking, luncheons and social events <p>Application Process and Details</p> <p>If you are interested in participating in the mission, please contact Patricia Cosgrove (patricia.cosgrove@ontario.ca), Area Director, USA Health Industries, MEDJCT by February 29. You will be advised when your application is accepted before March 6th.</p>	
<p>The Greatest Show – Hamilton Health Sciences Foundation Gala (March 2, 2019)</p> <p>Hamilton Health Sciences invites you to noin 500 business leaders, executives and health care professionals from across south-central Ontario as we celebrate and raise funds for innovative research projects. Guests at The Greatest Show will be amazed by the talented cast of entertainers set to perform, including Montreal Rhapsody Orchestra who are back by popular demand.</p> <p>For those interested in sponsorship packages, securing tables, or tickets, please contact: Tamara Pope, 905-521-2100 ext. 43744 or Milaina Wright, 905-521-2100 ext. 76787</p>	HHS Foundation
<p>Value in Canadian Healthcare: Evolution or Revolution? (March 7-8, 2019)</p> <p>The Centre for Health Services and Policy Research (CHSPR) is holding its 31st annual health policy conference, March 7 and 8, 2019, at the Pinnacle Hotel Vancouver Harbourfront. This long-standing conference promotes discussion between policy-makers, academics, providers, patients and national organizations on timely issues shaping health systems in Canada. The focus of the 2019 conference is improving the value of healthcare in Canada. Critical aspects of the conference aim to describe opportunities for increasing value, discuss structures that support value measurement, and debate policy options for government and stakeholders. Follow @CHSPR on Twitter for conference updates</p>	CHSPR
<p>Digital Healthcare and Artificial Intelligence Trade Delegation to Germany (March 25-29)</p> <p>The Canadian German Chamber of Industry & Commerce (CGCIC) is seeking potential participants who would like to join a delegation to Germany as part of the Transatlantic Dialogue Initiative, which is financed through the European Recovery Fund of the Federal Ministry for Economic Affairs & Energy of Germany. The delegation is going to Berlin and Erlangen (March 25-29), with a focus in the areas of digital healthcare and artificial intelligence.</p> <p>For this delegation we bring Canadian experts over to Germany for a week in order to gain first-hand insights into the German market, establish contacts and have an exchange of ideas with German counterparts. For this week we organize several days of site visits to leading companies and institutes in this industry and a half-day long conference which we jointly organise with the German Research Centre for Artificial Intelligence (DFKI). For the conference the organizers would be honored if participant take part in the panel discussion with German experts on relevant topics in the Digital Healthcare & Artificial Intelligence field.</p> <p>They are specifically looking for individuals who have expert knowledge in the following areas:</p> <ul style="list-style-type: none"> • AI & pattern recognition, prediction and prevention in healthcare 	Jules Voss (German Chamber)

Discussion	Presenter
<ul style="list-style-type: none"> • Big health data - How to build a high quality database (interoperability, integrated and easy to use) with health data for AI usage • DIY diagnostics and support – How patients can self-diagnose via apps, bots, etc. <p>The Federal Ministry for Economic Affairs & Energy of Germany - through its European Recovery Fund - covers CAD \$1,000 of the travel expenses for each official participant.</p> <p>Find an overview of Germany Trade & Invest regarding the medical technology clusters in Germany here. If you would like to join this delegation or require more information, please do not hesitate to reach out to Mr. Jules Voss, Project Manager: (jules.voss@germanchamber.ca)</p>	
<p>Clinical Trials Ontario Conference 2019 (March 26-27, 2019)</p> <p>The dates for the 2019 CTO conference have been set. Clinical Trials Ontario is an independent not-for-profit organization established with support from the Government of Ontario. Our mandate is to provide a streamlined approach to conducting multi-centre clinical trials in Ontario, while maintaining the highest ethical standards for participant protection.</p>	<p>Alex Muggah (Synapse)</p>
<p>Synapse Life Science Competition: Pitch Competition (March 27)</p> <p>The Synapse Competition is Ontario's premier life science pitch competition and is dedicated to fostering the commercialization of innovation in the life science sector. Delivered by Innovation Factory, in collaboration with the Synapse Consortium, this competition assists innovators, scientists and researchers to bring their ideas to market, increase revenues, attract investment and create jobs.</p> <p>To register to attend, please click here</p> 	<p>Alex Muggah (Synapse)</p>
<p>McMaster Emerging Health Leaders Program (April 28-May 11)</p> <p>The Emerging Health Leaders (EHL) Program is a two-week program to become a better leader life-altering experience that will challenge your thinking and push you to become a better leader! If you are a student or young professional seeking to make a difference in the health landscape, enhance your leadership capabilities, and give yourself an edge when entering the world of work— EHL is the program for you!</p> <p>Apply to take advantage of the Early Bird rate for Spring & Summer 2019 offerings of the program. EHL is an interdisciplinary program, welcoming students from all programs and faculties. Enrolment is limited. For more information, click here</p>	<p>Alex Muggah (Synapse)</p>


Discussion	Presenter
<p><u>Next Great Big Ideas Conference</u> (April 29)</p> <p>Join industry leaders, innovators and entrepreneurs to hear their market insights and visions of the future. This speaker conference is intended for entrepreneurs, corporate executives and government and academic leaders interested in new perspectives, paradigms and previews of the next generation of health technology.</p> <p>Next Great Big Ideas will be the kickoff event for <u>Hamilton Health Innovation Week</u>.</p> <p>To learn more, or to participate as a sponsor, speaker or participant, please contact Jim Wilson (<u>j.wilson@cbre.com</u>)</p>	<p>Jim Wilson (CBRE)</p>
<p><u>Technology & Future of Healthcare 2019</u> (May 8, 2019)</p> <p>Hamilton Academy of Medicine is proud to be hosting the inaugural hosting the Technology & the Future of Health Care Conference (TFHC2019), bringing together innovators and clinical care experts with emerging healthcare technologies to determine the best path forward in the future of health care. Attendees will learn how technology will impact the future of health care and what new and existing technology they can incorporate into their practices today.</p> <p>To learn more or to register, click here: <u>https://tfhcconference.com/</u></p> <p>To participate in the conference, please reach out to Dennis DiValentino (<u>dennis.divalentino@gmail.com</u>)</p>	<p>Dennis DiValentino (Hamilton Academy of Medicine)</p>
<p><u>Medical Imaging Informatics and Teleradiology Conference</u> (May 10, 2019)</p> <p>The Hamilton-based Medical Imaging Informatics and Teleradiology (MIIT) conference focuses on emerging technologies and practices for acquiring, processing, managing, accessing, and sharing medical images, along with topics driving changes in relevant policies within Canada. This annual conference brings together experienced speakers to address challenging topics in the field of medical imaging informatics and provides a unique opportunity to approach the experts and find answers to questions and issues.</p> <p>The MIIT Conference is intended for an audience of professionals and students in engineering and computer sciences, health informatics (PACS Managers, DI Managers, IT Professionals, CIO/CTOs), health care provider (Radiologists, Technologists, Physicians), and industry roles.</p> <p>To learn more, visit the <u>conference website</u></p>	<p>Alex Muggah (Synapse)</p>
<p>City of Hamilton Booth <u>@ e-Health 2019 (May 26-29)</u></p> <p>City of Hamilton has reserved a booth at the e-Health Conference, which includes 4 registrants at e-Health 2019 at the Beanfield Centre in Toronto.</p> <p>With over 30,000 employees, 2,500 researchers and over 690,000 square feet of lab space dedicated to the healthcare sector, Hamilton has the resources needed to support digital health innovation. Hamilton's digital health expertise, including Mohawk College - Canada's 2nd most</p>	<p>Carolynn Reid (EcDev)</p>

Discussion	Presenter
<p>research-intensive college, McMaster University - Canada's most research-intensive university and Hamilton Health Sciences - Ontario's second-largest hospital network.</p> <p>Please reach out toCarolynn Reid (Carolynn.Reid@hamilton.ca) if you'd like to participate in Hamilton's engagement at e-Health 2019.</p>	
<p>Call for Abstracts: e-Health Conference and Tradeshow (May 26-29)</p> <p>Digital Health Canada has put out a call for those interested in submitting an abstract for presentation at e-Health Conference and Tradeshow. Contact Health Program Chair Scott McMillan or Conference Coordinator Yurim Park to get more information at: events@digitalhealthcanada.com or 647.775.8555</p>	Alex Muggah (Synapse)

Time allotted | 20 Minutes

Topic: **Collaborate & Accelerate**

Partnership opportunities, programming and resources available to the community, market gaps and challenges, learn about potential funding opportunities, discuss new RFPs issued, etc.

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<p>Synapse engages companies and organizations from outside the region that may be interested in engaging with the Hamilton ecosystem – including those that are seeking to establish a presence in Hamilton or that wish to partner with Hamilton resources and capabilities.</p> <p>For more information about upcoming engagement, or for assistance in hosting inbound visits that may be of interest to the broader community, please contact Alex Muggah: Alex.Muggah@SynapseConsortium.com</p> <p>Recent visits to/from Hamilton:</p> <p><u>EVELO Site Visit in Hamilton (Dec 5-6th)</u>: Massachusetts-based company visited Hamilton to explore interest in establishing a commercial presence in the region. Company focuses on developing a new modality of medicines – monoclonal microbials. These products are orally delivered and intended to modulate systemic immunology and biology through direct interactions with human cells in the gut.</p> <p><u>Synapse Moderates Life Science Panel at Canadian Expat Summit (Dec 11th)</u>: Participants gathered to learn about how to expand their corporate operations or pursue a career globally in the Life Sciences sector. Moderated by Alex Muggah (Synapse), the panel engaged in an active conversation with participants to explore issues around doing business overseas, and ways they can grow their business and pursue careers beyond Canada’s borders.</p> <p><u>Baxter International visits Hamilton (Jan 21th)</u>: a delegation from Baxter International, including the Director of External Innovation met with researchers and members of the broader life science community to explore potential opportunities for collaboration and cooperation. The visit was organized by the McMaster Industry Liaison Office – please reach out to Leigh Wilson (wilsle@mcmaster.ca) if you’d like to learn more.</p> <p>Upcoming site visits to/from Hamilton</p> <p><u>Upcoming: Norwegian SmartCare Cluster (Jan 30)</u>: A third delegation is visiting Hamilton from Norway. The SmartCare Cluster out of Stavanger will be meeting with representatives from Hamilton Health Sciences and Synapse. The cluster has 115 member companies and 45 institutions/facilities is proactively looking for collaborative opportunities for their members and international network building for their cluster. As part of this mandate they will bring with them one member, ContinYou, a watch based sensor solution for fall detection, and abnormalities in pulse, and temperature. The watch allows for 2-way communication, GPS-tracking, and GeoFence provision in a simple to use interface.</p> <p><u>Upcoming: Turn-Key Modular Systems (Feb 5)</u>: Synapse will be joining a tour of Turn-Key Modular Systems in Oakville, a specialty design/build firm focused on Modular and Skidded</p>	<p>Alex Muggah (Synapse)</p> 

Discussion	Presenter
<p>systems for the biotechnology, pharmaceutical, cosmetic, food and other FDA-regulated industries. The visit has been organized by the McMaster Innovation Park. Will be looking to identify partnership and collaboration opportunities for life science start-up and scale-ups in the Hamilton community.</p> <p><u>Upcoming: City of Hamilton Booth @ e-Health 2019 (May 26-29):</u> Synapse will be joining the City of Hamilton at their booth at the upcoming e-Health Conference. Space may be available to interested companies and organizations in the region who would like to join the City's delegation. Please reach out toCarolynn Reid (Carolynn.Reid@hamilton.ca) for more info.</p> <p><u>Upcoming: Dr. Nick Hopkins, Jacobs Institute (April/May 2019):</u> a delegation from Synapse and Hamilton Health Sciences, including practitioners, innovators, and administrators, will be heading down to Buffalo in early spring to visit world-renowned neurosurgeon Dr. Nick Hopkins and one of the US's leading cardiovascular research centres, the Jacobs Institute. While there, the delegation hopes to build on the momentum of Dr. Hopkins recent visit to Hamilton to explore collaboration opportunities.</p>	
<p>MAKO Rio Surgical Robotic System</p> <p>On November 22, St. Joe's announced it was home to the MAKO Rio Surgical Robotic System, Canada's first orthopaedic robot. The purchase of the robot – which until now has only been available outside of Canada – was 100% philanthropy funded. The robot will be used with knee replacement surgery patients and will expand to include research into hip replacement and other orthopaedic surgical needs.</p>	St Joseph's Healthcare Hamilton
<p>The Reimagining Respiratory Protection QuickFire Challenge (Deadline Feb 15, 2019)</p> <p>The Reimagining Respiratory Protection QuickFire Challenge invites participants to come up with innovative solutions that help better protect the public from infectious agents and the threat of pandemics.</p> <p>Up to two innovators will be awarded up to \$100,000 in grant funding, access to the Johnson & Johnson Innovation, JLABS ecosystem, and support in developing their ideas from BARDA, to support health security products and technologies in biotechnology, life science research, and medical innovations as they navigate research, development, and regulatory pathways.</p>	(JLABS)
<p><u>HTF Announcement – OCE, mHealth Solutions and Hamilton Health Sciences</u></p> <p>On January 22nd, The Health Innovation and Strategies Branch at the Ontario Ministry of Health and Long-Term Care, Ontario Centres of Excellence (OCE), Hamilton Health Sciences Corporation/Population Health Research Institute and m-Health Solutions gathered to highlight a demonstration project supported by the Health Technologies Fund (HTF). The grant for the project entitled: RE-direCT</p> <p>On January 22nd 2019, representatives from the Ontario Ministry of Health and Long-Term Care will be joined by OCE representatives for a site visit at the David Braley Cardiac Vascular and Stroke Research Institute. Hamilton Health Sciences Corporation has received a Health Technologies Fund TAVI Remote ECG Monitoring to Reduce Complications following Transcatheter Aortic Valve Implantations. This visit included a formal program with remarks, Q&A with the project team and a live technology demonstration with the m-CARDS device.</p>	Alex Muggah (Synapse)

Discussion	Presenter
<p>If you're interested in learning more, please contact Katie Porter, Director of Research Administration, HHS at porter@hhsc.ca</p> <p>About m-Health Solutions: m-Health Solutions specializes in cardiac diagnostics and remote patient monitoring. Our leading-edge technologies can be delivered directly to a patient's home for easy hook up or used by a hospital to monitor patients post-discharge.</p>	
<p>Advanced Theranostics: Stopping Epidemics Dead in Their Tracks (MARS profile)</p> <p>Slowing the spread of epidemics means identifying outbreaks quickly. But in regions where doctors are rare and labs almost non-existent, the need for accessible, user-friendly molecular testing has posed a long-standing problem. Enter James Mahoney, the entrepreneur behind Advanced Theranostics, a Hamilton, Ont. startup that has developed a working prototype to diagnose infectious diseases on the spot.</p>	Barry Chong (MARS)
<p><u>Nine New Guidance Documents related to Medical Device Regulations and Invitro Diagnostic Medical Device Regulations</u></p> <p>On 20 November 2018, the European Commission published nine new documents intended to provide guidance to non-EU authorities and economic operators in relation to the Medical Devices Regulation ("MDR") and In vitro Diagnostic Medical Devices Regulation ("IVDR"). The MDR and IVDR will apply from May 2020 and May 2022 respectively.</p> <p>These documents include:</p> <ul style="list-style-type: none"> • Factsheet for authorities in non-EU/EEA stated on Medical Devices and in vitro Diagnostic Medical Devices; • Factsheet for Manufacturers of in vitro Diagnostic Medical Devices; • Factsheet for Authorized Representatives, Importers and Distributors of Medical Devices and in vitro Diagnostic Medical Devices; • Factsheet for Manufacturer of Medical Devices; • Medical Devices Regulation (MDR) and In vitro Diagnostic Medical Devices (IVDR)- infographics; • Implementation Model for in vitro Diagnostic Medical Devices Regulation- Step by Step Guide; • Implementation Model for the Medical Devices Regulation- Step-by-Step; • Factsheet for the Procurement Ecosystem of Medical Devices and in vitro Diagnostic Medical Devices; • Transition timelines from the Directive to the Regulations- Medical Devices and in vitro Diagnostic Medical Devices. <p>These documents include high-level information concerning the main changes introduced by the MDR and IVDR, guidance concerning the transitional provisions or the Regulations and "frequently asked questions". The step-by-step implementation model documents could be useful for manufacturers to plan transition to the new Regulations or to determine which steps they still need to take. To learn more contact Giselle Vincent at Yordas: g.vincett@yordasgroup.com</p>	Giselle Vincent (Yordas)
<p>Hamilton's Innovation Factory Expands into \$2.4 Million Collaborative Space in McMaster Innovation Park (Dec 7th)</p> <p>The community welcomed Minister Tassi and several other key stakeholders to celebrate the announcement of a new home for The Forge and Innovation Factory on the first floor of the</p>	Karen Linesman (Innovation Factory)

Discussion	Presenter
<p>McMaster Innovation Park. The combined space will dramatically increase the footprint of Hamilton’s regional innovation centre and campus-based accelerator, enabling both to expand their impact across the community. The space is expected to be open to the public in 2019. The new \$2.4 million collaborative space at McMaster Innovation Park will provide entrepreneurs with access to advanced equipment to design and build innovative new products. Innovation Factory and its recently launched Centre for Integrated Transportation and Mobility, and The Forge, McMaster’s start-up incubator, will share the 10,000-square-foot space. The new space will provide a large collaborative area, new 3D printers and other fabricating equipment for start-ups to continue to grow their businesses and create new ideas.</p> <p>To learn more, click here</p>	
<p>Mariner Endosurgery Wins FDA Clearance for Groundbreaking Augmented Surgical System LaparoGuard</p> <p>The FDA has cleared Mariner Endosurgery’s LaparoGuard Augmented Surgical Navigation system for use in US operating rooms. Hospitals and surgical facilities will now be able to incorporate the surgical navigation system from Mariner, an innovative Hamilton-based medical device company leading commercialization of advanced surgical visualization and laparoscopic instrumentation.</p> <p>LaparoGuard is an augmented surgical navigation system that enables surgeons to annotate areas of 3D safety zones during minimally invasive procedures, to aid surgeons in guiding their tools and informing their surgical approach. Similar to the heads-up display of a fighter jet, LaparoGuard allows surgeons to annotate areas of risk, and then see 3D renderings of surgeon-defined safety zones as a heads-up, real-time image overlay. This information from LaparoGuard is integrated into the operating room’s conventional visualization equipment, and LaparoGuard’s functionality provides surgeons with additional spatial awareness information. In addition, LaparoGuard provides continuous tracking of multiple tools throughout a procedure for real-time location updates within the abdominal cavity.</p>	<p>Mitch Wilson (Mariner)</p>
<p>m-Health Solutions and Hamilton Health Sciences recipients of Health Technologies Fund Grant</p> <p>m-Health Solutions is a Canadian healthcare technology company that has been focused on the health and well-being of Canadians since 2010.</p> <p>“The investments were selected for their potential to improve patient outcomes and bring value to the healthcare system. Twelve grants were awarded ranging from about \$294,000 to \$500,000 each, totaling \$5.5 million. The \$20-million Health Technologies Fund is developed and funded by the Office of the Chief Health Innovation Strategist (OCHIS) and administered by the Ontario Centres of Excellence.”</p> <p>To learn more, reach out to CEO Sandy Schwenger (sschwenger@mhs.healthcare)</p>	<p>Sandy Schwenger (mHealth)</p>
<p>New mHealth Solutions technology detects abnormal heart rhythms</p> <p>m-Health Solutions is excited for the continuing success of the Hamilton Health Sciences TAVI project. Remote monitoring before TAVI surgery can alert doctors to</p>	<p>Sandy Schwenger (mHealth)</p>

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<p>arrhythmia or other abnormalities that, in serious cases, can be addressed by implanting a pacemaker during the TAVI procedure.</p> <p>The mHealth Solutions remote monitor collects round-the-clock data that nurses and doctors examined several times daily. It can show signs of concerning arrhythmia in a patient’s heart, a complication that affects about 20 per cent of TAVI patients. If found, patients can be called back to the cardiac clinic where they can have a loonie-sized pacemaker implanted that will keep her heart beating in a steady rhythm. Patients then may only need checkups every six months.</p> <p>To learn more, reach out to CEO Sandy Schwenger (sschwenger@mhs.healthcare)</p>	
<p><u>AODA Compliance Support @ Mohawk College</u></p> <p>Under the Accessibility for Ontarians with Disabilities Act (AODA) companies are required to make their websites accessible – Ontario.ca. Mohawk College students and graduates with the Accessible Media Production program can help support organizations to improve their digital accessibility and inclusive design. The organization that controls the website must meet the accessibility requirements. By law, institutions must make new and significantly refreshed public websites accessible if you are:</p> <ul style="list-style-type: none"> • a private or non-profit organization with 50+ employees; or • a public sector organization <p>To learn more, please contact Jennifer Jahnke: jennifer.jahnke@mohawkcollege.ca</p> <p>Beyond Compliance is an accessibility self-assessment tool for organizations to explore information and compliancy requirements with Ontario’s accessibility laws to create a more accessible organization. In terms of timelines:</p> <ul style="list-style-type: none"> • Beginning January 1, 2014: new public websites, significantly refreshed websites and any web content posted after January 1, 2012 must meet Web Content Accessibility Guidelines (WCAG) 2.0 Level A • Beginning January 1, 2021: all public websites and web content posted after January 1, 2012 must meet WCAG 2.0 Level AA other than criteria 1.2.4 (live captions) and 1.2.5 (pre-recorded audio descriptions) 	<p>Jennifer Jahnke (Mohawk)</p>
<p>3i Ontario, lists grants, funding and partnership opportunities for life science companies. 3i Ontario is maintained by Azimuth Health Group, an Ontario Innovation Broker</p>	<p>Alex Muggah (Synapse)</p>