

Hamilton Health Innovation Check-up: Meeting Minutes

November 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, Director, Synapse Consortium
Location McMaster Innovation Park,
 175 Longwood Dr,
 9:00-10:00am

Next Monthly Check-up: January 27 | 9:00 – 10:00am | McMaster Innovation Park
Please sign up to our [mailing list](#) to receive meeting minutes and other important updates.

Finding collaborative partners for health companies and researchers can be difficult. Synapse has created the [Health Innovation Partnership Portal \(HIPP\)](#) to facilitate finding new partners within Canada’s leading health research and educational ecosystem located in in Hamilton, Ontario.

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 revised version of the monthly minutes.

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):

- [David Bell](#)
Account Executive, TÜV SÜD
- [presentation slides used, and are available for download in Health Check-up [drobox folder](#)]

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

Discussion

Introduction

At [TÜV SÜD](#) we do regulatory certification and testing, and we're focused on medical devices. We are located in Gormley, outside of Stouffville. I worked for a start-up that was acquired by TÜV SÜD four or five years ago.

I met Alex downtown Toronto where we talked about the medical device field at an event that I was organizing to help build up the community in Toronto. I've geared my presentation today towards companies that are focused on developing a medical device.

Presentation

At the Gormley site, we have a 4,000 square foot lab. We do [IEC 60601-1-2](#) testing and product safety [IEC 60601-1](#) testing, as well as radio testing to international standards. We also have expertise around environmental, laser/LED, HALT, and other types of testing that you might need for a medical device. Finally, we also do a free product review consultation with our engineers if you come to our facility.

In general, when you have a medical device plugged that has a power source, then you want to make sure that there isn't too much RF or EMI noise coming off the device. Radio testing can evaluate intentional radiation that is being emitted from the device. For some companies, it makes sense to make your own radio, which requires regulatory approval. For others, you can buy one off the shelf that has already been preapproved.

For laser and LED testing, we do a fair bit with products that you often see on TV (i.e., hair removal, laser pointers), to make sure that the product is safe for use. For example, there are standards about how much electricity can be put through a device. On environmental testing, we can evaluate the impact of shock and vibrations on your device, as well as what happens when you go from +40 to -40 degrees in a short period of time.

For our free product reviews, I would encourage you to book an appointment a couple of days in advance (email me: David.Bell@tuvsud.com), and we will make sure we have the right people around the table to give you the right advice as you start thinking about your regulatory testing..

Today I want to cover a few dos/don'ts of certification testing. Our job at TÜV SÜD is to get you to market faster and to save testing costs – our advice and support is based on a wide range of experience and client feedback. For example, we sent a client information about risk management he inquired about, but during that conversation the client discovered that there were additional standards and testing he didn't know about. There

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are times when companies try to rush the compliance regulatory process – and this doesn't usually end well. When should an innovative product be seen by TÜV SÜD? When you have a prototype, not when you've got a finished product that you have to deliver in 4-6 months which might need to be redesigned because it doesn't comply with radio or environmental standards – that's not a good position to be in.

I would encourage everyone to take Risk Management (ISO 14971) seriously. This is called out by IEC 60601-1 standard – in the electrical safety standard. Since manufacturers know their own device the best, the expectation is that you'll take the lead around creating and documenting risk management protocols. You can then share those with us and we can help you evaluate them. IEC is an accepted standard around the world and should help with product design. It is required before lab starts testing.

For example, there is a hospital bed with the moving arms, and one day a kid got his head caught in the hospital bed and was strangled. A bad risk management protocol would be to advise patients to not put their head between the bars – a better way is to redesign the bed so that the bars are close enough to stop people from putting their head in. Some risks you can't mitigate – can't avoid people misusing the device, or dealing with devices that are inherently dangerous because of its designed effect. But as the manufacture, you're supposed to try and identify issues earlier and then take steps to resolve them (e.g., warning labels, hardware stops, etc.). Do this while you're making the product, rather than trying to shoehorn fixes in after the fact. If the risk management process is rushed, then creating the protocols and associated files will require a whole lot more time and money.

Early on in the development process medical device manufacturers should conduct prescans and undertake construction reviews with experts who can help you spot problems early on, so that you can resolve them. The IEC standards have 8 tests – which I won't go into great detail, but you can learn more [here](#). One is radiation and immunity (i.e., does the device turn off by itself), that people often fail. You can work with us on this beforehand (takes a day or two), before you do the formal test. During a construction review, we have engineers go over all of the potential issues that we expect that you'll face during testing, and provide a one-page write-up, so that when you're ready to test, you have a much better chance of avoiding issues. In terms of costs, a half-day pre-scan can run between \$550 to \$1100 depending on the complexity of the device. I would note that even multinational companies with full-time compliance people (e.g., Medtronic) can see their new medical device fail testing – so for start-ups doing this for the first time, plan on encountering issues during testing.

[Mariner Endosurgery: we undertook several pre-scan testing efforts with TÜV SÜD, and that saved our bacon more than a couple of times, allowing us to avoid problems and save money and time in the long run.]

It is important to make sure that your critical safety components have some form of NRTL mark on them, as this is required for sale in North America. This proves that someone has done testing on it. If the components don't have this mark, then TÜV SÜD will have to test each component, adding to the cost, time and complexity of our work. In particular, power supplies are extremely picky. TÜV SÜD will take any product that has approvals from a nationally recognized test lab, but other companies require their own certification. For radio certification, you can buy a pre-approved device, but if you change the radio or make your own, then you have to get it tested all over again. Finally, I would advise you to look out for fake marks, as this can result in need to do re-testing. If you're not sure, reach out to us, and we can help you determine whether your components have the necessary approvals.

Another item that is often part of a medical device but which adds complexity are lithium batteries (IEC 62133). These also need a certification mark, as the battery is considered one of the more dangerous component parts of a medical device. It can be really tempting to get a pre-approved battery, and then put in an unapproved battery later on – please don't do this. For example, the recent cases of mobile phones catching on fire came resulted in

Guest Speaker Discussion

part because they had an approved power supply, but then swapped it out during mass production with unapproved ones, which caused causes fires and other issues.

I encourage everyone to research and understand all of the standards that will apply to your device early on. When interacting with Health Canada or the FDA, get the required standards in writing.

Don't engage a test lab too late in the process. General timelines is about 2 weeks in the EMC chambers, but that assumes everything goes perfectly, and often manufactures fail the first time. You should plan for about 8 weeks to undertake a full EMC and safety program. There will be a lot of documentation and back and forth during this process, so make sure the right staff are assigned to the process. And more often than not, there are problems that we encounter that will have to be resolved, which might include minor or radical product redesign.

One of the big questions is around what drives the cost of testing; fundamentally it's about how many standards apply to your product. There is shock testing, usability testing, IP testing, wear and use testing, etc. Often what determines which standards are used is based on how the device will be deployed, and also where it will be deployed (e.g., in surgical room, nursing centre, home). During our initial consultation, we use a detailed equipment form to evaluate your product, and this allow us to provide you with a list of standards that are relevant. We will provide this in writing, and do that for free – it's part of our desire to get your business.

Question & Answers

Q: If you have a low-volume, high cost device, is there an opportunity to sell the device after its been tested?

A: You're not allowed to sell a medical device after testing. We have to drop it, we have to hit it with a metal ball. You should consider the item that you provide to us for testing as a destructive prototype.

Q: Do you do high voltage? How large a piece of equipment that you can test?

A: We do high voltage. We are limited by the size of the EMC chamber – which is 8 feet high. Really big stuff (i.e., an MRI) will involve us going to the site with all the gear and then test the product there. We could do electrical generators and non-medical lab and IT equipment.

Q: How much does it cost?

A: On average, the cost of testing can go from \$35,000-60,000. It depends on the level of complexity (e.g., has a radio, has two lasers, it was home use, two modes). For basic EMC or basic safety, the cost can be as low as \$25,000. Medical devices are more complex and time-intensive, and so the cost reflects that.

Q: How many prototypes will be required to conduct testing?

A: We need at least three devices to perform testing, one for EMC and two for safety. We do all of this in house. I would note that other labs will only do EMC and not safety. So you might save some money, but the problem is that when you change one part of your medical device to test safety, then you have to redo the modification exactly for all the other devices that are tested.

Q: Who do you work with externally to bring in expertise.

A: We are happy to leverage our networks with our clients so that they can succeed. However, we're not allowed to do consultations. We can help, but we can't consult on how to change a device or how to prototype or write a risk-management plan. We see cool stuff before it comes to market – and we're ready to connect everyone.

Guest Speaker Discussion

Comment: Craig Wardlaw (NRC-IRAP)

Just a reminder, that NRC-IRAP provides advisory services and funding to innovative companies. That said, that while we have a longstanding policy where we can't support certification, there appears to be pre-certification work that TUV SUD is offering, which might be eligible for IRAP, as you'll still be in development mode and doing research.

Hamilton Health Innovation: Calendar Highlights

Check out Synapse's [online calendar](#)

December

- Nov 26: Hi5 Pitch Competition (HalTech)
- Nov 27: [SR&ED Workshop with MNP](#) (VentureLAB)
- Nov 29: [Cross-Talks Case Studies: Clinical Perspective](#) (MGD-HICE)
- Dec 2: [Focus Groups: Clinical Problems and Needs Finding](#) (MGD-HICE)
- Dec 2: Queen's Park Day (LSO)
- Dec 3: [Workshop: How to Stand out in the Crowded Healthcare Market](#) (VentureLAB)
- Dec 4: [Infoession on Innovative Solutions Canada \(ISC\) program](#) (IDEAWORKS, Mohawk College)
- Dec 4: [Digital Transformations in Life Sciences](#) (LSO)
- Dec 5: [Genomics at the Tipping Point](#) (Ontario Genomics)
- Dec 10: [DevTank: "Innovations in Pathology: Helping or Harming Your Diagnosis?"](#) (MGD-HICE)
- Dec 10: [Event: Staying Agile in a World of IoT Devices](#) (NetAccess)
- Dec 11: [Bringing BioMedical Materials to Market: to License, to Spin Off, or Both?](#) (MGD-HICE)
- Dec 13: [TEDxMcMasterU – Theme: Ambition](#) (McMaster University)



NOTE: NO Hamilton Health Check-up in December (Synapse Consortium)

January 2020



- Jan 27: [Hamilton Health Check-up](#) in December (Synapse Consortium)
- Jan 29: [Hamilton Academy of Medicine's 103rd Annual Clinical Day](#) (Hamilton Academy of Medicine)

February 2020 and Beyond

- Feb 5-7: [3rd Annual Niagara Investment Summit](#) (OBIO)
- Feb 13: Corridor Demo Day (RIC Network)
- Feb 24: [Hamilton Health Check-up](#) in December (Synapse Consortium)
- Mar 7: HHS Foundation Gala (Hamilton Health Sciences)
- Mar 8-11: [Rotman Research Institute Conference: Aging and Brain Health](#) (Baycrest & UofT)
- Mar 11: [What's Next Canada](#) (CABI)
- Mar 24: [2020 Clinical Trial Conference](#) (Clinical Trials Ontario)
- Mar 29: [Synapse Life Science Competition: Pitch Presentation](#) (Innovation Factory)

TIME ALLOTTED | **20 MINUTES**

Topic: **Communicate**

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

Discussion	Presenter
<p>Triumvira Immunologics Announces Fast Track Designation for Its First TAC T-Cell Therapeutic Product Candidate: TAC01-CD19</p> <p>Triumvira Immunologics, Inc. (Triumvira), a private, clinical-stage biopharmaceutical company developing a novel platform for engineering T-cells to attack cancers, today announced that the U.S. Food & Drug Administration (FDA) has granted Fast Track designation for its novel T-cell therapy product TAC01-CD19 in patients with relapsed or refractory Diffuse Large B-Cell Lymphoma (DLBCL) after at least 2 prior systemic therapies. A Phase 1/2 study (TACTIC-19) conducted in patients with CD19-positive B-cell malignancies, including DLBCL, is expected to be initiated by the end of 2019.</p> <p>“FDA’s decision to grant Fast Track designation to TAC01-CD19 is an important recognition of both Triumvira’s differentiated cell therapy technology and the critical need to develop new therapies to address the unmet medical need in the treatment of B-cell lymphomas,” commented Paul Lammers, MD, MSc., President and CEO of Triumvira. “With our innovative TAC technology, we hope to significantly improve upon the limitations of existing cell therapies, including the risk of cytokine release syndrome (CRS) and neurotoxicity, which would allow us to expand the number of patients eligible to receive this type of treatment.”</p> <p>TAC01-CD19 will be tested at four leading lymphoma clinical study centers in the U.S. and Canada. Based on its preclinical profile, TAC01-CD19 has the potential to represent a significant advancement in T-cell therapy.</p> <p>To read the full article, click here</p>	<p>Alex Muggah (Synapse)</p>
<p>NERV (Synapse Competition Runner-up) Wins \$500k in World Entrepreneurship World Cup</p> <p>Congratulations for NERV Technology after competing with over 100K applicants from around the world, they placed first at the Entrepreneurship World Cup - bringing the title to Canada!</p> <p>Earlier in the year NERV placed second in the 2019 Synapse Competition, where 15 finalists were selected from more than 60 applications and formed teams with post-secondary students, the industry’s future professionals. Together, these teams participated in three months of intensive training, where they produced business and commercialization plans for their ventures and prepared for the showcase.</p>	<p>Alex Muggah (Synapse)</p>
<p>XPAN One of Three to Secure FACIT Prospects Oncology Funding</p> <p>Three promising Ontario-based oncology innovations are recipients of seed capital through the latest round of FACIT’s Prospects Oncology Fund. Medical device start-up Xpan Inc was selected to receive seed funding among a top-tier pool of applicants. Xpan Inc., whose CEO Zaid Atto also won FACIT’s Falcons’ Fortunes pitch competition earlier this year, is developing expandable surgical access ports that aim to increase safety and efficiency of minimally invasive surgeries.</p> <p>XPAN Medical, a medical device company that as developed novel minimally invasive surgical instruments (trocars/ports) came in third at the 2019 Synapse Life Science Competition</p>	<p>Mitch Wilson (Mariner Endosurgery)</p>

Discussion	Presenter
<p>Firestone Institute for Respiratory Health Receives \$2 Million Gift</p> <p>This is the kind of ground-breaking research that has made the Firestone Institute for Respiratory Health a world leader in the understanding and treatment of life-threatening lung diseases. For 40 years, this collaboration between St. Joe’s Hamilton and McMaster University has led to research discoveries that have translated into new treatments for patients around the world.</p> <p>The Boris Family, philanthropists who are well-known for placing their support behind leading-edge healthcare programs and projects in Hamilton, has made a \$2 million investment to the Firestone Institute for Respiratory Health. The gift will help the hospital and university recruit a new leader for the Institute who will ensure this four decade legacy of improving patient care through respiratory research continues. The new leader will focus on maintaining the Institute's world-class status and increasing its reach into chronic respiratory diseases that are among the leading causes of death around the world.</p>	<p>Gail Martin (Research Institute at St. Joe’s)</p>
<p>Invest in Hamilton: We Are Ready (new website launched!)</p> <p>The City of Hamilton has recently stood up a new EcDev website to support inbound interest in Canada’s most diversified economy, the fastest growing mid-sized city for tech talent and a fantastic community approach to supporting investment big and small.</p> <p>Look here, here and here for additional videos profiling some of the great things happening in Hamilton and why it’s the place where innovation goes to work!</p> <p>Ps. Congratulations to the Hamilton Airport for securing a \$100M investment by DHL, expanding existing gateways at Canada’s busiest cargo airport!</p>	<p>Carolynn Reid (City of Hamilton)</p>
<p>Hamilton gets go-ahead for health system transformation, one of 24 new Ontario Health Teams</p> <p>On November 26, Christine Elliott, Deputy Premier and Minister of Health announced the Hamilton Ontario Health Team as one of the first 24 teams in the province to implement a new model of organizing and delivering health care that better connects patients and providers in their communities to improve patient outcomes. Through an Ontario Health Team, patients are meant to have easier transitions from one provider to another, including, for example, between hospitals and home care providers, with one patient story, one patient record and one care plan.</p> <p>"This is an exciting time for health care in Ontario as we finally break down the long-standing barriers that have prevented care providers from working directly with each other to support patients throughout their health care journey," said Elliott. "Together with our health care partners, the Hamilton Ontario Health Team will play an essential role in delivering on our commitment to end hallway health care and building a connected and sustainable public health care system centred around the needs of patients."</p> <p>The Hamilton Ontario Health Team, known as the Hamilton Health Team, has a vision to provide an equitable and seamless continuum of care that actively improves population health and meets the individual needs of their community.</p> <p>Ontario Ministry announcement. Hamilton Spectator article</p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>The Forge and Innovation Factory: Innovation and incubation work well together in Hamilton</p> <p>New space opened at McMaster Innovation Park just the start of growing hub. Enterprises that started or cycled through McMaster Innovation Park (MIP) as part of their business growth have raised \$350 million over the past nine years.</p> <p>That's the total ripple effect of investments made in the hundreds of young startups that got their footing at two supporters of business working together at the MIP. The Innovation Factory is Hamilton's regional innovation centre that has assisted 1,900 local startups since opening in 2011. The Forge is McMaster's business incubator that has graduated 130 companies since 2015.</p> <p>David Carter, director of the Innovation Factory, circled that \$350-million number at the official opening on Wednesday of a new 10,000-square-foot space in a former MIP garage built to expand space for entrepreneurs — and the many volunteer mentors who guide them.</p> <p>Young entrepreneurs — quick on the draw with business cards — milled about the sunlit lower-level space of the MIP's main building on Longwood Road South, as Hamilton West-Ancaster-Dundas MP Filomena Tassi reflected on the moment she first dropped into the garage space last December to present a \$1.2-million cheque to launch construction of the \$2.4-million space.</p>	<p>Alex Muggah (Synapse)</p>
<p>GERAS 5-Year Report & Publication</p> <p>Dr. Papaioannou and the team at the GERAS Centre for Aging Research have released their 5-year report and publication list, reflecting on how their work has made a real difference for seniors in Ontario, Canada and around the world. GERAS's innovative therapies and interventions have benefited 35,000+ older adults. Follow along in social media (#GERAS25in5) to learn more about the top 25 stories over the past 5-years.</p> <p>Click here to view the 5 year report. Click here to view the publication list.</p>	<p>Alex Papaioannou (GERAS)</p>
<p>Masters of EHealth Internships & Hamilton Hackathon – update</p> <p>The McMaster University Masters of EHealth internships will be starting soon, and employers will be able to access high-quality talent for 8 month programs. We've already started placing students, including in hospitals and innovative health-tech companies. Student skill sets are interdisciplinary, ranging from technical to policy focused.</p> <p>Hacking Health Hamilton recently hosted a successful hackathon a couple of weekends ago. It went really well, with ~60 participants who were there throughout the weekend. 10 projects were pitched across a variety of different themes – from AI to digital imaging. We hope to see some of the projects get further some traction, and to this end, Hacking Health is hosting a follow-up meeting in January to explore feasibility testing with these teams.</p> <p>To learn more, please contact Cynthia: lokker@mcmaster.ca</p>	<p>Cynthia Lokker (McMaster University)</p>
<p>Theo Fleury Dazzles at A Mental Health Morning</p> <p>NHL legend Theo Fleury was the guest speaker at St. Joseph's Healthcare Foundation's A Mental Health Morning on Thursday, October 10th at Michelangelo's Events and Conference Centre. Sexually abused during adolescence by a trusted hockey coach, Theo found himself turning to</p>	<p>Gail Martin (Research Institute at St. Joe's)</p>

Discussion	Presenter
<p>addictive and self-destructive behaviours that eventually caught up to him, both personally and professionally. “And after all of the abuse from my parents, and my abuser – I took over the abuse and I abused myself.” reflected Theo Fleury.</p> <p>At the event, the winners of the 2019 St. Joseph’s Spirit of Hope Awards were announced.</p>	
<p>N2 is the network of networks, clinical trials, Eastern Regional Meeting at HHS</p> <p>Lauren shared that N2’s eastern regional meeting is at HHS on November 27. The Network of Networks (N2) is a not-for-profit incorporated organization and an alliance of Canadian research networks and organizations working to enhance national clinical research capability and capacity.</p> <p>Bringing together trialists and clinical research professionals from across the country, N2 provides a common platform for sharing best practices, resources and research-related content to ensure efficient and high-quality research, integrity of clinical practices and accountability.</p> <p>The organization is truly representative of clinical research in Canada and acts as a national voice and advocate on behalf of a broad range of stakeholders that have an impact on the efficiency and quality of clinical trials conducted in Canada.</p>	<p>Lauren Gogo (HHS)</p>
<p>Hi5 Pitch Competition (Nov 26)</p> <p>Join Haltech on November 26th as 5 high-potential companies pitch their business to a panel of distinguished judges. Come out for an exciting evening of innovation and support these regional tech companies gearing for growth. Arrive early for refreshments, networking and be sure to check out Hi5 Contestants’ booths! Get your tickets here.</p>	<p>Shann McGrail (HalTech)</p>
<p>SR&ED Workshop with MNP (Nov 27)</p> <p>Join MNP to learn about the SR&ED program and the recent treatment of claim submissions by the CRA. This session will provide an overview of the program and help you understand how you can improve the net benefit to your company while meeting the compliance requirements in an efficient manner. The SR&ED program can cover up to 70% of your companies’ research & development expenses - so don't miss this must-attend event!</p>	<p>Jane Gertner (VentureLAB)</p>
<p>LSO Queen’s Park Day (Dec 2)</p> <p>Life Sciences Ontario and Medtech Canada are hosting the 4th annual Queen’s Park Day on Monday, December 2nd, 2019.</p> <p>The event gathers senior industry representatives and key decision makers together to have intimate policy discussions on the tremendous potential of Ontario’s life sciences sector and what can be done in order to accelerate its growth. Key messages that will be echoed throughout the meetings:</p> <p>With annual revenues of \$56.8B – directly contributing \$27.4B to Ontario’s GDP, Ontario’s life sciences industry (e.g., medical devices and equipment, drugs and bio-pharmaceuticals, research and medical laboratories, agriculture feedstock and chemicals, medical cannabis, and eHealth/artificial intelligence) is uniquely positioned to help address some of our biggest challenges: the creation of jobs for our highly-educated graduates in a knowledge-based economy, and sustainable and high-quality healthcare. Ontario’s life sciences sector employs</p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>90,000 high-skill workers with salaries 24% higher than the provincial average. The industry contributes \$8.8B annually to government revenues through federal, provincial and municipal tax.</p> <p>Earlier this year, LSO released our 2019 sector report (enclosed), conducted by Deloitte, which provides further insight into the economic opportunity of the life sciences sector that could be achieved through a coordinated life sciences strategy. The report shows that the sector has the potential to add nearly 100,000 new jobs and an additional \$30B to provincial GDP over the next decade.</p> <p>In addition, we invite you to join us in the Legislative Dining room from 5:00 pm – 7:00 pm for a reception and a company showcase. LSO has partnered with Medtech Canada for the company showcase to provide a unique opportunity for elected officials and staff to interact with medical technologies and learn how they are making a difference for patients.</p> <p>To confirm your attendance for the day and/or RSVP for the reception, please contact Charlini Nicholapillai at Charlini@lifesciencesontario.ca</p>	
<p>VentureLab Workshop 3 of 3: How to Stand out in the Crowded Healthcare Market (Dec 3)</p> <p>As the last installment in this workshop series, Colin Hung will host a session on how to leverage guerrilla marketing tactics and other marketing hacks to accelerate growth.</p> <p>Colin Hung, ventureLAB Digital Health Advisor, has designed a three-part workshop series to help individuals better understand how to successfully market within the Digital Healthcare industry in North America. Although you are not required to attend all three workshops, we do encourage those interested to utilize this opportunity to come out to all three to learn from and engage with an industry expert.</p>	<p>Jane Gertner (VentureLAB)</p>
<p>Info-session on Innovative Solutions Canada (ISC) a Government of Canada program (Dec 4)</p> <p>On Wednesday, December 4, from 4-5pm, IDEAWORKS @ Mohawk College will be hosting an info session for Innovative Solutions Canada (ISC) a Government of Canada program for innovators.</p> <p>Innovative Solutions Canada helps Canadian innovators by funding R&D and testing prototypes in real-life settings. They have two streams available with a combined funding of over \$140 million dedicated to Canadian innovators who want to start, grow, and get to market. They facilitate the early development, testing and validation of prototypes, as well as preparing a pathway to commercialization.</p> <p>Registration is open to the public, and to register or learn more, click here</p>	<p>Andrea Johnson (Mohawk College)</p>
<p>LSO Policy Forum: Digital Transformations in Life Sciences (Dec 4)</p> <p>LSO’s Annual Policy Forum, now entering its 10th year, brings together key stakeholders to strategize how we can accelerate our life sciences sector. The 2019 Policy Forum, “Digital Transformations in Life Sciences” features speakers from a broad spectrum of industry and government as well as robust opportunities for audience engagement.</p> <p>Panel Session Topics Include:</p>	<p>Andy Donovan (LSO)</p>

Discussion	Presenter
<ul style="list-style-type: none"> • Life Sciences Policy Past Federal Election • Big Data- Unlocking the Opportunity • AI, Machine Learning and Automation in the BioEconomy <p>Confirmed Speakers:</p> <ul style="list-style-type: none"> • Sachin Aggarwal, CEO, Think Research • Cindy Bell, Executive Vice President, Corporate Development, Genome Canada • Abigail Carter-Langford, Vice President, Governance, Risk & Compliance and Chief Privacy Officer, Canada Health Infoway • Bill Dempster, President, 3Sixty Public Affairs • Deborah Gordon-El-Bihbety, President and CEO, Research Canada • Scott MacNair, General Manager, Stryker • Michelle McLean, Senior Vice President, Health and Wellness, Hill+Knowlton Strategies Canada • Seema Nagpal, Vice President, Science, and Policy, Diabetes Canada • Dan Sinai, Senior Innovation Leader - IBM Canada Research and Development Centre • Ryan Wiley, President, Shift Health 	
<p>Ontario Genomics: Genomics at the Tipping Point (December 5)</p> <p>On December 5, 2019, Ontario Genomics is hosting its second annual genomics community Symposium, Genomics at the Tipping Point.</p> <p>Join us in Toronto for a one-day conference to connect and support Ontario’s policymakers, businesses, investors, and research communities committed to a common goal: advancing genomics technologies to solve real-world problems.</p> <p>The Symposium speakers and panelists will showcase Ontario’s growing genomics talent and technologies across key sectors – agriculture and agri-food, health, engineering biology and natural resources. Learn about the ground-breaking, world-leading genomics technologies cultivating in our own backyard and take part in this growing genomics community of practice.</p>	Ontario Genomics
<p>Catalyst Forum: Canadian (and Hamilton) Entrepreneurs of New England (Dec 5, Boston)</p> <p>Join the CENE and its network of successful Boston-based Canadians for an afternoon of discovery, collisions, and connecting. Engage with fellow entrepreneurs, investors and CENE members to discover and support the most intriguing developments in life sciences coming out of Canada.</p> <p>MIP is sponsoring the event, and several Hamilton companies will be attending (e.g., Epineuron) while others will be showcased (i.e., Empirca)</p> <p>Visit www.thecene.org/catalyst-forum for all details.</p>	Jim Wilson (CBRE)
<p>Event: Staying Agile in a World of IoT Devices (Dec 10)</p> <p>Today’s professional climate is equipped with global connectivity and big data analytics, making it seem like your business needs to invest in multi-million dollar systems to stay relevant.</p>	Rob McCann

Discussion	Presenter
<p>However, working with a team of knowledgeable and skilled engineers is the first step to futureproofing your organization.</p> <p>To get the most out of IoT technology, CENG Tech implements Agile Hardware Development, a method for increasing the chances of finding out of the box solutions by using cross functional, fast moving teams. Developers work in short sprints with smaller deliverables and aren't bogged down with intense planning sessions that can hinder big ideas and necessary pivots.</p>	
<p>Hamilton Academy of Medicine's 103rd Annual Clinical Day (Jan 29)</p> <p>The Hamilton Academy of Medicine is pleased to invite you to our 103rd Annual Clinical Day on Wednesday, January 29th, 2020 at the Hamilton Convention Centre by Carmen's, 1 Summers Lane, Hamilton, ON.</p> <p>The Hamilton Academy of Medicine's Annual Clinical Day is a well-known Academy tradition designed for family physicians and allied health professionals. Our solutions-focused CME program reviews up-to-date practices in primary care and contemporary challenges in disease prevention and management relevant to day-to-day practice</p>	<p>Alex Muggah (Synapse)</p>
<p>3rd Annual 2020 Niagara Investment Summit (Feb 5-7)</p> <p>OBIO is pleased to announce a national call for applications from health science companies who are seeking Series A or beyond investments to participate in OBIO's 3rd annual 2020 Niagara Investment Summit on February 5-7, 2020.</p> <p>Building on the success of our 2019 Summit, featuring hundreds of company-investor introductions, the 2020 Summit will bring top-ranked global investors to Niagara-on-the-Lake, Ontario to meet with 30 of Canada's most innovative health science companies. The theme of the 2020 Niagara Investment Summit is the Future of Medicine. In company presentations & one-on-one meetings, the Summit will highlight Canada's most investable health sciences companies across therapeutic, medical device, diagnostic & digital health sectors.</p>	<p>Grant Burns (OBIO)</p>
<p>Registration Open for 2020 Connect to Careers Job Fair (Mar 5)</p> <p>Redeemer College anticipates over 2500 job seekers at this year's Connect to Careers Job Fair where the focus is on recruiting for all types of positions including full-time, contract, summer, part-time or co-op. Community job seekers, students from all years of study and disciplines as well as recent and experienced alumni of the partnering educational institutions attend this event to network with employers regarding employment opportunities. We ask that employers must have positions available within six months of the Fair.</p> <p>Showcase your products and organisation and engage with students and the broader Hamilton community members. Note that there is a reduced rate for small business and non profit organisations.</p> <p>For more information go to the Connect to Career Job Fair website</p>	<p>Mary Ann Benjamins (Redeemer College)</p>
<p>Hamilton Health Sciences Foundation's Gala - Returning to LIUNA Station (March 7)</p> <p>You are invited to join us for another amazing experience as we raise funds for vital research at Hamilton Health Sciences. Secure your sponsorship now for what will be an incredible evening of entertainment!</p>	<p>HHS</p>


Discussion	Presenter
<p>Our 2019 Gala sold out early. As you plan your 2020 budget, avoid disappointment by making your sponsorship commitment today. Contact Tamara Pope (popetamara@hhsc.ca) or Milaina Wright (wrightmila@hhsc.ca) for full details. View a listing of available sponsorship opportunities</p>	
<p>Rotman Research Institute Conference: Aging and Brain Health (March 8-11)</p> <p>A unique opportunity to bring together researchers from a wide range of fields in health and social sciences to discuss their latest findings and emerging perspectives on mental health and well-being across the lifespan. Conference attendees will hear about the latest research on the lifelong and intergenerational effects of stress and trauma, the intersection of emotional, cognitive, and physical health in mood disorders, well-being and identity in older age, and the use of brain stimulation interventions in psychiatry and neurology. Sessions will cover:</p> <ul style="list-style-type: none"> • Life-long and intergenerational effects of stress and trauma • Mood and cognition as transdiagnostic markers of brain health • Living well in older age • Biomedical interventions: Beyond medication <p>To learn more, click here</p>	<p>Alex Muggah (Synapse)</p>
<p>What's Next Canada (Mar 11)</p> <p>Join thought leaders, entrepreneurs, venture capitalists, healthcare providers, and companies from around the world for the annual What's Next Canada conference produced in partnership with Mary Furlong & Associates and presented in concert with Baycrest's 30th Annual Rotman Research Institute Conference.</p> <p>Seniors are the fastest growing segment of the population and expected to represent one in six people on the planet by 2050. Their net worth accumulation has outpaced all other demographic groups. They participate in the workforce at historic levels and actively pursue products and services that will help them continue to live life on their terms as they age. If you're not serving this market, you should be.</p> <ul style="list-style-type: none"> • Meet leading start-ups and established companies who are successfully pushing the boundaries of 'possible' in targeting aging, brain health and dementia-related challenges. • Learn about ground-breaking innovations and hear from those with valuable lived experience on the themes of Aging, Medtech and Mental Health. • Last year's inaugural event brought together over 35 world-class speakers and an audience of 300. • Take your place at our podium and among our sponsors to position yourself and your company as a leader in the dynamic aging segment. <p>To learn more, click here</p>	<p>Jacqueline Baptist (CABHI)</p>
<p>Clinical Trials Ontario (CTO): 2020 Clinical Trial Conference (March 24-25)</p> <p>The 2020 Clinical Trials Ontario Conference will be held Tuesday, March 24 and Wednesday, March 25, 2020 in Toronto, Ontario. The conference will feature a wide variety of speakers who will discuss novel approaches to clinical trials, medical cannabis, participant experience, blockchain, research ethics and more. The theme of this year's conference is Thinking Differently: Perspectives and Innovation in Clinical Trials.</p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>The conference will also provide an opportunity for those attending to learn and share best practices, and to network with industry peers. Please join us for two-days of inspiring and informative sessions.</p> <p>See the CTO 2020 Conference Agenda. To register, click here</p>	

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.

Discussion	Presenter
<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</p> <p>Recent visits to/from Hamilton:</p> <ul style="list-style-type: none"> • Recent: Go Global European Delegation (Nov 11): 8 European health technology companies were part of a delegation visiting Hamilton, to explore opportunities to develop collaborative relationships and learn more about the Canadian healthcare industry. Synapse coordinated a series of meetings with key stakeholders, as well as one-on-one meetings. • Recent: TUV-SUD visits Hamilton (Nov 25): TUV-SUD was in town to meet with potential partners, to explore how they might be able to support Hamilton-based medical device companies to access support with regulatory and safety compliance testing and evaluation. <p>Upcoming site visits to/from Hamilton</p> <ul style="list-style-type: none"> • Upcoming: US-based CRO site visit (Nov 27): Synapse and the City of Hamilton will be hosting delegates from a large US-based CRO that is looking to expand operations in Canada, and will be meeting stakeholders from the region to explore whether Hamilton would be a good fit. 	<p>Alex Muggah (Synapse)</p> 
<p>Job Posting - Seeking ICC Coach and PoC lead - one year, full time contract @ St. Joseph's</p> <p>Excited to share an opportunity to join the growing Centre for Integrated Care team at St. Joseph's Healthcare, Hamilton. As great candidates can come from personal contacts, relationships and referrals – please share this posting with your individual networks.</p>	<p>Fraser Edwards (St. Joseph's Healthcare)</p>
<p>Job Postings – SannTek and VitalBio</p> <p>Adrien Cote (Velocity) shared that both SannTek and VitalBio – two fast-moving companies based in Kitchener – each have a number of positions open. For companies</p> <p>Job posting links can be found here for SannTek Labs and VitalBio</p>	<p>Adrien Cote (Velocity Labs)</p>
<p>Job Posting –Front End / Full Stack Developer</p> <p>MedStack is a venture-backed award-winning startup financed by prominent VCs and is a successful graduate of 500 Startups (TechCrunch pick) and the Creative Destruction Lab. We're on a mission to empower the process of healthcare innovation and are looking to grow our technology team with the addition of a Front-End Developer / Full-Stack Developer to focus on feature additions and user journey in our new self-service offering MedStack Control.</p>	<p>Simon Woodside (MedStack)</p>

Discussion	Presenter
<p>Submit Entrepreneurship and Innovation Community Events on the Innovation Factory Calendar</p> <p>Our calendar is home to Innovation Factory workshops and networking events as well as events from the community which help support our local entrepreneurs and businesses. If you have an event which may a fit, please submit it and we will review it within five business days.</p>	<p>Riley Moynes (Innovation Factory)</p>
<p>Digital Health Canada White Papers Available (Until Nov 30)</p> <p>CHIEF White Paper – Enterprise Innovation: The Current Landscape of Innovation in the Canadian Healthcare System</p> <p>The CHIEF Enterprise Innovation Executive Forum Working Group has come together to define what innovation encompasses, present the current Canadian landscape for enterprise innovation, and identify the factors that promote successful innovation and the barriers that impede enterprise innovation. The paper will set out to provide research that supports new concepts within the field of enterprise innovation in healthcare, in the hopes that organizations that tackle these complex issues will be well equipped to spearhead change and bring innovation to the forefront.</p> <p>CHIEF Whitepaper – Unlocking the Value of Data: Creating a Unified, Informed, Proactive Community</p> <p>There is a growing need for improved patient experiences and seamless interactions between providers and patients, all at a reduced cost. Patients, providers, researchers, vendors and decision-makers would collectively benefit greatly from data sharing across health care systems. Innovative tools have enabled organizations to collect and use patient-provider data to promote more informed, rapid decision making. However, these same innovative tools can make data sharing across organizations challenging, especially when the data are not standardized to ensure compatibility across organizations. These</p> <p>As part of Digital Health Canada’s Call to Action on Unlocking the Value of Data (See Appendix, page 29), this report is one of three actions enlisted to help individuals and organizations collaborate to tackle this collective, mounting problem. Its purpose is for readers to understand the importance of addressing the problem as a community and what immediate actions can be taken to transform the problem into an opportunity.</p>	<p>Digital Health Canada</p>
<p>Biomedical Zone & Shoppers Drug Mart: Healthbound Startup Competition (deadline Dec 13)</p> <p>The Biomedical Zone, a partnership between Ryerson University and St. Michael's Hospital, is pleased to announce a collaboration with Shoppers Drug Mart for its third annual HealthBound Startup Competition.</p> <p>THE PROBLEM: Mental illness and addiction affects us all, whether individually or through a family member, friend or colleague. In any given year, 1 in 5 Canadians will experience mental illness or addiction - by the time we reach the age of 40, half of us will have been personally affected.¹ However, affordable, timely and appropriate access to mental health and addictions services is a struggle for the community with far too many individuals falling through the cracks. Now is the time for change.</p>	<p>Shannon Graszat (iF)</p>

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<p>CHALLENGE STATEMENT We are calling on all entrepreneurs, innovators and startups in the community to join us in addressing this year’s HealthBound challenge: “A solution to efficiently access, navigate and/or coordinate the care for individuals (and/or caregivers) in the community experiencing mental illness and addition in order to improve overall quality of life.”</p> <p>Award: \$50,000 + residency at the biomedical zone.</p> <p>To learn more, click here</p>	
<p>Up to \$500k in Prizes at MedTech Conference: Application for MedTech Innovator (due Jan 17)</p> <p>Applications are now being accepted for MedTech Innovator 2020. This is a unique opportunity for start-ups and emerging growth medical technology companies to gain access to industry stakeholders such as Baxter, BTG, HOYA, Maxim Ventures, Johnson & Johnson, Olympus, NIPRO, W.L. Gore and RCT Ventures. The top 50 start-ups selected each receive complimentary registration and are featured in the MedTech Innovator Showcase at The MedTech Conference, taking place October 5-7, 2020 in Toronto. MedTech Innovator will award up to \$500,000 in non-dilutive cash prizes and in-kind awards during the 2020 competition. The grand prize winner will be announced during the MedTech Innovator Finals at The MedTech Conference. The final deadline for applications is Jan. 17, 2020. Early entry is recommended for priority reviews.</p> <p>About MedTech Innovator</p> <p>MedTech Innovator is the industry’s nonprofit global competition and accelerator for medical device, digital health and diagnostic companies. The organization’s mission is to improve the lives of patients by accelerating the growth of companies that are transforming the health care system.</p> <p>Application Details</p> <p>All early- to mid-stage medical device, diagnostic or digital health companies are encouraged to apply. Series B and later companies will be considered for the Showcase track. Companies that have not yet closed a Series B will be considered for the Accelerator. Visit the MedTech Innovator website to learn more and apply today.</p> <p>Learn more and apply here</p>	<p>Alex Muggah (Synapse)</p>
<p>Hamilton Innovation Partnership Portal</p> <p>Synapse has created the Hamilton Innovation Partnership Portal (HIPP) to make the process simpler and more streamlined to find new partners within Canada’s leading health research and educational ecosystem.</p> <p>It is a way for companies to interact with the Hamilton community. A streamlined approach, to have Synapse represent everyone. We’ve set up an intake form, and have asked companies to direct them to the portal. Synapse is working with HHS to test it out with companies right now, including getting the approach/questions right. This will be a sense of</p>	<p>Andrea Lee (HHS)</p>

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<p>who wants to interact with the community, and then triage companies to relevant stakeholders within Hamilton.</p> <p>Portal is online through the Synapse website: http://synapseconsortium.com/partner/</p>	
<p><u>MGD-HICE Educational Webinars & DevTank Meetings</u></p> <p>Operating out of the Michael G. DeGroot School of Medicine at McMaster University, the Michael G. DeGroot Health Innovation, Commercialization & Entrepreneurship (MGD-HICE) aims to accelerate the exploration of health innovation opportunities and creation of socioeconomic impact.</p> <p>Check out the full suite of programming here</p>	Sarra Lal (MGD-HICE)