

## Hamilton Health Innovation Check-up: Meeting Minutes

June 25<sup>th</sup>, 2018

### 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, 8:45-10:00am

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:

<https://www.dropbox.com/sh/wszh8i2jq1sr03g/AACByBs-HmHVBl0ZIX5Hj7zEa?dl=0>

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](mailto:Alex.Muggah@SynapseConsortium.com). Updates will be reflected in a new section titled "Amendments from Previous Meeting".

**Next Monthly Check-up: July 30<sup>h</sup> | 8:45 – 10:00am | McMaster Innovation Park**

Please contact Alex Muggah at Synapse to be added to the meeting invite list / minutes distribution lists

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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
<p>Guest Speaker(s):</p> <ul style="list-style-type: none"><li>• <b>Mitch Wilson</b> COO and President of Mariner Endosurgery</li></ul> <p>Topic: Exploring Collaborative Opportunities in Norway</p>
<p><i>[the following is a synopsis of the discussion, and has been lightly edited for length and clarity]</i></p> <p><u>Introduction</u></p> <p><a href="#">Mariner Endosurgery</a> is a medical device company based in Hamilton. We do surgical visualization, different technologies to support surgeons minimally invasive surgeries. The team has been together for a little while, doing research and development before incorporating in Q4 2016. Mariner was fortunate to close our first round in Q1 of 2017. Early regulatory approval was received in in Q1 2018, and we've been working closely with Hamilton Health Sciences on some commercialization projects.</p> <p><u>Engaging Norway</u></p> <p>Norway may not be your first thought when entering into the European market, but I wanted to share some information about how it might work for Mariner, and how it could work for other (early-stage) companies.</p> <p>When we were asked to accompany a small Hamilton life science delegation to visit Norway, there had already been a lot of work done. A Norwegian company, called <a href="#">AblyMedical</a>, was already working with the <a href="#">GERAS Centre</a>, having started prototyping and clinical testing of a new hospital bed. In January of 2018, a delegation from Norway had <a href="#">come to visit Hamilton</a> (and Toronto) to learn about how Ontario nurtured innovation in the healthcare sector. They were hosted by the Hamilton community, including the Mayor and leaders from Hamilton Health Sciences, St. Joseph's, McMaster University, Mohawk, the City, etc. I attended this site visit and was opportunistic; I sought out a Norwegian surgeon called Dr. Eric Fosse, part of the Norwegian delegation and an interesting doctor who has done lots of cool things. During our conversation we discovered we were doing similar work, and he said that if we were serious we should come over to Norway to collaborate. I took him up on this offer.</p>

## Guest Speaker Discussion

For many early-stage companies Germany is the sensible place to enter the European market. But from my perspective, I thought there were merits to going into a more accessible market, like Norway. The similarities with the Canadian market (e.g., single payer, multiple levels of government involved in healthcare, relative size and proximity to larger markets, investments in innovation, etc.) made it appear to be a good fit.

By way of context, Norway has had the good fortune to make significant returns from its oil and gas industry, and the good sense to create a sovereign wealth fund to allow them to invest in new industries. One of their bets is in medical technology – and one of their priority markets is Canada. An aside – while we were there, we met someone who is on the board of Norwegian Airlines, which starting in the spring will be making connecting flights to North America through the Hamilton airport.

Overall the trip was good, and the Norwegians were generous hosts – including [NorwayHealthTech](#) and [Innovation Norway](#). They spent some time explaining their health system, the difference between regions and national delivery of care. They were very open to doing collaborations with companies/institutions in Canada. I also had the opportunity to have conversations around economic development – something that is generally of interest to government officials. For early stage medical device companies, I've found having conversations with both government officials and corporate partners to be extremely valuable to better understand context and frame opportunities.

Each member of the Hamilton delegation had a different expectation and different mandate for their visit to Norway. For Mariner, the goal was to find a clinical site for our project(s). Hamilton Health Science and McMaster University (both represented) also got some wins, though they were more focused around potential research collaborations.

During the first few days of the trip, I tried to focus conversation towards procurement – and quickly learnt that the situation for companies is similar to Ontario. Like here, you need to find ways to navigate the procurement process. At first blush, there are opportunities to do a first project, and then try to set up procurement, but they face similar obstacles that make it a challenge to adopt novel technologies (e.g., scale, RFPs). They are creating their own health start-up community – with a physical spaces (i.e. aLeap) with several dozen health start-ups, similar to the space maintained by The Forge. They could learn from the forge (e.g., EIRs, etc.)

For Mariner, the highlight of the trip was [the Intervention Centre at the University of Oslo Hospital](#), a playground for medical device technology focused on performing and supporting surgeries. The Intervention Centre was running everything, and had presence of many major international companies. For example, they had a surgical room set up so that you could do an experimental procedure on a porcine subject in the morning, and then do a quick turnover and do a routine surgical procedure on a human patient in the afternoon. The Centre enabled innovation technology to be brought into the hospital and deployed alongside regular surgical tools. It was also interesting by bringing together members from different disciplines together to work collaboratively, and then serving as a resource for the entire hospital.

## Guest Speaker Discussion

By the afternoon of the second day, I had broken off from the Hamilton delegation to take advantage of being able to spend time at the Intervention Centre (they even allowed us in to observe live surgeries), and work with some of their technical experts. They had a laparoscopic surgeon who performed 60% of the kidney/liver surgeries in Norway.

By the time I had left, I was working on an NDA, and it looks like we'll have our first European site in Norway. Overall, I'm glad that we went.

### Question & Answers

*Question: How many people were on the trip*

There were 4 people who were on the trip from Hamilton, as well as the Canadian lead for life sciences from Innovation Norway who is based in Toronto. From Hamilton there was Ted Scott (VP Research, Hamilton Health Sciences), Mike McGillion (Associate Dean, Research, McMaster School of Nursing), and Alex Muggah (Director, Synapse Consortium). One thing I will say about Norwegians is that they were extremely punctual.

*Question: are you going to do a clinical trial or validation?*

*We wanted to find a collaboration that led to a clinical site. My engagement with Norway will likely start with a validation and then escalate to a clinical trial. They had EU sponsorship, and will want to build the technology into a program.*

*Question: Do you submit to the EC regulatory first?*

*We have an ITA, and our main focus is on the US - our 510(k) is going in very soon. We are wrapping up a universal regulatory mark, and once that is secured, it will simply be a matter of getting the paperwork for the CE submission.*

*Question: What are similarities / differences between Norway & Canada?*

*There are a few similarities. They work under a single payer system and are very focused on RFPs to manage procurement. That said, the country is small, with a quarter of the population is in Oslo, which meant that the Intervention Centre was our one shot at making a connection – the expertise is concentrated in a few places.*

*Question: What opportunities are there for other Canadian companies?*

*For companies interested in the rehabilitation space, we visited the Sunnas Hospital which spends 8% of its budget on research (a significant amount compared to Canadian hospitals), and they are interested in collaborative relationships – and are doing a fair bit of testing of novel technologies themselves. They are also building a new hospital in Inland serving a more rural population, and are open to ways they could make this hospital more effective. Finally, there was significant interest in*

### Guest Speaker Discussion

*telemedicine (given the geographic distances facing care providers) and hospital-to-home technologies to enabling healthy living outside of the hospital.*

*One thing I would say is that it is a strong signal to the market to be able to demonstrate that you're strategy has a European, American and Canadian reference site – making a place like Norway a nice complement to selling in Canada and the United States. If you can be opportunistic, and you're an exciting dynamic company, then I believe there are ways to enter the market (and organizations that are ready to help make the connections for you). Indeed, if Mariner can get along further in the process, you are free to leverage us as well.*

Question: Was their interest mostly in surgery, or was it more diversified?

*Broadly, the Norwegians appeared to be most interested in medical devices, and less interested in pharma. They had a company that was similar to Novadaq before Stryker bought them. There is an appetite for rehabilitation services and products, and focus on hard medical devices. There was also an interest in delivering care at home (remote medicine) – companies like [Maple](#), where you can see your doctor virtually. They have restraints because of geography.*

Question: Was there any technology developed inhouse at the Intervention Centre?

*There were a couple of instances where they were building technologies with external companies (they called them "exploitation partners") that had been developed in house which had received FDA and CE clearance. I was very impressed by the strength of their technical team, and being in an academic hospital they had good research capabilities*

Time allotted | 20 Minutes

Topic: **Communicate**

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

Discussion	Presenter
<p>Hamilton Health Sciences flagged the success of their recent marketing campaign in support of their research activities, titled "<a href="#">We Are Explorers</a>"</p> <p>The <a href="#">campaign</a> underlines HHS's investment in innovative, strategic, highly creative minds who translate complex data into new knowledge, working alongside patients asking questions and solving problems. HHS is profiling researchers and clinicians from entire spectrum of healthcare professions: surgeons, pediatricians, physiotherapists, nurses, students. Beyond the lab, nearly 2,000 researchers and research staff are discovering and implementing new knowledge that's changing the way care is provided, in real-time.</p> <p>The most recent piece was in <a href="#">The Globe and Mail</a> on Friday, which featured the work of the Population Health Research Institute (<a href="#">PHRI</a>) and research around genomics, framing it in the context of local and global impact.</p>	<p>Katie Porter (HHS)</p>
<p>Health Ecosphere – Summer Showcase Event</p> <p>A recent "<a href="#">speed geeking</a>" event gave 10 innovative healthcare projects, including several from Hamilton, the opportunity to describe how their groundbreaking work made possible by the Health Ecosphere Innovation Pipeline project, a multi-partner collaboration led by York University, Southlake Regional Health Centre and the University Health Network (UHN). The event, held June 18, was hosted by Cisco Canada with more than 120 participants and partners in attendance.</p> <p>York University's Faculty of Health is the lead academic partner and administrative centre for the Health Ecosphere Innovation Pipeline project. Together, the project partners work with businesses and other research institutes to develop health technologies and state-of-the-art enterprise solutions for customized health management and care. Projects were funded with a \$15-million contribution from Fed Dev Ontario which was matched and surpassed with \$19.5 million in contributions from private sector partners.</p> <p>To learn more about the Health Ecosphere, contact Goran Marjanovic: <a href="mailto:marjanovgo@hhsc.ca">marjanovgo@hhsc.ca</a></p>	<p>Goran Marjanovic (HHS)</p>
<p>Health QR is looking for companies that have EHR or digital health apps with a prescriptive drug / pharmacy component who are interested in leveraging a newly developed middleware API. They have already stoop up 3 pilot test sites conducting pharmacy integration, and are looking to roll out test with up to 15 additional</p>	<p>Patti Ryan (Health QR)</p>

Discussion	Presenter
<p>companies. Health QR has taken the step of making the API open source, and so partners would only need to cover integration costs. costs would be free The integration</p> <p>For more information, please reach out to Patti Ryan: <a href="mailto:patricia@healthqr.com">patricia@healthqr.com</a></p>	
<p>Wet lab space available? There are a number of companies that are actively looking for wet lab space anywhere in the GTA-Hamilton area and are looking for any organization that might have wet lab space available for sub-lease.</p> <p>Separately, Jim Wilson noted that he is working with group in KW, that is exploring creating a life science incubator, part of it will be wet lab space. Looking for 25,000 feet, potentially up to 40,000 square feet. Another one is interested in doing this in Toronto.</p> <p>For those who may be able to help, or wish to learn more, please contact Jim Wilson: <a href="mailto:J.Wilson@cbre.com">J.Wilson@cbre.com</a></p>	<p>Jim Wilson (CBRE)</p>
<p><a href="#">McMaster University: Student Career Fair</a>, September 20</p> <p>McMaster’s largest annual career fair, featuring over 100 employers, will take place on September 20<sup>th</sup>. Drawing both undergraduate and graduate students who are looking for contacts for co-op, internship, and post-graduation positions at your company.</p> <p>Emily Taylor, Career Development and Relationship Manager, is available to support companies interested in setting up a booth or understanding the types of support available to defray the reasonable costs of taking on a student.</p> <p>For more information, please reach out to Emily Taylor: <a href="mailto:taylor Emily@mcmaster.ca">taylor Emily@mcmaster.ca</a></p>	<p>Emily Taylor (McMaster)</p>
<p><a href="#">Health Innovation Breakfast &amp; Learn Sessions</a> (multiple, July / August)</p> <p>The Michael G. DeGroot Initiative for Innovation in Healthcare (MGDII) is offering a series of workshops to support entrepreneurs seeking to take a health innovation from idea through to market entry.</p> <p>Learn more about intellectual property, regulatory environment and research methodologies relevant for health innovations (e.g. therapeutics, medical devices, research tools, data registries, digital applications, diagnostics and biosensors). These events are open to students, researchers, health care professionals and entrepreneurs. Breakfast will be provided.</p> <ul style="list-style-type: none"> <li>• July 12: <a href="#">Overview: Intellectual Property, Regulations and Agreements</a></li> <li>• July 19: <a href="#">In-Focus: Research Tools and Health System Innovation</a></li> <li>• July 26: <a href="#">In-Focus: Therapeutics, Med Devices, Diagnostics and Biosensors</a></li> <li>• Aug 9: <a href="#">In-Focus: Data Registries, Machine Learning and Digital Apps</a></li> <li>• Aug 16: <a href="#">In-Focus: Research Ethics and Research Methodologies</a></li> </ul>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>Commercializing Healthcare Solutions in the U.S. (VentureLab)</p> <p>On July 26, VentureLAB will team up with VenAdvisory to bring a working, collaborative session offering real-world, practical tools, frameworks and tips for commercializing digital health solution in U.S. markets. Will bring product manager, business development and investor hats to cover the following topics during their presentation:</p> <ul style="list-style-type: none"> <li>• Snapshot of U.S. Market</li> <li>• Playbook: U.S. GTM Case Study</li> <li>• What NOT to Do</li> <li>• Panel Discussion</li> </ul> <p>To register, or learn more, visit <a href="#">here</a></p>	<p>Alex Muggah (Synapse)</p>
<p><a href="#">Driving Dreams- IoMe Conference</a>, July 12</p> <p>The conference is focused on the Internet of Things and the intersection with digital health, smart mobility, industry 4.0, and advanced materials July 12 at the University of Toronto Mississauga. Over 20 thought leaders from industry, start up community and academia that will explore all perspectives of IOT and how it will change the way we work and live.</p>	<p>Tammy Hwang (City of Hamilton)</p>
<p>Hamilton Delegation headed to BIO International Convention (June 4-7)</p> <p>More than 20 members of the Hamilton life science ecosystem, including care providers, researchers, companies, and city government officials, went to the 2018 BIO International Convention in Boston (June 4-7). Together Hamilton delegates met with hundreds of participants, including industry, academic and government officials, showing how Hamilton can be a landing pad for companies and partnerships from around the world.</p> <p>In addition, we had the opportunity to meet with Allan O'Dette (Ontario Chief Investment Officer) and Molly Shoichet (Ontario Chief Scientist) about how Hamilton is demonstrating leadership in driving health innovation and attracting investment in Ontario. In addition to describing how Synapse partners are working together, the delegation shared examples of our international reach (e.g., Norway, US, Estonia, UK, etc.), Hamilton's capacity to support their respective missions.</p> <p>McMaster Innovation Park and the City of Hamilton were also in Boston, meeting outside of BIO with 12 companies who were interested in moving to Canada.</p> <p>At BIO, Hamilton demonstrated its ability to support scale-ups and create a supportive life science ecosystem. Hamilton has the systems and capabilities in place to work with international companies to land and work in Hamilton.</p> <p>The BIO International Convention is hosted by the Biotechnology Innovation Organization (BIO). BIO represents more than 1,100 biotechnology companies,</p>	<p>Alex Muggah (Synapse)</p>



Discussion	Presenter
<p>academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations. BIO members are involved in the research and development of innovative healthcare, agricultural, industrial and environmental biotechnology products.</p>	
<p>Hamilton delegation visited Norway (June 11-13)</p> <p>Ted Scott (Chief Innovation Officer, Hamilton Health Sciences) led a small delegation to Norway in June, to meet with representatives from the health cluster (<a href="#">Norway Health Tech</a>) a follow up on the <a href="#">visit by the Norwegian Health Minister</a> to Hamilton in January. The visit successfully identified potential partnership and collaboration opportunities between Hamilton organizations and Norwegian counterparts.</p> <p>Hosted by Norway Health Tech and Innovation Norway, the three-day visit included visits with dozens of Norwegian life science stakeholders, including companies, researchers, and government agencies. Highlights include visits to the <a href="#">Sunnas Rehabilitation Hospital</a> and the <a href="#">Oslo Hospital Intervention Centre</a> with Dr. Eric Fosse, where we were able to see cutting edge health technology being developed and deployed by Norwegian innovators.</p> <p>For more information, reach out to <a href="mailto:Alex.Muggah@SynapseConsortium.com">Alex.Muggah@SynapseConsortium.com</a>, or come out to the June Health Checkup to learn more about the trip</p>	<p>Alex Muggah (Synapse)</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>Hamilton Health Sciences Foundation is thinking about ways in which it can engage the community and raise funds. Was thinking about having a kick-off event to start Hamilton Health Innovation Week next year, perhaps built around a TED/MED-talk type model.</p> <p>The vision is for a slate of high-profile dynamic speakers, open and of interest to the public, and not just those in the industry. It would also not be Hamilton centric, welcoming community members from across Canada.</p> <p>Objective of the event would be to feature what’s happening in the industry, the region, and the city, in the life science verticals. Stealing the idea from the Waterloo innovation summit (like True North), where they had 2,500 people. An annual event, that people came for 2 days with a slate of speakers, to talk about innovation. Funds raised would go to McMaster Children’s Hospital.</p> <p>The focus on what’s going on in the industry, rather than the players, trying to make the content more appealing to a general audience while also raising the profile of the city’s innovative capacity. Good examples is what has been done include <a href="#">True North</a> in Waterloo, or <a href="#">MedEdge</a> held by VentureLab.</p> <p>Will be important to talk about origin stories “how we built this in Hamilton” and how companies overcome the commercialization hurdle – going beyond the incubation of ideas to how deployment. For example, Hamilton is working on innovative cancer therapies that are coming online – would be interesting to explore the science and how they’ll be deployed, administered, etc.</p> <p>Timing of the event will be important, especially given that around <a href="#">Hamilton Health Innovation Week</a> (April 23-29 this year) are several events, including the BloomBurton investment conference, TO Health Week, RESI, etc.</p> <p>Jim is actively engaging with companies and institutions around Ontario to explore their interest, and would welcome any ideas, suggestions, and those who wish to get involved. To learn more contact Jim Wilson at <a href="mailto:J.Wilson@cbre.com">J.Wilson@cbre.com</a></p>	<p>Jim Wilson (CBRE)</p>

Discussion	Presenter
<p>Health Leadership Academy: <a href="#">Event Series</a></p> <p>The Health Leadership Academy runs a series of events in health innovation and health leadership coming up over the course of the year – with the next one on Sept 13<sup>th</sup></p> <ul style="list-style-type: none"> <li>• Sept 13 – <a href="#">Role of Theatre Arts in Healthcare</a> (Health Leadership Academy)</li> <li>• Oct 4 – <a href="#">Health Economics and the Future of Cancer Health</a> (Health Leadership Academy)</li> </ul>	<p>Amanda Calzolaio (HLA)</p>
<p>Trade Mission to RESI Conference in Boston (Sept 6)</p> <p>The Ontario Ministry of International Trade, is organizing a mission to the Boston RESI Conference on September 6. This Trade Mission will be able to accommodate a maximum of ten Ontario companies.</p> <p>The RESI Conference has been designed to bring together fundraising CEOs and early stage investors from around the world. Participants on the Ontario Trade Mission will have an opportunity to meet one-on-one with investors and potential partners, take the pulse on the latest biotech and medtech investment trends, hear from investment and company executives, present their company’s value proposition to investors, and network with peers and potential partners.</p> <p>The RESI Conference, organized by Boston-based Life Science Nation (LSN), will be of interest to early stage biotech, medtech, and HIT companies seeking investment and partners. For more information about the Life Science Nation organization and the RESI Conference, please visit: <a href="http://www.lifesciencenation.org">www.lifesciencenation.org</a> and <a href="http://www.resiconference.com">www.resiconference.com</a></p> <p>If you have any questions, or wish to participate, please reach out to Patricia Cosgrove (<a href="mailto:Patricia.Cosgrove@ontario.ca">Patricia.Cosgrove@ontario.ca</a>) no later than Friday, July 6th</p>	<p>Carolynn Reid (City of Hamilton)</p>
<p><a href="#">3i Ontario</a>, 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>
<p>Life Science Ontario will be hosting to events over the summer.</p> <p>The first is a Networking Night on July 10th, at Marche Brookfield Place in Toronto's financial district. To register, click <a href="#">here</a>. And while the 2018 Golf Classic is sold out, you can still participate in this event by attending our <a href="#">networking reception &amp; luncheon</a>, or <a href="#">sponsoring the event</a> to allow you to connect with 150 leaders in Ontario's life sciences sector.</p> <p>To learn more, reach out to Ramy Ayad: <a href="mailto:ramy.ayad@lifesciencesontario.ca">ramy.ayad@lifesciencesontario.ca</a></p>	<p>Alex Muggah (Synapse)</p>

## Hamilton Health Innovation: Calendar Highlights

### July & August

- July 12: [Driving Dreams- IoMe](#) (RIC Centre)
- July 12: [Overview: Intellectual Property, Regulations and Agreements](#) (MDGII)
- July 19: [In-Focus: Research Tools and Health System Innovation](#) (MDGII)
- July 26: [In-Focus: Therapeutics, Med Devices, Diagnostics and Biosensors](#) (MDGII)
- July 26: [Commercializing Healthcare Solutions in the U.S.](#) (VentureLab)
- Aug 9: [In-Focus: Data Registries, Machine Learning and Digital Apps](#) (MDGII)
- Aug 16: [In-Focus: Research Ethics and Research Methodologies](#) (MDGII)

### September

- Sept 6: [Business Development Basics for Life Science Companies](#) (JLABS)
- Sept 6: Ontario Trade Mission to RESI Conference in Boston
- Sept 13: [Role of Theatre Arts in Healthcare](#) (Health Leadership Academy)
- Sept 20: [McMaster University Student Career Fair](#)
- Sept 24 – [MedTech Conference](#)

### October (and Beyond)

- Oct 4 – [Health Economics and the Future of Cancer Health](#) (Health Leadership Academy)
- Oct 16-18: 21st [TCI Network Global Conference](#) (Institute for Competitiveness & Prosperity)
- Nov 7: [McMaster Innovation Showcase](#) (MILO)