

HORIZON

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Getting to the Root of the Problem: Gene-silencing drugs ready for testing

Phase I clinical trials for ISIS-HTT_{Rx} start this spring

By Julie Stauffer

Any new clinical trial of a potential HD treatment sends ripples of excitement through the HD community. ISIS-HTT_{Rx} is not just any treatment, however. This "gene-silencing" or "huntingtin-lowering" drug goes right to the root of the problem: the RNA that codes for the huntingtin protein.

If you think of DNA as a library of blueprints for making the different proteins your body requires, RNA molecules are the photocopies sent to your cells' protein-making factories. Eliminate the huntingtin RNA and your cells can no longer produce the huntingtin protein.

"The idea is to shut down the production of the mutant huntingtin protein," explains Dr. Amber Southwell, a post-doctoral researcher at the University of British Columbia's Centre for Molecular Medicine and Therapeutics. "That way, you can correct all the different things that go wrong, instead of just focusing on one downstream process."

In mice, that is exactly what happens. In fact, the drug does not just stop the progression of the disease but actually reverses it. A study published in 2012 showed that a single dose eliminated huntingtin protein for four months and reversed the cognitive, physical and behavioural symptoms of HD in a mouse model. After four months, protein levels gradually increased, but the symptoms didn't return for a further five months.

"This is exciting news and the first time that we have had a drug that addresses the root cause of HD," says Bev Heim-Myers, CEO of the Huntington Society of Canada. "Moving to Phase I clinical trials will address the safety issues of this treatment in humans. We still have a long way to go but we are further ahead than we have ever been."

How it works

Gene-silencing uses small fragments of DNA called antisense oligonucleotides (ASOs) to bind to RNA. The cell's defence system treats the ASO-RNA compound as an invader and destroys it.

There are two different ways to go about silencing the huntingtin gene. People with HD have one copy of the regular gene and one copy of the mutant gene, so researchers can target either the mutant copy alone or both copies.

From a practical perspective, targeting both is easier. That is the approach that ISIS-HTT_{Rx} takes. However, because researchers know that normal huntingtin helps to protect brain cells, Isis is also busy developing a second-generation drug that targets just the mutant RNA.

Trials launch this spring

Small-scale Phase I trials are expected to begin in spring 2015 at a few sites. Canada and Europe may be on the list of potential locations. At this point, researchers are not trying to judge how effective it is but simply make sure it is safe.

If the Phase I trials are successful, the next step will be Phase II trials to test how well the drug works. That is going to take time because HD progresses slowly. As exciting as this is, it will take some time to make sure it is safe and that it works before it gets to market.

However, since Phase II trials will be bigger and involve more sites, there will be more opportunity for volunteers. To find out about trials near you, sign up at Enroll-HD (a description of Enroll-HD follows this article).

Amidst all the excitement over ISIS-HTT_{Rx}, it is important to remember that not all clinical trials

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Highlights from the HSC 2014 National Conference

By Cyndy Moffat Forsyth

Speaking to a sold-out conference, Bev Heim-Myers, CEO of the Huntington Society of Canada (HSC) opened the HSC 2014 National Conference with a heartwarming welcome. She encouraged those in attendance to embrace the collective strength in the room, advised everyone to take the opportunity to connect with old friends and learn from world-class speakers and most of all she encouraged delegates to celebrate the amazing HD community. Heim-Myers told delegates that the 2014 conference was already a success, as it sold out six weeks in advance and hosted a number of successful initiatives prior to the official start of the conference.

Heim-Myers explained the significant full-day events that had taken place the day prior. Young People Affected by HD (YPAHD) hosted a youth day; the Family Services Team and Chapter delegates each had training sessions; and Sandra Funk, Manitoba Resource Centre Director, hosted

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HORIZON

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Horizon is the newsletter of the Huntington Society of Canada. Published throughout the year, its purpose is to convey information to individuals with Huntington disease and their families, health care professionals, friends and supporters.

Huntington disease is a hereditary brain disorder which has devastating effects on both body and mind. The symptoms, which may include uncontrollable jerking movements and relentless cognitive and emotional impairment, usually appear between the ages of 30 and 45, and gradually worsen over the 10-25 year course of the disease. As yet, there is no meaningful treatment.

The Huntington Society of Canada is a national non-profit charitable organization founded in 1973 to help individuals with Huntington disease and their families.

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Note from the CEO

Today, we are on the cusp of a new era in Huntington's research. No fewer than five new clinical trials are about to start, including Phase I trials of gene-silencing drugs. At our sold-out National Conference in Winnipeg in October, the room was alive with excitement as clinicians, scientists, health-care providers and families, even preteens, gathered together to hear about all the latest advancements in research.

Following the conference our social media was buzzing with excitement and emails came pouring in. One email in particular came from a 10-year-old whose mother has HD. "I want to spread awareness and get some support for this disease. I think we can conquer it." For me, that says it all.

With so many potential treatments in the works, we need to be prepared. That is exactly what we

are doing with our Be Brave, Be Bold, Be Ready: Clinical Trials Readiness initiative. The day before the conference, we brought together clinicians and researchers to develop a best practices manual for rolling out clinical trials. We are working on a national HD clinical trial strategy, which includes ways we can quickly and efficiently recruit the participants we need and set up mentorships between seasoned clinicians and their newly practicing colleagues. In partnership with Rx&D and our researchers, scientists and clinicians across the country, we have created clinical trial readiness lists, so clinicians have a checklist when setting up clinical trials.

With so much progress to celebrate, it was particularly sad to lose two influences within the Huntington's community recently: Warren Evans and Bob Stevens. I know they were incredibly proud of everything we have achieved, and would be very excited about going into clinical trials in 2015. We will continue to build on the foundations they have helped to lay.

Thanks to the vision and hard work of Warren, Bob and many others, HSC has never been in better shape. In 2014, we exceeded our revenue targets, came in under budget on expenses and achieved absolutely everything we set out to achieve. That does not happen without a team that is willing to go the extra mile.

To everyone who has brought us to where we are today, thank you. As it was so eloquently stated at the HSC 2014 National Conference by Dr. Ed Wild and Dr. Jeff Carroll, we are all in this together.

Bev Heim-Myers
Chief Executive Officer

Getting to the Root of the Problem

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prove successful. "There is no guarantee that the first try is going to be the one that works," says Southwell. "I believe the strategy will work, but we need to be cautiously optimistic about this."

To learn more about volunteering for a clinical trial or investing in clinical trial research, visit www.huntingtonsociety.ca. Our clinical trial fact sheet can be found under Learn About HD, HD Healthcare Publications.

Enroll-HD is a longitudinal, observational, multinational study that will integrate two existing Huntington disease (HD) registries, REGISTRY in Europe and COHORT in North America and Australia, while also expanding to include sites in Latin America and Asia. With no end date and annual assessments, the goal of Enroll-HD is to build a large and rich database of longitudinal clinical information and biospecimens. This database will serve as a basis for future studies aimed at developing tools and biomarkers for progression and prognosis, identifying clinically relevant phenotypic characteristics, and establishing clearly defined endpoints for interventional studies.



HD Buzz
Huntington disease research news.
In plain language. Written by scientists.
For the global HD community.
Go to www.HDBuzz.net to see what the Buzz is all about!

HSC 2014 National Conference Keynote Speakers

How Kinship and Friendship Can Help Build Resilience

with Dr. Greg Evans

Traditionally mental health and self-help initiatives designed to build resilience have focused on the individual. Dr. Evans shared with delegates that the success of this individual focus may be hiding a larger truth, as one of the best predictors of resilience is the existence of strong social connection and support. Speaking to an enthusiastic crowd, Dr. Evans utilized a combination of individual and group exercises to explore what top researchers in the sciences and the humanities have to say about improving personal resilience and how to best contribute to the resilience of others. Examining what strong support looks like, Dr. Evans helped to define what people are trying to build when they create a good support network within the HD community. He explained that by understanding our strengths and using them, we build ways of coping with the challenges we face on a day-to-day basis. Dr. Evans concluded his address by thanking the HD community. He noted that much of what scientists and researchers have learned comes from groups like the HD community, where they can clearly see how the community has built networks and supportive relationships for each other.

Learn About HDBuzz and the Latest in HD Research

with Dr. Ed Wild and Dr. Jeff Carroll

Dr. Ed Wild and Dr. Jeff Carroll first provided an overview of HDBuzz, a website available in 13 languages that communicates the latest HD research in plain language. HDBuzz can be accessed at www.HDBuzz.net. Dr. Wild and Dr. Carroll then outlined five reasons why there is substantive hope for the HD community:

- 1) HD is the most curable of the incurable brain diseases.
- 2) The HD community is tightly knit and supportive.
- 3) HD researchers have a unique opportunity to study people with the gene who have not yet shown symptoms.
- 4) Having symptoms doesn't mean it's too late if we can develop effective treatments.
- 5) Science is cumulative.

Dr. Wild and Dr. Carroll also outlined five clinical trials that are in progress or will begin in the new year.

Deep Brain Stimulation (DBS) is a common treatment for Parkinson's. A small pilot trial involving five individuals has already happened in Europe. A larger multicentre trial to include more individuals is now underway, thus providing more definitive results.

Amaryllis is a multicentre Pfizer trial of a PDE10 Inhibitor drug that may help neurons to communicate more effectively.

Two Teva sponsored trials include Pride-HD (Pridopidine), which may help with movement symptoms, and Legato-HD, which aims to calm down the immune system in HD.

The fifth clinical trial is the first huntingtin-lowering treatment trial in HD. Called ISIS-HTT_{Rx}, the drug will be injected into the spinal fluid and hopefully reach the brain, then tell the cells not to make the harmful huntingtin protein that causes HD. This is a world first for this method, which most HD researchers consider to be the most promising approach to treating HD. It is scheduled to begin in the first half of 2015.

Dr. Carroll explained that the drugs being tested now have been specifically designed for HD. This is a big change. To prevent HD we all have to work together. Our best chance for success is when HD families, the Huntington Society of Canada, researchers and scientists act as a community. Dr. Carroll's advice was to sign up now through Enroll-HD.org so that you can be contacted when clinical trials are available.

Dr. Wild and Dr. Carroll closed their session by quoting President Barack Obama after the financial crisis in 2009: It is time to "Grab a mop – let's get to work." We have never been as close as we are now.

Getting Close: Increased understanding leading to new approaches to therapy

with Dr. Michael Hayden

Dr. Hayden joined delegates via teleconference from Israel. His heartwarming address provided insight into what led him to speak at the HSC 2014 National Conference about new approaches to HD therapy and why he has dedicated his life to finding an answer to HD. Dr. Hayden provided an overview of how clinical trials work, the different phases, and discussed the two studies that Teva has invested in: Pride HD (Pridophioine), which targets movement

symptoms, and Legato-HD, which helps the immune system.

Dr. Hayden believes that HD could become the model for dementia research. In 2006, the G7 leaders got together and stated that HIV would be managed by 2015. The money and resources dedicated to that agreement solved the problem much earlier. The G7 countries have now decided to change the course of dementia by 2025 and HD is an important part of the whole.

Dr. Hayden's message was to get involved and let your doctors know that you want to be part of a study. Participate in Enroll-HD and stay in touch with the Huntington Society of Canada. This is an exciting time for the HD community.

From Basketcase of Healthcare to Benchmark

with Charles Sabine

Charles Sabine, back by popular demand, opened his talk by explaining that he had spoken at the 2008 HSC National Conference in PEI, where he outlined what he felt needed to happen in the global HD community. With the 2014 delegates he wanted to discuss how far the HD community has progressed.

Mr. Sabine first learned of Huntington disease in 1994 when his father was diagnosed. He painted a picture of what life was like for those who faced HD then and what it was like when he spoke to delegates, just six years ago, at the PEI Conference.

He spoke of his experience with the neurologist who provided his test results and informed him that there was nothing he could do. The reality, Mr. Sabine told delegates, was that there is everything one can do.

Outlining changes in the past six years, Mr. Sabine explained that the future is not as black and white for the next generation. Patients are feeling more connected to the work being done to find a treatment for HD. The HSC 2014 National Conference is a good example of researchers, scientists and the HD community coming together to learn from each other.

Mr. Sabine ended his talk by reminding delegates that "all of us can dare to hope because our report card shows we are winning. We are turning this around. We are the custodians of our voyage." Sabine had no sooner ended his presentation when delegates were on their feet giving him a standing ovation in appreciation for his inspiring words of hope.

An Ariel View by Ariel Walker, Co-Founder of the Huntington Society of Canada

with Elaine Hardy

I've invited some friends to share their memories of the Society's early days. Our guest for this edition of Horizon is Elaine Hardy, former Vice President of Patient Services at the hospital that is now called Runnymede Healthcare Centre.

In the early 80s I remember we admitted someone with Huntington disease and we found ourselves very challenged. I reviewed all the nursing, medical, therapy, and physiotherapy discipline literature that I could find for specific care approaches but could not come up with anything worthwhile.

I had heard about the Huntington Society so I phoned them up and spoke to a delightful gentleman named Ralph Walker. He sent what they had right away and it was better than what I had found, but still it wasn't really what I was looking for. There wasn't a lot of material back then but it was a heck of a lot better than what we could find. He popped down to the hospital not long after that and we had a good chat about the problem.

And that's where it began.

Shortly after that he invited two of us to come to an international conference in Niagara Falls. The Australians were there, and they were so far ahead of everyone else in terms of Huntington's care. We came back and started a Huntington disease interest group with staff from every department and this group became our clearing

house for information and a creative action centre for all subsequent projects.

Ralph would come to our meetings and share some new thinking, and from there we began to develop many of our own techniques. For example, we did not believe in restrictive physical restraints, even though almost every other institution was using them at that time. So at night, we'd put a great big mattress beside the bed for protection in case the patient fell. We would also use padded furniture and surfaces to help maintain independence and safety. Our Speech and Language Pathologist introduced Thick-It so that patients could safely drink liquids again, including that wonderful cup of coffee or tea. These were simple, low tech things but every new idea that came along gave us hope.

Ralph would often phone and say, "I'm coming to visit." We could be sure that he had an interesting new idea, which no doubt, would involve a great deal of work on our part. He would arrive in my office and say, "Now Elaine, don't get excited but what about this?" and we would be off on another project: an interdisciplinary caring manual, four educational videos, a one-day HD conference in Toronto, joint sharing of a Speech and Language Pathologist.

He must have had a hundred new ideas! He got everything going. He was so enthusiastic.

Whenever he came, he would visit all the folks with HD and leave them smiling and happy. The staff loved his enthusiasm and his



encouragement! For me, it was a privilege to have known and worked with Ralph. I considered him to be a valued colleague and a truly wonderful friend.

And of course, what a wonderful personality! After he left you would just feel great. Ralph, to me, was a fabulous friend. A colleague, yes. But above all, a fabulous friend.

Have a story to tell about your involvement with HSC? We are collecting your memories of the Society's impact over the years.

Please share your story with us. Email us at info@huntingtonsociety.ca or call us at 1-800-998-7398. We will interview you, write your story and share it with our readers.

Highlights from the HSC 2014 National Conference

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a pre-conference workshop featuring Jim Pollard for health-care professionals in Winnipeg. Finally, the Be Brave, Be Bold, Be Ready: Clinical Trial Preparation Workshop hosted by HSC saw researchers, scientists, clinicians, and Canada's Research-Based Pharmaceutical Companies (Rx&D) continue their work in developing a National HD Clinical Trial Strategy for Canada.

This year we are pleased to bring you summaries of each of the keynote sessions and workshops.

The 2014 National Volunteer Awards were presented at the close of the conference, celebrating the significant contributions of our incredible volunteers.

As the conference came to a close, Dan Devlin, Chair of the Board of Directors, thanked delegates for their dedication and for their contributions in making this conference a success. Dan mentioned that he understood the importance of gatherings like the conference and what it means to connect and embrace our collective strength. He encouraged delegates to take that strength, and all that we have learned from the conference, with us as we look toward the future. Dan thanked everyone for making the choice to attend the HSC 2014 National Conference and told delegates that their presence inspired him. He said he was both

grateful and honoured to be involved with the HD community and the Huntington Society of Canada. He left delegates with a parting note: "As you leave here this evening and return to your communities, please remember that above all, based on what we have learned here over the past few days, we have many, many reasons to be optimistic."

To read summaries of the HSC 2014 National Conference keynote speaker presentations and workshops, which have been written specifically for our Horizon readers, please see pages 5 to 9.

The HSC 2014 National Conference Workshop Summaries

The following summaries provide a brief overview of each of the workshops presented at the HSC 2014 National Conference. If you have questions about any of the content, please email us at info@huntingtonsociety.ca or call us at 1-800-998-7398.

HDYO: Improving Support for Young People Impacted by HD

with Chandler Swope

Chandler Swope, Youth Services Worker, introduced delegates to HDYO, a non-profit organization created to provide support and information to young people impacted by HD globally. HDYO, which was launched in 2012, was founded and is run by young people impacted by HD.

The HDYO website provides educational information for kids, teens, young adults, parents, and professionals about HD and Juvenile Huntington disease in a 'youth-friendly' format.

Chandler explained that HDYO recently recruited her to the role of Director of Youth Services in the Mid-Atlantic region (DC, Baltimore, North Virginia) in the United States as part of a three-year project, an important step in the evolution of HDYO.

Chandler credits young people from around the world for playing a vital role in reducing the stigma of HD, resulting in more open and effective dialogue in the HD community.

Studying Patient Cerebrospinal Fluid to Understand and Treat HD

with Dr. Ed Wild

Speaking to a crowded room of eager and engaged delegates, Dr. Wild spoke for over an hour explaining the impact of studying cerebrospinal fluid and why it is important in HD research.

Dr. Wild described to the audience how "huntingtin-lowering" or "gene silencing" treatments for HD raised the question, how do researchers know when it's working? He impressed upon the audience that researchers need to know, on a chemical basis, that treatments are working. At the moment researchers rely on clinical tests such as observation and evaluating motor skills, which could take years to notice any degree of change. A brain biopsy is a theoretical option for measuring whether a treatment is working; however, the risk for the person is high.

A lumbar puncture is a much more appealing option, since 80% of the proteins in spinal fluid collected by lumbar puncture come from the brain.

At this time researchers are developing a process for the testing of lumbar puncture fluid in order to determine the effectiveness of the HD "lowering drug" or "gene silencing" treatments.

Dr. Wild's main message is to consider cerebrospinal fluid donation through lumbar puncture, when the time comes, because the more samples researchers can gather, the more information is collected.

Your Life Journey: Planning for the Future

with the HSC Family Services Team

Delegates crowded into this workshop with the Family Services Team to learn about strategies and where to start in planning for the future. The Family Services Team examined the importance of planning, what to think about when planning and how to have those often uncomfortable discussions about your own vulnerabilities and future care. They encouraged delegates to write down their beliefs, values and wishes as the first step in making an Advance Care Plan. They spoke of how perspectives can change over the years; a plan can evolve to adapt to unexpected events, and conversations and formal documents are the essential foundation of the plan. The team ended the session by providing resources for those ready to start preparing for the future and encouraged delegates to talk to their local Resource Centre Director or Family Services Worker for more information.

The Basics of Huntington Disease: Past, Present and Future

with Dr. Douglas Hobson

Dr. Douglas Hobson began his workshop on the Basics of Huntington Disease by describing HD as a complicated puzzle with past and present pieces working together to help create a future. He outlined the history of HD as far back as the 16th century, walking delegates through what was documented by early medical professionals.

Dr. Hobson provided a brief genetics overview for those new to the disease and explained the difference between the unaffected huntingtin gene and the mutated huntingtin gene. He explained how the mutant gene repeats and how it affects generations. Dr. Hobson also touched on genetic testing and the role it plays in family planning and other decisions.

Citing memory, mood and movement as the predominant areas affected by the disease, Dr. Hobson discussed how HD doctors quantify symptoms using the Unified Huntington Disease Rating Scale. He also reviewed common medications and encouraged people to speak directly with their medical team.

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Conference Spotlight



For over 27 years, Bev Farrell has been employed as a Therapeutic Recreation Specialist at Parkwood Hospital of St. Joseph's Health Care in London. For more than 20 of those 27 years, Bev has also been a part-time Family Services Group Facilitator for the Huntington Society of Canada, often volunteering her time to run workshops during her vacation to provide support to those affected by HD. Currently working at Third Age Outreach, a satellite program of Specialized Geriatric Services, to support frail seniors at various centres in London, Bev continues to work with the HD community, providing much-needed support. Bev is a recipient of the Sisters of St. Joseph Award for Excellence and the Michael Wright Community Leadership Award. It is people like Bev who are shining examples of the dedication and long-term commitment that Ralph and Ariel Walker inspired when they started the Huntington Society of Canada.

The HSC 2014 National Conference Workshop Summaries

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Speaking to treatments, Dr. Hobson encouraged people to live a healthy lifestyle, avoid alcohol and smoking and maintain a high level of fitness, as exercise improves general health and is thought to improve brain blood flow.

Dr. Hobson's message was that the future is bright. While there are many challenges, significant research is progressing around the world. "We are now able to target the underlying mechanisms, the production of mutant huntingtin using miRNA techniques," says Dr. Hobson. "Once we confirm we can do this safely and we determine the correct dose and frequency, we will be able to slow, if not stop, the disease from progressing to a symptomatic stage."

Out of Adversity Comes Opportunity: or How a First Nations community's struggle with Huntington disease (HD) led to the creation of a new HD resource

with Nathalie Bolduc, genetic counsellor at the McGill University Health Centre

Nathalie Bolduc works with an Innu community in northern Quebec. One in 133 individuals in this First Nations community has HD, as they are descendants of one large family affected by HD. Many individuals also struggle with addictions, depression and other social issues. Nathalie's involvement with this community challenged her to reassess provision of genetic services in a way that is effective and relevant to the community.

In 2010, Uauitshitun, the community's health services, created an HD program with a social worker, a psychologist and a coordinator to meet the need for appropriate care in the community and to promote awareness. This group identified the need for genetic education and the provision of support as main concerns. With the community's help, funding to develop a new online resource for HD was granted through Health Canada's Health Services Integration Fund. The development of this new resource started in late 2012. It will provide information about HD in Innu, French and English. Ultimately, there will be 17 educational videos and nine personal stories videos.

This project is scheduled to be completed in June 2015. The videos are currently being reviewed and finalized according to community feedback. A segment of videos for health-care professionals is also being developed. All of the videos will be available to the public next spring on the Uauitshitun and Huntington Society of Quebec websites.

Clinical Research in Huntington Disease: Why You Should Become Involved

with Dr. Mark Guttman

Dr. Guttman opened his session by explaining the Be Brave, Be Bold, Be Ready HSC Clinical Trial Readiness Strategy initiative and stressed that the largest limiting factor for clinical trials is the lack of patient participation.

Dr. Guttman discussed with delegates how clinical research works and the regulatory bodies involved. He explained clinical trial phases, the safety measures that must be taken and the detailed protocols that researchers must follow. He also explained how drugs get to market through the drug discovery process, preliminary testing in animal models and evaluation and approval by regulatory agencies. This process requires at least 10 years and currently costs \$1 billion.

Dr. Guttman encouraged delegates to consider participating in Enroll-HD, a prospective registry and research platform. He explained that the study has three objectives: to improve understanding of clinical signs and symptoms; to foster good clinical care and improve health outcomes and to enhance the design and expedite the conduct of clinical trials. Everyone can participate!

The ultimate goal of HD research is to develop modifying strategies before the onset of symptoms. Currently programs are focused on research to improve symptoms and to explore disease modifying strategies in early symptomatic patients. Dr. Guttman encouraged delegates seeking involvement in clinical trials to ask questions about the length of the study, the duration of each visit, potential risks, objectives, and next steps.

Dr. Guttman ended his presentation with suggestions on how to find out more about current studies. He suggested speaking to your doctor and obtaining a referral, in addition to self-education through research, HDBuzz.net,

HSC newsletters, the HSC website (www.huntingtonsociety.ca) and www.clinicaltrials.gov.

Predictive Testing and Prenatal Testing Options for Huntington Disease: A Review of Current Practices

with Monique LaPointe and Shannon Chin

This was a joint presentation by Monique LaPointe and Shannon Chin, genetic counsellors from the Medical Genetics Program in Winnipeg. The first half of the presentation focused on the DNA test for HD reviewing CAG repeat size. Current guidelines for predictive testing were reviewed, including what to expect at the pre-test and result appointments. The option of Telehealth appointments was discussed for those living in rural areas. The audience was referred to the website predictivetestingforhd.com for additional information.

The second half of the presentation focused on prenatal testing and preimplantation genetic diagnosis (PGD) for HD. Three families shared their experience with PGD and there was a discussion about the pros and cons of various prenatal testing options.

HD Symptoms Outside the Brain: Do They Matter?

with Dr. Jeff Carroll

Dr. Carroll introduced his session to a packed room and shared with delegates the work his lab is doing on Huntington disease and the liver. He explained that his research is a very small piece of a larger picture and he is hopeful that his piece will identify a biomarker in the liver that will allow researchers to verify outcomes of therapeutic trials. The outcome is that the biomarker will check efficacy when looking at drug treatments. It will allow researchers to measure drug levels in the liver to see how the body processes the drug.



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The HSC 2014 National Conference Workshop Summaries

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Dr. Carroll thanked delegates for their support and explained how the Huntington Society of Canada provided seed money for this research, which produced some promising results. Dr. Carroll credited HSC for the initial funding, as this allowed him to secure a much larger grant from CHDI to continue this important work.

Hurry Up & Wait: Thinking About Thinking with HD

with Jim Pollard

Speaking to caregivers, social workers, families and individuals, Jim Pollard once again delighted and educated delegates from the moment they walked into the room. Delegates who attended this session actively participated in a fun and poignant workshop that included a lot of laughter. By participating in the exercises and listening to Mr. Pollard's words of wisdom, delegates said they were able to understand and empathize more with a person affected by HD.

Mr. Pollard tackled such questions as what does it feel like to do something slower? How does it feel to recall versus recognize? How does it feel to focus on one thing at a time amid distractions? He provided examples and activities so delegates could experience firsthand what it might be like to experience some of these challenges.

Mr. Pollard also provided strategies on how to communicate with someone who has HD. He stressed the importance of not interrupting someone with HD, as each time they are interrupted they have to begin the task all over again. He advised waiting longer, if possible, for a response and filling in the silence while waiting for a response if you need to. But avoid asking more questions.

His parting tips:

- Ask multiple choice questions instead of "essay questions," or ask questions with a "yes" or "no" answer
- Routine is comforting
- KISS (Keep it Simple/Short/Same)
- Go slow
- Minimize distractions
- One thing at a time

YPAHD: The Youth Chapter of HSC

with Doug Mallock and Jaclyn Skinner

This presentation by YPAHD members focused on the history, structure and mandate of YPAHD, as well as how people can become involved.

YPAHD was born when a small group of young leaders within HSC saw a need in the HD community for support targeted to young people affected by HD. Identifying this need led to the launch of YPAHD, a virtual HSC Chapter for youth, in 2008.

Striving to provide a community and support network for young people, increase public awareness and raise funds to deliver services and further research to slow and prevent HD, YPAHD listens to and advocates for the needs and goals of young people affected by HD.

Doug and Jaclyn work with their peers to empower young people across Canada to work together and help end HD. All share the same vision: being the last generation to know what HD can do to a person/family. YPAHD members from all provinces meet monthly through a variety of communication methods including social media, conference calls and Skype. The first YPAHD Day was held at the 2012 HSC National Conference, and is now a permanent addition to the HSC National Conference.

With YPAHD's support, HSC recently introduced a unique and innovative Mentorship Program. This program connects young people within the HD community with a trained mentor. Doug and Jaclyn shared with delegates the benefits of this program.

Doug and Jaclyn concluded by saying that knowledge is power and the only way we can stand up to HD is by understanding it and making people aware of what it can do to a person and their family.

The Start of a New Era in Huntington Disease Research: New Pathways and New Drugs on the Cusp of Clinical Trials

with Dr. Ray Truant

To begin his presentation, Dr. Truant noted that the huntingtin protein is very long and while research

pathology has been focusing on the brain, current research is also looking at effects outside of the brain.

Dr. Truant reviewed the importance of the huntingtin protein for normal brain development. He noted current approaches to a solution for HD:

1. Get rid of the mutant huntingtin protein
2. Find medication to reduce levels of hyperactivity of neurons or "calm them down"
3. Look at the small chemicals that can put modifications on the HD protein in the right places.

Dr. Truant's current research approach is looking at the small chemicals as it gets into the whole brain and should be easier to trial for safety and to control dosage. Dr. Truant spoke about N17, the master locator of HD and a sub-target for HD. He stated that N17 phosphorylation switches HD to the nucleus and the timing focus is when cells are subjected to stressors. He said it is necessary for chemicals to alter or restore the mechanisms of the huntingtin protein. Dr. Truant stated that the N17 sub-target is a more finely defined target in huntingtin and that it is a valid target because once N17 is "repaired," it can reverse disease. With caution, Dr. Truant noted that 90% of the compounds that are effective with mice do not work on humans, suggesting multiple pathways need to be looked at for humans in consideration of the need to cross the blood-brain barrier. N17 phosphorylation is encouraging as it affects the shape of huntingtin. It is known that "good" huntingtin aggregates scoop up the "bad" mutant huntingtin protein and that sleep is critical for clearance of proteins that cause neurodegeneration, especially deep REM sleep. This adds the point that care professionals should treat poor sleep as part of the progression of HD.

Dr. Truant added that technology is now using robotic drug screening methods as new efficiencies for testing/screening pathologies. In this way, ongoing testing can be done for screening chemicals that restore the phosphorylation process. Natural compound screening defined a unique series of "hits" for affecting huntingtin N17 phosphorylation. He closed his presentation by supporting the view that constant, uninterrupted testing to determine which chemicals work should be continued until positive outcomes are seen in people.

*continued
on page 8*

The HSC 2014 National Conference Workshop Summaries

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HSC's Youth Mentorship Program

with Erin Stephen and Angèle Bénard

The Youth Mentorship Program was developed by HSC's Family Services Team and YPAHD to provide support to young people across Canada who face the challenges of growing up in a family affected by HD. The program connects young people with volunteer mentors. Mentors and mentees communicate by phone, text, email, FaceTime or Skype and in some instances, in person. Matches are based on suitability rather than geography.

Erin Stephen and Angèle Bénard spoke to delegates about the program and described how mentees are members of an HD family who are seeking the guidance and support of someone with similar experiences. Mentees are between the ages of 12 and up into their 20's. There is no age limit as everyone affected can require different support at different stages in life. Mentees under the age of 18 require parental consent.

Mentors are over the age of 18 and from an HD family. Sharing common experiences helps them better understand and connect with youth mentees. Mentors have submitted an application form, participated in an interview, provided references, completed a criminal record check and vulnerable persons check, attended the mentor training session, and participated in ongoing training and support from HSC's Social Workers.

Delegates heard from two of the program's current mentors who spoke about their experience being part of the program. The mother of a mentee also shared her experience as a parent of a child involved in the program. She explained how she believes the program has helped her child deal with having HD in the family and his own risk to inherit the disease. Stephen and Bénard are delighted with the positive response from many parents who expressed interest in getting their children involved and with the number of teenagers who wanted to sign up to be a mentee.

To learn more about HSC's Mentorship Program, please call 1-855-253-0215 or email us at info@huntingtonsociety.ca.

Caring for Patients: The Creation and Benefits of Interdisciplinary Movement Disorder Clinics

with Dr. Douglas Hobson

Dr. Hobson started his workshop by sharing with delegates that when he started his practice, there weren't many other physicians who wanted to work with HD. He shared that much of his knowledge has been gained from treating the patients who came to see him.

Dr. Hobson told delegates about the history of the Movement Disorders Clinic in Winnipeg and outlined the goal: A place where those with movement disorders can obtain the treatment they need all in one place.

The team at the clinic was designed to provide education and includes a resource nurse, physiotherapist, dietitian, speech therapist, neurologist, neurosurgeon, social worker and occupational therapist. The Social Worker for HD patients is provided by the Huntington Society of Canada and is integrated into the team. The benefits of working as a team include better outcomes, saving time and money for the health-care system and less stress on families.

The Movement Disorder Clinic in Winnipeg promises shorter wait times, improved care, outreach to rural areas, Telehealth use, and more educational and research opportunities.

What does the future hold for the clinic? Dr. Hobson told delegates that the five year plan is to increase the number of neurologists by two as there will likely be a need to expand the physical space at Deer Lodge Centre; expand outreach networking; identify key people in rural / northern areas and develop a research component.

Dr. Hobson concluded by explaining why the clinic works so well: because everyone has the same priority of "making lives better."



Impact of Genetic Discrimination and Recommendations for Genetic Non-Discrimination Protection

with Bev Heim-Myers

Bev Heim-Myers began her presentation with the definition of genetic discrimination and relayed some startling facts about the reality in Canada. Genetic discrimination occurs when people are treated unfairly due to actual or perceived differences in their genetic information that may cause or increase the risk to develop a disorder or disease. Canada is the only G7 country that does not protect citizens against genetic discrimination and Canadian law permits insurers to require health information and to use it. The crux of the issue is that science has outperformed legislation and the privacy legislation in place is not enough.

In Canada our laws prevent us from discriminating against race, gender, disability etc., but we can discriminate against DNA. Delegates learned that private information can easily be obtained and shared and that it is unfair to use genetic information to determine who should be hired or insured. Current legislation does not address the concept of "future disability" or prevent discrimination; rather, it offers recourse after discrimination has occurred and the fear of escalated discrimination prevents victims from stepping forward.

Some of the achievements of the past six years include, but are not limited to, the creation of the Canadian Coalition for Genetic Fairness in 2008; the mention of genetic discrimination in the 2013 Speech from the Throne; the Federal Senate Bill S-201, Genetic Non-Discrimination Bill introduced by Senator James Cowan, which is now at the hearing stage in the Senate; the support of the Office of the Privacy Commissioner Statement in August 2014; and the Human Rights Commission presentation to the Federal and Provincial Commissioners.

What are the next steps for genetic discrimination in Canada? Heim-Myers presented a snapshot of where the Coalition is heading and its goal to work closely with both levels of government to create genetic fairness in Canada.

The HSC 2014 National Conference Workshop Summaries

Translational Medicine for Huntington Disease

with Dr. Katharine Sepp and Dr. Joost Schulte

Dr. Katharine Sepp and Dr. Joost Schulte explained to delegates what is involved in taking an initial drug discovery all the way to market. Dr. Sepp used the analogy of fishing: you must select the right fishing tackle, choose a good fishing spot, decide if your catch is worth eating, prepare it for dinner, and choose how to serve it. Similarly, a scientist must develop good drug discovery tools, choose a good compound library for testing, be able to choose whether a new compound 'hit' is worthy as

a potential therapeutic, prepare it for clinical trials with drug safety experiments, and choose how to dose it in tablets for the first clinical trials. In their drug discovery program, they screened an HD cell culture model and found two potential new HD drugs. They selected one of these drugs since it has already been used clinically for another disorder, and it is known to act on cellular mechanisms important to HD. Since the drug has been used before, it has a known safety record. What's the next step? Dr. Schulte explained that since this particular drug is no longer manufactured, they must develop a modernized manufacturing process for the drug. They must also conduct some additional safety experiments, and gain approval to conduct early phase clinical trials.

The first trial would determine a safe and effective dose appropriate for use in HD. This would later be followed by late stage clinical trials that would fully determine whether the experimental therapeutic is effective for use in HD. Both Dr. Sepp and Dr. Schulte credit MIT for helping them set up their company and providing ongoing support to get this drug approved for human trials.

A very special thank you to the Family Services Team who assisted with note taking during the conference to ensure we could capture information for our Horizon audience. Your efforts were enormously helpful. Thank you.

HSC 2014 National Conference Sponsor Spotlight



**REIDER
INSURANCE**

Sponsor Spotlight: Reider Insurance

Special thanks to Reider Insurance for securing Saskatchewan Mutual Insurance as a sponsor for the 2014 National Conference Banquet.

Reider Insurance helps customers select the right insurance to protect their investments. They are committed to the communities in which they live and work. On top of sponsoring the Friday lunch, Reider Insurance selected the Huntington Society of Canada to receive a donation from Saskatchewan Mutual Insurance through their Centennial Charitable Donation Program. Through this program, Saskatchewan Mutual Insurance makes a donation to the charity of choice for their top ten brokers. We are very grateful to Reider Insurance for selecting the Huntington

Society of Canada's 2014 National Conference as the recipient of this generous sponsorship. It is Saskatchewan Mutual Insurance and Reider Insurance's way of giving back to the communities they serve. Thank you to both Reider Insurance and Saskatchewan Mutual Insurance for your generous support.

Along with Reider Insurance and Saskatchewan Mutual Insurance, the Society would like to thank CHDI, Enroll-HD and The Winnipeg Foundation. It was through their generous support that the Huntington Society of Canada was able to bring world-class speakers, up-to-date research and service support to our 2014 National Conference.

HSC 2014 National Conference Sponsors

The Huntington Society of Canada is extremely grateful for the generosity of our 2014 National Conference sponsors and thanks them for their contribution in helping in making the conference possible!

Please join us in thanking the following organizations.



The Huntington Society of Canada Embraces Our Strength: Tells Our Story • Our Vision• Our Future and Celebrates!

During every national conference the Huntington Society of Canada honours and celebrates the achievements of our volunteers across the country who contribute significantly to the Society in a variety of ways. It is through the actions of the HD community that the Society is able to accomplish so much. To learn more about these outstanding volunteers, please see our special feature page at www.huntingtonsociety.ca.

The Dean Crain Memorial Award

Doug Mallock



(l to r) Bev Heim-Myers, Kathy Mallock, Doug Mallock and Dan Devlin

The Milestone Award for Fundraising

Camrose Chapter



Larry Campbell accepting the award on behalf of the Camrose Chapter

The Dorothea Smith and Stan Edwards Award

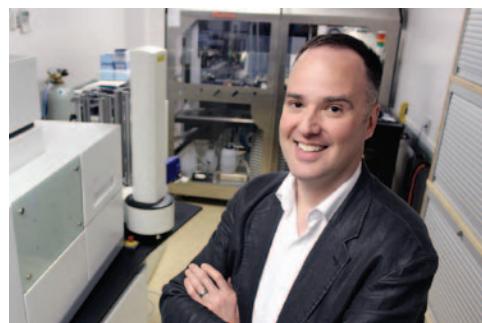
Gail DeKoning



(l to r) Bev Heim-Myers, Gail DeKoning and Dan Devlin

The Michael Wright Community Leadership Award

Dr. Ray Truant



The National Award of Merit (Corporate)

Canada's Research-Based Pharmaceutical Companies



Long Term Service Awards



**Bev Farrell
20 years**



**Susan Tolley
25 years**

Congratulations and thank you to Bev Farrell for over 20 years of services and Susan Tolley for 25 years of service.

The Chairman's Award

Ellen and Vern Barrett



The Milestone Award for Communications

Winnipeg Chapter



The Ariel and Ralph Walker Founders' Award

Mary Lyle Rivard David



Mary Lyle Rivard David with Ariel Walker

To learn more about our 2014 National award winners, visit www.huntingtonsociety.ca.

We Remember

Warren Evans: A Visionary Champion for Clinical Research 1953–2014

There are many words that describe Warren Evans: brilliant, warm, compassionate, generous and wickedly good fun. Perhaps the one that defines him best, however, is visionary.

Warren made his living helping companies understand the economics, demographics, technologies and social factors that would shape their future. He had a talent for anticipating important trends, identifying opportunities and envisioning what was possible.

One of the things he believed possible was finding effective treatments for HD. When his stepdaughter Laura died of the disease at the age of 28, it broke Warren's heart. Warren started Laura's Hope before Laura died, when her sister Andrea was tested and learned she had the HD gene. It was Laura's great hope that an effective treatment would be found before Andrea succumbed to HD.

To deal with the grief after Laura passed away, he set about ensuring that others, including Laura's sister Andrea, did not have to suffer the same fate.

In 2001, he approached the Huntington Society of Canada with a bold proposition. Together with his first wife, Arlene, he wanted to establish a fund in Laura's name dedicated to funding clinical HD research around the world.

That was ambitious enough in itself. At the time, scientists were still working to uncover the fundamentals of HD, and clinical studies were few and far between. "Then he started talking about the numbers and how much he intended to raise and how he was going to raise it, and I sat there in disbelief," says Vern Barrett, who chaired the Society's Board of Directors at the time.

But Warren was persuasive. He put his considerable talents as a professional speaker to work and, sure enough, the fund filled up. Over the course of the next 13 years, Warren helped to raise nearly a million dollars from his corporate clients and his professional colleagues around the globe. Over that period, those dollars have funded many clinical research projects, including Dr. Simonetta Sipione's breakthrough work that reversed HD symptoms in mice.

Warren was a friend to the Society in other ways as well. As HSC grew from a small grassroots organization into today's multimillion-dollar organization, he was always there to provide sage advice and mentorship.

His death from cancer last August was a big loss to the HD community and beyond. However, he leaves behind an impressive legacy. "We all have a finite period of time to accomplish whatever it is that we're here to accomplish, and he was so accomplished that his time didn't need to be as long perhaps as other folks," says his widow, Susan Luke Evans. "The reality is he did way more than a lot of people will ever do."

While Warren did not live to see his vision fulfilled, others will. HSC is working with Susan Luke Evans to ensure Laura's Hope continues to fund clinical research into HD treatments. To make a contribution to the Laura's Hope Fund, go to www.huntingtonsociety.ca or call 1-800-998-7398.



Bob Stevens: Stalwart of the Huntington's Community 1931–2014

When Bob Stevens passed away last October, we lost a giant within the HD community.

Bob first learned of HD when his first wife, Judy, was diagnosed in 1969. The only information he could discover about the disease was a single paragraph in a library textbook, so he began combing phone listings across the country, looking for an organization that might help. (Working as an executive at BC Tel, which later became Telus, made that task a little easier.)



Eventually, he tracked down a woman in Toronto who put him in touch with Ralph Walker and the recently launched Huntington Society of Canada.

Bob became a driving force behind the fledgling organization, bringing his substantial business acumen and strategic thinking to the national Board of Directors. Ariel Walker recalls many late nights around the kitchen table, sometimes fuelled by coffee, sometimes by something stronger, as Ralph, Bob and fellow Board member Gerry Weber laid out their visions for the Society.

Nor did his generosity end there. When the Society struggled to make payroll on a couple of occasions in those early days, Bob reached into his own pockets to make sure there were enough funds. Later, when Bob and Gerry worried that Ralph was working too hard, they tapped their personal networks to raise enough dollars to hire an assistant director.

Meanwhile, in his local Vancouver Chapter, Bob did it all: participating in radio talk shows, scouting for sites for the therapeutic retreat and wading through the fine print of provincial gaming regulations to ensure the Chapter's bingo revenue could be sent to National Office.

"He was always the person you would turn to for advice and for guidance," says Maurice Bloch, the first director of the B.C. Resource Centre. "He was always there, he was always available."

Bob helped to establish a private long-term care facility for people with Huntington's and to convince Dr. Michael Hayden to bring his HD research to Vancouver.

Bob was never a man to do things by halves. His second wife, Norma, recalls him spending hours building and painting a hotdog stand for a fundraiser at a local car dealership, meticulously numbering each piece so the stand could be disassembled and reassembled.

A thick book of letters, photos and newspaper clippings testify to just how much he contributed to the Huntington's cause. As one woman wrote to him, "I've been taught that God returns tenfold to us whatever we give. This means you are in for riches beyond our imagination."

In 2012, HSC's Chief Executive Officer, Bev Heim-Myers, was delighted to personally present him with the Queen's Diamond Jubilee Medal for his volunteerism. What the Society has achieved, she says, we've achieved by being able to stand on the shoulders of people like Bob.

Honouring the memory of a loved one through a gift to the Huntington Society of Canada will create a lasting impression. To honour Warren Evans, Bob Stevens or someone in your life, go to www.huntingtonsociety.ca.

Amaryllis campaign measures up!

By Julie Stauffer

In early November, when the Amaryllis kits arrive at the Leon Frazer office, the competitive spirit takes hold. Here, employees don't simply enjoy the gorgeous blooms. No indeed. At this investment counselling firm, it's about length and the bragging rights for longest single stem, longest double stem and best overall bloom.

The rules are strict. "You cannot get someone else to plant it for you. No, it does not go home and reappear again," says Allison Vanstone, Senior Client Relationship Administrator and her firm's Amaryllis Contest Team Leader, who wields the official ruler on judging day. "Absolutely no fertilizers, plant steroids or any plant-enhancing drugs will be permitted."

Allison introduced the competition to Leon Frazer four years ago. For her, it's an opportunity to boost office morale and contribute to a great cause at the same time. "We look forward to it every year," she says.



Photo courtesy of William Ashton

Across the country, our 2014 Amaryllis campaign raised over \$115,000, along with a whole lot of awareness. Jim Martin, HSC's Development Manager, points to several factors behind the campaign's success.

Our first-ever Amaryllis photo festival on Facebook is ongoing and has been a huge hit. More social media, including Pinterest and Instagram, kept the campaign momentum growing. Articles in community newspapers proved that old-school media still gets results. Meanwhile, a new online ordering system made it easier than ever for volunteers to get started selling.

Ultimately, however, it all comes down to volunteers and companies, like Allison and Leon Frazer, who made 2014 yet another success. "It was fabulous," says Jim. "We couldn't have hoped for anything better."

A huge thank you to all our dedicated sellers!

Learn more about how you can get involved in our 2015 Amaryllis Campaign:

visit www.huntingtonociety.ca, email us at amaryllis@huntingtonscociety.ca or call us at 1-800-998-7398.

Donate2Celebrate!

More and more people are donating to celebrate special events such as birthdays, anniversaries, weddings or holidays in lieu of giving gifts. Each year, many people ask for donations to be sent to HSC in lieu of gifts and that number is growing. To help you direct donations for your special occasion, HSC is pleased to announce our Donate2Celebrate program.

It's quick and easy to participate. Follow these three simple steps.

1. Create an event on our celebration page.
2. Share your unique celebration link with your friends, family and social media contacts.
3. Watch your individual thermometer track the donations as they come in.

For more information, see our **Donate2Celebrate** page at www.huntingtonociety.ca/Donate2Celebrate.

Thank you

On behalf of families living with HD, thank you for your continued partnership and generous support. Our community makes the difference as we reach out to families who are not yet connected to HSC, continue to support and advocate for families from coast-to-coast, invest in world-class research, and play a leadership role in the international Huntington disease community.

With your help, we are continuing to improve the quality of life for people with HD, cultivating strength and resilience in the Huntington disease community and providing substantive reasons for hope. If you have questions, story ideas or comments about *Horizon* or the Huntington Society of Canada, please contact us at info@huntingtonociety.ca or call us at 1-800-998-7398.