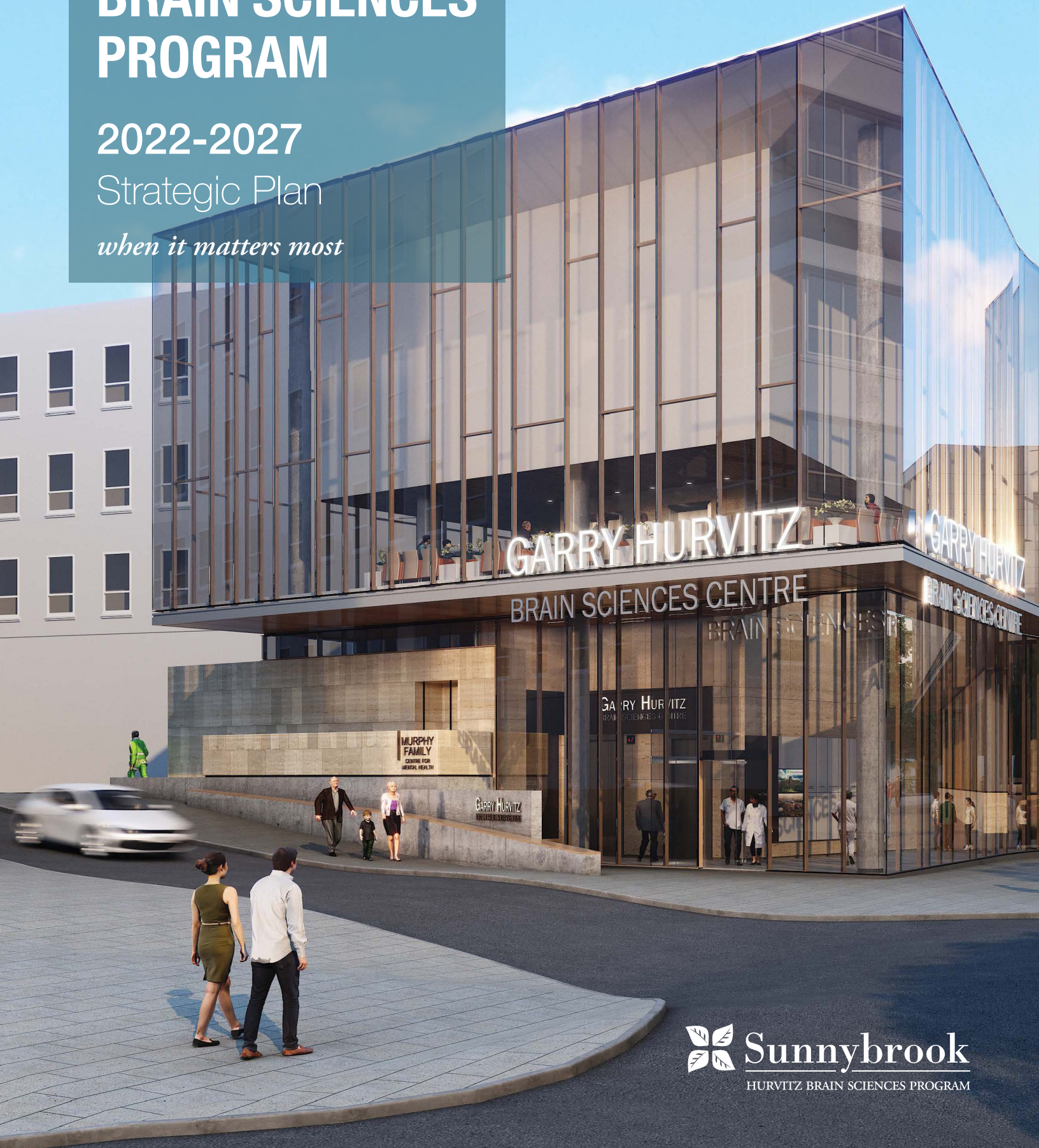


HURVITZ BRAIN SCIENCES PROGRAM

2022-2027

Strategic Plan

when it matters most



Sunnybrook

HURVITZ BRAIN SCIENCES PROGRAM

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01. OVERVIEW

Strategic Planning Roadmap



GATHER

August 2021

- Current state assessment
- SWOT analysis
- Baseline data review



DISCOVER

September - November 2021

- Engage with internal and external stakeholders to collect input on strategic themes



VALIDATE

December - February 2022

- Develop and test strategic themes
- Develop objectives and initiatives



FINALIZE

March 2022

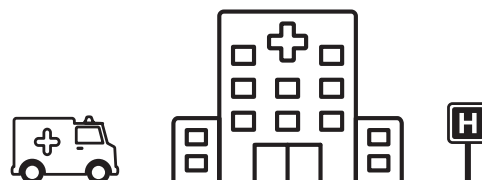
- Refine and finalize the strategic plan
- Present to SPC and CEO-EVP
- Develop metrics with Decision Support

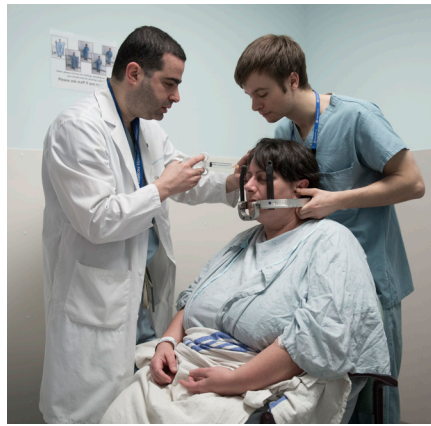
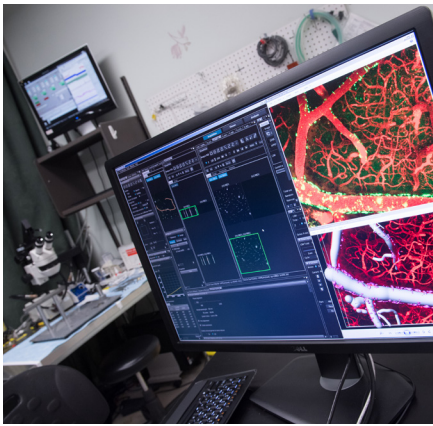


LAUNCH

May 2022

- Launch Strategic Plan
- Monitor and evaluate progress





The Hurvitz Brain Sciences Program

The Hurvitz Brain Sciences Program encompasses a diverse range of services:

Mental Health Services

(including Mood & Anxiety Clinic, Traumatic Brain Injury Clinic, Suicide Prevention, Women's Reproductive Health Clinic, Inpatient & Ambulatory)

Vision Sciences

Hearing Sciences

Harquail Centre for Neuromodulation

Centre for Neurovascular Intervention

Strategic Plan 2022 - 2027



Inventing the future
of brain health

Neurological Care

(including Neurophysiology, Sleep Lab, ALS, Dr. Sandra Black Centre for Brain Resilience & Recovery)

Stroke Program

(Acute, Rehab, and Ambulatory Care)

Thompson Centre for Anxiety Disorders

Family Navigation Project



HBS Fundraising Accomplishments

- **Over 50% of all major gifts** to Sunnybrook were to the Hurvitz Brain Sciences Program.
- The **focus of the Hospital and Foundation leadership** has been to raise funds for the new building and the Program at large.
- A broad understanding in the donor community has been the **importance and urgent need to develop new and novel interventions for the major disorders of our time** – stroke, dementia, and mood and anxiety disorders.

**\$117
million**

**in philanthropic
support raised
between 2013-18**

Current Foundation Priorities

The Hurvitz Brain Sciences Program is committed to working closely with the Foundation on current and future priorities.



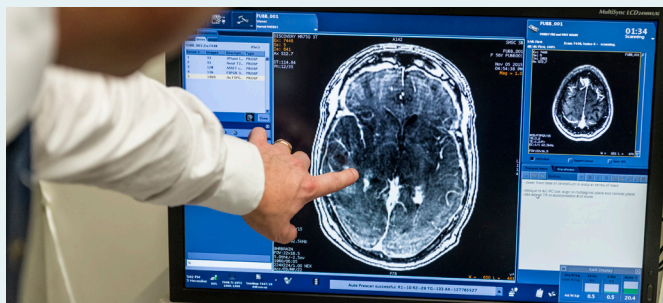
■ Garry Hurvitz Brain Sciences Building

\$151 million state-of-the-art facility
(121,000 square feet)



■ Dr. Sandra Black Centre for Brain Resilience & Recovery

This new centre specializes in uncovering the relationship between the brain's microvasculature and dementia



■ Harquail Centre for Neuromodulation

First centre to offer a full range of neuromodulation strategies to influence brain pathways



■ Family Navigation Project

A philanthropically-funded program that provides navigation services to youth (13 to 26 years old) experiencing mental health and/or addiction issues, and their families

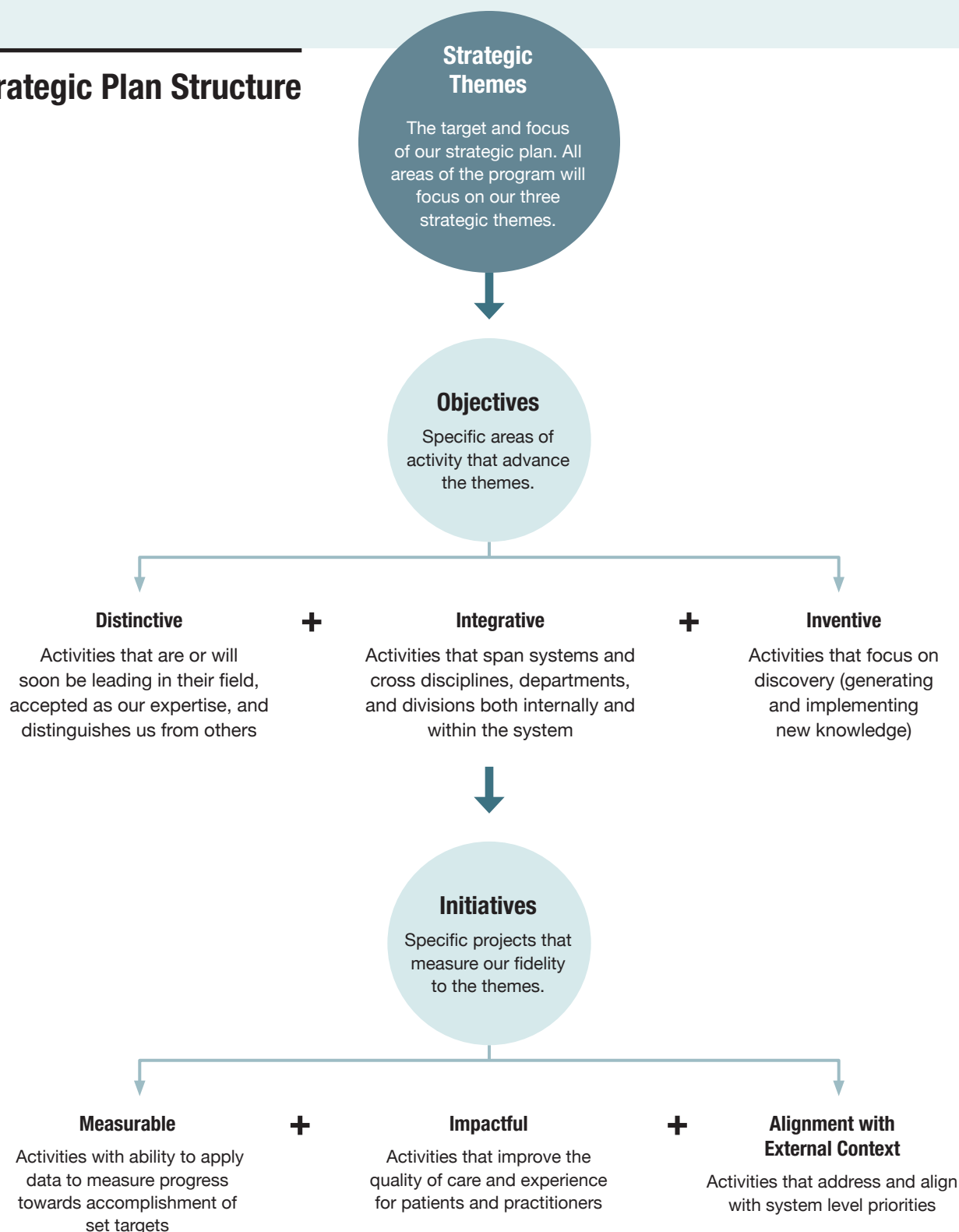


■ Stroke Care

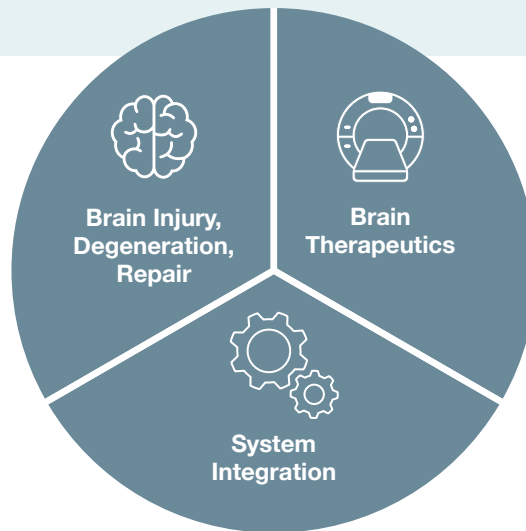
To support scientists and the development of new treatments for patients with strokes

03. STRATEGIC THEMES

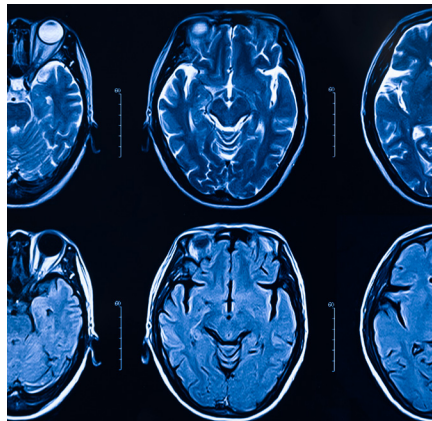
Strategic Plan Structure



Strategic Themes



Program-wide Strategic Cross-Cutting Themes



Program-Wide Strategic Cross-Cutting Themes: Objectives & Initiatives

Patient and Family Advisory Committee Engagement

The Hurvitz Brain Sciences Program would like to express sincere appreciation to the patients, families and caregivers who participated in this strategic planning process and provided insightful feedback on how the program can enhance services and the Voice of Lived Experience (VOLE).

The initiatives below have been selected to address common themes that were heard on how the program can better improve service integration, patient navigation and the role of patients, families and caregivers in the planning and implementation of program initiatives.

Themes	Objectives	2022-2027 Initiatives
Embed Patients & Caregivers at the Centre of Care	1.1 Integrate the Voice of Lived Experience (VOLE) into the Program	<ul style="list-style-type: none"> • Establish a Youth Advisory Council. • Increase integration of mental health and addiction navigation across the Province, with focus on VOLE. • Establish a Patient & Family Advisory Council (PFAC) within the Centre for Brain Resilience. • Enhance patient navigation within the Brain Medicine Clinic. • Continue to build and enhance “Caring Contacts” for patients discharged from inpatient mental health services. • Expand the membership of the Facility Advisory Committee to include patient/caregiver representative(s).
Augment Partnerships with other Hospital Programs	2.1 Improve integration with other programs	<ul style="list-style-type: none"> • Women & Babies - Post Partum Mood and Anxiety Disorder. • St. John’s Rehab - Stroke across the continuum. • Rapid Access Addiction Medicine (RAAM) Clinic – Hospital wide response to the opioid crisis.
Build High-Performing Teams and be a Workplace of Choice	3.1 Nurture a culture of wellness, equity and anti-racism	<ul style="list-style-type: none"> • Increase the number of leadership trained or mentored in Equity, Diversity and Inclusiveness. • Leverage mental health expertise to support staff and learners. • Appoint program education lead.

Clinical Strategic Themes: Objectives & Initiatives

Themes	Objectives	2022-2027 Initiatives
Brain Injury, Degeneration, Repair	1.1 Discover new knowledge of brain injury to enhance understanding of pathogenesis and diagnosis of complex brain disorders	<ul style="list-style-type: none"> • Hearing Sciences: Hearing Impairment Genetic Profiling. • Mental Health and Neurology: Bench to Bedside Traumatic Brain Injury (TBI) Translational Research Pipeline. • Neurological Care: Phenotyping of Amyotrophic Lateral Sclerosis (ALS) subtypes using novel neurophysiological and Transcranial Magnetic Stimulation (TMS) measures.
	1.2 Implement state-of-the-art treatments for repair of brain injury in complex brain disorders	<ul style="list-style-type: none"> • Vision Sciences: Create the Canadian Centre for Surgical and Clinic-Based Gene Therapy Strategies, for adults, to treat inherited retinal disease, macular degeneration, and diabetic retinopathy. • Neurological Care: Preserve and promote cognitive resilience in the brain (e.g. dementia).
Brain Therapeutics	2.1 Apply neuromodulation technologies to existing and novel populations and indications	<ul style="list-style-type: none"> • Harquail Centre: Apply less invasive, direct-to-brain interventions for treatment refractory neuropsychiatric disease.
	2.2 Extend novel image and biomarker guided interventions for complex brain disease	<ul style="list-style-type: none"> • Neurological Care: Use machine learning approaches to electroencephalogram (EEG)/ polysomnography/ actigraphy/ neuroimaging/ wearable sensors to predict neurological/ psychiatric targets and outcomes. • Mental Health: Use biomarker guided interventions for prevention and treatment of neuropsychiatric symptoms.
System Integration	3.1 Establish HBS as a system leader in the development of care pathways for complex brain conditions	<ul style="list-style-type: none"> • Mental Health: Assess interventions for anxiety in pregnancy. • Family Navigation Project: Increase integration of mental health and addiction navigation across the province. • Thompson Centre for Anxiety Disorders: Improve Obsessive-compulsive disorder (OCD) relapse prevention rates through transitional and aftercare strategies and supports including engagement in peer support services and networks.
	3.2 Build and manage regional strategies for the prevention of complex brain conditions	<ul style="list-style-type: none"> • Stroke: Lead in the development, implementation and replication of innovative specialty stroke clinics. • Mental Health: Implement Caring Contacts as standard clinical care for all patients following discharge from Sunnybrook Inpatient Psychiatry F2. • Neurological Care: Create enhanced navigation of patients seen in the Brain Medicine Clinic.

Objectives & Initiatives *by* HBS Areas

Themes	1. Brain Injury/ Degeneration/ Repair		2. Brain Therapeutics		3. System Integration	
Objectives	1.1 Discover new knowledge of brain injury to enhance understanding of pathogenesis and diagnosis of complex brain disorders	1.2 Implement state-of-the-art treatments for repair of brain injury in complex brain disorders	2.1 Apply neuromodulation technologies to existing and novel populations and indications	2.2 Extend novel image and biomarker guided interventions for complex brain disease	3.1 Establish HBS as a system leader in the creation of care pathways for complex brain conditions	3.2 Create and manage regional strategies for the prevention of complex brain conditions
HBS Areas:						
Family Navigation Project					✓	
Harquail Centre			✓			
Hearing Sciences	✓					
Mental Health	✓			✓		✓
Neurological Care	✓	✓		✓		✓
Neurovascular Intervention						
Stroke Program						✓
Thompson Centre					✓	
Vision Sciences		✓				

Alignment *to* Sunnybrook Strategy

The Hurvitz Brain Sciences Program will ensure alignment with the hospital strategic plan and will measure our progress in our areas of focus against Sunnybrook's strategic directions.

	1. Personalized & Precise Treatments	2. Integrated & Sustainable Models of Care	3. Improve Quality & Better Patient Experience	4. High Performing Teams
1. Brain Injury/ Degeneration/ Repair	✓			✓
2. Brain Therapeutics	✓			✓
3. System Integration		✓	✓	✓
4. Enhance How We Put Patients & Caregivers at the Centre of Care	✓	✓	✓	
5. Augment Partnerships with other Hospital Programs		✓		
6. Build High-Performing Teams & be a Workplace of Choice				✓



04. MEASURING *our* PROGRESS



- ❶ We will monitor the progress of our initiatives over the next 5 years
- ❷ Leads will submit their current results quarterly to Decision Support
 - Reporting will begin September 30th, 2022
 - Decision Support will update the on-line Dashboard (available to all)
- ❸ Leads will report their progress at Program Council annually
 - Reporting to Program Council will begin after September 30th
- ❹ HBS executive will review all progress every 12 months for the life of the plan to determine if any initiatives are complete and can be replaced by new ones

1 Brain Injury/Degeneration/Repair

Objective	Initiative	Measure
1.1 Discover new knowledge in brain injury to enhance understanding of pathogenesis and diagnosis of complex brain disorders	Mental Health and Neurology: <ul style="list-style-type: none"> Bench to Bedside TBI Translational Research Pipeline - Translational research pipeline aimed to better understand TBI/concussion pathogenesis and develop objective biomarkers of disease that will inform new treatment targets. Leads: Drs. Matthew Burke & Bojana Stefanovic 	<ol style="list-style-type: none"> Number of new internal collaborations at Sunnybrook/SRI (across domains: experimental models, neuroimaging, neuromodulation, clinical). Number of new external collaborations with national and international partners (lead and co-investigate).
	Hearing Sciences: <ul style="list-style-type: none"> Hearing Impairment Genetic Profiling. Leads: Drs. Trung Le, Vincent Lin, & Joseph Chen 	<ul style="list-style-type: none"> Gene expression profiles as a non-invasive measure of adult cochlear implant performance.
	Neurological Care: <ul style="list-style-type: none"> Phenotyping of ALS subtypes using novel neurophysiological and TMS measures in order to measure longitudinal changes in cortical hyperexcitability and motor neuron loss in patients with ALS. Leads: Drs. A. Abrahao & L. Zinman 	<ul style="list-style-type: none"> Number of patients phenotyped each year.
1.2 Develop novel and or implement state-of-the-art treatments for repair of brain injury in complex brain disorders	Neurological Care: <ul style="list-style-type: none"> Preserve and promote cognitive resilience in the brain by: <ol style="list-style-type: none"> Developing a therapy for pre-symptomatic dementia. Identifying a biomarker for small vessel disease in dementia. Leads: Drs. Sandra Black, Walter Swardfager, Krista Lancot, & Luca Pisterzi 	<ol style="list-style-type: none"> <ol style="list-style-type: none"> Identify a brain imaging biomarker using high resolution MRI. Implement a Toronto-based multi-site repurposing trial targeting the biomarker. Identification of a biomarker targeting small vessel disease.
	Vision Sciences: <ul style="list-style-type: none"> Create the Canadian Centre for Surgical and Clinic-Based Gene Therapy Strategies, for adults, to treat inherited retinal disease, macular degeneration, and diabetic retinopathy. Leads: Drs. Peter Kertes, Brian Ballios, Radha Kohly, & Kenneth Eng 	<ul style="list-style-type: none"> Creation of the Canadian Centre for Surgical and Clinic-Based Gene Therapy Strategies.

2 Brain Therapeutics

Objective	Initiative	Measure
2.1 Apply existing and emerging neuromodulation technologies to novel populations and indications	Harquail Centre: <ul style="list-style-type: none"> Apply less invasive, direct-to-brain interventions for treatment refractory neuropsychiatric disease, with a focused on i) repetitive transcranial magnetic stimulation (rTMS), electroconvulsive therapy (ECT), and esketamine for depression, ii) ablation for movement and psychiatric disorders, and iii) drug delivery and blood-brain barrier (BBB) opening for oncology and neurodegenerative disorders. Leads: Drs. Nir Lipsman & Dr. Peter Giacobbe 	<ul style="list-style-type: none"> Volumes of treatments completed over the span of each year.
2.2 Develop and extend image- and biomarker-guided interventions for complex brain diseases	Neurological Care: <ul style="list-style-type: none"> Use machine learning approaches to EEG/ polysomnography/ actigraphy/ Neuroimaging/ Wearable Sensing to predict neurological/ psychiatric targets and outcomes. Leads: Drs. Andrew Lim & Mark Boulos 	<ul style="list-style-type: none"> Publications in peer reviewed scientific journals. A five year goal for the number of national/ international centres (i.e. outside of Ontario) using algorithms developed at Sunnybrook on research participants/ clinical patients based at their centres (Documentation from publications/ citations, or from letters of support or extracts from local research/ clinical protocols).
	Mental Health: <ul style="list-style-type: none"> MOVE-IT MRS: biomarker-guided interventions for prevention and treatment of neuropsychiatric symptoms. Leads: Drs. Krista Lanctôt, Simon Graham, Damien Gallagher, John Marotta 	<ol style="list-style-type: none"> Brain glutathione in vascular mild cognitive impairment (vMCI). Decreased brain glutathione related to improved cognition in treated.

3 System Integration

Objective	Initiative	Measure
3.1 Establish HBS as a system leader in the creation of care pathways for complex brain conditions	Family Navigation Project: <ul style="list-style-type: none"> Increase integration of mental health and addiction navigation across the province. Leads: Sugy Kodeeswaran & Dr. Anthony Levitt 	<ul style="list-style-type: none"> Number of provincial partners (soft or formal collaboration) to support development of mental health navigation solution for the province.
	Mental Health: <ul style="list-style-type: none"> WMAC:RT- Assess intervention for anxiety in pregnancy - “mindful adaptive practice in pregnancy” - delivered over the internet. Leads: Dr. Sophie Grigoriadis 	<ul style="list-style-type: none"> For the total of 60 women who receive intervention across years 1 and 2: Percent of acceptability in women who score > 7 on GAD7.
	Thompson Centre for Anxiety Disorders (TADC): <ul style="list-style-type: none"> Improve OCD relapse prevention rates through transitional and aftercare strategies and supports including engagement in peer support services and networks. Leads: Lori Lucier & Dr. Peggy Richter 	<ul style="list-style-type: none"> Years 1-3: Percent of participants seen in TADC intensive treatment program engaged in transitional, aftercare and peer support services within year after discharge. Years 4-5: Number of readmissions; selected measures post discharge.
3.2 Create and manage regional strategies for the prevention of complex brain conditions	Stroke: <ul style="list-style-type: none"> Lead in the development, implementation and replication of innovative specialty stroke clinics (high risk transient ischemic attack [TIA]/post hospital discharge, subspecialty clinics). Leads: Drs. D. Gladstone, Beth Linkewich, R. Swartz, Simon Kuzyl, J. Hopyan, C. Hawkes, W. Kingston, M. Boulos, A. Yu 	<ul style="list-style-type: none"> Number of new/innovative multidisciplinary clinics and number of our innovative clinic models replicated elsewhere. Total number of clinics. Proportion of stroke patients discharged from Emergency Department (ED) with a referral to SPC. Total number of patients seen in urgent TIA, post-hospital discharge and subspecialty clinics/year.
	Mental Health: <ul style="list-style-type: none"> Implement Caring Contacts (evidence-based suicide prevention intervention containing messages of hope) as standard clinical care for all patients following discharge from Sunnybrook Inpatient Psychiatry F2. Leads: Drs. Ayal Schaffer, Rosalie Steinberg, Mark Sinyor, Jackie Griffin-White, Saulo Castel 	<ul style="list-style-type: none"> Process Measures: Percent of patients who find Caring Contact acceptable; use patient input to refine content, timing and delivery of the intervention. (YR1) Outcome Measures: % of eligible inpatients who are sent a Caring Contact (starting with adults and expanding to youth over time).
	Neurological Care: <ul style="list-style-type: none"> Create enhanced navigation of patients seen in the Brain Medicine Clinic (BMC). Leads: Sara Mitchell 	<ul style="list-style-type: none"> Number of patients effectively navigated to community resources from BMC.

05. CONCLUSION SUMMARY *and* APPENDICES

The Hurvitz Brain Sciences Program at Sunnybrook will be a global leader in:

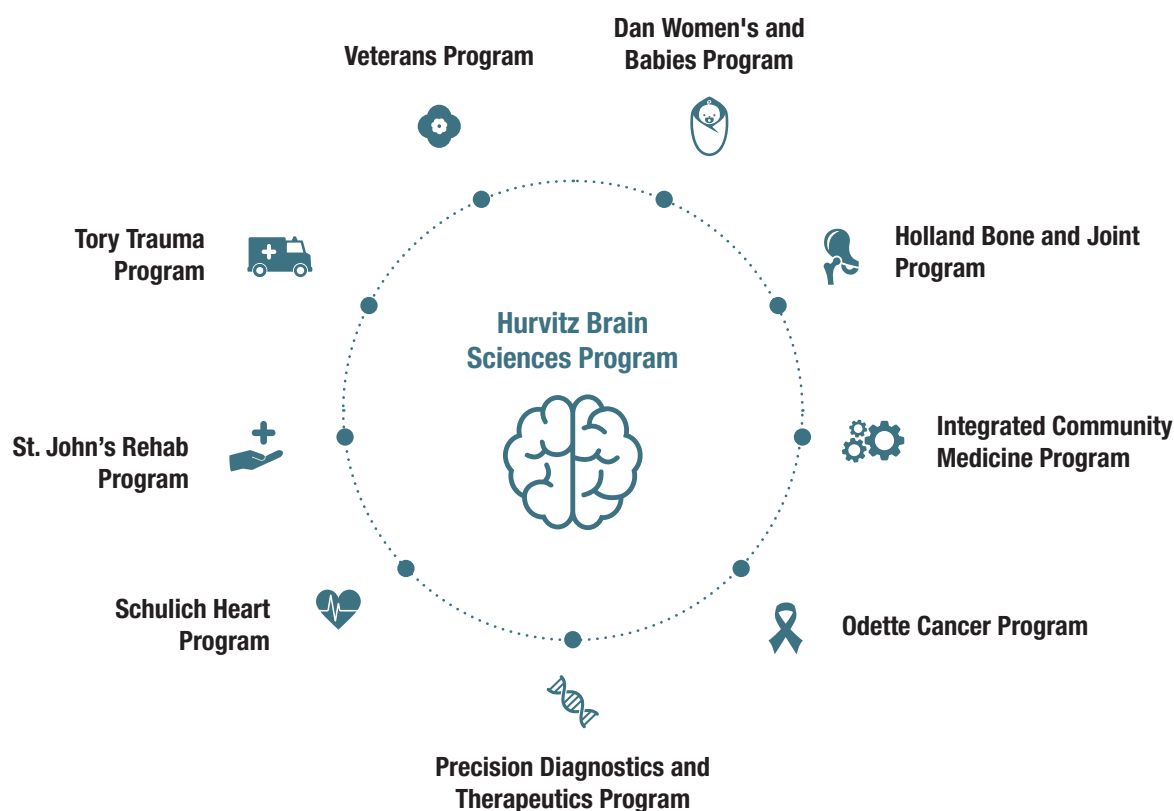
- **Brain injury, degeneration, and repair**
- **Brain therapeutics**
- **System integration**

The themes and objectives outlined in this strategic plan will lead to innovations in treatment, education, and research that offer new hope to patients who are facing debilitating conditions, as well as their families.

There is a renewed commitment to embed patients and caregivers to enhance their involvement, further personalize their care, and to strengthen partnerships across the healthcare system. The program will play a strong role in the design of a provincial and national strategy to advance this work. We will also continue to invest in building our high performing teams and creating a workplace of choice.

Enhancing Our Work *with* Other Hospital Programs

As next steps, we plan to further engage with program areas to determine initiatives that will enhance integration and collaboration across our 10 hospital programs.



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