

Baycrest Innovation Office

INAUGURAL REPORT



Table of Contents



LETTER FROM THE VICE PRESIDENT AND DIRECTOR	3
INNOVATION AT BAYCREST	4
ABOUT THE INNOVATION AND COMMERCIALIZATION STEERING COMMITTEE (ICSC)	6
INNOVATION CENTRES AT BAYCREST	7
ABOUT BIO	8
OUR TIMELINE	9
INTELLECTUAL PROPERTY AT BAYCREST	10
CULTURE OF INNOVATION	11
INNOVATION ROUNDS	11
BAYCREST-NBS SHARING DANCE	12
VOLUNTEER INNOVATION PROGRAM (VIP)	13
INNOVATION SKILLS DAY	15
OCAD U DESIGN FOR HEALTH	15
2 NEPTUNE INNOVATION FAIR	15
LEADINGAGE 2019	15
BAYCREST INNOVATION PROJECTS	16
INNOVATION SPOTLIGHT: SMART SUITES	18
INNOVATION ADOPTION: TCARTS	19
BIO AT A GLANCE	20
INNOVATION ADOPTION: ECHO DOTS	21
BAYCREST@HOME	23
TELEMEDICINE RAPID IMPLEMENTATION (TRIM) HIGHLIGHTS	24
BIO LEADERSHIP AND GOVERNANCE	25
SUMMARY	26

INNOVATION DRIVES US ALL

It is with great pleasure that we present our inaugural report on innovation at Baycrest. Innovation has always been at the core of what makes Baycrest a recognized leader in our field. This report shines a light on the innovative spirit among our community of staff, students, and volunteers as well as our patients and residents. This wouldn't have been possible without the valuable support of the Centre for Aging + Brain Health Innovation (CABHI) whose contributions enabled us to form the Baycrest Innovation Office (BIO), and continue to organize and amplify incredible creativity and passion across campus. The progress detailed in this report demonstrates the positive impact we are having on the clients and families that we serve, and we look forward to reporting on continuing innovation accomplishments in the years to come.

RON RIESENBACH

Vice President, Innovation and Chief Technology Officer

Innovation has always been part of the Baycrest DNA. Since joining BIO in 2018, I have seen outstanding examples of Baycrest's compassion, collaboration, and innovative spirit, especially during this most recent pandemic. COVID-19 has demonstrated that we have a tremendous capacity to innovate, a capacity that BIO has had a significant role in fostering and supporting. Over the last few months, Baycrest staff and volunteers have demonstrated agility, open-mindedness, and enthusiasm to try new solutions to meet the needs of an unprecedented reality in response to this pandemic. Over the span of a few months, Baycrest has deployed numerous digital strategies to support our residents, staff, and community in ways that keeps them safe, engaged and fulfilled. This capacity was not built in a day; it resulted from years of fostering the spirit of innovation at Baycrest.

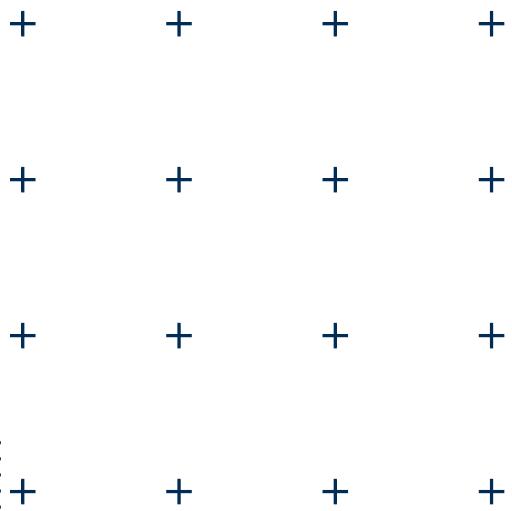
In the following pages, we are proud to share highlights of our accomplishments since our inception in 2018. Leveraging generous start-up support from CABHI, BIO has helped introduce many innovations, as well as provide learning and networking opportunities for staff, volunteers and our community. We have brought forward and evaluated the potential impact of dozens of technological and process-based innovations; we have put together an Innovation Commercialization and Steering Committee; and have helped bring to market several commercial opportunities. Baycrest presented its innovations at both local and international conferences and has initiated multiple new partnerships that will benefit us in the years to come.

This is only the beginning. Innovation is a long-term investment made by strategic and forward-thinking organizations. It presents ways for transformational improvements to create a better future for the people we serve.

Thank you for your ongoing support and participation in our innovation journey.

RAN MANOR

Director, Baycrest Innovation Office (BIO)



INNOVATING FOR A BETTER WORLD

Innovation at Baycrest

Baycrest is a global leader in geriatric residential living, healthcare, research, innovation, and education, with a special focus on brain health and aging.

Baycrest provides an exemplary experience for older adults in a variety of care settings, on campus and off. We are proud to be fully affiliated with the University of Toronto and provide education and training for more than one thousand university and college students every year.

Innovation has always been an integral part of Baycrest since its inception, with several innovation hubs such as the Kunin-Lunenfeld Centre for Applied Research & Evaluation (KL-CARE), the Centre for Learning, Research and

Innovation (CLRI), Rotman Research Institute (RRI), and the Centre for Aging and Brain Health Innovation (CABHI). In 2018, Baycrest identified a gap in our innovation strategy in that each of these hubs has an important focus but there was no unifying entity to foster and support a culture of innovation across all staff and departments on campus. Thus, the Innovation and Commercialization Steering Committee (ICSC) and the Baycrest Innovation Office (BIO) were established.

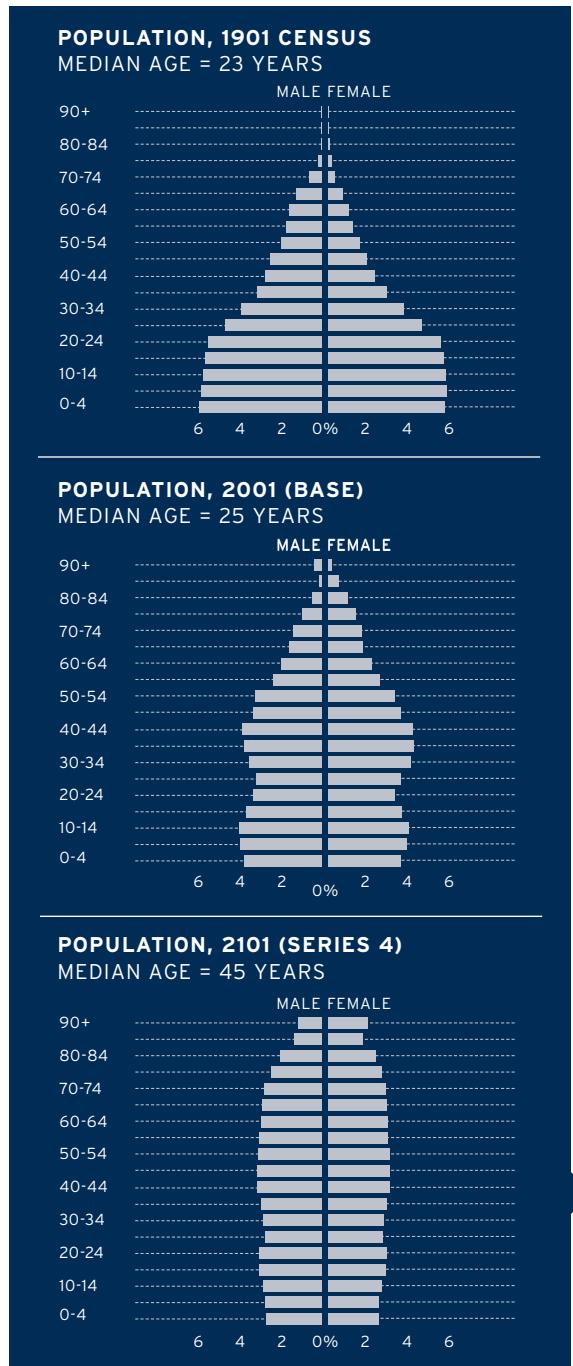
ICSC is an innovation governance structure with campus-wide representation that oversees the development and implementation of Baycrest's innovation strategy.

BIO is the secretariat responsible for executing the ICSC's innovation strategy. Our primary role is to identify practices, technologies and services that are either developed by Baycrest innovators or emerging in the market and can be adopted to improve the effectiveness of our programs and the experience of older adults supported by Baycrest. The critical role of BIO is to bring these opportunities to our staff and experts to explore fit and to lead the way in procuring and adopting these new technologies and services.

“We have seen exceptional examples of innovation across the healthcare sector in the fight against COVID-19.

Many of these innovations are happening right here at Baycrest.”

- RAN MANOR, DIRECTOR OF BIO



By assessing novel ideas, innovations and technologies, BIO effectively guides, tracks and supports innovation at Baycrest with the goal of dissemination, adoption, and potential commercialization of new technologies and services. With a team of leading health professionals at its helm, BIO works across the Baycrest campus and beyond to catalyze novel collaborations.

Defining innovation is challenging, as it can take many forms. We have defined innovation at Baycrest as:

"The **intentional** introduction and adoption by an entity (individual, group or organization) of ideas, processes, products or procedures, **new** to the entity, designed to **significantly benefit** the entity or wider society."

Why do we need to innovate?

- Healthcare systems today are not adapting fast enough to meet evolving needs
- We all want (and deserve) to age well in the setting of our choice
- Innovation is the key to growth and improvement

Through a lean methodology, we can bring a systematic, scientific evidence-based approach to innovation.

Innovation Types:

- **Incremental:** small, step-wise improvements
- **Radical:** using a novel approach to accomplish a known task
- **Disruptive:** Reframing the problem or opportunity and/or using a breakthrough technology or procedure to accomplish the goal in a whole new way and/or using a breakthrough technology or procedure to accomplish the goal in a whole new way

Overview of Age Demographics

The Baby Boomer Bubble: By 2050, adults aged 65+ will make up 17% of the population. This will create critical strains on healthcare systems across the globe.

“BIO has been an invaluable resource for me. I've always wanted to validate my innovative tool, but didn't know where to turn before. Now that BIO has been established, my innovation is being validated and implemented, and there's actual momentum now.”

- YAEL GOLDBERG, CLINICAL PSYCHOLOGIST AND NEUROPSYCHOLOGIST

Innovation Centres at Baycrest

BIO works to coordinate and support Baycrest's various innovation centres, each with a focused mission to drive and support research and innovation in specific ways. These include: the Baycrest-led Centre for Aging + Brain Health Innovation (CABHI), the Centre for Learning, Research and Innovation in Long-Term Care (CLRI), Rotman Research Institute (RRI), and the Kunin-Lunenfeld Centre for Applied Research & Evaluation (KL-CARE).

The Centre for Aging + Brain Health Innovation (CABHI)

CABHI was founded in 2015 with a \$124M investment from the Governments of Canada and Ontario, the Baycrest Foundation, and other public and private sector partners. Although the innovation accelerator is based here at Baycrest, CABHI has a broader mandate, supporting seniors' care organizations, companies, researchers, clinicians and front-line care workers in Ontario, across Canada, and around the world. CABHI has funded more than 200 projects, helping innovators validate their solutions for aging and brain health in real-world settings, so that their products and processes get into the hands of people who need them as quickly as possible.

A number of Baycrest projects have been supported through CABHI's programs and Baycrest staff remain eligible to apply for CABHI support through its competitive funding and strategic opportunities programs. Baycrest staff who are involved in CABHI projects have access to skilled specialists through CABHI's Innovation Office, working side-by-side with members of the project team throughout the life-cycle of a funded project. CABHI also produces publicly available resource materials, special programming and innovator support services.

The Centres for Learning, Research and Innovation in Long-Term Care (CLRI)

A provincially funded program, CLRI is dedicated to enhancing the quality of seniors' care in long-term care homes across Ontario through education, research, innovation, evidence-based service delivery and design, and knowledge transfer.

There are three CLRIs in Ontario, including one based in Baycrest's Centre for Education. All three CLRIs serve educators, clinicians and scientists at Baycrest and across more than 600 long-term care organizations in Ontario.

Baycrest staff who are interested in building their expertise and learning about best practices can approach our own CLRI or any of the others for access to resources, educational programs or to propose new initiatives that drive skill development in long-term care.

The Rotman Research Institute (RRI)

As the umbrella organization for research across Baycrest, the RRI houses dozens of the world's leading scientists in aging and brain health, trainees, support staff and infrastructure to help advance research leading to, and testing, innovation. Because research is a crucial element in the innovation cycle, Baycrest innovators typically make use of a number of services within RRI. The RRI can connect Baycrest staff with experts in a range of topics related to aging and the brain, assist in identifying external funding opportunities, oversee grant submissions and finances, and serve as an important link to external funding organizations.

The RRI also houses and manages Baycrest's Research Ethics Board, Baycrest's Research Participant Database, the Katz Interprofessional Centre for Research in Dementia and Geriatrics, and the Research Training Centre, which provides dozens of workshops on a range of topics from research through innovation. Computing, imaging and other facilities are also available for use through the RRI by Baycrest staff and external organizations looking to advance innovation on a contract basis. Finally, the RRI houses the Kunin-Lunenfeld Centre for Applied Research & Evaluation (KL-CARE), which plays a critical role in supporting Baycrest's innovation efforts, as detailed below.

Kunin-Lunenfeld Centre for Applied Research & Evaluation (KL-CARE)

Innovative solutions need to be tested to determine their value in real world settings, and KL-CARE (housed in the RRI) is the primary resource for validation testing at Baycrest. The KL-CARE team supports Baycrest researchers, clinicians and other staff by providing expertise and services in grant application preparation and submission, applied research project management, research design and evaluation methodology, development of research ethics protocols, participant recruitment, data collection, data analysis and management, outcome reporting and knowledge mobilization. The team also provides Baycrest staff with guidance and facilitates access to other local required supports including Baycrest's Research Ethics Board, and Privacy and Legal Services. In addition to supporting applied research and evaluation for Baycrest projects, KL-CARE has grown to become a "much in demand" resource accessible to other senior care organizations that aspire to enhance their innovation capacity.



About ICSC

The Innovation and Commercialization Steering Committee (ICSC)

oversees the development and implementation of Baycrest's innovation strategy, including setting goals and desired outcomes, priorities and innovation targets in alignment with Baycrest's strategic goals, monitoring measures of innovation performance and impact, and approving annual Innovation Activity Plans.

This committee also oversees the process of evaluation and makes decisions on the disclosure of Intellectual Property, and informs BIO and the innovators on how to best support the innovation according to Baycrest policy. The Committee is responsible for allocating funds towards commercialization activities (e.g. patent searches, business plan development, strategic investments in promising projects, or other related activities).

Finally, this committee makes decisions on regular-course innovation matters and opportunities, and makes recommendations to the Baycrest Executive Team on matters related to significant business investments, major licensing opportunities, important partnerships with outside commercial entities and other related matters.

About BIO

BIO drives Baycrest to become a leader in family and patient-centered innovation and tech-enabled care, working to bring purpose, inspiration and fulfilment to older adults, and serving as a model for other likeminded, aspiring institutions.

OUR MISSION

To identify opportunities for high-impact innovation and work with innovators across Baycrest and beyond to realize these opportunities

To nurture a culture of needs-based, impactful innovation

To ensure that Baycrest staff have all the effective tools and support they need to innovate

To engage the healthcare and senior care ecosystem to adopt best practices, establishing Baycrest as a partner of choice and driving the industry forward

BIO TEAM / 2019-2020



**RAN
MANOR**

Director of
Innovation



**GRACE
CHUNG**

Innovation
Partner



**ALEXANDRA
MOGADAM**

Innovation Partner
and IP Portfolio
Manager



**KAILEY
STEINHAUSEN**

Strategic Projects
Intern



**WARSAN
HOUSEMAN**

Marketing &
Communications
Specialist

Our Timeline

BIO was established as the preferred initial point of contact for Baycrest staff and members of industry seeking support in advancing innovation.

In addition, BIO works with staff and clients across the organization to identify strengths, needs and opportunities for innovation.

Here are a few of our accomplishments:

When the VIP participants started brainstorming innovations for older adults at Baycrest, the creativity and vitality in the room was a powerful force. Everyone was eager to innovate."

- IAN GOLDMAN, VIP PARTICIPANT



Intellectual Property at Baycrest

As the preferred initial point of contact for innovation at Baycrest, BIO supports and manages intellectual property (IP) at Baycrest.

What is Intellectual Property?

Intellectual Property (IP) includes inventions, literary and artistic works; designs and symbols; IP also includes names and images used in business. Different types of IP are protected by the law in different ways:

- Patents protect inventions (e.g. a gene, a drug, an MRI sequence, an eye-tracking hardware)
- Copyrights protect original works - dramatic, artistic, musical, or literary works (e.g. a computer program, a neuropsychological test battery, a manual, a dance program)
- Trademarks protect brands (e.g. Baycrest, Cogniciti)
- Industrial design protects any aesthetic designs made based off of the original design (e.g. the aesthetic design of a walker created by biomedical engineers).

How BIO support innovator's IP

BIO is Baycrest's innovation hub, which includes technology transfer and knowledge mobilization services and supports for innovators. BIO provides support to Baycrest innovators in many ways, including:

- Informing and guiding innovators and assessing their innovations
- Protecting innovations through patents, copyrights, or other forms of IP protection
- Developing and executing dissemination/commercialization strategies including licensing the innovation to an existing company or creating a new company

We work with internal and external partners in the public and private sectors to advance innovations through to market.

The Baycrest Intellectual Property Process

IP DISCLOSURE ➤ ASSESSMENT ➤ IP PROTECTION ➤ LICENSING ➤ COMMERCIALIZATION/DISSEMINATION

INTELLECTUAL PROPERTY AT A GLANCE



20 interviews with
Baycrest innovators



15 intellectual property
disclosures

Culture of Innovation

Baycrest has a rich history steeped in profound innovation.

Collectively, we know that true innovation requires a desire to go where others have not. It requires a willingness to take calculated risks and to push ourselves outside of our comfort zone. The need for this has never been greater than it is today.

This is at the heart of our Innovation Rounds.

Innovation Rounds at a Glance

Innovation Round #1

The Inside Scoop on Aging and Brain Health Innovation: Lessons from CABHI

Drawing from CABHI's recent annual report, Dr. Allison Sekuler shared stories on innovation's significant impact on aging, and lessons on how Baycrest staff and volunteers can drive innovation forward.

Innovation Round #2

The Inside Scoop on Taking your Innovation Global: Stories from BIRAD

Dr. Assaf Sagiv, of Bar-Ilan Research and Development Ltd. (BIRAD), shared stories on the realities of going global with an innovation, followed by actionable advice on how Baycrest staff can embark on their own healthcare innovation journey. Among many things, guests learned:

- The ins and outs of concepts such as commercialization and intellectual property.
- Tips on how to overcome common innovation mobilization hurdles,
- Insights on becoming a global healthcare innovator.

Innovation Round #3

The Inside Scoop from OpenLab: Applications of Virtual Reality (VR) for Older Adults

Dr. Lora Appel, Assistant Professor, Health Informatics at York University and Collaborating Scientist at OpenLab, shared the inside scoop on the promising results of using virtual reality to manage symptoms of dementia, reduce caregiver burden, improve communication and prolong aging in place.

What are Innovation Rounds?

In collaboration with the Baycrest-led Centre for Aging and Brain Health Innovation (CABHI), BIO co-sponsors and organizes Baycrest's Innovation Rounds, a 60-minute talk offered in-person and online for staff, students, volunteers and external partners interested in healthcare innovation.

Modelled after clinical rounds, the purpose of Innovation Rounds is to showcase novel ideas, innovations and technologies related to senior care that improve the patient and resident experience and/or operational effectiveness. From time to time, we also host speakers that explore philosophical and ethical themes within health innovation.

THREE



events that explore innovation for older adults and foster a culture of innovation at Baycrest

THREE



global leaders in healthcare innovation for older adults

300+



attendees in-person or via livestream

86%



rated the event 3 or higher on a 4-point scale

INNOVATIONS

Baycrest-NBS Sharing Dance

Dance is for everyone.

Dance is a powerful tool for self-expression. At any age, dancing offers tremendous benefits for physical, cognitive and overall health. Older adults may encounter mobility issues, making dance and movement challenging.

This is where Sharing Dance Seniors comes in to help.

What is Sharing Dance Seniors?

Developed by Baycrest and Canada's National Ballet School (NBS), Sharing Dance Seniors is a safe and accessible dance program that engages older adults in meaningful dance and movement.

Sharing Dance Seniors allows older adults to tap into the power of dance through a virtual platform in a safe and fun environment.

Measures of Success

One of the most poignant examples of how Sharing Dance Seniors was integrated into older adult communities was through the Social Planning Council of Ottawa (SPCO). The SPCO helps older adults participate in fun and engaging cultural activities. Eight local SPCO groups participated in the program last year, gathering weekly at settings including a church and a library to follow the video-streamed dance class direct from NBS' expert dance teachers and musicians.

Community leaders said this program had an incredible effect on participants: it brought people together and motivated members to be active outside their homes. But more importantly, the program was so effective that participants experienced positive changes in their physical health.

"

I struggle from osteoarthritis and I feel that due to this program, I was doing some different moves that I don't do in my own exercises. I actually found that it decreased the amount of pain that I had in my hips and in my knees... I'm actually doing some of those movements on my own."

- PARTICIPANT, KITCHENER

Key Highlights

The overwhelming success of this program speaks to the power of innovation. Developed in consideration of research results regarding the importance of certain elements when incorporating dance as an activity for seniors, this program includes 3 levels with specific goals and rationales:

- A level for older adults with significant physical and/or cognitive impairment
- A level for older adults with minor physical and/or cognitive impairment
- A teacher-training curriculum for dance teachers, on teaching Sharing Dance

DID YOU KNOW?

In 2019, BIO facilitated the commercial agreement with NBS to enable the program to scale to over 150 locations across Canada.

Volunteer Innovation Program (VIP)

Innovation is in Baycrest's DNA, and that includes Baycrest volunteers. Our volunteers come from diverse backgrounds and bring countless lived experiences and ideas. What they all have in common is the desire to innovate. When we engage our volunteers, we can tap into this resource of inspiration and ingenuity. That's what the Volunteer Innovation Program aims to do.

What is VIP?

The Volunteer Innovation Program is a collaboration between BIO and Baycrest's Volunteer Services Department. This workshop series was designed to teach volunteers different concepts and strategies in innovation, such as design thinking and the lean canvas.

This 8-week program featured a variety of speakers from all over the world. Each speaker demonstrated various methods of applied innovation to guide the volunteers as they worked through their design thinking and lean canvas strategies to identify and refine needs-based solutions to a variety of challenges identified at the beginning of the program. The program culminated with a presentation to senior staff and leadership at Baycrest.



"The Innovation Skills Day was an incredible opportunity to learn and apply new skills to tackle some of the most challenging early problems and barriers we face as innovators. The dedicated and enthusiastic instructors and peer innovator teams really emphasized to us the strong and supportive culture of innovation that Baycrest is fostering."

- ANDREW LLOYD-KUZIK, PROGRAM AND RESEARCH ASSISTANT,
DEPARTMENT OF NEUROPSYCHOLOGY AND COGNITIVE HEALTH

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Innovation Skills Day

In collaboration with Leads Canada, BIO hosted a full-day workshop for Baycrest's top innovators to learn how to:

- Develop the innovation communication skills required to demonstrate the processes, ideas and concepts behind their innovations to target stakeholders
- Discover, implement and use core innovation building blocks, tools, and the LEADS Innovation Leadership Framework to enable, enhance, and improve project results

10 Projects
7 Hours

40 Participants
10 Presentations to the ICSC

OCAD U Design for Health

Thirty-seven students enrolled in "Design for Health", an Industrial Design course offered through OCAD University. BIO led the partnership with Baycrest's Mountainview Club, a day program for community-dwelling older adults with moderate to severe dementia. The collaboration involved students shadowing Mountainview clients and engaging with various clinicians and dementia experts. Half of the students' classes were held on site at Baycrest, providing them with an embedded learning experience. By the end of the course, the students created 12 prototypes of assistive products/tools based on their learnings.

37	Students	1	Final presentation at DesignTO
4	Months	1	DesignTO award
12	Product prototypes	3	Prototypes in user testing
2	Final presentations at Baycrest		

2 Neptune Innovation Fair

The Reuben Cipin Healthy Living Community at Two Neptune Drive (2 Neptune) is a residence for active and independent seniors aged 65-plus, owned and operated by Baycrest. In the winter of 2020, BIO hosted a an inaugural innovation fair to show 2 Neptune residents, their caregivers and loved ones a variety of technologies available for older adults to live independently while staying connected to family and friends. During this fair, attendees tested a range of readily available innovations and technologies specifically designed to keep older adults healthy, engaged and safe in their homes.

16 Innovations and technologies
5 Baycrest-led innovations
50 Attendees

LeadingAge

LeadingAge is the largest global conference dedicated to older adults and aging. Hosted in San Diego, members of the BIO team attended and promoted Baycrest-led innovations, explored cutting-edge products and services to be considered for adoption at Baycrest, and gained a better awareness of the aging and brain health field in a global setting.

4	Days
2	BIO-team members
17	Baycrest-led innovation demonstrations

Baycrest Innovation Projects

Innovation is everywhere at Baycrest.

Over the past year, BIO has met with and supported many of Baycrest's top innovators. Below is an overview of the innovation projects that have been submitted, supported, and promoted by BIO.

To access all projects, please visit: bit.ly/BaycrestInnovation

LEGEND



PROJECT	DESCRIPTION	EXPECTED MAIN BENEFITS
1 Baycrest - NBS Sharing Dance Seniors	An accessible dance program developed to engage older adults in meaningful dance activity that benefits physical, cognitive and overall health	
2 Smart Suites	A curated collection of smart home technology software and devices used to help residents, their caregivers and staff	
3 ArtontheBrain	An affordable online recreation activity designed for all older adults including those with cognitive decline	
4 Baycrest Behavioural Assessment System (BBAS)	A digital platform that delivers real-time, data-based information on behavioural symptoms of dementia to improve clinical treatment decisions	
5 Supportive Oral Health for Seniors (SOHS)	A training program for long-term care staff that improves residents' oral health	
6 CareStory	A QR code-based app that captures a resident's personalized care needs	
7 Goal Management Training (GMT)	A cognitive rehabilitation program that helps individuals with impairments in executive functioning improve their organization and ability to achieve goals	
8 Learning the Ropes for Mild Cognitive Impairment (MCI)	A program focused on optimizing cognitive health through lifestyle choices, memory training, and psychosocial support	
9 Online Memory and Aging Program	An evidence-based education and memory strategy training program for older adults experiencing normal age-related memory changes	
10 Toronto Cognitive Assessment (TorCA)	A digital cognitive assessment tool designed to detect early to mild dementia	 Indirect benefit
11 Words at Your Fingertips	An online platform that uses evidence-based coaching and strategies to improve word-finding skills for older adults	 Indirect benefit

PROJECT	DESCRIPTION	EXPECTED MAIN BENEFITS
12 Virtual Home Assessment (VHA)	An assessment program that enables older adults to age in place by virtually assessing their home environment to identify needs and risks	
13 Baycrest@Home	A service designed to prepare and support family caregivers of older adults experiencing declining cognitive health	
14 Virtual Memory Clinic	A pre-visit assessment that uses artificial intelligence for Baycrest's Memory Clinic	
15 Geriatric Assessment and Hearing Test	An automated hearing screening assessment that improves outcomes by directing clients to the appropriate services and resources	
16 Memory Link	A program that offers individual intervention sessions in the use of commercial technologies and software (e.g., smartphones, tablets) geared toward improving day-to-day memory functioning and independence	
17 Wayfinding	An initiative that improves the experience of navigating the Baycrest campus	 <small>Indirect benefit</small>
18 Interprofessional Care Team (IPCT)	An initiative that delivers primary care services to older adults in the community	
19 Baycrest Memory Model	An initiative that enables other institutions to use Baycrest's model for memory care services	 <small>Indirect benefit</small>
20 The Virtual Brain	A framework that models a patient's brain using simulations to improve clinical decision-making	
21 MRI Fingerprinting Sequence	A magnetic-resonance fingerprinting (MRF) technique that provides metrics in a significantly shorter amount of time than conventional techniques	
22 ElliQ	A digital companion aimed at keeping older adults sharp, connected and engaged	
23 SafelyYou	Empowers care staff to implement fall prevention programs based on insights derived through fall detection video review	
24 Novel EEG Index for Rehabilitation	An initiative that uses a novel brain engagement index (BEI) to improve cognitive and physical rehabilitation practice	
25 Online Medication Management Education Program	A caregiver-focused online education program that enhances a caregiver's knowledge of medication management for older adults with dementia	
26 Fitlight	A multisensory physical activity program prompts a client to perform a series of gross motor movement in a way that trains the mind and the body	
27 Novel MRI Image Analysis Software Platform Alzheimer's Detection	A novel, MRI-based solution that predicts whether pre-symptomatic or symptomatic individuals with cognitive impairment will develop Alzheimer's disease	
28 Meditation for Brain Health	An online course and resource repository for learning memory skills and strategies that normalize memory changes and encourages brain health	
29 Telemedicine for Outpatient Care	An initiative that enables virtual care for older adults aging in place	
30 Offsetting Hippocampal Neurodegeneration Using Google Streetview	An initiative that uses Google Streetview as a platform for delivering a specialized, self-administered virtual navigation training for hippocampal stimulation and activation	

INNOVATIONS

Smart Suites

With the rapidly changing landscape of technology, it has become easier to monitor a patient's well-being while increasing the patient's sense of privacy and independence.

With the generous support of Baycrest donors, a team of innovators from across Baycrest, including the Baycrest Foundation, IT and eHealth, is piloting a project called Smart Suites, a collection of smart home technology software and devices used to help residents, their caregivers, and staff. This initiative focuses on client-centred, holistic care by providing a customized suite of technologies to address their needs. Devices such as Amazon Show provide residents with the ability to communicate with individuals inside and outside of Baycrest. Other compatible devices include smart blinds, voice-controlled lighting and thermostats, as well as under-bed lighting that can help reduce the risks of falls. These devices leverage technology to help residents maintain their safety and independence.

There are an array of devices offered as part of the Smart Suites package that provide both residents and staff the ability to improve quality of care.

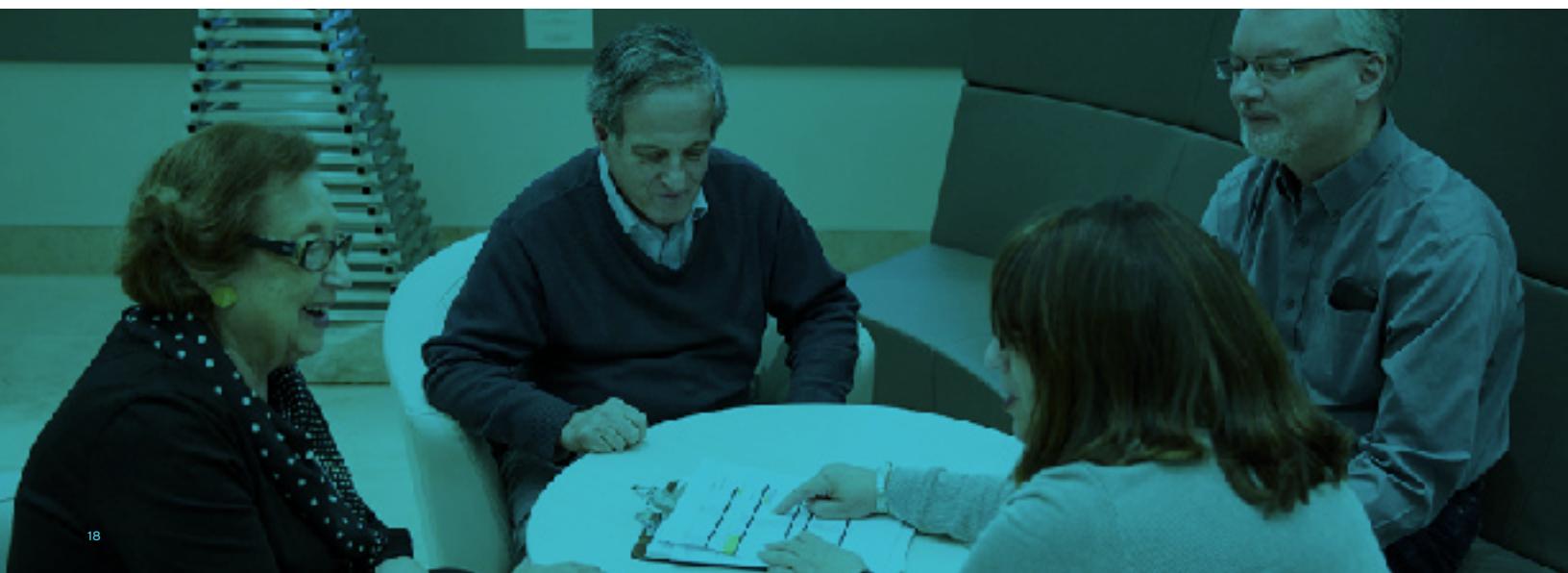
Here is a snapshot of the devices available for Smart Suites:

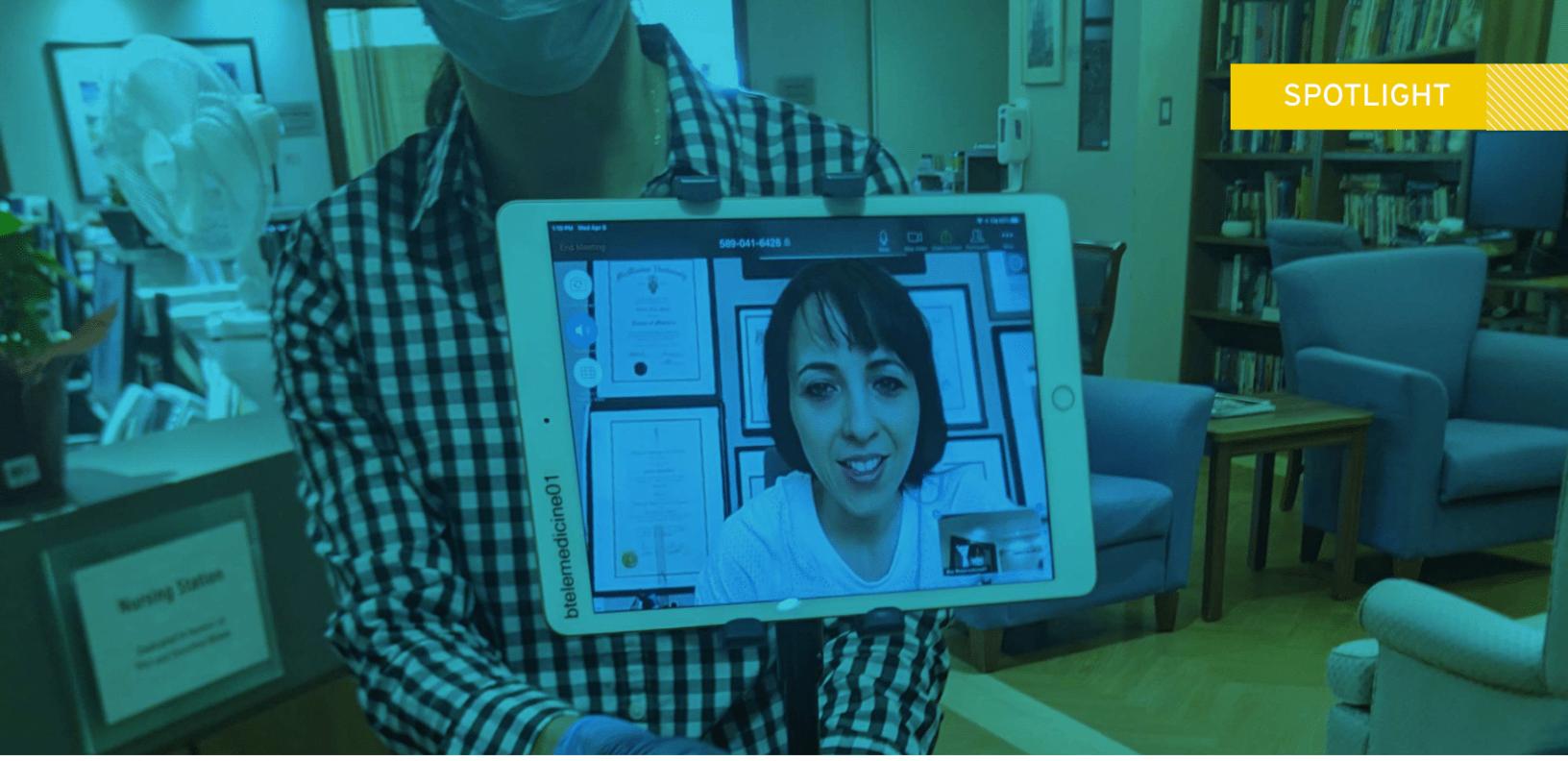
- **Amazon Show** enables residents to engage in recreation such as listening to music or asking the device to tell jokes. It enhances communication between residents and their loved ones, keeps residents on schedule for appointments, and answers simple questions.
- **Voice-controlled blinds, lighting and thermostats** increase the comfort of the patient and provide residents the independence to control elements in their environment.
- **Smart toothbrushes** monitor oral health and assist in good hygiene habits. Data from the toothbrush can be accessed by one's medical team to track if a patient's oral health may impact other potential health concerns.

"The features of this room have helped improve my social life, everyone likes to stop by my room when the music is playing from my Amazon Show.

My Smart Room also saves a lot of work for the staff since I can control so much using just my voice. Now my room is more high-tech than my grandkids' houses!"

- RESIDENT OF APOTEX,
JEWISH HOME FOR THE AGED





Innovation Adoption: tCarts

On Wednesday March 11, the World Health Organization declared COVID-19 a global pandemic.

Few could predict the enormity of the pandemic's impact on our lives and the lives of the older adults in our community. While confronting the challenges of this historic period, Baycrest staff were tasked with continuing to provide excellent care during the most unprecedented time in recent history. In the span of a few short weeks, the telemedicine cart - the tCart - was created.

Comprised of an iPad, iPhone, speakers, an amplifying system for the hearing impaired, and a digital stethoscope on a mobile cart, tCarts enable physicians to see their clients any time, any place. From checkups to rounds, tCarts have become an integral innovation at Baycrest. When tCarts weren't being used by physicians, staff and volunteers use the device to connect patients and residents with their loved ones, through the eVisit program launched during the pandemic.

To date, over 60 tCarts have been created and used across campus and in the community. "We didn't just create the tCarts and place them across campus. Creating the tCarts meant that we had to develop and implement an infrastructure for them to be operationalized at Baycrest. That included training, troubleshooting, and creating documentation and videos to enable staff to feel comfortable using the technology," said Ran Manor, Director, BIO.

The tCarts were made possible by the Baycrest Foundation through generous donations from the community via the Safeguarding our Seniors (SOS) fundraising campaign. "Without their support, our efforts to keep Baycrest residents, patients and staff safe would have been greatly impacted," said Ron Riesenbach, Baycrest CTO and VP of Innovation. "Not only have our donors enabled us to create novel technologies for our community, we are now uniquely positioned to share our innovations with other institutions to help keep their residents safe."

AT A GLANCE

BIO Metrics

+300 100 TRIM hours spent with clinical staff

\$150K+ IN INNOVATION GRANTS

100 HOURS SPENT supporting staff through the Telemedicine Rapid Implementation (TRIM) initiative

15 INTELLECTUAL PROPERTY DISCLOSURES since September 2018

119 MARKETING AND COMMUNICATIONS TACTICS EXECUTED

9 INNOVATION OF THE MONTH AWARDS

73 BRAINSTORMING SESSIONS

34 INNOVATION NETWORKING EVENTS

7 HIGH-VISIBILITY EVENTS booth, keynote

3 EVENTS where BIO was featured

16 BIO-LED EVENTS

40 BIO-SUPPORTED INNOVATION PROJECTS

20 INNOVATIONS IDENTIFIED FOR IMPLEMENTATION AT BAYCREST.

6 MEETINGS WITH THE ICSC

2 INTERNATIONAL CONFERENCES
Leading Age/What's Next Canada

TEN
PARTNERSHIPS



Mitacs

CANADA'S NATIONAL
BALET SCHOOL
Sharing Dance

CENTRE FOR AGING
INNOVATION &
INNOVATION
Powered by Baycrest

CMAI

SSW
Integrating for Value
Leaders in Service

carestory

TAHSN

LEADS
canada

BBAS

Innovation Adoption: Echo Dots

The Power of Music

Music is an integral part of many of our warmest and most positive memories. As older adults in long-term care experience declining cognitive abilities, music can be a powerful way to keep them engaged and present.

This has been especially critical during the COVID-19 pandemic. By using some of the most innovative audio tech on the market today, BIO tapped into solutions that enhanced the quality of life, support, and well-being of older adults in long-term care.

What are Echo Dots?

The Echo Dots are voice-controlled intelligent personal assistant devices, and are an example of an innovation adoption that received glowing feedback among users. Using Echo Dots, staff were able to play different kinds of music for patients and residents, providing enhanced enjoyment during meal times.

Key Highlights

As a response to the COVID-19 pandemic, Baycrest ensured that residents were still engaging in social recreation despite physical distancing measures. To achieve this, Amazon Echo Dots were used in various areas of the campus, including in new physically-distanced dining rooms at the Apotex Centre, Jewish Home for the Aged.



92%

of residents report a positive response to the addition of music during meals



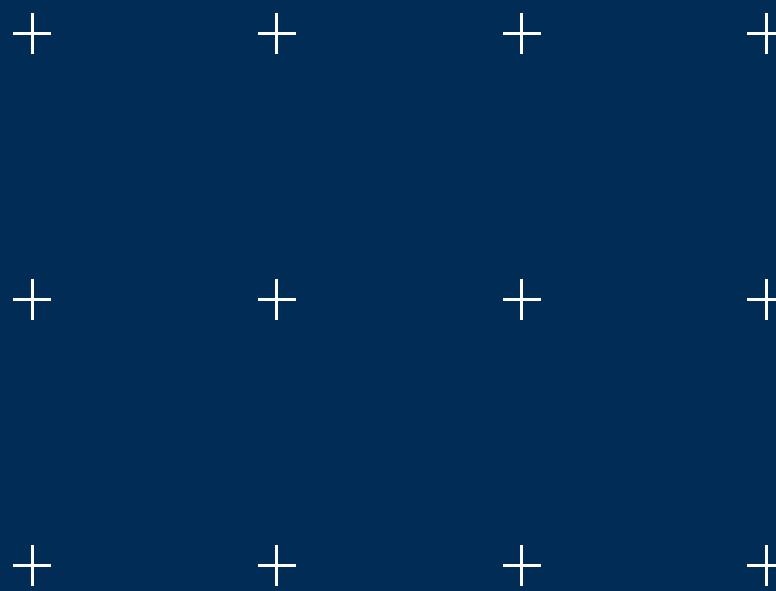
100%

of staff were extremely satisfied and very satisfied with the use of Echo Dot



" I turned on classical music and a resident who was eating immediately responded that it was wonderful and became livelier."

- APOTEX STAFF MEMBER



Baycrest @Home

Giving older adults and caregivers peace of mind in the home.

Older adults should be able to age in the setting of their choice and continue to live safe, healthy, meaningful lives for as long as possible, and their caregivers should have access to the services and supports that enable them to care for their loved ones and reduce caregiver burden. That's where Baycrest@Home comes in.

BIO's Support for Baycrest@Home

The BIO team supported the Baycrest@Home team by seeking innovations and technology to support its mandate of keeping older adults and their caregivers safe, healthy, active and connected to their community and loved ones. The process began with an internal scan of Baycrest-led innovations and experts. BIO then identified and facilitated external opportunities to supplement Baycrest's wide range of expertise.

What is Baycrest@Home?

Baycrest@Home is a novel service that is designed to support caregivers of older adults who have declining cognitive health. Baycrest@Home recognizes unique needs of caregiving that can include health system navigation, managing difficult family dynamics and education on how to care for older adults experiencing declining cognitive health.

This team connects older adults and caregivers to Best Buy's Assured Living wellness monitoring technology. Baycrest@Home's partnership with Best Buy enables caregivers and older adults to have home-automation and home-sensors installed and supported to enhance home safety and to help provide peace of mind.



20+

families were recruited
to assist with evaluating
beta service offerings



10+

tech installations
completed for
older adults at
Baycrest and in
the community



15+

innovations
identified to support
Baycrest@Home's
service offerings

Telemedicine Rapid Implementation (TRIM) Highlights

Keeping residents happy, healthy and safe is Baycrest's top priority.

When the pandemic hit, the BIO team sprang into action to support our residents and staff as they weathered the storm of this pandemic. In March 2020, the Telemedicine Rapid Implementation (TRIM) team was established by Baycrest CTO and VP of Innovation, Ron Riesenbach, and Baycrest VP of Education, Dr. David Conn. Since then, BIO has led and supported initiatives to scale virtual care services across campus and in the community to create novel telemedicine technologies, the new eVisit program for residents to stay in contact with their loved ones, and the development of virtual social engagement and recreation initiatives to help mitigate the social isolation of adults in our community.

\$260K+

EQUIPMENT
PROCURED

3,800+

eVISITS
FACILITATED

1,500+

VIRTUAL CARE
SESSIONS
CONDUCTED

63

T-CARTS ASSEMBLED
AND DEPLOYED

50

PHYSICIANS TRAINED
FOR VIRTUAL CARE

20

POLICIES/GUIDES
CREATED

6

HOW-TO TRAINING
VIDEOS CREATED

Leadership and Governance

Thank you to each member of our leadership for enabling BIO to drive innovation forward at Baycrest and beyond. Your insights, expertise and support have guided us on our journey to make Baycrest a leading institution in innovation for older adults.

BAYCREST EXECUTIVE TEAM

DR. WILLIAM E. REICHMAN
President and Chief Executive Officer

BRIAN MACKIE
Vice-President, Finance and Chief Financial Officer

MARGOT DACOSTA
Executive Director, Hospital Services & Pharmacy
and Chief Nursing Executive

DR. ALLISON SEKULER
Vice-President, Research and Sandra Rotman
Chair in Cognitive Neuroscience

DR. DAVID CONN
Vice-President, Education and Director, Centre for Education

DR. GARY NAGLIE
Vice-President, Medical Services and Chief of Staff

JOSH COOPER
President & Chief Executive Officer, Baycrest Foundation

RON RIESENBACH
Vice-President, Innovation and Chief Technology Officer

JONI KENT
Executive Vice-President, Corporate Services
and Chief Human Resources Officer

RHETA FANIZZA
Executive Vice-President, Residential
and Community Programs

SCOTT OVENDEN
Vice-President, Clinical Programs
and Corporate Performance

INNOVATION AND COMMERCIALIZATION STEERING COMMITTEE

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President and Chief Executive Officer

RON RIESENBACH
Vice-President, Innovation and Chief Technology Officer

RON MANOR
Director of BIO

ALEC BADLEY
Manager, Residential Living

PAUL SANTIN
Deputy Chief Financial Officer

DR. ALLISON SEKULER
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LISA SOKOLOFF
Manager, Training and Simulation

MEL BARSKY
Director, Business Development at CABHI

BRIAN MACKIE
Vice-President, Finance and Chief Financial Officer

ANNA BALLOON
Vice-President, Baycrest Global Solutions

DEB GALET
Executive Director, Interprofessional Practice
and Ambulatory Care

ALEX SCHONBERG
Business Partner, Organizational Effectiveness



IN SUMMARY

From innovations that improve the quality of life for older adults to solutions that improve operational effectiveness, our Baycrest community is uniquely poised and eager to innovate. BIO is ready, willing and excited to support them on our campus and far beyond.



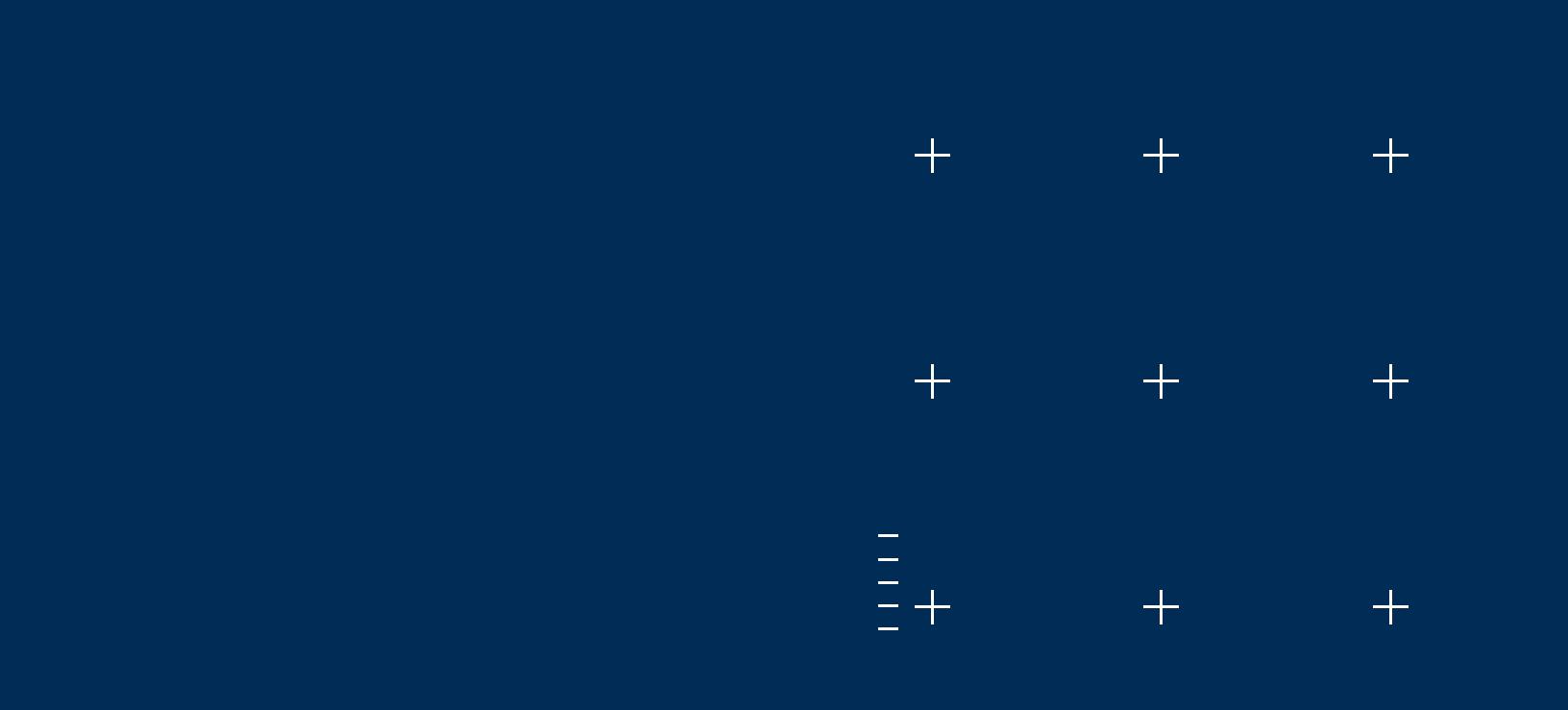
BIO PLAYBOOK

Our team has learned a lot about how to build and support high-impact innovation in a healthcare setting. From managing intellectual property to supporting clinician innovators, we want to take our innovation tools, processes, policies and models with other innovators that are looking to innovate for their community on a lean budget. That is why we are pleased to announce that we are releasing a playbook in June 2021. To access our playbook, please contact us at innovation@baycrest.org



DRIVING INNOVATION FORWARD

There has never been a better time to innovate than the present. As COVID-19 continues to alter our ways of life, our collective efforts to combat the pandemic have proven that innovation is the key to weathering this storm, to emerge as a stronger and more resilient society. We have seen exceptional examples of innovation across the healthcare sector in the fight against COVID-19. And, a lot of this innovation has happened right here at Baycrest. Through our commitment to innovating a world where every older adult can thrive through a life of purpose, inspiration and fulfilment, we have an opportunity at Baycrest to emerge as innovation leaders in compassionate healthcare for older adults.



Baycrest Innovation Office

INAUGURAL REPORT

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Baycrest

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