

May 3, 2021



**McGill**

Faculty of  
**Medicine**

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## **Annual Reporting for Faculty Supported Research Centres and Networks**

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All Centres (provisional Centres; McGill Centres), Research groups and Networks that receive funding from the Faculty of Medicine are required to provide two components of reporting:

1. an Annual Report of Activities and Outcomes (see below),
2. a Financial Statement (see attached Excel document).

The reporting period is May 1, 2020 – April 30, 2021.

**Deadline: Monday, May 3, 2020 at 5pm**

Please send both documents to Faculty of Medicine's Research Office ([riac.med@mcgill.ca](mailto:riac.med@mcgill.ca)).

**Continued support from the Faculty is contingent on:**

1. the receipt of the reporting documents on time,
2. the evaluation of reported activities by the Faculty's Committee for Oversight of Research Units (CORU),
3. the availability of Faculty funds.

Your strong engagement in the Faculty's mission for continued research excellence and financial stewardship is truly appreciated.

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## Annual Report of Activities and Outcomes

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1. Name of the Unit:  
The McGill University Research Centre for Studies in Aging (MCSA)
  2. Director's contact information:  
Dr. Pedro Rosa-Neto, MD, PhD, Professor of Neurology & Neurosurgery, Psychiatry and Pharmacology & Therapeutics at McGill University, affiliated to the Douglas Hospital Research Centre.  
Tel. (514-766-2010) [pedro.rosa@mcgill.ca](mailto:pedro.rosa@mcgill.ca)
  3. If the Unit is a **Senate-approved** McGill Research Centre, indicate date of approval:  
MCSA is recognized as an official Senate approved McGill Research Centre since October 1, 1984.
  4. Mission Statement of the Unit:  
The McGill University Research Centre for Studies in Aging (MCSA) started operations in 1985 with a mandate to promote research, education, and teaching in the field of aging and aging research, with emphasis on a multidisciplinary approach. The Centre's mandate has been modified to reflect the emergence of novel frontiers in the field of aging research. The current objectives of the Centre are:
    - I. To actively promote research that will identify the underlying causes of age-related disease with particular emphasis on prevention and early diagnosis of age-associated cognitive decline.
    - II. To actively engage in knowledge transfer and public education, designed to sensitize both scientists and the lay public at large, to health and social issues related to aging.
    - III. To contribute to the training of Canadian and international undergraduate and graduate students as well as post-doctoral fellows, who focus their research on diseases of the aging population.
    - IV. To strengthen the relationship of the Centre with community non-government organizations (NGOs) dedicated to age-related diseases.
    - V. To deliver the compassionate and exceptional clinical care to our patients.
  5. Number of Unit members: total = **55 (Appendix 1)**

1 Director	1 Social Media - Communications
1 Alzheimer's Disease Research Unit Director	1 Computer Technical Support
5 Faculty Clinicians	4 Post-Doctoral Fellows
1 Chair, MCSA Education Committee/Member of the Executive Committee	6 PhD
1 Research Support Medical Staff	3 Masters
1 Administration	5 Undergraduate
1 Business Development	19 Research Personnel
3 Nurses	
2 Medical Secretaries	
  6. Number of members affiliated with McGill's Faculty of Medicine: **42 (Appendix 1)**  
Total Current Members: 67  
Total New Members: 5
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7. **Unit's website:** URL: [www.aging.mcgill.ca](http://www.aging.mcgill.ca)

- All sources of funding support (including the Faculty of Medicine's logo)
- The List of Members and their institutional affiliation with appropriate links
- The activities supported by the Unit
- All previous Annual Reports

8. Summary of past year's **goals and objectives** of the Unit.

▪ **Business Development**

Enhance donor relationship and fund-raising initiatives.

- Unforeseen challenges: Pandemic, enforced social distancing cancelled fundraising events/activities.

▪ **Education**

Community KT & Outreach Programs Online & Continue International Journal Club Series

- Unforeseen challenges: None

Academics and Experts KT Activities Online

- Unforeseen challenges: International Lecture "Laura Chalk Rowles Lectureship Series" rescheduled 2021

Continue attending International conferences

- Unforeseen challenges: International NRM and PK Conference June 2020 cancelled due to pandemic

▪ **Research**

McGill Aging Research Community

- Support member's funding opportunities for grants & advance knowledge and multidisciplinary research about aging and dementia
- Unforeseen Challenges: None

▪ **Clinical Trials**

Restructure clinical trials operations at MCSA given the restriction imposed by the COVID-19 pandemic

- Unforeseen challenges: MCSA clinical trials were affected by COVID-19 pandemic and sponsors suspended recruitment due to the inability to have dosing and in-person clinic visits for patients.

▪ **Patient Care**

Participate in the development of the Canadian Guidelines for Telemedicine in Dementia

- Unforeseen challenges: Incorporate telemedicine within the Electronic Medical Records at MCSA.

9. **Major achievements** enabled by the support obtained from the Faculty

**Business Development**

- Travel Award \$3,000
- McGill 24 Campaign
- Triannual mail out (3900), bi-weekly emails communicating/engaging with supporters through newsletters, thank you letters (155).
- Implementation of Social Media: YouTube, Facebook, Twitter, links to donation page, outreach participants that attended KT online activities, connections are more inclined to build new donor lists. (**Appendix 1**)
- Total donations \$71,100.00

**Education – Community, KT and Outreach (Appendix 1)**

- 49 online Brainy Boomer Lectures & 32 online Exercise for Senior's - Total Participants = 1731
  - 3 Health Day Virtual Events
  - Virtual McGill Employee Health Fair – Introduced free online Cognitive Training "S.N.A.P." = 560 viewers/booth
  - 8 MCSA Education Committee meetings (13 members)
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- 35 MCSA Administration Meetings (6 members)
- 4 MCSA Newsletters (April, August, November 2020 & April 2021)
- Social Media: YouTube, Facebook, Twitter, Virtual platforms – Enhanced MCSA’s KT activities was an incredible opportunity in creating support groups, alleviating social isolation by connecting participants twice a week for over 10 months. Links provided in reminder emails and Zoom chat box.
- Website updates: Aesthetics; organization of pages; more user friendly, displays projects in a clear and concise manner; create clear connections between MCSA and other cohorts/labs.

### **Education – Academic and Expert KT activities (Appendix 1)**

- 4 Virtual Conferences: AAIC (July 27-31, 2020), CCNA (Oct. 14-16, 2020), AAIC Neuroscience Next 2020 (Nov 9-10, 2020) & AD/PD 2021 (March 9-14,2021)
- MCSA 35<sup>th</sup> Anniversary Zoom-celebration (1985-2020) Total Participants = 71
- NRM International Conference online rescheduled Dec. 2, 3, 4, 2021
- New event called MCSA International Journal Club in Dementia: 14 (40-80 participants / conference)

### **Research (Appendix 1)**

#### **McGill Aging Research Community**

- Grant Competitions: The Centre participated in 5 grants applications; 2 applications were successful in the amount of \$371,000
- Travel Awards/Scholarships: \$100,000
- CFI-funded plasma Biomarker infrastructure – (MCSA and Department of Pharmacology) (\$1,054,000)
- Prevention: E-SNAP (formerly P.O.N.D.E.R.), free online cognitive training games, was recently re-vamped as a platform for remote cognitive assessments.
- Peer reviewed Publications
  - Published by 2 or more core members: 70 (Dr. Rosa-Neto, Dr Gauthier, Dr. Rajah, Dr. Breitner, Dr. Chertkow, Dr. Villeneuve, Dr. Massarweh, Dr. Chakravarty, Dr. Cuello, Dr. Ismail, Dr. Gelinias, Dr. Vitali, Dr. Poirier, Dr. Saha-Chaudhuri, Dr. Dagher, Dr. Doyon, Dr. Zimmer, Dr. Kok-Pin)
  - Centre Members: 409
- TRIAD Assessment of Social Isolation and Cognition (TASIC) 535 calls conducted (April to July 2020) & Round 2 Follow-up 100 participants (March 2021)
- TNL Lab Meetings: Weekly (48)
- Clinical Trial Meetings: (10)
- Clinical Operations Meetings: Weekly (42)
- Clinical Cohort Meetings: Weekly (35)

### **Clinical Trials**

- New Clinical Trials – (Covid-19 Pandemic on hold)
  1. DIAN OBSERVATIONAL STUDY – NIH
  2. DIAN COGNITIVE RUN – STUDY – NIH
  3. AVANIR
  4. BUENA
- Updated Clinical Trials SOPs

### **Patient Care**

- MCSA Clinic: 759 follow up visits – 87 new patient visits. Our clinical assessments and research activities will continue to be conducted online.
- 600 patient charts have been scanned and sorted in Electronic Medical Records (75% completed) - Expected date of completion December 2021.
- TRIAD Cohort 2020-2021 - Number of new participants: 50
  - Blood Collected: 165
  - Neuropsychological assessment performed: 137
  - PET Scans conducted: 157
  - Diagnostic lumbar punctures performed (LP’s): 118

10. **New Members** who joined the Unit in the past year and their **institutional affiliation(s)**.

<b>Name Last, First</b>	<b>Title PI, Staff or Trainee [Graduate student (GS) or post-doctoral fellow (PDF)]</b>	<b>Type of Membership Full, Associate</b>	<b>Affiliation(s)</b>
Benicio, Frey	PI	Adjunct Professor	McMaster University
Clifford, Cassidy	PI	Adjunct Professor	University of Ottawa
Doyon, Julien	PI	Associate Member	McGill University
Geddes, Maiya	PI	Associate Member	McGill University
Zahinoor, Ismail	PI	Adjunct Professor	University of Calgary
Servaes, Stijn	PDF	Student	McGill University
Sato-Fitoussi, Maria	PhD	Student	McGill University
Kulasek, Michal	Undergraduate Student	Student	McGill University
Pallen, Vanessa	Staff	N/A	MCSA (Concordia University)
Fereydouni- Forouzandeh, Parissa	Staff	N/A	MCSA (Concordia University)
Butt, Kaitlyn	Staff	N/A	McGill University
Chamoun, Abir	Staff	N/A	MCSA
Baldo, Dayna	Staff	N/A	MCSA
Altamirano, Teresa	Staff	N/A	MCSA (McGill University)

11. Members who have **left the Unit** over the reported year.

<b>Name Last, First</b>	<b>Title PI, Staff or Trainee [Graduate student (GS) or post-doctoral fellow (PDF)]</b>	<b>Type of Membership Full, Associate</b>	<b>Affiliation(s)</b>
Breitner, John	PI	Associate Member	McGill University
Cole, Martin	PI	Associate Member	McGill University
Cote, Robert	PI	Associate Member	McGill University
Hepple, Russel	PI	Adjunct Member	University of Florida
Parent, Andre	PI	Affiliate Member	Institut Universitaire en Santé de Québec
Pascoal, Tharick	PDF	Student Member	McGill University
Benedet, Andrea	PDF	Student Member	McGill University
Paliotti, Karina	Staff Research Assistant	N/A	McGill University
Joung, Ellie	Staff Lab Research Assistant	N/A	McGill University
Li, Veronica	Staff Research Assistant	N/A	MCSA (Concordia University)
Racinto, Sherlaine	Staff Research Assistant	N/A	MCSA (McGill University)
Yahi, Ourdia	Staff Research Assistant	N/A	MCSA (Université de Montreal)
Mayhew, Carley	Research Nurse	N/A	MCSA
Polcaro, Maria	Coordinator/Research Nurse	N/A	MCSA

12. State how the current and forecasted activities of your Unit align with the Education or Research mission (Strategic Research Plan) of the Faculty of Medicine and/or other Faculties at McGill.

The MCSA research vision aligns with the McGill strategic theme to " Advance dementia prevention and therapies via the integration of excellent patient care, transformative research and world-class knowledge dissemination." Our current forecasted activities have significant societal impacts by addressing key knowledge gaps related to aging and dementia. These activities aim at (1) fostering creativity, (2) promoting innovation, (3) collaboration and (4) partnership within equitable, diverse, and inclusive environments.

The COVID-19 crisis accelerated our efforts for innovating solutions in teaching and KT activities:

- The MCSA in conjunction with the Ludmer Center (Dr. Yasser Iturria) started the McGill Aging Research Community e-meetings (e-MARC meetings) to further promote innovation and partnership within McGill and internationally.
- Dr. Natasha Rajah, Chair of the Douglas Equity, Diversity, and Inclusion (EDI) will guide us with EDI best practices to develop E-versions of Brainy Boomers lectures specially designed with equity and diversity inclusion.
- Partnership with the McGill Dementia Education Program (DEP) in the writing of the World Alzheimer Report 2021 on the diagnosis of dementia on behalf of Alzheimer Disease International.
- MCSA initiated in 2019 the 5<sup>th</sup> CCDTD and we are making possible the dissemination of guidelines in A&D-TRCI with publications under special topics.
- MCSA initiated with Alzheimer Society of Canada the ASC Task Force on Dementia Care Best Practices for COVID-19 with major contributions from Dr. Maiya Geddes and Dr. Paolo Vitali.
- Partnership with researchers in Sweden and the University of Pittsburgh for the validation of plasma ptau isoforms as biomarkers for AD pathology in symptomatic patients.
- Partnership with Singapore with study funded by the Alzheimer's Association with researchers Dr. Kok Pin Ng and Dr. N. Kandiah.
- Partnership with Japanese scientists in Fukui setting up a TRIAD-like Cohort.
- The MCSA coordinates DIAN-CANADA. We have maintained our cohort of families with autosomal dominant mutations and have peer-reviewed funding to initiate the DIAN-TU cognitive run-in as a prelude to new clinical trials using novel anti-tau therapies. Results of the RCT using two anti-amyloid monoclonal antibodies are being published.
- The MCSA initiated COVID-Related surveys with instrument development, with Dr. Suzanne King.

13. Explain why support from the Faculty of Medicine continues to be crucial to the operations of the Unit

Due to the on-going pandemic, the MCSA has sustained its administrative and KT activities despite the ongoing pandemic. However, any additional funding from the Faculty of Medicine can support MCSA to help with any financial losses that occurred during the pandemic, which include but not limited to loss of revenue from suspended clinical trials, infrastructure expenses (electronic medical records yearly fee = \$8000, new computers/laptops/scanners = \$25,000), calibration and maintenance of lab research equipment = \$5000, server maintenance = \$12,000), new hires, etc.

Support from the Faculty would enhance the network of collaborations across our MCSA members. Importantly, funding from the Faculty of Medicine could provide means to address important challenges related to engagement of geriatric populations in research as well as in our outreach activities. As predicted the COVID-19 pandemic continues, MCSA should excel in retaining its clinical and research population by innovating efficient tele-assessment methods to reduce the risks of in-person visits in our Centre. Unfortunately, many of the tele-assessment applications have been designed for a younger population. Therefore, this creates limited resources for enhancing the accessibility to seniors with limited knowledge of computers, reduced visual and/or auditory acuity. More specifically, Faculty funding would allow MCSA to cover the expenses of web designers and programmers needed to create dedicated online applets and wearable devices optimized for assessing geriatric populations.

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14. List action items that the Unit has taken or will consider taking in the next year towards growth and sustainability of its operations

- **Lead the World Report focusing on the Diagnosis of Dementia (2021):** The MCSA will play a leadership role in Dementia International Guidelines and world reports in the next five years.
- **Innovative online outreach KT programs:** Online outreach programs will be the crucial strategic direction to pursue (YouTube Channel) to support social isolation and healthy lifestyles.
- **Telemedicine in Dementia Care & Cognition:** Advancing online cognitive assessments.
- **Excellence in Early Dementia Biomarker Research:** Focus early diagnosis; MCSA will conduct transformative research to develop affordable biomarkers in the next five years. MCSA will be at the forefront in the next generation of dementia biomarkers with the development of precision diagnostic tests for dementia using plasma samples and for other non-Alzheimer's dementias.
- **Enrich Collaborations via open science:** MCSA has built a prolific network of collaborators such as Douglas Research Institute, CIUSSS de l'Ouest-de-l'Île-de Montreal, Douglas Research Aging Centre, McGill Departments of Pharmacology and Therapeutics and MNI Brain Imaging Centre. MCSA continues to support successful grants with industry partners, such as Brain Canada (Kalgene) and in conjunction with the MNI, plays a role in the dementia component of the successful "Strategic Innovation Fund (SIF4) Program application entitled "Marathon of Hope Digital Health and Discovery Platform." In the next 5 years this will nurture our research and training capacity with novel participants and further enrich and foster new collaborations.
- **Enhance Equity, Diversity & Inclusion (EDI):** MCSA has a long history supporting equity, diversity and inclusivity in its working environment however little research or outreach activities has been devoted to this topic. MCSA will enhance EDI best practices in our outreach activities by including EDI issues in our Brainy Boomer Lecture series with the help of Dr. Rajah in designing an effective strategy.

15. Provide suggestions about how the Faculty could do better to support the Unit and research efforts in general (e.g., centralized data repositories, institutional data management plans, support for software developments, guidance for adopting open-science practices, simplification of administrative procedures, etc.)

The most pressing need at this moment is the ability to pool together the expertise of computer designers and programmers required to develop graphic user interfaces appropriate for assessing cognition in seniors. Informatics can advance healthcare and seniors who are willing to participate in technology-enhanced interventions, embrace different information applications but need customized training. The key is to develop better information technology solutions for the elderly, simplified tech and addressing health-related hurdles such as poor eyesight, hearing, and cost. Furthermore, computational resources would be valuable for storing, curating, databasing and data analyzing from the next generation of wearable devices capable of monitoring simultaneously a wide range of physiological parameters. The combined assessments of behavioral and physiological parameters allied to AI algorithms will become the pillars of tele-assessment and predictive medicine. The need to establish best practices and guidelines for research involving AI applications in healthcare will be necessary to ensure the quality of results.

The Faculty could facilitate collaborations with industry partners, for the development of novel technologies for diagnosing and monitoring disease progression. These technologies can make a significant impact in addressing and reducing premature deaths and enhancing the health-related quality of life of patients and their caregivers. A business model for the development of these technologies will be crucial for our CFI funded fluid biomarker unit, as it is expected to develop biomarkers with immediate clinical applications.

The Faculty could support our Centre by opening an academic position such as a neuropsychologist.

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# Suggested Performance Indicators (non-exhaustive list)

## Appendix 1 - Quantitative Suggested Performance Indicators

Activity	Quantity	Observation (page or link)
Number of Unit Members	Total: 55	<a href="http://mcsa.ca/index.php/annual-report-2/">http://mcsa.ca/index.php/annual-report-2/</a>
Members affiliated with MCSA	Total Current Members: 67 Affiliated with McGill Faculty of Medicine: 42	<a href="http://mcsa.ca/index.php/annual-report-2/">http://mcsa.ca/index.php/annual-report-2/</a>
Number of website hits and articles downloaded	<ul style="list-style-type: none"> <li>- YouTube views: 2685</li> <li>- YouTube subscribers: 89</li> <li>- Facebook followers: 22</li> <li>- Twitter followers: 33</li> <li>- Website hits:</li> </ul>	<a href="https://www.youtube.com/channel/UC9q0DRFcb6cgJRskdwwKD1Q/videos">https://www.youtube.com/channel/UC9q0DRFcb6cgJRskdwwKD1Q/videos</a> <a href="https://www.facebook.com/MCSA20/">https://www.facebook.com/MCSA20/</a> <a href="https://twitter.com/MCSA_Montreal">https://twitter.com/MCSA_Montreal</a>
Number of outreach activities and level of engagement	<ul style="list-style-type: none"> <li>- 49 online Brainy Boomer Lectures &amp; 32 online Exercise for Senior's - Total Participants = 1731</li> <li>- Virtual McGill Employee Health Fair – Introduced free online Cognitive Training “S.N.A.P.” = 560 viewers/booth</li> </ul>	<a href="http://www.aging.mcgill.ca/index.php/brainy-boomers-lecture-series/brainy-boomers-2020/">http://www.aging.mcgill.ca/index.php/brainy-boomers-lecture-series/brainy-boomers-2020/</a>  <a href="http://mcsa.ca/index.php/brainy-boomers-lecture-series/brainy-boomers-2021/">http://mcsa.ca/index.php/brainy-boomers-lecture-series/brainy-boomers-2021/</a>  <a href="http://www.aging.mcgill.ca/index.php/mcgill-employee-health-fair/">http://www.aging.mcgill.ca/index.php/mcgill-employee-health-fair/</a>  <a href="https://snap.research.mcgill.ca/users/login">https://snap.research.mcgill.ca/users/login</a>
Number of workshops, conferences or seminars, and target audience	<ul style="list-style-type: none"> <li>- 3 Virtual Health Workshops Health Day Virtual Events</li> <li>- 4 Virtual International Conferences</li> <li>- 1 MCSA Anniversary Celebration (1985-2020)</li> <li>- Press Releases: 2</li> <li>- Journal Club: 14</li> </ul>	<a href="https://publications.mcgill.ca/medenews/2020/12/11/celebrating-35-years-of-achievement-at-mcgills-research-centre-for-studies-in-aging/">https://publications.mcgill.ca/medenews/2020/12/11/celebrating-35-years-of-achievement-at-mcgills-research-centre-for-studies-in-aging/</a>  <a href="https://reporter.mcgill.ca/ten-mcgillians-selected-as-canadian-academy-of-health-sciences-new-fellows/">https://reporter.mcgill.ca/ten-mcgillians-selected-as-canadian-academy-of-health-sciences-new-fellows/</a>
Communication within/outside the Unit (e.g. email, newsletters, website, etc)	<ul style="list-style-type: none"> <li>- 4 Newsletters (April, August, November 2020 &amp; April 2021)</li> <li>- Triannual mail out (3900), bi-weekly emails communicating/engaging with supporters through newsletters, thank you letters (155)</li> </ul>	<a href="http://mcsa.ca/index.php/newsletters/">http://mcsa.ca/index.php/newsletters/</a>
Governance	<ul style="list-style-type: none"> <li>- 8 MCSA Education Committee meetings (13 members)</li> <li>- 35 MCSA Administration Meetings (6 members)</li> <li>- TNL Lab Meetings: Weekly (48)</li> <li>- Clinical Trial Meetings: (10)</li> <li>- Clinical Operations Meetings: Weekly (42)</li> <li>- Clinical Cohort Meetings: Weekly (35)</li> </ul>	Question #9
Number of grants funded with at least 2 unit PIs as co-applicants	Total: 5	<a href="http://mcsa.ca/index.php/annual-report-2/">http://mcsa.ca/index.php/annual-report-2/</a>

Travel awards	Total: 7	<a href="http://mcsa.ca/index.php/annual-report-2/">http://mcsa.ca/index.php/annual-report-2/</a>
Number of publications co-authored by at least 2 Unit PIs, and journal impact factors	- Publications by 2 or more core members = 70	<a href="http://mcsa.ca/index.php/annual-report-2/">http://mcsa.ca/index.php/annual-report-2/</a>

## Appendix 2 - Qualitative Suggested Performance Indicators

### Use of shared resources and facilities

- Brain imaging Centre at the Montreal Neurological Institute
- Brain imaging Centre at the Douglas Research Institute
- Phenotype Centre at the Douglas Hospital
- Histology Core Goodman Cancer Research Centre
- Genome Centre at McGill
- Laboratory for brain imaging
- CFI-funded Fluid biomarker unit Facility in conjunction with the Department of pharmacology and therapeutics (Rosa-Neto – Multhaup- Genge)

### Research building capacity, or removing impediments to research

- The MCSA has created new and successful research collaborations with the Department of Endocrinology (Dr. Simon Wing) and Geriatrics (Dr. Jose Morais) of the MUHC, which generated 1M in research grants. This research capacity is creating novel research opportunities in the field of metabolic disorders and dementia.
- In conjunction with Dr. Gerhard Multhaup (Departments of Pharmacology and Therapeutics) and Dr. Angela Genge (MNI), we are building a CFI-funded fluid biomarker unit capable for developing and validating novel biomarkers. Although the PI is located at the Douglas, the analytical infrastructure will be in the Department of Pharmacology to facilitate R&D.
- Collaborations with the brain imaging center allowed the development of novel radiopharmaceuticals (Dr. Gassan Massarweh) and 7T MRI methods (Dr. Christine Tardif & Dr. David Rudko) for assessing tau pathology, neuroinflammation and epigenetic biomarkers for aging and dementia.
- Dr. Maiya Geddes has joined our research group opening new perspectives in our research in the field of decision making. There was a substantial enhancement of our working space capacity to recruit and enroll patients for clinical.

### Multi-disciplinary collaborations

- Canadian Consortium on Neurodegeneration in Aging (CCNA; ~ CAN\$150K): multidisciplinary research using biomarkers, cognition, genetics.
- FRSQ team grant (CAN\$ 1.5M): In conjunction with Prof Tsuneyuki Ozaki (UDM) we investigate tera laser technologies for detecting protein aggregation in biofluids.
- ERA-NEURON Network: This European Funded (CAN\$ ~1M) initiative with Antwerp University and Julich research Centre develop novel methods of imaging reconstructions to examine synaptic activity in humans and animal model of neurodegenerative conditions.

### Increased or new collaboration and partnerships as a result of Unit activities, and with different types of end users (e.g., industry, government and community groups)

- Research grants with Takeda for developing P2X7 tracers for Alzheimer’s disease.

- Research contracts with Jensen for developing radiosynthesis and analytical methods for PET [18F]JNJ-64413739.
- Collaboration with Merck and Cerveau radiopharmaceuticals for the development of the tau imaging agent [18F]MK6240.

What exceptional successes, if any, have occurred during the reporting period.

- Zoom platform, Virtual BB Lectures, Exercise for Seniors, Nutrition for Seniors, 3 Health Day's, 35th Anniversary Celebration, Virtual Health Day McGill University -introduction revised free online Cognitive Training Prevention Program S.N.A.P., Development of Social Media, YouTube Channel, Twitter, Facebook, Website updated, enhanced the research and educational programs to create dynamic learning opportunities, enhancing and optimizing the provision of research services by making strategic investments in systems, staff and staff training . Social media has helped alleviate social isolation by connecting individuals twice a week for over 10 months. Acted like a support system during times of social distancing. Technology has enhanced so much giving us plentiful online forums for social interactions.

What disappointments, if any, occurred during the reporting period.

1. Clinical Trials – loss of revenue.
2. Due to social distancing, in-person events cancelled, limited our fundraising capacities and community outreach decreased donations, need to focus harder on donor engagement and retention, need to plan better and to use intelligent prospecting techniques to recruit new followers and supporters.
3. Grants? The centre continues to perform well in obtaining funding.

New skills have been acquired as a result of research technology.

- Advancement in telemedicine, remote research tools and cognitive assessment online (S.N.A.P.).

Collaborations between other units at McGill and Internationally.

- The MCSA in conjunction with the Ludmer Center (Dr. Yasser Iturria) started the McGill Aging Research Community e-meetings (e-MARC meetings) to further promote innovation and partnership within McGill and internationally.
- Dr. Natasha Rajah, Chair of the Douglas Equity, Diversity, and Inclusion (EDI) will guide us with EDI best practices to develop E-versions of Brainy Boomers lectures specially designed with equity and diversity inclusion.
- Partnership with the McGill Dementia Education Program (DEP) in the writing of the World Alzheimer Report 2021 on the diagnosis of dementia on behalf of Alzheimer Disease International.
- MCSA initiated in 2019 the 5<sup>th</sup> CCDTD and we are making possible the dissemination of guidelines in A&D-TRCI with publications under special topics.
- MCSA initiated with Alzheimer Society of Canada the ASC Task Force on Dementia Care Best Practices for COVID-19 with major contributions from Dr. Maiya Geddes and Dr. Paolo Vitali.
- Partnership with researchers in Sweden and the University of Pittsburgh for the validation of plasma ptau isoforms as biomarkers for AD pathology in symptomatic patients.
- Partnership with Singapore with study funded by the Alzheimer's Association with researchers Dr. Kok Pin Ng and Dr. N. Kandiah.
- Partnership with Japanese scientists in Fukui setting up a TRIAD-like Cohort.
- The MCSA coordinates DIAN-CANADA. We have maintained our cohort of families with autosomal dominant mutations and have peer-reviewed funding to initiate the DIAN-TU cognitive run-in as a prelude to new clinical trials using novel anti-tau therapies. Results of the RCT using two anti-amyloid monoclonal antibodies are being published.
- The MCSA initiated COVID-Related surveys with instrument development, with Dr. Suzanne King.

Development of tools, software, databases

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- SNAP remote technologies for assessing patients in clinical trials seems to be a reasonable alternative for the continuation of data collection.

Emphasize all kinds of open science efforts

**1. Local:**

- a. StoP-AD program: collaborations in fluid biomarkers.
- b. Imedici: Raising awareness for Alzheimer's Disease  
[http://www.imedici.mcgill.ca/Pub/Pub\\_Main\\_Display.asp?LC\\_Docs\\_ID=6187](http://www.imedici.mcgill.ca/Pub/Pub_Main_Display.asp?LC_Docs_ID=6187)
- c. MUHC Metabolic Unit (ADDR CAN\$~1M): Novel therapies for diabetes and delirium.
- d. MUHC Metabolic Unit (ADDR CAN\$~1M): Novel therapies for diabetes and dementia.
- e. Department of Pharmacology and Therapeutics (CFI jELF ~1M).
- f. Brain Imaging Centre at the Montreal Neurological Institute (CFI10 and PSV4 application).
- g. Movement laboratory at the Jewish Rehabilitation Centre: exercise and AD.
- h. Sleep laboratory at Sacre Coeur: Sleep disorders associated with protein aggregation.

**2. National:**

- a. Canadian Consortium on Neurodegeneration in Aging (CCNA; ~ CAN\$150K): multidisciplinary research using biomarkers, cognition, genetics.
- b. Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD5): Clinical guidelines for dementia.
- c. Alzheimer's society Canada: Task Force on Dementia Care Best Practice for COVID-19: Clinical guidelines for dementia and COVID-19.
- d. Consortium for the Early Identification of Alzheimer's Disease (CIMA-Q): clinical trials in dementia prevention.

**3. International:**

- a. Gothenborg University: plasma biomarkers of Alzheimer's disease.
  - b. Julich research Centre: Synaptic Alterations Neuropsychiatric Disorders and Tau consortium.
  - c. Fukui University (Japan) PET Centre and Neurology Department.
  - d. Antwerp University: Synaptic Alterations Neuropsychiatric Disorders).
  - e. Washington. University St. Louis: Autosomal dominant Alzheimer's disease.
  - f. Indiana University: Early onset Alzheimer's disease.
  - g. Hamamatsu University (Japan) PET Centre and Neurology Department.
  - h. National Neurological Institute in Singapore: language independent cognitive assessment (VCAT).
  - i. Beijing Capital University: Genetic forms of Alzheimer's disease.
-