



**Report to the IMHR Board**  
**Fiscal Year 2022**

University of Ottawa  
**Institute of Mental Health Research**  
at The Royal



## Reflections on FY 2022



*La version française se trouve ci-dessous, en page 4.*

One of the lasting memories of the pandemic for me will be how the world was able to tackle a big and urgent problem that presented more questions than answers and yet deliver health recommendations and approved vaccines in arms in previously unimaginable speed. Bringing together inter-disciplinary teams of scientists, clinicians, elected and government officials, business leaders and citizens who were all willing to be a part of the solution and share data openly was critical to success. We also know that countries where research is more connected to care were particularly efficient in generating key knowledge.

That fresh example serves to remind us here at The Royal of what we can accomplish together for our clients as we bring together research and care. Working together – researchers, clinicians, clients and families, and healthcare professionals – in our learning organization, we are creating multidisciplinary teams to untangle the complex biology of the brain, to design novel approaches, and to provide access to care through cutting-edge research.

The pandemic serves to inspire us to be bold in our aspirations and impatient on behalf of our clients in translating the findings of research into novel and integrated approaches to prevention, diagnosis and treatment.

Equally, we collaborate outside The Royal, with leading institutions across our country that are in turn creating multidisciplinary teams. For example, with our partnership with CAMH's Krembil Centre for Neuroinformatics, the Heart Institute, and the Brain & Mind Research Institute, we are studying the connections between mental and physical health, which are intrinsically linked and cannot be considered in isolation.

We are also working with the University of Ottawa's Interdisciplinary Centre for Black Health, which brings together researchers with diverse expertise in medicine, nursing, nutrition, psychology, sociology, economics, law, public health, and epidemiology to study the determinants of health in Black communities in Canada, and to provide culturally sensitive care.

These are just two examples of how the IMHR has put cross-collaboration into practice in the past year. But perhaps the most rewarding is how we work with our clients and families. Putting our clients at the centre of their care improves outcomes and informs how we are able to provide access to care through research. Our Clinical Brain Research Center, which builds on the successes of the Brain Imaging Centre and will integrate our research platforms into the clinical workflows, is a great example of this – bringing together the pillars of research, care, lived expertise and learning – and we are excited to see what it brings.

The Royal's integrated annual report includes many IMHR success stories, found [here](#). In the following pages the IMHR is pleased to provide more data that illustrates the work that we have done in FY22.

Thank you, and I look forward to discussing any of these activities, With best wishes to you and yours for the summer.

Sincerely,

A handwritten signature in black ink, appearing to read 'Florence Dzierzinski', with a long horizontal flourish extending to the right.

**Florence Dzierzinski, PhD**

*President, IMHR / Vice President Research, The Royal*

# Réflexions sur l'exercice 2022

L'un des souvenirs les plus durables de la pandémie pour moi sera la façon dont le monde a pu s'attaquer à un problème important et urgent qui présentait plus de questions que de réponses tout en fournissant des recommandations sanitaires et des vaccins approuvés dans les bras à une vitesse auparavant inimaginable. Réunir des équipes interdisciplinaires de scientifiques, de cliniciens, d'élus et de représentants gouvernementaux, de chefs d'entreprise et de citoyens qui étaient tous prêts à faire partie de la solution et à partager ouvertement les données était essentiel au succès. Nous savons également que les pays où la recherche est davantage liée aux soins ont été particulièrement efficaces pour générer des connaissances clés.

Ce nouvel exemple nous rappelle ici au Royal ce que nous pouvons accomplir ensemble pour nos clients en associant recherche et soins. En travaillant ensemble - chercheurs, cliniciens, clients et familles, et professionnels de la santé - dans notre organisation apprenante, nous créons des équipes multidisciplinaires pour démêler la biologie complexe du cerveau, concevoir de nouvelles approches et fournir un accès aux soins grâce à une recherche de pointe.

La pandémie sert à nous inspirer à être audacieux dans nos aspirations et impatientes au nom de nos clients pour traduire les résultats de la recherche en approches nouvelles et intégrées de prévention, de diagnostic et de traitement.

De même, nous collaborons à l'extérieur du Royal, avec des institutions de premier plan à travers notre pays qui, à leur tour, créent des équipes multidisciplinaires. Par exemple, grâce à notre partenariat avec le Centre de neuroinformatique Krembil de CAMH, l'Institut de cardiologie et l'Institut de recherche sur le cerveau et l'esprit, nous étudions les liens entre la santé mentale et physique, qui sont intrinsèquement liés et ne peuvent être considérés indépendamment.

Nous collaborons également avec le Centre interdisciplinaire pour la santé des Noirs.e.s de l'Université d'Ottawa, qui rassemble des chercheurs possédant diverses expertises en médecine, en soins infirmiers, en nutrition, en psychologie, en sociologie, en économie, en droit, en santé publique et en épidémiologie pour étudier les déterminants de la santé chez les communautés noires au Canada et de fournir des soins culturellement adaptés.

Ce ne sont là que deux exemples de la manière dont l'IRSM a mis en pratique la collaboration croisée au cours de l'année écoulée. Encore plus gratifiante est la façon dont nous travaillons avec nos clients et leurs familles. Placer nos clients au centre de leurs soins améliore les résultats et éclaire la façon dont nous sommes en mesure de fournir un accès aux soins grâce à la recherche. Notre Centre de recherche clinique sur le cerveau, qui

s'appuie sur les succès du Centre d'imagerie cérébrale et intégrera nos plateformes de recherche dans les flux de travail cliniques, en est un excellent exemple - réunissant les piliers de la recherche, des soins, de l'expertise vécue et de l'apprentissage - et nous sont ravis de voir ce que cela apporte.

Le rapport annuel intégré du Royal comprend de nombreuses histoires de réussite de l'IRSM, que vous trouverez [ici](#). Dans les pages suivantes, l'IRSM est heureux de fournir plus de données qui illustrent le travail que nous avons effectué au cours de l'exercice 2022.

Merci, et j'ai hâte de discuter ces activités. Mes meilleurs vœux à vous et aux vôtres pour l'été.

Sincèrement,

A handwritten signature in dark ink, appearing to be 'Florence Dzierzinski', written in a cursive style.

**Florence Dzierzinski, PhD**

*Presidente, IRSM / Vice Presidente Recherche, Le Royal*

## Priorities (Standing and In Development)

1. Steering and visioning of the research enterprise, during the pandemic and beyond, taking into account our SWOT analysis and the development / implementation of the new integrated Strategy:
  - a. Development of the Clinical Brain Research Centre as a cross-cutting academic hub, and corresponding HR plan
  - b. Integration of research, care, education and lived expertise
2. Creating the best possible environment for research to thrive and for research impact:
  - a. Partnership development activities in the context described above
  - b. Planning for sustainability and development (critical success factors, workforce, technology platforms, Royal Ottawa Health Care Group (ROHCG) as an academic health science center)
  - c. Maintenance and modernization of core business activities in times of change

## Report on our Critical Success Factors, FY22

Identifying and communicating our Critical Success Factors ensures that our enterprise focuses on what needs to be done to achieve success.

Good Standing      Developing Well      Active Planning      To be Developed      Underdeveloped



RESEARCH TALENT		
Scientist Demographics		
Early Career Researchers (10), eRIM (7), non-eRIM (3)	Stabilization, eRIM 2.0	
Mid-career Researchers (1)	Leadership development	
Senior Researchers (4)	Leadership	
Scientific Leadership	Recruitment in FY23, in line with CBRC	
Attraction, Retention, Succession	See also environment and other categories	
Inter-Professional Research	In development	

Training/Learners	In development	
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RESEARCH INFRASTRUCTURE	
From Brain Imaging Centre to Clinical Brain Research Centre	
Expansion of the Neuromodulation Research Clinic (rTMS) FY23	
Interventional Platform (Brain Stimulation) FY23	
Digital /AI / ML Capabilities	

RESEARCH ENVIRONMENT AND CULTURE	
Expertise – Administration, Management, Development	
Compliance and Regulations	
Integration of Research and Clinical Operations, Quality, MBC	
Digital Research Infrastructure (Initiation FY23)	
Research Policies	

Funding Strategy / Roadmap (FY23)	
Culture Assessment & Development	
Organizational-wide Support	
Research Development Internal Programs	
Equity, Diversity & Inclusion, Sex- and Gender-based Analysis	

Good Standing      Developing Well      Active Planning      To be Developed      Underdeveloped



**RESEARCH PARTNERSHIPS**

uOttawa	
Carleton	
Private Sector – Digital	
Private Sector – Clinical Trials	
Governments	
Community	



Other AHSCs	
Large & Partnered Initiatives	

Good Standing      Developing Well      Active Planning      To be Developed      Underdeveloped



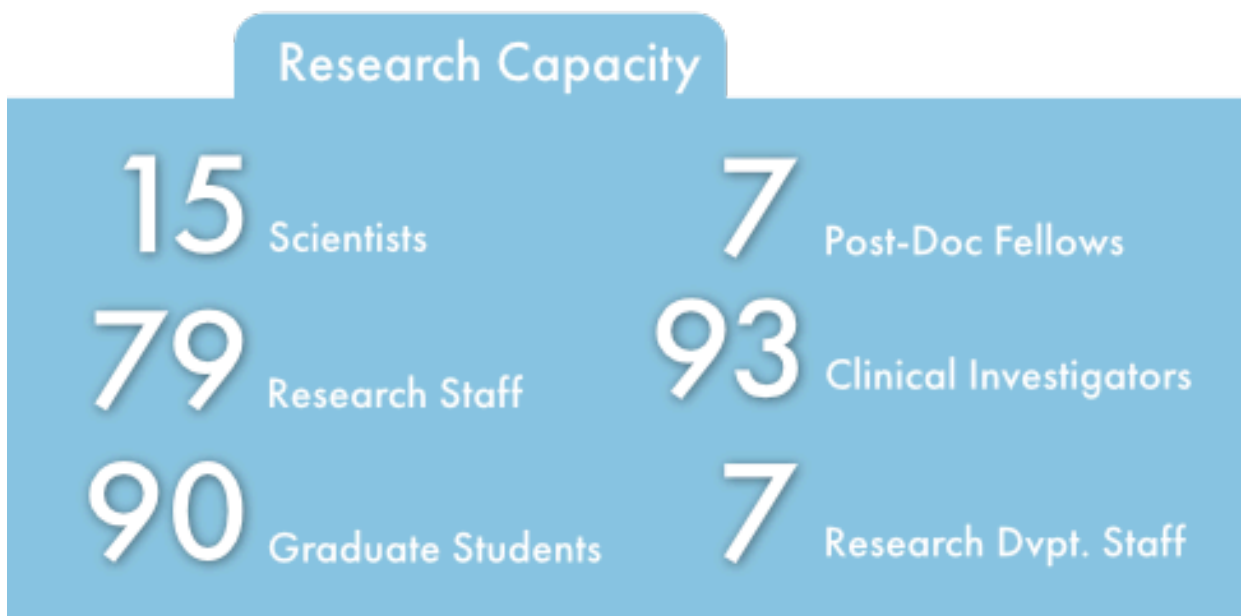
**STRATEGY AND GOVERNANCE**

Tripartite	
Research Committee (FY23)	
Integration research, care, education, lived expertise	
Data/AI/ML governance	

<b>FINANCE – GROWTH &amp; SUSTAINABILITY</b>	
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<b>ADVOCACY AND REPUTATION</b>	
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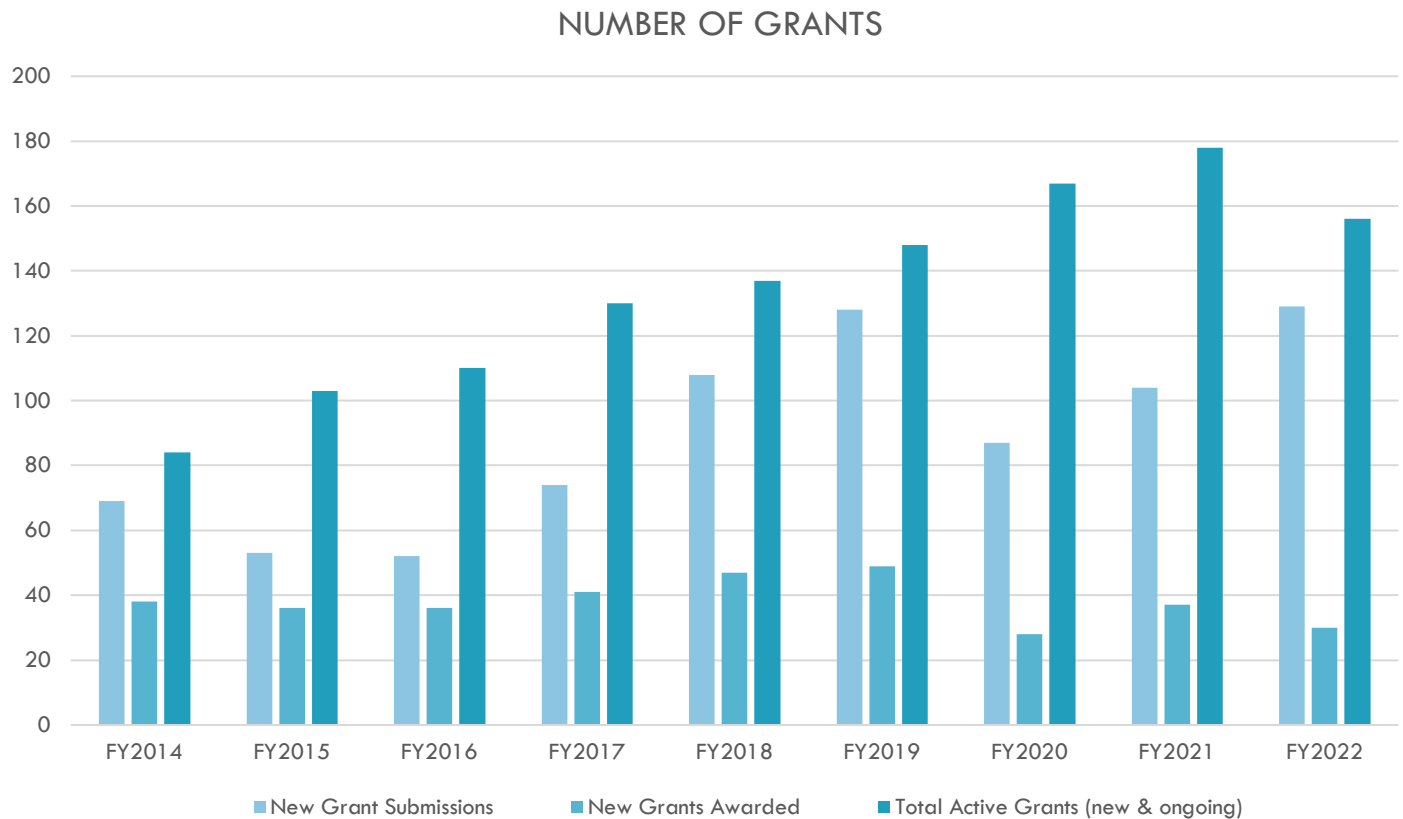
## A Snapshot of Fiscal Year 2021 - 2022



## 1.0 Grants and Financials

### 1.1 Grants/Contracts/Salary Awards

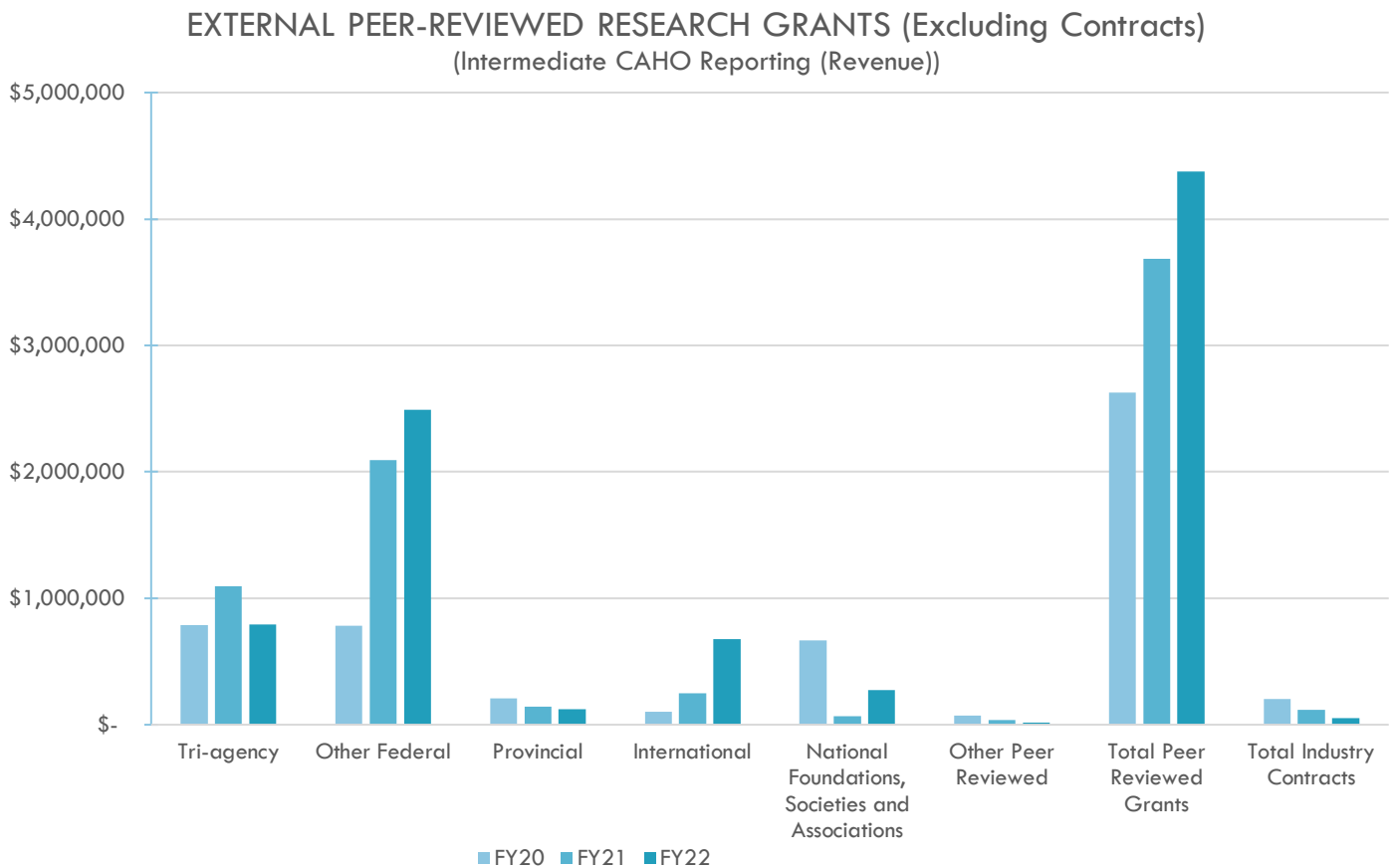
As an academic mental health centre, it is critical to attract external grants. The ability to do so affects The Royal's success, its reputation and the development of research capacity.



- Total Active Grants decreased from a year earlier as a number of three-year grant cycles came to an end simultaneously, and a number of grants that were transferred to other institutions.
- New grant submissions rose 24% compared with FY21.
- New grants awarded decreased reflecting slower decisions on submissions, reflected in an increased in grant submissions outstanding (20%).
- The cascading impact of the pandemic will be better observed in outputs rather than in grant activity levels.

## 1.2 External Peer-Reviewed Research Grants by Value

To strategically evaluate progress and identify areas for targeted improvement and support through research development activities, the management team continues to use intermediate CAHO reporting for each of the funding categories.



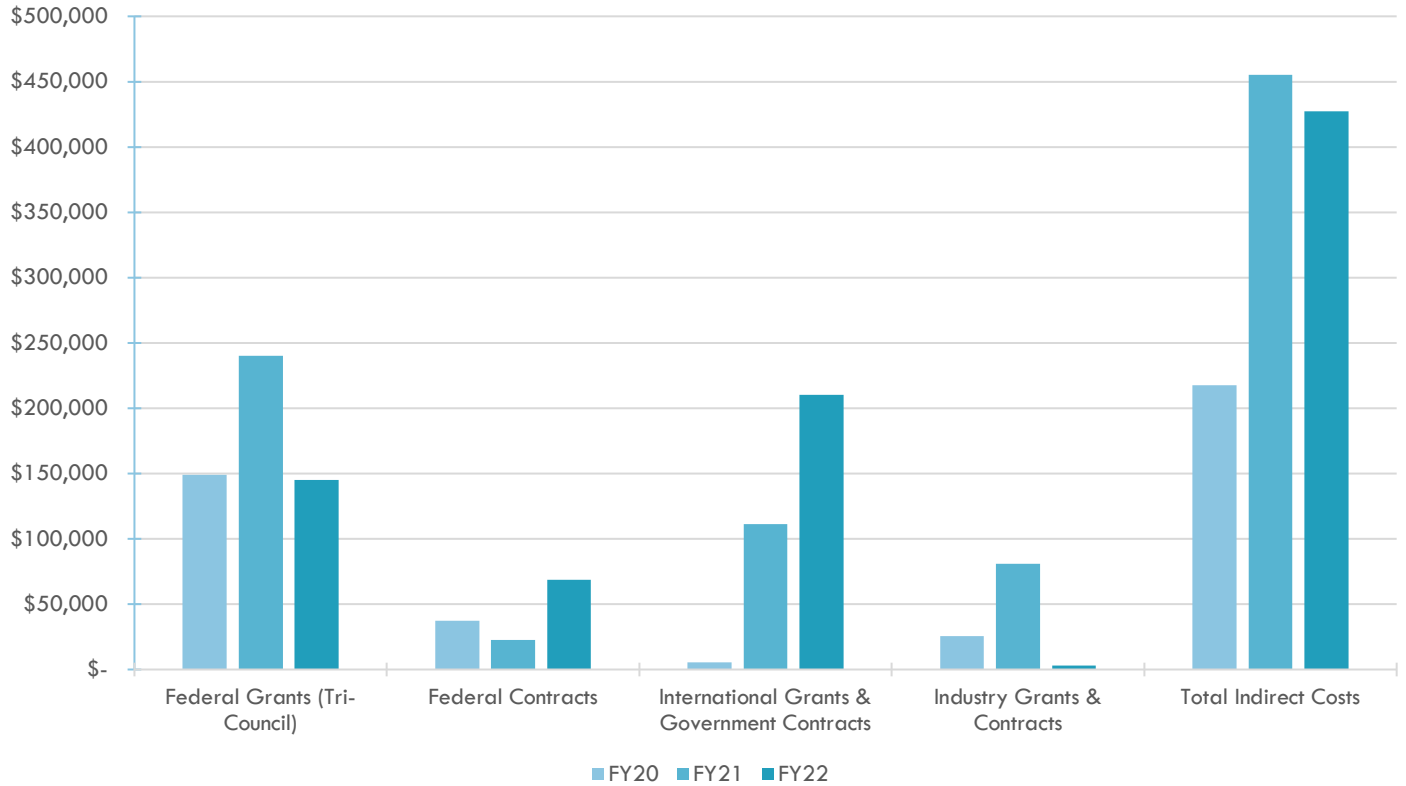
- An increase in tri-agency success rates will translate into increases in funding for federal indirect costs (Research Support Fund, RSF) in the coming 3 years (3-year rolling average calculated by the government and 80% distributed through uOttawa.)
- Increases in contracts and international grants translate into same-year increases of funding for indirect costs
- Non-RSF indirect cost funding can be used to support scientists/clinicians salaries, who are ineligible for Canadian research grants.
- Some contracts may cover partial scientist and clinicians salaries.

### WORTH NOTING

Between Q3 and Q4, the total peer reviewed grants increased to \$4,374,616 from \$3,082,344, or 42%.

### 1.3 Indirect Costs Funding from Research Grants & Contracts

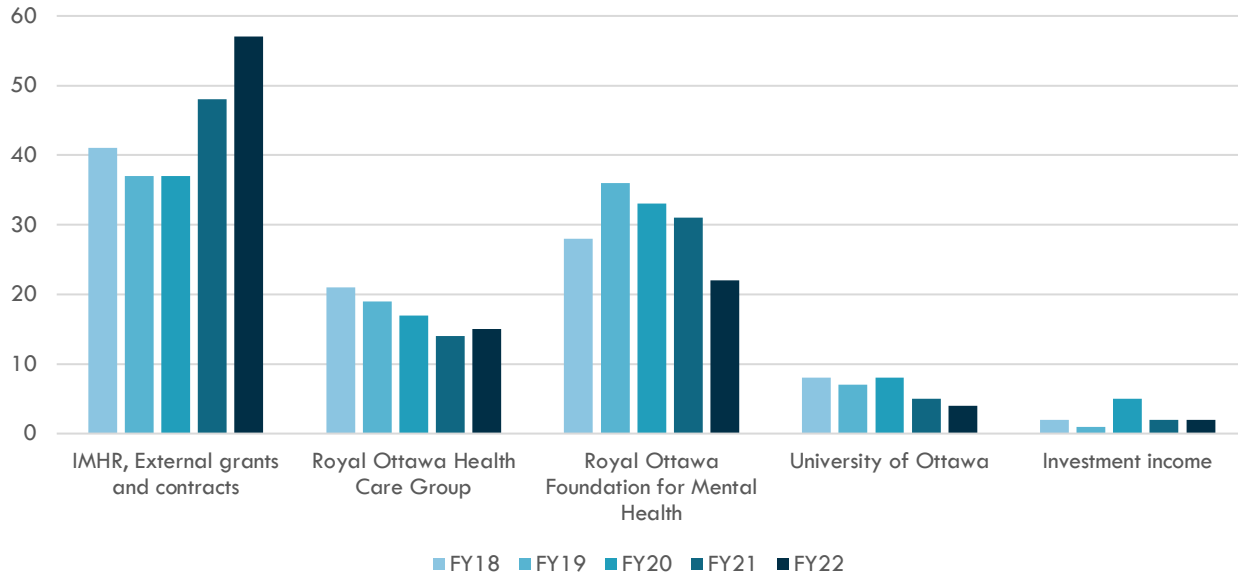
INDIRECT COSTS FUNDING FROM RESEARCH GRANTS AND CONTRACTS  
(Intermediate CAHO Reporting)



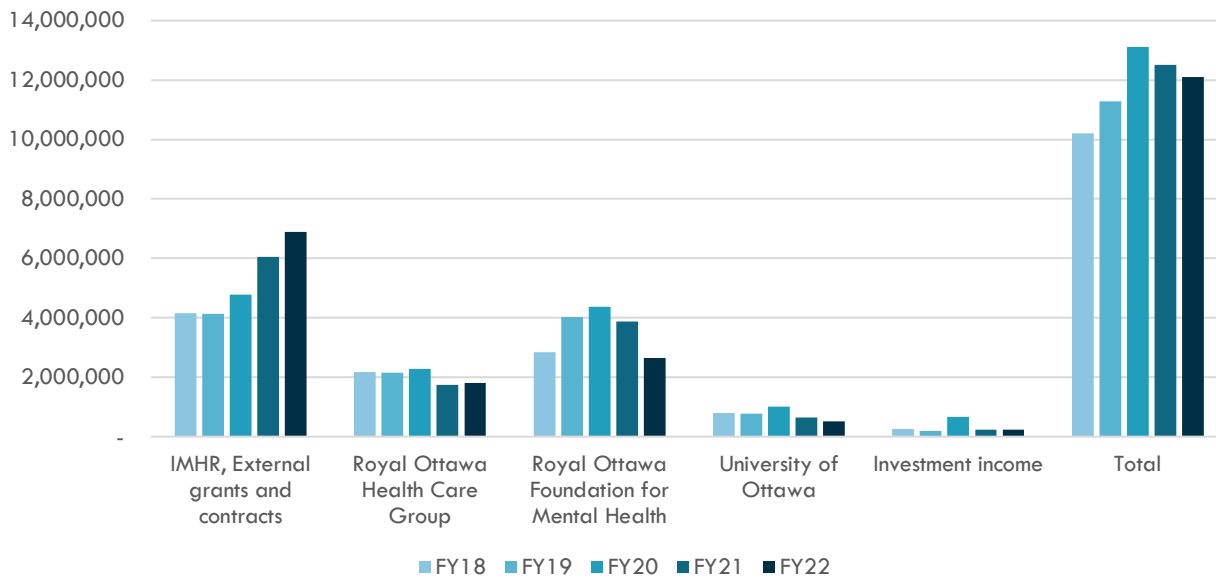
While indirect costs funding contributes to the sustainability of hospital-based research institutes, other external eligible sources of funding such as strategic institutional proposals (e.g., Canada Foundation for Innovation, Canada First Research Excellence Fund, Ontario Research Fund, external foundations) and philanthropy are usually required.

### 1.4 Total Research Revenues by Source

Research Revenues per Source (%)



Research Revenues per Source (\$)



## 2.0 Practice Changing Research & Strategic Initiatives

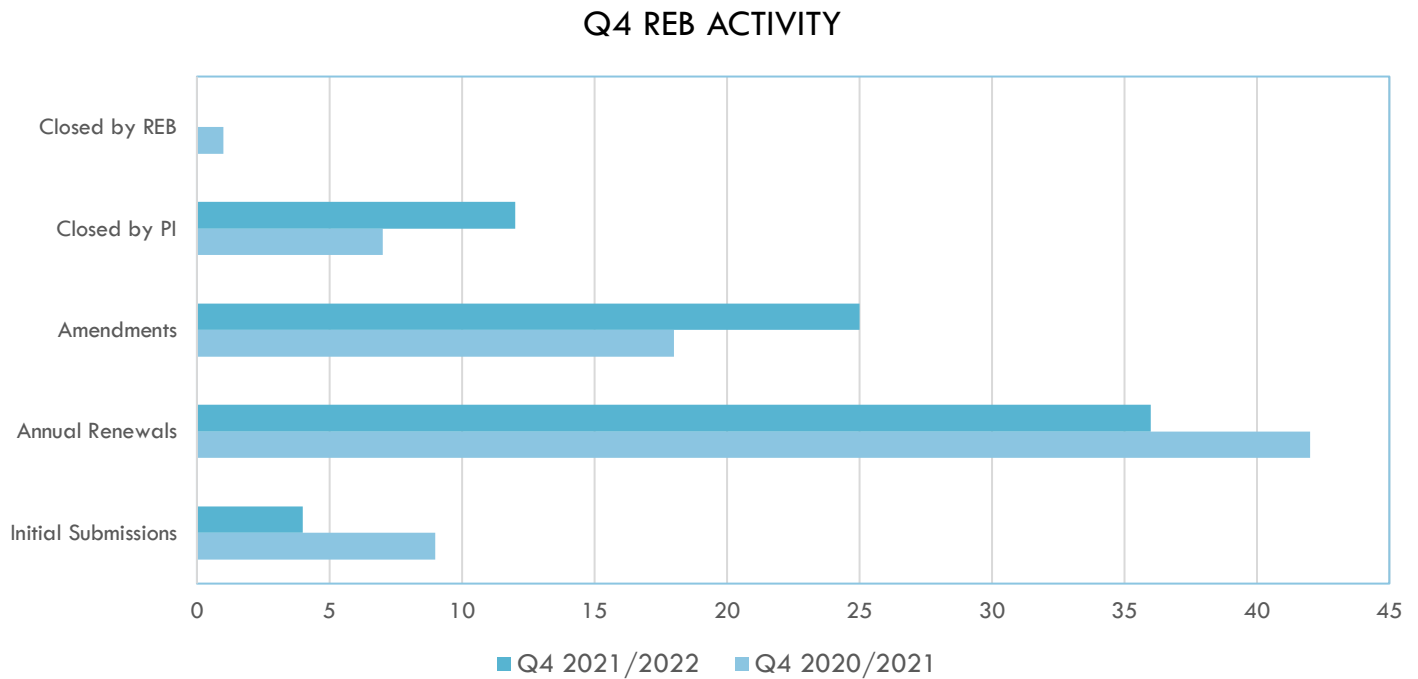
### 2.1 Research Ethics Board Activity Annual Activity

Research capacity and growth activities are identified when there is an increase in the total number of Research Ethics Board- (REB) approved projects.

- Research activities have increased as pandemic restrictions have been lifted.
- In 2022, 41 new REB applications were submitted for review, higher than the prior two years of the pandemic, indicating that research activity is reverting to pre-pandemic levels. There have been 9 studies submitted for review in 2022.



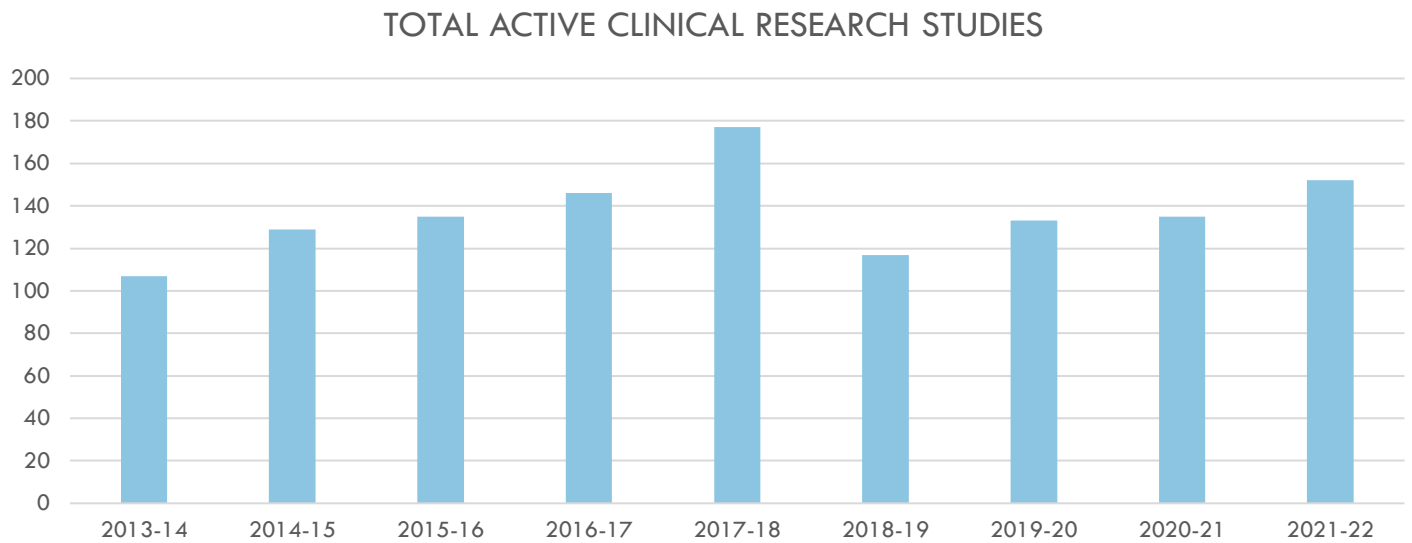
## 2.2 Research Ethics Board Activity – Quarter over Quarter Comparison



- The number of initial submissions in Q4 FY22 dropped significantly from a year earlier. This could be due to a number of factors such as pending awards notifications, the influx of new applications that were noted in Q3 related to the Translation of Research into Care awards, and the focus shifting from new studies to the completion of ongoing studies in response to the reduction in COVID restrictions.
- The total number of studies that were renewed in Q4 FY22 also dropped, likely as a result of the significant number of studies that were closed in this quarter.
- The significant number of amendments that were submitted this year reflects an increasing trend of compliance with REB procedures and a deeper understanding by researchers and their teams related to oversight by the Research Ethics Board.



### 2.3 Research Ethics Board Total Active Studies (Approved)



**There is one (1) pre-clinical translational research study (not in humans) ongoing at The Royal.**

**Clinical Research Studies:** studies that involve human participants or substances of human origin (i.e. blood, tissue samples).

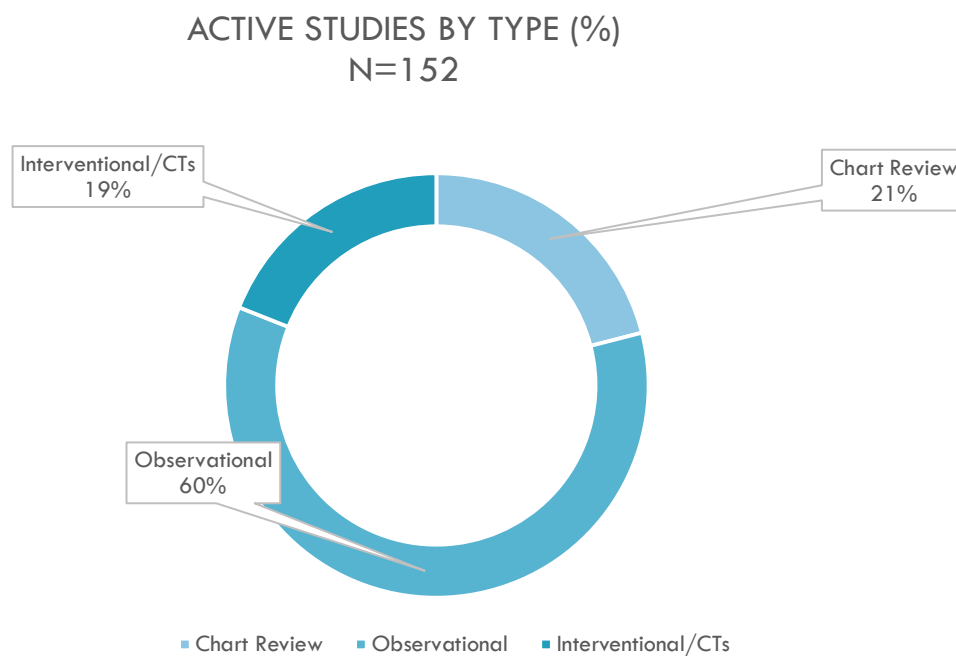
**Pre-Clinical Translational Research Studies:** research carried out in the pre-clinical phase (not in humans). It is during the pre-clinical phase when testing of drugs or procedures or other medical treatments in a lab and not through exposure to humans. Often this is the time when the evaluation of safety and efficacy begins.

## 2.4 Active Research Studies by Type (Q4 FY22)

**Interventional/Clinical Trials (19%)** – Studies that test an intervention, including devices, drugs, and behavioural interventions with human participants. Informed consent is required. These are the highest risk studies and most resource intense.

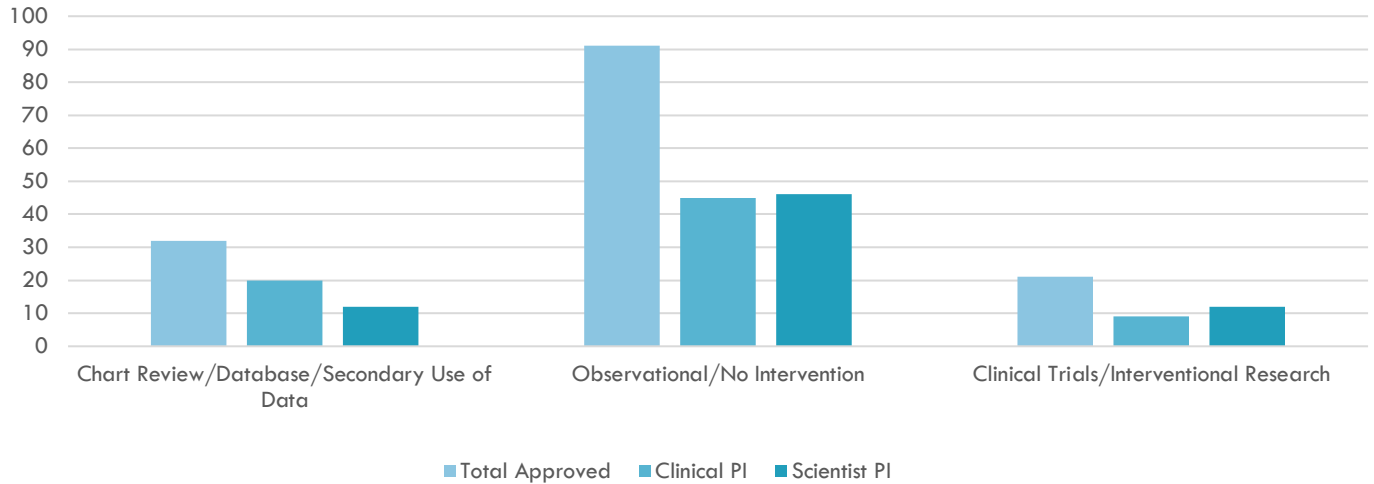
**Chart Review/Database/Secondary Use of Data (21%)** – Retrospective data reviews using medical records, databases and or previously published/collected data for a new purpose. Usually consent is not required, and there is rarely a need to interact with human participants. This type of study is the least risky.

**Observational/No Intervention (60%)** – Studies in which a researcher observes specific behaviours or responses in a participant. No interventions are used but the data that is collected provides insight into why something might occur. Examples of this would be sleep monitoring, or brain imaging research.

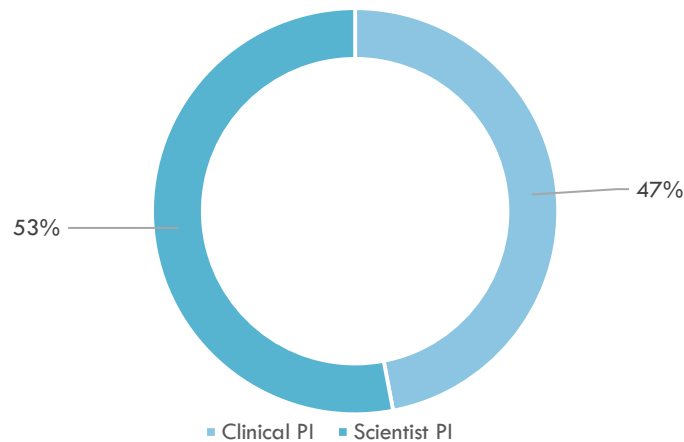


## 2.5 Engagement of Clinicians in Research

CLINICAL STUDY LEADS VS. SCIENTIST STUDY LEADS  
(By type of study)



% TOTAL APPROVED STUDIES LED BY CLINICIANS VS. SCIENTISTS



Note: Program evaluation and quality improvement initiatives are exempt from REB review and are excluded here.

Note: In FY22, the IMHR supported 15 scientists and 93 clinical investigators (clinicians with at least one REB-approved study)

## 2.6 Research Engagement of Clients and Families of The Royal

Effective April 1, 2021, the data points reported to the REB were amended to provide recruitment information that aligns with and supports the Strategy. The information in the table below reflects the total cumulative recruitment from the date of first approval for each study to March 31, 2022.

FY 2022	APPROVED ACTIVE STUDIES	TOTAL ROHCG PATIENTS ENROLLED IN RESEARCH STUDIES	TOTAL NON-PATIENTS ENROLLED IN RESEARCH STUDIES
Q1	142	1872	9798
Q2	150	1838	12,595
Q3	155	1761	10,936
Q4	152	2228	10,588

Many studies that commenced in 2021 and 2022 were conducted online through surveys and questionnaires. While participants were not asked, it is reasonable to assume that some were clients or family members of The Royal.

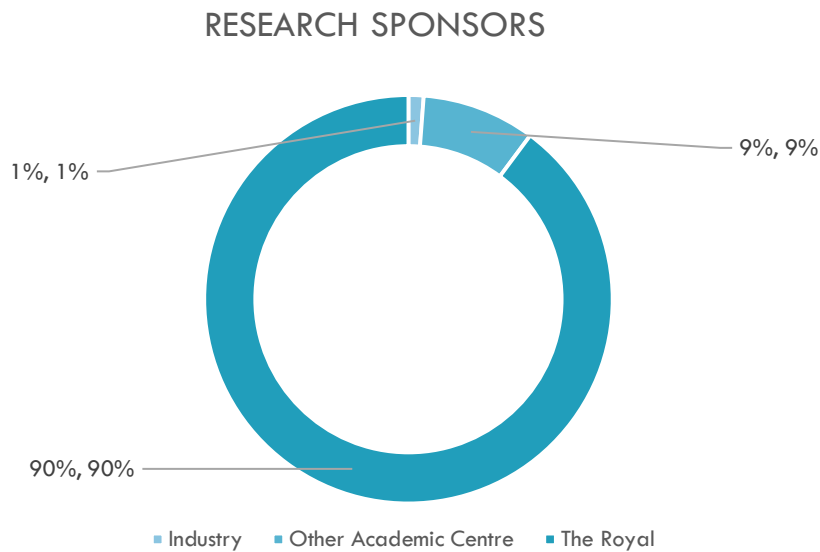
In FY 2023, enrollment metrics will be collected into very specific categories, newly designed to support and monitor the 20-25 Strategy, which will result in some variance from previously reported years when only “total clients” and “total non-clients” were reported.

### 3.0 New Baseline Research Data

In the latest year, the IMHR started collecting new data in order to create a baseline against which to measure progress against our strategic initiatives

#### 3.1 Research Sponsorship/Initiation

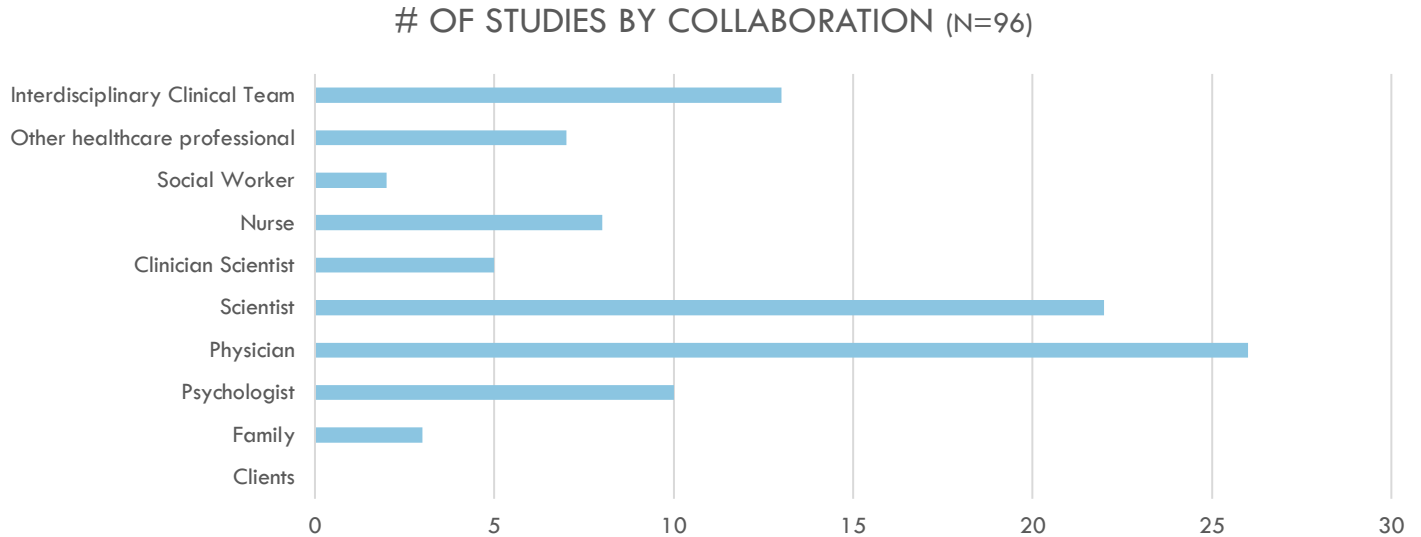
Research sponsorship reflects the organization or the individual who is responsible for starting a research study. While some believe the study sponsor is the study funder, this is not always the case. The graph below illustrates the proportion of studies that are sponsored by industry (pharmaceutical), local Principal Investigators or studies sponsored by other academic centres (with the Royal/IMHR as a participating site).



Most of the studies conducted at The Royal/IMHR are initiated by local investigators. Only two of the studies (1%) are industry sponsored. As an academic health science centre, our goal is to attract much more industry-sponsored research to support the sustainability of the research enterprise. Industry-sponsored research often includes funding for salaries, supplies and overhead, and usually generates substantial revenue for the organization.

### 3.2 Clinician, Client and Family Collaboration

Using the new data collection template, researchers have been reporting their collaborations to the Research Ethics Board in their annual reports. Since the implementation of the new template, 96 study reports have included data related to collaborations. The first year of data is below.



As noted in the graph above, there have been no reported collaborations with clients. It is anticipated that as research activities resume to full capacity, and the strategy is further embedded into all aspects of research, the number of studies that involve collaborations with clients will increase significantly.

### 3.3 Recruitment and Enrollment of Participants

Recruitment and enrollment are two important, but very different, aspects of the research process.

**Recruitment** refers to the process of finding potential candidates for a research study for trial. When submitting an application to the research ethics boards, researchers must clearly indicate what methods of recruitment they will use. Recruitment may be accomplished through social media ads, posters, or websites for example. Recruitment identifies the sample population that is of interest to the researchers. This could include specific genders, age groups, individuals within a geographical location, patients or clients, relatives or families, to name a few.

**Enrollment** is the act of enrolling someone into a study. This involves consent, screening for eligibility, and participation in study activities and assessments.

It is important to note that individuals may be recruited for a study but not enrolled in a study. This information is important when reviewing enrollment data, as it may appear that clients and/or families are not being enrolled when in fact, many were recruited and were unable to be enrolled.

#### Q4 Recruitment – 70% aiming to recruit clients of The Royal (N=90)

# STUDIES WITH TARGET POPULATIONS OF:	
Clients/Patients of The Royal	63
Community/Non-Patients	40
Family Members	6
Healthy Volunteers	28
Students	4
Nurses/Staff of The Royal	4
Other Healthcare Organizations	4
Other Cities/Countries	3
Military	4
Other public services (i.e. police, fire, medics)	4
Anonymous	5

The data in this recruitment table has never been reported. While client enrollment is reported regularly, reviewing the number of studies that have identified clients as a target population, it is noted that 70% of the studies aim to recruit clients. Since client enrollment rates have hovered around 46% each month, the following should be considered:

- Clients are likely being screened but deemed ineligible.
- Clinicians are not regularly referring their clients to research.
- Clinicians and clients are unaware of research opportunities.
- All of these points provide an opportunity to support and improve processes for integration.

## March Enrollment – 46% enrolled clients of The Royal (N=90)

Study Type	Total Studies	Total Studies w/Royal Clients	Total Clients Enrolled
Observational/No intervention	68	30 (44%)	1651
Interventional/Clinical Trials	22	11 (50%)	577
Total	90	41 (46%)	2228

This data in this table is reported monthly to the Quality Committee and at the end of every quarter. It is important to note that:

- This table only reflects data for studies that include human participants (chart reviews are removed.)
- These are all approved by the REB.
- Studies that have not yet reached the one year reporting milestone are not included as enrollment data is not available.
- Studies recruiting outside of The Royal only (i.e. at a University, in another country, etc.) are not included, nor are studies that are anonymous/online surveys.

### Enrollment

- Active studies + closed studies – Cumulative Enrollment of 14,832 participants (this reflects the participants enrolled over the duration of the study)
- Active studies + closed studies – Cumulative Enrollment of participants identified as Royal clients = 1892
- Active studies + closed studies – Cumulative enrollment of non-clients = 8148
- Participants identified as family members of clients of The Royal = 0
- Total research participants enrolled in a study between April 1, 2021 and March 31, 2022 = 5761
- Total participants withdrawn from research studies (by choice or by necessity) = 453

### NOTE

There are limitations to this data.

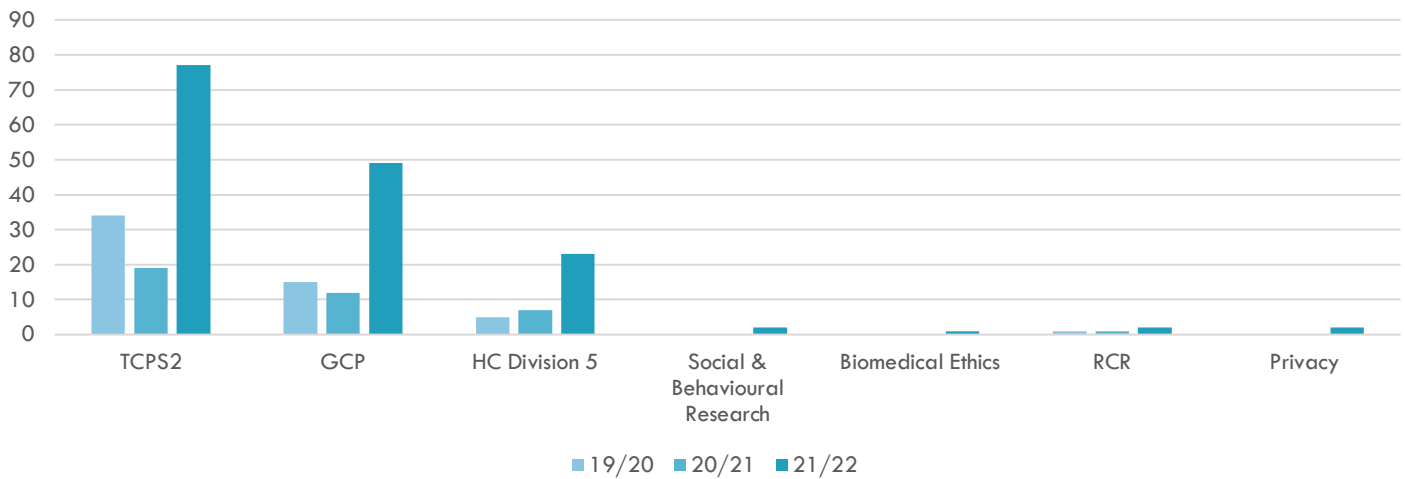
The reported data is obtained from the information submitted to the REB by the researchers. As this is all captured manually, there is a risk of error. It is quite likely that there are many more clients of The Royal enrolled in research but due to the nature of the studies (i.e. online anonymous) we cannot identify them as clients. It is also likely that family members have been included in the non-client/community total as historically, this data was not reported separately.



### 3.4 Training and Education

To support the Strategy’s goal to increase training and education opportunities, a Clinical Research Training series has been developed and implemented for clients, families and staff of The Royal. Additionally mandatory training has been instated to increase research knowledge, skill, and compliance while mitigating risk. The table below illustrates the number of trainees who have completed each of the respective courses. This will serve as a baseline with the intent to have all researchers and research staff trained accordingly.

RESEARCH TRAINING # STAFF TRAINED



## 4.0 The Royal's Research Ethics Board (REB)

The Research Ethics Board operates autonomously via delegation by the Quality Committee of The Royal's Board of Trustees. It is the responsibility of the REB to ensure that the research occurring at The Royal is ethical and adheres to the three core principles of the ethical conduct for research involving human participants; respect for persons, concern for welfare, and justice. With recent changes, the board membership brings 20 disciplines to the committee, all relevant within the purview of mental health research ethics. In order to strengthen this membership, and in line with the new strategy, the REB Administration Office developed a REB member-recruiting strategy and training plan, which will be launched in FY2023.

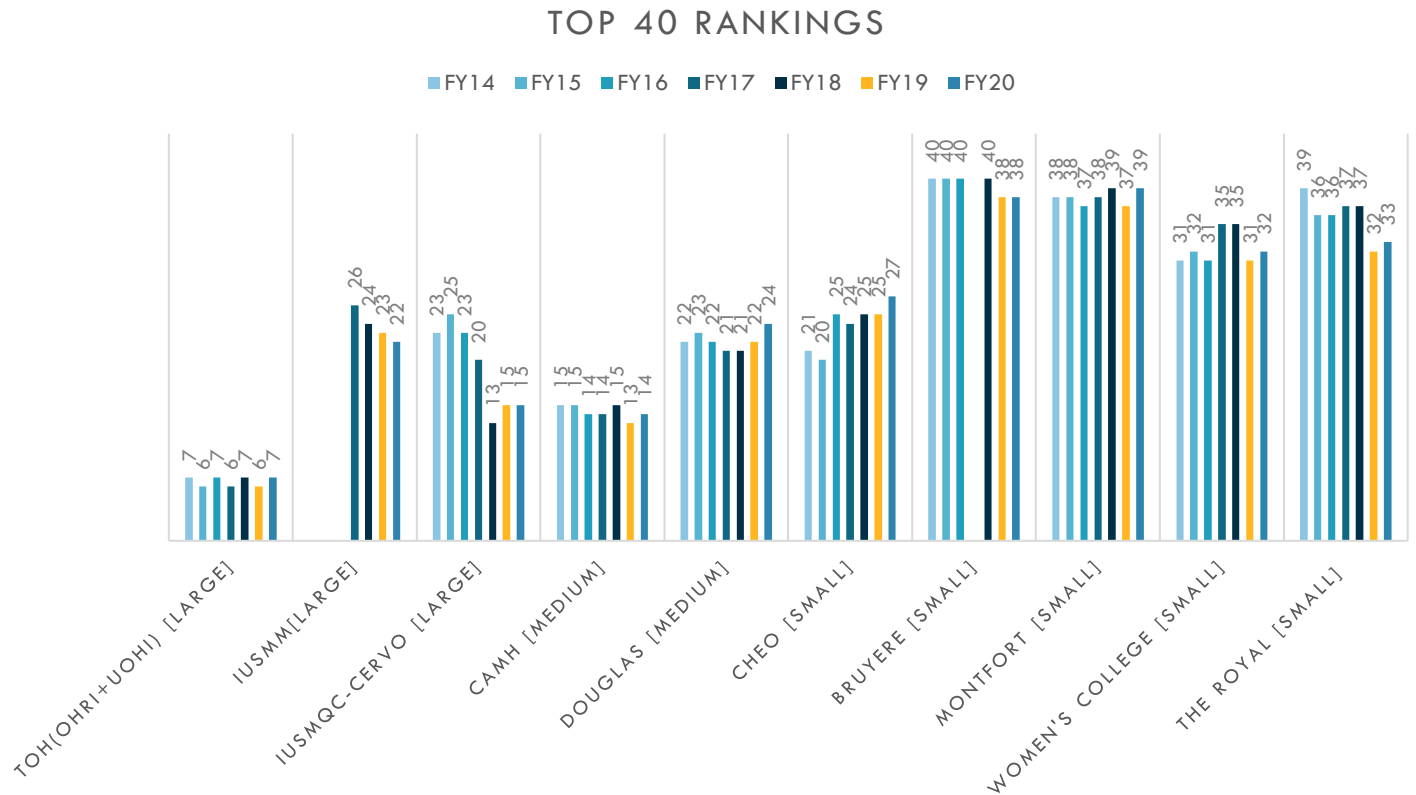
The Royal Ethics Board comprises the following members:

NAME AND DEGREE(S)	EXPERTISE	REPRESENTATIVE CAPACITY
Bourget, Dominique MD	Forensics, Schizophrenia, Psychiatry	Forensics, Schizophrenia, Psychiatry
Campbell, Carin RN, BSc, BScN, CPMHN(C)	Mental Health Nursing	Nursing
Douglass, Alan MD	Sleep Disorders, Psychiatry	Acting Vice-Chair Psychiatry, Sleep Disorders
Jager, Fiona RN, RP, BScN, PhD(c)	Nursing	Mental Health Nursing
Jaworska, Natalia PhD	Clinical Electrophysiology, Neuroimaging	Clinical Electrophysiology, Neuroimaging
McFarlane, Janice MSW, RSW	Social Work, Schizophrenia, Outpatient	Social Work
O'Brien, Ann-Marie MSW, RSW	Social Work, Women's Mental Health	<b>Chair</b>
Pearce, Nelson BSc (Hon), BSc Pharm	Pharmacy	Pharmacy
Robichaud, Pierre BASC, LLB, P.Eng	Law	Law
Shames, Jennifer M.Sc	Diversity, Patient Representative	Community Member
Sigg, Caitlin MA, RP, Phd (c)	Spiritual Care	Spiritual Care
Thai, Helen BComm, BA	Psychology, Patient/Client Representative	Community Member
<b>NON-VOTING</b>		
Vulin, Heidi BA		Research Ethics Program Assistant
Wilde, Kristi MA Ethics	Ethics, Geriatrics, and Clinical Research	Research Ethics Coordinator/Clinical Research Facilitator

## 5.0 Peer Comparators

The Royal continues to be recognized as one of the **TOP 40 Research Hospitals** in Canada. In 2022, The Royal ranked #33 on the list of the Top 40 (based on 2019-20 data).

### 5.1 Top 40 Research Hospitals in Canada



Note: The Royal, among other hospitals, dropped one ranking (32 to 33) due to reported growth of 72% at the Winnipeg Health Sciences Centre.

### 5.2 Research Spending and Research Intensity – Infosource Canada’s Top 40 Research Hospitals 2020

RESEARCH INFOSOURCE 2022 (FY 2019-20)			
	Research Spending	Research Intensity	
	(% Change 2019-2020)	Researcher (\$/Researcher)	Institution (Research \$ as a % of total hospital spending)
<b>The Royal</b>	<b>5.7%</b>	<b>\$182.60</b>	<b>8.3%</b>
CAMH	-4.1%	\$510.90	15.9%
Douglas	-6.7%	\$488.60	3.0%
TOH	-0.6%	\$378.20	9.3%
CHEO	-0.3%	\$100.70	7.7%
Bruyere	0.2%	\$297.20	6.2%
Montfort	-7.3%	\$100.30	4.0%

## 6.0 Strategic Initiatives

Reporting requirements have been amended to enable the collection of metrics that are associated with the strategic goals of the organization.

New indicators that will assist in measuring the integration of clinical care and research have also been implemented.

These include:

- The number of clinicians involved in research
- The number of clients and family members taking part in research studies

Two new quality indicators were developed for the start of the new fiscal year. These include:

- Percent of research projects relative to total number of research projects, in which a Royal clinician is the PI or co-Investigator
- Percent of clients of The Royal participating in clinical research projects (relative to all clients of The Royal, both inpatients and outpatients)

A new Scorecard is currently under development to better capture and reflect the progress of the initiatives that support the Strategy. Recent accomplishments include:

- Developed vision for the Brain Imaging Center of the Future in line with Strategy and the new care model (i-BIC/Translational Brain Research Clinic (TBRC) framework)
- Developed the curriculum for the Clinical Research Training Series
- Implemented mandatory training for research staff to aid in compliance and risk mitigation
- Initiated the design of an academic research and evaluation clinical them-based hub focused on brain stimulation and intervention with the goal to provide access to care through research
- Initiated the design of the digital infrastructure to support TBRC I line with the strategy and secured \$3.5 million in grant funding towards this infrastructure
- Developed a draft client and family oriented research framework to encourage and support the co-creation of research initiatives with our client and family partners

Increased collaborations including (for FY22):

- The University of Ottawa, various Faculties and Departments/Schools, including uO Brain and Mind Research Institute
- The University of Ottawa Heart Institute
- Carleton University
- The Ottawa Hospital (TOH)
- The Ottawa Hospital Research Institute (OHRI)
- Children's Hospital of Eastern Ontario Research Institute (CHEO-RI)

New agreements and MOUs, including (for FY22):

- The University of Ottawa
- The Ottawa Methods Centre
- Ottawa Aboriginal Coalition
- CAE Healthcare
- Terran Biosciences Inc.
- Centre for Addiction and Mental Health (CAMH)

## 7.0 Spotlight on Success and Progress

FY 2022 has produced a number of success stories, and highlights the progress made towards the implementation of the Strategy, the integration of research and clinical care and the efforts to increase research capacity and collaborations at The Royal and within the communities we serve. Embedded in these initiatives is the inclusion of the client and family voice with the ultimate goal of creating and implementing practice changing, impactful research that will improve care and quality of life for those living with mental health and substance use illnesses.

### 7.1 Research Grants, Institutional Grants & Prizes and Awards

In the grants portfolio there have been a number of successes with external awards to researchers from diverse funding sources in FY22.

#### TRI-AGENCY AWARDS

CIHR Operating Grant – Kim Corace  
CIHR Project Grant – Stuart Fogel  
CIHR Catalyst Grant – Kim Corace  
CIHR Project Grant (spring) – Rebecca Robillard  
CIHR Project Grant (fall) – Synthia Guimond/Michael Bodnar  
SSHRC Partnership Engage Grant – Shruti Patel/Interdisciplinary team

#### FOUNDATION GRANTS

Weston Brain Institute – Rebecca Robillard  
European Commission – Michael Seto  
Human Dignity Foundation – Michael Seto  
Mental Health Commission of Canada – Rebecca Robillard

#### MITACS GRANTS

Mitacs Accelerate – Clifford Cassidy (note this grant funds internships for five graduate and post-doctoral student over the next four years)  
Mitacs Research Support – Pierre Blier

#### OTHERS

Brainspotting Canada – Natalia Jaworska  
Brain Canada – Synthia Guimond & Michael Bodnar  
FRSQ – Sara Tremblay, Synthia Guimond

This past year, researchers have participated in large institutional research infrastructure funding applications with university partners (CFI Innovation grant, JELF and CFREF) and continued development of other research partnerships. An example of this is the joint Brain-Heart funding competition with University of Ottawa affiliated institutes (UOHI, uOBMRI, Bruyere RI) in which two projects from the IMHR were funded (Rebecca Robillard and Lauri Tuominen).

### Institutional Initiatives, Status Report

AGENCY	PROGRAM	STATUS	LEAD INSTITUTIONS	IMHR / ROH PORTION	NOTES, STATUS
CFI	Innovation Fund 2020	awarded	HI / uOBMRI	IMHR/ROH \$3.5M	CAMH partnership in development
CFI	Innovation Fund 2023	July 15, 2022 deadline	CAMH (SHill) (TAHSN)	\$750k - \$1.2M (RRobillard, GNorthoff, KDinelle)	Open science
Integral: Infrastructure for securely connecting mental and physical health data across the lifespan					
CFI	Innovation Fund 2023	July 15, 2022 deadline	uOttawa (BLacoste et al.)	NJaworska et al.	
CFI	JELF 2021	Not awarded	uOttawa Arts Music and Health		For re-submission
CFI	JELF 2022	June 15, 2022 deadline	IMHR / FoM (NJaworska et al.)	\$1.06M (Total)	CBRC / EEG, DXA ++
A naturalistic approach to characterizing mental illness in a tertiary care setting & integrated biomarkers of treatment outcomes					
CFI	JELF 2022	Fall 2022 deadline	IMHR / HI	TBD	CBRC/ PET program
Brain Canada	Platform Support Grants	Submitted April 2022	IMHR (ZKaminsky et al.)		CBRC / Leverage FDN \$\$
Mental Health-Digital and Biological Phenotyping Platform					
CFREF		LOI submitted April 2022 <b>AUG 31, 2022</b>	uOttawa / HI \$85-100M / 7 yrs	TBD	Brain-Heart inter-connectome

CFI: Canada Foundation for Innovation

CFREF: Canada First Research Excellence Fund

## Prizes and Awards

**Dr. Georg Northoff** was named as a fellow of The Royal Society of Canada's 2021 Class of Fellows, the highest distinction that can be given to a scholar, artist, or scientist in Canada. Click here for details.

**Dr. Kim Matheson** was renewed for a second term as Culture and Gender Mental Health Research Chair. Her work explores the social determinants of mental health, with specific focus on health inequities in underserved communities.

**Dr. Tanya Halsall** (Supervisor: Dr. Kim Matheson) received a CIHR Fellowship: Patient-Oriented Research Awards, Transition to Leadership Stream for her developmental evaluation that applies a youth-driven approach to examine the implementation of the Icelandic Model for Primary Prevention of Substance Use (IMP) within a Canadian community.

**Dr. Sara de la Salle** (Supervisor: Dr. Natalia Jaworska) received a prestigious CIHR postdoctoral fellowship to pursue her work related to the effects of Transcranial Direct Current Stimulation (tDCS) on Neural Indices of Persistent Verbal Hallucinations in Schizophrenia. CIHR fellowships recognize outstanding postdoctoral fellows and support them to engage in health research.

## 7.2 Other Partnerships and Collaborations

The ROHCG and the IMHR have partnered with the Music and Health Research Institute at the University of Ottawa on a CFI grant application to generate and apply new knowledge to serve people with mental illness. Through the establishment of a **music and mental health research** clinic that will be designed by researchers, clinicians, program leaders and people with lived expertise, we look forward to projects that focus on music and aging. In addition, this work will be connected to our cutting edge technological platforms, including our Brain Imaging Centre.

A SSHRC Race, Gender and Diversity grant application submitted in December 2021, builds on The Royal's established partnership with the **uOttawa Interdisciplinary Centre for Black Health** led by Dr. Jude Mary Cénat (PI) and brings together key mental health service providers in the Ottawa region. If successful, the 3-year proposed project will implement and evaluate evidence- and needs based training for anti-racist mental health care amongst inter-professional mental health staff at the Royal and other local hospitals, to examine:

- i. the impact of the training on mental health professionals cultural competence;
- ii. the impact of anti-racism mental health care on improving client's psychological functioning and recovery; and
- iii. the capacity of the training to enable mental health professionals to address mental challenges related to racial and cultural issues in their care.

## 7.3 Education and Resources

- Research Ethics Board (REB) training series commenced in October.
- Updated REB website and templates, making access easier for all of our researchers, both internal and external to The Royal. Visit: <https://www.theroyal.ca/research/about-research/research-ethics-board>
- As part of supporting research capacity and development at The Royal, two new research development guides were developed and disseminated in Q3; these resources related to integrating Equity, Diversity and Inclusion (EDI) and Sex- and Gender-Based Analysis (SGBA) in research design and research proposals. These resources were developed as part of supports for applicants to the 2021-22 University Medical Research Fund (UMRF), with the intention to distribute more broadly to others researchers at The Royal. The resources draw on existing EDI and SGBA resources and best practices, while adapting them to the context of The Royal. They are structured around common questions that researchers may have as they strive to bring an EDI lens to their work. Anecdotal feedback from UMRF applicant teams has been very positive in terms of the utility of these resources in guiding integration of these best practices in their proposals.

- Scientific Advisory Team Terms of Reference document drafted and under review.
- Research Operations process maps have been developed and are currently under review.
- A list of recruiting studies is circulated monthly as a method of increasing awareness and access for clinicians, clients and families.
- EDI in research teams and designs
- Sex- and Gender-based Analysis



## 7.4 Interprofessional research

### Shaping Research to Client Needs – Updates on Interprofessional Research

Integration of research and care is designed to result in better health services and client outcomes. As such, interprofessional collaboration on research initiatives result in innovative solutions to multifaceted inquires. At The Royal, as described under strategic initiative #5 (area 4 of the Strategy), first presented to the Board in March 2021, we are working towards building and supporting interprofessional teams working on various research initiatives.

Over the past year, a number of teams have come together, included those supported by the new TRIC and UMRF seed grant programs (both reported on in the 21-22 integrated annual report). In line with our research development strategy, additional research project teams were formed, leading to external grant applications to federal Tri-Agencies. Two additional examples are described below.

Using integrated knowledge translation principles, teams have engaged knowledge users in these projects from the beginning, such as relevant clinical and research experts, along with clients with lived experience specific to the research focus of each project. Projects aim to mobilize finding as into the care and services provided at The Royal, specifically towards improved professional practice, and enhanced client experience and outcomes through evidence-based information, while increasing practitioner research capacity. The collaboration amongst all members of each research team is expected to strengthen relationships between researchers, knowledge users, and decision makers to facilitate evidence informed decisions.

The first team came together to build a research study to fill a knowledge gap emerging from the lived experience of a former client. Despite having a positive treatment experience from the inpatient unit, recovery program, and outpatient departments of the Integrated Schizophrenia and Recovery program (ISRP), he felt his experience could have been holistically enhanced. Although he recognized the importance of the antipsychotic medications in his recovery, he was dissatisfied with the accompanying side effects – specifically weight gain of more than 100 pounds, influencing his physical health and receptiveness to medication adherence for his mental health.

He questioned nurses, physicians, and other allied health professionals about alternative approaches to either mitigate or decrease the resulting impact of weight gain without affecting his successful recovery; however, the emphasis was specific to his mental health recovery. Following discharge, he even attempted to get support from his family physician in the community, but unfortunately, he received the same response.

Therefore, he took it upon himself to manage his weight gain through intermittent fasting without realizing the potential harmful effects to both his physical and mental health from resulting weight fluctuations. Luckily, he was able to manage weight loss without causing a relapse in this mental health recovery or affecting his physical health. As a member of the Client Advisory Council, he soon realized many shared his experience. As a result, he inquired about the potential to initiate a research study looking at the impact of medication side effects during mental health recovery.

An interprofessional team of pedagogical experts from the School of Nursing from both the University of Ottawa and St. Lawrence College, a frontline Registered Nurse from Centre Inter-Section (a not-for-profit community mental health organization), a research scientist from the IMHR, along with the former client from The Royal were brought together to develop a research study using a qualitative methodology entitled, ‘body-mapping’. The aim of this study is to understand the effects of mental health disorders (specifically psychotic disorders, such as Schizophrenia) and its associated treatment modalities on the physical bodies of individuals diagnosed with mental health disorders and to explore the impacts of these effects on the life trajectory of these individuals. Program administrators from both the ISRP and Centre Inter-Section have also been engaged as Collaborators in the development of the research design and are supportive of integrating potential findings into clinical services within their respective organizations. This project has been submitted for funding from the Canadian Institutes of Health Research (CIHR) – Spring 2022 Project Grant.

A second team came together to develop a research study building from preliminary results of a current study led by frontline Registered Nurse at The Royal. This study is looking at the client and nurse experience of transitioning from in-person to technology-mediated delivery of nursing care due to the COVID-19 pandemic, underscoring the important role played by telehealth services to prevent decompensation, maintain social connectedness, and support recovery. Although not the goal of the study per se, participants diagnosed with schizophrenia discussed the usefulness of receiving Cognitive Behavioural Therapy for psychosis (CBTp) through videoconferencing during this unprecedented time. Recognizing the scarce literature on technology-mediated CBTp and preliminary results suggesting the importance of this treatment modality for the social connectedness and recovery of individuals diagnosed with schizophrenia in the context of the

COVID-19 pandemic it was crucial to further explore the experience of clients diagnosed with schizophrenia receiving CBTP virtually.

Similar to the first team, an interprofessional team of academic experts from the School of Nursing from the University of Ottawa, a research scientist from the IMHR, along with a Psychiatrist, Program Evaluation Coordinator, Director of Patient Care Services and Clinical Nurse Specialist were brought together to develop a research study using a qualitative methodology, namely Interpretative Phenomenological Analysis. The objective of this study is to explore the experience of clients diagnosed with Schizophrenia receiving CBTP via virtual care in an outpatient setting and explore the barriers and facilitators of scaling virtual CBTP to other outpatient and community-based mental health settings. This project has been submitted for funding from CIHR – Catalyst Grant – CPHO’s Report 2021: Future of Public Health. Research Development team members: Shruti Patel, Lisa Stockton, Tram Nguyen, Alexis Dorland

## 7.6 Client- and Family-oriented Research

*Building a Framework for Supporting Meaningful Family Caregiver Engagement* – a CIHR-funded family-led research project, has launched – with a bilingual [website](#), and in the spirit of the Strategy for Patient Oriented Research (SPOR):



## Scientists at The Royal / IMHR



**Pierre Blier, MD, PhD, FRSC**  
Mood Disorders



**Synthia Guimond, PhD**  
Schizophrenia



**Robyn McQuaid, PhD**  
Culture & Gender



**Michael Bodnar, PhD**  
Schizophrenia



**Natalia Jaworska, PhD**  
Clinical EEG & Neuroimaging



**Georg Northoff, MD,  
PhD, FRCPC, FRSC**  
Mind, Brain Imaging & Neuroethics



**Clifford Cassidy, PhD**  
Military Mental Health  
Schizophrenia



**Zachary Kaminsky, PhD**  
Suicide Prevention Research



**Jennifer Phillips, PhD**  
Mood Disorders



**Stuart Fogel, PhD**  
Sleep & Mental Health Research



**Kim Matheson, PhD**  
Culture & Gender



**Rébecca Robillard, PhD**  
Sleep & Mental Health Research



**Michael Seto, PhD**  
Forensic Mental Health



**Lauri Tuominen, MD, PhD**  
Schizophrenia  
Military Mental Health



**Reggie Taylor, PhD**  
Scientist – Brain Imaging Centre  
Medical Physics



**Sara Tremblay, PhD**  
Neuromodulation



**Jeanne Talbot, MD, PhD**  
IMHR Physician Scientist,  
Depression, Suicidal Ideation,  
Fast-acting anti-depressants, Neuro-psychology

## **Affiliate & Adjunct Scientists**



**JianLi Wang, PhD**  
Senior Adjunct Scientist at IMHR  
Primary: Dalhousie (CRC Tier 1)  
Workplace Mental Health Research



**Verner Knott, PhD**  
Visiting Senior Scientist at IMHR  
Clinical EEG & Neuroimaging



**Marie-Claude Audet, PhD, BA, MSc, BSc**  
Adjunct Scientist at IMHR  
Primary: University of Ottawa  
Nutrition Sciences, Cellular and  
Molecular Medicine, Neuroscience



**Martin Lalumière, PhD**  
Visiting Senior Scientist at IMHR  
Primary: U of O  
Forensic Mental Health

## New Appointments Since 2020



**John Bradford, MBChB DPM  
FFPsych MRCPsych  
DABFP FRCPC CM  
Visiting Senior Scientist at IMHR  
Psychological Medicine, Forensic  
Psychiatry**



**Michael Schlossmacher, M.D.  
Adjunct Scientist at IMHR  
Primary: OHRI  
Parkinson's, Neuroscience**



**Avery Berman, PhD  
Scientist at IMHR  
Primary: Carleton U  
MRI physics, fMRI, Magnetic  
Susceptibility, Modeling and  
Simulation,  
Biomedical Engineering, Magnetic  
Resonance, Biophysics**



**Dave Holmes, PhD, M.Sc, B.Sc.  
Visiting Senior Scientist at IMHR  
Primary: U of O  
Public Health, Forensic Nursing,  
Critical Theory, epistemology, law,  
ethics, psychiatric nursing,  
correctional nursing, the sociopolitical  
aspects of nursing, sexuality,  
and public health nursing**



**Monnica Williams, PhD, ABPP  
Adjunct Scientist at IMHR  
Primary: U of O  
psychedelic-assisted  
psychotherapy and trauma,  
psychological and pharmacological  
treatments of OCD, PTSD, and  
anxiety disorders, role of culture  
and race on mental illness**



**Patricia Pezzoli, PhD  
Adjunct Scientist at IMHR  
Primary: UCL  
Interpersonal violence and its  
relation to Mental Health,  
elucidating factors and  
mechanisms that contribute to  
individual differences in  
victimization and offending**



**Cary Kogan, M.A., PhD, M.Sc, B.Sc  
Visiting Scientist at IMHR  
Primary: U of O  
Mental Health and Society, Community  
Health / Public Health**



**Colonel Rakesh Jetly (Retd) OMM,  
CD, MD, FRCPC  
Senior Advisor at IMHR  
Post traumatic stress disorder and  
operational psychiatry, military  
mental health**



**Andrew (Hyounsu) Kim, PhD  
Adjunct Scientist at IMHR  
Primary: U of T  
Addiction Psychology,  
concurrent disorders,  
Addiction Substitution,  
Crowdsourcing,  
Behavioural Addictions**



**Marco Solmi, MD, PhD**  
 Associate Scientist at IMHR  
 Primary: TOH  
 Epidemiology, Early intervention, Medical intervention, Medical comorbidities, Psychopharmacology, Meta-research



**Gayatri Saraf, MD**  
 Associate Scientist at IMHR  
 Primary: TOH  
 Bi-polar disorder



**Gilles Comeau, PhD**  
 Adjunct Scientist at IMHR  
 Primary: U of O  
 Learning how to read music, Physiological aspects of piano playing, Health issues related to piano playing, Motivation and learning a musical instrument

## Clinical Research Administration & Development team – as of July 2022

The clinical research administration and development team at The Royal has evolved; roles have been redesigned to support the Strategy as vacancies were filled, and team members work closely with the administration throughout the corporate backbone (Finance, HR, Clinical Records, Communications, etc).



**Tammy Beaudoin** is our Director, Clinical Research Administration since the Fall 2020.

Tammy develops and implements processes to support the progression of The Royal's Strategy. She is responsible for the day-to-day management of the Clinical Research Administration office in collaboration with teams within the IMHR and across the organization (Finance, HR, IT, Ethics, Clinical Records, Communications, etc.), and provides support to scientists, clinicians, research staff and healthcare professionals. To continue developing her clear leadership abilities and talent, Tammy is enrolled in the LEADS program for Directors at The Royal.



**Katie Dinelle** is the Manager of the Brain Imaging Centre (BIC). She is a PET Physicist and was recruited to The Royal in 2016 to launch and operate this one of a kind infrastructure. In addition to her expertise in brain imaging, she works with and supports scientists and clinicians in the design of their research studies. Katie is also involved in our partnership development activity with the University of Ottawa Heart Institute and the Ottawa Hospital. To continue developing her clear leadership abilities and talent, Katie is enrolled in the LEADS program for Directors at The Royal.



In April 2021, The Royal/IMHR has welcomed **Lisa Stockton** as Senior Research Development Specialist. Lisa supports research development at The Royal/IMHR as per the Strategy. Holding a Masters of Science in Health Behaviour, Lisa has experience with a variety of research initiatives including the coordination and facilitation of grant preparation, the implementation and mobilization of strategic directions and operational plans, and knowledge translation/research impact. With an understanding of the importance of relationship building, Lisa has worked with individuals and organizations from a range of sectors; research, policy and practice settings; and government, non-government and private sector organizations. In this role, Lisa supports scientists and clinicians in the development and submission of research grant applications. She is a catalyst coordinating and facilitating strategic interdisciplinary team planning meetings and providing expertise in the development and translation of clinical research.



In 2021, **Kristi Wilde** joined the team as REB Coordinator/Clinical Research Facilitator. Kristi holds a Masters in Ethics and has spent the last three years coordinating the REB Office activities at the Bruyère Research Institute. She is committed to building on the momentum of REB modernization, and already streamlined application and approval processes. While at Bruyère, Kristi participated in the development and implementation of an electronic submission, review and approval process, eliminating the need for paper/hard copy documents. We are excited to see these updates to our systems in the near future. In addition to her role as REB Coordinator, Kristi will be involved in training and education as well as the Quality Assurance for Research Excellence (QARE) program, conducting and facilitating research monitoring and auditing activities.



Since the beginning of the COVID-19 pandemic, **Garnet Rodger** has supported research planning and operations on the ground, liaising with all internal stakeholders, to ensure that research may proceed safely in our current environment. With a client safety first lens, he is a partner to our researchers as they resume activities.

Garnet also supports the operations on the 7<sup>th</sup> floor of the tower (wet lab), and the labs and offices on the 5<sup>th</sup> and 6<sup>th</sup> floors. He has shepherded the audit of the IMHR's Animal Care Facility by the Canadian Council on Animal Care and was instrumental in the development of our partnership with uOttawa on animal care.



**Shruti Patel** is the Senior Specialist in Inter-Professional Research and Knowledge Mobilization. Shruti joined The Royal/IMHR in August 2021, from Queensway hospital. She works across portfolios, with both the P/VP and the CNE in this pilot position, to support the integration of research and care with a significant focus on professional practice and on the development of inter-professional teams. She also supports researchers in all professions in the development and submission of research grant applications. Shruti is a nurse and a PhD candidate in nursing research, planning her PhD defense in 2023.



It was with mixed feelings that I shared **Marilyn Prince's** retirement last year, and with great joy that I am sharing now that Marilyn is back with us in her role of Board liaison. As we know, Marilyn's service and dedication to the IMHR and to the Board over the past 14 years are exemplary. I personally wish to express my gratitude and appreciation for her constant support and brightness.



**Heidi Vulin** is the Research Ethics Board's Administrative Assistant. Her diligence and precision enable the smooth operations of The Royal's REB.

**Alexis Dorland** joined the team this year in a training capacity, as a Research Coordinator. Alexis supported brilliantly the CIHR SPOR project led by Cynthia Clarke (Engagecaregivers.ca)





