

SHAPING THE
FUTURE OF
ARTHRITIS CARE

OBRI ANNUAL REPORT 2022



OBRI

ONTARIO
BEST PRACTICES
RESEARCH INITIATIVE



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MESSAGE FROM OUR PRINCIPAL INVESTIGATOR



The Ontario Best Practices Research Initiative (OBRI) pilot began in 2005. Through the collaborative efforts of physicians, payers, researchers and patients, the Ontario cohort has grown to include 86 rheumatologists (both community and academic) and almost 4000 patients. The OBRI focuses on the safety and effectiveness of treatments for patients living with Rheumatoid Arthritis (RA) and Psoriatic Arthritis (PsA).

OBRI's unique platform integrates clinical data from rheumatologists, patient-reported data from participants, and administrative data from the Institute for Clinical Evaluative Sciences (ICES) to monitor comparative drug safety and effectiveness and patient quality of care. Government, payers and researchers are now incorporating Real World Evidence into decision-making processes. With over 15 years of expertise in Real World Data, the OBRI is well positioned to work with Real World Evidence (RWE) and to collaborate with RWE stakeholders.

The challenges presented by the COVID-19 pandemic continued into 2022. Many medical visits, meetings and congresses remained virtual. Despite the challenges presented during COVID, the OBRI team was fortunate to continue working uninterrupted with the cooperation of our investigators and the technology provided by our research institute at the University Health Network. The third virtual OBRI annual conference was a success; we attended national and international virtual meetings, and had five articles accepted for publication. Visit our website at www.obri.ca to access our publications and learn more about OBRI.

We are pleased to share this overview of our activities in 2022 and we look forward to 2023.

A handwritten signature in black ink, appearing to read 'C Bombardier'.

Dr. Claire Bombardier, OBRI Principal Investigator

ABOUT OBRI

Who We Are

The Ontario Best Practices Research Initiative (OBRI) is a collaborative data platform involving rheumatologists, researchers, and patients that follows patients in routine care along their clinical path. Originally created as the Ontario Biologics Research Initiative, our registry was officially renamed in 2013 to reflect the expansion of the OBRI's goals beyond the scope of biologic treatments.

Our Mission & Mandate

To improve the care and health outcomes for Rheumatoid Arthritis (RA) and Psoriatic Arthritis (PsA) patients by gathering and analyzing long-term information on therapies, clinical practice patterns, and health care utilization in the real world. Our goals are to:

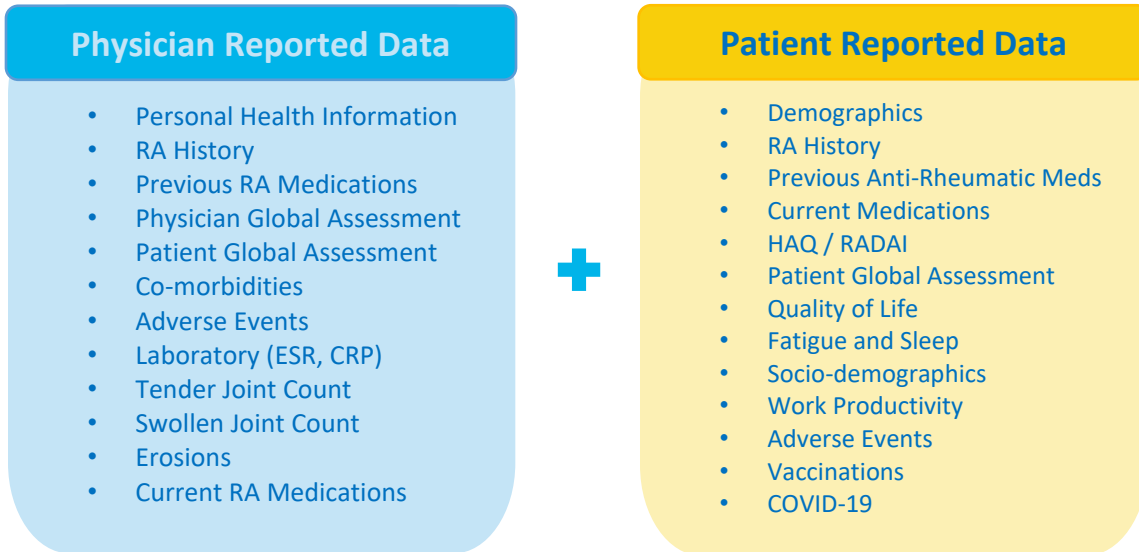
- Define safety, effectiveness, and sustainability of available RA and PsA therapies in the real world
- Identify clinical practice patterns that improve patient health outcomes
- Use real world clinical data to inform health care decisions

The OBRI generates outcome data specifically related to pharmacotherapy, disease activity, practice patterns and population health. The OBRI team also provides leadership in best practices for ethics and obtaining consent, data management, real world data analysis, and administrative database validations.

Our Value Proposition

The OBRI has evolved into a powerful decision-making tool used to shape and inform the future of arthritis care. The rich source of clinical data collected by the OBRI can be combined with provincial administrative health data to carry out research on real-world outcomes. Our research is vetted through scientific rigor and the active involvement of a clinical advisory committee so that it may be used by policy makers to influence health care and clinical treatment decisions.

What's in Our Data?



OBRI Physician visits as of December 31, 2022 = 52,116
OBRI Patient interviews as of December 31, 2022 = 48,886

Research Priorities



Drug Impact and Outcomes

Effectiveness, safety, adherence, and persistence/survival



Clinical Management and Practice Patterns vs. Guidelines

Clinical measures, quality indicators, and practice guidelines



Population Health

Epidemiology, models of care, economics

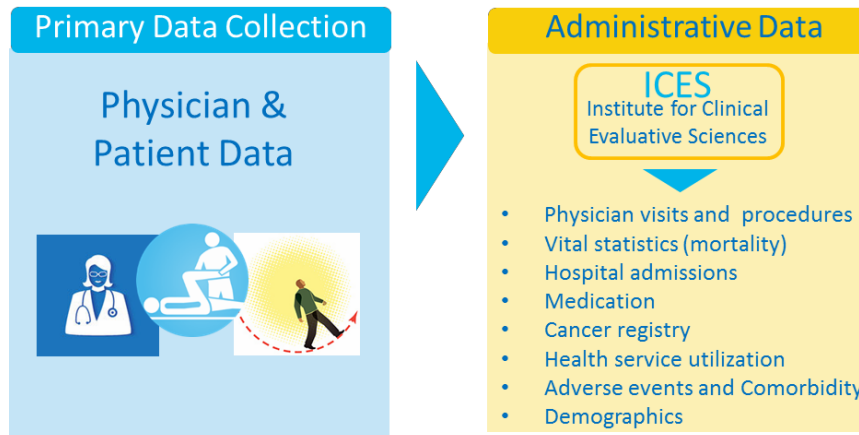


Collaborations with RA Registries

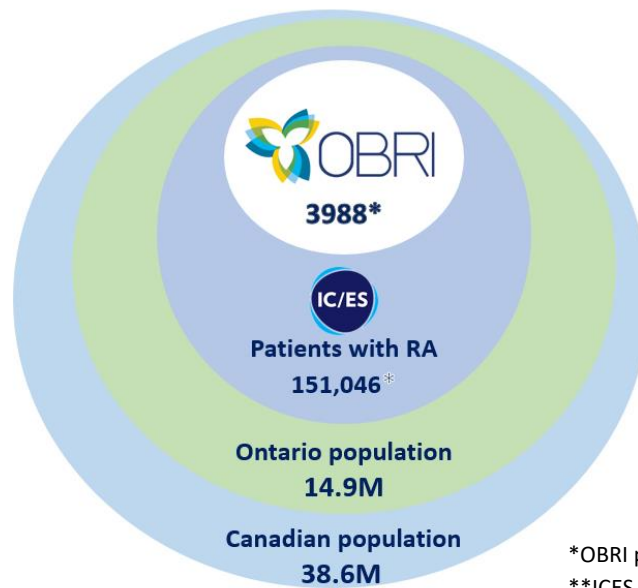
Rhumadata (Quebec Registry), Cohort of Clinical Canadian RA Registries

Our Data Linkages

The OBRI clinical data has been linked to the provincial administrative databases held by the Institute for Clinical Evaluative Sciences (ICES).



The population of Ontario comprises approximately 40% of the Canadian population. The 2020-2021 Ontario administrative data identified 151,046 RA patients. Linking the OBRI clinical data to the ICES datasets will provide a unique opportunity to answer many research questions.



*OBRI patients consented as of 31Dec2022

**ICES 2020-2021

OBRI Psoriatic Arthritis Registry

Psoriatic arthritis (PsA) is a complicated disease. Clinical trials, which focus mostly on tender and swollen joint counts, do not capture the real burden of the disease. Real world evidence can help us examine the impact of the disease on patients and the response to therapies. Under the leadership of Dr. Sibel Aydin, the OBRI has expanded to include a province-wide community-based psoriatic arthritis registry.

The aims of the study are to:

- 1) understand the impact of PsA phenotypes on patient reported outcomes, work productivity, and cost (data available with linkage through IC/ES);
- 2) understand the responsiveness of PsA phenotypes to different mechanisms of action and biosimilars in real life; and
- 3) assess the direct and indirect costs of the different disease phenotypes across different treatments.

Eligible patients are those with a diagnosis of PsA who have active disease requiring a new treatment (biologic/biosimilar, JAK-inhibitor or DMARD).

The goal is not to repeat previous work. Therefore, this registry has been specifically designed by reviewing the existing registries and considering the unmet needs. The PsA registry is currently in the process of expanding to three other provinces, with the aim of comparing provinces in terms of therapy choices and access, to advocate for better care and equity.

With the recent implementation of biosimilar policies in many provinces, the PsA registry will also expand its eligibility criteria to include patients undergoing non-medical switches.

The first patient was enrolled into the PsA registry on February 14, 2022. During 2023, we will focus on increasing enrollment and hosting the first PsA investigator meeting later in the year.

PsA Steering Committee Members

The members of the PsA Steering Committee have provided essential input into all aspects of this registry, from reviewing the protocol to creating forms within the AccuroEMR platform to capture all the data required during the physician assessments.

Dr. Vandana Ahluwalia

Dr. Sibel Aydin (PI)

Dr. Claire Bombardier

Dr. Vinod Chandran

Dr. Arthur Lau

Dr. Carter Thorne

Jennifer Boyle, Patient Representative

Thank you to the participating PsA rheumatologists:

Dr. Vandana Ahluwalia (Brampton)

Dr. Sankalp Bhavsar (Burlington)

Dr. Andrew Chow (Mississauga)

Dr. Rajwinder Dhillon (Niagara Falls)

Dr. Elliot Hepworth (Ottawa)

Dr. Catherine Ivory (Ottawa)

Dr. Raman Joshi (Brampton)

Dr. Arthur Lau (Hamilton)

Dr. Nancy Maltez (Ottawa)

Dr. Angela Montgomery (Ottawa)

Dr. Elaine Soucy (Mississauga)

Dr. Carter Thorne (Newmarket)

Dr. Richard Tse (Newmarket)

Dr. Nadil Zeiadin (Newmarket)

Key Findings for 2022

Twenty-one OBRI manuscripts appeared in peer-reviewed journals since 2017, five of which were published in 2022. We are pleased to highlight the 2022 publications below. Please visit our website at www.obri.ca for a complete list of OBRI publications.

Similarities and differences in patients with Late-Onset and Younger-Onset rheumatoid arthritis (LORA vs YORA)

Late-onset rheumatoid arthritis (LORA) is traditionally defined as the onset of RA after the age of 60 years. We compared the clinical characteristics, time to remission and treatment regimen at remission between younger-onset rheumatoid arthritis (YORA), defined as RA onset before the age of 60 years, to LORA patients in OBRI.

In comparison to the younger-onset RA patients, LORA patients were more likely to be male; had a higher number of comorbidities; had significantly higher inflammatory markers; and were less likely to have a positive rheumatoid factor or anti-CCP.

LORA and YORA patients had similar prognosis in terms of time to remission. At remission, LORA patients were more likely to be on a single conventional synthetic disease modifying antirheumatic drug (csDMARDs) and less likely to be on a biologic or JAK inhibitor.¹

Differential influence of Clinical Disease Activity Index components based on disease state in rheumatoid arthritis patients

The Clinical Disease Activity Index (CDAI) is routinely used in clinical care when treating-to-target RA patients. While previous validation studies have looked at CDAI's overall performance, this analysis aimed at evaluating its properties by disease state and identifying drivers of variance. We additionally looked at the correlation of CDAI with other common measures of diseases activity, Disease Activity Score 28 (DAS-28), by disease state.

CDAI and DAS-28 correlated well in patients with moderate/high disease activity and poorly in patients with low disease activity/remission. Patient global assessment of disease activity (PtGA) correlated weakly with other CDAI components and had a stronger influence on CDAI in low disease activity/remission compared to moderate or high disease state. Thus, careful interpretation of PtGA is necessary when making treatment decisions, particularly in patients in

CDAI LDA who are non-remitters.²

Physician and patient reported effectiveness are similar for Tofacitinib and TNFi in rheumatoid arthritis (RA)

Tofacitinib (TOFA) is one of several alternative treatments to tumor necrosis factor inhibitors (TNFi). We evaluated physician and patient-reported effectiveness of TNFi compared to TOFA.

Comparing the proportion of patients in CDAI low disease activity (LDA)/remission and the RA Disease Activity Index (RADIA) at 6 months in the two groups, we found that physician and patient-reported effectiveness are similar in TNFi and TOFA groups 6 months after starting treatment.³

Disease activity trajectories for early and established rheumatoid arthritis

Disease activity level described at one specific point in time does not accurately reflect disease course in chronic and relapsing diseases such as rheumatoid arthritis (RA). We described the disease activity paths overtime, in early and established RA.

Patients with available DAS28-ESR and CDAI over two years were included. Of these patients, just over one third were classified as early RA (less than 2 years' disease duration).

Disease course was different in early versus established RA. While 70% of early RA patients with moderate or high disease profiles reached remission, only 17% of established RA patients with high disease activity achieved remission after 2 years of follow-up. These findings suggest the potential impact of receiving early treatment and health care.⁴

Medical cannabis use by rheumatology patients in routine clinical care

Medical cannabis is often used to alleviate common symptoms in patients with chronic conditions. With cannabis legalisation in Canada and easier access, it is important that rheumatologists understand the prevalence and potential impact on their practice. Among patients attending rheumatology clinics in Ontario, we assessed the prevalence of medical cannabis use, symptoms treated, and rheumatologists' perceptions.

The OBRI collected over 800 medical cannabis surveys from patients attending rheumatology clinics in Ontario. Findings indicate that medical cannabis use among rheumatology patients in Ontario was two times more than that reported for the general population of similar age. Cannabis use was associated with more severe disease, pain, and prior recreational use. Reported lack of research, knowledge, and product standardisation were barriers for rheumatologist use authorisation.⁵

References

1. Li X, Cesta A, Movahedi M, Bombardier C. **Late-onset rheumatoid arthritis has a similar time to remission as younger-onset rheumatoid arthritis: results from the Ontario Best Practices Research Initiative.** *Arthritis Res Ther.* 2022 Nov 19;24(1):255. doi: 10.1186/s13075-022-02952-1. PMID: 36401335; PMCID: PMC9675233
2. Keystone E, Movahedi M, Cesta A, Bombardier C, Sampalis JS, Rampakakis E. **Differential influence of Clinical Disease Activity Index components based on disease state in rheumatoid arthritis patients: real-world results from the Ontario Best Practices Research Initiative.** *Clin Exp Rheumatol.* 2022 Mar 30. doi: 10.55563/clinexprheumatol/86frzq. Epub ahead of print. PMID: 35383561.
3. Movahedi M, Cesta A, Li X, Keystone EC, Bombardier C; OBRI Investigators. **Physician- and Patient-reported Effectiveness Are Similar for Tofacitinib and TNFi in Rheumatoid Arthritis: Data from a Rheumatoid Arthritis Registry.** *J Rheumatol.* 2022 May;49(5):447-453. doi: 10.3899/jrheum.211066. Epub 2022 Feb 15. PMID: 35169051.
4. Mohammad Movahedi, Angela Cesta, Xiuying Li, Claire Bombardier, OBRI investigators. **Disease activity trajectories for early and established rheumatoid arthritis: Real-world data from a rheumatoid arthritis cohort.** September 7, 2022. <https://doi.org/10.1371/journal.pone.0274264>
5. Rampakakis E, Thorne C, Cesta A, Movahedi M, Li X, Mously C, Ahluwalia V, Brophy J, Ciaschini P, Keystone E, Lau A, Major G, Pavlova V, Pope JE, Bombardier C. **Medical cannabis use by rheumatology patients in routine clinical care: results from The Ontario Best Practices Research Initiative.** *Clin Exp Rheumatol.* 2022 May 23. doi: 10.55563/clinexprheumatol/b85xu5. Epub ahead of print. PMID: 35616591.

Knowledge Translation

OBRI Annual Conference

The Annual OBRI Conference held on September 23, 2022 was virtual for the third year. This annual meeting brings together arthritis stakeholders from across the province for the presentation of cohort findings, investigator led research, and new research linkages and collaborations. The OBRI virtual meeting was a success with attendance by OBRI Investigators (27), industry partners (14), research coordinators, patients, and members of arthritis consumer and advocacy groups.

The meeting featured a presentation by Dr. Edward Everson, of the College of Physicians and Surgeons of Ontario (CPSO), on the new Quality Improvement Program implemented by the CPSO. The QI Program is proactive, self-directed and encourages physicians to reflect on their own delivery of health care without a large time commitment. The information contained within the yearly OBRI Investigator Site Report can be useful for rheumatologists completing the program modules. The meeting also included poster presentations of OBRI's latest research and updates on the OBRI cohort focusing on the data collected during COVID-19.

National and International Conferences

In 2022, the OBRI abstracts were accepted for presentation at the following national and international scientific meetings:

- Canadian Rheumatology Association (CRA) Annual Scientific Meeting, virtual meeting; February 24-26, 2022
- EULAR 2022, Annual European Congress of Rheumatology , Copenhagen, Denmark; June 1-4, 2022
- International Conference on Pharmacoepidemiology & Therapeutic Risk Management (ICPE), Copenhagen, Denmark; August 24-28, 2022
- American College of Rheumatology (ACR) Convergence, Philadelphia, PA, in person and virtual meeting; November 10-14, 2022

Abstracts presented in 2022

Late-onset rheumatoid arthritis has a similar time to remission as younger-onset rheumatoid arthritis: results from the Ontario Best Practices Research Initiative.

Xiuying Li, Angela Cesta, Mohammad Movahedi, Claire Bombardier

Impact of COVID-19 pandemic on patients with rheumatoid arthritis: Data from the Ontario Best Practices Research Initiative (OBRI). Matthew Wong-Pack, Elliot Hepworth, Mohammad Movahedi, Claire Bombardier, Arthur Lau, Sibel Aydin.

Physician and Patient Reported Effectiveness Outcomes Are Similar in Tofacitinib and TNF Inhibitors in Rheumatoid Arthritis Patients: Results from The Ontario Best Practices Research Initiative (OBRI). Mohammad Movahedi, A. Cesta, X. Li, E. Keystone, C. Bombardier and OBRI investigators.

Discontinuation rate of Tofacitinib is similar when compared to TNF inhibitors in Rheumatoid Arthritis Patients: Results from The Ontario Best Practices Research Initiative (OBRI). Mohammad Movahedi, Angela Cesta, Xiuying Li, Edward Keystone, Claire Bombardier and OBRI investigators.

Discontinuation Rate of Tofacitinib as Monotherapy is Similar Compared to Combination therapy with Methotrexate in Rheumatoid Arthritis Patients: Pooled Data from two Rheumatoid Arthritis Registries in Canada. Mohammad Movahedi, Denis Choquette, Louis Coupal, Angela Cesta, Xiuying Li, Edward Keystone, Claire Bombardier on behalf of OBRI and RHUMADATA investigators.

Biologics initiation in moderate vs severe rheumatoid arthritis patients: prospective observational study from a Canadian registry. Nancy Guo, Xiuying Li, Mohammad Movahedi, Angela Cesta, Claire Bombardier on behalf of OBRI investigators.

2022 Publications

Please refer to Key Findings on pages 11-13.

Current OBRI Initiatives

COVID-19 and Vaccinations

The OBRI updated the patient baseline and follow-up questionnaires to include timely information on vaccinations and COVID-19 exposure. By asking patients these questions, we expect to raise awareness of the recommended vaccinations for RA patients as well as identify any barriers preventing patients from receiving the recommended vaccinations. Preliminary results were presented at the annual OBRI conference on September 23, 2022.

The impact of COVID-19 in patient-reported outcomes of Rheumatoid Arthritis patients

The OBRI team, led by investigator Dr. Sibel Aydin and medical student Dr. Matthew Wong-Pack, examined how the COVID-19 pandemic affected rheumatoid arthritis patients by comparing pre-pandemic patient reported outcomes to patient reported outcomes during the pandemic. This work has been submitted for publication.

Patient Perspectives and Experiences Following the Ontario Government's Mandated Switch from Biologics to Biosimilars: A Survey for Rheumatoid Arthritis Patients Participating in OBRI

On December 20, 2022, the Ontario government announced that effective March 31, 2023, they will implement a transition policy that will require many patients on biologics to be switched to a biosimilar. OBRI will be conducting patient surveys to identify best practices from a communication and education standpoint, i.e., the patient's perspective during this initiative, and help inform and educate other jurisdictions that will implement such policies in the future. The results of this survey will also provide insight on how to best bridge educational gaps and appropriately counsel and support patients through such policy changes.

Data Sharing and Collaborations

OBRI's vast experience with the intricacies pertaining to issues of privacy, ethics, data collection, data management and analysis has made OBRI a valuable resource and partner to industry, payers, researchers and government.

The OBRI continues to work closely with **Rhumadata**, the Quebec RA registry led by Dr. Denis Choquette, to consolidate the data from these two registries. Analysis of the merged data was presented at national and international scientific meetings in 2022 and has been submitted for publication. Work on new research questions with the merged data continues and we hope to expand this collaboration to include other registries in 2023. (<https://rhumadata.org>)

ICES Linkages (formerly the Institute for Clinical Evaluative Sciences) (www.ices.on.ca)

a) COVID-19 in RA: A cross-sectional study on predictors of infection, admission and mortality and effect of immune-modulating treatments.

ICES data is currently being linked to the OBRI data to investigate the prevalence and predictors of COVID-19 infection, severe infection requiring hospitalization, intensive care unit admission, intubation, and mortality. The findings from this study will help identify high-risk RA patients and guide treatment decisions.

b) Health Care Cost and Clinical Burden of Herpes Zoster Infections among Patients with Rheumatoid Arthritis

The OBRI will be linking its data to ICES administrative databases to create a unique cohort that will enable us to assess the impact of clinical covariates on health care costs related to Herpes Zoster infections.

The OBRI linked data allows comparisons between RA patients and the general population. The results will provide decision makers, payers, clinicians, and patients data on the costs of herpes zoster for RA patients and the clinical burden associated with herpes zoster infections.

Canadian Agency for Drugs and Technologies in Health (CADTH) (www.cadth.ca)

With its newly developed Post-Market Drug Evaluation Advisory Committee, CADTH is developing a framework for the use of Real- World Evidence in Canada. CADTH is currently creating an inventory of registries and has invited the OBRI to complete and submit the Registry Evaluation and Quality Standards Tool (REQueST) which they will use to evaluate the suitability and reliability of registries for Health Technology Assessment (HTA).

Real world data

The availability of an increasing number of medications for the treatment of rheumatoid arthritis, although beneficial to patients and providers, has put tremendous financial strain on payers thereby increasing the need for comparative effectiveness studies. Through the OBRI, we can compare real world (and long-term) effectiveness of different treatment groups with similar indications rather than relying on historical data for comparisons. The large number of patients in the OBRI also allow for comparisons of “matched” controls of similar patients using different treatments. Payers, providers, and decision-makers are turning to the OBRI to provide comparisons of treatments that previously could only be studied in single arm cohorts.

Focused evaluation of biosimilars and targeted small molecules

New biosimilars and targeted small molecules continue to be approved in Canada and they will continue to emerge at a rapid rate as they offer potential and real cost savings in the treatment of many chronic diseases – particularly in Rheumatology, Gastroenterology and Dermatology. With many new products entering the Canadian market, the growing need to understand the long-term safety, effectiveness, and economic benefit of biosimilars remains an important priority. OBRI continues to identify and monitor the long-term safety and effectiveness of all biologics, including biosimilars, so that it can document and provide comparative real world insights and evidence for physicians, patients, researchers, and policy makers when evaluating these new molecules.

Our Rheumatologists

OBRI rheumatologists, distributed across the province, represent diverse regions of Ontario and are located in twelve of the fourteen Ontario Local Health Integration Networks (LHINs). In addition to the broad geographical distribution, rheumatologists also work in several practice settings. Approximately half of our investigators work in an academic setting and the remaining half are community based. In either setting, investigators have an individual practice or are part of a large group. This wide range of clinical settings allows OBRI to examine regional differences in both practice patterns and patient populations, adding to the richness of our data.

The OBRI is dedicated to producing high quality data. The OBRI ensures precise and accurate data collection using a rigorous process of confirmation, validation, queries and constant communication with primary investigators and their research teams. The data is used to provide investigators with an individualized annual site report that compares their practice to all OBRI investigators. This annual report includes patient characteristics, patient reported outcomes, disease activity and medication use, thereby providing rheumatologists with a valuable tool for practice self-evaluation.

In 2022, we bid farewell to retiring rheumatologists Dr. Simon Carette (Toronto) and Dr. Rachel Shupak (Toronto). We were pleased to welcome Dr. Elliot Hepsworth (Ottawa) as an OBRI investigator. Dr. Hepsworth conducted research with OBRI while he was a medical resident. His work on the longitudinal changes in relative market share proportions of biologic and targeted synthetic disease-modifying antirheumatic drugs for treatment of rheumatoid arthritis was published in 2021.

Awards

Congratulations to Dr. Rachel Shupak, OBRI Investigator, who received the Canadian Rheumatology Association Master Award in 2022.

In the 2022 ranking of Top Female Scientists in the World, Dr. Bombardier was ranked 15th in Canada and in the top 500 worldwide.

Royal College MOC credits for OBRI investigators

OBRI investigators may claim credits under Section 3 as Performance Assessment.

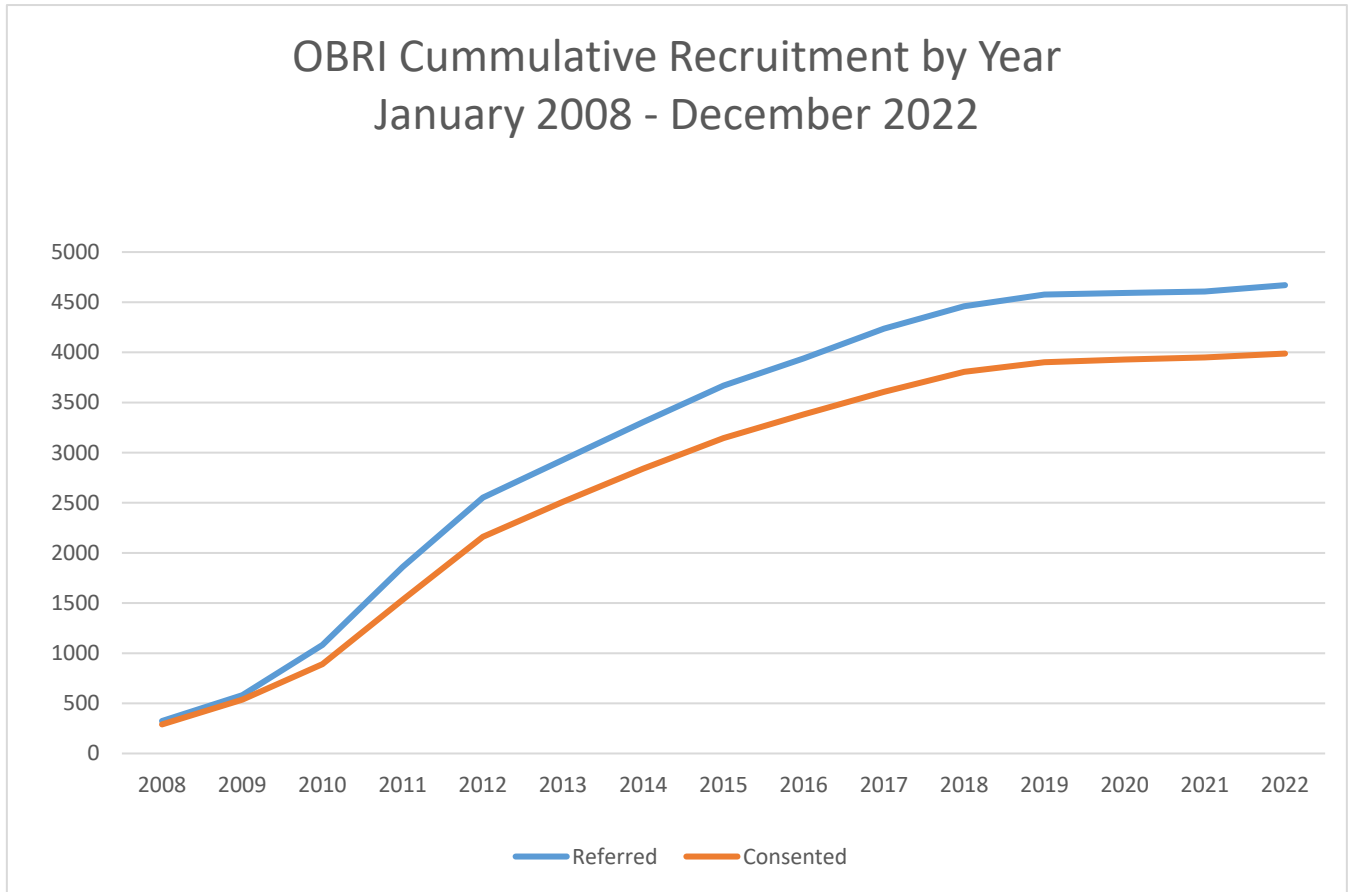
Investigators who collect and complete the OBRI data collection tools, attend the OBRI Annual General Meeting and review / reflect on their individualized OBRI reports for self-improvement may record up to 25 hours (75 credits) for this program.

Thank you to the OBRI-RA Investigators

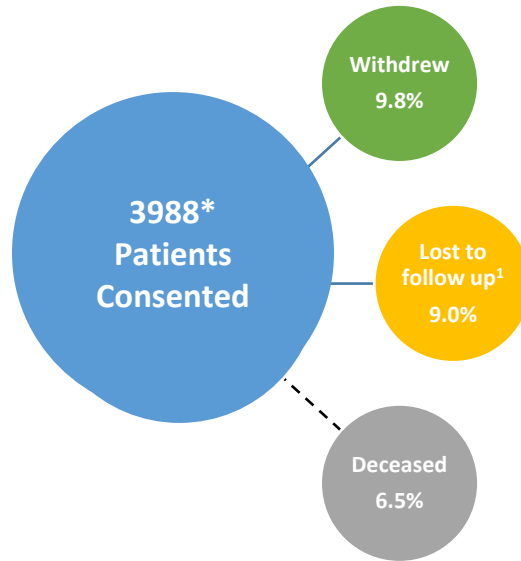
Dr. Vandana Ahluwalia ¹	Dr. Rafat Faraawi	Dr. Angela Montgomery
Dr. Zareen Ahmad	Dr. Derek Haaland ¹	Dr. Manisha Mulgund ¹
Dr. Pooneh Akhavan	Dr. Brian Hanna ³	Dr. Edward Ng
Dr. Lori Albert	Dr. Nigil Haroon	Dr. Ahmed Omar
Dr. Catherine Alderdice ³	Dr. Elliot Hepworth	Dr. Tripti Papneja
Dr. Michael Aubrey	Dr. Jackie Hochman ³	Dr. Viktoria Pavlova
Dr. Tooba Ali	Dr. Anna Jaroszynska	Dr. Louise Perlin
Dr. Henry Aaverns ²	Dr. Sindhu Johnson	Dr. Janet Pope
Dr. Sibel Aydin	Dr. Raman Joshi	Dr. Jane Purvis
Dr. Sangeeta Bajaj	Dr. Allan Kagal	Dr. Raman Rai ³
Dr. Mary Bell	Dr. Arthur Karasik ¹	Dr. Saara Rawn
Dr. William Bensen ³	Dr. Jacob Karsh ³	Dr. Gina Rohekar
Dr. Sankalp Bhavsar	Dr. Edward Keystone ³	Dr. Sherri Rohekar
Dr. Raja Bobba	Dr. Nader Khalidi	Dr. Thanu Ruban
Dr. Claire Bombardier	Dr. Imtiaz Khan ²	Dr. Alexandra Saltman
Dr. Arthur Bookman	Dr. Bindee Kuriya	Dr. Nooshin Samadi
Dr. Julie Brophy	Dr. Margaret Larché	Dr. Sharron Sandhu
Dr. Antonio Cabral	Dr. Arthur Lau ¹	Dr. Saeed Shaikh
Dr. Simon Carette ³	Dr. Nicole Le Riche ³	Dr. Ali Shickh
Dr. Raj Carmona	Dr. Felix Leung	Dr. Rachel Shupak ³
Dr. Andrew Chow ¹	Dr. Frances Leung ³	Dr. Doug Smith ³
Dr. Shirley Chow	Dr. Dharini Mahendira	Dr. Medha Soowamber
Dr. Gregory Choy	Dr. Mark Matsos ³	Dr. Elaine Soucy
Dr. Patricia Ciaschini ^{1, 3}	Dr. Heather McDonald-Blumer	Dr. Amanda Steiman
Dr. Alfred Cividino	Dr. Emily McKeown	Dr. Jonathan Stein
Dr. Dana Cohen	Dr. Ines Midzic ³	Dr. Andy Thompson ³
Dr. Rajwinder Dhillon	Dr. Nataliya Milman	Dr. Carter Thorne ¹
Dr. Sanjay Dixit	Dr. Shikha Mittoo	Dr. Sharon Wilkinson ³
	Dr. Ami Mody	

¹RA & SpA; ²SpA only; Retired/No longer participating in OBRI

2022 Recruitment Activity



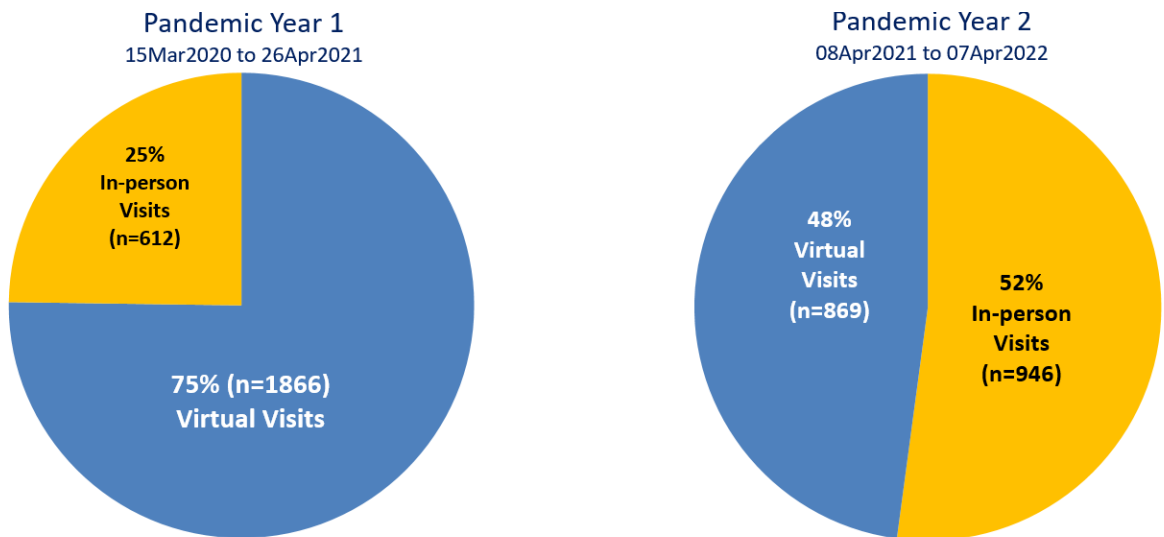
Our 2022 data



*Data as of December 31, 2022

¹Interviewer not able to contact patient. No data from patient for ≥ 18 months AND no physician reported data has been received for ≥ 18 months

Virtual vs. In-person physician visits increased during the second year of the pandemic



Young Investigators, students and trainees

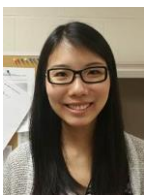
The OBRI is an exciting place for young investigators, students and trainees to expand their research experience. The OBRI team provides assistance defining their research questions, creating their protocols and analyzing their data. We encourage students and trainees from Ontario and across Canada to contact our team (obri@uhnresearch.ca).



Dr. Matthew Wong-Pack is a medicine resident at the University of Toronto. Matthew is currently enrolled in the General Internal Medicine Program and is interested in pursuing a career in rheumatology. His interests include rheumatoid arthritis, osteoporosis, and spondyloarthropathies. He is currently working with the Ontario Best Practices Research Initiative examining the impact the COVID-19 pandemic has had on patient reported outcomes for those living with rheumatoid arthritis. Dr. Wong-Pack is supervised by Dr. Arthur Lau, OBRI investigator and Clinical Advisory Committee member. Dr. Lau, an Associate Professor at McMaster University, has supervised students working with OBRI data for the past five years.



Dr. Samar Aboulenain is a Year-5 Rheumatology resident at the University of Toronto. Her main research interest is on cardiovascular risk in RA and its influence on disease outcomes. She is currently working with the OBRI team to investigate the relationship between burden of cardiovascular risk and drug survival of biologics and targeted synthetic DMARDs in RA. Dr. Aboulenain is supervised by Dr. Bindee Kuriya, OBRI investigator and Clinical Advisory Committee member. Dr. Kuriya leads CARDIA (Cardiovascular Assessment in Rheumatic Diseases and Inflammatory Arthritis), a multi-disciplinary, collaborative and innovative project, that aims to provide patients with evidence-based management of their RA with a focus on primary and secondary prevention of CVD.

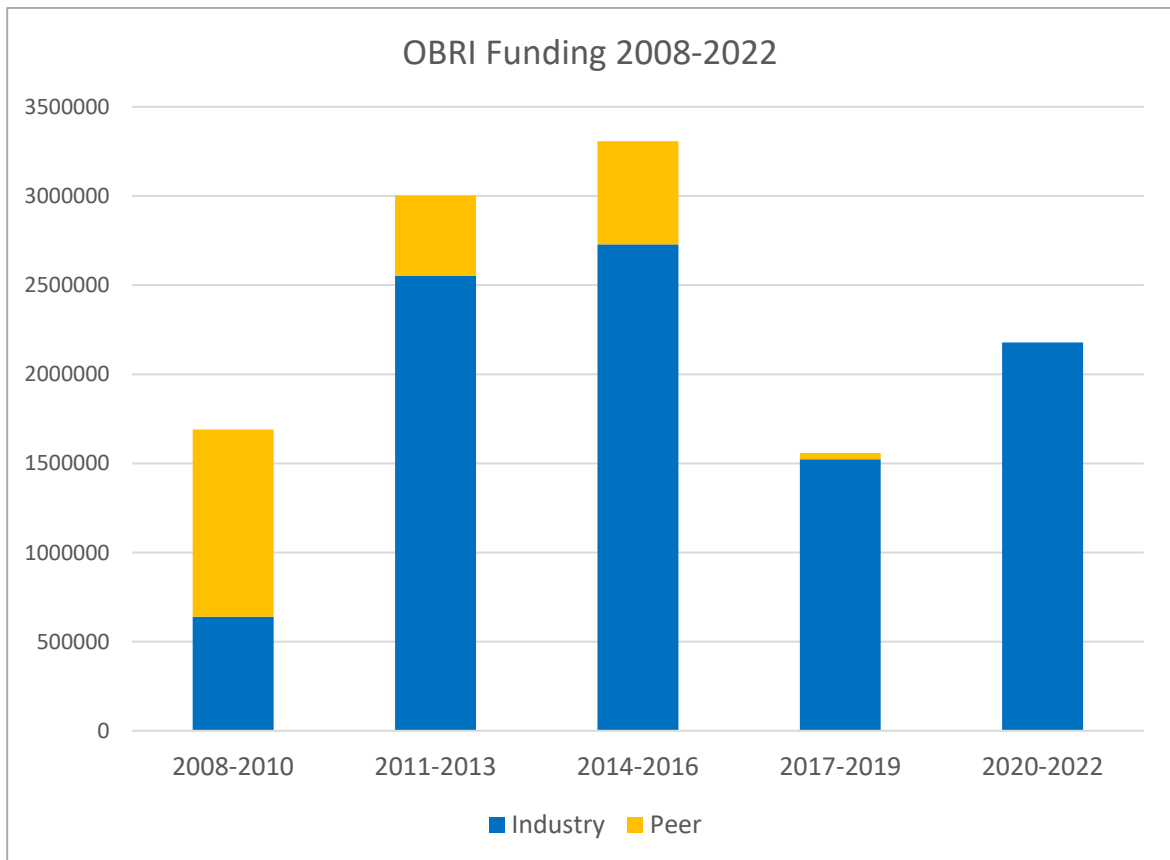


Pharmacist Nancy Guo worked with the OBRI team to develop the abstract examining the disease activity in moderate rheumatoid arthritis patients when she was a student. Nancy, now a practicing oncology pharmacist in Kingston, ON, has revived this research question. Using more recent and sophisticated data analyses, she has submitted this work for publication.

Financial Report

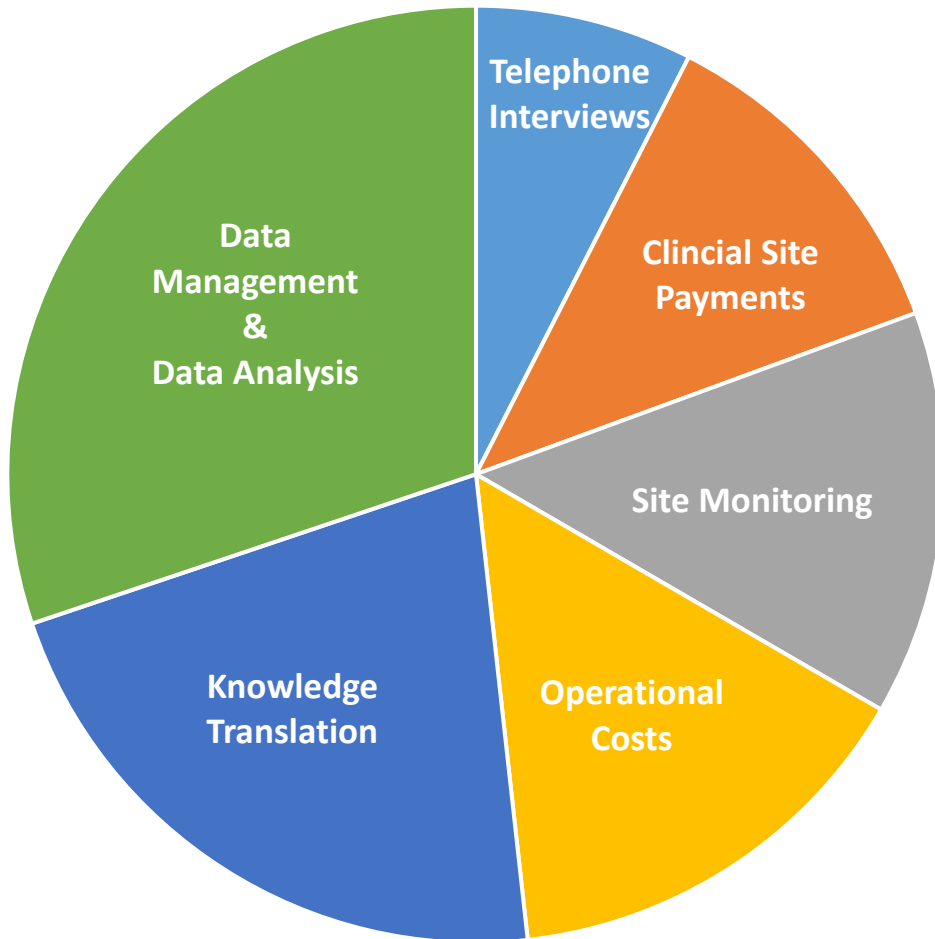
At OBRI, our main source of revenue comes from sponsorship; however, peer-reviewed funding has been awarded to OBRI for specific research activities. In 2022, OBRI received sponsorship from eight industry partners. Sources of funding revenue from 2008-2022 are presented below.

OBRI Funding Revenue



OBRI Expenditures

OBRI 2022 Expenditures



Patient Advisory Committee (PAC)

The OBRI Patient Advisory Committee (PAC) is a volunteer-led group comprised of patient representatives with rheumatoid arthritis, ankylosing spondylitis, and psoriatic arthritis. The PAC works to improve patient well-being through the promotion of rights detailed in the *Canadian Arthritis Patients Charter*.

The OBRI PAC provides guidance to the OBRI research team through:

- the communication of patient perspectives to research staff, students, investigators and other stakeholders
- priority setting, project planning, and decision making
- patient engagement, communication, and retention activities
- the dissemination of research/knowledge to patients and caregivers

The OBRI PAC oversees the production of an annual patient newsletter “In the Loop” (<http://www.obri.ca/for-patients/patient-newsletters/>) to keep patients informed about OBRI research, news, and events.

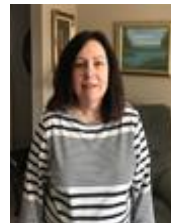
Patient Advisory Committee:

Catherine Hofstetter

David Barker

Jennifer Boyle

Maureen Forbes



Lynda Linderman

Gerald Major

Erinn McQueen

Denis Morrice



Clinical Advisory Committee (RA)

The Clinical Advisory Committee (CAC) was developed in 2015 to serve as an oversight committee to:

- provide expert advice on matters relating to OBRI internal operations
- provide strategic leadership for communications and interactions with external stakeholders (i.e., Patients, Payers, Providers, Professional Associations) and industry relations
- engage and mentor junior investigators
- prioritize research questions to ensure alignment with OBRI overall goals and diversification of funding.
- provide the OBRI with leadership for the development and investigation of clinically-relevant research questions.

Members of the CAC work closely with OBRI staff to explore new research questions relevant to rheumatology care. This collaboration resulted in five publications in 2022.

Clinical Advisory Committee:

Dr. Vandana Ahluwalia
Dr. Sibel Aydin
Dr. Claire Bombardier



Catherine Hofstetter (PAC)
Dr. Edward Keystone
Dr. Bindee Kuriya



Dr. Arthur Lau
Dr. Janet Pope
Dr. Carter Thorne



Interviews: Collecting Patient Reported Outcome Measures

One of the unique features of the OBRI is our ongoing collection of patient reported outcome measures through structured telephone interviews with patients.

Patient reported data is collected on a regular basis to document patient experiences with disease activity, quality of life, comorbidity, socioeconomic status, functional ability, and work productivity. These interviews, combined with physician-reported data and administrative data, provide us with a holistic picture of the RA care landscape in Ontario.

We would like to thank our dedicated interviewers for their role ensuring that patient data is collected in a standardized manner.

OBRI Interviewers

Lynda Linderman
Andrea McClintock
Colleen Perrin



OBRI TEAM

The data management centre is staffed by a specialized team with competency in clinical trial management, biostatistics, ethics approvals, privacy, data management, health IT, stakeholder engagement and business development. Since inception, the OBRI has disseminated knowledge insights globally, nationally and provincially through abstracts, presentations, and manuscripts for a variety of vested stakeholders including clinicians, patients, manufactures and payers.

- Claire Bombardier, MD, OBRI Principal Investigator
- Sibel Aydin, MD, OBRI-PsA Principal Investigator
- Angela Cesta, Clinical Research Manager
- Mohammad Movahedi, MD, PhD, Scientific Associate IV
- Xiuying Li, Data Manager
- Carol Mously, Site Coordinator
- Leanie Culanding, Budget and Finance Manager (part-time)
- Cheryl Dawson-Titus, Administrative Assistant (part-time)





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