

# SHAPING THE FUTURE OF ARTHRITIS CARE

*OBRI ANNUAL REPORT* **2021**



OBRI

ONTARIO  
BEST PRACTICES  
RESEARCH INITIATIVE

# TABLE OF CONTENTS

<b>About OBRI .....</b>	<b>3-6</b>
– Message from our Principal Investigator	3
– About OBRI	
– Who We Are	4
– Mission & Mandate	4
– Value Proposition	4
– Data and Linkages	5
– Research Pillars and Representative Sample	6
<b>Key Findings .....</b>	<b>7-9</b>
<b>Current Initiatives .....</b>	<b>10-13</b>
– Expansion to Psoriatic Arthritis	10
– COVID-19 and Vaccinations	10
– Medical Cannabis	10
– Data Sharing and Collaborations	
– Rhumadata	11
– Canadian Clinical RA Registries	11
– Canadian RA Guidelines	11
– Gastrointestinal Registry	11
– Knowledge Translation	11
– Real World Data	11
– Focused evaluation of biosimilars and targeted small molecules	12
– The impact of COVID-19 in patient-reported outcomes of Rheumatoid Arthritis patients	13
<b>Awards &amp; Recognition .....</b>	<b>14</b>
<b>OBRI Investigators .....</b>	<b>15-16</b>
<b>Recruitment Activity .....</b>	<b>17</b>
<b>Our 2021 Data .....</b>	<b>18</b>
<b>Virtual vs. In-Person Visits in the 2021 Data Cut .....</b>	<b>18</b>
<b>Young Investigators, Students and Trainees .....</b>	<b>19-20</b>
<b>Financial Report .....</b>	<b>21-22</b>
<b>Working Committees .....</b>	<b>23-24</b>
– Patient Advisory Committee	23
– Clinical Advisory Committee	24
<b>OBRI Team .....</b>	<b>25-26</b>
– OBRI Interviewers	25
– OBRI Staff	26
<b>Our Sponsors .....</b>	<b>27</b>

## 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 84 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.

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. This platform has prepared OBRI for the Real World Evidence (RWE) and "big data" trends in Canada today. Government, payers and researchers are adopting Real World Evidence, which combine information collected across multiple registries. With our years of experience, the OBRI team is well prepared to collaborate with these RWE stakeholders.

The COVID-19 pandemic continued to present clinical and research challenges in 2021. Many medical visits, meetings and congresses remained virtual. Despite the challenges associated with the 'virtual world', the OBRI team was fortunate to continue working uninterrupted with the cooperation of our investigators and the technology provided by the University Health Network. The second virtual OBRI annual conference was a success, we attended national and international virtual meetings, and had four articles accepted for publication. Visit our website at [www.obri.ca](http://www.obri.ca) to access our publications and learn more about OBRI.

We are pleased to share this overview of our activities in 2021 and we look forward to 2022.

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 clinical cohort that follows patients in routine care along their clinical path. It is a collaborative data platform involving rheumatologists, researchers, and patients. Originally created as the Ontario Biologics Research Initiative, it was officially renamed in 2013 to reflect the expansion of the organization'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:

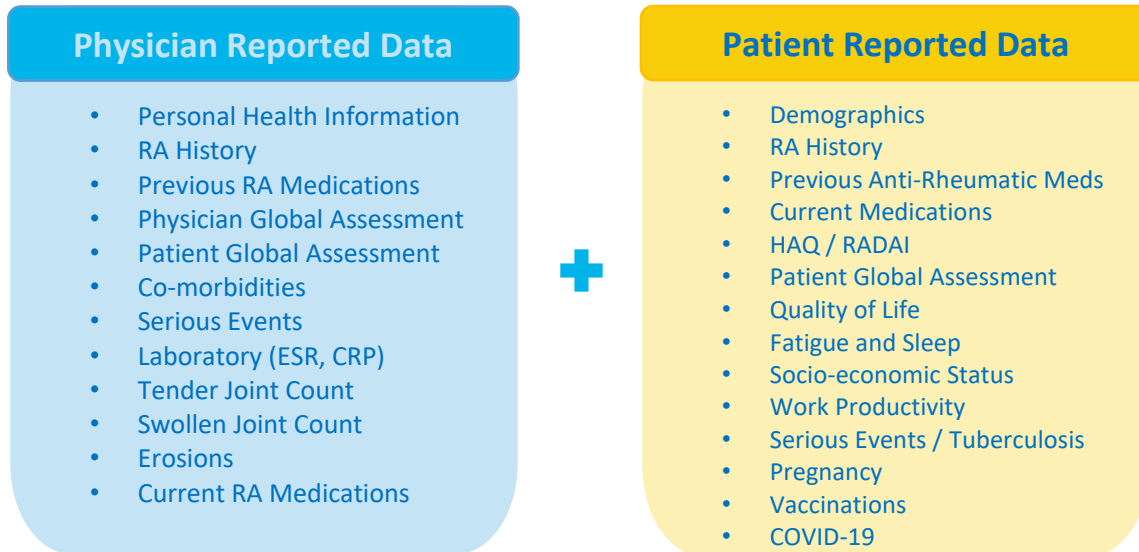
- Define safety, effectiveness, and sustainability of available RA and PsA therapies in the real world
- Identify clinical practice patterns that improve patient health outcomes
- Use real world clinical data to inform health care decisions

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

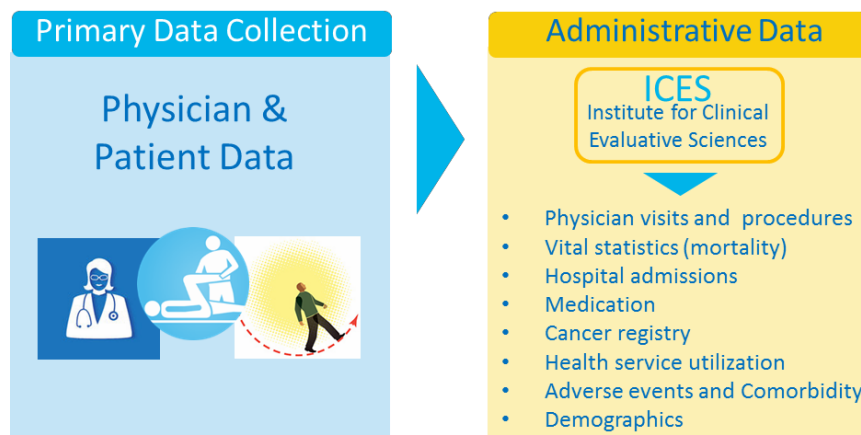
The OBRI has evolved into a powerful decision-making tool that is used to shape and inform the future of arthritis care. This rich source of comparative data combines real-world outcomes with administrative data. It is vetted through scientific rigor and the active involvement of a clinical advisory committee so that it may be used by policy makers to influence health care and clinical treatments decisions.

## What's in Our Data?



## Our Data Linkages

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



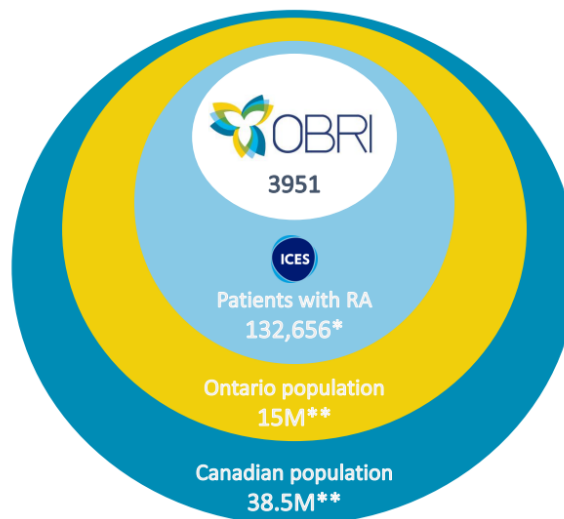
## Our Research Pillars

Evidence informed guidelines are being used to examine clinical outcomes, quality of care, and practice patterns leading to health system innovations through initiatives addressing models of care, epidemiology, and health economics.

Pharmacotherapy	Clinical Outcomes and Practice Patterns	Population Health	Collaborations with RA Registries
<ul style="list-style-type: none"> <li>Safety</li> <li>Efficacy</li> <li>Sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Clinical Measures and Outcomes</li> <li>Practice Guidelines</li> <li>Quality Indicators</li> <li>Models of Care</li> </ul>	<ul style="list-style-type: none"> <li>Epidemiology</li> <li>Health Economics and Cost Effectiveness</li> <li>Equity and Access</li> </ul>	<ul style="list-style-type: none"> <li>Rhumadata</li> <li>Cohort of Canadian RA Registries</li> </ul>

## Representative RA Sample

The population of Ontario comprises approximately 40% of the Canadian population. The 2017/2018 Ontario administrative data identified 132,656 RA patients. Linking the OBRI clinical data to the ICES datasets will provide a unique opportunity to answer many research questions.



\*ICES 2017-2018  
\*\*Statistics Canada as of January 6, 2022

# OBRI Physician visits = 49,083  
# OBRI Patient interviews = 48,119

## Key Findings for 2021

OBRI's research priorities include the examination of **Drug Impact and Outcomes** (effectiveness, safety, adherence persistence/survival), **Clinical Management and Practice Patterns vs. Guidelines** (clinical measures, quality indicators, and practice guidelines), **Population Health** (epidemiology, models of care, economics) and **Collaborations with Canadian Registries**. Since 2017, thirteen OBRI manuscripts appeared in peer reviewed journals, four of which were published in 2021. We are pleased to highlight the 2021 research publications below. Please visit our website at [www.obri.ca](http://www.obri.ca) for a complete list of OBRI publications.

### The similarities and differences in patient characteristics and treatments across 4 Canadian Rheumatoid Arthritis cohorts

In recent years, researchers have been looking at ways to harmonize data collected by individual registries. In Canada, this initiative began as a special interest group within the Canadian Rheumatology Association (CRA). The first step in combining the registry data is to examine the similarities and differences between the registries.

Four Canadian registries participated in this project: the Canadian Early Arthritis Cohort (CATCH; n = 2878), Ontario Best Practices Research Initiative (OBRI; n = 3734), RHUMADATA (Quebec, n = 2890), and the Rheum4U Precision Health Registry (Calgary, Alberta, n = 709). These registries include RA patients at different stages of their disease. The proportion of Early RA patients included in these registries ranged from 29% (Rheum4U) to 100% (CATCH). Some patient characteristics were similar between the cohorts. These include the mean age (55 yrs), sex (74% female), and seropositivity (69%). The project compared disease activity scores at medication initiation, the first DMARD(s) prescribed and the subsequent treatments.

The differences noted between the cohorts may signify when the cohort started, the varying inclusion criteria, or treatment choices available at the time of data collection. This work is the vital first step towards harmonizing the data from Canadian RA registries.<sup>1</sup>

## Cardiovascular risk factors are negatively associated with rheumatoid arthritis disease outcomes

Rheumatoid arthritis has been shown to increase your chances of having cardiovascular disease. High blood pressure, abnormal lipid amounts (e.g. triglycerides, cholesterol, fat phospholipids) in the blood, diabetes and smoking are all risk factors for heart disease. OBRI investigators asked the question: Do these dangers to your cardiovascular health influence your rheumatoid arthritis outcomes?

The study found that heart disease risk factors, even in the absence of heart disease, were related to higher disease activity and disability. This emphasizes the importance of risk factor recognition and management, not only to prevent CVD, but also to improve potential RA outcomes.<sup>2</sup>

## Is the time to remission as defined by swollen joint count similar to the time to remission as defined by patient reported outcomes in rheumatoid arthritis (RA)?

The goal of RA therapies is to help patients attain remission/low disease activity as quickly as possible and to maintain this state as long as possible. To ascertain the disease status of patients, rheumatologists use measures of disease activity such as tender joint count, swollen joint count, and patient and physician global assessment of disease activity. This study examined the lag of patient-reported outcomes (PROs) after patients attain remission as measured by the clinical disease activity index (CDAI) or the swollen joint count.

Time to achieve low disease state or remission based on PROs was considerably longer compared with swollen joint count. Of note, time to achieving low disease state and remission was generally significantly shorter in patients with early RA compared with established RA patients, with the exception of fatigue.<sup>3</sup>



## What are the changes, if any, in the market share of biologic and targeted synthetic disease-modifying anti-rheumatic drugs for treatment of rheumatoid arthritis since 2008?

For patients with Rheumatoid Arthritis (RA) who do not achieve adequate clinical response with combined conventional synthetic disease modifying anti-rheumatic drugs (csDMARDs), initiation of advanced therapies such as biologic DMARDs (bDMARDs) or targeted synthetic DMARDs (tsDMARDs) is recommended. Tumour necrosis factor inhibitors (TNFi) are the oldest and most commonly used subgroup of advanced therapies. In the last decade, new non-TNFi advanced therapy options have become available.

This descriptive analysis of data from the OBRI cohort reveals that TNFis are still used in the majority of cases; however, there has been an increase in the use of non-TNFi therapies both overall and as first line advanced therapy. This trend towards non-TNFi therapies as first line advanced therapy may be partially explained by the shift in guideline recommendations from TNFi as first-line, to any of the advanced therapeutics.<sup>4</sup>

## References

1. Glen S. Hazlewood, Claire Bombardier, Xiuying Li, Mohammad Movahedi, Denis Choquette, Louis Coupal, Vivian P. Bykerk, Orit Schieir, Dianne Mosher, Deborah A. Marshall, Sasha Bernatsky, Nicole Spencer, Dawn P. Richards, Laurie Proulx, Claire E.H. Barber. **Heterogeneity in Patient Characteristics and Differences in Treatment Across 4 Canadian Rheumatoid Arthritis Cohorts.** The Journal of Rheumatology Aug 2021, jrheum.201688 ; DOI: 10.3899/jrheum.201688
2. Cui K, Movahedi M, Bombardier C, Kuriya B. **Cardiovascular risk factors are negatively associated with rheumatoid arthritis disease outcomes.** Ther Adv Musculoskelet Dis. 2021 Feb 15;13:1759720X20981217. doi: 10.1177/1759720X20981217. PMID: 33643444; PMCID: PMC7890714.
3. Pope JE, Rampakakis E, Movahedi M, Cesta A, Sampalis JS, Bombardier C; for OBRI investigators. **Time to remission in swollen joints is far faster than patient reported outcomes in rheumatoid arthritis: results from the Ontario Best Practices Research Initiative (OBRI).** Rheumatology (Oxford). 2021 Feb 1;60(2):717-727. doi: 10.1093/rheumatology/keaa343. PMID: 32789456.
4. Hepworth E, Movahedi M, Rampakakis E, Mirza R, Lau A, Cesta A, Pope J, Sampalis JS, Bombardier C, OBRI Investigators. **Changes in Market Share of Biologic and Targeted Synthetic Disease Modifying Anti-Rheumatic Drugs for Treatment of Rheumatoid Arthritis: Results from the Ontario Best-Practice Research Initiative Database.** Curr Rheumatol Rev. 2021, Vol 17;3. doi: 10.2174/1573397116666201211130337. Epub 2020Dec11

## Current OBRI Initiatives

### Expansion to Psoriatic Arthritis

Over the last decade, the OBRI has developed a sophisticated infrastructure to study therapeutics in rheumatology, including RA and PsA, and is well poised to be leveraged by other chronic conditions. In collaboration with the OBRI, Dr. Sibel Aydin is leading a new province-wide community based psoriatic arthritis (PsA) registry. Over the past year, Dr. Aydin has been working closely with the OBRI team to get ethics approval for the sites. Although COVID-19 hindered the start of this project, we are pleased that the first sites are ready to enroll patients. Rheumatologists participating in this initiative include Dr. Vandana Ahluwalia, Dr. Sankalp Bhavsar, Dr. Andrew Chow, Dr. Rajwinder Dhillon, Dr. Stephanie Garner, Dr. Elliot Hepworth, Dr. Catherine Ivory, Dr. Raman Joshi, Dr. Nadir Khalidi, Dr. Faiza Khokhar, Dr. Arthur Lau, Dr. Nancy Maltez, Dr. Angela Montgomery, Dr. Elaine Soucy, Dr. Richard Tse, Dr. Carter Thorne and Dr. Nadil Zeiadin.

### COVID-19 and Vaccinations

The OBRI updated the patient baseline and follow-up questionnaires. Timely information on vaccinations and COVID-19 exposure is now being collected. 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.

### Medical Cannabis

The OBRI has collected over 800 medical cannabis surveys from patients attending rheumatology clinics in Ontario. Data from these surveys will provide rheumatologists with a better understanding of the prevalence of medical cannabis use in patients within their practice, the symptoms treated with medical cannabis, and whether its use is affecting the use of prescribed medications. The initial findings were presented at the Canadian Rheumatology Association (CRA) Annual Scientific Meeting in February 2021 and the manuscript has been submitted for publication. The survey showed that rheumatology patients reported higher cannabis use than the age-matched general

population. Patients with more severe disease and pain reported higher use of medical cannabis.

## 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.

- i. **Rhumadata** - The OBRI continues to work closely with Rhumadata to consolidate the data from these two registries. Analysis of the merged data was presented at national and international scientific meetings in 2021 and has been submitted for publication. Work on new research questions with the merged data will continue in 2022.
- ii. **Canadian Clinical RA Registries** - Led by Dr. Claire Barber and Dr. Glen Hazlewood, under the auspices of the Canadian Rheumatology Association (CRA), clinical rheumatoid arthritis registries across Canada are coming together in a national collaboration. The similarities and differences between four Canadian RA registries were published in 2021 (see page 7). This work marks the first step towards harmonizing data from Canadian RA registries.
- iii. **Gastrointestinal Registry** – Dr. Laura Targownik, University of Toronto Departmental Division Director, Gastroenterology (GI), is creating a provincial registry of GI patients. Recognizing OBRI's years of success and registry experience, Dr. Targownik approached OBRI for advise on launching the GI registry. We are pleased to share our wealth of experience collecting real world data to support the GI group as they embark on this important journey.

## Knowledge Translation

The OBRI had 4 peer-reviewed manuscripts published in 2021. OBRI presented results at national and international conferences (three oral presentations and six unique posters).

The Annual OBRI Conference was virtual for the second year on September 24, 2021. This annual meeting brings together arthritis stakeholders from across the province for the presentation of cohort findings, investigator led work, and new research linkages and collaborations. The OBRI was pleased that the virtual meeting format did not affect attendance. Ninety-one registrants attended the online meeting, including 28 OBRI Investigators and research coordinators, 15 industry partners and 19 patients, and 6 members of arthritis consumer and advocacy groups.

The meeting featured a panel discussion on how COVID-19 has transformed patient care in RA. The discussions were lead by OBRI Clinical Advisory Committee members, Dr. Janet Pope (London, ON), Dr. Arthur Lau (Hamilton, ON), and OBRI Patient Advisory Committee member, Erinn McQueen. The panel discussed the impact of virtual visits from the perspective of both patients and rheumatologists. 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.

## 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.

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

Since the World Health Organization (WHO) declaration of COVID-19 as a pandemic on March 11, 2020, there have been significant impacts on public health, due to either the direct effects of the virus (e.g., being infected with COVID-19) or to the state of emergency itself. Economic burden has increased due to closure of workplaces and the increase in unemployment rates. Recent research has focused on the impact of mandatory self-isolation on psychological comorbidities. The lack of social support and interaction during the pandemic may have had the greatest impact on vulnerable patients with chronic diseases, such as rheumatoid arthritis.

Virtual care for rheumatology appointments, reduced access to complementary therapies (such as physiotherapy or massage therapy) and gym closures might have additional adverse effects on patient outcomes. Patients may have chosen to reduce their medications due to concerns about immunosuppression, economic impacts of the pandemic, or changes in access to specific medications. Furthermore, the increased risk of depression and anxiety during this period may have affected patients' reported outcomes.

The OBRI team, led by Dr. Sibel Aydin, will strive to understand how the COVID-19 pandemic affected rheumatoid arthritis patients by comparing pre-pandemic patient reported outcomes to patient reported outcomes during the pandemic.

## Meetings & Conferences

In 2021, the OBRI participated in and presented at the following national and international scientific meetings:

- Canadian Arthritis Research Conference, virtual meeting. February 16-17
- Canadian Rheumatology Association (CRA) Annual Scientific Meeting, virtual meeting. February 24-26, 2021
- European League Against Rheumatism (EULAR) Congress 2020, virtual meeting. June 2-5, 2021
- International Conference on Pharmacoepidemiology & Therapeutic Risk Management (ICPE), virtual meeting. August 23-25, 2021
- 2021 CADTH Symposium, virtual meeting. November 2-4, 2021
- American College of Rheumatology (ACR) Convergence, Virtual Meeting. November 3-9, 2021

## Awards and Recognition

Congratulations to the following OBRI Investigators:

Dr. Carter Thorne, OBRI investigator and Clinical Advisory Committee member, for being named Chair of the Centre of Arthritis Excellence (CArE) in Newmarket. CArE is a not-for-profit corporation “supporting a portal of care for arthritis and associated conditions to provide patients timely assessment, effective treatment, and patient education grounded in self-management principles”.

Dr. Rachel Schupak, OBRI Investigator, upon receiving the CRA 2021 Distinguished Rheumatologist Award.

## Our Rheumatologists

The rheumatologists participating in OBRI are distributed across the province, representing diverse regions of Ontario located in twelve of the fourteen Local Health Integration Networks (LHINs) in Ontario. In addition to the broad geographical distribution, rheumatologists also work several practice settings. Approximately half of our investigators work in an academic setting and the remaining half are community based. In either setting, investigators can be part of a large group or have their own individual practice. 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 2021, we welcomed six new rheumatologists to our OBRI registry. We are pleased to introduce Dr. Tooba Ali (Oshawa), Dr. Ahmed Omar (Toronto), Dr. Saara Rawn (Sault Ste. Marie), Dr. Alexandra Saltman (Toronto), Dr. Medha Soowamber (Toronto), and Dr. Amanda Steiman (Toronto). This past year, we bid farewell to retiring rheumatologists Dr. Patricia Ciaschini (Sault Ste. Marie) and Dr. Jacob Karsh (Ottawa). We thank them for their years of participation in OBRI.

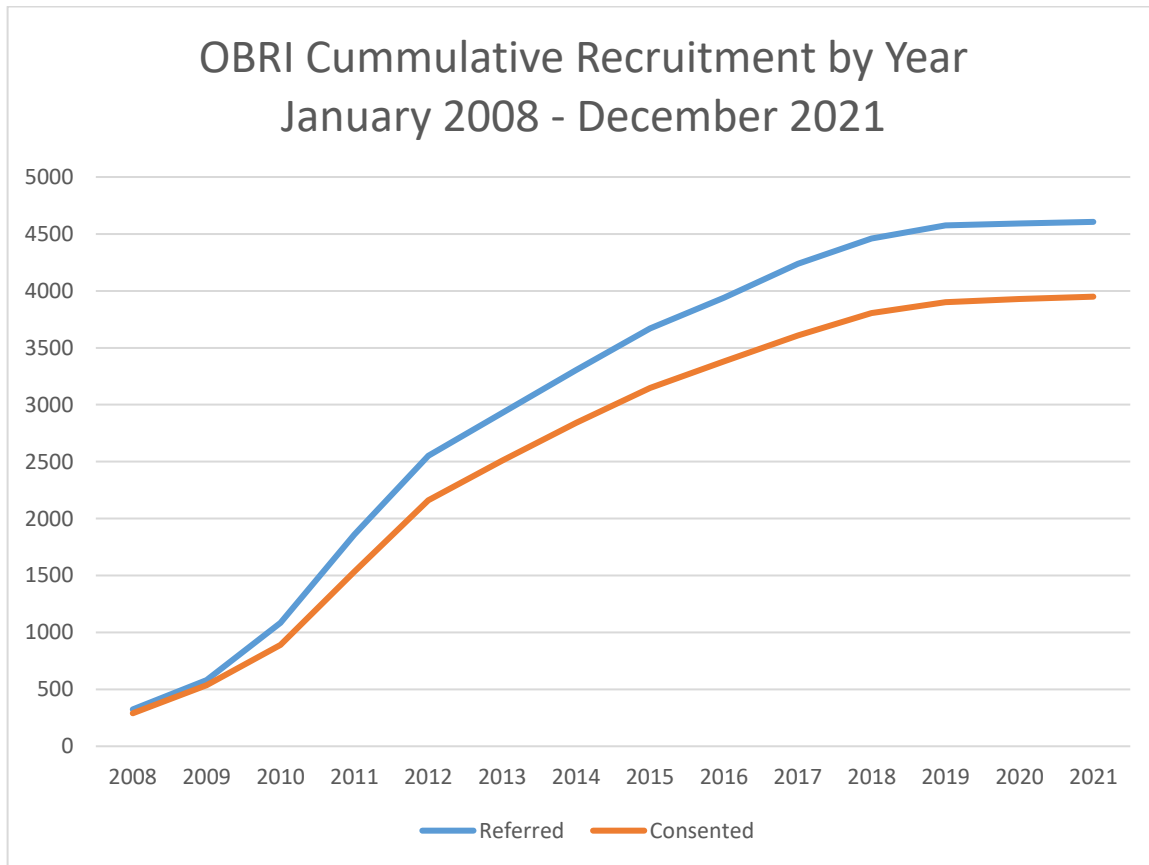
## Thank you to the OBRI Investigators

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

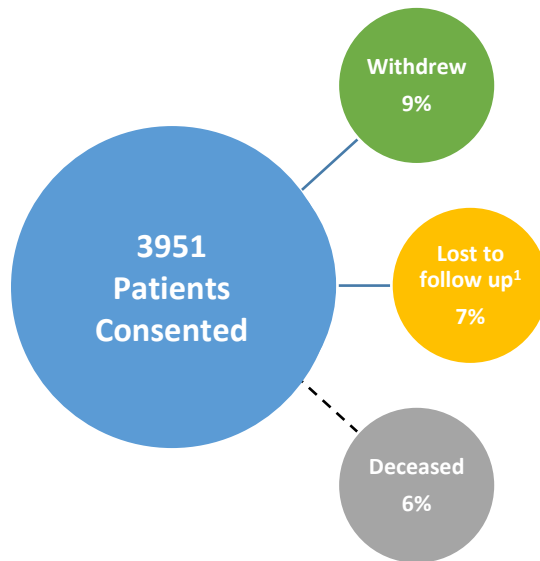
<sup>1</sup>RA & SpA; <sup>2</sup>SpA only; Retired/No longer participating in OBRI; GREEN new investigators



## 2021 Recruitment Activity

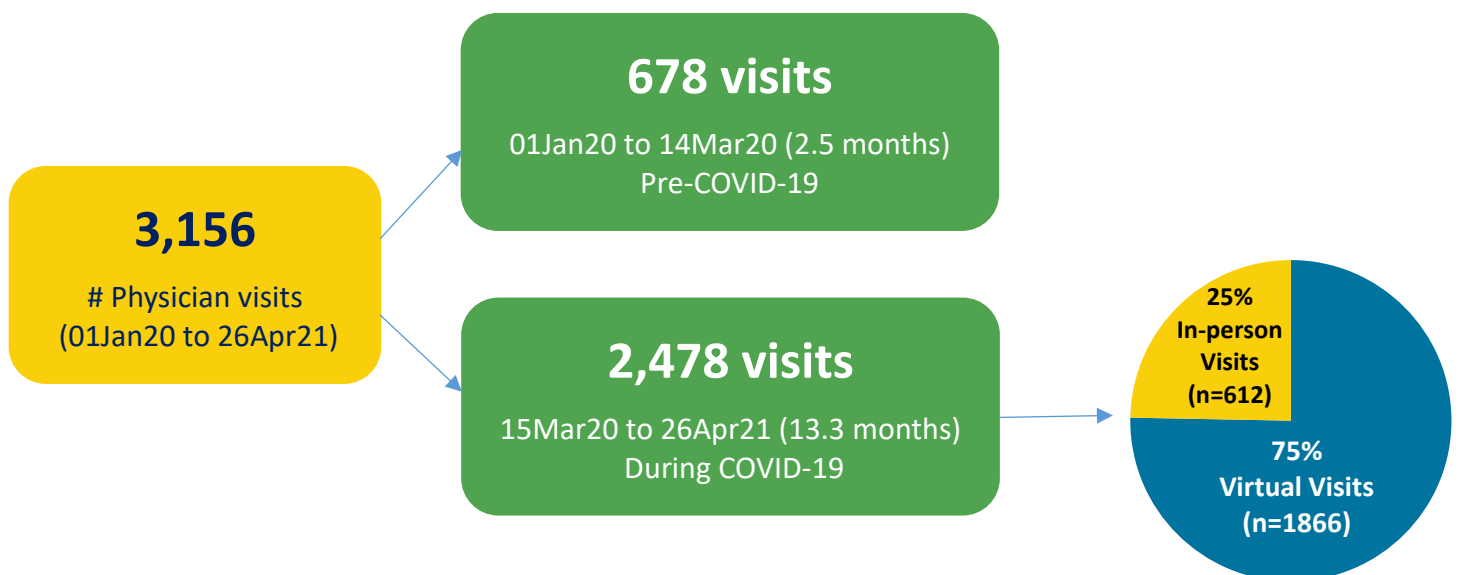


## Our 2021 data



<sup>1</sup>Interviewer 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 visits in the 2021 data cut (01Jan2020 to 26Apr2021)



## 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](mailto:obri@uhnresearch.ca)).



OBRI Investigator Dr. Bindee Kuriya, Director, Rapid Access Rheumatology Clinic, Mount Sinai Hospital, obtained a master's degree in clinical epidemiology from the Harvard School of Public Health. Dr. Kuriya leads the new CARDIA - Cardiovascular Assessment in Rheumatic Diseases and Inflammatory Arthritis - project. Research indicates that patients with rheumatoid arthritis may be at increased risk of cardiovascular disease (CVD) compared to the general population. It is known that CVD is documented as one of the most prevalent co-morbidity associated with inflammatory arthritis. Through this multi-disciplinary, collaborative and innovative project, CARDIA will provide patients with evidence-based management of their RA with a focus on primary and secondary prevention of CVD.



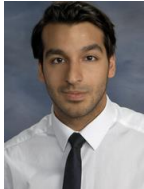
Dr. Pooneh Akhavan is a Consultant Rheumatologist at Mount Sinai Hospital in Toronto, with a MSc in Clinical Epidemiology. She runs the Early Arthritis clinic at Mount Sinai Hospital. Her main research interests include outcome measures and prognostic modeling in early RA, knowledge transfer, clinical practice guidelines and quality indicators in rheumatic diseases. As an OBRI investigator, Dr. Akhavan is working with the OBRI team to examine the relationship between patient global assessment of disease activity and physician assessment of disease activity at baseline and after one year in patients with early RA.



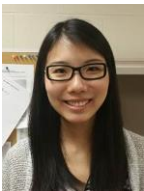
Mark Tatangelo, PhD, is measuring the costs and clinical consequences of rheumatoid arthritis by applying new statistical methods. The outputs of his research will assist clinicians, policymakers, payers, and patients to deliver better care for patients with rheumatoid arthritis.



Dr. Elliot Hepworth and Dr. Reza Mirza began their journeys with OBRI as medical students. Elliot and Reza worked with the OBRI team to examine the Longitudinal Changes in Relative Market Share Proportions of Biologic and Targeted Synthetic Disease-Modifying Anti-Rheumatic Drugs for Treatment of Rheumatoid Arthritis, a manuscript published in 2021. Elliot recently joined the Rheumatology Division at The Ottawa Hospital and is participating as an investigator in the new OBRI Psoriatic Arthritis cohort. Reza is pursuing a Master's Degree and working in the Rheumatology Division at Sunnybrook Hospital.



Dr. Kangping Cui worked with OBRI as a medical student. In 2021, her manuscript "Cardiovascular risk factors are negatively associated with rheumatoid arthritis disease outcomes" appeared in Therapeutic Advances in Musculoskeletal Disease. Kangping's other research question, "Contributions of Social Determinants of Health on Treatment Responses in Rheumatoid Arthritis Patients", is currently being developed into a full manuscript.



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 is now preparing this work for publication.

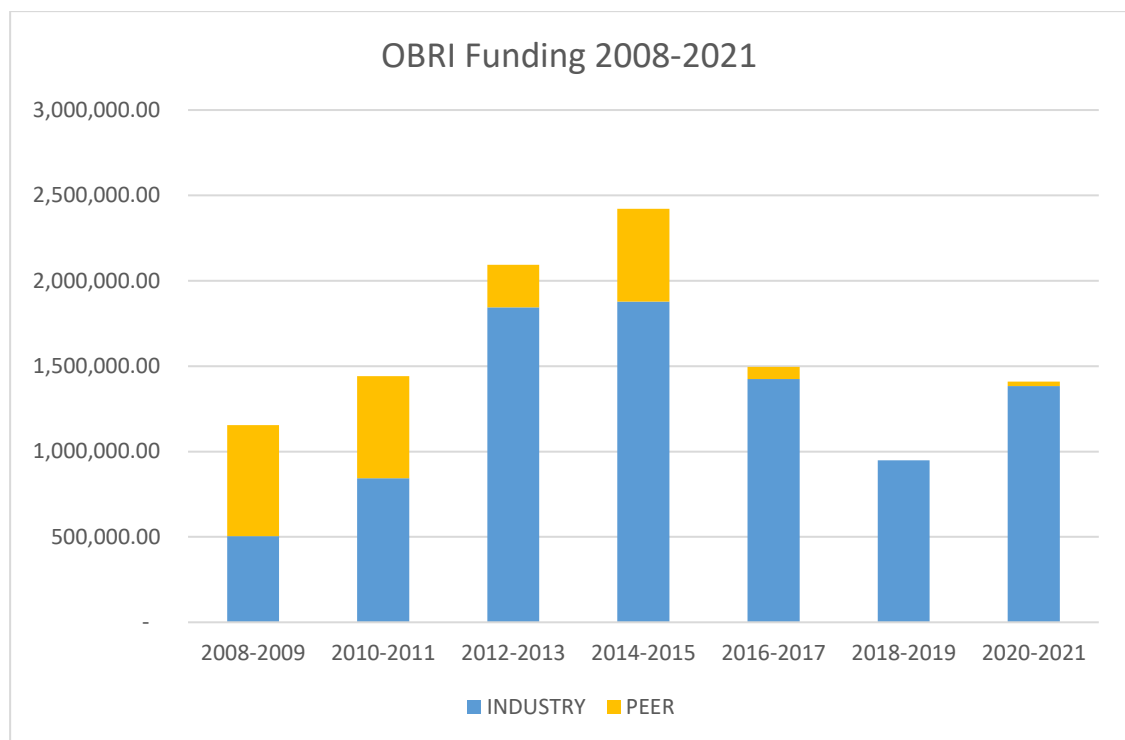


Dr. Matthew Wong-Pack is a medicine resident at the University of Toronto. Matthew is currently enrolled in the General Internal Medicine Program and is interested in pursuing a career in rheumatology. His interests include rheumatoid arthritis, osteoporosis, and spondyloarthropathies. He is currently 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.

## Financial Report

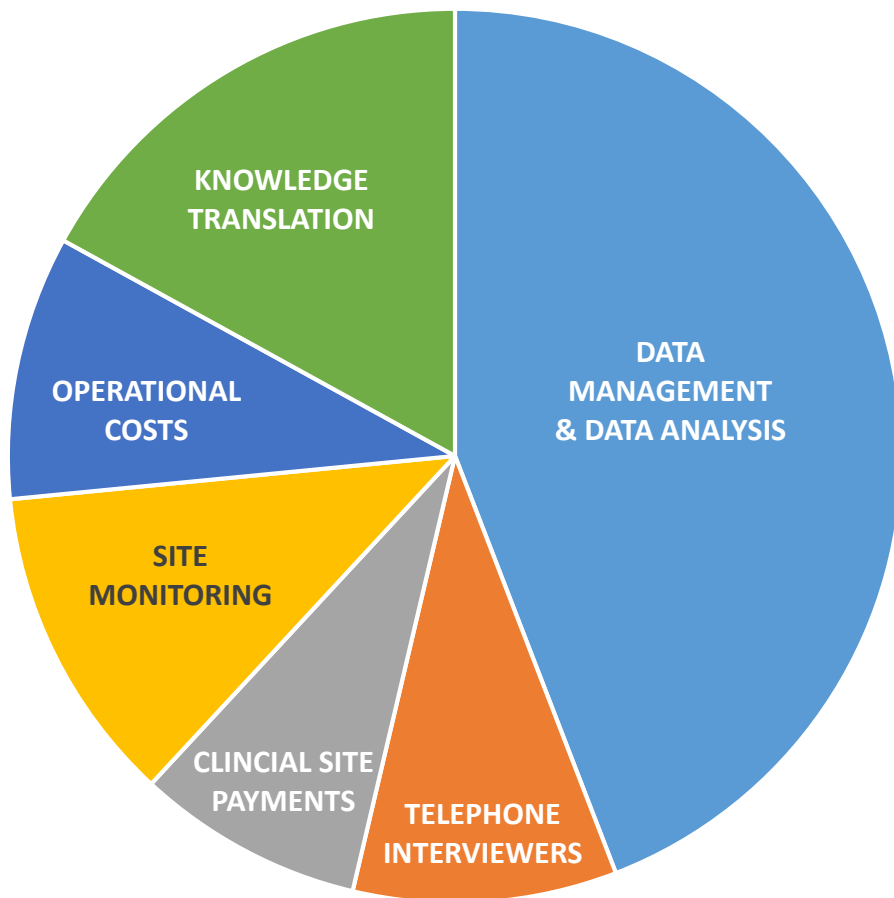
At OBRI, our main source of revenue comes from sponsorship; however, peer-reviewed funding has been awarded to OBRI for specific research activities. In 2021, OBRI received sponsorship from eight industry partners. Sources of funding revenue from 2008-2021 are presented below.

### OBRI Funding Revenue



## OBRI Expenditures

OBRI 2021 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*.

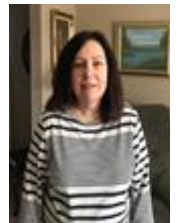
The OBRI PAC provides guidance to the OBRI research team through:

- 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 (CAC)

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 four publications in 2021.

### 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  
Sharon Zwarych



## 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.

### OBRI Staff

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



## THANK YOU TO OUR 2021 SPONSORS



Past sponsors:

Aurora, Bristol-Myers Squibb, Celgene, Gilead,  
Hospira, Janssen, Medexus, Merck, Sanofi and UCB



200 Elizabeth St., 13 EN-224  
Toronto, Ontario, M5G 2C4  
**Tel:** 1.866.213.5463 **Fax:** 1.888.757.6506  
**Email:** [OBRI@uhnres.utoronto.ca](mailto:OBRI@uhnres.utoronto.ca)  
**Website:** [www.obri.ca](http://www.obri.ca)