



THE DATA MATTER.

CRDCN QUARTERLY NEWSLETTER

THIRD QUARTER - SEPTEMBER 2023



People and pathways



People, paths, policy and data

Welcome to the third issue of *The Data Matter* for 2023!

In this edition, you will get to know our Executive Director, Natalie Harrower, who joined the CRDCN in April. She sat down with me for a Q and A about her background and where she sees the CRDCN heading in the coming years.

Our second article provides a closer look at one of our recent Research-Policy Snapshots, which are one-page briefs that provide insight and information about research published using Statistics Canada data accessed through our Research Data Centres. We spoke with one of the researchers to examine their work.

We'll also take a look at career paths for researchers in our article focusing on an upcoming session at our national conference in November. We spoke with some of the presenters to learn about what they hope attendees will learn, what career pathways are available to quantitative researchers and the prevalence of data and statistics in curriculum at all levels of education.

Lastly, we begin a new series of articles that will introduce and highlight the work of our Academic Directors. In this issue, we spoke with Elizabeth Dhuey, the new Academic Director at the University of Toronto RDC, about what brought her into the role, the work being done at her centre and more.

We also hope you can join us for our next Open Mic event with Statistics Canada on October 11. The topic will be the Census and the new gender and gender identity variables for 2021. [Register at our site.](#)

Thank you for reading and we at the CRDCN wish you all the best as we return to campus for the academic year.

Ryan Murphy
Editor, *The Data Matter*

**As the CRDCN crafts its next strategic plan, we are soliciting feedback.
Please [visit this link to complete a short survey](#) and have your say!**

**If you have any feedback or ideas for future articles or themes, please
reach out to us at info@crdcn.ca.**

The Canadian Research Data Centre Network (CRDCN) is a premier research and training platform for over 2,000 researchers in the quantitative social and health sciences in Canada.

The Network provides unique access to Statistics Canada data on 33 campuses across the country to advance knowledge and inform public policy. It is funded by SSHRC, CIHR, CFI, the FRQ, Statistics Canada and our 42 primary and affiliated partner universities. CRDCN is recognized as one of Canada's Major Science Initiatives.

Cover photo: Canva

Q and A with Executive Director Natalie Harrower

Ryan: Thanks for talking to me, it's great to be able to ask you a few questions for our readership of *The Data Matter*. Can you tell us a little bit about your work at the DRI, and what brought you into the world of data?

Natalie: That's a really great question, because my route to the data world was not directly planned, but I am glad that a combination of circumstance and curiosity led me down this path! To back up a little, my start as Executive Director the CRDCN coincided with my move back to Canada, and in fact back to the GTHA, which is the area I consider home. For the ten years prior to this, I worked as part of a team to build the Digital Repository of Ireland (DRI) from the ground up, creating a national trustworthy repository for qualitative data from the social sciences, humanities and cultural heritage domains. To enhance the expertise and scope of the DRI in the Irish research landscape, we pursued a range of partnerships and collaborations across Europe, eventually embedding DRI as a global leader in digital archiving, digital preservation, and FAIR data provision.

So... that is what I was doing most recently at DRI, but to come back to the other part of your question, I originally moved to Ireland to do a postdoctoral fellowship at Trinity College Dublin, with a focus on Irish historiography, theatre and film! This may seem worlds apart, but I had an interest in digital humanities and digital pedagogies that made for a good fit in my initial role at the DRI. As a lecturer at Queen's University and the University of Toronto before the move to Ireland, I was often designing assignments that incorporated digital approaches. And frankly, I have always had rather catholic tastes when it comes to research disciplines – cross disciplinary research infrastructures allow me to learn about discoveries across a very broad range of areas, and I find that both appealing and motivating.

Ryan: How do you feel your experience and background benefits the CRDCN and its researchers?

Natalie: I do think that it's valuable that I had an early career as an academic, in that I understand the motivations in the university sector, what it means to pursue a research agenda, and the pressures that academics face. I also think that the experience I've had in digital research infrastructures in a range of different contexts across Europe is beneficial, both for the best practice examples I've been exposed to, and



Natalie Harrower

for the connections I've made with other people and organisations pursuing similar goals. There are a lot of challenges to growing and strengthening the ways we use data to inform research, but these are global challenges, and we should partner with allied organisations on common pursuits where possible. In the last number of years, my focus was increasingly on supporting the transition to an Open Science environment. In this capacity, I served on European Commission groups to frame the steps towards member state implementation of the FAIR principles, and collaborated closely with the Research Data Alliance to deliver solutions to specific but global data sharing problems. Open Science approaches can contribute significantly to improving data sharing, and I predict that attention to the FAIR principles, to open access publishing, to revising the recognition and rewards system for researchers,

and other areas under the umbrella of Open Science will only continue to grow.

Ryan: What excites you about the CRDCN and where do you see it heading in the next few years?

Natalie: There's a long list of things that excite me about being a part of this network, and I am only five months into the role! First, CRDCN is on really solid footing: the team has an excellent partnership with our colleagues at Statistics Canada, we have tremendous support from the host institution of the network, McMaster University, as well as our brilliant and engaged Board members and Academic Directors, and we have the trust and mandate that come with the significant investment made in CRDCN as a Major Science Initiative by our funders – CFI, SSHRC and CIHR. We also have an incredible resource in the researchers that form the network – they are using rich and varied Canadian data to address challenges facing people and

programmes across the country. In the next few years, I'd really like to build on the important work done to better connect researchers to policymakers – to ensure that the excellent inquiry undertaken by researchers across the country finds its way to decision-makers, and that decision-makers have the data-driven evidence and rigorous analysis needed to best meet their efforts to improve decisions and program delivery. And while the researcher base is already quite diverse, I'd like to see that grow even more – bringing in researchers from a wider range of disciplinary and personal backgrounds. I think there is space to build this community and foster collaborations, and I find that potential very exciting!

Ryan: Thank you for taking the time to chat with me!

Natalie: You are very welcome, it was a pleasure.

Research-Policy Snapshot: Approaching doctor shortages from another angle



Photo: Sasun Bughdaryan/Unplash

For researchers, getting your findings on the desks of the right people – for example policymakers – is an important result of all the hard work you invest in the research.

Aside from publishing your work in respected and high-impact journals, you also try to give your work the right profile with the right audiences through presentations at conferences. To that end, and to fulfill a commit-

ment to bringing researchers and policymakers together, the CRDCN developed Research-Policy Snapshots in late 2021. These are summaries of published journal articles written by CRDCN researchers using Statistics Canada microdata at our Research Data Centres. These one-page snapshots succinctly summarize the findings for policymakers and stakeholders, as well as pertinent information such as the datasets used, the populations studied and, crucially, the policy implications.

One such hot topic examined in the most recently published Research-Policy Snapshot Digest looked at doctor shortages in Canada. Rabiul Islam, Boris Kralj and Arthur Sweetman of McMaster University expertly summarized their work, previously published in the March 2023 issue of the respected and longstanding *Canadian Medical Association Journal*.

The trio found although the number of physicians per capita actually grew about 35% between 1987 and 2019, the adjusted growth rate was actually -4% when considering population aging and reduced work hours by physicians.

"We were trying to reconcile the gap between the observed historic highs in physician supply, in absolute terms and relative to population and the reported shortages of physicians, challenges for patients in accessing care, provider burnout, etc.," says Kralj. "Just looking at traditional readily available data and metrics failed to provide any clarity, we then adjusted these measures (physician to population ratios) for changes in population aging and physician hours worked, and the picture became clearer. The hours of work data came from the Statistics Canada Labour Force Survey, which is widely used by economists to gauge labour

market activity broadly, but not by planners or research focused on the physician or health sector."

Kralj hopes their work will assist in getting policymakers and planners to approach this issue from a different angle." We hope that planners will use more sophisticated and realistic models that account for both demographics of patients and providers as well as other behavioural factors such as shifts in labour market or work hours," he says. "We hope that planners explore and incorporate nontraditional data sources such as the Labour Force Survey and Census in their work, we hope that our paper demonstrates that there is value in doing so."

Their work and exploration of this topic won't end there, however, as Kralj says they are following up by focusing on the source variations in doctor working hours over time, such as regions, age, gender and family status.

"We will continue to use, via the McMaster RDC, the Labour Force Survey as well as the more granular Statistics Canada Census," he says. "We are also undertaking a major study looking at pay gaps in Canadian medicine, in particular the intersectionality of gender, race, and immigration status."

This snapshot, along with dozens more, is available for viewing any time [at the CRDCN website](#). The next digest of snapshots will be published at the beginning of 2024. In addition, many researcher presentations will be delivered at our annual conference in Hamilton, ON, November 21-23, *CRDCN 2023: Leveraging Data, Research, and Policy Collaborations*. [You can still register here](#).

What you need to know

- The team of Rabiul Islam, Boris Kralj and Arthur Sweetman published their work in the *Canadian Medical Association Journal*, wherein they examined physician shortages in Canada from the angle of an aging population and reduced work hours.
- They hope policymakers and planners will approach the issue with more sophisticated models that account for demographics and behavioural factors.
- They will continue to use the McMaster RDC to research, as they undertake a major study examining pay gaps in Canadian medicine.

Speaking to the next generation of researchers



Photo: Kevin Canlas/Unplash

As the fall begins, undoubtedly many students and early career researchers will shift their focus to planning for the year ahead and, in many instances, consider the workforce paths that await them in the future.

This topic will be front and centre at the forthcoming CRDCN annual conference, *CRDCN 2023: Leveraging Data, Research, and Policy Collaborations*, taking place

this November 21-23 in Hamilton, Ontario.

Students and early career researchers attending the conference are encouraged to mark the morning of November 22 on their calendar for the research career pathways session and breakfast, sponsored by SAS. At this session, attendees will learn about research careers outside of a university setting from colleagues at SAS,

Statistics Canada, Health Canada and Employment and Social Development Canada (ESDC).

Ahead of this session, we reached out to the presenters to speak a bit about career paths for quantitative researchers, the prevalence of data analysis and statistics in curriculum at different levels of study, what areas of study students could focus on to lead toward a career related to quantitative data outside of the purely academic setting, and what they hope attendees will gain from the session at CRDCN 2023.

First and foremost, the speakers all agree that there are myriad opportunities available for careers in quantitative research.

"There are lots of diverse opportunities to apply research and quantitative skills within government and NGOs to support the development of evidence policy-making," says Claudia Sanmartin, Director General, Analytical Studies and Modelling at Statistics Canada. "This could be with specific policy departments focused on delivering programs to Canadians or with national data organisations such as Statistics Canada, CIHI (Canadian Institute for Health Information) and others who work hand in hand with policymakers to ensure they have the data and information to make evidence informed decisions."

Stéphane Gascon, who is Director, Service Research at ESDC, says there are three main paths in departments such as his: research, evaluation and data analytics, and that successful people in these areas need to be comfortable with working with different types of data, such as survey and census data, and especially administrative data – because government programs create so much of it.

At SAS, roles include working in the Customer Advisory division, where they develop demos and solutions for clients, as well as in software development. Bryan Mehi, Senior Global Academic Program Manager at SAS, notes however, that experience working with SAS and open-source data software is increasingly in demand across Canada with hiring managers.

"More generally, SAS is present in nearly every industry and was listed as a desired skill in over 6,000 unique job postings in Canada over the last 12 months," he says. "Government, healthcare, banking, retail ... The list goes on, and you'll find that most companies now prioritize data expertise, whether using SAS or open source."

Gascon adds that students will need to become

increasingly prepared in the areas of machine learning and AI. He also notes that for those pursuing a career in policy, learning how to do simple analysis and being comfortable with using data would be a major positive skill set. To that end, the Chief Data Office has developed a data literacy program for policymakers, and many Canadian universities have developed continuing education programs for professionals to learn how to work with statistics and data analysis.

Data knowledge is becoming more prevalent in curricula at different levels, underscoring its importance. "Data literacy in particular – how a person interacts with data to make sense of the world around them – is a vital skill, and in Ontario is already introduced at a basic level as early as Grade 1," says Mehi.

"Increasingly we're seeing data topics enter curriculum at all levels of education. There's no shortage of data – we're very, very good at creating it – but the talent able to work with it and effectively solve problems is still in high demand. As data-driven decision-making continues to grow in importance across all sectors and industries, educators will need to incorporate that training accordingly," he says.

In addition to focusing on AI and machine learning, Gascon suggests students with an eye for a career in research should look at courses related to data and big data, but also suggests that data is becoming important in every corner of society and the basic knowledge to understand it will become more standard.

Sanmartin echoes these sentiments. "Basic data literacy is a key skill being sought by a wide range of employers. This includes not only the ability to manipulate, analyze and interpret data, but also [the ability to be] critical consumers of data and quantitative information that they come across – the ability to critically assess the quality of the information, identify potential biases and limitations of the data they are using in their work and in life generally."

The speakers, for their part, hope that the session at CRDCN 2023 will be informative and enlightening for those looking at their future career paths.

"We hope to help you understand that data talent is the present and future of most organisations and is vital to success across both public and private sectors," says Mehi. "Young researchers and students should know that there is a rewarding career waiting for them in the data sciences."

Gascon hopes to share knowledge not just about

the government opportunities available, but the progression within the public sector. He also hopes to share some tips on how to position oneself as an ideal candidate, look at different entry routes to roles and how to prepare for interviews.

One piece of advice he offers is for young research-

ers and students to be open to learning French and begin early, as it will aid their career progression if they are pursuing work in the public sector.

Those interested in attending this session can still register to do so by [visiting the CRDCN 2023 conference website](#).

What you need to know

- The Career Pathways Breakfast, sponsored by SAS, will be taking place at our annual conference CRDCN 2023 on the morning of Nov. 22.
- Data knowledge is becoming more prevalent in all levels of curricula, with data literacy being introduced as early as Grade 1.
- Attendees can learn about the career opportunities available, as well as career progression and positioning themselves as an ideal candidate.

Largest RDC welcomes new Academic Director

As the new Academic Director of the largest Research Data Centre (RDC) in the Canadian Research Data Centre Network (CRDCN), Elizabeth Dhuey inherits a lab that is home to approximately 500 researchers with active contracts at the University of Toronto.

Dhuey stepped into the role on July 1, 2023 replacing long-time Academic Director and Board member Dan Silver. As head of the University of Toronto RDC, she also holds a seat on the CRDCN Board of Directors, in addition to her other roles which include serving as Co-Director of FutureSkills Canada, Academic Director of Research Initiative in Education + Skills (RIES) and Associate Professor of Economics at the University of Toronto.

"My goal as the new RDC AD is to support all the amazing and impactful academic and policy research

being conducted at U of T," she says. "I want to make sure that we help build capacity by providing researchers what they need for their research and at the same time promote collaboration between researchers from various disciplinary backgrounds."

She comes to the role through her passion for data. "I love data," she says. "I love working with data and I love talking about data, so the job was a natural fit for me."

Among the 500-plus researchers at the RDC, almost half (45%) are from the arts and sciences, while those from medicine make up just over one-third (35%), according to Dhuey. Researchers from public health represent 10% of the RDC active contract base, while the remaining researchers represent areas of study that include social work, management and

education.

With that many researchers, room can be at a premium, which is part of the reason Dhuey is eager for the virtual Research Data Centre (vRDC) initiative to become operational in the near future. "When that happens, we will be able to add 6 additional workstations," she says. This is in addition to access that



Elizabeth Dhuey

the vRDC will provide to researchers in authorized workspaces (e.g., office or home). "But in general, I'm really excited about the change and how it will allow for more researchers to do more analysis with the same level of

privacy and rigor."

Toronto's RDC, as well as the other centres under the CRDCN umbrella, allow researchers to delve deeper and allow for more nuanced and precise understanding of various key areas such as population dynamics, public services, urban development, strategic business planning, economic forecasting, housing, economic and social conditions, explains Dhuey.

"These detailed analyses can enable policymakers and governments to draft policies that are tailored to specific population segments or address nuanced issues. It also enables rigorous academic research that allows for better understanding of these issues," says Dhuey. "The work completed in the RDCs impact all Canadians."

Researchers and Academic Directors from RDCs across Canada, including University of Toronto, will be presenting their work to both policymakers and other researchers at our annual conference November 21-23, *CRDCN 2023: Leveraging Data, Research, and Policy Collaborations*. You [can register here to attend](#) and network with over 200 colleagues from across Canada.

What you need to know

- Elizabeth Dhuey became the AD on July 1, 2023, taking over from long-time AD Dan Silver. She will also serve on the CRDCN Board of Directors.
- She wants to promote collaboration between researchers of various disciplines.
- The work done at the RDCs impacts all Canadians through allowing policymakers to draft policies tailored to issues and populations, and allows university researchers to understand these issues.