

WAY FORWARD

ADVANCING HEALTH EQUITY THROUGH DATA

ADVANCING HEALTH EQUITY THROUGH DATA ICES RESEARCH FORUM

THE IMPORTANCE AND VALUE OF THE INTEGRATION OF HEALTH AND IMMIGRATION DATA

ADVANCING HEALTH EQUITY THROUGH DATA ICES RESEARCH FORUM

Description

The value of research related to newcomer health in Ontario has been made possible by the partnership between IRCC and ICES. This partnership and subsequent integration of health and immigration data has led to studies of significant value to government and policy makers.

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Sarah Trottier, IRCC

Agenda

- Overview of the IRCC-ICES Partnership
 - Sujitha Ratnasingham
- COVID-19 in Immigrants, Refugees and Other Newcomers in Ontario
 - Sima Gandhi
- COVID-19 Vaccine Equity
 - Dr. Susitha Wanigaratne
- The Value of IRCC-ICES Data Linkage for Public Policy Relevant Research and Analysis
 - Sarah Trottier
- Questions

ICES-IRCC: A Quick History





- Permanent Resident Database (for individuals who landed in Ontario only) for timeframe: Jan 1985-Sep 2020
- Currently being linked:
- Permanent Resident Database (for individuals who landed in Ontario only) for timeframe: Jan 1985-June 2022
 - Linkage for Permanent residents who landed in a province other than Ontario will follow
- Temporary Resident Database for the timeframe: 1980-June 2022

ICES holds all records of permanent residents (landed in Ontario) since

1985

There are a total of nearly

4 Million

Immigrants in Ontario matched to ICES data

~580,000

are Refugees



Studies Underway Span: The Life Course; Healthcare Sectors; Health And Mental Health Status; Leading Infections And Chronic Diseases To Primary Prevention

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The use of IRCC data at ICES allows us to expand the knowledge-base of immigrant health service use and health in Ontario for policy development and health services planning.

	FISCAL #		
Over the past 5 years,	18/19	70	
ICES has used the IRCC data for 336 research projects	19/20	53	
	20/21	69	
	21/22	65	
research projects	22/23	79 *	

Overall, an 86% match rate to RPDB at ICES



Missing Values)
 Probabilistic record linkage (PRL) using linkage software
 Deterministic record linkage including generalized nicknames using linkage software

ICES: COVID-19 Research on Permanent Residents



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COVID-19 in Immigrants, Refugees and Other Newcomers in Ontario: Characteristics of Those Tested and Confirmed Positive, as of June 13, 2020

Sima Gandhi, MSc Research Program Manager, ICES

Background

- Over the last decade, Canada welcomed 275,000 immigrants as permanent residents per year
- Ontario received nearly 50%, who are critical to Canada's economy and fill many skilled, semi-skilled and unskilled labour market needs.
- COVID-19 infections have disproportionately affected immigrants and certain racialized communities in some countries, including Canada.
- Highlights societal and structural inequalities, placing immigrants and racialized populations at greater risk of COVID-19 infection, and severe outcomes.
- The City of Toronto had released a report which revealed that a disproportionate number of COVID-19 positive residents self-identified as Black, South Asian, Latin American, Southeast Asian and Arab/Middle Eastern/West Asian.

Objectives

- To examine patterns of testing and test results among immigrants and refugees during the initial phase of testing in Ontario, January 15, 2020 through to June 13, 2020.
- We leveraged the longstanding relationship between ICES and IRCC that has allowed the linkage of the IRCC permanent resident files with ICES health administrative data holdings, including COVID-19 testing data.
- The ICES Public Advisory was formally engaged, as they represent immigrants or members of select ethnic communities, playing a role in key decisions related to data analysis, interpretation, contextualization, and presentation of results.



Study Population

- We included all community-dwelling residents, in Ontario, eligible for the Ontario Health Insurance Plan (OHIP), excluding long-term care (LTC) residents.
- The immigrants and refugees represented in this analysis include those who obtained permanent residency between January 1, 1985 and May 31, 2017.
- Individuals born or living in Ontario, without a record in the IRCC database were categorized as 'Canadian-born or long-term resident' (may include those who initially landed in a different province.
- In the absence of immigration data, those who became newly eligible for OHIP coverage after June 2017, were grouped as 'newcomers'.

Immigrants			Resettled Refugees* (Selected through the United Nations Refugee Resettlement Program)			
Sponsored family	Economic class	Economic class	Privately sponsored	Blended visa office-referred	Government-assisted	
	(caregiver)	(other)	refugee	refugees	refugees	
Sponsored by a family member who is a Canadian citizen or permanent resident of Canada and aged 18 years or older.	Selected based on skills and ability to contribute to Canada's economy. Includes live-in caregivers and caregiver caring for children programs.	Selected based on skills and ability to contribute to Canada's economy. Includes skilled workers, business immigrants, provincial or territorial nominees and those in the Canadian Experience Class (a permanent residence category for people with one year of skilled work experience in Canada).	Privately sponsored by organizations, individuals or groups of individuals in Canada. Receive resettlement assistance and income support from the sponsoring individuals or groups in the first year.	Sponsored by a partnership of the Government of Canada, the United Nations High Commissioner for Refugees and private organizations. Receive income support from the federal government in first 6 months and resettlement assistance and income support from private sponsors in the first year. The program started in 2013.	Sponsored by and receive resettlement assistance and income support from the Government of Canada in the first year.	

Protected Persons in Canada		Other	
Refugees* landed in Canada	Refugee* dependents	Humanitarian and compassionate or	Other immigrants
(asylum seekers or refugee claimants)		public policy cases	
Individuals who applied for refugee protection while in Canada and were granted permanent resident status on the basis of a well-founded fear of returning to their country of origin. Not sponsored by the federal government or a private group.	Family members of a protected person in Canada, who were living abroad at the time of application and whose application for permanent residence was considered concurrently with that of the protected person in Canada.	Sponsored and unsponsored individuals who would not otherwise qualify in any category, in cases where there are strong humanitarian and compassionate considerations, or for public policy reasons.	Post-determination refugee claimants in Canada, deferred removal orders and retirees.

*The United Nations High Commissioner for Refugees defines a refugee as "someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion."

Data Sources

Immigration Characteristics:

 Immigration, Refugees and Citizenship Canada Permanent Resident Database

Sociodemographic Characteristics:

- Registered Persons Database
- Postal Code Conversion File
- Ontario Census Area Profiles (2016)

Case Information & Health Care Workers:

 Integrated Public Health Information System (iPHIS) Plus

Testing Data:

- Ontario Laboratories Information System (OLIS)
- DL and PHO Labware

Clinical Characteristics:

- Discharge Abstract Database
- Same-Day Surgery Database
- National Ambulatory Care Reporting System
- Ontario Health Insurance Plan
- Ontario Asthma Database
- Ontario Chronic Obstructive Pulmonary Disease
 Database
- Ontario Diabetes Database
- Ontario Congestive Heart Failure Database
- Ontario Hypertension Database
- Ontario HIV Database
- Canadian Organ Replacement Registry
- Ontario Crohn's and Colitis Cohort Database
- Ontario Rheumatoid Arthritis Database

Analytical Approach

- To capture the heterogeneity among this group, we examined intersecting factors which may have contributed to COVID-19 infection:
 - Recency of immigration
 - Region of birth
 - Language ability* (among recent adult immigrant, aged 25+ years)
 - Level of education* ((among recent adult immigrant, aged 25+ years)
- COVID-19 testing data was obtained from multiple sources with available COVID-19 diagnostic laboratory results in Ontario (including Ontario Laboratory Information System (OLIS), Public Health Ontario (PHO) labware, and laboratories from the COVID-19 Diagnostic Network)
- COVID-19 cases were obtained from the Integrated Public Health Information System (iPHIS), also used to identify those who self-identify or were flagged as health care workers.
- Data were linked to multiple health and demographic administrative datasets to examine baseline sociodemographic and clinical characteristics of Ontario residents by immigration status, as of March 31, 2020 (index).

Proportion of residents tested for COVID-19, percent positivity for COVID-19 in those tested, and per capita positivity in Ontario, by immigration category, as of June 13, 2020



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Percent positivity for COVID-19 in those tested, by world region of birth of immigrants and refugees in Ontario, as of June 13, 2020



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Per capita positivity for COVID-19 among immigrants and refugees in Ontario, by world region of birth, as of June 13, 2020



Overview of health care workers in Ontario confirmed positive for COVID-19, by immigration status, as of June 13, 2020



Proportion of Ontario residents tested for COVID-19 and percent positivity in those tested, by immigration status and neighbourhood income, as of June 13, 2020



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Proportion of Ontario residents tested for COVID-19 and percent positivity in those tested, by immigration status and number of persons per dwelling, as of June 13, 2020



Percent positivity for COVID-19 in those tested among immigrants and refugees in Ontario, by public health unit, as of June 13, 2020

Public Health Unit (PHU) Name 1 Windsor-Essex County Health Unit 2 Chatham-Kent Health Unit **3 Lambton Health Unit** 4 Middlesex-London Health Unit 5 Southwestern Health Unit 6 Haldimand-Norfolk Health Unit 7 Brant County Health Unit 8 Region of Waterloo Public Health 9 Huron Perth Health Unit 10 Grey Bruce Health Unit 11 Wellington-Dufferin-Guelph Health Unit 12 Hamilton Public Health Services 13 Niagara Region Public Health Department 14 Halton Region Health Department 15 Peel Public Health 16 Toronto Public Health 17 York Region Public Health Services 18 Simcoe Muskoka District Health Unit 19 Haliburton, Kawartha, Pine Ridge District Health Unit 20 Durham Region Health Department 21 Peterborough Public Health Unit 22 Hastings and Prince Edward Counties Health Unit 23 Kingston, Frontenac and Lennox & Addington Health Unit 24 Leeds, Grenville and Lanark District Health Unit 25 Eastern Ontario Health Unit 26 Ottawa Public Health 27 Renfrew County and District Health Unit 28 North Bay Parry Sound District Health Unit 29 Timiskaming Health Unit 30 Sudbury and District Health Unit 31 Algoma Public Health Unit 32 Porcupine Health Unit 33 Thunder Bay District Health Unit 34 Northwestern Health Unit



Conclusions

- Findings add to the emerging evidence around important inequities in testing and positivity for COVID-19 infection in Ontario.
- Such systemic inequities have resulted in income disparities and related precarious employment and housing for many immigrants and refugees.
- Highlights the need for public health initiatives to help mitigate the barriers around disproportionate burden of COVID-19 infections.
- Such initiatives may include more accessible testing, workplace safety, and working with organizations that represent high-risk immigrant and refugee communities to address societal and structural issues in short and longer-term.

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Knowledge Translation and Collaboration with Public Health Units

Collaboration with Public Health Units

- In November 2020, ICES collaborated with select Public Health Units with the largest representation of immigrants and refugees, to provide regional level data on COVID-19 testing and positivity. PHUs included Ottawa, Peel, York, Hamilton and Toronto.
- Following the availability of data on vaccine uptake, regional level results were provided to PHUs, with a focus on examining socio-demographic and immigrant characteristics of individuals who were fully or partially vaccinated, or unvaccinated.

Vaccine uptake among Toronto residents, aged 12+ years, as of August 2021, by world region of origin



% Immigrants and Refugees Ages 12+ that are Unvaccinated, by World Region of Origin

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Collaboration with Public Health Units

In particular, there was ongoing collaboration between ICES, the City of Toronto and Toronto Public Health, who engaged in a series of knowledge dissemination activities during the initial vaccine rollout:

- Inter-Local Immigration Partnerships (Inter-LIPs) funded by IRCC, and is a collaborative initiative to enhance local delivery of services and promote use of community resources
- Newcomer Leadership Table included leaders from the city, province and federal government, the community-based sector as well as institutions such as hospitals and school boards involved in providing services to newcomers
- Black Resilience Community Cluster group of community organizations and partners providing services to Black communities that comes together to plan collaboratively and share information on COVID-related work

Collaboration with Public Health Units

Eastern European Vaccine Engagement Teams - Focus Groups for community agencies, community representatives, and cultural service organizations who work with Eastern European communities directly.

Learnings from Eastern European Focus Groups:

- 1. Vaccine Hesitancy & Barriers To Vaccination
- 2. Engagement & Outreach Approaches
 - Leveraging existing trust from community members, cultural representation and languagespecific communication, political representatives, targeting youth, posters, culturally-sensitive pop-up clinics
- 3. Communication Channels & Networks
 - Media, Eastern-European physicians, Polish Canadian Congress, Eastern European grocery stores, religious influencers, online groups

THANK YOU

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COVID-19 VACCINE EQUITY

Susitha Wanigaratne, PhD

Social Epidemiologist & Senior Research Associate Edwin S.H. Leong Centre for Healthy Children

IM/MIGRANTS & VACCINE EQUITY

- Immigrants & refugees in Ontario disproportionately impacted by SARS-CoV-2 infection (ICES report, 2020)
- Immigrants experience unique barriers to vaccination (e.g., susceptibility to vaccine misinformation due to language barriers & transnational networks) (Tankwachi et al, 2020; Crawshaw et al, 2022)

 Globally, few studies examining COVID-19 vaccine uptake among im/migrant children, youth and adults

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Paper #1: Adults

Primary series and first booster coverage among persons with a history of immigration and other residents in Ontario, Canada

Susitha Wanigaratne, Hong Lu, Sima Gandhi, Janavi Shetty, Therese Stukel, Pierre-Philippe Piché-Renaud, Julia Brandenberger, Samiya Abdi, Astrid Guttmann

Ontario's COVID-19 Vaccine Strategy

- High risk neighborhoods allocated additional vaccines
- Location of mass vax & pop-up clinics guided by vaccine data
- *Many* community-driven vaccination efforts took place aiming to reduce barriers and achieve high <u>primary series</u> coverage
- Few policies supporting first booster coverage



Objectives

- Compare primary series (two doses) and first booster coverage (three doses) between immigrants and other Ontarians across socio-demographic, primary care and immigration characteristics.
- Separately examine the association between vaccination status and i) all Ontarians and ii) persons with a history of immigration (immigrants and refugees).

Methods: Key Databases

Immigration, Refugees and Citizenship Canada

> Immigration Refugee & Citizenship Canada (IRCC) Permanent Resident Database Permanent residents arriving in Ontario, January 1985 to September 2020



COVAxON (Dec 2020-March 2022)

Ministry of Health compiles and manages data, Public Health Ontario provides data to ICES

Data elements:

- Date of dose administration
- Reason for administration (e.g., healthcare worker)
- Vaccine product
- Location, responsible Public Health Unit
- Client info

Methods: Study Design, Inclusion, Outcomes



Methods: Exposure, Covariates

Exposure:

- Immigration status (vs. other Ontarians)
- Immigrants were further stratified by region of birth, conceptualized as an imperfect proxy for:
 - Barriers due to social exclusion (e.g., due to racialization)
 - Cultural, religious, language barriers

<u>**Covariates</u>**: age, sex, primary care affiliation, neighborhood income quintile, SARS-CoV-2 risk deciles, immigration category, duration of residence</u>

Descriptive Results

All Ontarians N=11,884,221 Immigrants and Refugees N=2,565,374 (22%)

Immigrants vs. Other Ontarians

- \uparrow <65 years old
- 1 live in neighborhoods in the lowest income quintile

Differences across strata of characteristics

• Few diffs, mostly small for two-doses; many diffs, larger for three-doses



COVID-19 Vaccine Coverage

Descriptive Results Immigrants & Refugees vs. Other Ontarians

- 2 doses more equitable than 3rd doses
- Equity more apparent at higher risk deciles & lower neighborhood income quintiles





Modeling Results (model 2)

Adjusted Risk Ratios (95% CI)

0.25

Pegion of Birth			1	Primary Series	■ First Boost
Central Africa -	-+-			0.54 (0.52-0.55)	0.34 (0.33-0.3
Western Africa	-			0.78 (0.77-0.78)	0.58 (0.57-0.5
East Africa	-	•		0.80 (0.79-0.80)	0.60 (0.59-0.6
Southern Africa		(=_		0.92 (0.91-0.93)	0.90 (0.89-0.9
Middle East	-	•		0.84 (0.83-0.84)	0.65 (0.65-0.6
North Africa		-0		0.81 (0.80-0.82)	0.60 (0.59-0.6
Central America		•		0.84 (0.84-0.85)	0.75 (0.75-0.7
South America		• •		0.90 (0.90-0.90)	0.80 (0.79-0.8
Caribbean	-			0.67 (0.67-0.68)	0.52 (0.51-0.5
North America		(=)		0.80 (0.79-0.80)	0.80 (0.80-0.8
East Asia				0.93 (0.92-0.93)	0.85 (0.84-0.8
Australasia & Oceania		-		0.89 (0.88-0.91)	0.92 (0.90-0.9
Southeast Asia (Ref)			÷	1.00 (Reference)	1.00 (Referen
South Asia			•	0.96 (0.96-0.96)	0.80 (0.79-0.8
Eastern Europe	•			0.62 (0.61-0.62)	0.43 (0.43-0.4
Europe Other		•		0.81 (0.80-0.81)	0.68 (0.68-0.6
	0.50		1.00		2.

					Adjusted Risk F	atios (95% Cl
					Primary Series	■ First Booster
Immigration Category						
Economic Caregiver				-	1.01 (1.00-1.01)	0.97 (0.96-0.97)
Family				•	0.96 (0.95-0.96)	0.85 (0.85-0.85)
Resettled Refugee		-			0.90 (0.90-0.91)	0.68 (0.68-0.69)
Protected Person			-	•	0.95 (0.95-0.96)	0.78 (0.77-0.78)
Other			-	•	0.97 (0.96-0.98)	0.88 (0.87-0.89)
Other Economic (Ref)				÷	1.00 (Reference)	1.00 (Reference)
Duration of Residence					12. 29	
<10 years			-	•	0.97 (0.97-0.98)	0.90 (0.90-0.90)
10-20 years				•	0.97 (0.97-0.97)	0.92 (0.91-0.92)
20+ years (Ref)					1.00 (Reference)	1.00 (Reference)
Primary Care Enrollment						
PC Enrollment + CHC (Ref)				÷	1.00 (Reference)	1.00 (Reference)
No PC enrollment model				•	0.96 (0.96-0.96)	0.91 (0.91-0.91)
No PC care					0.63 (0.63-0.63)	0.55 (0.55-0.55)
	0.50			1.00		2.00

Adjusted Risk Ratios (95% CI)

Adjusted Risk Ratios (95% CI)

Summary & Conclusions

Policies, programs were largely successfully in <u>achieving equity in</u> primary series coverage

"...the Canadian Muslim COVID-19 Task Force, the South Asian COVID-19 Task Force, the Latin American Task Force and Black Health Task Force...were indefatigable...they were going door-to-door setting up bookings and transportation networks to get people to clinics, working with us to set up mobile clinics...a big secret to our success."

-Dr. Lawrence Loh, former MOH Peel region (CBC)

However, wide inequities in 3rd dose coverage

- Need to re-invigorate public health policies and practices to improve three dose coverage and beyond
- barriers/facilitators heterogenous across the diverse group of immigrants (by region of birth) → need to cultivate community participatory engagement strategies

human co vaccinatio	on clinics
Guardian.	By Alexandra Heck Reporter ▲ Wed., May 5, 2021 ⊗ 2 min. read
Toronto	
20 townh scientists	alls later, here's how Toronto's Black ' task force reduced vaccine hesitancy
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New report expl	ores frustrations, concerns of Black Torontonians through pand
Kate McGillivray · CB Toronto · BRAMPT How Bram	C News - Posted: Jun 15, 2021 5:00 AM ET Last Updated: June 15, 2021
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Kate McGillivray - CB Toronto - BRAMPT How Bram one of Can f	CNEWS - Posted: Jun 15, 2021 5:00 AM ET Last Updated: June 15, 2021 ON pton went from a COVID-19 hotspot to ada's most vaccinated communities in average daily cases in Peel were 10 times higher than they are now ews - Posted: Nov 28, 2021 4:00 AM EST Last Updated: November 30, 2021 Mod-the-scenes, back-alley push to get Chinatown vaccinated against COVID-19 in e sure Chinatown doesn't get left behind in push to get vaccines into

2 years ago News 6:25 🚾

The next push to increase COVID-19 vaccinations in Toronto is relying on hyper-focused campaigns in neighbourhoods with low vaccination rates and tailoring the information to the unvaccinated.

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Paper #2: Children & Youth Immigrants, refugees and other Canadian minors: a population-based cohort study

Julia Brandenberger, Raquel Duchen, Hong Lu, Susitha Wanigaratne, Eyal Cohen, Teresa To, Pierre-Philippe Piché-Renaud, Astrid Guttmann

Objective, Study Design

Objectives:

- 1. To understand the characteristics among immigrant, refugee and other Ontario minors (children & adolescents) that are associated with COVID-19 vaccination.
- 2. To inform the continued COVID-19 vaccination strategy.

Design: Population-based cohort study

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Methods: Study Timeline, Inclusion, Outcomes



Methods: Exposure

1. Immigrant status, stratified by generational status

Immigrant status: resettled refugees, protected persons, other immigrants (vs. other Ontario minors)

Generational status

1st generation minors – in the IRCC database

- 2nd generation minors born in Ontario, mothers/birthing parent in IRCC DB (not necessarily related to 1st gen, some siblings)
- Rationale: parents of 2nd gen minors have more experience navigating health systems (since given birth in Ontario)

2. Region of birth, stratified by generational status

Descriptive Results

All Ontario minors N=2.2 million \rightarrow Children N=1,098,749, Adolescents N=1,142,429 Among children \rightarrow 4.8% are 1st gen., 23.3% are 2nd gen. Among adolescents \rightarrow 9.1% are 1st gen., 19.4% are 2nd gen.



Children: COVID-19 vaccine



Children

(4-10 yrs)

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Modeling Results

Other Ontarians (reference) <u>First Generation</u> <u>Second Generation</u>

other immigrants resettled refugees protected persons other immigrants resettled refugees protected persons





	1.00
other immigrants	1.10
resettled refugees	0.88
protected persons	0.99
other immigrants	1.12
resettled refugees	0.72
protected persons	0.98



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Adjusted for rurality, deprivation quintile, COVID 19 neighbourhood risk decile, any pediatric chronic condition, primary care access model, maternal vaccination, flu vaccination, previous COVID-19 infection.

WAY ADVANCING HEALTH EOUITY Modeling Results: Region of Birth

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Odds Ratio (95% CI)

Odds Ratio (95% CI)

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Summary of Main Findings

- Coverage

 in children vs. adolescents, inequities more pronounced in children
- Coverage ↑ in 1st gen. other immigrants, ↓ in 1st and 2nd gen. resettled refugees
- High variation in coverage by region of birth
- Within regions 1st gen and 2nd gen. coverage similar & different; where different, <u>not</u> consistently better coverage among 2nd gen.

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Conclusion

Additional studies needed to understand specific vaccination barriers

Precision public health (incl. community-led) approaches are warranted for:

- continued COVID-19 immunization strategy
- future immunization campaigns

THANK YOU

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The Value of IRCC-ICES Data Linkage for Public Policy Relevant Research and Analysis

Sarah Trottier Director Data Culture Growth and Information-sharing at IRCC







About Immigration, Refugees and Citizenship Canada (IRCC)

Mission: Created in 1994, IRCC and its partners develop and implement policies, programs, and services related to Canada's immigration system. IRCC also supports global migration policies that align with Canada's immigration objectives and humanitarian tradition.

Sectors

- Strategic and Program Policy
- Operations
- Settlement and Integration
- Afghanistan
- Corporate Services
- Finance, Security and Administration
- Digital Strategy, Services and Innovation

Programs

- Citizenship
- Immigration
- Refugee
- Passport Program
- Settlement & Integration
- Temporary Resident

Partners include:

- Other federal departments and agencies
- Provinces and Territories
- International Partners
 - United Nations High Commissioner for Refugees
 - International Organization for Migration

Government of Canada Data Policy context



Research & Data Branch's Role in Repurposing Data

- Transforms interaction-based data into research ready data
- ✓ Provides documentation, technical guidance and interpretation on integrated data assets
- ✓ Expands secure and user-friendly environments to facilitate access to IRCC data
- ✓ Promotes the wider external use and analysis



Relevance for IRCC

- COVID-19 weekly COVID-19 testing and vaccination result tables for immigrants and refugees are used by:
 - IRCC branches including Strategic Policy and Planning Branch (SPPB) and Settlement and Integration Policy (SIP) branch
 - Settlement programs and services tailored to specific population groups.
 - The Privy Council Office (PCO) to inform Prime Minister's Office (PMO).

Future Directions Leveraging the Power of Data

- Temporary resident data (Agricultural workers, International student, Temporary foreign works)
- Immigration Levels Planning on an annual basis with key indicators on topics:
 - Newcomer health outcomes
 - Newcomer children participation in K-12 education system
 - Healthcare use and access by:

Different Permit Holder category (International students, Super Visa Holders, etc)
 Different streams of refugee resettlement (GARs, PSRs, BVORs)

THANK YOU

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Questions?