Educational Session

2828 - Gaining Access to and Collecting Post-Secondary Transfer Data When It Is Not Publicly Available

Leadership and Strategic Planning, Partnerships and Collaboration

In this session, we describe our efforts, over the past 3 years, to develop comprehensive baseline data on transfer in a jurisdiction with strict data protection policies (Ontario, Canada). The presentation will focus on the strategies we employed to develop ‘data workarounds’ and the challenges we faced. While the aforementioned policies are particular to our jurisdiction, we expect that the challenges will be relatable and the solutions (workarounds) customizable to many attendees' local contexts.

Nicolas Boileau, *Researcher*
Melinda Cheng, *Research Data Analyst*
Tina Liu, *Data Analyst*
Henrique Hon, *Quantitative Researcher*
Ontario Council on Articulation and Transfer (ONCAT)

Gaining Access to and Collecting Postsecondary Transfer Data When It Is Not Publicly Available

Henrique Hon, Melinda Cheng,
Nicolas Boileau, and Tina Liu

February 22, 2023

Land Acknowledgement

While we are joining you from Portland today, we acknowledge that we routinely work on land within the traditional territory of many Indigenous nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples. We would also like to acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit. This land is now home to many diverse First Nations, Inuit and Métis Peoples, and we recognize the enduring presence and resilience of Indigenous Peoples who continue to mobilize, live on and care for these lands and its inhabitants.

Agenda

oncat caton

1. The Ontario Postsecondary System
2. Data workaround 1: The DataPilot
3. Data workaround 2: Pathway Evaluation
4. Data workaround 3: Surveys and Interviews
5. Conclusion and Questions

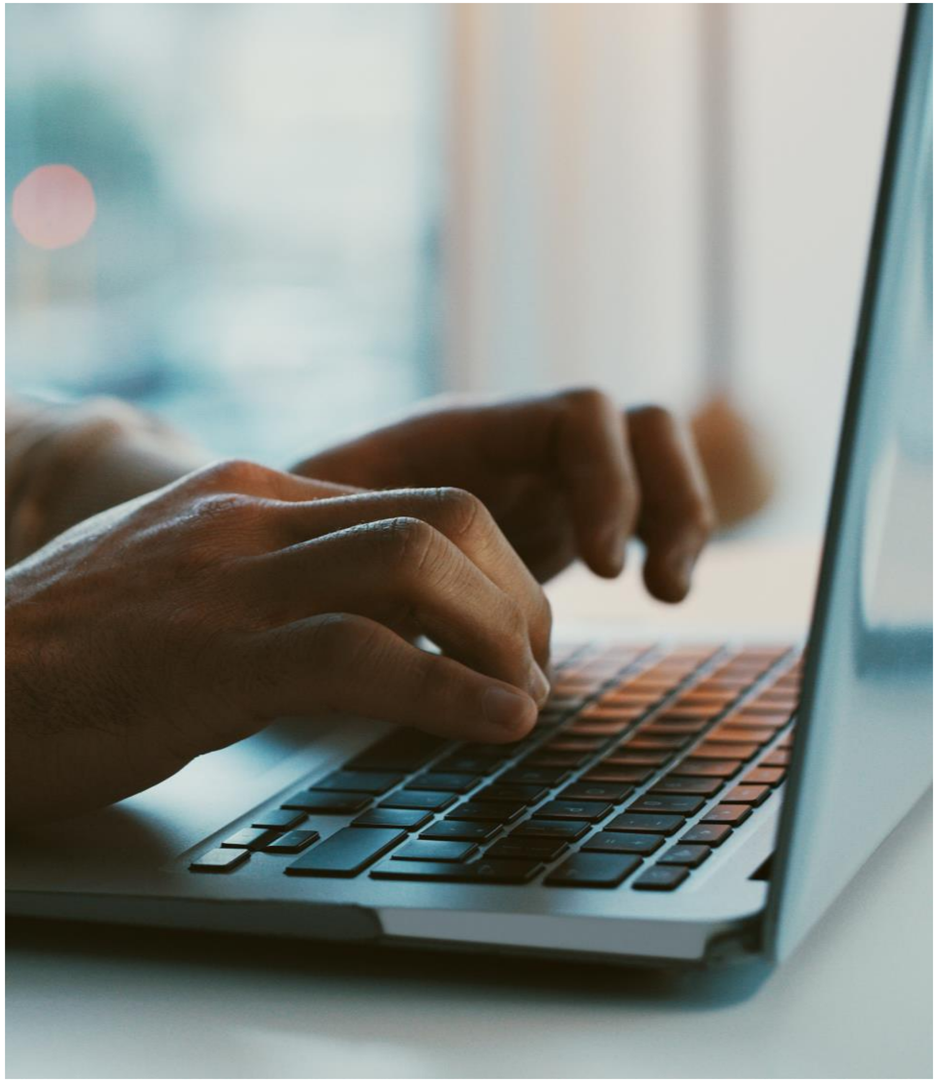
Learning Outcomes: How to...

1	Coordinate multiple data sources (e.g., through data extraction and translation)
2	Engage subject matter experts in a sustainable manner
3	Investigate transfer students' decision making and experience

ONCAT and the Ontario Postsecondary System

oncat

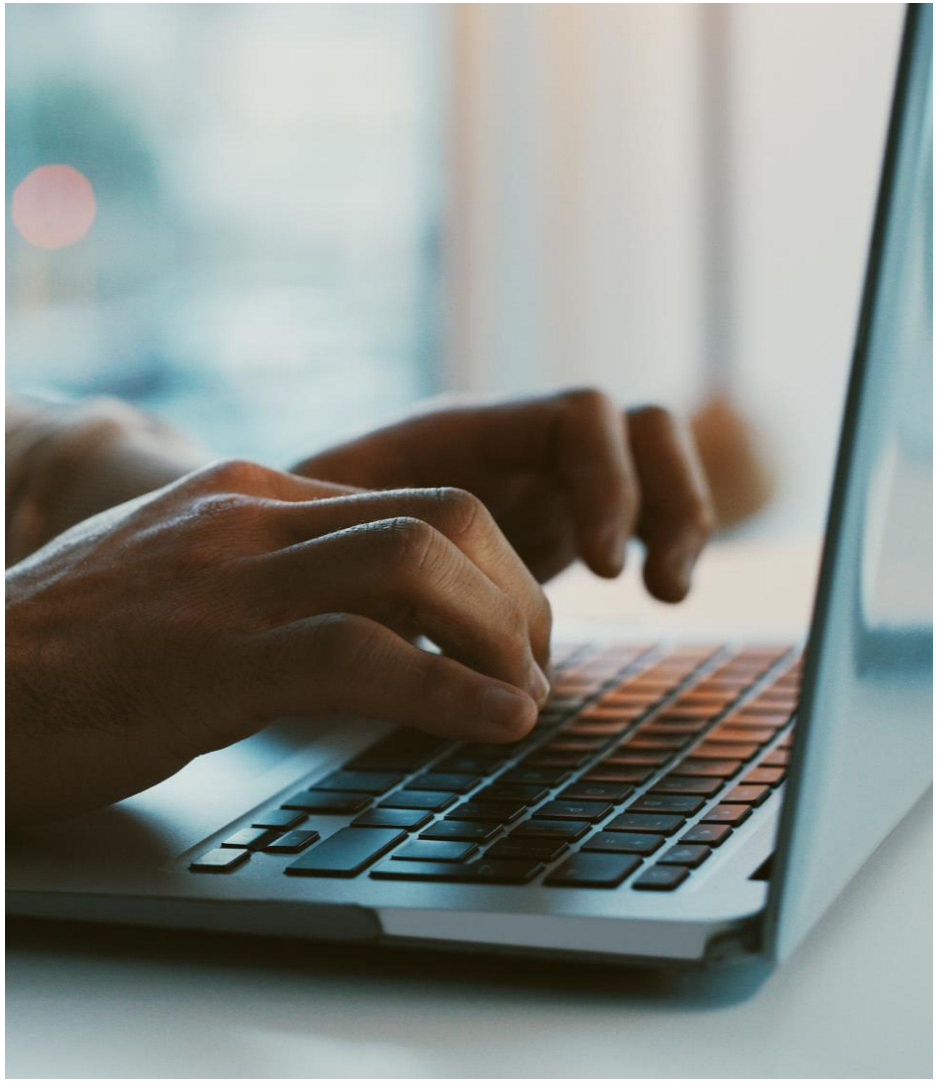
Who Are We?



Our organization, ONCAT, was established in 2011 by Ontario's Ministry of Colleges and Universities (MCU) with the mandate of describing and proposing improvements to the province's postsecondary transfer system.

Since then, our data analytics and research teams have therefore been responsible for providing the MCU and the public with up-to-date information on transfer in Ontario (e.g., time to completion, credit loss).

What Issues Do We Face?

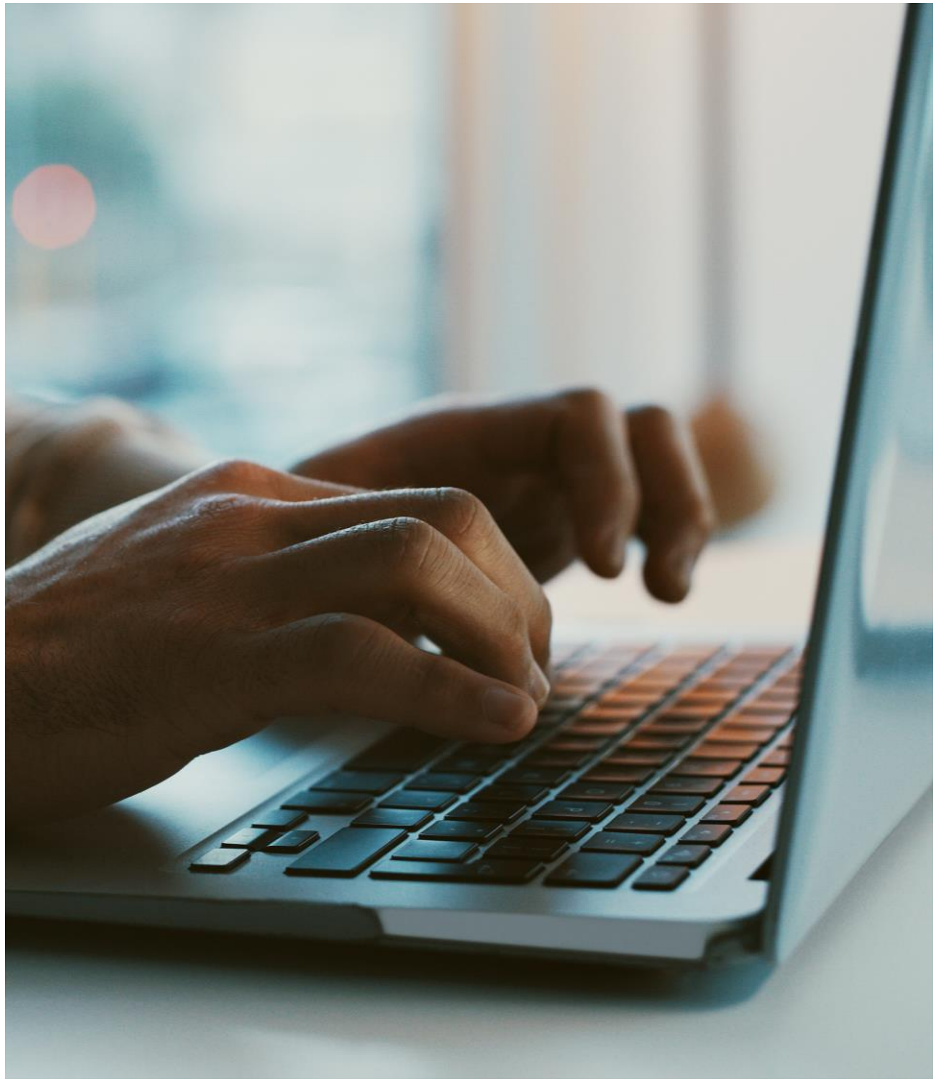


In Ontario, every student is issued a unique identifier—their Ontario Education Number (OEN). This number allows for the tracking of a student's education across time and institutions.

However, the MCU is the only one with access to OEN-linked data and they restrict this access due to privacy concerns.

Lastly, the province also has several definitions of transfer student.

Why Are We Here?



We (and others) have therefore needed to find innovative ways to answer important questions about transfer. This has included:

- Proposing a universal definition of "transfer student"
- Connecting program information and pathway information (program-based and course-based)
- Collecting student-level, longitudinal, cross-institutional data

In this presentation, we describe three projects with these goals.

The DataPilot

oncat

What is the DataPilot?

Ground-up strategy to address data gaps and lack of access to student level data

More encompassing definition of transfer than existing data sources

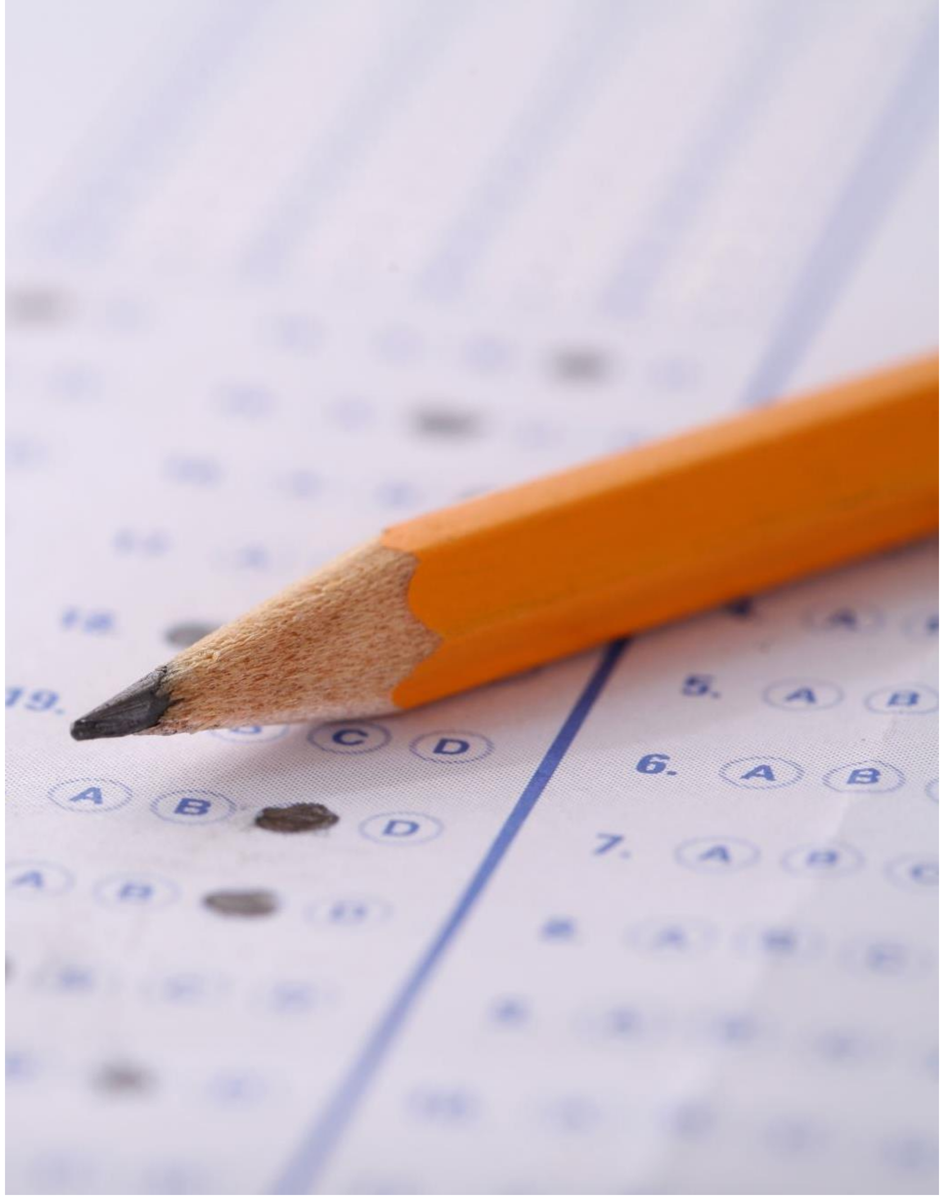
Funding accountability and evidence-based planning

14 participating institutions to date, and growing

There are gaps in what we know about students...

Information exists, but is **not readily available or utilized**

What Data is Reported?



5 -10+ years of student records
Anonymized, at the student level
One record per reporting year

Broader inclusion of 'transfer students'

Linkage to pathways

oncat caton

Data Structure

Student Demographics	Educational Journey	Performance
✓ Age ✓ Gender ✓ Mother tongue ✓ Birth year ✓ Immigration status	✓ Sending school ✓ Sending program/credential ✓ Receiving school ✓ Receiving program/credential ✓ Type of transfer ✓ Agreement and transfer policy data	✓ GPA ✓ Graduation date ✓ Cumulative GPA ✓ Admitted GPA (prior to transfer)

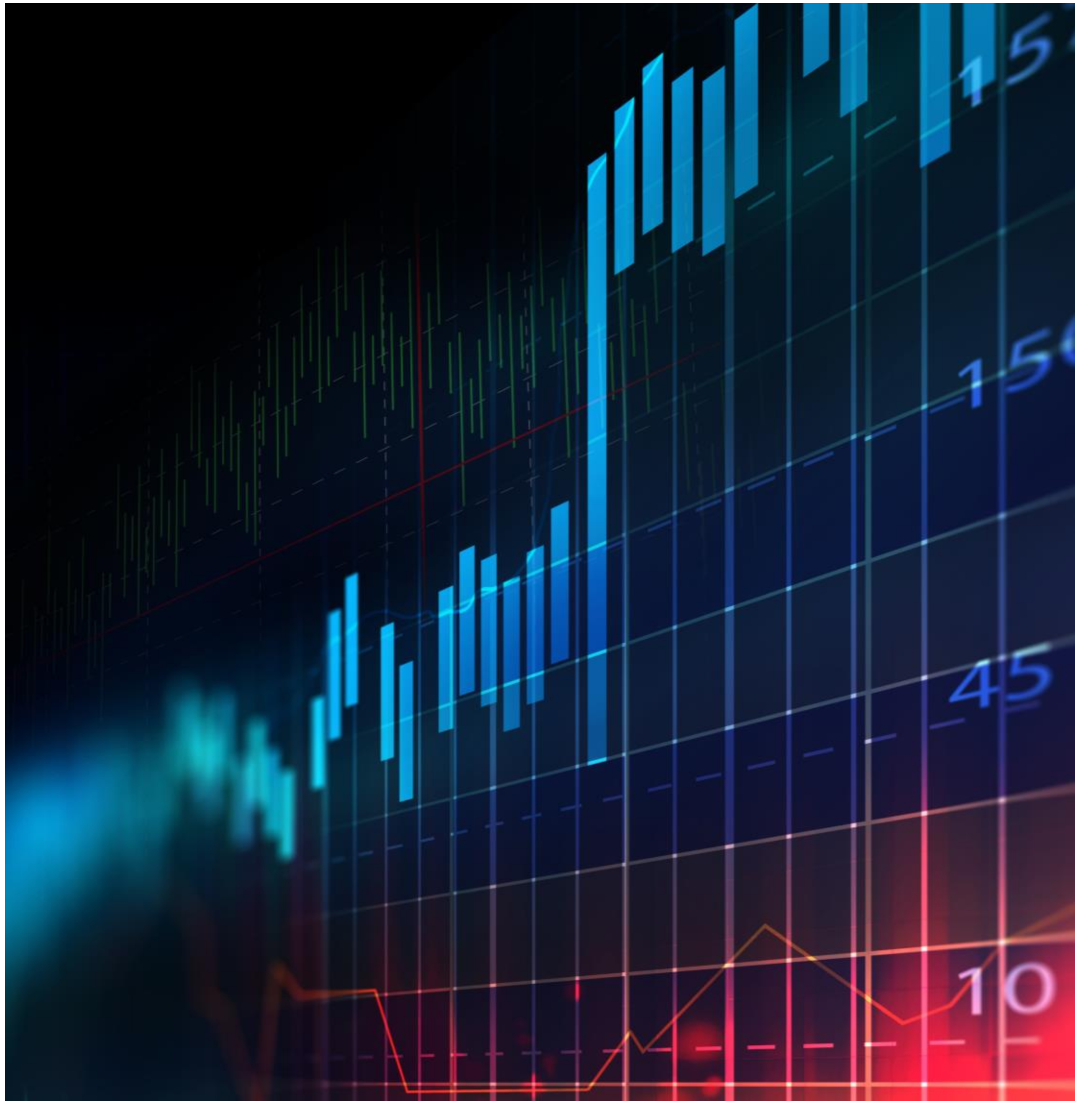
Data Uses - Basic Analyses

Identified top sending schools, and historical trends

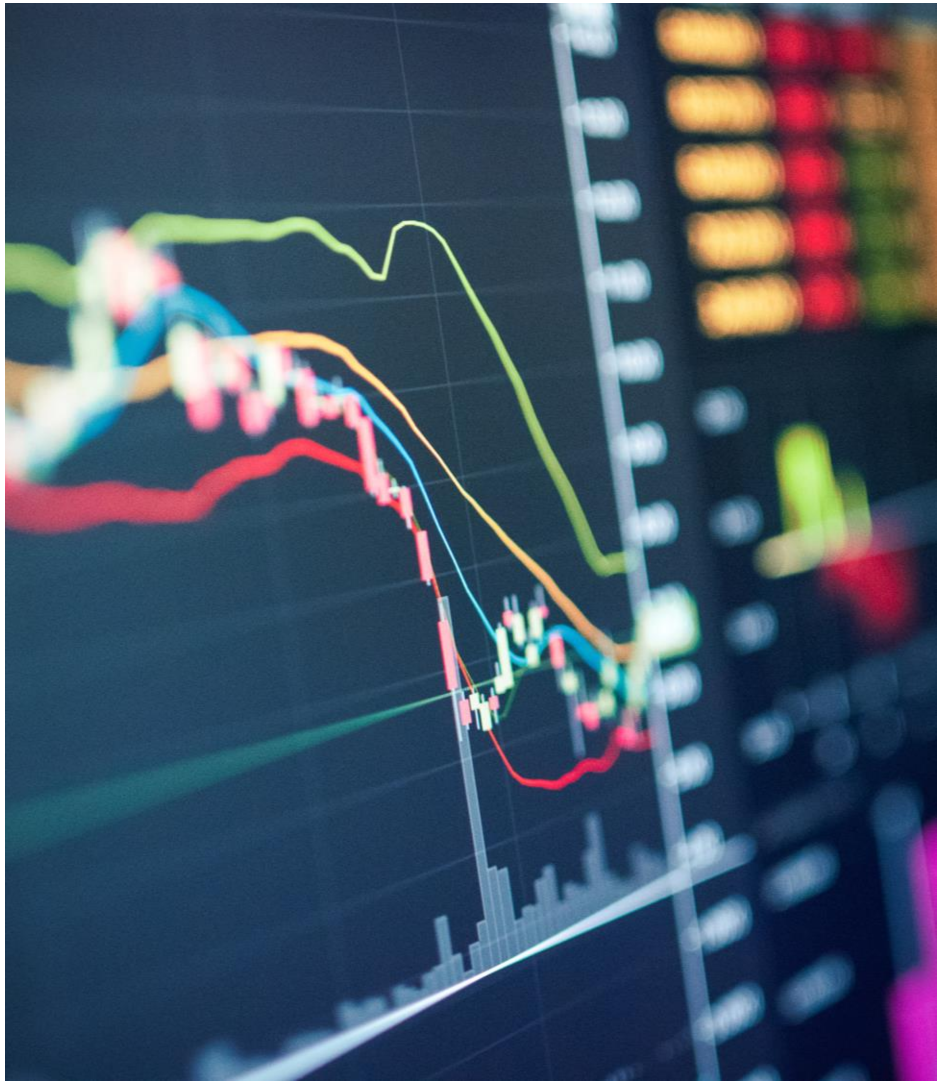
Identified top sending and receiving programs

Demographics of student population by transfer source:

- E.g., gender, age, graduation rate, enrollment status, immigration status, credential type, first year GPA



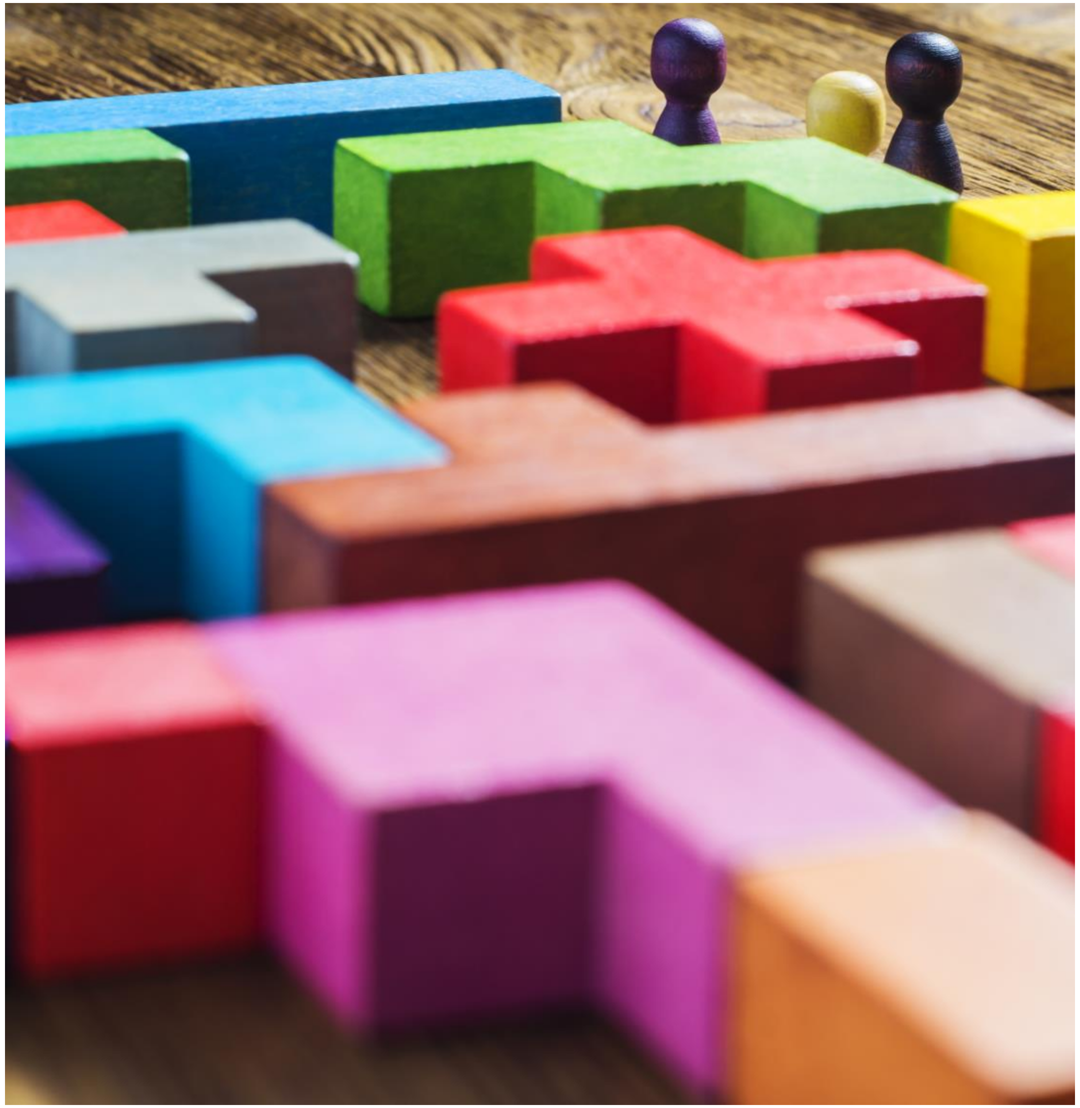
Deeper Analysis



- Performed regression analyses on the student data to draw out greater nuance
  - To tease out more specifically the factors that impact transfer student success
  - Using graduation rates, and first year GPA as predictors of student success
- Controlled results using students' demographics
  - E.g., gender, immigration status, credential, age, enrollment status, transfer credits awarded, etc.
  - Transfer students are different from direct-entry students demographically, so if we control for these aspects, we can learn more about what specifically influences student success

Challenges

- Finding the data
  - More specifically, finding who has the data
- The data can be messy
  - Needs significant cleaning
- Definitions
  - E.g., cumulative GPA: What counts?



Significance

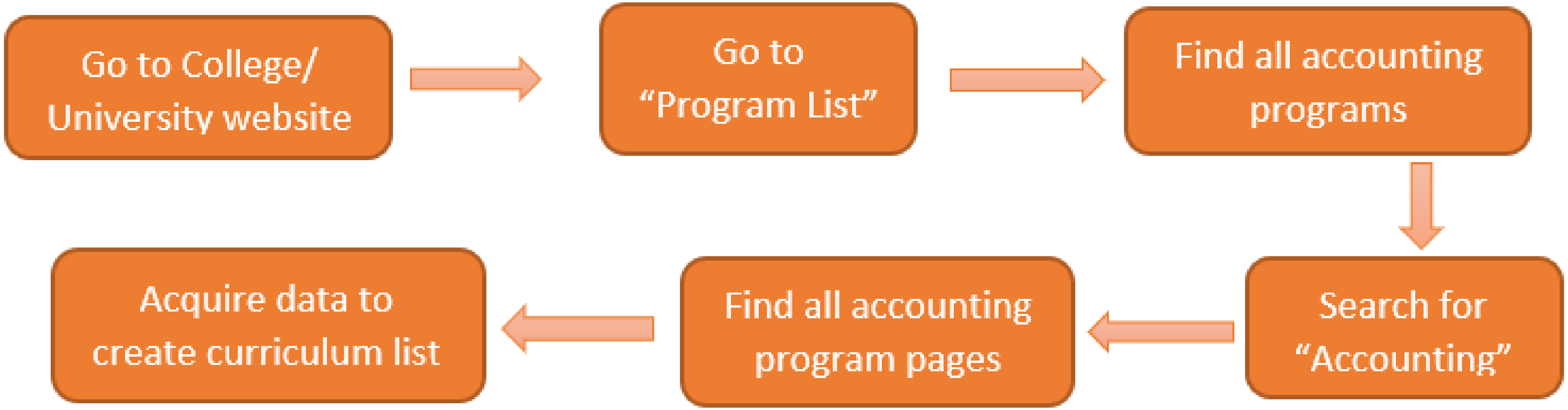
Institutional Benefits	System Benefits
Strengthen reporting capacity & make data accessible	Better data for system level analysis
Present an accurate picture of Transfer Students	Better view of Institution's capacity in transfer system reporting
Support future data reporting needs	Data informed funding planning

Pathway Evaluation

Problems

EXPANDING TRANSFERABILITY OF 101 CORE COURSES **(Transfer within like programs in same sector)**	○ How do we measure transferability? At the discipline/program level, and course level? ○ How do we go about determining the core courses? ○ Are there enough 'paved' pathways (course-to-course or program pathways) to reach the 100% transferability for accounting, marketing and social work/services?
SCALING-UP IN-DEMAND STUDENT PATHWAYS	○ How do we measure in-demand? What are some of the top transfer student mobility patterns? ○ Can we compare the transfer student movement with available 'paved' pathways (course-based and program-based pathways)? ○ How many students transferred within the Accounting, Marketing and Social Work/Services disciplines?

Data Collection



Datasets

Program Curriculums	ONCAT Maintained Databases	MCU Student Mobility Data
✓ A prescribed list of courses to ensure students achieve depth and breadth requirements towards a specific academic program.	✓ The course-to-course database contains transfer rules at the course level (course equivalencies). ✓ The Pathway database contains information about transferring from a program at one institution to another program at a different institution.	✓ Aggregated OEN linked student mobility data, suppressed for small cell count of less than 10. ✓ Current analysis is based on the data from 2016/2017-2020/2021.

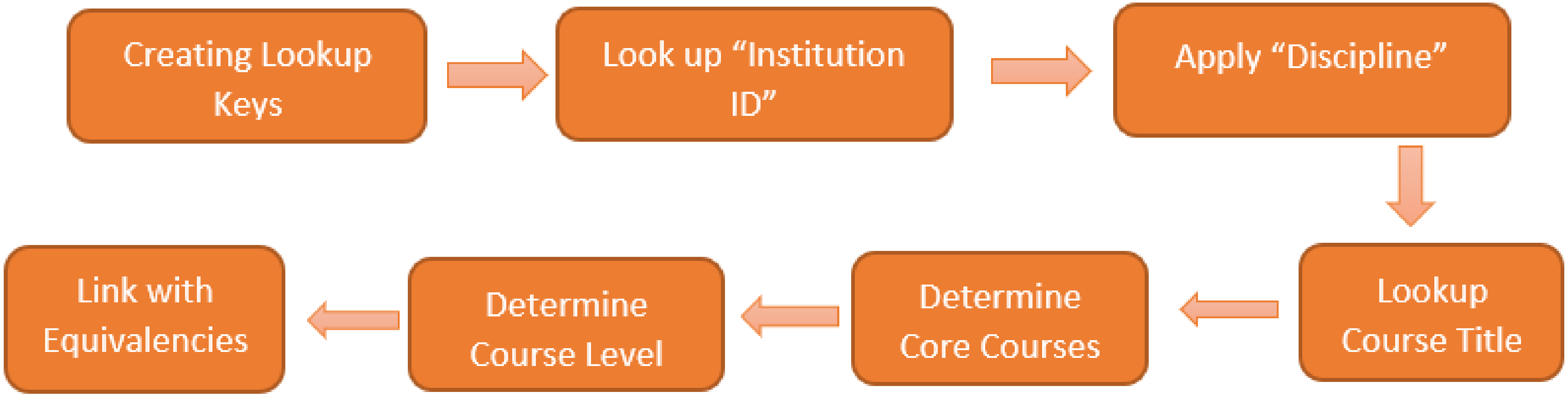
Making Data Useable

- Core Course Nomenclature

	Year 1 Courses (using the common label for courses)		
Discipline	Major Core	Program Core	Non-Core
Accounting	Financial Accounting Fundamentals	Communication Math Microeconomics	Taxation, Business Fundamentals, Human Resource Management, Micro/Macroeconomics
Marketing	Introduction to Marketing	Introductory to Accounting Business Writing Business Math Business Computer Application	Advertising, Management, Calculus, Advanced Marketing
Social Work/Services	Introduction to Social Work	Social Welfare and Policy Analysis Introduction to Sociology Introduction to Psychology Field Work and Seminar	Communication and Writing Indigenous Studies

Making Data Useable

- Data transformation/cleaning



Data uses

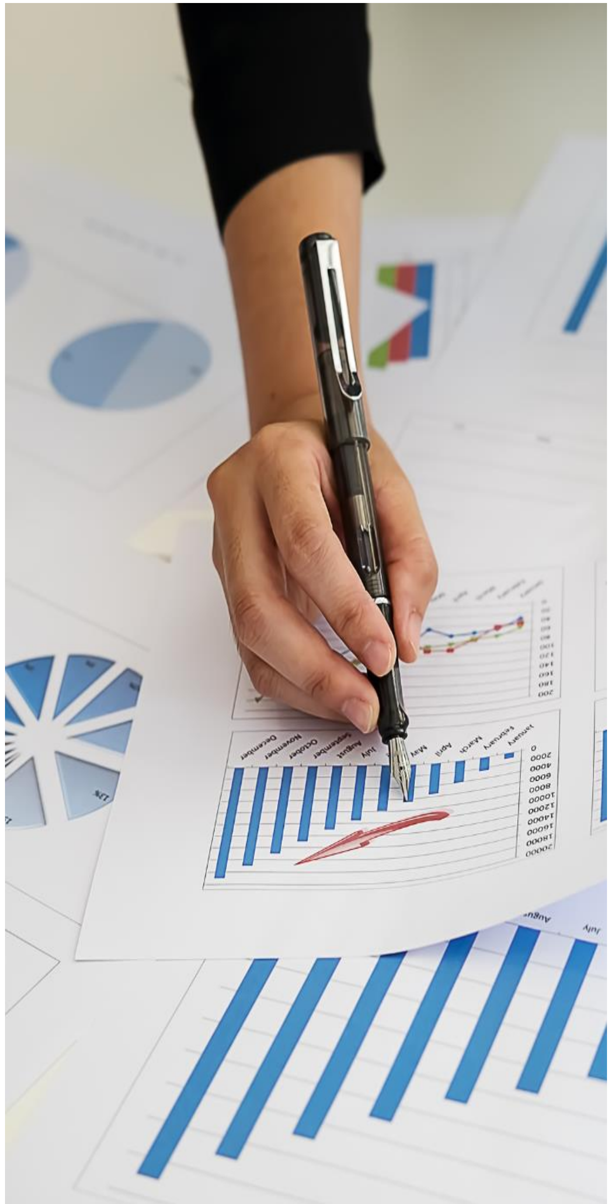
Exploratory Practice

Find out to what extent Accounting/ Marketing/ Social Work have established pathways and/or equivalencies so that they can be fully transferred towards credentials (in the same discipline) at receiving institutions (within the sector).

Provide Recommendations

Through comparison of three different data sources, we can draw implications from the discrepancies for institution planning and pathway development.

Challenges



Data nuances

- Nomenclature
- The current enrolment data is highly suppressed and limiting
- Data gaps

Transferability issues

- Differentiation of courses/ programs
- Accreditation

Intensive Manual Work

- Curriculum
- Derived fields

oncat caton

Significance

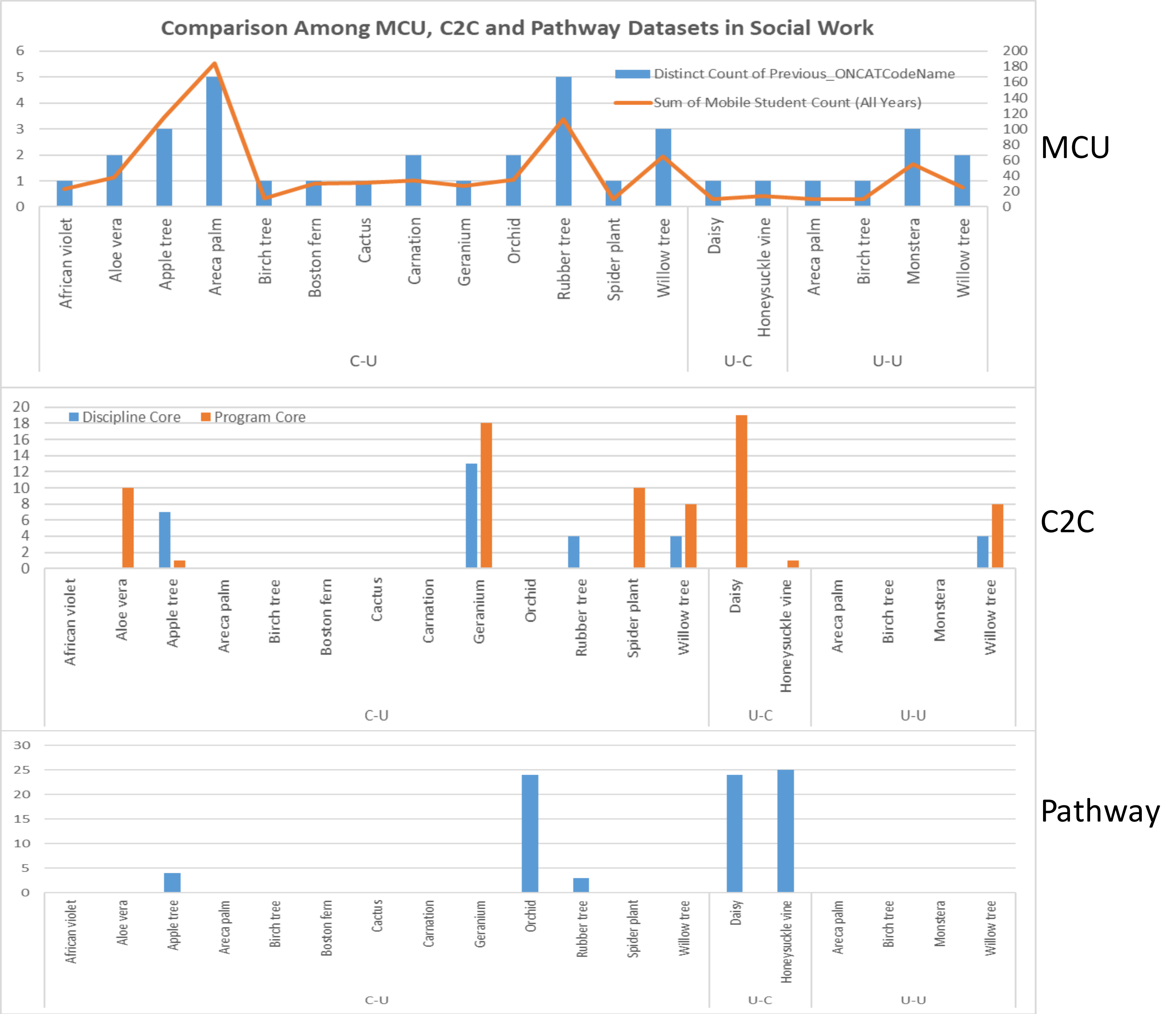
MCU database: student behavior

C2C database: student demand

OR

Transfer pathway: institution planning

Comparison among 3 datasets



Surveys and Interviews

oncat

Problem

- Lack of longitudinal data on transfer student decision making and experience.

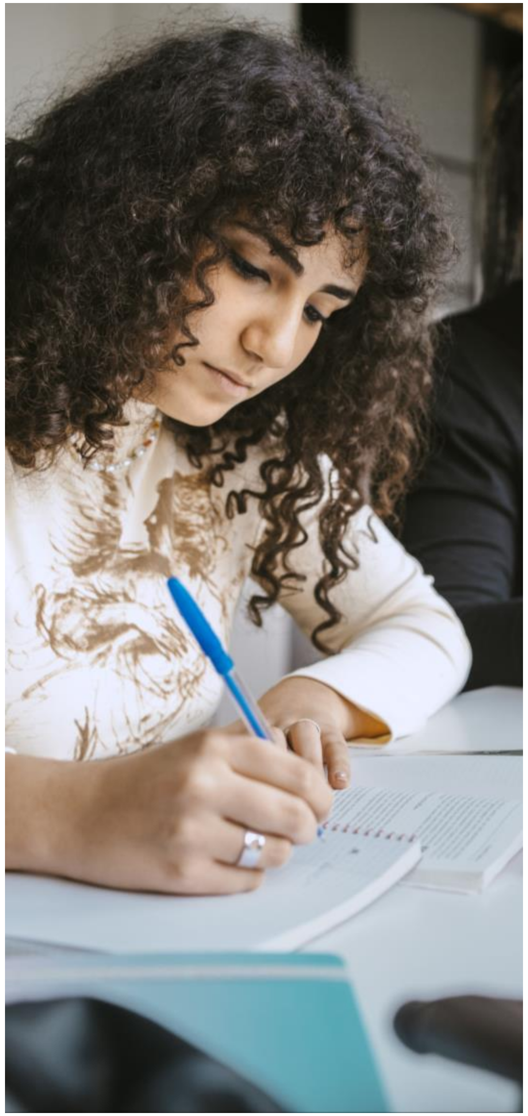
- Therefore, since 2015 (with a break during the pandemic), ONCAT has been conducting surveys and interviews to these phenomena

  - Between 2015 and 2018, we hired research firms to design and conduct the data collections, as well as to analyze the data, given that we did not have internal capacity to do so

  - In September 2021, we launched our own longitudinal mixed-methods study

Data Collection: Stage 1

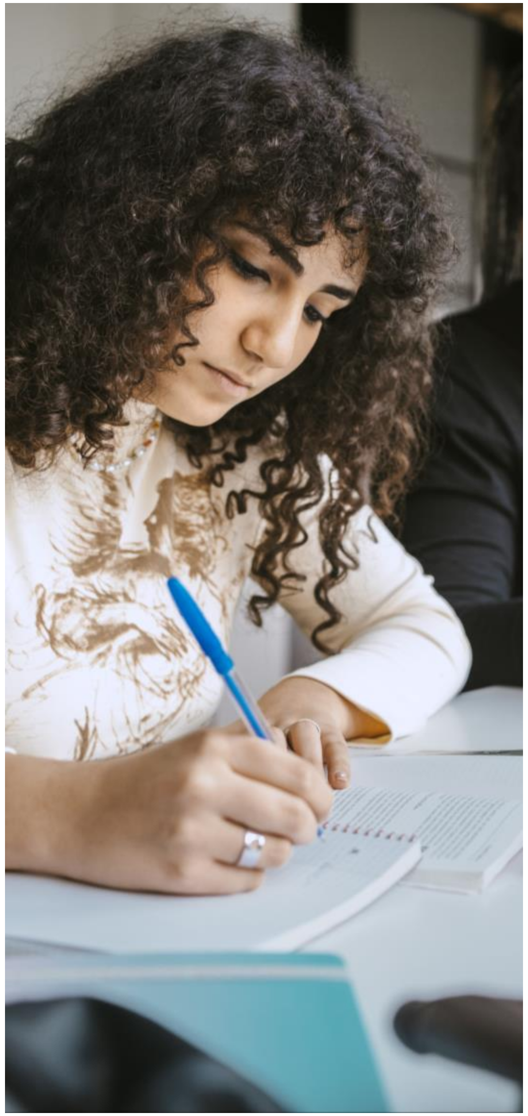
- The first stage of the study consists of a survey and follow-up interview about (prospective) transfer students' intentions—the Transfer Intent Survey (TIS) and Transfer Intent Interview (TII)
  - The TIS questionnaire includes questions about...
    - where participants intend(ed) to transfer from and to
    - the factors that influence those decisions
    - the sources of information that they consult(ed)
  - The TII protocol includes questions about
    - how participants weigh the factors that draw them to, and away from, each of the programs and schools that they intend(ed) to transfer to
    - what try to learn from each of the sources of information that they consult and how they interact with those sources



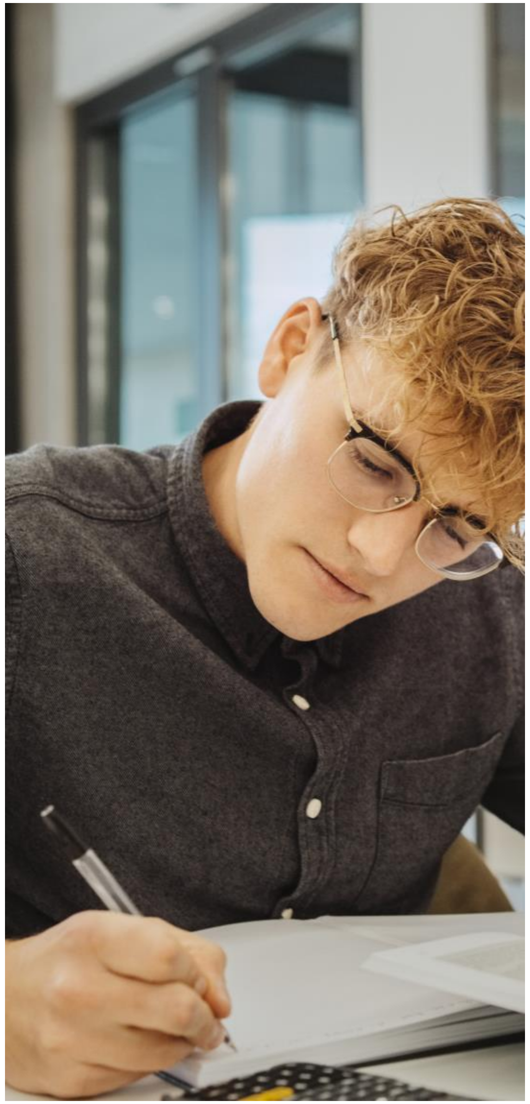
Data Collection: Stage 1

- Participants are invited to participate in the TIS when they visit ONTransfer.ca—a website that we developed with inform on transfer in Ontario

- We will continue to administer the TIS until Summer 2023 and have thus far received nearly 2500 responses. During Winter and Spring 2022, we conducted 53 TIIs.



Data Collection: Stage 2

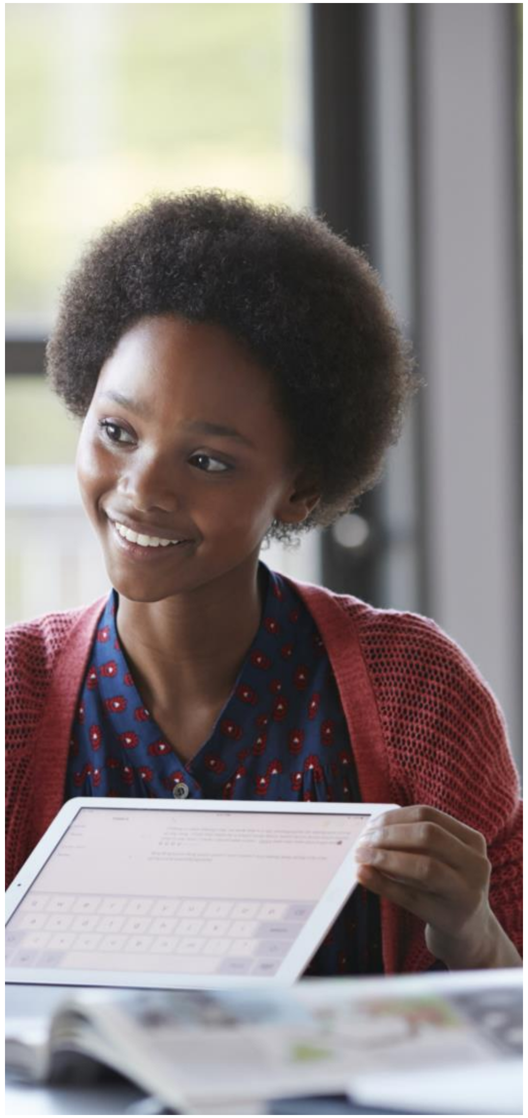


- The second stage of the study consists of an interview about transfer students' experience applying for credits to be transferred to their new programs—hereafter, the Transfer Application Interview (TAI)

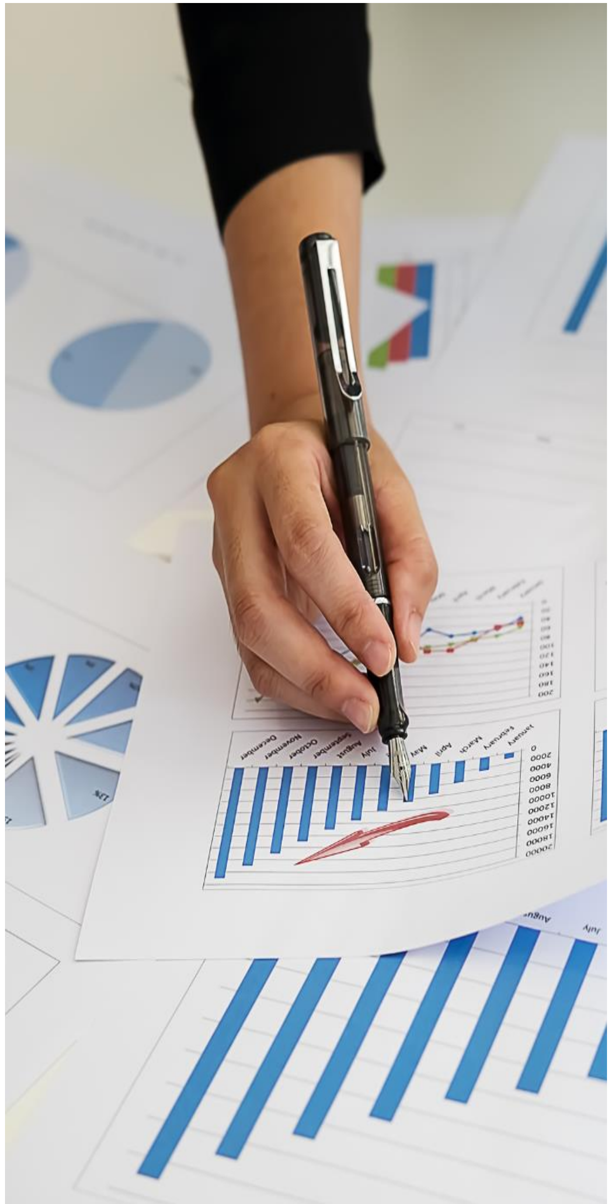
  - More specifically, the questions are about the sequence of events, the materials requires, fees paid, and both what they found easy and challenging about the process
  - If time allows, we also ask them whether their reasons for choosing their new program changed since the TII or whether they consulted any other sources of information and why
  - We conduct these interviews with TII participants once they have enrolled in their receiving programs and received their final transfer credit assessment

Data Collection: Stage 3

- The first stage of the study consists of a second survey and third interview—hereafter, the Transfer Experience Survey (TES) and Transfer Experience Interview (TEI)
  - The TES questionnaire will include questions about...
    - participants' experience applying for credits to be transferred to their new programs, as well as their reasons for choosing their new program and sources of information consulted to see if those changed
    - their experience during their first year in their receiving programs (i.e., transfer shock)
  - The TEI protocol will focus on the latter (since we would have asked about the former in the TAI)
  - Participants are invited to participate in the TES and TEI one year after enrolling in their receiving program



Data Collection



Surveys:

- Our internal research team designed the TIS and are designing the TES with York University's Institute of Social Research (ISR)
- York's ISR administers both for us

Interviews:

- Our internal research team designed the interview protocol and is conducting the interviews.

Analysis:

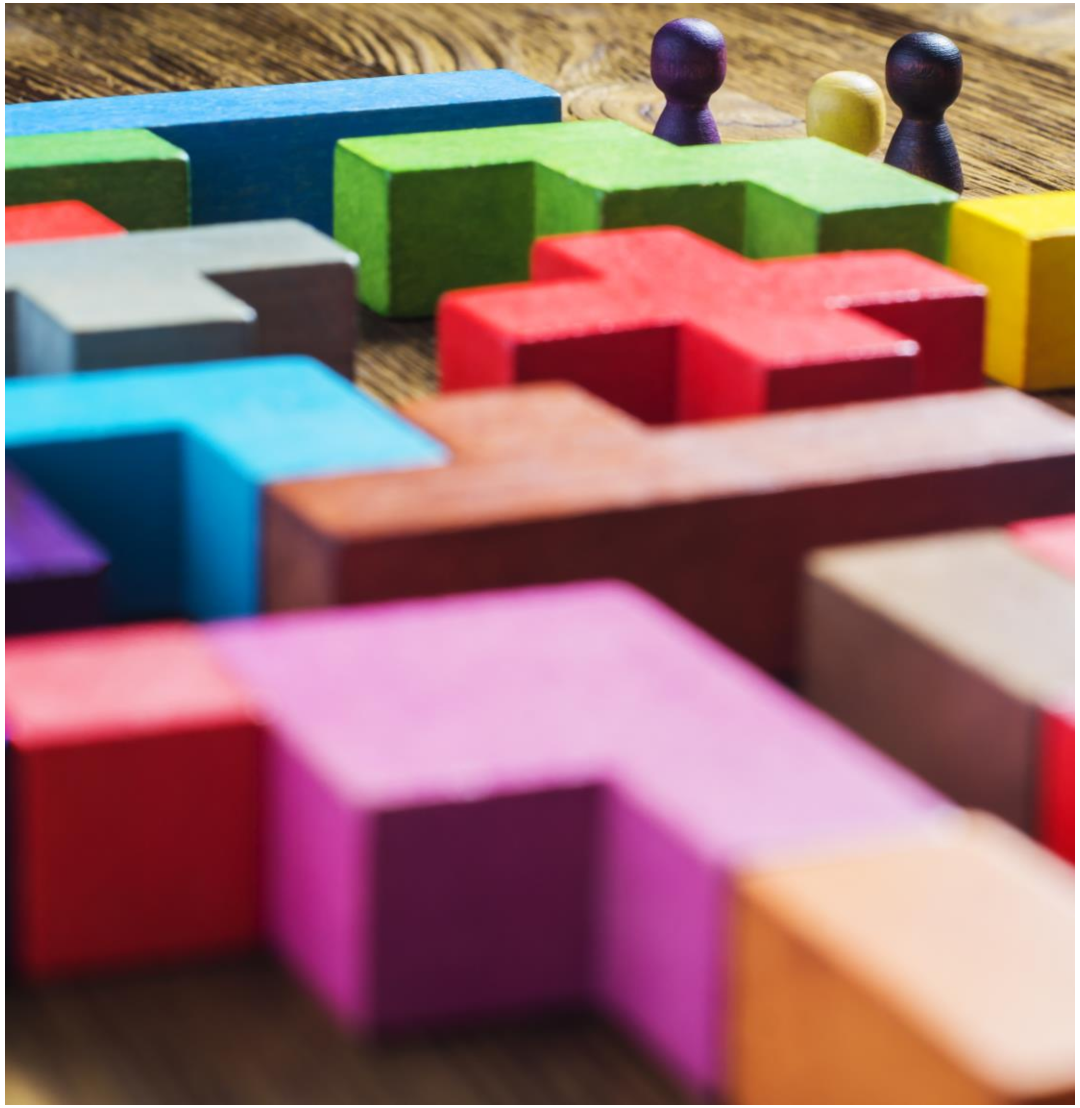
- To date, we have been the only ones analyzing the survey and interview data, as well as writing reports and giving presentations on the data.

Making the Data Useable

TIS	TII
York's ISR cleans data for us (e.g., removes invalid responses, recode open-responses that fit one of the closed-response options)	We use a service to transcribe the audio recordings of the interviews

Data Uses

- Stage 1 data is being used to gain important insights on where students transfer and why
- Stage 2 data is being used to identify issues with certain transfer credit application and assessment processes
- Stage 3 will be used to understand elements of transfer students' experiences that are often studied outside Ontario (e.g., transfer shock) and students' reflections on their transfer journeys



Challenges

- Significant demands on time and expertise required to design the survey and interview questionnaires, collect and analyze data

- Identifying transfer students: While our current sense is that the sample is representative of the students that visit Ontransfer.ca, the proportion of students that intent each type of transfer (C-U, U-U, U-C, and C-C) differ from those reported in studies with likely more representative samples (e.g., Davies, 2022)

Significance

- There is very little publicly-available data on prospective transfer students' intentions and experiences applying for transfer credit in Ontario

- While there is more publicly-available data on transfer students' experiences at their receiving institutions, most of it is cross-sectional

- Therefore, from this study, we stand to gain unique insights on the transfer process from the students' perspective

- This will be useful in informing both informing transfer policy and practice (e.g., of transfer advisors), as well as applied transfer research

Summary and Conclusion

oncat

Summary

	DataPilot	Pathway Evaluation	Surveys and Interviews
Problem	Data exists, but no access	Gaps	Lack of longitudinal data on transfer student DM & experience
Data collection	Easier (for us), Harder (for institutions)	Harder	Harder
Making data useable	Harder	Easier	Easier for us, harder ISR
Data uses	Identifying factors that determine transfer student success	Comparative analysis, identify transferability gaps, provide recommendation for institutions	Understanding transfer students' decision making and experience
Challenges	Combining and cleaning data	Data nuances, need to explore additional data sources	Human resource and cost
Significance	Strengthening system and institutional reporting capacity	Promote data sharing from ministry & institutions; facilitate pathway development	Data on transfer students' decision making and experiences can be used to determine how we can best support them

Conclusion

- As evidenced, we've been able to collect and make use of various types of transfer data, despite the challenges of our context.
- This data is essential to our organization's goals of both describing and proposing improvements to transfer among Ontario’s colleges and universities.

Conclusion

- We have learned a lot through this process, including:
  - the importance of consulting multiple subject-matter experts (e.g., IT, registrars office, faculty, academic departments, research ethics boards)
  - the amount and types of efforts needed from institutions to collect and curate consistent transfer data, in particular by smaller and less well-resourced institutions
  - the complexity of developing data from disparate sources
  - the investment required to help institutions learn about the various ways they can collect and harmonize student-level data

Conclusion

- While we imagine these data workaround might be useful to members of the audience encountering similar data issues, we see it as equally important to learn how the issues could be avoided.
- In particular, we argue that these could largely be avoided by providing researchers access to student-level, longitudinal, cross-institutional data.
- That said, we recognize that there is always a tension between the data needs of researchers and privacy concerns.

What are your thoughts on how to resolve this tension?

Questions?

oncat

oncat

Ontario Council on Articulation and Transfer

www.oncat.ca