



# Using the Education and Labour Market Longitudinal Platform (ELMLP)

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Delivering insight through data for a better Canada



Statistics  
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# OUTLINE

- **Education and Labour Market Longitudinal Platform's components**
- **The ELMLP products and users**
- **Communication and outreach**
- **Labour market outcomes of graduates**
- **Postsecondary student pathways**

# ELMLP - underlying principles

## Relevance

- Strengthen the relevance of information available to Canadians

## Filling data gaps

- Meet increasing demand by stakeholders to fill in important data gaps

## Reduce respondent burden

- Align with Statistics Canada's vision for bringing data together and reducing the burden on Canadians

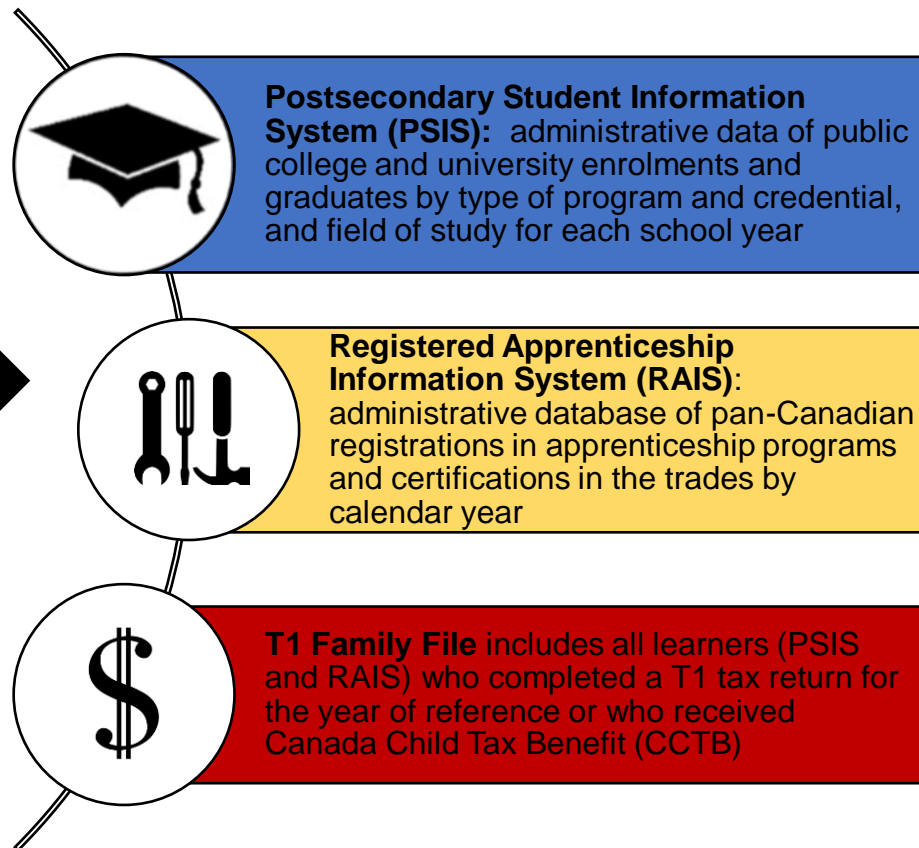
## Timeliness

- Be ready to provide timely data when it is needed

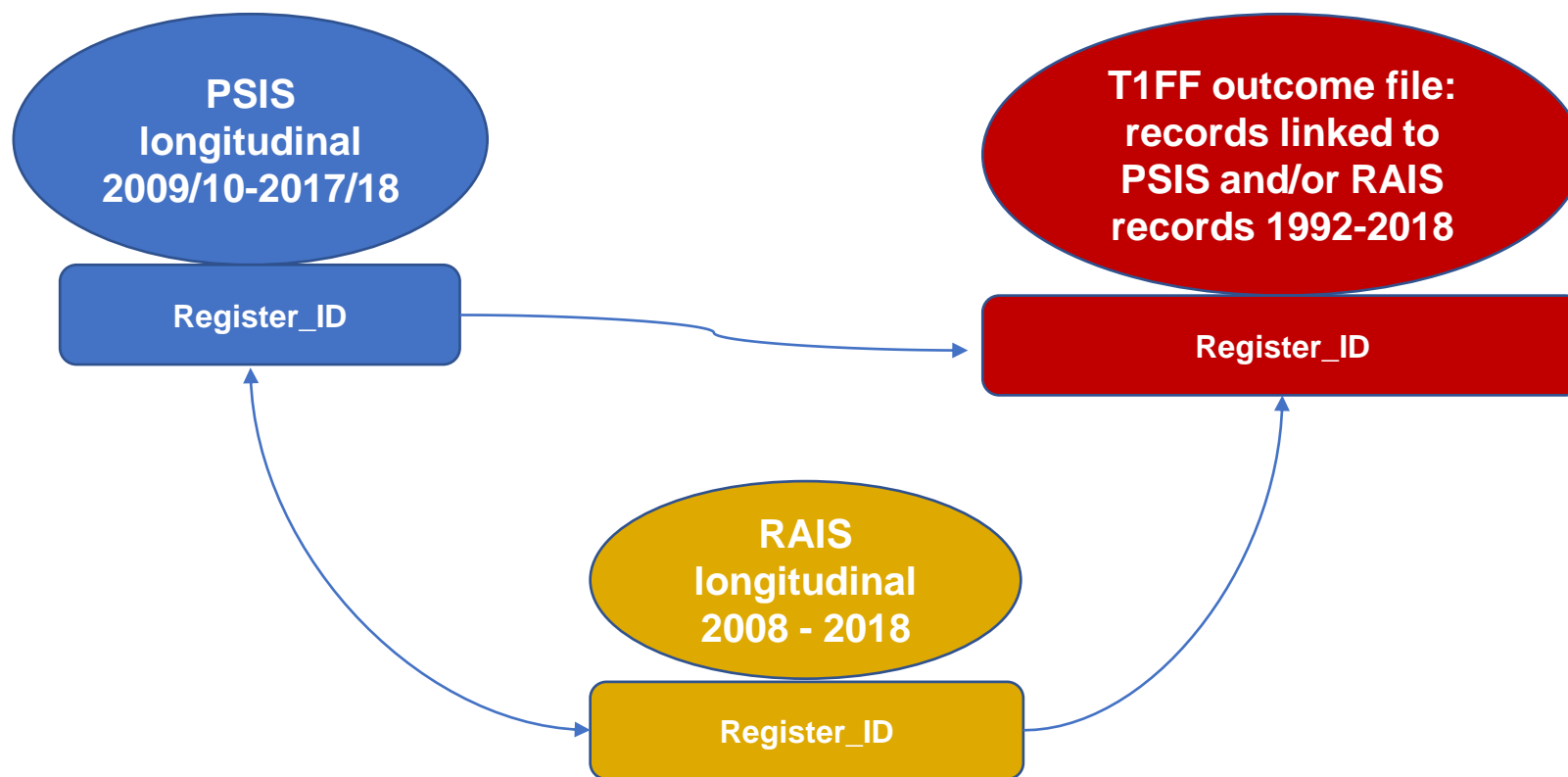
# ELMLP – the core

ELMLP is a platform of securely integrated datasets which are longitudinal and accessible for research and statistical purposes

Core  
datasets



# ELMLP – the longitudinal core



# ELMLP – the supplementary datasets

ELMLP is a **platform of securely integrated datasets** which are **longitudinal and accessible for research and statistical purposes**

Supplementary  
datasets



**Canadian Student Loans Program (CSLP)**

**Canadian Education Saving Plans (CESP)**

**British Columbia elementary-secondary data (BC K-12)**

**EI vector (EI)**

**Canadian Apprenticeship Grants (CAG)**

**Canadian Apprenticeship Loans (CAL)**

# ELMLP – the supplementary datasets

ELMLP is a platform of **securely integrated datasets** which are **longitudinal and accessible for research and statistical purposes**

Supplementary  
datasets



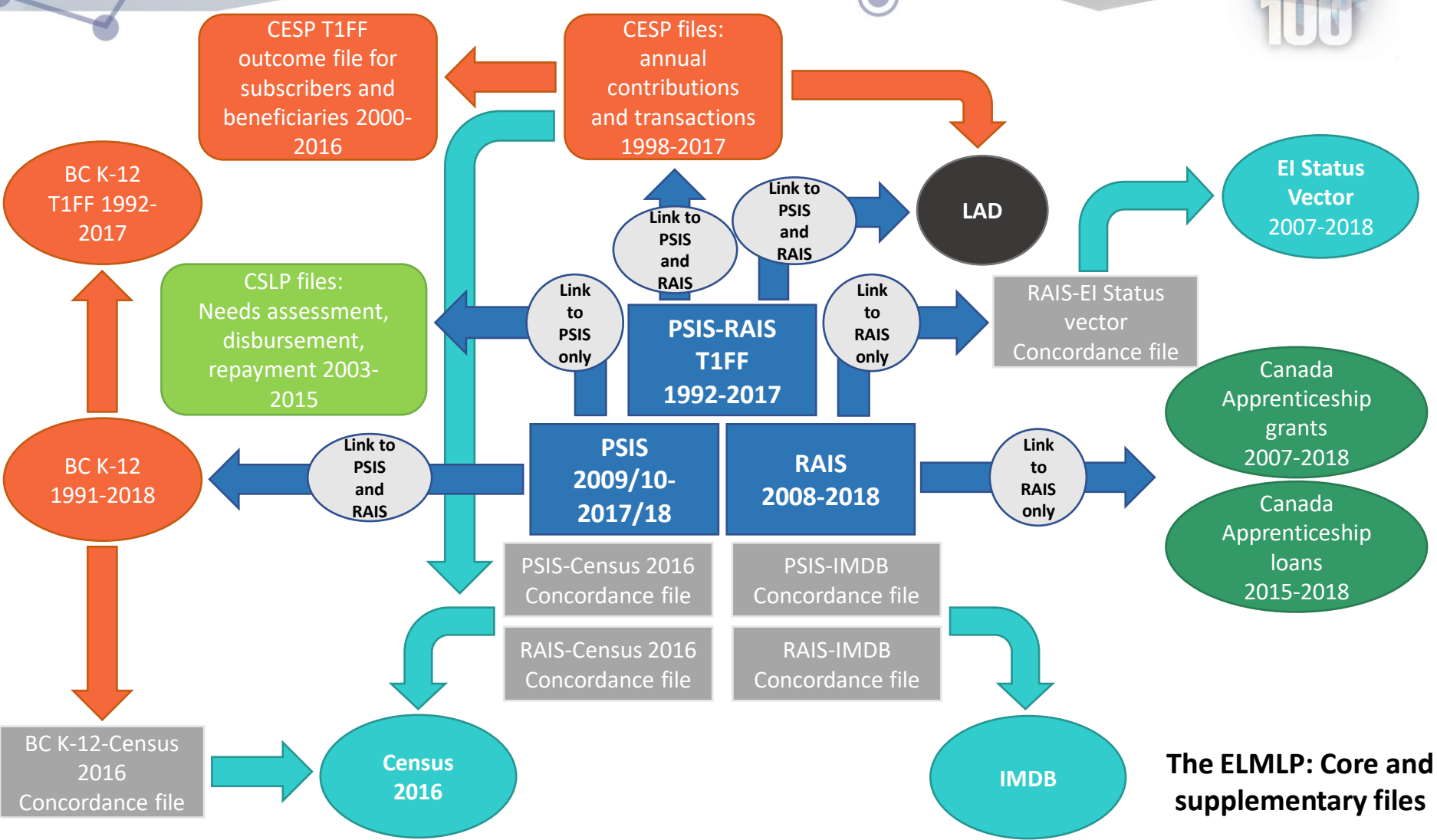
**National Graduate Survey  
(2018)**

**National Apprenticeship  
Survey (2015)**

**Longitudinal Immigration  
Database (IMDB)**

**Census-person long form  
(2016)**

**Longitudinal Administrative  
Databank (LAD)**



**The ELMLP: Core and supplementary files**



# Supplementary datasets to come

- **T2202 Tuition and Enrolment Certificate**
- **Canadian Emergency Student Benefit (CESB)**
- **Canadian Emergency Response Benefit (CERB)**
- **Atlantic K-12 data**

# Products from the ELMLP

- **Indicators**

- Annual releases provide data tables about ELMLP indicators (graduate outcomes, student pathways, mobility, etc.) broken-down by some variables (gender, age group, student status, educational qualification, field of study).

- **Analysis**

- The Daily, Infographics, analytical papers

- **Microdata files**

- Accessible through the network of Research Data Centres (RDCs)

# Indicators



Labour market outcomes



Pathways

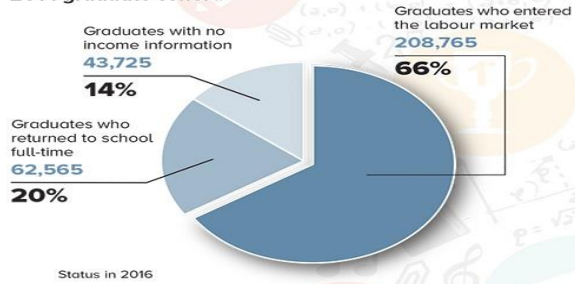


Mobility

By integrating Postsecondary Student Information System (PSIS) data with other administrative data on earnings, Statistics Canada is able to derive median<sup>1</sup> employment incomes for graduates of Canadian public postsecondary institutions and follow the earnings over time.



**208,765** postsecondary graduates, aged 15 to 34, entered the Canadian labour market from the 2014 graduate cohort.



The two fields of study with the highest median employment income for the 2014 graduates, two years after graduation

**College-level diploma**

|  |                 |
|--|-----------------|
| 1. Architecture, engineering, and related technologies | <b>\$47,600</b> |
| 2. Health and related fields                           | <b>\$44,900</b> |

**Undergraduate degree**

|  |                 |
|--|-----------------|
| 1. Architecture, engineering, and related technologies | <b>\$60,000</b> |
| 2. Health and related fields                           | <b>\$58,200</b> |

**Master's degree**

|   |                 |
|---|-----------------|
| 1. Business, management and public administration | <b>\$67,200</b> |
| 2. Health and related fields                      | <b>\$62,700</b> |



**Median employment income** for graduates with an undergraduate degree in: **STEM** (science, technology, engineering, mathematics and computer sciences)

**\$49,700**



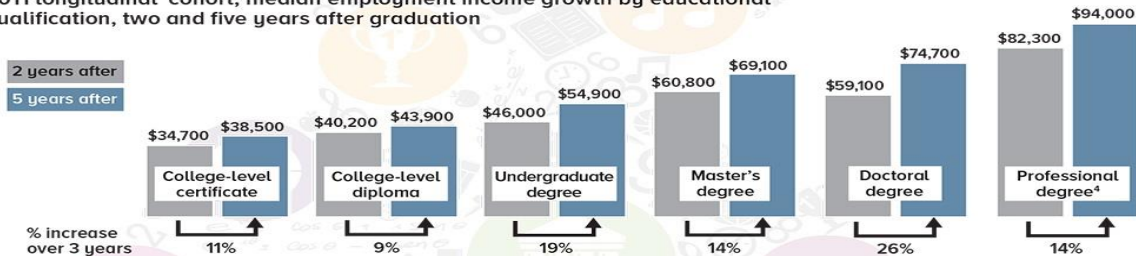
**BHASE<sup>2</sup>** (non-STEM fields)

**\$41,500**

2014 graduates, two years after graduation



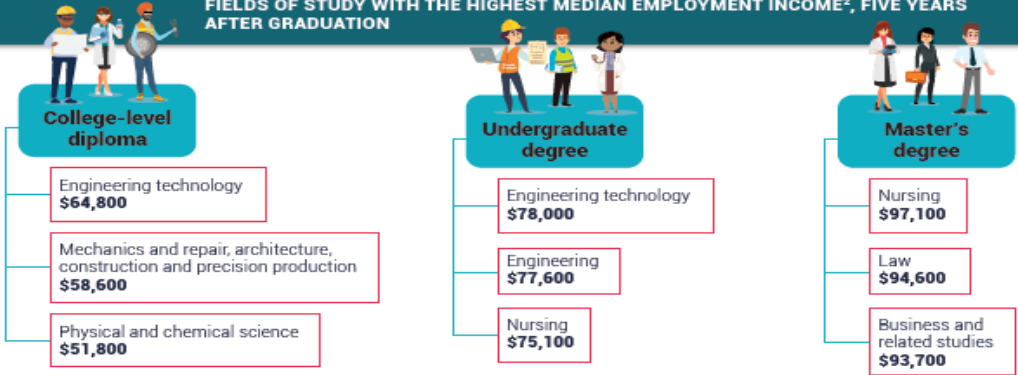
2011 longitudinal<sup>3</sup> cohort, median employment income growth by educational qualification, two and five years after graduation



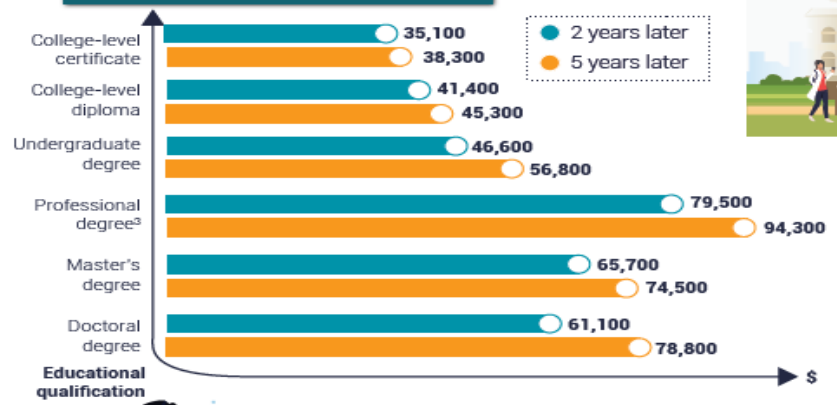
1. Refers to the amount that divides the employment income into two halves. The incomes of half of the units in a group are below the median, while those of the other half are above the median. Graduates with no income information or who were in school full-time are excluded from the median employment income estimates. All dollar figures are expressed in 2016 constant dollars and rounded to the nearest hundred.  
 2. Includes, but is not limited to, the following fields of study: Business, humanities, health, arts, social science and education.  
 3. The same sub-group of graduates from the 2011 cohort are observed for a period of five years after graduation. These were graduates who had income information and who did not attend school full-time during the entire five year period.  
 4. Includes undergraduate degree or post-baccalaureate non-graduate degree programs in any of the following fields of study (based on CIP Canada 2016, 6-digit classes): Law (LL.B., J.D., BCL); Medicine (MD); Dentistry (DDS, DMD); Veterinary medicine (DVM); Optometry (OD); Pharmacy (PharmD, BSc, BSc, BPharm).

Source: Statistics Canada, Postsecondary Student Information System (PSIS), 2009/2010 to 2014/2015 and T1 Family File (T1FF), 2012 to 2016.

## FIELDS OF STUDY WITH THE HIGHEST MEDIAN EMPLOYMENT INCOME<sup>2</sup>, FIVE YEARS AFTER GRADUATION



### MEDIAN EMPLOYMENT INCOME TWO AND FIVE YEARS AFTER GRADUATION:



Of the 346,200 graduates of the 2012 class, 94,570 returned to school full time at some point in the five years after graduation.



### DID YOU KNOW?

While STEM\* graduates with a college-level certificate, college-level diploma or undergraduate degree **earn more than** their BHASE (non-STEM) counterparts both two and five years after graduation, BHASE graduates with a master's degree or doctoral degree **earn more than** their STEM counterparts.

1. Data about graduates from 2012 were analyzed for a period of five years after graduation. These graduates form three groups: those with incomplete information over the period, those who returned to school full time at any point during the period, and those who did not return to school full time and reported employment income information for all five years.  
 2. Median employment income is calculated for graduates who did not return to school full time and reported employment income information for all five years. All dollar figures are expressed in 2017 constant dollars.  
 3. Professional degree includes undergraduate degree and post-baccalaureate non-graduate degree programs in any of the following fields of study (based on Classification of Instructional Programs (CIP) Canada 2016): Law (LLB, JD, BCL); Medicine (MD); Dentistry (DDS, DMD); Veterinary medicine (DVM); Optometry (OD); Pharmacy (PharmD, BS, BSc, BPharm).  
 4. The fields of study are grouped according to the STEM and BHASE groupings: variant of the CIP Canada 2016. BHASE includes fields of study in business, humanities, health, arts, social science, education, legal studies, trades, services, natural resources and observation.  
 Source: Statistics Canada. Postsecondary Student Information System (PSIS), 2009/2010 to 2016/2016 and T1 family file (T1 FT), 2011 to 2017.

**UNDERGRADUATE DEGREE<sup>2</sup>**

**COLLEGE DIPLOMA<sup>2</sup>**

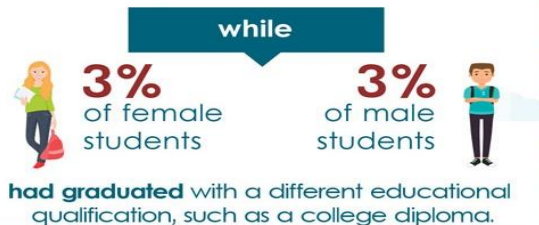
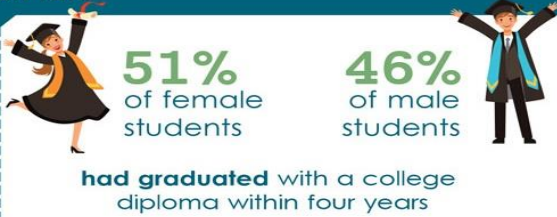
Of the students aged 19 years and younger who enrolled full-time in a program in 2010/2011:<sup>1</sup>



**One year after entry**



**Graduation rate<sup>3</sup>**



**Average time to graduation**



Source: Statistics Canada, Postsecondary Student Information System (PSIS).  
 1. The 2010/2011 group is based on the new entrants to a program leading to a specific educational qualification enrolled full time during the fall term.  
 2. The estimates exclude all colleges in Ontario, New Brunswick, Manitoba, the Territories, and a small number of other institutions.  
 3. Graduation rate is measured at one and a half times the typical program length.  
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# Links to releases

- **Graduate outcomes**
  - **Dec 4<sup>th</sup>, 2018:** <https://www150.statcan.gc.ca/n1/daily-quotidien/181204/dq181204a-eng.htm>
  - **Dec 4<sup>th</sup>, 2019 :** <https://www150.statcan.gc.ca/n1/daily-quotidien/191204/dq191204a-eng.htm>
  - **Nov 5<sup>th</sup>, 2020:** <https://www150.statcan.gc.ca/n1/daily-quotidien/201105/dq201105b-eng.htm>
- **Student pathways**
  - **Oct 18<sup>th</sup>, 2019:** <https://www150.statcan.gc.ca/n1/daily-quotidien/191018/dq191018a-eng.htm>
  - **Sept 17<sup>th</sup>, 2020 :** <https://www150.statcan.gc.ca/n1/daily-quotidien/200917/dq200917b-eng.htm>

# Analysis

- **Within the Canadian Centre for Education Statistics (CCES):**
  - Annual Daily is written for the ELMLP core files
  - Ad-hoc research paper
    - [The impact of short-duration credentials after an undergraduate degree on labour market outcomes](#)
    - Enrolment of British Columbia high school graduates with disabilities and diverse abilities in postsecondary education and apprenticeship programs: A case study of the class of 2009/2010 (release expected in January 2021)
- **Outside CCES, within StatCan (some examples)**
  - [Persistence and representation of women in STEM programs](#)
  - [Which bachelor's degree programs were associated with the highest pay prior to the COVID-19 Pandemic?](#)



# Analysis (cont'd)

- **Outside StatCan:**
  - British Columbia Ministry of Education has integrated microdata for elementary and secondary students into the platform which will be used to inform specific policy questions
  - Over 40 research proposals submitted to RDC since November 2018

# Microdata files in the RDC

<https://www.statcan.gc.ca/eng/rdc/data>

| Record number  | Survey name   | Acronym  |
|---|--|---|
| 5017  | <a href="#">Education and Labour Market Longitudinal Platform (ELMLP)</a>  | ELMLP   |
| 3154  | <a href="#">Postsecondary Student Information System (PSIS) - All Years</a>  | PSIS  |
| 3154  | <a href="#">Registered Apprenticeship Information System (RAIS) - All Years</a>  | RAIS  |
| 5017  | <a href="#">Registered Apprenticeship Information System (RAIS) and Postsecondary Student Information System (PSIS) linked to T1FF</a> | RAIS-PSIS-T1FF  |
| 3154  | <a href="#">Registered Apprenticeship Information System (RAIS) and Postsecondary Student Information System (PSIS) linked to T1FF</a> | AG  |
| 8006  | <a href="#">- All Years</a>  | CSLP  |
| 3901  | <a href="#">Apprenticeship Grants (AG) - All Years</a>   | CAL   |
|   | <a href="#">Canada Student Loans Program (CSLP) - All Years</a>  | BCK-12  |
|   | <a href="#">Canada Apprentice Loan Program (CAL) - All Years</a>   | BCK-12-T1FF   |
|   | <a href="#">British Columbia Kindergarten to Grade 12 (BCK-12) - All Years</a>   | BCK-12-CEN  |
|   | <a href="#">British Columbia Kindergarten to Grade 12 (BCK-12) linked to T1FF - All Years</a>  |   |

# Microdata files in the RDC: Key files

British Columbia Kindergarten to Grade 12 (BCK-12) linked to Census (CEN) 2016 - keys

Longitudinal Administrative Databank (LAD) linked to Apprenticeship Grants (AG) keys

Longitudinal Administrative Databank (LAD) linked to Canada Apprentice Loan Program (CAL) keys

Longitudinal Administrative Databank (LAD) linked to Canada Student Loans Program (CSLP) keys

Longitudinal Administrative Databank (LAD) linked to Postsecondary Student Information System (PSIS) keys

Longitudinal Administrative Databank (LAD) linked to Registered Apprenticeship Information System (RAIS) keys

National Graduates Survey (NGS) linked Education and Labour Market Longitudinal Platform (ELMLP) AllYear keys

Postsecondary Student Information System linked to CEN keys

Registered Apprenticeship Information System (RAIS) linked to CEN keys

Postsecondary Student Information System linked to IMDB keys

Registered Apprenticeship Information System (RAIS) linked to IMDB keys

# Data access process for the RDC

- RDC webpage for overall information:
  - <https://www.statcan.gc.ca/eng/rdc/index>
- Access is granted once approval is obtained
  - <http://www.statcan.gc.ca/eng/rdc/process>
- No direct identifiers are included. Anonymous master identifier keys are included on the RDC files to allow merging of variables at the person-level, where needed.
- Research proposals submitted by individuals are dealt with on a case by case basis.
  - Specific files of the ELMLP need to be identified

# Social Data Linkage Environment (SDLE) versus ELMLP

- **SDLE= a record linkage environment**
  - Offers a highly secure data infrastructure for record linkage activities.
  - Increases efficiency through the use of a processing system, thus offering more timely results and lower costs.
  - For more info: <https://www.statcan.gc.ca/eng/sdle/index>
- **ELMLP= a data ecosystem**
  - Files are brought to ELMLP, they share common linkage keys (created by SDLE) allowing the merge between files

# Process to bring a file for linkage

- **Discussion to happen with the client, CCES and SDLE (Social Data Linkage Environment)**
  - **To assess the feasibility of the record linkage project**
    - Does the file have personal identifiers that would enable record linkage?
    - Do you have the authority to share your microdata file with StatCan?
    - How do you intend to access the linked microdata?
  - **To determine costs**
    - Costs vary depending on the complexity and the requirements of the proposal. Every project is unique and a range of outputs are available.
  - **For more info, email SDLE at [STATCAN.SDLE-ECDS.STATCAN@canada.ca](mailto:STATCAN.SDLE-ECDS.STATCAN@canada.ca).**
- **CCES takes care of the legal aspects to bring the file into StatCan, in collaboration with OPMIC**
- **DAD will coordinate the file going to RDC, if needed**

# Communicating the ELMLP activities

- **The ELMLP Newsletter** – issued quarterly, the first one was in February 2019
- **GcCollab** – a collaborative space for Statistics Canada, all members from provincial and territorial jurisdictions and other stakeholders across Canada
- [Education Portal – Education, Training and Learning](#)
- **ELMLP workshop**
- **Participation in conferences / meetings of partners and stakeholders**

# Other means to get results with ELMLP

- Send a request to the ELMLP mailbox at [statcan.elmlp-plemt.statcan@canada.ca](mailto:statcan.elmlp-plemt.statcan@canada.ca)
- We will determine the feasibility, and evaluate costs/deadline if needed.





# THANK YOU

For more information: [statcan.elmlp-plemt.statcan@canada.ca](mailto:statcan.elmlp-plemt.statcan@canada.ca)