



PSEO
COALITION

What Stakeholders Really Want to Know

Using PSEO Earnings Data to Answer Real Questions

Summer Webinar Series
June 25, 2026

Introduction

PSEO Coalition Summer 2026 Webinar Series

June 25

**What Stakeholders
Really Want to Know:**

**Using PSEO Earnings Data
to Answer Real Questions**

July 28

**Working with PSEO
Geographic Flows Data:**

**Where Graduates Go and
What It Means**

August 27

**Working with PSEO
Industry Data:**

**Understanding Where
Graduates Land and Why It
Matters**



Origins of the PSEO and PSEO Coalition

About the Coalition

The PSEO Coalition is a network of representatives from the institutions, college and university systems, and state agencies that partner with the U.S. Census to provide data for the PSEO project. Coalition members engage virtually and in-person to network and share ideas about methods to measure and share the outcomes of postsecondary education with decision makers of all types.



PSEO
COALITION

39+

**Participating
States**

1000+

**Institutions
Represented**

Presenters



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Assistant Professor of the Practice, University of Denver
Data Literacy Partner & Intern Supervisor, PSEO Coalition



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Principal & Cofounder, Data EmpowerED Consulting
Director, PSEO Coalition

Learning Objectives

By the end of this webinar, participants will be able to:

- Apply a structured framework to PSEO earnings data.
- Identify and navigate key limitations of PSEO earnings data.
- Move from aggregate to subfield analysis.
- Contextualize institutional and state-level earnings outcomes.
- Communicate PSEO findings responsibly.



Framing the Question

About PSEO Earnings Data

- Produced by U.S. Census Bureau.
- Earnings measured 1, 5, and 10 years after graduation.
- Data sourced from institutions and state UI wage records.
- Earnings quartiles reported for states, institutions, cohorts, and programs.

To learn more, check out the documentation:

https://lehd.ces.census.gov/data/pseo_documentation.html



The Question That Started This

Are health professions programs worth the investment?

Scoping decisions to make:

- States, institutions, or both?
- Degree level?
- CIP code(s)?
- Compared to what?

These decisions shape **everything** that is done downstream.



Before We Begin

Before we make any decisions, we need to reframe the question analytically.

Potential Areas for Analysis

- What do health professions graduates earn?
- What's inside the aggregate?
- Does geography matter?



Scoping Decision: Aggregation Level

Aggregations are available at both the state and institution levels.

- State-level aggregates are ready to analyze.
- National analysis would require aggregating state aggregates.
- Institution-level records provide the lowest level of detail possible.

Decision

- Use institution-level records to start and later custom aggregate as needed.



Scoping Decision: Degree Level

What the literature says:

- Associate's degrees are the dominant entry credential.
- Associate's degrees may be a terminal licensing credential.
- Meaningful number of Associate's recipients later earn higher degrees.
- Earnings are front-loaded for some health professions.

Decision

- Filter to Associate's degrees (03).



Scoping Decision: CIP Code

CIP code 51 represents health professions, such as:

- Dentistry
- Medicine
- Registered nursing

Decisions

- ❑ Study CIP 51 programs together and disaggregated at the 4-digit level.
- ❑ Focus on Registered Nursing (51.38).



Scoping Decision: Comparison Groups

Who's in the comparison group matters! Choose carefully.

Key Challenges

- CIP 51 records against “all other programs.”
- Subfields against each other under CIP 51 family.
- Colorado against other states.

We should proceed with caution given diversity within and between groups.



Guiding Questions

1. What do health professions (CIP 51) Associate's graduates earn at 1, 5, and 10 years, and how does that compare to graduates of all other Associate's degree programs?
1. How much does it matter which program within CIP code 51 a student completes, and what does the distribution of earnings and growth rates across 4-digit subfields reveal that the 2-digit aggregate conceals?
1. How do Colorado institutions compare to the national distribution of CIP 51 earnings at 1 year, and where does Colorado rank among the states?



Exploring the Data

Data Management

Python was used to prepare, analyze, and visualize the earnings data.

U.S. Census Data

- Complete (national) PSEO earnings data
- List of CIP codes and labels
- List of institutions with names and locations

Result □ 25,560 total rows covering 26 states



The “All Cohorts” Choice

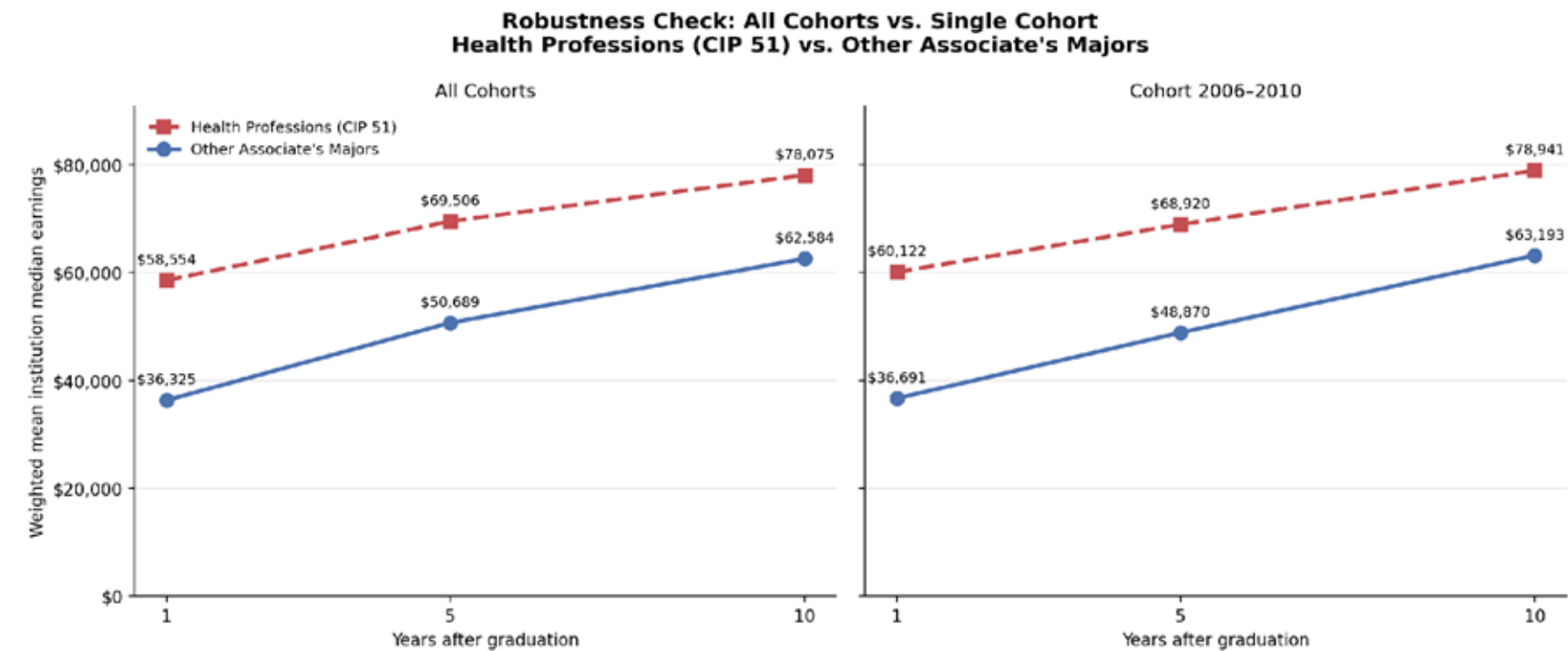
Grad cohort 0000 is the U.S. Census Bureau’s pre-computed estimate, not a custom aggregation. But should it be used?

Robustness Check

Compare the All Cohorts estimate against most earnings for the recent cohort for which 10-year data exist (2006-2010).



Robustness Check



Custom Aggregations

PSEO data do not include all the aggregations we might need. Calculating an average of the medians provides a defensible “best estimate.”

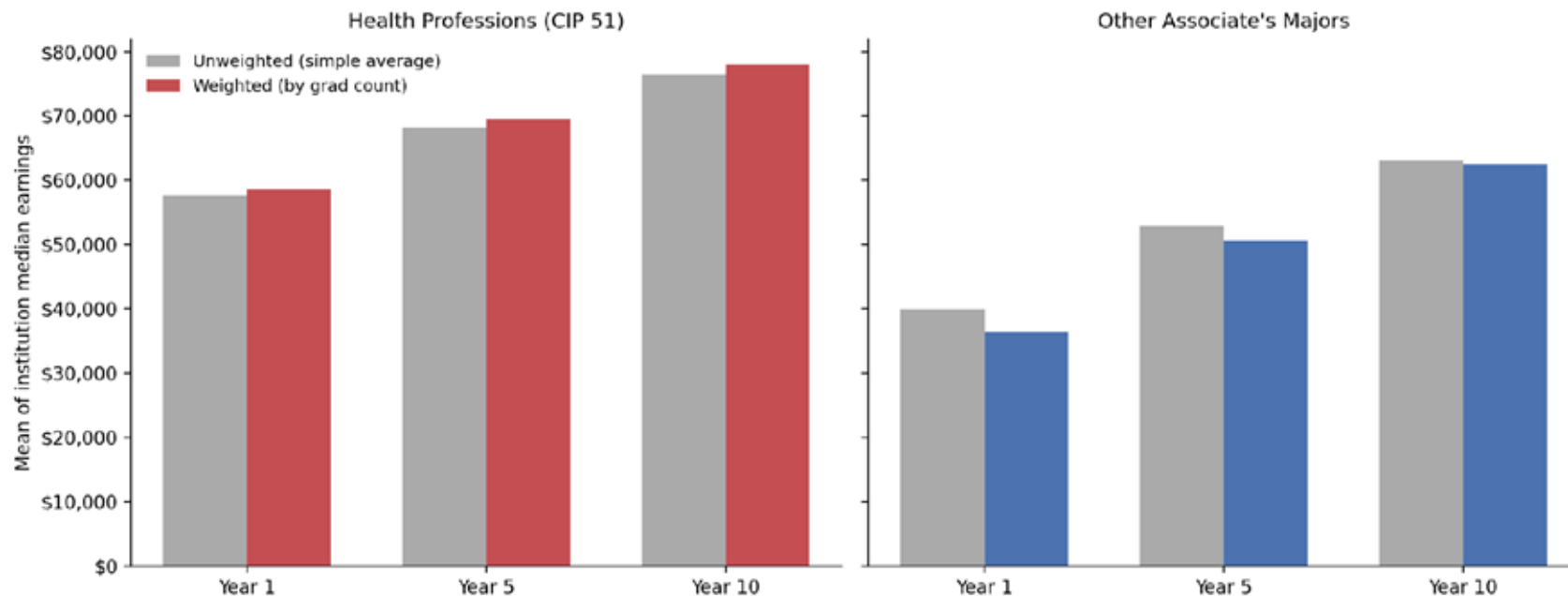
Decision

- Use weighted average of median earnings for custom aggregations.



Weighting Matters

Effect of Graduate-Count Weighting (All Cohorts)



Earnings Coverage

Before interpreting earnings ask, does PSEO capture this workforce well?

Workforce Coverage

- Health professions workers are overwhelmingly W-2 employees.
- Self-employment coverage gap that affects fields like arts, consulting, or entrepreneurship is minimal here, not for every field.

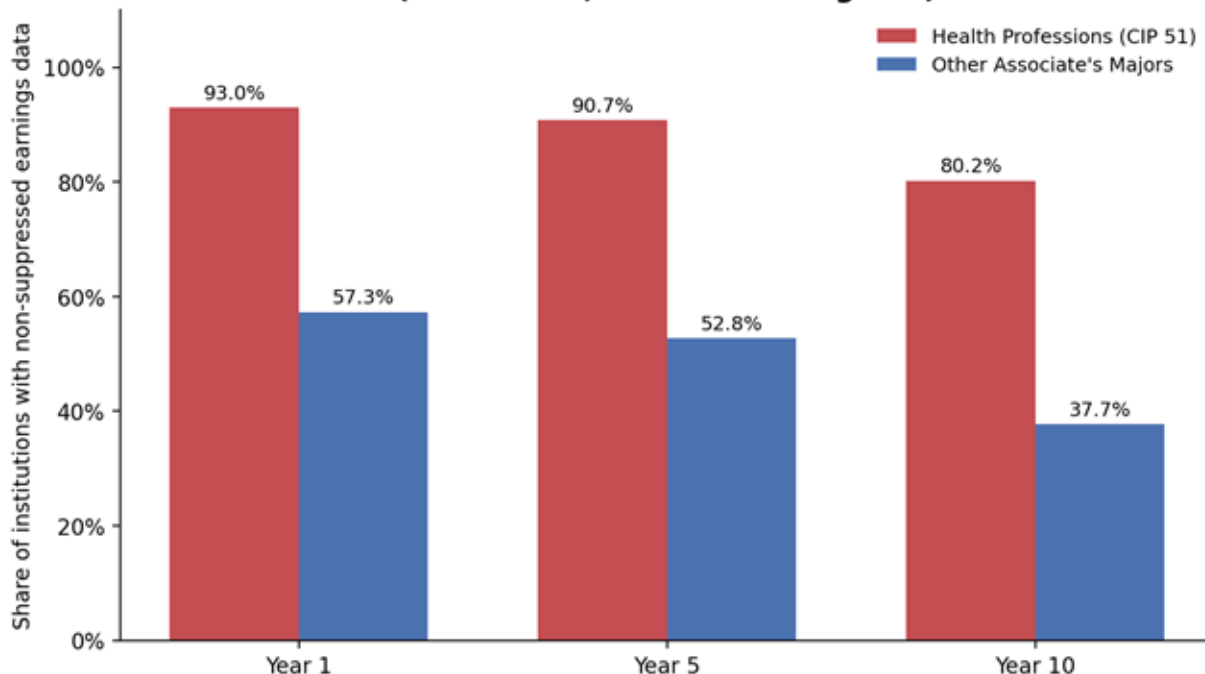
Horizon Coverage

- 1 year coverage is strong (502 institutions) but thinner at 10 years (433 institutions).



Analyzing Coverage

**Data Availability: Health Professions (CIP 51) vs. Other Associate's Majors
(All Cohorts, Associate's Degrees)**



Analyzing the Data

Q1 | The Game Plan

Analytical Goal

Establish the earnings story – starting level, trajectory, and durability.

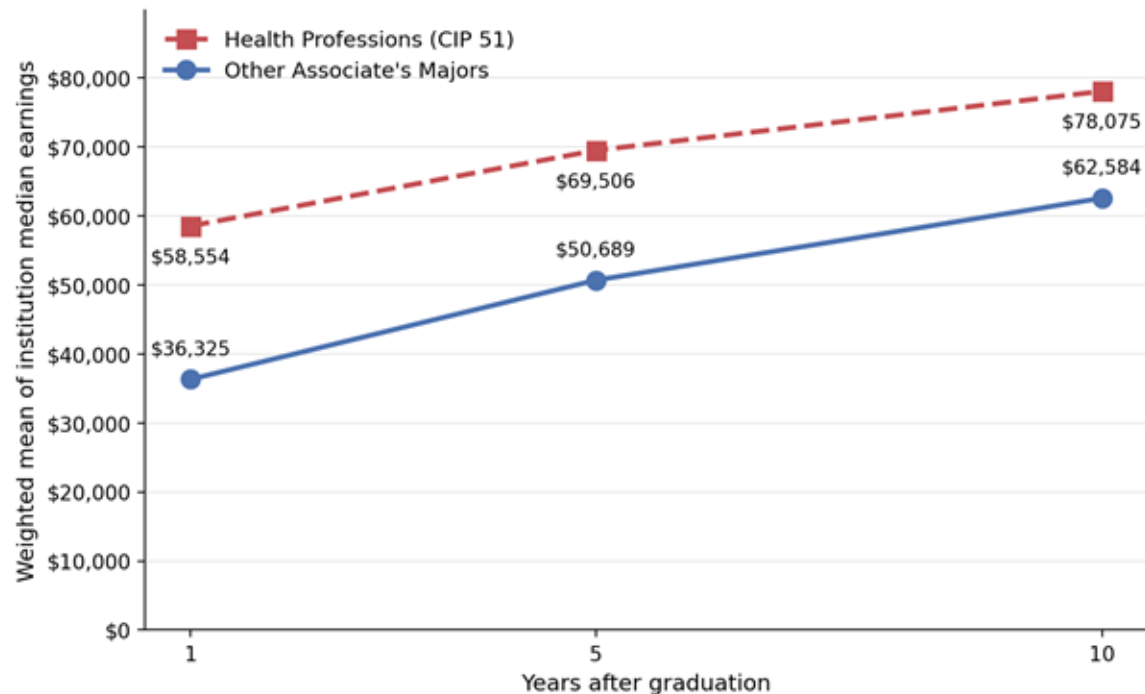
Proposed Visuals

- Weighted-mean earnings across all horizons for CIP 51 vs. all other programs.
- Dollar change and percent change for both groups across horizons.

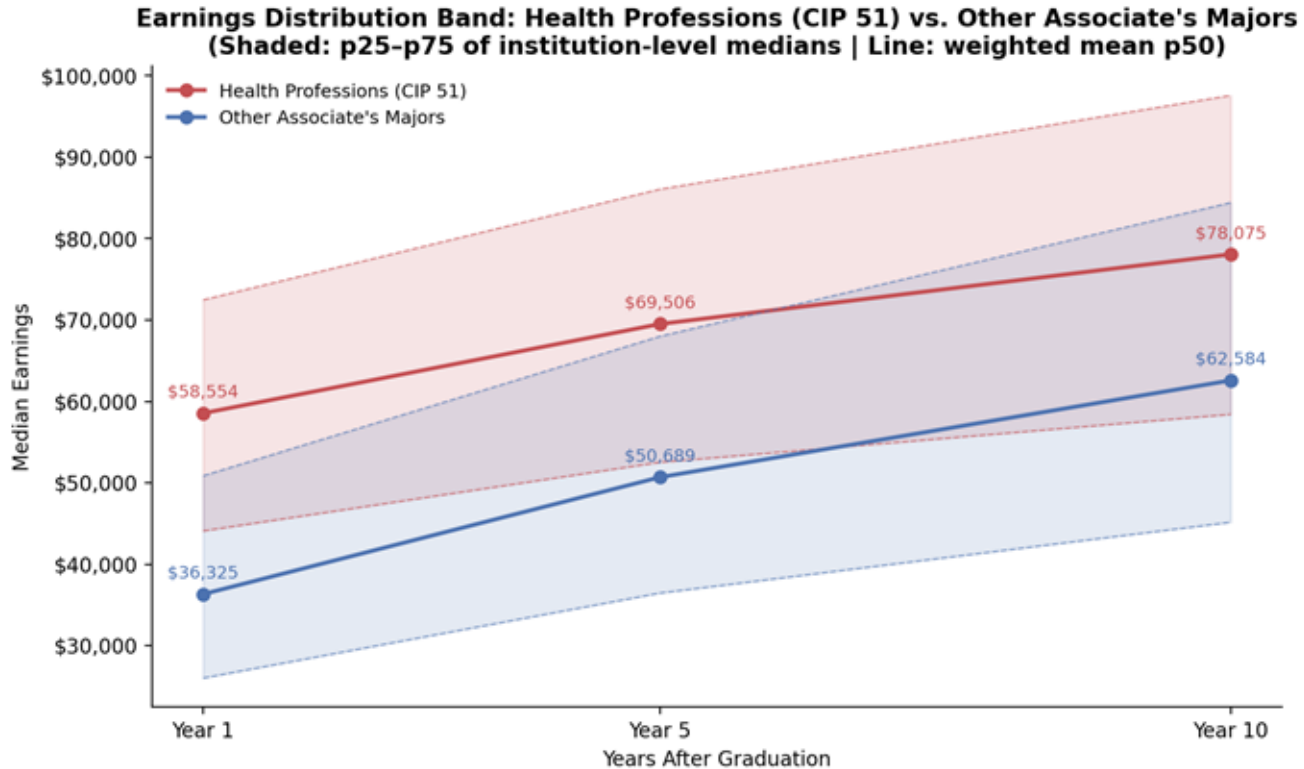


Q1 | Comparison by Field

**Median Earnings Trajectory: Health Professions (CIP 51) vs. Other Associate's Majors
(All Cohorts, Associate's Degrees)**

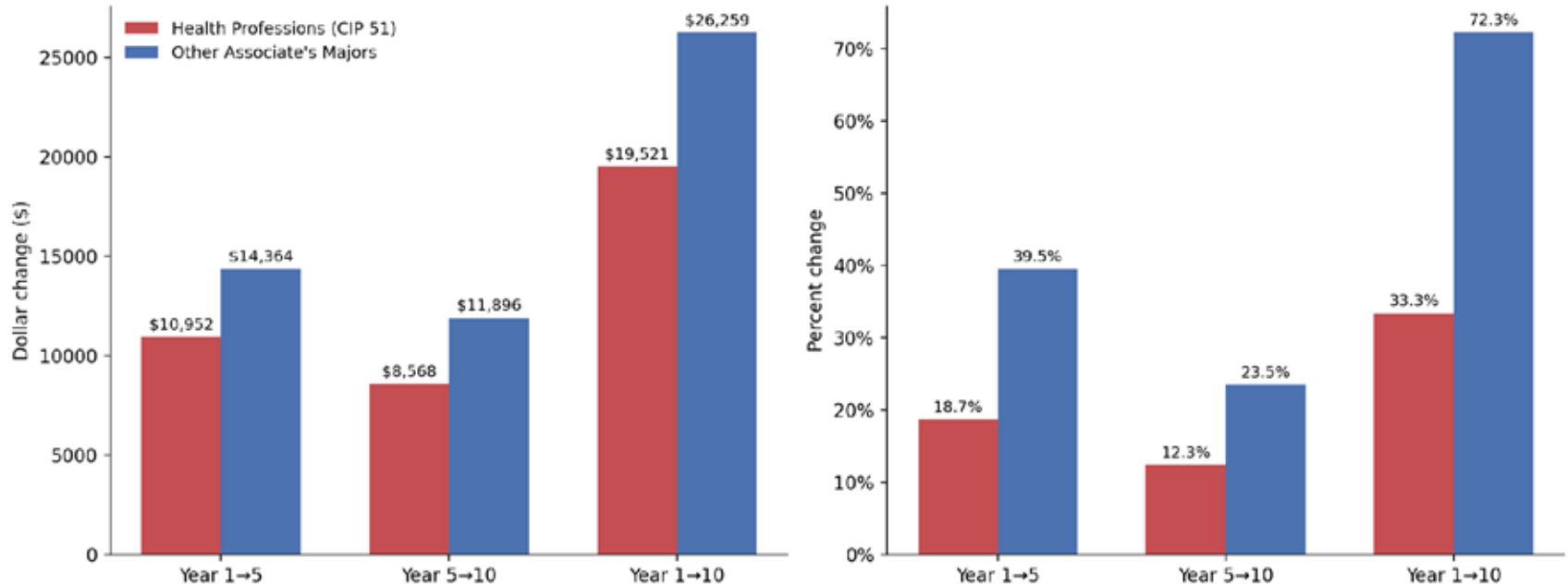


Q1 | Comparison by Field



Q1 | Earnings and Growth

Growth in Median Earnings (All Cohorts, Associate's Degrees)



Q2 | The Game Plan

Analytical Goal

Surface within-field variation that 2-digit aggregations conceal.

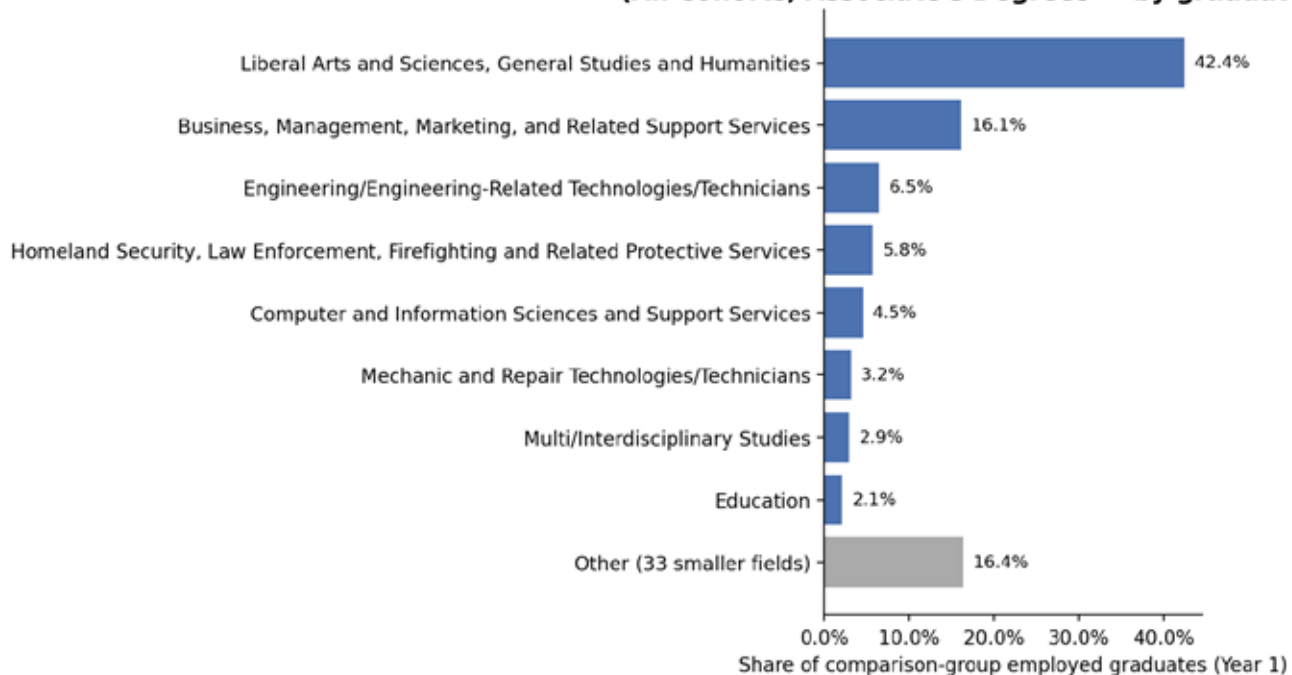
Proposed Visuals

- Share of “other majors” comparison group by CIP family.
- Comparison of earnings and growth.

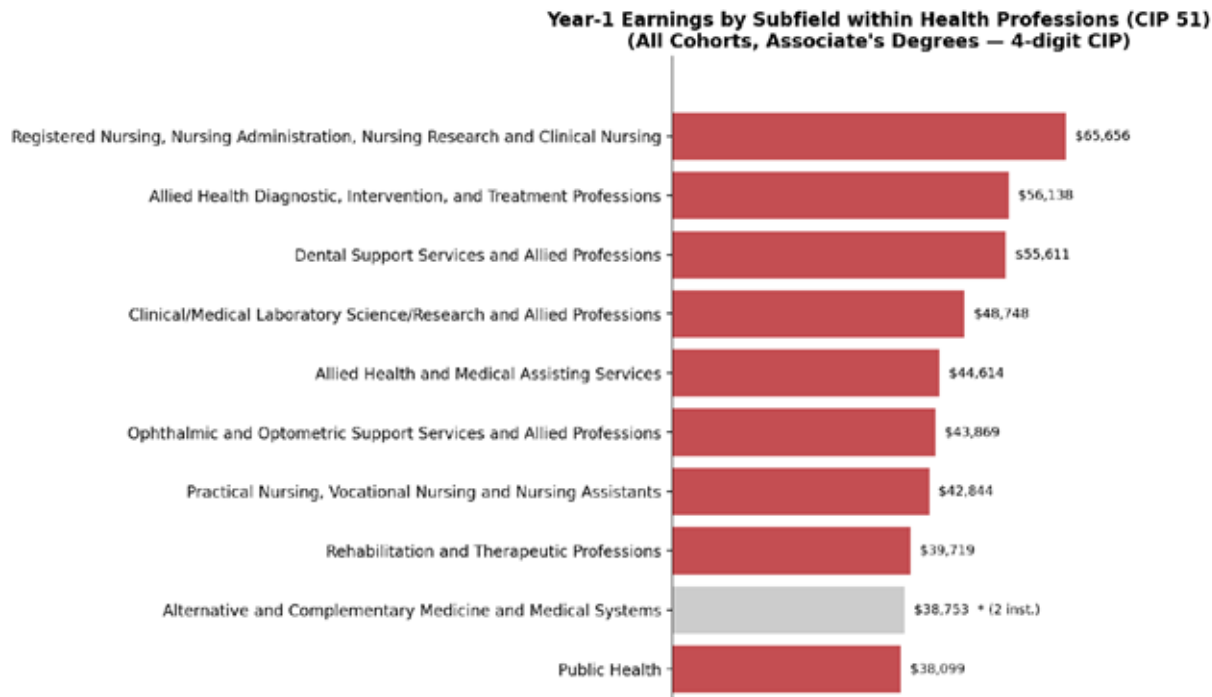


Q2 | Composition by Field

**Composition of 'Other Associate's Majors' Comparison Group
(All Cohorts, Associate's Degrees — by graduate count)**



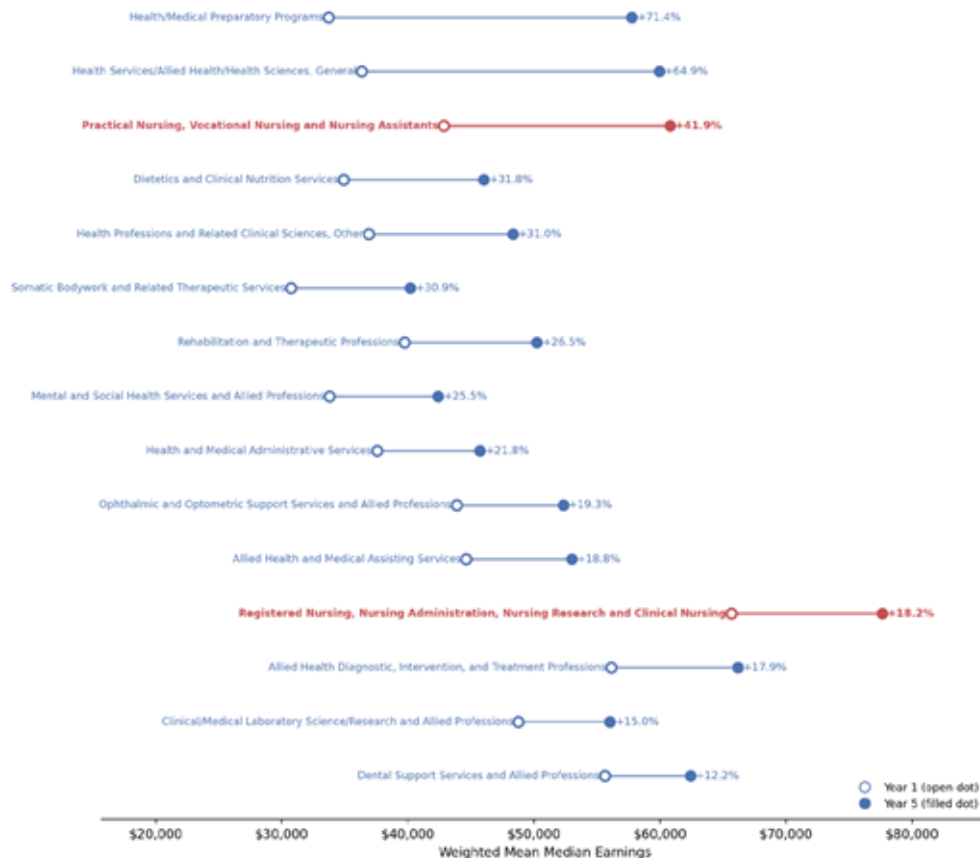
Q2 | Earnings by Subfield



Q2 | Earnings and Growth

This visualization allows us to simultaneously compare earnings and growth across subfields.

Year-1 → Year-5 Earnings Growth by Subfield within Health Professions (CIP 51)
(All Cohorts, Associate's Degrees | sorted by % growth | Nursing in red)



Q3 | The Game Plan

Analytical Goal

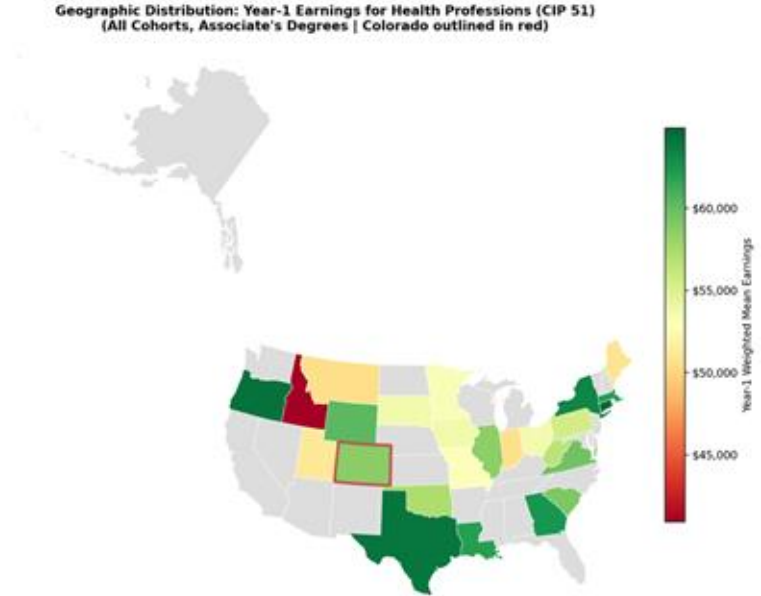
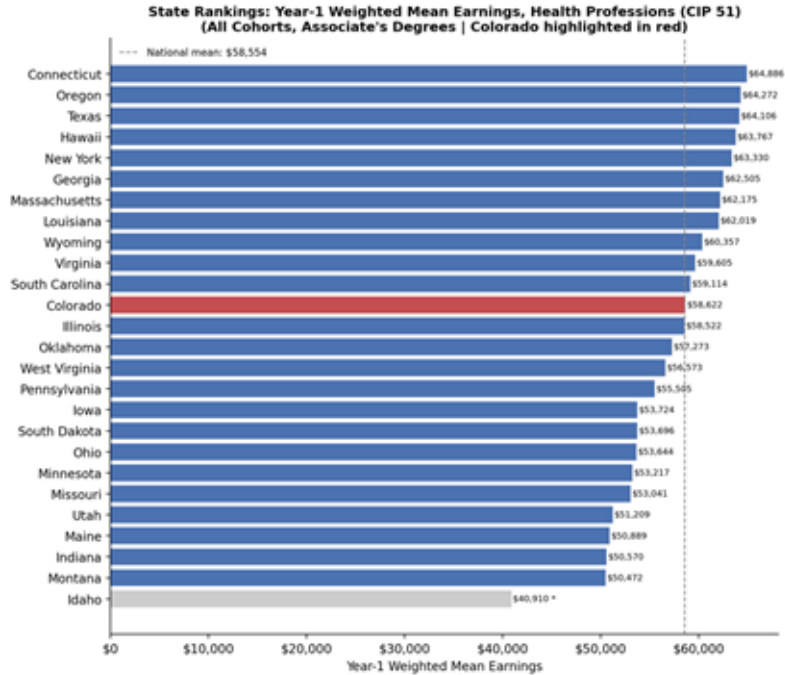
Move from national aggregate to state to institution.

Proposed Visuals

- State-level earnings (bar and choropleth).
- Institution-level earnings within Colorado.



Q3 | Same Data, Different View



Q3 | Variation Within the State

Colorado institutions in CIP 51:

	label	y1_p50_earnings	y1_grads_earn
	Otero College	\$67,841	553.0
Colorado	Northwestern Community College	\$65,731	728.0
	Lamar Community College	\$65,716	317.0
	Community College of Denver	\$65,450	1812.0
	Community College of Aurora	\$64,151	130.0
	Colorado Mountain College	\$64,135	630.0
	Morgan Community College	\$62,101	666.0
	Northeastern Junior College	\$61,085	194.0
	Trinidad State College	\$61,000	676.0
	Front Range Community College	\$59,519	3258.0
	Arapahoe Community College	\$58,414	2129.0
	Pueblo Community College	\$55,783	3113.0
	Colorado Mesa University	\$53,639	677.0
	Red Rocks Community College	\$52,554	734.0
	Aims Community College	\$51,622	922.0
	Pikes Peak State College	\$51,280	1751.0



So ... What Did We Learn?

Headline Results

- Health professions graduates earn more upfront, but growth is slower.
- Health professions rank near the top, ahead of Business and Engineering.
- Preparatory programs show the highest earnings growth.
- Practical Nursing starts lower but grows faster than Registered Nursing.
- Registered Nursing has the lowest growth among nursing-adjacent fields.
- Colorado is solidly mid-tier when compared to other states.
- There is meaningful variation within Colorado worth exploring further.



The Bottom Line

Are health professions programs worth the investment?

Our analysis indicates that health professions is one of the strongest performing Associate's degree fields, with Registered Nursing at the top for upfront earnings and solid growth potential.



Closing Thoughts

The Analyst's Checklist

We had to make a variety of choices to answer our initial questions.

Remember:

- Scoping decisions shape everything!
- Check your dataset's structure before filtering it.
- Validate coverage quality by field.
- Validate pooled estimates.
- Percent growth and absolute earnings can tell different stories.



What PSEO Earnings Data Can Do

- Track earnings longitudinally for the same graduating cohorts.
- Compare across institutions on a consistent national basis.
- Surface within-field variation at the 4-digit CIP level.
- Connect credential to outcome without requiring individual-level data.



What PSEO Earnings Data Cannot Do

- Separate credential effects from selection effects.
- Resolve credential stacking.
- Tell you where graduates work.
- Control for labor market conditions, cost of living, or program mix.
- Guarantee completeness within the United States.



Questions?

Next up in our webinar series...

Working with PSEO Geographic Flows Data: Where Graduates Go and What It Means

Tuesday, July 28, 2026 | 3 – 4 p.m. ET

Where do graduates go after completing their program, and what does that tell us about regional talent pipelines, student mobility, and institutional reach? This webinar takes a hands-on look at the geographic component of PSEO data, sharing practical tips and techniques for turning flows data into meaningful insights. Through real-world examples, we'll walk through common analytical approaches, flagging what to watch out for along the way. This is a great fit for institutional researchers, workforce analysts, and policy practitioners interested in the geography of student outcomes.

Register



PSEO Resources

PSEO Resources



PSEO Coalition

pseocoalition.org



Resource Library

pseocoalition.org/resource-library/



PSEO Explorer

lehd.ces.census.gov/applications/pseo



PSEO Datasets

lehd.ces.census.gov/data/pseo_experimental.html

