



**University of Maine
Data Literacy Institute
Capstone Summary**

Data Literacy Institute
Convening
May 15, 2023



University of Maine Orono, ME

- Carnegie Classification: Very High Research Activity
- 11,571
 - 8,536 undergraduate, 2,457 graduate, 578 Early College
- Approximately 200 undergraduate and graduate programs
- Student-to-faculty ratio of 15:1

University of Maine at Machias Regional Campus of University of Maine

- Carnegie Classification: Baccalaureate College - Arts & Sciences
- 763 Enrollment
 - 477 undergraduate, 286 Early College)
- Over 20 Baccalaureate, Associate, and Certificate programs
- Student-to-faculty ratio of 14:1



Projects focused on three areas related to student success and retention:

Components:

Issues Addressed in Projects:

Academic Performance

Student Success in Gateway Courses

Finances

Financial Burden

Engagement/
Experiential Learning

Participation in Study Abroad



Capstone Teams

Student Success Gateway Courses

- Farahad Dastoor (Director of the School of Biology and Ecology)
- Ryan Dippre (Associate Professor of English/Director of College Composition)
- Nate Flint (Office of Institutional Research & Assessment)
- Ayesha Maliwal (Lecturer of Mathematics)
- William Otto (Professor Of Chemistry)
- Peter Schilling (Center for Innovation in Teaching and Learning)
- Shihfen Tu (Director of the School of Learning and Teaching)

Financial Burden

- Lisa Applegate (Office of Institutional Research & Assessment)
- Kathleen Bell (Professor of Resource Economics and Policy)
- Simon Ferland (Senior Data Analyst, Financial Aid)
- Lori McBrine (Student Success Coordinator)

Participation in Study Abroad

- Simona Mitevaska (Office of Institutional Research & Assessment)
- Lisa Carter (Career Counselor)
- Orlina Boteva (Director of International Programs)
- Andra Bowen (Director of Residence Life)
- Eden Kalyanapu (Special Assistant for Strategic Initiatives)
- Erin Straine (Director of Academic and Student Services)



Research Questions and Importance

Student Success Gateway Courses

Research Questions:

- Instructor's goals for their Gateway courses?
- Impact of instructors' pedagogical experience and appointment type?
- Does when a student take a Gateway course matter?
- Relationship between Gateway course grades and retention?
- Impact of student demographics?

Importance: better understand current context and inform student success initiatives

Financial Burden

Research Questions:

- Does unmet financial need impact persistence in otherwise academically successful students?
- Does the relationship between unmet financial need and persistence vary?

Importance: inform the development of financial aid initiatives.

Participation in Study Abroad

Research Question:

- What factors predict participation in the study abroad program?
- What interventions can be implemented to increase study abroad participation among academic programs and groups with lower mobility rates?

Importance: inform the development of interventions aimed at increasing study abroad participation.



Methodology: Exploratory Dashboards & Faculty Interviews

Key Findings

1. Varied instructor perceptions
2. Minimal relationship between course timing and outcome
3. For half of the gateway courses the **absolute** number of students who leave after receiving a B- or better is higher than the absolute number who leave after receiving a DFWL.
4. DFWL grades in math and chemistry courses are stronger predictors of attrition than those in humanities or social science courses.
5. High school GPA has the strongest association with course success of all characteristics measured.

Recommendations

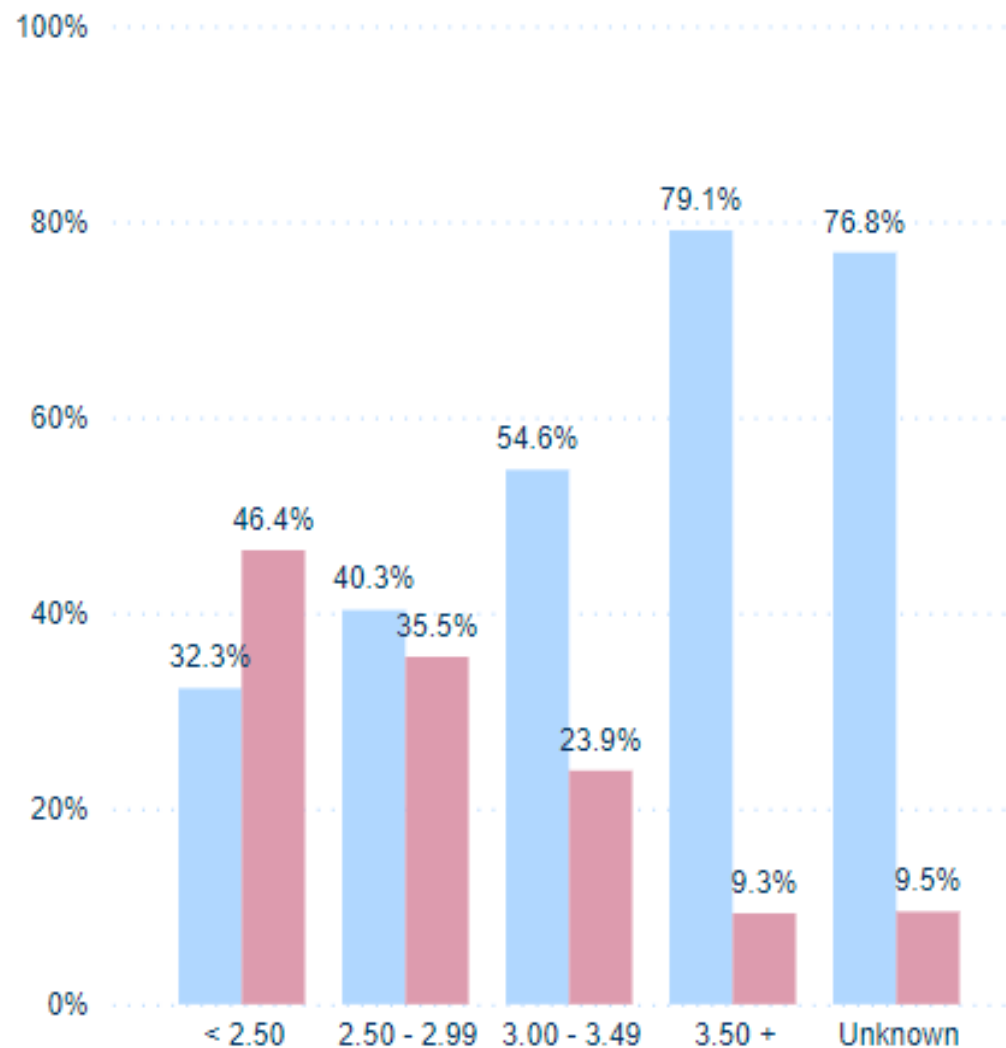
- Share course-level findings with chairs and faculty, and analyze at the course and section Level, including effects for pedagogy, modality, duration, and instructor appointment type.



Student Success in Gateway Courses

B- or Better Rate and DFWL %

● B- or Better Rate ● DFWL Rate





Student Success in Gateway Courses

First-year students taking introductory English for the first time between Fall 2018 - Spring 2022, one-year retention

3368 Students...	...earned a B- or Better in this gateway course. Retention outcomes one year later by letter grade...			
82.9% Retained	Continuing at Institution	Graduated	Transferred Institutions	Total
	2752	1	39	2792

576 not retained

714 Students...	...earned a D, F, W, or L in this gateway course. Retention outcomes one year later by letter grade...		
34.2% Retained	Continuing at Institution	Transferred Institutions	Total
	238	6	244

470 not retained

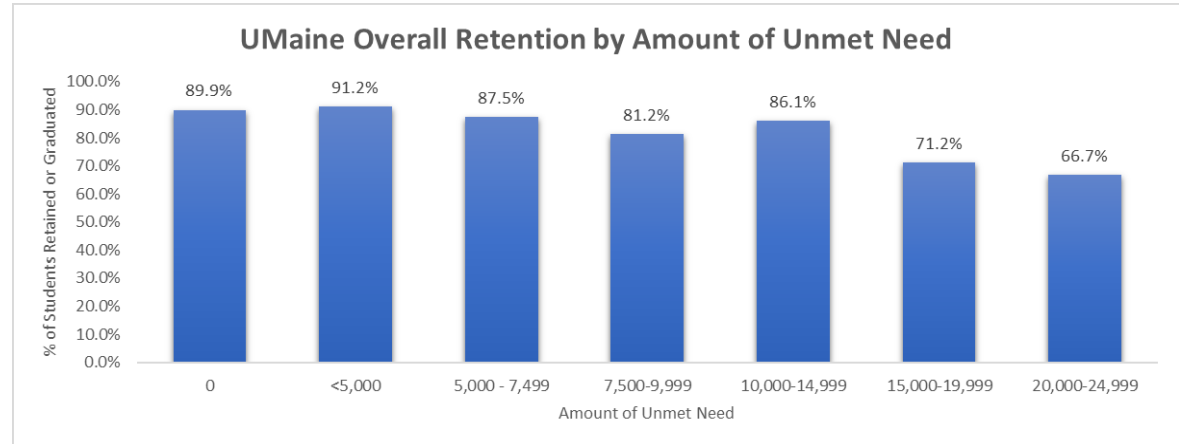


Financial Burden

Methodology:

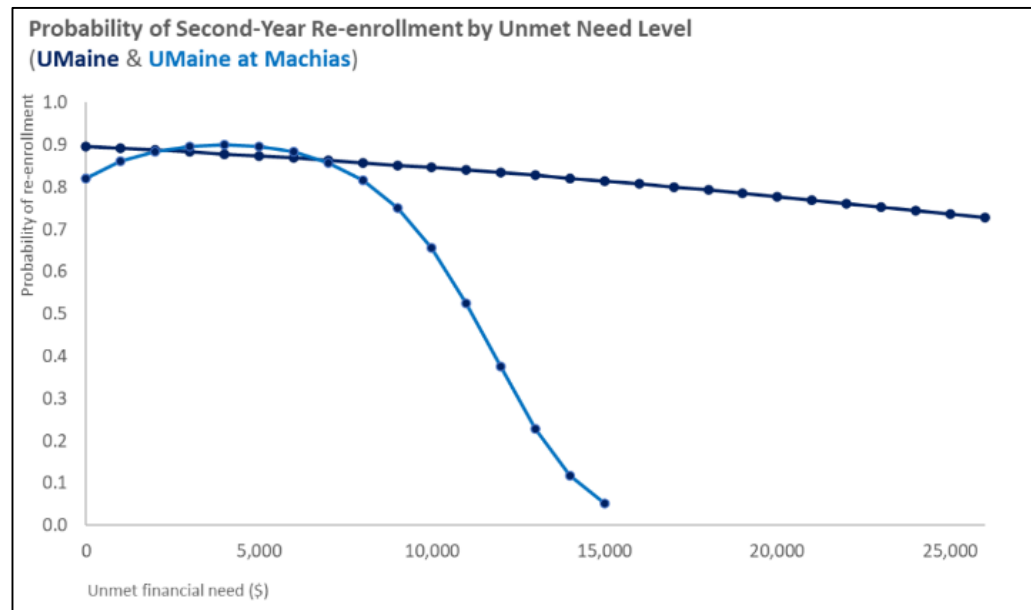
Descriptive analysis

Regression modeling



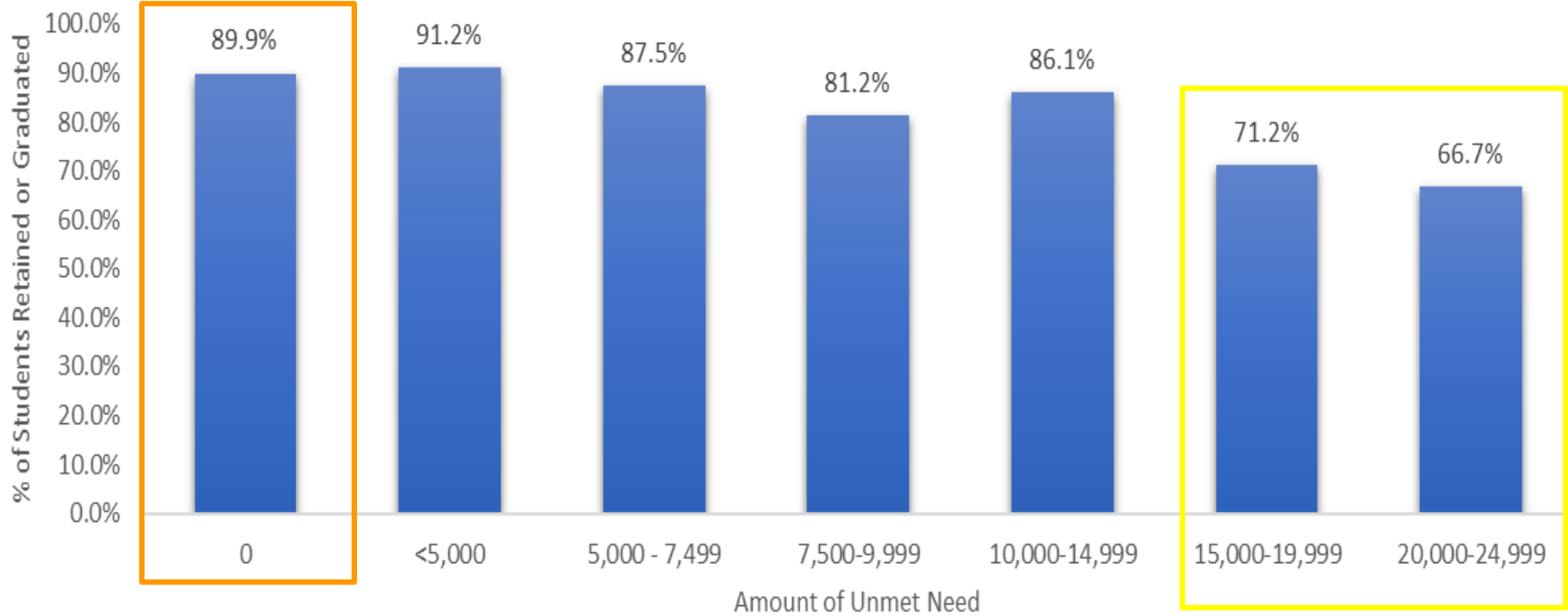
Key Findings:

1. There was a significant relationship between the amount of unmet need and retention.
2. There were differences between UMaine and UMaine Machias.



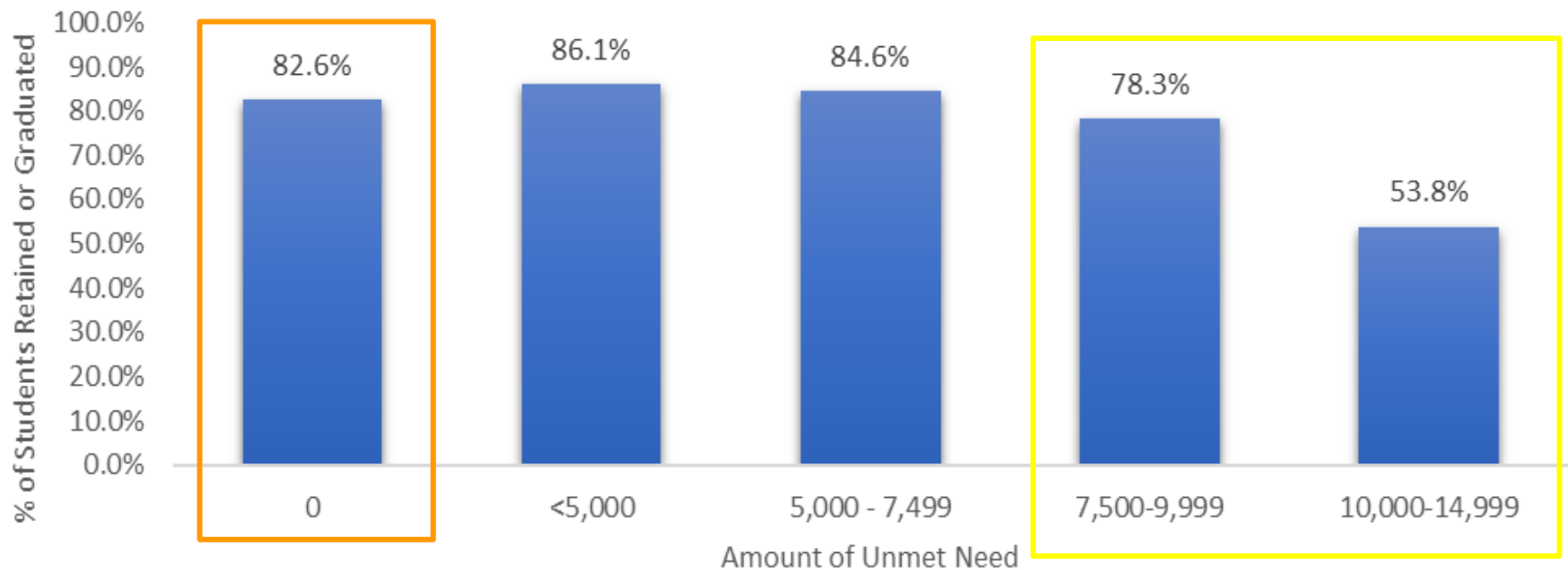


UMaine Overall Retention by Amount of Unmet Need



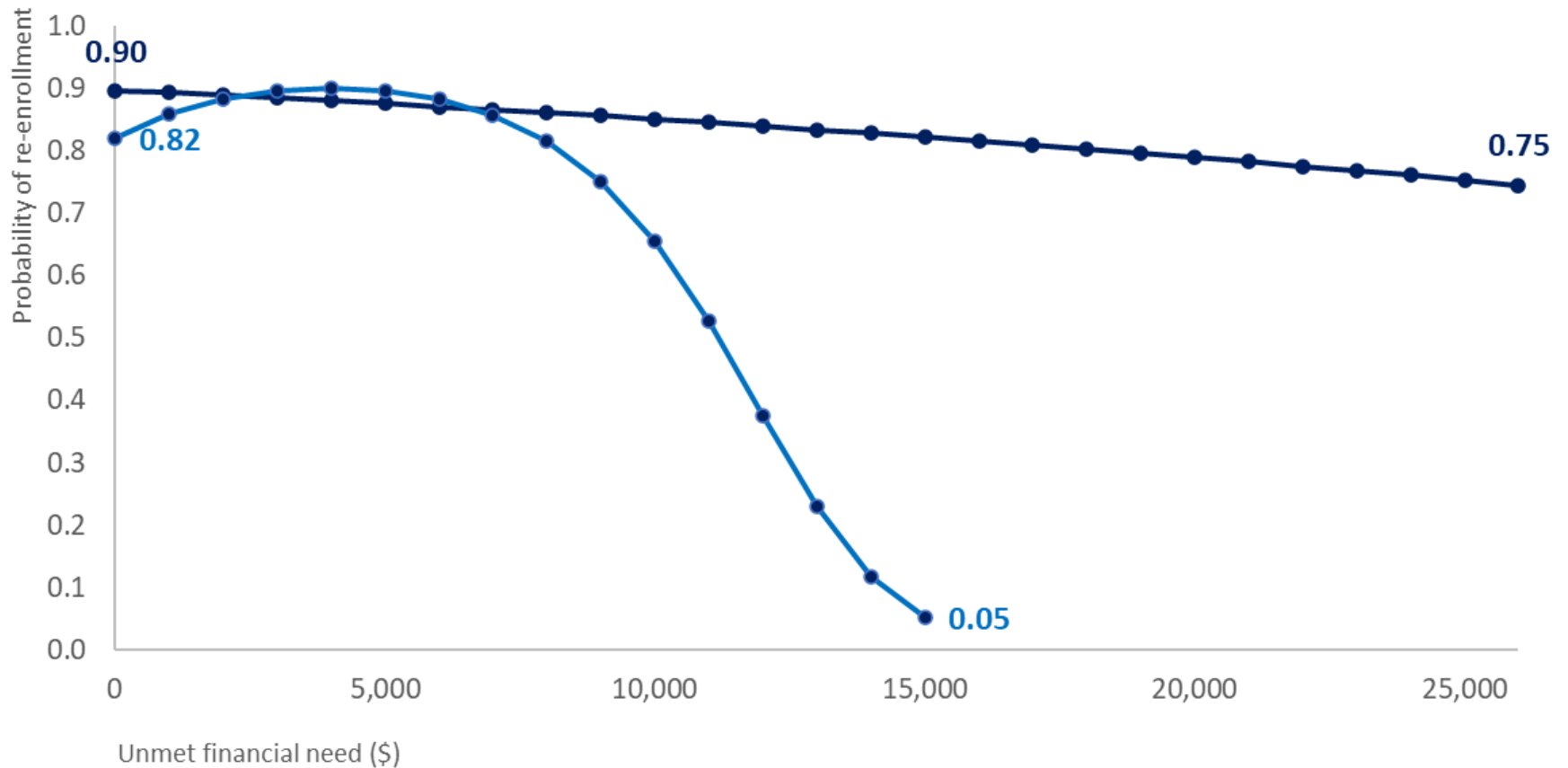


UMaine Machias Overall Retention by Amount of Unmet Need





Probability of Second-Year Re-enrollment by Unmet Need Level (UMaine & UMaine at Machias)





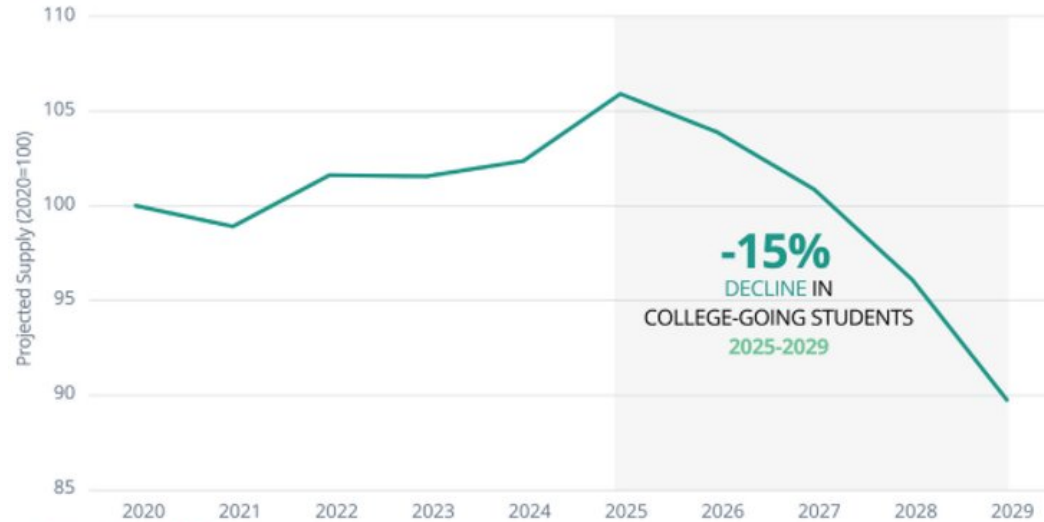
Financial Burden

Implications/Recommendations:

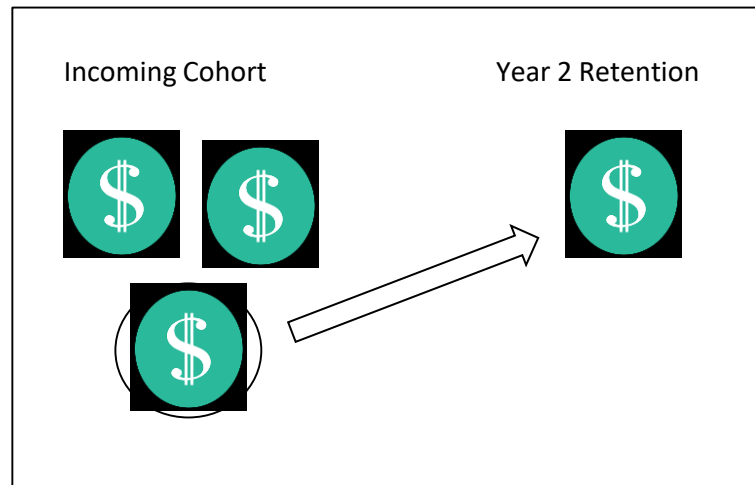
- UMaine Exit Survey
- Financial Literacy
- More information on:
 - Loan Debt
 - Zero Need students
- Models for additional populations
- Focus on student persistence to combat the demographic cliff
- Reallocate funds

FIGURE 1: FIRST TIME STUDENT GROWTH RATES – 2020 TO 2028

Forecasted Number of College-Going Students in the US



Source: Grawe 2018





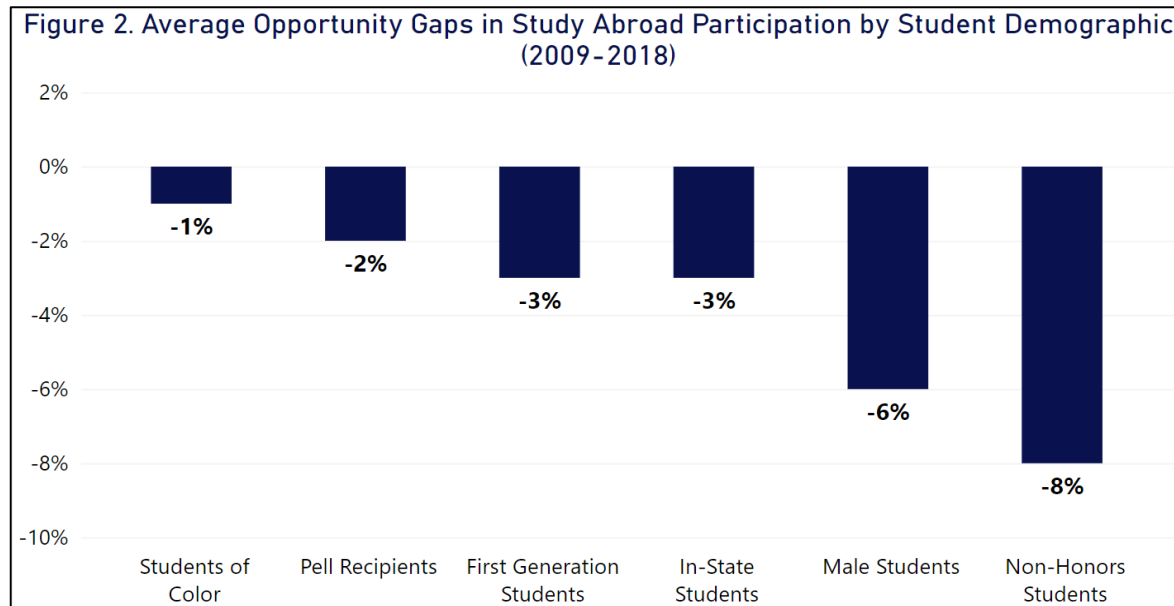
Participation in Study Abroad

Methodology:

- Exploratory dashboard
- Logistic regression

Key Findings:

1. Participation gaps between various demographic groups (Figure 2)
2. Study abroad participation varies by college. Engineering and education majors have particularly low mobility.





Participation in Study Abroad

Recommendations and Next Steps

1. **Targeted outreach** to boost underrepresented groups and academic programs participation.
2. **Collaboration with deans and chairs** to identify suitable abroad programs for students.
3. **Contextualization** of UMaine study abroad data with **national and peers data**.
4. **Conducting surveys** to identify individual and contextual barriers to participation.
5. **Utilizing existing intake surveys** to gauge interest in study abroad.

Track Progress

