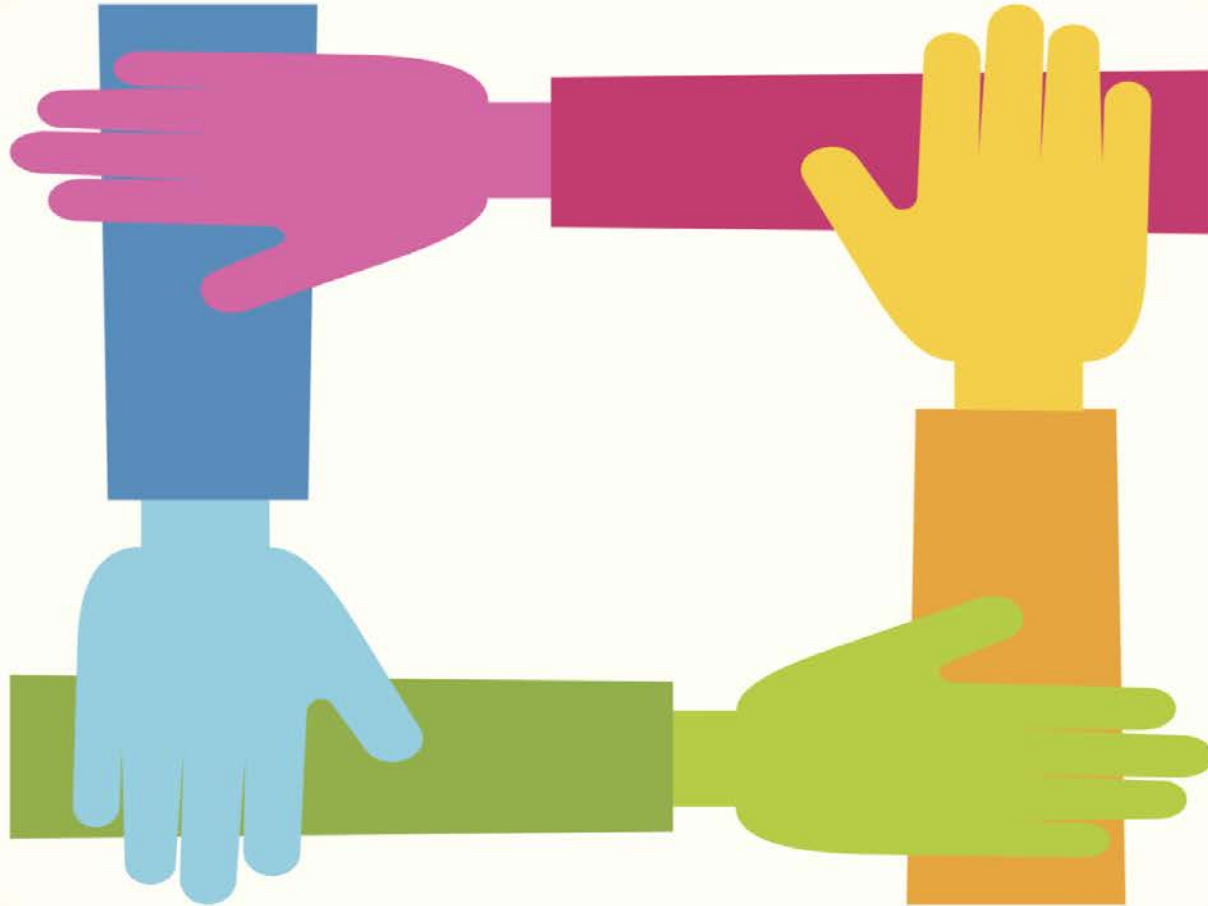


# Short and long term benefits for students enrolled in Michigan Learning Communities



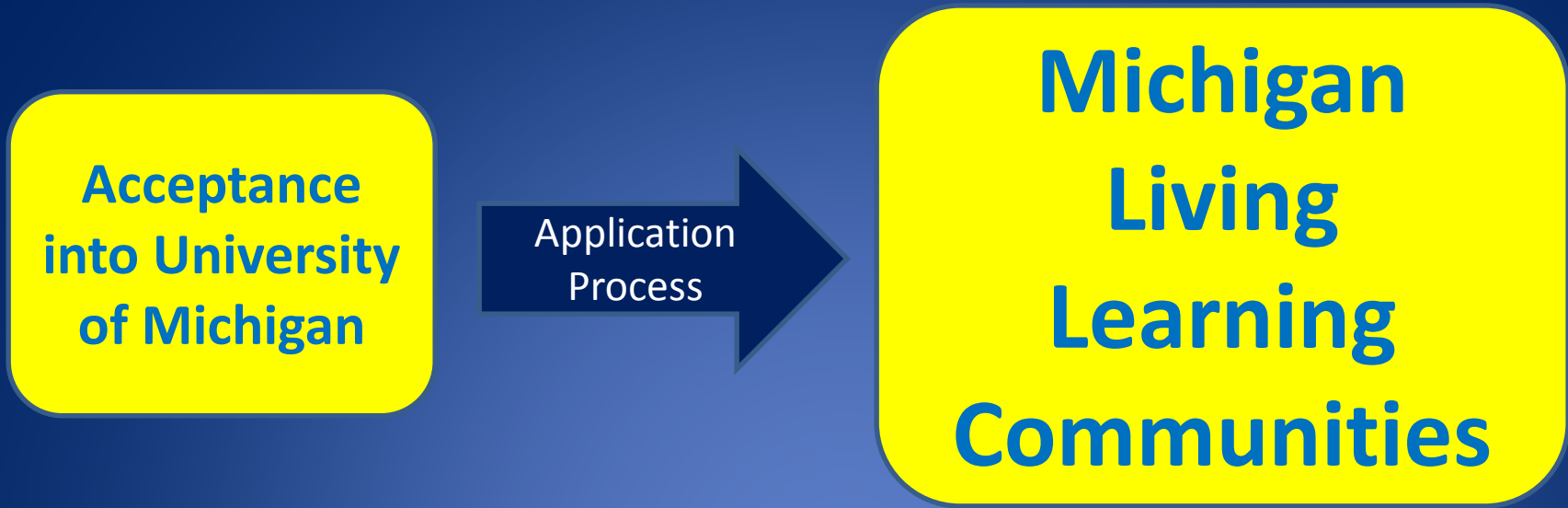
Jennifer Maltby and Helen Morgan MD

# Introductions



# Objectives

1. Background
2. Study questions
3. Short Term Outcomes
4. Long Term Outcomes
5. Discussion and future directions



- Women in Science and Engineering Residence Program**
- Health Science Scholars Program**
- Lloyd Hall Scholars Program
- Michigan Community Scholars Program
- Michigan Research Community
- Living Arts



1. STEM Challenges/STEM Success  
academic course
2. Academic support
3. Professional development  
opportunities



1. Clinical observation curricula
2. Professional Autobiography series
3. Perspectives in Health Care academic course

# Study Questions

- 1. Assess the short term effectiveness of University of Michigan Living Learning Programs by measuring first-year student academic performance and learning outcomes**
- 2. Assess the longer term impact of WISE RP and HSSP by examining undergraduate graduation rates and graduate school enrollment and degrees**

# Short-term Outcomes





### **Pilot Study**

- Developed learning outcomes

### **Online survey**

- Administered: April 2012, 2013 and 2014
- Incentive: \$5 in Blue Bucks

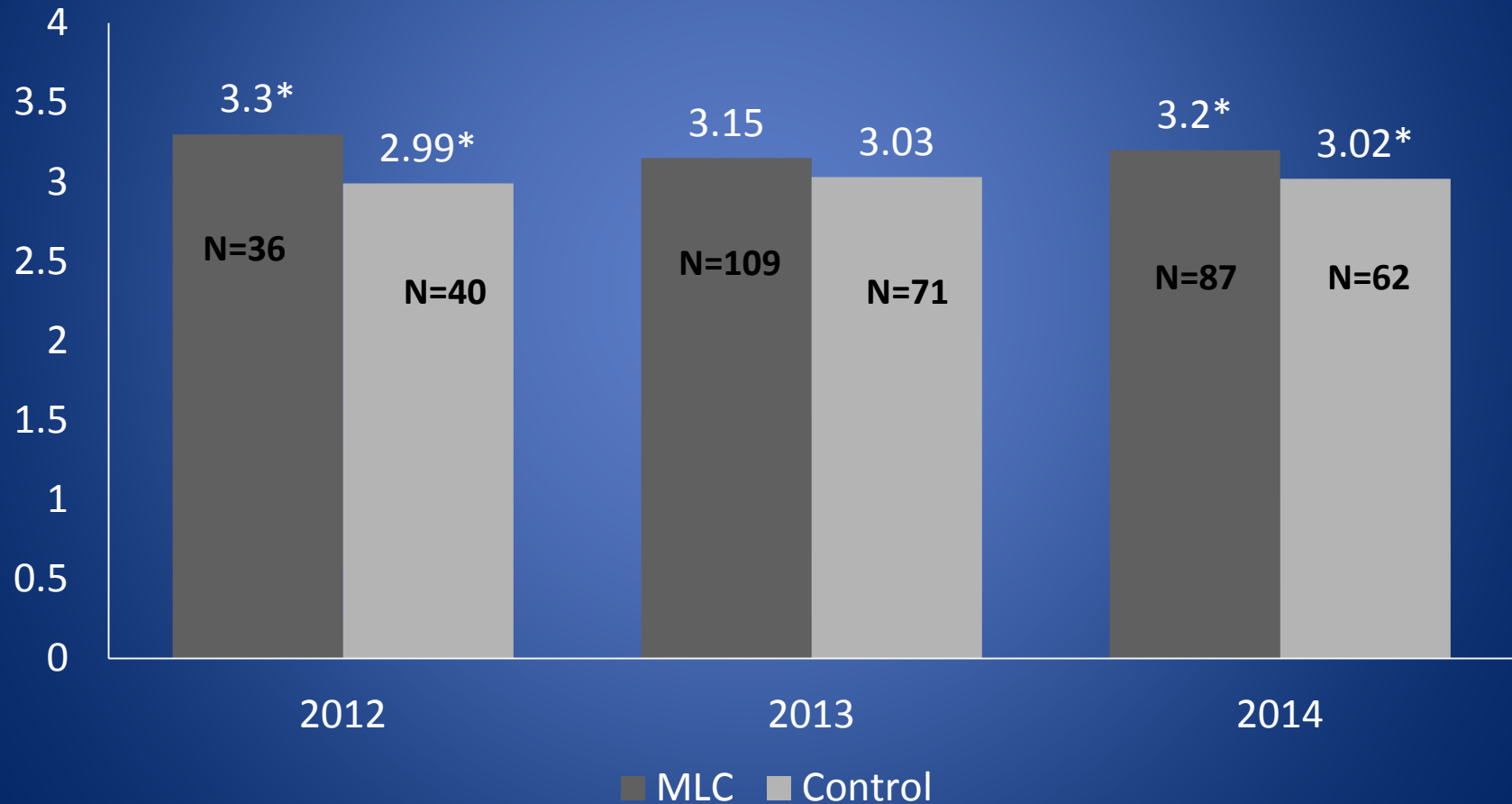
### **Participants**

- Target Group: MLC students finishing first year
- Control Group: First-year students living in residence

Combined with data from UM Data Warehouse

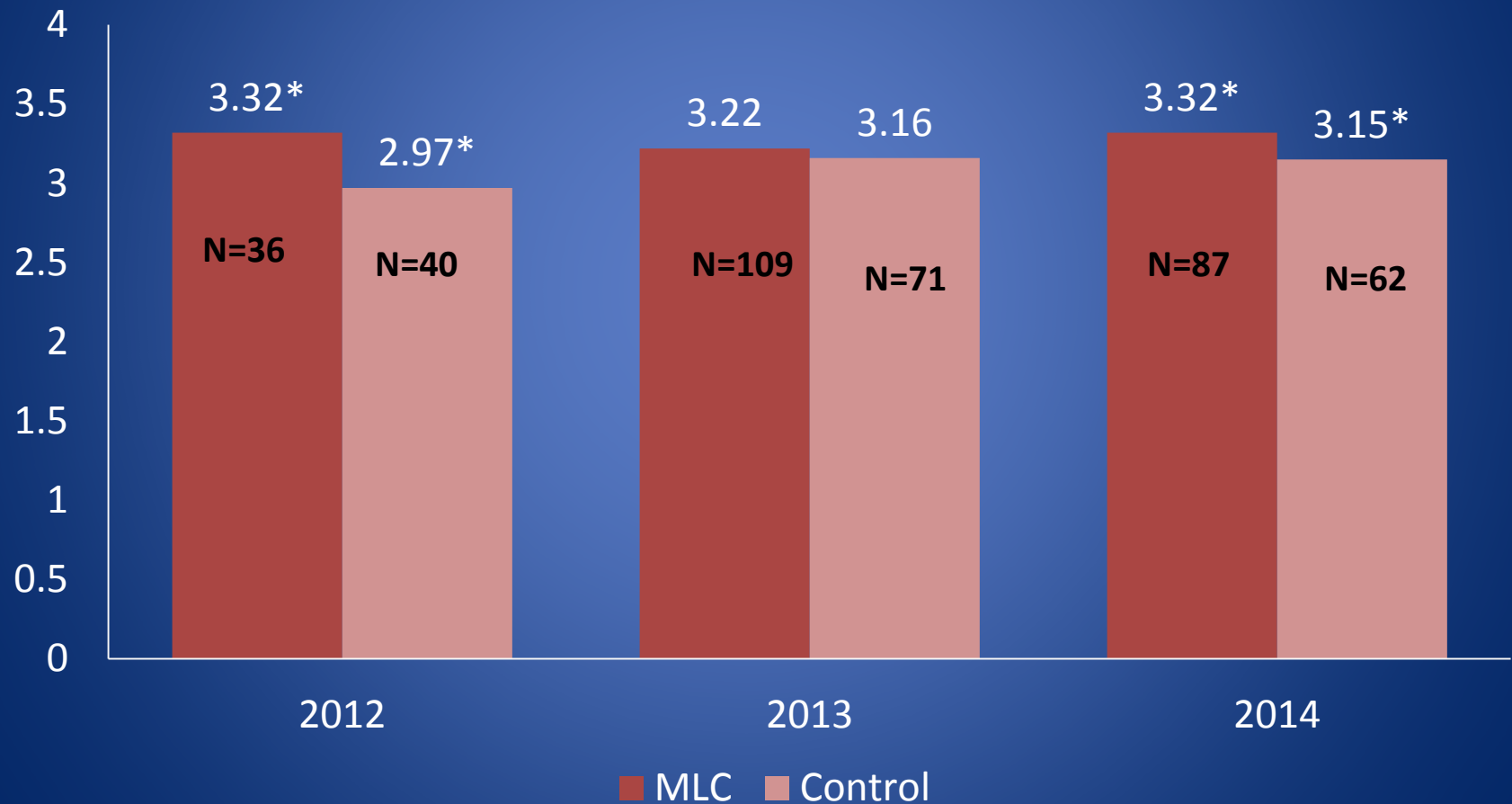
## Short Term Assessment

### Underrepresented Minority Students GPA at end of first year



## Short Term Assessment

### First Generation College Students GPA at end of first year



**University  
Data  
Warehouse**

**All students 2004-2010**

Year in Learning Community

Gender

Ethnicity

Citizenship Status

ACT score (or converted SAT)

High School GPA

School or college

Undergraduate Research Opportunities  
Program

Bridge/Comprehensive Studies Program

Credit hours at entry

Parental income (self reported)

Parental education level (self reported)

**Long Term Assessment**

**University  
Data  
Warehouse**



**Match  
Process**

Identify matches in the general student population that best fit the learning communities students.

# Student Intent: A key variable to consider!

If you are interested in a pre-professional area, please select those that apply from the following list:

Pre-Architecture

Pre-Business

Pre-Health

Pre-Law

Pre-Public Policy

Teaching Certificate

From the following list, please choose up to four areas you might want to major in:

- Environmental Geosciences
- Earth Sciences
- Brain, Behavior, and Cognitive Sciences
- Earth Systems Science
- Earth and Environmental Sciences  
(Geology)
- Biopsychology, Cognition and  
Neuroscience
- Interdisciplinary Physics
- Interdisciplinary Astronomy
- Interdisciplinary Chemical Sciences



## Long Term Assessment

**University  
Data  
Warehouse**



**Match  
Process**

Identify matches in the general student population that best fit the learning communities students.

Process used is open source and available for free:  
[https://github.com/usaskulc/population\\_matching](https://github.com/usaskulc/population_matching)



## Long Term Assessment

**University  
Data  
Warehouse**



**Match  
Process**



**National Student  
Clearinghouse**

Augment with data on learner outcomes

Did they enroll in graduate studies ?

Did they complete a health related degree?

Did they complete graduate school in a Science field?

# Long Term Outcomes



# 2004-2010

778 HSSP



635 LSA/NSC



127 URM



144 First Gen

664 WISE



568 LSA/NSC



69 URM



81 First Gen

# HSSP First Generation College Students

	HSSP (n=144)	Matches (n=144)	Paired t-test (p)
Undergraduate degree in Science			
Graduate Degree in Health Care related Field			

# HSSP First Generation College Students

	HSSP (n=144)	Matches (n=144)	Paired t-test (p)
Undergraduate degree in Science	59.7% (86)	45.1% (65)	0.009**
Graduate Degree in Health Care related Field	8.3% (12)	2.7% (4)	0.032*

# HSSP Underrepresented Minority Students

	HSSP (n=127)	Matches (n=127)	Paired t-test (p)
Undergraduate degree in Science	52.8% (67)	37.0% (47)	0.0001****

# WISE First Generation College Students

	WISE (n=81)	Matches (n=81)	Paired t-test (p)
Undergraduate degree in Science	77.8% (63)	55.6% (45)	0.001**

# WISE Underrepresented Minority Students

	WISE (n=69)	Matches (n=69)	Paired t-test (p)
Undergraduate degree in Science	82.6% (57)	50.7% (35)	<0.0001****
Masters in Science	17.3%(12)	5.8% (4)	0.01**
Graduate degree in Science	23.2% (16)	7.2% (5)	0.01**



# Discussion



# High-Impact Educational Practices



## First-Year Seminars and Experiences

Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members' own research.

## Common Intellectual Experiences

The older idea of a "core" curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

## Learning Communities

The key goals for learning communities are to encourage integration of learning across courses and to involve students with "big questions" that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link "liberal arts" and "professional courses"; others feature service learning.

## Undergraduate Research

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students' early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

## Diversity/Global Learning

Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore "difficult differences" such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

## Service Learning, Community-Based Learning

In these programs, field-based "experiential learning" with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both *apply* what they are learning in real-world settings and *reflect* in a classroom setting on

# Strengths and Limitations

- University Data Warehouse and National Student Clearinghouse Database
- Numbers

# Future Directions

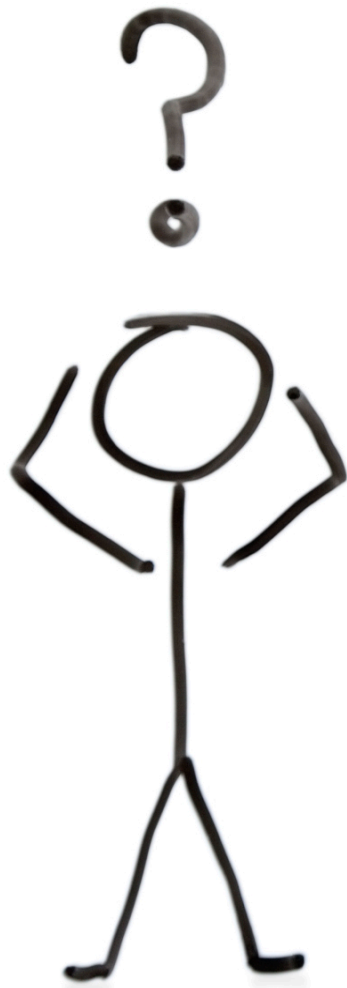
- Optimize the match
- Examine if participation in an MLC impact outcomes for students in Bridge
- Qualitative data

# Acknowledgements

- Center for Research on Learning and Teaching: Learning Analytics Fellowship
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**Questions?**