

## Introduction and Background

A small percentage of patients account for a disproportionate amount the nation's healthcare expenditures.

"Superutilizers" are the highest healthcare utilizers with multiple ED visits and/or hospitalizations, who are often medically and socially complex.

Despite high utilization, these patients "fall through the cracks" of a fragmented health care system, resulting in poor outcomes and high costs.

Academic Health Centers (AHCs) have been issued a "call to action" to prepare a new generation of providers, equipped to address the crisis in complex care, and improve interprofessional collaboration in healthcare.

In 2017, Thomas Jefferson University (TJU) was selected by the Camden Coalition of Health Providers, the National Council for Social Work Education, AAMC, Primary Care Progress, AACN, and National Academies of Practices as one of four new national hubs, supported by a Robert Wood Johnson Foundation sub-award, to expand the Interprofessional Student Hotspotting Learning Collaborative (ISHLC).

During the 2017-2018 academic year, our hub expanded the ISHLC program to train eight internal (TJU-based) and an additional 12 external teams. Over the course of the first year of this scaled up program, we assisted in the training of a total of 130 students from 15 professions.



## Purpose

The purpose of this pilot study was to explore the impact of an advanced interprofessional education experience, the Interprofessional Student Hotspotting Learning Collaborative (ISHLC), on student participants.

Our operant hypothesis was that student team members who participated in the seven-month intervention would increase their knowledge of, empathy for, and comfort working with, medically and socially complex patients and improving interprofessional collaboration.



## Methodology

### Instruments

Changes in student knowledge, skills, attitudes, behavior, and empathy were measured over a seven-month period from September 2017 through April 2018 using a pre-/post-survey design.

The pre-/post-surveys:

Attitudes Toward Homelessness Inventory (ATHI) (adapted version)

Health Professionals' Attitudes Toward Homelessness Inventory (HPATHI)

Jefferson Scale of Empathy for Health Professions (JSE-HPs)

### Procedure

Forty-five students from seven professions, including medicine, nursing, enrolled, placed into five or six-person teams, and completed the ISHLC curriculum

Each TJU team was assigned to a specific primary care practice site at TJU and given a list of pre-identified "super-utilizers" from these locations

Each student team was assigned three to four interprofessional advisors

After enrolling patients, student teams assisted patients in accomplishing their goals and partnered with patients to create a plan for self-management after graduation

### Analysis

Hierarchical linear modeling (HLM), was used to examine the interaction between group membership and time for the variables of interest.

HLM is robust to attrition, but like other methods is not as robust to unbalanced designs.



## Results

### Participants

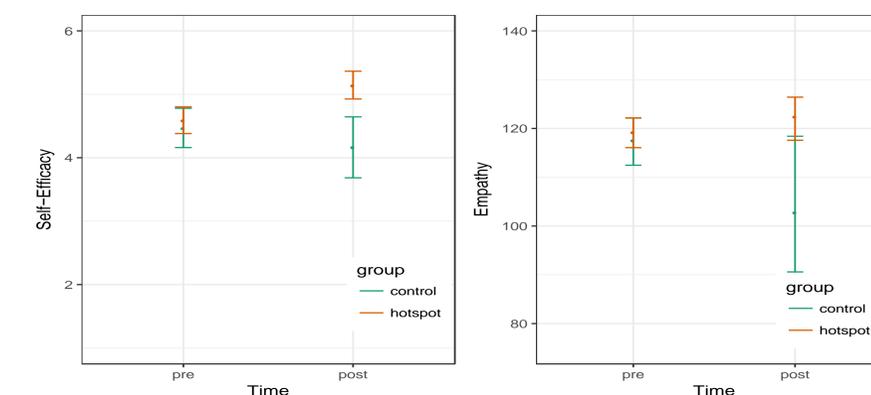
Control group ( $n_{pre} = 15, n_{post} = 5$ ) Participant group ( $n_{pre} = 42, n_{post} = 24$ ) Internal consistency was adequate for all subscales at each time point ( $\alpha > .77$ ) with the exception of the confidence subscale at pre-test ( $\alpha = .66$ )

**Correlations between all measures for the combined samples at pre-test (N = 57) and post-test (N = 29).**

	Pre-test				Post-test			
	1	2	3	4	1	2	3	4
1. Knowledge	-				-			
2. Interest	.05	-			-.30	-		
3. Confidence	.28*	.47**	-		-.11	.70**	-	
4. Efficacy	.21	.54**	.56**	-	-.11	.61**	.67**	-
5. Empathy	.17	.35*	.44**	.29*	.09	.58**	.59**	.39*

\*p < .05, \*\*p < .01

### Change in Self-Efficacy Scores across groups (Left). Change in Empathy Scores (Right).



## Discussion and Conclusion

The goal of the ISHLC is to offer a value-added IPE curriculum that transfers the knowledge, skills, attitudes and behaviors needed to work with patients with complex medical and social needs to our students.

As rising members of the next generation of care teams, we hope to graduate students who are equipped with the skills needed to work with this population.

The significant interactions between groups and pre-post for efficacy and empathy suggest that the changes in student hotspotter's scores were not due simply to maturation, but rather the result of their participation in the ISHLC.

Next steps include a multi-site study to examine the impact of the student hotspotting experience on a larger cohort of students from across the four national student hotspotting hub sites.

At present, health professions students are persistently trained to provide two models of care: acute and chronic care.

It is time to integrate a third, broader approach- a complex care model, integrating successful attributes of the ISHLC program and drawing upon the growing body of evidence from clinical models of effective care for high-cost, high need patients.

## References

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