Impacting Kentuckians' Health through Innovations in the Education of Future Health Professionals

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INTRODUCTION

Kentuckians, particularly those residing in Appalachia, face disproportionate health disparities when compared to other states.[1] These health disparities cross disease categories, as Kentuckians suffer from some of the highest rates of cardiovascular disease, cancer, obesity, and poor mental health in the nation.[2,3] The health disparities suffered by Kentuckians result from a complex interplay of social determinants of health that in turn require sophisticated solutions. One such solution looks far "upstream" and addresses the preparation of future health professionals.

Evidence demonstrates that **opportunities for health learners to develop interprofessional leadership and teamwork skills can positively impact the care they provide in the future**.[4-6] Despite this evidence, such skill-building is often missing from health professions curricula. **Leadership Legacy, an elective developed at the University of Kentucky in 2009, was designed to meet this need for students from eight of UK's health colleges through a day-long retreat and series of seminars**.

Table 1: Leadership Legacy Seminars

Seminars	Description
Retreat	Learners meet for the first time and debunk many of the myths commonly associated with their professions. They also complete the DISC personality assessment to gain insight into their most frequently utilized leadership style.
Speed Mentoring	Learners meet with a diverse group of leaders from UK and the surrounding community to discuss their paths to leadership.
Political Advocacy	With the assistance of KY LRC, participants plan a project addressing a pressing health need. Project proposals are delivered to a panel of current and former Kentucky legislators and community leaders during a mock legislative hearing in the state capitol to build leadership capabilities within the context of political advocacy.
Survival Skills Simulation	Participants take part in a simulation developed to enhance teamwork and negotiation skills and improve their understanding of the importance of managing conflict.
Herd Dynamics for Leaders	Learners engage in equine-guided leadership development at a local horse farm to learn leadership competencies that are translatable to working with others in a variety of contexts.

METHODS

Student learning and program evaluation are conducted annually (pre/post) utilizing both quantitative and qualitative methods. Among these methods, Archibald's Interprofessional Collaborative Competency Attainment Survey (ICCAS), a retrospective pre/post tool, measures students' perspectives on the development of their interprofessional competencies.[7]

Additionally, given the ten-year history and evolution of the course, it was appropriate to use the six-step Centers for Disease Control and Prevention Program Evaluation Framework to conduct an evaluation of whether Leadership Legacy was meeting stated objectives.[8] The evaluation was conducted during the 2019-2020 academic year in consultation with stakeholders. Stakeholders were comprised of two groups: former student participants and course staff and faculty. Staff included the members of the UK Center for Interprofessional Health Education (CIHE), the department responsible for planning, developing, and executing Leadership Legacy. Faculty stakeholders were liaisons of each of the participating health colleges and members of the Leadership Legacy Course Committee, the body convened by CIHE that meets annually to review course outcomes and recruit students. Notably, this evaluation was also a novel use of the CDC Program Evaluation Framework, originally intended for evaluation of public health programs at the local, state, and federal levels.

RESULTS

Table 2: Leadership Legacy 2019-2020: Interprofessional Collaborative Competency Attainment (ICCAS) results

	Pre Mean	Post Mean	Mean Difference	p-value
Communication:				
1. Promote effective communication among members of an interprofessional (IP) team	5.50	6.30	0.80	0.037*
2. Actively listen to IP team members' ideas and concerns	5.70	6.80	1.10	0.007*
3. Express my ideas and concerns without being judgmental	5.60	6.60	1.00	0.004*
4. Provide constructive feedback to IP team members	5.10	5.90	0.80	0.153
5. Express my ideas and concerns in a clear, concise manner	5.50	6.60	1.10	0.024*
Collaboration:				
6. Seek out IP team members to address issues	4.90	6.40	1.50	0.002**
7. Work effectively with IP team members	5.70	6.70	1.00	0.008*
8. Learn with, from, and about IP team members	5.80	6.80	1.00	0.004*
Roles and Responsibilities:				
9. Identify and describe my abilities and contributions to the IP team	5.80	6.70	0.90	0.004*
10. Be accountable for my contributions to the IP team	5.90	6.50	0.60	0.051*
11. Understand the abilities and contributions of IP team members	5.40	6.60	1.20	0.005*
12. Recognize how others' skills and knowledge complement and overlap with my own	5.60	6.70	1.10	0.024*
Conflict Management/Resolution:				
13. Actively listen to the perspectives of IP team members	5.80	6.70	0.90	0.010*
14. Take into account the ideas of IP team members	5.70	6.80	1.10	0.003**
15. Address team conflict in a respectful manner	5.60	6.50	0.90	0.019*

Scale: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Neutral, 5 = Slightly Agree, 6 = Moderately Agree, 7 = Strongly Agree, NA = Not Applicable. *Statistical significance (p<0.05) before Bonferroni correction. **Statistical significance after Bonferroni correction.

Fall 2019 Cohort at Capitol Annex, Frankfort, KY

Analysis of ICCAS items answered by the fall 2019 Leadership Legacy cohort demonstrates statistically significant increases in interprofessional teamwork capabilities as well as leadership skill development within feedback agility and conflict management (Table 2).

Findings from the broader evaluation of Leadership Legacy utilizing the CDC Program Evaluation Framework provide additional context for programmatic effects.

- The evaluation prioritized values of utility (information was relevant, timely, appropriate for audience), feasibility (completion of evaluation stages was realistic given resources), propriety (those most affected were engaged), and accuracy (evaluation findings were valid and reliable, given stakeholder needs).
- Stakeholders confirmed their perceptions that Leadership Legacy was graduating students with enhanced leadership skills complemented by a strengthened foundational understanding of leadership and confidence in one's self as a leader.
- However, comparison of course activities, course objectives, and evaluation instruments identified that the experience of learners from cohort to cohort is not standardized with regards to *which* leadership skills the course develops.
- Opportunities were identified to better align course objectives, activities, and evaluation tools to more precisely focus on leadership skillsets.
- The evaluation concluded with the development of a summary report delivered to the Leadership Legacy Course Committee with recommendations for addressing these opportunities.

DISCUSSION & CONCLUSION

Leadership Legacy has proven valuable to the development of future leaders, as evidenced by focus group data from stakeholders that confirms "improvements in leadership, communication, and collaboration across the health professions are the most evident outcomes" and "this course produces a group of well-rounded leaders". Health professionals who are better equipped to lead a health team when the situation calls for it contribute to a culture of patient safety, promote staff stability, reduce mortality rates, and raise patient satisfaction, ultimately improving the health of populations.[9,10] They are also are more effective collaborators and communicators. Despite the opportunities that emerged to strengthen Leadership Legacy, identification of these opportunities benefits not only learners but also their future patients both within Kentucky and beyond.

REFERENCES

1. Schoenberg NE, Howell BM, Fields N. Community strategies to address cancer disparities in Appalachian Kentucky. *Family & Community Health*. 2012;35(1):31-43.
2. Hendryx M. Personal and family health in rural areas of Kentucky with and without mountaintop coal mining. *The Journal of Rural Health*. 2013;29(1):79-88.
3. Walsh S, Christian WJ, Hopenhayn C. *Place Matters: Health Disparities in the Commonwealth, A Report on the Delta and Appalachian Regions of Kentucky*. Louisville, KY: Foundation for a Health Kentucky, 2012.
4. Ching E, Amidi-Nouri A. From dams to tides: Eliminating Health Disparities through interprofessional education. *Diversity and Equality in Health and Care*. 2019;16(3):41-8
5. Erlandson E, Reed J, Elam C. Leadership legacy: A student-directed leadership development program. *Journal of the Kentucky Medical Association*. 2011;109:364-9.
6. Casey BR, Chisholm-Burns M, Passiment M, Wagner R, Riordan L, Weiss KB for the NCICLE Quality Improvement: Focus on Health Care Disparities Work Group. *The Role of the Clinical Learning Environment in Preparing New Clinicians to Engage in Quality Improvement Efforts to Eliminate Health Care Disparities*, 2019.
7. Archibald D, Trumpower D, MacDonald CJ. Validation of the interprofessional collaborative competency attainment survey (ICCAS). *Journal of Interprofessional Care*. 2014;28(6):553-558.
8. Centers for Disease Control and Prevention. *Developing an Effective Evaluation Plan*. Atlanta, GA: Centers for Disease Control and Prevention, 2011.
9. Sfantou DF, Laliotis A, Patelarou AE, Sifaki-Pistolla D, Matalliotakis M, Patelarou E. Importance of leadership style towards quality of care measures in healthcare settings: A systematic review. *Healthcare*. 2017;5(73):1-17.
10. Wong CA, Cummings GG. The relationship between nursing leadership and patient outcomes: A systematic review. *Journal of Nursing Management*. 2007;15:508-521.