

Implementing a Health Leadership Program: Clinical Perspectives

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Abstract

Limited reproductive health education (RHE) in healthcare curricula poses public health challenges, affects patient outcomes, and perpetuates healthcare disparities. A Health Leadership Program (HLP) was developed in Maine to equip healthcare students with essential knowledge and skills in reproductive health. This evaluation presents findings from a qualitative analysis that assessed the impact of HLP on healthcare students' attitudes, beliefs, and clinical preparedness. A prior evaluation assessed participants on five learning objectives pertaining to transgender health, reproductive health history, and health equity's relation to RHE where 24 participants rated their agreement with statements before and after HLP. The increase in knowledge varied across objectives with the highest at 91%, lowest at 61%, and mean of 83%. This evaluation builds on the prior quantitative data to incorporate a focus group with students who completed the program, offering valuable insights into their experiences and perspectives. Despite recruitment challenges resulting in a small sample size, the focus group provided nuanced data on the transformative impact of HLP. Thematic analysis revealed key change factors centered around concepts of discrimination, humanity, justice, and compassion. While the sample size may limit external validity, the depth of understanding gained from the qualitative data allows for critical insights and informs future improvements. This evaluation highlights the importance of comprehensive RHE in healthcare curricula. As research in this field continues to grow, future investigations could explore longitudinal designs and larger sample sizes to assess long-term impact of RHE programs like HLP.

Introduction

Limited reproductive health education (RHE) in healthcare curricula is an important contributor to the public health problem of poor reproductive health outcomes.¹ In Maine, people of colour are 176% more likely to experience maternal mortality² and unintended pregnancy is 3x higher in low-income women.³ Reproductive health issues encompass a range of concerns, including contraception, sexually transmitted infections, family planning, and safe abortions.³ Insufficient education in these areas leaves healthcare professionals ill-equipped to provide information, support preventive measures, and address the specific needs of at-risk populations.⁴ This is particularly important at the student level where inadequate RHE contributes to continued disparities in healthcare access and outcomes.⁵

Gaps in important skills related to modern gynecology, contemporary contraception, and safe abortions hinder the delivery of quality reproductive health services, leading to increased rates of unintended pregnancies, sexually transmitted infections, and suboptimal reproductive health outcomes.^{6,7} Additionally, healthcare professionals lacking comprehensive training in reproductive health may struggle to communicate confidently with patients, provide appropriate counseling, and offer evidence-based interventions.⁸ These skills are vital throughout medical practice but are paramount in the challenging area of reproductive health which requires careful competence and tactful resourcefulness by providers.

Addressing this public health problem using a primary prevention approach of educating students prior to entering the workforce may be crucial for improving patient outcomes, reducing health disparities, and ensuring equitable access to reproductive health services.⁹ By enhancing RHE in healthcare curricula, educators can empower future healthcare professionals with the knowledge, skills, and attitudes necessary to deliver high-quality reproductive healthcare,

promote informed decision-making, and contribute to positive health outcomes for individuals and communities. Reproductive health education programs at the graduate level throughout Europe^{9,10} have demonstrated that targeted supplemental education has the potential to improve participants' knowledge, attitudes, and behaviors related to sexual and reproductive health.¹¹ Information from peer-reviewed articles outlining thorough evaluations of similar programs provide insights into evaluation methodologies, outcome measures, and the impact of RHE programs on various target populations. These evaluations revealed RHE themes such as education for medical students highlighting the importance of necessary competencies to address reproductive health issues,¹ and the introduction of gender diversity training that successfully increased positivity to learning about contraceptive methods and usage.¹² Cumulatively, the evaluation of RHE programs provided supportive evidence for the effectiveness of comprehensive interventions in numerous settings including medical education,¹³ colleges, and community programs. While findings of RHE program evaluations emphasized the importance of implementing tailored programs that address specific needs of vulnerable populations, promote access to contraceptives, and empower individuals to make informed decisions, a gap still exists in the literature regarding evaluations of programs specifically addressing RHE in healthcare curricula.¹⁴

Additionally, there are studies evaluating the impact of RHE programs on knowledge and confidence,¹⁵ but there is limited research on the long-term effectiveness of such programs in preparing healthcare professionals for clinical practice and improving patient outcomes. Although these evaluations provide valuable insights, the long-term impact of these programs, scalability, and effectiveness in diverse populations and settings is also not clear. Further research is needed to address these gaps and guide the development and evaluation of future

reproductive health programs.¹⁶ The Reproductive Health Leadership Program (HLP) is one such pilot RHE program that was developed specifically to provide healthcare students with comprehensive knowledge and clinical skills in reproductive health to be implemented in future practice. The HLP's impact on healthcare students' knowledge, skills, attitudes, and clinical preparedness may shed light on the feasibility of implementing similar programs. This evaluation may contribute to filling the current gap and provide valuable insights into the effectiveness of HLP, specific areas it addresses, and its potential to address the public health problem of universally limited RHE in healthcare curricula.

Methods

Evaluation Questions¹⁷⁻²¹

1. How were the attitudes and beliefs of students who completed the HLP affected?

- This question will be of greatest importance to stakeholders who are concerned with the broader influence of this pilot program. By evaluating the changes in students' attitudes and beliefs regarding reproductive health care stakeholders may determine the program's effectiveness in addressing the public health problem.

2. How effective is the HLP in improving healthcare students' knowledge and skills related to reproductive health?

- Stakeholders such as the program developers, educators, and healthcare professionals, will be interested in directly assessing the program's impact on the participants' tangible knowledge and skills. Evaluating the effectiveness provides insight into the program's ability to meet its goals and objectives while informing potential improvements for future implementation.

3. What are the strengths and weaknesses of the HLP in addressing gaps in healthcare curricula?

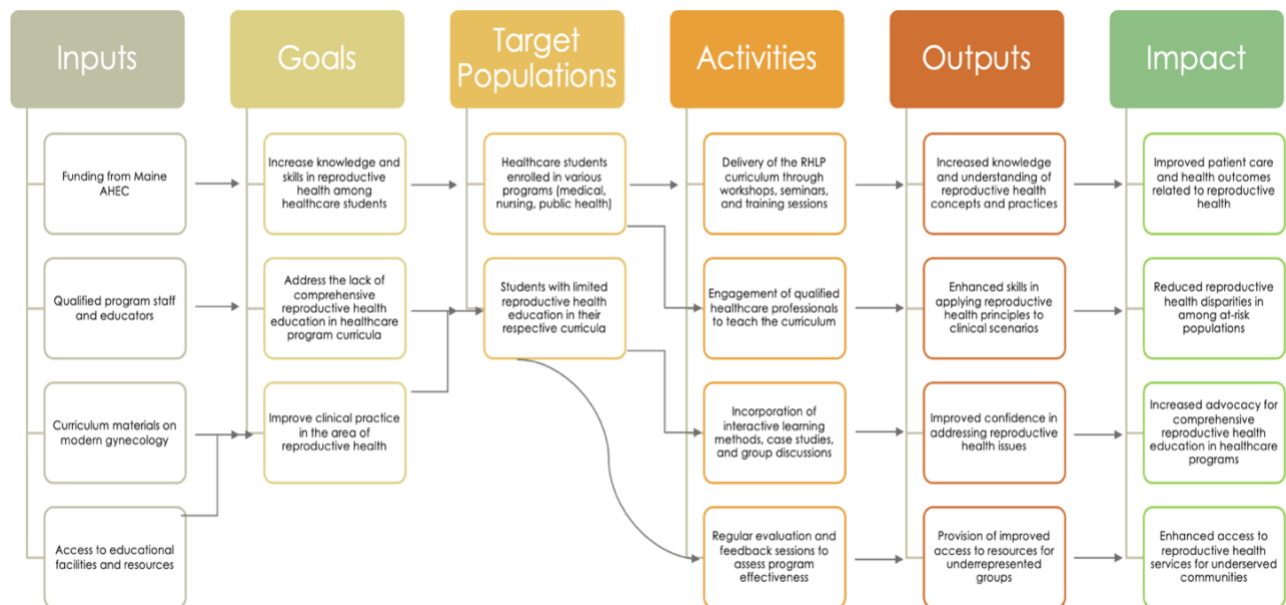
- Stakeholders, including the program director, educators, and likely policymakers, will want to follow how this pilot program augments current curricula being delivered in graduate health programs. This question helps identify areas where the program might excel and where room for improvement remains.

4. How does participation in the HLP impact healthcare students' overall coursework and clinical preparedness?

- This question aims to explore the broader impact of the HLP on students' academic journey and learning experience. Examining supports and barriers that students encounter, stakeholders may identify factors that either facilitate or hinder students' engagement and successful completion of the program.

Logic Model

Figure 1. Logic Model for Evaluation of a Health Leadership Program in Maine (HLP).



A prior evaluation²² of the HLP pilot program assessed participants (N=24) on learning objectives pertaining to transgender health, reproductive health history, and health equity's relation to reproductive health where participants rated their agreement with statements before and after their experience in HLP on a scale of 1 to 5 (1 = Strongly Disagree, 5=Strongly Agree). The approach to this project was guided by an advanced program evaluation framework that included steps to develop a thorough evaluation plan, collect and analyze data, and report findings along with recommendations for overall program sustainability and improvement.²² The present evaluation supplemented this quantitative data to incorporate qualitative data through focus group discussion with students who successfully completed HLP.

Best practices of program evaluation¹⁷ were utilised to assess the impact of HLP on healthcare students' attitudes, beliefs, and clinical preparedness including a logic model representing key program components and evaluation questions described in detail above. The logic model (Figure 1) outlined program inputs, activities, outputs, outcomes, and impacts, providing a comprehensive overview of the evaluation framework and guiding principles. The model illustrates a logical flow of the process, depicting how HLP's implementation and outcomes are assessed to inform program improvements and achieve its long-term goals of enhancing RHE in healthcare curricula.

Given the geographical distribution of potential participants, the focus group was conducted virtually using Zoom.²³ Utilizing Zoom allowed for real-time interaction by providing a secure online communication platform that retains privacy and data security.²⁴ This session was recorded and transcribed verbatim using Zoom's native service.²³ The transcription was then rechecked and corrected for grammar mistakes to provide a comprehensive textual representation of participants' statements, which served as the primary data source for thematic analysis. To

ensure the confidentiality and anonymity of participants, all identifying information was removed during the transcription rechecking process, replacing names with suggested AI²⁵ generated pseudonyms to safeguard privacy. This final de-identified transcript was put into Grammarly²⁶ for a last check and securely stored in a password-protected and encrypted electronic database accessible only to authorized personnel involved in the evaluation process.

To ensure transparency and to verify accuracy of transcribed data, the de-identified transcript was shared with focus group participants. This process of member checking allowed participants to review their contributions and validate the accuracy of recorded statements. Participant feedback in this way ensured reliability and credibility of the data while reducing researcher bias in accordance with best practices of qualitative data analysis.²⁷

For qualitative data analysis, ATLAS.ti²⁸ was utilized due to its ability to systematically organize and analyze qualitative data gathered from the focus group discussion. This allowed for confirmation of emerging themes related to program effectiveness. ATLAS.ti consequently enabled efficient coding and cross-referencing of data segments, aiding in subsequent extraction of meaningful insights from the participants' responses. By combining the secure use of Zoom to conduct the focus group, ATLAS.ti for in-depth qualitative analysis, thorough de-identification, and member checking, a robust evaluation process was ensured all while safeguarding confidentiality of participants and data.

Results

The prior evaluation's quantitative data²² analysis focused on five essential learning objectives encompassing transgender health, reproductive health history, and health equity's correlation with reproductive health. Participants rated their agreement with these objectives

before and after training, using a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree).²²

The results revealed varying degrees of knowledge improvement among objectives, with the highest increase reaching 91% and the lowest at 61%.²² A mean increase of 83% was seen across all objectives with a median increase of 87%.²² These findings reveal the training program's effectiveness in enhancing participants' understanding and readiness in specified areas.

The two learning objectives²² with highest increase in knowledge (91%) were: 'Describe the evidence-based 10 Best Practices for Contraceptive Counseling within a reproductive justice framework' and 'Understand the basic concepts related to abortion.' The objective with the lowest increase (61%) was 'Understand basic terminology, theory, health disparities... [of] transgender health,' addressed via an online video. All five learning objectives (Table 1), however, demonstrated statistically significant increases ($p < 0.0001$) post-training.

Table 1. Learning Objective Data for HLP.²²

Learning Objectives	Mean Diff	Pre Mean	Post Mean	t	p-value
Describe the evidence-based 10 Best Practices for Contraceptive Counseling, within a reproductive justice framework, and when caring for those populations at risk of reproductive health disparities including youth.	2.217	3.70	4.57	9.120	<0.0005
Understand the basic concepts related to abortion including types, safety, clinical considerations, and access.	1.609	3.17	4.61	8.656	<0.0005
Identify strategies for addressing health disparities in reproductive health through individual and community based approaches.	1.565	3.04	4.65	6.466	<0.0005
Understand the historical context of modern gynecology and contemporary contraceptive methods with a health equity lens.	1.435	2.17	4.39	6.936	<0.0005
Understand basic terminology, theory, health disparities, and support as they relate to transgender health.	0.870	3.00	4.57	4.309	<0.0005

The recent evaluation of qualitative revealed two main themes (Table 2) underlying major change factors in the HLP: concept and strategy. Concept represented participants responses that identified a change in their grasp on knowledge or formation of new ideas whereas strategy elicited tangible solutions that may be implemented for change. Concept accounted for 22% of all codes, with participants (N=2) describing experiences and instances where discrimination based on race, ethnicity, or other innate factors influenced participant

perceptions. Additionally, participants emphasized the importance of recognizing and upholding principles of humanity, fostering an environment of empathy, and understanding of each patient as a unique person rather than a sum of maladies.

In the strategy theme, which accounted for 27% of all codes, two significant aspects emerged: justice and compassion. Participants acknowledged a need for justice in addressing issues of inequality and inequity within healthcare delivery. This emphasized the importance of creating a fair and inclusive environment where all patients are treated with respect and equity, made more likely due to relevant RHE that draws on intersectionality of individuals' unique needs. Moreover, participants highlighted the importance of empathy by acknowledging the potential impact of a larger cohort than HLP's pilot (N=32), along with increased diversity (90% white, 87% women). This emphasis on inclusivity and a broader student representation may contribute to a more enriching and supportive learning environment within HLP.

Table 2. Themes Underlying Change Factors and Associated Codes for HLP.

Theme Underlying Change Factor	Code Concept	Definition	Words or Excerpts Included
Concept	<i>Discrimination</i>	Student describes that session highlighted people being treated poorly for certain characteristics	<ul style="list-style-type: none"> • Bias • Prejudice
	<i>Humanity</i>	Student demonstrates recognition of basic human rights that need to be maintained	<ul style="list-style-type: none"> • Rights • Safety
Strategy	<i>Justice</i>	Student explains aspects that are prerequisite to equal treatment of all individuals	<ul style="list-style-type: none"> • Informed • Access
	<i>Compassion</i>	Student describes feeling empathy, care, and concern for suffering of others	<ul style="list-style-type: none"> • Quotes • Stories

Recognition of discrimination and an emphasis on promoting humanity highlight the importance of eradicating all forms of discrimination and fostering an environment of inclusivity and understanding. Furthermore, student emphasis on justice and compassion highlights the significance of incorporating fairness and empathy into HLP's strategies to create an enriching

and supportive learning environment. Consequently, the extracted themes may offer valuable insight into the dynamics driving change within HLP.

Discussion

Qualitative evaluation of HLP offers valuable insights into the program's effectiveness in preparing healthcare students for clinical practice and addressing the limited RHE which contribute to reproductive health disparities. Findings from the focus group discussion and thematic analysis shed light on key themes underlying change factors (e.g., discrimination, humanity, justice, and compassion) in delivering patient care. These themes highlight the overall impact of HLP on the two interviewed students' attitudes, beliefs, and perspectives regarding reproductive health topics, underscoring the program's tangible influence on clinical preparedness and educational experience.

Qualitative data collected from the focus group discussion emphasized HLP's profound impact on interviewees. Exemplary quotes (Figure 2) highlighted how time constraints pertaining to program involvement were outweighed by significant benefits, indicating a high level of engagement and satisfaction. The focus group discussion illuminated specific areas where HLP excelled, such as promoting a sense of compassion and justice in the provision of reproductive healthcare. Interviewees reported enhanced cognizance of the importance for equitable access to reproductive health services and awareness of discriminatory practices, reflecting the program's emphasis on social justice. Additionally, HLP was successful in fostering a sense of humanity in healthcare practice, with interviewees expressing a deeper understanding of patients' diverse needs and the consequent importance of individualized care.

Figure 2. Exemplary Quotes from HLP Focus Group Discussion.

"Every single time this program was a slight burden for me, the dividends that I received, either in my education or personal life were just wow"

"This is such a gift to be able to do it was a really big deal, I feel bad for the people that were less engaged because I got so much out of it"

Evaluation also identified several areas for potential improvement in subsequent deliveries of HLP. Interviewees pointed out a need for ongoing support and mentorship, especially when attempting to address complex clinical scenarios related to reproductive health. Moreover, interviewees suggested incorporating more opportunities for skill-building and experiential learning to reinforce theoretical knowledge and boost confidence in translating their learning to practice. Despite a limited number of participants in the focus group discussion, insights gained from this study provide valuable preliminary evidence of HLP's impact on interviewees' attitudes, beliefs, and clinical preparedness. In-depth perspectives contained in participants stories,²⁹ from unique fields of study (social work and medicine), allowed for exploration and understanding of program aspects that resonated with soon to be healthcare practitioners.

Although a small sample size may limit generalizability of the findings, it has provided concrete data that may inform future research and program improvement. Smaller groups facilitate closer relationships between participants and researchers oftentimes leading to more natural conversations and rich data.³⁰ Ease in program enrollment (N=32) but difficulties in focus group recruitment (N=2) highlight a need for strategic planning and collaboration with key stakeholders to enhance participation in future evaluations. Recruiting healthcare students, especially with rigorous academic schedules, can be a distinct challenge. Experiences gained from recruitment obstacles provide valuable lessons for future researchers seeking to conduct evaluations in similar settings. Strategies such as engaging faculty and academic advisors,

offering incentives for participation, and a longer recruitment lead-time might be explored to enhance recruitment rates and ensure a diverse and representative sample.

Exploring subsequent impacts on learning may inform educators on potential areas for collaboration and integration of HLP within broader healthcare curriculum. Thematic analysis allowed for identification of key change factors highlighting concepts of discrimination, humanity, justice, and compassion that shaped students' perspectives. With more than 70% of post-graduate physician trainees reporting gender medicine (how diseases vary across genders) and related RHE topics insufficiently discussed in their training programs, need remains high.³¹ Aspiring healthcare students also unanimously believe doctors should be able to handle these topics in their practice.³² As research continues to build upon preliminary findings, larger and more diverse samples should be targeted for generalizability and long-term impact of RHE programs like HLP. Furthermore, longitudinal research designs may assess the program's effects over time and its influence on students' clinical practice and patient outcomes.

Analyzing the supports and barriers encountered by students participating in HLP is essential in identifying aspects that contribute to the program's success and potential challenges. Understanding factors that positively influence students' engagement, such as dedicated faculty support or flexible learning formats, might inform best practices for future program iterations. Similarly, recognizing barriers faced by students, such as conflicting schedules or insufficient resources, may guide program improvements to enhance participation and ensure opportunity. As such, an exit interview (Appendix) could provide an additional tool to supplement data gathered from participants and contribute to more comprehensive feedback while promoting participant ownership in the evaluation process. Through collaborative efforts and innovative

research, future studies may continue to advance RHE, ultimately contributing to improved healthcare delivery and equitable access to reproductive health services.

Recommendations

Based on evaluation findings, a few key recommendations (Table 3) can be made to enhance the effectiveness of HLP and similar RHE programs:

Table 3. Themes Underlying Change Factors and Associated Codes for HLP.

Stakeholders	Recommendation	Timing
Students Educators Healthcare Professionals	1. <u>Continued Program Support</u> : To ensure long-term benefits for students, establishing a support system would offer ongoing mentorship and guidance. Reflection and development would bolster clinical confidence and competence.	Following graduation of students from their respective degrees
Students Educators Healthcare Professionals	2. <u>Experiential Learning</u> : To augment the program's didactic components with hands-on experiences, such as simulations, would reinforce theoretical knowledge and enhance students' practical skills in reproductive health care.	During program planning for the next cohort of HLP
Educators Policymakers Healthcare Organizations	3. <u>Program Scalability</u> : Opportunities to expand the HLP to reach a broader audience of healthcare students would allow for collaboration with other organizations to adapt the program to diverse settings and populations.	Subsequent iterations of HLP depending on funding feasibility
Educators Policymakers Healthcare Organizations	4. <u>Evaluation Longitudinal Impact</u> : Follow-up evaluations to assess the program's long-term impact on participants' clinical practice and patient outcomes would provide valuable data on the program's sustainability and effectiveness.	After the first 2-3 HLP cohorts have been in practice

Evaluation of HLP has demonstrated its significant positive impact on healthcare students' attitudes, beliefs, and overall clinical preparedness in reproductive health. HLP's emphasis on concepts of discrimination, humanity, justice, and compassion has proven instrumental in transforming students' perspectives and enhancing program commitment to providing equitable and compassionate reproductive healthcare. By implementing the recommendations outlined above, HLP and similar RHE programs might further optimize their effectiveness and contribute to improved patient outcomes, reduced health disparities, and a more comprehensive approach to RHE across all healthcare curricula.

Appendix ^{17,18,33,34}

1. Overall, how has your participation in the HLP influenced your attitudes and beliefs regarding reproductive health care?
 - Much more positive
 - Somewhat more positive
 - No change
 - Somewhat more negative
 - Much more negative
2. How would you rate the effectiveness of the HLP in improving your knowledge and skills related to reproductive health?
 - Highly effective
 - Moderately effective
 - Somewhat effective
 - Not very effective
 - Not effective at all
3. Please share any specific areas of the HLP that were particularly helpful in enhancing your reproductive health knowledge and skills.
4. Were there any challenges or barriers you encountered during your participation in the HLP? If yes, please describe them.
5. How do you think the HLP can be improved to better address the gaps in healthcare curricula related to reproductive health?
6. Did you find the program supportive in addressing your preparedness to provide reproductive health services in clinical practice? If yes, please provide examples. If no, please share any suggestions for additional supports.
7. Overall, would you recommend the HLP to other healthcare students in your field?
 - Yes
 - No
8. Please share any other comments or feedback you have about the HLP below.

Appendix. Exit Interview For HLP Participants.

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