


Structured Engagement of Community Partners to Revise a Pregnancy Options Counseling Curriculum for Pediatric Residents

Laura Kirkpatrick¹, Paula Goldman¹ , Lauren Arnold Bell², Crystal Pirtle Tyler³, Elizabeth Harrison¹, Margaret Russell¹, Tahniat Syed¹, Nicholas Szoko¹  and Traci M Kazmerski^{1,4}

¹Department of Pediatrics, UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA, USA. ²Department of Pediatrics, Riley Children's Hospital, 705 Riley Hospital Drive, Indianapolis, IN, USA. ³Rhia Ventures, San Francisco, CA, USA. ⁴Center for Innovative Research on Gender Health Equity, Pittsburgh, PA, USA.

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ABSTRACT

OBJECTIVE: The engagement of community partners, including patients, is increasingly recognized as important in developing medical education curricula. Structured methodology for partner engagement in curriculum development is lacking in the existing literature. This article describes a structured approach to engaging community partners to provide input on revising a curriculum for pediatric residents about pregnancy options counseling with adolescents.

METHODS: We used the five-step Method for Program Adaptation through Community Engagement: (1) development of a panel of community partners including patients and professionals, (2) and (3) partner evaluation of the existing curriculum and recommendations for revisions, (4) summarization of partner feedback, and (5) development of the revised curriculum. We surveyed partners about their perceived impact on the revision and satisfaction with the process.

RESULTS: Seventeen partners participated. Five experienced adolescent pregnancy, while the remaining 12 included healthcare and social service professionals. All partners provided multiple recommendations, generating 124 discrete recommendations. Twenty recommendations were suggested by multiple individuals. The authors reviewed all recommendations by category during consensus meetings and determined which recommendations would be incorporated into the revised curriculum to meet stated learning objectives. We implemented 14 of these 20 recommendations, including adding a values clarification exercise, information about mental health crisis resources, and more detail about adoption. We also incorporated 15 individual recommendations pertaining to curriculum clarity. Recommendations from professionals and patients were similar. Fourteen out of 17 participants completed the survey at the close of the project. All respondents understood their roles, were satisfied with their degree of engagement, and felt that their expectations for participation were met or exceeded.

CONCLUSIONS: This study describes a methodology for a formal process to engage community partners in curriculum development and revision processes. Such methodology can ensure that medical education curricula are optimally attuned to the needs of key community members and integrate the patient's voice.

KEYWORDS: Medical education, community engagement, pregnancy options counseling

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CORRESPONDING AUTHOR: Laura Kirkpatrick, Department of Pediatrics, UPMC Children's Hospital of Pittsburgh, 4401 Penn Avenue, Pittsburgh, PA 15224, USA.
Email: laura.kirkpatrick2@chp.edu

Introduction

The American Academy of Pediatrics recommends that pediatricians should be prepared to provide comprehensive, unbiased options counseling to pregnant adolescents.¹ Pregnancy options counseling is the process of discussing all potential outcomes of a pregnancy, including parenting, adoption, and abortion with a pregnant individual. Given the importance of pregnancy options counseling with adolescents, the study team previously developed a curriculum for first-year pediatric residents. The study team initially piloted this curriculum in our institution in 2019, and it was adopted as part of the annual required

core educational content for the residency program.¹ The curriculum is structured as a 2-hour training session, which includes a brief didactic followed by practice cases with standardized patients.² Pilot results from pre/post surveys indicated significant improvements in knowledge and confidence in pregnancy options counseling, and evaluation data indicated acceptability of the intervention.²

However, despite a successful pilot, we recognized that this curriculum could be strengthened through input from people who experienced adolescent pregnancy and community professionals who care for pregnant adolescents. Engagement of



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community partners, including patients, is increasingly recognized as an important step in developing medical education curricula.³⁻⁷ Community partnerships can align curriculum objectives and content with the priorities, needs, and experiences of key groups including patients, community members, and multidisciplinary healthcare professionals. Yet, few studies describe how to incorporate such partners in curriculum design.^{6,7} Prior work has largely focused on incorporating patients as educators of teaching sessions.^{3,6} In this article, we describe our approach to community partner engagement in the development and revision of an educational curriculum for pregnancy options counseling for pediatric residents and our evaluation of the collaboration process. We drew upon evidence-based participatory research frameworks and evaluation processes in developing our methodology.⁸⁻¹⁰ In doing so, we address a gap in the existing literature on the engagement of community partners in curriculum development beyond roles as educators of teaching sessions.

Methods

To revise our curriculum, we followed Kern's six-step model of curriculum development which suggests an iterative bidirectional relationship between implementation of a curriculum and further needs assessment and adaptation.¹¹ After completing Kern's fifth step of "implementation" (through our pilot version of the curriculum), we proceeded to Kern's sixth step of "evaluation and feedback." After completing an evaluation of the pilot curriculum among learners,² we decided to seek further "evaluation and feedback" in this project through a partnership with community members.

The revision entailed multiple phases. We first conducted qualitative interviews with individuals who experienced adolescent pregnancy, the results of which are described elsewhere,¹² in order to obtain their recommendations for best practices on pregnancy options counseling with adolescents. Next, we drew upon an evidence-based framework for community partnership, the modified Method for Program Adaptation through Community Engagement (M-PACE), to engage community partners in proposing curriculum revisions and reviewing themes for best practice recommendations derived from formal analysis of the qualitative interview results.⁸ Community partners included adults ages 18 to 35 years old who experienced a pregnancy prior to age 20 years old and multidisciplinary health professionals serving pregnant adolescents. Among professionals, we aimed to recruit from the following disciplines: pediatrics, abortion care, emergency medicine, obstetrics-gynecology, social work, and adoption services. An overview and timeline for our project is demonstrated in Figure 1.

Ethical approval

The University of Pittsburgh Institutional Review Board deemed this study exempt from review (STUDY21070054).

Formal informed consent was not required due to the exemption process.

Participatory curriculum revision

We used a structured plan to engage community partners in curriculum revision. We employed methodology derived and modified from the M-PACE.⁸ A modified M-PACE approach has previously been used to create patient-centered educational materials for women with cystic fibrosis.⁹ M-PACE is a five-step process entailing: (1) development of a panel of partners, (2) generation of recommendations, (3) evaluation of existing resources, (4) summarization of collaborator feedback, and (5) development and adaptation of educational resources.⁸ This study was based in Pittsburgh, Pennsylvania and involved virtual interviews and correspondence with individuals across the United States occurring from August 2021 to January 2022 using methodology adapted from participatory research.

M-PACE step (1): development of a panel of partners

We recruited a purposive sample of both individuals who had experienced pregnancy before the age of 20 years old and professionals serving pregnant adolescents to serve as partners in our curriculum revision. We recruited people who had experienced pregnancy before the age of 20 years old from social media sites such as Craigslist as well as the Pitt + Me registry, a research registry maintained by the University of Pittsburgh. We purposively recruited for heterogeneity in pregnancy outcomes (among parenting, adoption, and abortion). We recruited partners who are healthcare and social service professionals through direct outreach to targeted clinical and service organizations, as well as through the Pitt + Me registry. We recruited partners both nationally across the United States and regionally in Western Pennsylvania. Recruitment interactions occurred predominantly over email. We compensated all partners for their time with a \$50 Amazon gift card after the study.

M-PACE steps (2) and (3): generation of recommendations and evaluation of existing resources

We obtained partner input on the curriculum through one-on-one key informant interviews with each partner, conducted over Zoom teleconference software. Two project team members (Laura Kirkpatrick and Paula Goldman) performed all interviews. One interviewer (Laura Kirkpatrick) is a female pediatric neurologist with experience in conducting research interviews, and the other (Paula Goldman) is a female adolescent medicine physician with a family medicine background who was trained by the principal investigator to conduct the study. We chose to interview partners individually to ensure that patient partners, who may have had sensitive experiences

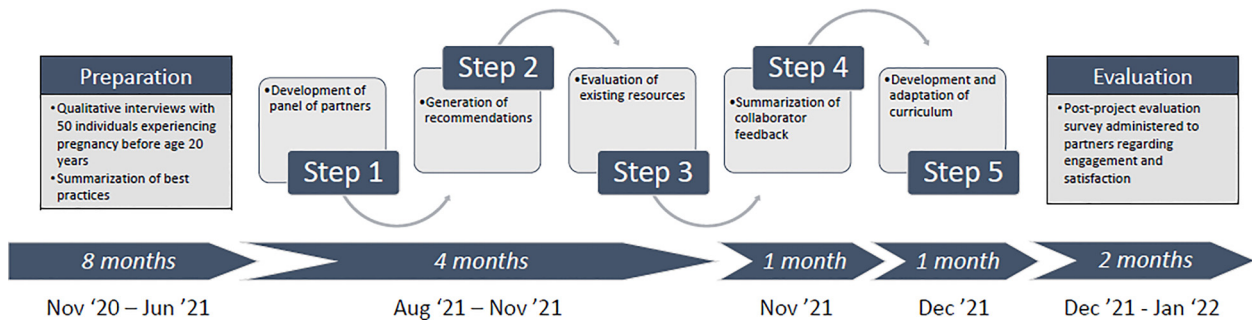


Figure 1. Modified Method for Program Adaptation through Community Engagement (M-PACE) model and timeline.

Table 1. Survey for evaluation of satisfaction and engagement in collaborative curriculum revision.

| |
|---|
| Have you received all of the information that you would like to receive about the project? |
| Have you been able to provide all of the feedback that you would like to share about the project? |
| Has the project team adequately responded to the feedback you have shared? |
| What impact, if any, have you observed in response to the feedback you have provided? |
| How would you describe your role on this project to others? |
| How would you describe communication between team members on this project? Is there anything you would change about this communication process? |
| How has your experience so far compared to your expectations? |
| Do you feel you are being compensated appropriately for your time and expertise? |
| How can we improve our ability to incorporate your knowledge and recommendations into current and future projects? |
| Please share any other comments about this experience and how we can improve it. |

related to their pregnancies, would feel comfortable sharing recommendations without intimidation. In addition, individual interviews allowed greater flexibility for scheduling. Furthermore, we wanted to ensure that partners with differing personal convictions about potentially controversial issues such as abortion would feel comfortable sharing their perspectives freely. Only one interviewer and one partner attended each interview session. Interviewers did not have a relationship with study participants prior to the study. Participants were aware of the demographic characteristics and professions of the interviewers as well as the purpose of the study.

In advance of each interview, we provided each partner with the facilitation guide written for the initial pilot training on pregnancy options counseling with adolescents. Reviewing the facilitation guide provided partners with the opportunity to review the existing curriculum. The facilitation guide is the document describing how to conduct the curriculum, including

all scripts and content, aiming for replicability. We also provided a summary document explaining the key findings of our initial qualitative interviews with individuals who experienced adolescent pregnancy. In each meeting, we comprehensively reviewed the curriculum facilitation guide and qualitative interview findings and solicited feedback using a semistructured interview guide developed by the principal investigator (Supplemental Appendix 1). During the meeting, participants had opportunities to ask clarifying questions and ensure their comprehension of the curricular content. The interview guide was not validated or pilot tested. We specifically asked how the facilitation guide could better reflect the recommendations derived from the qualitative interviews, as well as how to improve the facilitation guide based on the partners' own experiences and expertise. Each interview lasted between 30 and 60 minutes. Repeat interviews were not performed. The specific interviewer who conducted each respective interview documented detailed field notes, and the principal investigator (Laura Kirkpatrick) extracted recommendations for curriculum revisions from these field notes.

M-PACE step (4): summarization of collaborator feedback

After all interviews were complete, the study team convened by teleconference to review recommendations from partners. The principal investigator (Laura Kirkpatrick) collated all recommendations and organized them by the number of participants who had proposed each recommendation. The study team discussed and evaluated all recommendations originating from multiple partners. The study team met to review the summarized inputs and determine which to implement based on feasibility and fidelity to the learning objectives of the curriculum. The study team also decided as a group to implement all recommendations pertaining to the clarity and readability of the facilitation guide including those proposed by only one collaborator.

M-PACE step (5): development and adaptation of the curriculum

The study team revised the curriculum with all recommendations chosen for implementation. Following this revision, the

study team distributed the resulting product to the partners by individual email for a further round of revisions and revised the curriculum again based on their feedback.

Process evaluation

At the conclusion of the project, we distributed to the partners an anonymous survey regarding their engagement and satisfaction with the curriculum revision process. In doing so, we followed a model proposed by Ray and Miller for the measurement of stakeholder engagement.⁹ The survey questions are displayed in Table 1.

Results

Panel composition

Seventeen community partners participated in the project. Five were adults who experienced pregnancy before the age of 20 years old. Two partners experienced abortion, 2 experienced parenting, and 1 experienced 2 adolescent pregnancies, 1 culminating in parenting, and the other culminating in adoption placement. The remaining 12 partners included physicians, social workers, and 1 executive director from the diverse fields of pediatric primary care, adolescent medicine, obstetrics–gynecology, pediatric emergency medicine, adoption services, and abortion care. One additional individual (from pediatric emergency medicine) did not participate in the study due to logistical

difficulties with scheduling. A description of partners is available in Table 2.

Recommendations

All partners provided multiple recommendations in the revision process, generating a total of 124 discrete recommendations (median 6, range 2–28). Professionals (median 12, range 3–28) generally provided more recommendations than patients (median 4, range 2–13), though recommendations among the 2 groups were largely similar. Twenty recommendations originated from more than one individual. These were categorized as pertaining to values and biases, mental health, adoption, prenatal care, parenting, standardized patient cases, and confidentiality. Six individuals recommended the addition of a values clarification exercise to the didactic portion of the training to encourage participants to reflect on their personal biases and attitudes about pregnancy during adolescence. Four individuals recommended that we encourage training participants to provide all adolescents with information about mental health crisis services in case such resources are needed. Additional recommendations proposed by multiple partners are detailed in Table 3. Of the remaining 104 recommendations that originated from individual partners only, 15 pertained to the clarity and readability of the facilitation guide. The other 89 recommendations covered a variety of topic areas, including but not limited to adoption, abortion, and contraception. Data saturation across recommendations was achieved after 14 interviews, though we continued through 17 interviews to ensure sample heterogeneity in terms of professions included among patient-facing community partners.

Initial revision

After reviewing all recommendations from multiple partners, the study team agreed to implement 14 out of 20 recommendations. Reasons for not implementing certain recommendations included that the proposed content would be beyond the scope of the learning objectives of the training or that certain content was already covered thoroughly in the existing curriculum. Decision-making around the implementation of the recommendations is documented in Table 3. We implemented all changes pertaining to the clarity and readability of the facilitation guide.

Additional revisions

Following initial feedback and revision, email distribution of the revised curriculum generated an additional 9 recommendations from 11 partners (bringing the overall process total to 133 recommendations). These were categorized as pertaining to values and biases, mental health, diversity, patient empowerment, abortion, adoption, standardized patient cases, and costs/expenses. Four of

Table 2. Description of partners in curriculum revision.

| PARTNER CATEGORY | DESCRIPTION |
|--------------------------------------|---|
| Patient partners | <ul style="list-style-type: none"> • Young adult who had experienced abortion before 20 years old • Adult who had experienced abortion before 20 years old • Adult who experienced parenting and adoption placement before 20 years old • Adolescent who experienced parenting before 20 years old • Young adult who experienced parenting before 20 years old |
| Healthcare professional partners | <ul style="list-style-type: none"> • Pediatric emergency medicine physician and medical education expert • Abortion provider • Pediatric primary care physician • Pediatric primary care physician • Adolescent medicine physician • Obstetrician–gynecologist involved in prenatal care provision |
| Social service professional partners | <ul style="list-style-type: none"> • Social worker at faith-based adoption ministry • Social worker at national adoption agency • Social worker at youth advocacy organization • Social worker at dedicated obstetric hospital • Executive director at nonprofit organization serving birthparents |

Table 3. Curriculum recommendations from multiple partners in initial interviews.

| CATEGORY | RECOMMENDATION | NUMBER OF PARTNERS | DECISION |
|----------------------------|--|--------------------|---|
| Values and biases | Add a values clarification exercise | 6 | Implemented |
| | Increase content about racial/ethnic biases and options for counseling | 2 | Implemented as part of values clarification exercise. |
| | Clarify wording about conscientious objection | 2 | Implemented |
| Mental health | Encourage universal referrals for mental health crisis services in case needed | 4 | Implemented |
| Adoption | Indicate that persons placing for adoption can choose the adoptive parents | 3 | Implemented |
| | Indicate explicitly that adoption is not foster care or the child welfare system | 2 | Implemented |
| | Indicate that persons placing for adoption can arrange for degree of openness with adoptive family, but the arrangement is not legally enforceable | 2 | Implemented |
| | Indicate that adoption is a legally binding agreement, but not made until 48 hours after birth | 2 | Implemented |
| | Encourage neutral language about adoption | 2 | Implemented |
| Prenatal care | Ensure sufficient emphasis on pregnancy care, including prenatal care referrals and vitamin provision | 3 | Not implemented—perceived as already part of the curriculum |
| | Ensure participants are advising pregnant adolescents to avoid substance use during pregnancy | 2 | Not implemented—perceived as already part of the curriculum |
| Parenting | Ensure discussion of parenting balances empowerment to parent versus acknowledgment of challenges of parenting | 3 | Not implemented—perceived as beyond the scope of curriculum objectives |
| Standardized patient cases | Consider increasing the diversity of settings of standardized patient cases | 2 | Not implemented—due to the desire to keep cases relatively standardized |
| | Consider including a standardized patient scenario in which a patient is at a later gestation (ie, 16-20 weeks pregnant) | 2 | Not implemented—perceived as beyond the scope of curriculum objectives |
| | Include a vignette of pregnancy options counseling prior to test resulting | 2 | Not implemented—perceived as beyond the scope of curriculum objectives |
| | Include a discussion prompt after standardized patient cases about establishing follow-up and continuity with the patient | 2 | Implemented |
| | Include sample handouts | 2 | Implemented |
| | Consider including contraceptive counseling in the standardized patient scenarios | 2 | Not implemented—perceived as beyond the scope of curriculum objectives |
| Confidentiality | Include more explicit instructions that participants are to ensure adolescent confidentiality in the standardized patient scenarios | 2 | Implemented |
| | Include information about confidentiality and the electronic medical record | 2 | Implemented |

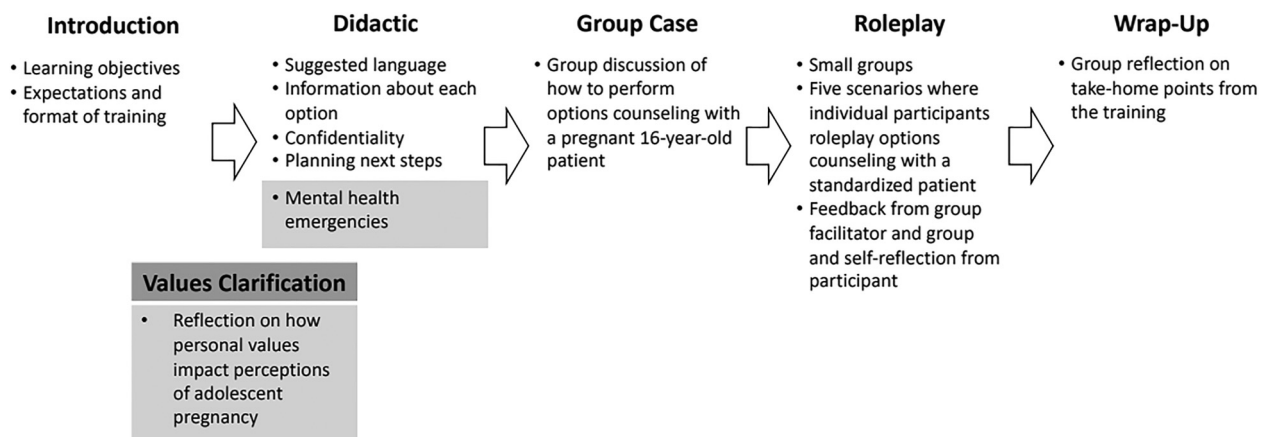
these new 9 recommendations were implemented in the final version of the curriculum. Among implemented recommendations were to incorporate greater acknowledgment of gender diversity, including nonbinary and transmasculine individuals, into the training. Recommendations from this stage of the process, and decision-making about implementation, are detailed in Table 4. A summary of the revised curriculum is depicted in Figure 2.

Survey evaluation

Fourteen of 17 partners completed a survey to evaluate and measure their engagement in the collaboration process. Two of the individuals who did not respond to the survey were professionals and one was an individual who had experienced adolescent pregnancy. Partners predominantly described their role in the project as to “provide feedback” or “provide input.” One

Table 4. Partner recommendations for curriculum revisions: second phase.

| CATEGORY | RECOMMENDATION | COLLABORATORS | DECISION |
|----------------------------|--|---------------|---|
| Values and biases | Focus on engaging the adolescent and providing all options with no bias | 1 | Not implemented—perceived as already part of the curriculum |
| Mental health | Add mental health crisis resources to handout of resources | 1 | Implemented |
| Diversity | Acknowledgment that not all people who become pregnant identify as women | 2 | Implemented |
| | Remove content about race/ethnicity from values clarification exercise | 2 | Not implemented—retained due to feedback from initial interviews to include more content about race/ethnicity |
| Patient empowerment | Balance empowering patients with recognizing that they are not yet adults | 2 | Not implemented—perceived as already part of the curriculum |
| Abortion | Clarify language in facilitation guide about abortion provision | 1 | Implemented |
| Adoption | Add specific suggested resources about adoption to handout of resources | 2 | Implemented |
| Standardized patient cases | Include a standardized patient scenario where patient has a different opinion than her partner about pregnancy options | 1 | Not implemented—perceived as already part of the curriculum |
| Costs/expenses | Include content about costs involved regarding different pregnancy options | 1 | Not implemented—perceived as already part of the curriculum |

**Figure 2.** Curricular outline with revisions (highlighted in gray).

also described herself as a “collaborator and curriculum advisor,” and another described herself as an “informant.” All partners reported that they received all information that they wanted about the project, they were able to provide all of the feedback that they wanted about the project, and they felt that the study team’s response to their feedback was adequate. Twelve of 14 partners reported that communication during the study was adequate, with one skipping this question and one reporting that instructions for email follow-up could have been clearer. All reported that their experience with the project met or exceeded their expectations.

Discussion

In this article, we describe our methodology for incorporation of key community partner perspectives and insights into the revision of a curriculum on pregnancy options counseling with adolescent patients for pediatric residents. There is a large and growing body of literature about engaging patients and other partners in the research process.^{13,14} Participatory models in research have been promoted by US agencies such as the Patient-Centered Outcomes Research Institute (PCORI), which prioritizes collaborator involvement in all phases of the research design process.¹⁵ However, involvement of community

partners, particularly patients, in medical education has predominantly been limited to incorporating them in the role of teachers in education sessions, rather than in the process of curriculum design.^{3,6} Utilizing patients exclusively as teachers in education sessions has been criticized in the literature due to concerns about tokenism and voyeurism.¹⁶ Our project demonstrates one model of incorporating patient and other perspectives into curriculum design.

In utilizing partner engagement to revise our curriculum, we followed the methodology outlined by Kern and co-authors¹¹ describing a bidirectional relationship between implementation and further revision. We additionally drew upon existing, evidence-based participatory models, including structuring our engagement process using a modified M-PACE approach and utilizing an evaluation process recommended by Chen et al⁸ and Miller and Ray.¹⁰ Few previous studies describe a methodology for incorporating patient and other partner perspectives in curriculum design specifically.^{6,7} Our collaborators reported positive experiences of engagement in the project through our evaluation process, indicating the feasibility and acceptability of our methodology. The methodology that we describe in this article could serve as a model for future partner-engaged medical education curriculum development projects.

Of note, the most popular recommendation from our collaborators was the addition of a values clarification exercise to the training. Our results taught us the importance of value clarification exercises to encourage learners to reflect on their implicit biases and develop strategies to overcome the potential influence of these biases on their clinical care. Several value clarification exercises have been developed in the reproductive health context, particularly regarding abortion care.¹⁷⁻¹⁹ The popularity of this concept among our partners reflects the importance of asking trainees to perform such reflection. Values clarification exercises have broad applicability to any area of medicine that might be influenced by implicit biases, particularly stigmatized or potentially sensitive topics.

Limitations

Although we found the M-PACE methodology feasible to implement, there were some challenges in the collaborative process. Although we chose our methodology of conducting individual interviews to reduce the likelihood that patient partners might feel intimidated by the presence of others and create a safer space for sharing relevant personal experiences, patient partners provided fewer recommendations than professional partners, suggesting our methodology might have room for improvement in patient engagement. Furthermore, the richness of discussion among patient partners was highly variable. Reasons for this outcome may include patient partners feeling intimidated by the physician interviewer or a self-perceived lack of technical knowledge about medical education. However, none of the partners described any such challenges

or difficulties on the anonymous post-project evaluation survey, and all partners largely described positive experiences in the process. Alternative explanations include that patient partners may have had fewer recommendations in the interview process because the initial curriculum on options counseling may have been already largely acceptable to them. Alternatively, they may have had less experience with participating in similar interviews compared to healthcare and social service professionals, and, therefore, may have been less sure about what input to provide. Future directions for research on the engagement of patients in medical education might include the investigation of techniques to promote more active participation. Our interview guide was also not validated or pilot tested; further research may be needed to determine what interview guide characteristics might be best suited to elicit optimal input from patient partners.

Based on the post-project survey results, partners also largely viewed themselves more as consultants than full partners in the revision process, although perceived roles in the project varied among partners. Such a finding has been observed in prior participatory research studies outside of medical education.^{9,20} Our methodology potentially limited partners' perceptions of their degree of involvement. For example, the study team decided which recommendations to implement during consensus meetings rather than seeking further input from partners or including them in said meetings. We also internally adjudicated discrepancies in the feedback. We chose this methodology to minimize the time burden and request fatigue among partners.

However, a full co-governance approach could be trialed in future endeavors, albeit at the expense of requiring a greater commitment of time and effort from the collaborators involved.²¹ A full co-governance approach would not have been entirely feasible in this project, insofar as we had already developed an initial pilot of the options counseling curriculum several years prior. In addition, a full co-governance approach would likely require full group meetings rather than individual interviews and input. Full group meetings have the benefit of allowing partners to adjudicate discrepancies and reach their own consensus. However, we believe that individual input was best suited for this study given the highly personal nature of the values and experiences involved for our partners.

An additional limitation of our study is that we chose to incorporate the perspectives of patient partners who are adults (ages 18-35 years old) who had experienced adolescent pregnancy rather than adolescents themselves. We did so deliberately to allow distance between the index experience of adolescent pregnancy and participant reflections on best practice recommendations for incorporation into the training. We wished to allow participants time to process their experiences, as well as be able to reflect on what aspects of their experiences remained salient and impactful to them over time. However, an alternative approach, and one that we may pursue in future iterations of the training, would be to incorporate the

perspectives of individuals who are currently under 18 years old. An additional future direction might be to include perspectives of adolescent and young adult individuals who have not experienced pregnancy, regarding their anticipatory questions and thoughts about pregnancy options.


Conclusion


In conclusion, we describe a methodology for engaging key partners, including patients and professionals, in a medical education curriculum development project on pregnancy options counseling with adolescents for pediatric residents. In doing so, we draw upon methods developed initially for participatory research. While the content of our project might be most relevant to reproductive health and pediatric providers, the methodology is of broad potential interest in curriculum development. Further methodological research is needed to investigate best practices for engaging patients in curriculum development in roles beyond that of teachers. Future directions for research include the implementation and evaluation of the revised curriculum among learners, which is currently ongoing at 3 pediatric residency sites in the United States.

Author Contributions

Laura Kirkpatrick—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Paula Goldman—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Lauren A Bell—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Crystal P Tyler—conception of the study, data analysis, writing, and editing of the manuscript. Elizabeth Harris—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Margaret Russell—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Tahniat Syed—conception of the study, data analysis, writing, and editing of the manuscript. Nicholas Szoko—conception of the study, data collection, data analysis, writing, and editing of the manuscript. Traci M Kazmerski—conception of the study, data collection, data analysis, writing, and editing of the manuscript.

ORCID iDs

Paula Goldman  <https://orcid.org/0000-0002-2806-3287>

Nicholas Szoko  <https://orcid.org/0000-0002-5660-7114>

Supplemental Material

Supplemental material for this article is available online.

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