CHOICES IN CHILDBIRTH

Academic Health Center Case Study

University of North Carolina

Executive summary

The UNC Health Panther Creek clinic's obstetrics and gynecology (OB/GYN) practice, including the midwifery practice, implemented the Choices in Childbirth (CiC) project from November 2023 to June 2024. This involved developing tools to integrate CiC prenatal education resources into their care model. UNC staff co-designed the project with Primary Maternity Care (PMC) and shared their implementation experiences with Mathematica.

The clinic's goals for this project were to 1) improve health outcomes for UNC-Panther Creek patients by providing timely information which helps them to identify their preferences and priorities and make informed choices about their perinatal care; and 2) provide relevant and accessible materials, tools, and resources that help UNC-Panther Creek patients feel more connected to and engaged in their prenatal care. Despite administrative challenges with getting the original project design approved within the broader academic medical center system, UNC staff appreciated the progress they were able to make and the flexibility of team members in adjusting their implementation plans. Some successes from the project included sharing resources with patients at early prenatal touchpoints and gaining approval for the CiC resource content on the open access UNC OB/GYN patient-facing website.

In this case study, we describe the CiC project at UNC-Panther Creek, discuss staff experiences implementing the project, highlight programmatic data, and summarize lessons learned for other academic health centers providing maternity care.

Background and methods

Choices in Childbirth (CiC) is a first-of-its-kind on-demand resource designed to educate people about their pregnancy and birth options, help them take an active role in their maternity care, and remind them that they are not alone during pregnancy, birth, and beyond. The program includes powerful videos and interactive tools to foster informed decision-making, support individualized care planning, and build strong support systems. It was developed through a year-long, community-centered process led by Every Mother Counts (EMC) and Primary Maternity Care (PMC), with developmental research support from Mathematica. In 2022, with funding from the CVS Health Foundation, these 3 partners sought opportunities to integrate the Choices in Childbirth videos and learning resources into prenatal and primary care settings, and to evaluate the experience and impact of these implementation efforts. The goals of the co-designed interventions would be to help people 1) navigate to culturally-aligned, high-quality prenatal care and support systems, 2) discover and explore evidence-based options such as group prenatal visits, doula support, and midwifery care, and 3) gain tools and confidence to take an active role in their care during pregnancy and beyond.

The UNC-Panther Creek clinic opened in 2020 and offers patients a range of primary care and specialty services. Pregnant patients seeking care at UNC-Panther Creek can see a variety of

clinician types depending on their risk level and preferences, with low-risk patients eligible for nurse-midwife-led care and the option of group prenatal care for English-speaking patients through the Centering Pregnancy program.

UNC-Panther Creek participated in the Choices in Childbirth (CiC) project from April 2023 through June 2024, and started implementing the project's components by November 2023. Staff from UNC and UNC Health were motivated to participate in the CiC project because they saw opportunities to improve the timeliness and clarity of patient connection to resources to navigate the care options available at their clinic, especially the choice between general OBs (GOG OB, for whom there was a waiting list) and midwives. They also observed gaps in existing patient education processes, specifically that UNC asked patients to choose a care model during intake without much detailed guidance on what their options were and how to assess their own preferences and priorities. By participating in the CiC project, UNC staff members sought to provide patients with relevant and accessible materials, tools, and resources to help their patients have more autonomy and aligned prenatal care.

Evaluation methods

Between December 2023 and April 2024, the Mathematica team conducted five semi-structured interviews with staff at UNC and UNC Health. We covered topics including how their project had evolved over time; implementation experiences, including facilitators and barriers to implementing their project; progress toward goals; and lessons learned.

Designing the CiC Project

UNC-Panther Creek's planned project is outlined in the logic model and includes three main steps:

1. The Patient Access Center (PAC) phone bank refers pregnant patients who call in to the UNC School of Medicine OB/GYN website, which links to the CiC resource library.
2. A bilingual nurse navigator sends GOG OB patients identified as low-risk (and therefore eligible for midwifery care) a MyChart message with links to the same website and a note that the navigator would reach out to discuss potential care options.
3. The nurse navigator reaches out to those patients deemed medically eligible for midwifery care and uses the CiC Preferences Screener to track preferences data from patients and recommend specific resources based on those preferences and the Care Navigation Guide.[1]

UNC-Panther Creek's project evolved throughout co-design, launch, and implementation, but was ultimately implemented according to the logic model. The approach was not able to incorporate the digital flip book of CiC and UNC Health resources the team co-developed. Factors motivating this change included:

1. **What was realistic within the broader academic medical center system constraints.** UNC learned that UNC Health is cautious about what resources it shares as part of clinical operations and who has ownership over the content. As such, leadership included some guard rails to the project early on (e.g., email communication and text were not considered to be secure and therefore not permissible from clinicians to patients), as well as added guard rails throughout the co-design process (e.g., limits on mass communication) that prevented certain components of the project from being implemented (see endnote 1). These guardrails also led to the convoluted process of

connecting patients to the CiC resources through a link on the UNC OB/GYN patient resource website rather than offering opportunities for patients to directly access CiC resources (e.g., such as through a specific MyChart message, which was not permitted to include a direct CiC link).

2. **What team members learned about how to best reach pregnant patients and spark their attention.** Because of challenges the nurse navigator experienced when reaching out to patients by phone (limited engagement), this staff member added several care navigation activities to the project. These included expanding the use of QR codes to link patients directly to the UNC OB/GYN website, spending time during Centering Pregnancy groups to walk through how to access and use the CiC resources, and having that staff member approach patients in clinic who were waiting for their first OB appointment to talk with them about the resources.

Implementation design methods

Primary Maternity Care (PMC) used co-design and user experience research to guide how the CiC program was integrated and used at each site. Implementation design involved several steps:

- User experience (UX) research with pregnant and postpartum Choices in Childbirth website users to generate ideas for fostering engagement with video content and interactive features
- Mapping the current pregnant patient/client journey and related operational processes for navigating to and choosing prenatal care and learning about care options
- Co-designing with front-line staff, using patient input, new processes to support patients in 3 areas: 1) Building support systems, 2) Understanding care options, and 3) Knowing their rights
- Configuring patient-facing tools to access the CiC videos and program
- Co-developing training materials for staff

UNC staff shared that their clinic's prenatal care model evolved over the course of the project. Although this did not affect project implementation, the clinic was able to eliminate its waiting list for potential GOG patients, and it began offering patients more flexibility to "try on" a care model and then switch. Given the reproductive health services context within the state[2], UNC-Panther Creek also worked to get pregnant patients into the clinic earlier in their pregnancies to preserve their health care options.

From these activities, UNC staff members anticipated changes to their clinic's existing processes and workflows, as well as impacts on patients' care experiences, which are documented in the logic model and further discussed in the Results section.

Implementation

Overall, UNC staff thought the CiC project was going well, given what had been approved. Several team members highlighted the **early touchpoints with patients** in which staff share vetted resources as valuable, with the routine, universal communication to the UNC OB/GYN patient resource website (with a study-developed short link) as a major success. UNC and UNC Health staff perceived that **patients were excited to receive trusted and accessible prenatal care resources.** Staff also described the longer-term benefits of the project as helping to **set a precedent for how implementation research can be incorporated into clinical settings** at UNC Health.

Additional key successes highlighted by UNC staff included the early work of **gaining approval for the CiC resource content** on the UNC OB/GYN website,

getting buy-in from staff across levels, and providing better education for their patients. One staff member thought the co-design and implementation of this project helped **re-focus their education efforts on patients' needs,** rather than what was routine for the clinic. Another reported that the project **spurred innovation for other educational resources** by placing a greater emphasis on video format because of how positively patients responded to the CiC resources.

> **Having resources available at this point is a dream come true, being directed to open access resources. It's not enough, but it's a milestone.**
>
> **– CiC team member**

Facilitators to CiC project implementation

UNC staff described several key internal facilitators to project implementation:

- **Including the "right" people on the team and establishing strong communication channels across them.** Team members reported that having the obstetric clinic Nurse Manager participate on the team was important to securing support for the project, and that getting buy-in from multidisciplinary clinical leaders was key to navigating how and when to implement the project. The team also shared how supportive the midwives were in supporting the project and sharing resources. Team members sought to coordinate with each other over the phone and on Zoom, instead of only email, which resulted in better communication. The team's project lead was a huge champion of the CiC implementation and very engaged throughout the process.

- **Encouraging flexibility and adaptiveness among team members.** The project team spent a lot of time brainstorming and problem-solving workarounds when pieces of the intervention were not approved or working as expected. The team was dedicated to the project and wanted to do the work despite the system-level obstacles they were facing. This resulted in a flexible and adaptive team that used "rapid improvement cycles" to try new things, observe what happened, and then adjust. The in-person project launch and co-design session greatly contributed to a positive relationship through the project.

- **Aligning project goals, values, and interests across team members.** As an academic medical institution invested in education, UNC, UNC Health, and the CiC project had aligned goals of investing in and improving patient education. UNC staff cited the work done to affirm goals across team members as important. They also created a culture in which people took responsibility for and followed through on their commitments.

External to the project itself, some team members noted that more patients are recognizing that midwifery care can lead to satisfying pregnancy and birth outcomes, which is helpful when encouraging patients to consider their preferences and priorities across the variety of care models offered at UNC-Panther Creek. They also cited the format of the CiC resources as incredibly useful and engaging for patients. Patients appreciate that they are online and can go back to them, and patients also appreciate that there are printable pages that they can carry with them.

Barriers to CiC project implementation

UNC staff shared four main barriers to their CiC project:

- **Integrating CiC resources into existing clinical systems.** UNC Health has strict and evolving policies around sharing external resources. However, the policies were not fully known or accessible throughout the project, which led to an inability to implement the co-designed and clinically approved digital flipbook. Although the team eventually achieved clinical and administrative approval for adding the CiC resources to the OB/GYN website, they were not allowed to share them directly over email, text, the digital flipbook, or through direct links in MyChart. Departmental leadership changed over the course

of the project, which influenced approvals. UNC and UNC Health did not approve some of the technology ideas that were proposed—or approved and then withdrew approval—and lack of timely responses from decision makers outside of the project team, security concerns, and interpretation of privacy regulations were all ongoing challenges. Ultimately, UNC Health administration is not optimized for research collaboration with UNC.

Providers had limited time to engage with the resources. Not all providers at UNC-Panther Creek were involved in co-design due to time and resource constraints. Some team members thought more could have been done to train and engage providers and other clinic staff about the project to secure greater buy-in. Not everyone knew about the project and, even among those who were aware, respondents thought some remained uncomfortable engaging with patients about the resources.

Reaching patients. UNC staff anticipated that it would be hard to reach patients over the phone and found this to be especially difficult. Outbound calls do not show up as coming from UNC Health on caller ID, and, even in instances where patients could be reached, they did not always have time to talk when they picked up the phone. Privacy may have also been a concern for patients who had not disclosed their pregnancy and could not speak in private. Further, MyChart was not accessible in Spanish at UNC Health, which limited some patients' ability to engage through that platform.

> **In an academic medical center, it takes a long time to do things…It's like you're moving a mountain.**
>
> **– CiC team member**

Limited funding and resources to support the project. It took six months to receive project approval due to a combination of academic administration, complex contract, legal, human subjects, and data sharing considerations in relation to the multiple partners involved and patient contact and, utilizing clinical staff time for the project. Even once approved, protecting the UNC Health team members' time was difficult and subject to change, reflecting clinical needs.

> **I really feel like if I had more time to do it, I would feel more successful at it. It's not comfortable for me that I can't give 100 percent.**
>
> **– CiC team member**

Several UNC staff said that if they had known how difficult it would be to gain project healthcare system approvals, they would have begun with the current, narrower intervention. They also would have sought to engage more clinical leadership earlier to better understand the broader landscape of UNC Health. Team members also recommended spreading the word more clearly among staff; there was not a clear, funded person to take this activity on, so some people may still not know about the CiC resources and project.

Results

In general, UNC staff thought the project was **on its way toward reaching the goals** outlined in the logic model but had not yet achieved them. First, most team members thought it was difficult to tell how the project was progressing toward improving health outcomes for UNC-Panther Creek patients without more available data. Anecdotally, one respondent said that UNC had seen a substantial reduction in transfers between midwives and physicians, which could be an indicator that patients are identifying their preferences and priorities and getting into their first appointment with their preferred provider. Second, team members thought they were making progress on providing relevant and accessible materials, tools, and resources to patients, citing an

increase in the volume of resources shared with patients. However, several respondents said they would like to get direct feedback from patients to confirm whether they were making progress toward this goal.

Respondents cited **mixed perceptions about whether the initiative worked as they expected.** Some respondents were surprised by the obstacles they faced, especially about the challenges with decision-making and approvals. Because of how long it took to get pieces of the intervention approved, it took UNC longer to begin implementing the project. UNC staff felt positive about what they were offering to patients, but some wished they would have been able to offer it longer and to more patients. Despite the obstacles faced, however, team members thought the project was making an impact. They highly rated the CiC content.

Review of the patient preferences screening data suggests patients highly value person-centered care. These data provide additional insight into who UNC-Panther Creek serves and how to promote positive patient experiences, as well as how to further refine their CiC implementation model in the future.

Progress toward staff outcomes

Team members reported substantial progress toward staff outcomes in the logic model:

1. The nurse navigator used the CiC Care Navigation Guide and Preferences Screener form. Over the course of the project, the team simplified the form because they were seeking to "lead with resources" to the fullest extent possible and limit patient burden.
2. Staff reported satisfaction with prenatal care resources and care navigation, especially with the PAC communication of the UNC OB/GYN website and QR codes. Team members thought patients were getting high-quality resources earlier in their pregnancy journey. One person worried that patients receive too much information during their first visit and might benefit from a one-month follow-up with a patient navigator for further education. Another raised the concern that the resources are not accessible to every patient because of language barriers.
3. Staff reported improved processes and workflow for educating patients and navigating them to care models and resources that support their preferences and priorities. As examples, the nurse navigator is reaching patients and sharing resources with them, and all staff have written instructions on how to access the resources. One person thought they had not yet reached this goal, because the process had not been entirely streamlined across staff members.
4. Staff reported improved, increased, and standardized communication with patients, including better communication with patients about the midwifery care model. Interview respondents reported being more comfortable sharing resources with patients. However, some thought not enough training was done to educate all providers on the materials and how to communicate with patients about them.

Progress toward patient outcomes

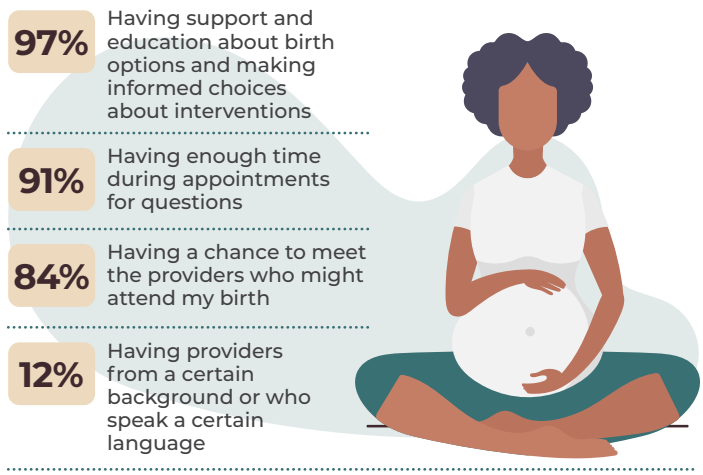
UNC staff were uncertain about progress toward the medium-term patient outcomes outlined in the logic model. In general, they shared that it was difficult to determine whether they had made any progress regarding **patient autonomy** in decision-making. One person reported, anecdotally, that they thought they were seeing more patients move from GOG to midwifery, but that it was challenging to connect what they observe in the clinic with the CiC resources. Team members thought UNC-Panther Creek always has **high patient retention**, but they have not actively tracked this metric and thus could not identify any changes to this outcome.

> **[Patients] are excited about learning that they have a voice and have the ability to make choices. This generation of parents is empowered—they are more empowered to be able to speak up and question, and it's really exciting to see that.**
>
> **– CiC team member**

Other project insights: Preference screening data

In addition to sharing their perceived progress toward staff and patient outcomes, UNC project staff collected and analyzed data on patient preferences to inform their care delivery practices and project implementation model. The nurse navigator administered a tailored CiC preferences screener to 97 patients who were contacted through various outreach efforts to assist her in recommending learning resources based on the individual's priorities. These data provide insight into the frequency of different potential preferences measured, and suggest a high value placed on attributes of person-centered care including provider continuity, support for informed decision-making, and adequate time for questions. Preferences for cultural or language background were less common but were listed as a priority for about 12 participants. Preference data such as these can help guide efforts to promote positive patient experiences.

In this sample, patients preferred:



Lessons learned and future considerations

Lessons learned

The CiC project reinforced the challenges of reaching patients over the phone or through MyChart. UNC staff learned that sending patients step-by-step instructions on how to get to the CiC resources worked relatively well, and sharing exactly when a team member would follow-up with the patient—and then following through on that commitment—had garnered some success.

This project shed a light on how complicated some of UNC Health's systems and processes are. Team members felt that the bureaucratic nature of working in an academic medical system created barriers to educating patients. In particular, team members were frustrated by their inability to send patients direct text or email messages, even with informed consent.

UNC staff reported a renewed appreciation for how important and necessary the resources are, especially for first-time parents. Team members noted that patients can stumble across a lot of misinformation on the internet and that they valued being able to share trusted, reliable, and accessible content with patients.

Team members thought the co-design process was "wonderful, exciting, generating, and trust-building, and important to do early on." They appreciated the in-person meeting, which contributed to team members' openness and trust, although one person noted that they would have appreciated clearer expectations going into

the meeting. One person noted that clinicians are not used to participating in co-design and were less engaged during the in-person meeting and subsequent design sessions.

Advice for other health care providers interested in incorporating CiC resources

Team members offered several pieces of advice for other sites considering how best to use the CiC resources in their practices:

- Invest in building long-term relationships within the organization so that the project can be increasingly integrated and sustained after funding ends.
- Develop a clear understanding of the current processes for patient education at the outset, including what is working and what is not. Then, figure out how to integrate CiC resources into what already exists.
- Learn from other sites implementing similar projects to recreate and build on existing infrastructure throughout the process.

Next steps

In general, team members were unclear about next steps for the project. The UNC OB/GYN website with a link to CiC resources was expected to remain in place, although some expressed concern that the website would be redesigned, and they would need to advocate for clinical approval for the link to be included again. They hoped to continue connecting patients directly to the resources once funding ends, but it was unclear how that would work without dedicated support for patient navigation. One person hoped to see more integration of CiC resources into other UNC clinics and programs.

The project team has begun using the CiC videos and resources in other funded initiatives through the university and health system, including in a text-based campaign through local health departments. The team also hopes to share the CiC resources with Spanish-speaking patients in an affiliated community health center.

> **The fact that they feel like the UNC website is a safe place to go that is backed up and reliable, I think that's super important. It's important for the community. It represents me because I'm sharing this information. My name is attached to this information, so I want to make sure that it's good information.**
>
> **– CiC team member**

Appendix A. UNC Health logic model

Goals and objectives

1. Improve health outcomes for UNC-Panther Creek patients by providing timely information that helps them to identify their preferences and priorities and make informed choices about their prenatal care.
2. Provide relevant and accessible materials, tools, and resources that help UNC-Panther Creek patients feel more connected to and engaged in their prenatal care.

Inputs	Activities	Outputs	Patient experience outcomes		
			Short-term (immediate)	Medium-term (intermediate)	Long-term (ultimate)
UNC staff **Technology** **Educational resources** **Partner agreements to facilitate collaboration** **Funding**	**Patient navigation for midwifery candidates** 1. PAC team refers patients to UNC website, which links to the **Choices in Childbirth library** 2. Patients who are eligible for midwifery care are added to the GOG Low Risk Pathway and receive a message in MyChart with the same website link 3. Bilingual nurse navigator reaches out to patients from the GOG Low Risk Pathway to administer the UNC Preferences Screener and share the UNC website, which links to the **Choices in Childbirth library**	**Staff processes** • The bilingual nurse navigator reports **utilization of the Care Navigation Guide and Preferences Screener Reporting Form** • Staff report **satisfaction with prenatal care resources and care navigation** • Staff report **improved processes and workflow** for educating patients and navigating them to care models and resources that support their preferences and priorities • Staff report **improved, increased, and standardized communication** with patients **Patient experience** • Patients report that they are **exposed to the CiC resource library** • Patients **engage with the CiC videos and resources** (e.g., number of clicks on the Choices in Childbirth website) • Patients report that they would **recommend the CiC resources to family and friends**	• Patients report **feeling confident explaining their preferences and priorities** for prenatal care decision-making • Patients report **feeling prepared to choose a care model** that aligns with their preferences and attend prenatal care visits • Patients report **awareness of resources and prenatal care options** available for them to explore • Patients report **feeling supported** by UNC Health and their personal support systems through their care navigation • Patients report **awareness of their rights** as a pregnant person • Patients report **successfully navigating to prenatal care** that generally aligns with their medical needs and preferences	• Patients have **autonomy in making decisions** about their pregnancy care that are aligned with their preferences and priorities • UNC-Panther Creek experiences **high patient retention and high numbers of returning patients**	• **Improved health outcomes** for patients and their children

Endnotes

[1] UNC-Panther Creek had desired a more elaborate project that included an external-facing platform to organize and share CiC and other community-led resources and an email and text message drip campaign that patients would receive throughout their pregnancies. Not all activities were approved by UNC Health leadership, resulting in the project's narrower scope.

[2] During the course of UNC-Panther Creek's CiC project, North Carolina adopted significant changes to abortion access, reducing the time allowed for an abortion from 20 weeks to 12.