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Jennifer Ohlendorf

*Marquette University*, [jennifer.ohlendorf@marquette.edu](mailto:jennifer.ohlendorf@marquette.edu)

Lisa Anders

*University of North Carolina - Greensboro*

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# Coaching for Childbearing Health: A Theory Synthesis

Jennifer Ohlendorf

Marquette University College of Nursing, Milwaukee, Wisconsin

Lisa Anders

University of North Carolina-Greensboro, Greensboro

## Abstract

This article describes development of a theory to guide nurses promoting perinatal weight self-management behaviors. The Coaching for Childbearing Health (CoaCH) Model was developed through synthesis of the Individual and Family Self-Management Theory with Transitions Theory, following Walker and Avant's process of theory synthesis. Qualitative data were integrated to provide perinatal context. The CoaCH Model is composed of context factors that shape a nurse coaching intervention, supporting patients' self-management efforts. Sustained engagement in weight self-management behaviors will impact the long-term health of both the birthing person and the child. This model is a testable framework for future perinatal health promotion efforts.

THE PERINATAL period—composed of pregnancy and the postpartum period—is a developmental transition during which people are motivated to improve their health for their own benefit and the health of their baby. This transition is unique because of how frequently a perinatal person has interactions with providers.<sup>1</sup> Excessive

pregnancy weight gain is a modifiable condition associated with adverse health outcomes for birthing parents and their infants,<sup>2</sup> yet approximately 50% of pregnant people gain more weight than recommended.<sup>2,3</sup> As such, it is an opportune time for positive health behavior changes such as increasing physical activity and making nutritious eating choices. When perinatal people engage in weight self-management behaviors such as regular physical activity and healthy eating, they can positively impact both immediate and long-term health outcomes, particularly if they are able to sustain the behaviors beyond the postpartum period.<sup>2</sup>

Despite practice recommendations that state providers should discuss weight self-management during every perinatal care visit,<sup>4</sup> many providers do not spend specific time during prenatal care promoting weight self-management behaviors.<sup>5</sup> Some are reluctant to address weight gain due to the topic's sensitivity<sup>6</sup> or because they do not feel adequately prepared to address the topic in a way that will actually improve patients' health.<sup>7</sup> Others express concern about whether there is time to give more than cursory information to women regarding health behavior change during traditional prenatal care.<sup>8</sup>

Some authors have reported that pregnant people desire advice from their providers around weight self-management in pregnancy,<sup>5,9</sup> but the results that come from providers engaging in weight talk during prenatal care are mixed. Pregnant people have reported that provider advice for gestational weight self-management is confusing, overwhelming, or does not align with advice they have found from other sources they consider reliable.<sup>10</sup>

When patients do not get acceptable guidance from their providers, they seek specific information about weight self-management from social connections or internet sources. In a study that compared gestational weight gain outcomes for pregnant people who obtained advice from their provider with those who sought information from online sources, Mercado et al<sup>11</sup> found that those who received advice from providers were more likely to gain a healthy amount of weight during pregnancy compared with those who sought information from other sources.

The evidence is clear that advice alone is not sufficient to promote sustained weight self-management behaviors. A growing body of both theoretical and research evidence demonstrates interventions that elicit patient engagement—including goal setting, planning, problem-solving, and tailoring to account for pregnant people's attitudes, beliefs, and personal preferences—are effective in developing the skillset necessary to self-manage weight over the lifespan.<sup>12,13</sup>

The childbearing year is a key developmental transition,<sup>14</sup> during which health behavior choices impact both pregnant person and baby.<sup>15</sup> Perinatal persons have reported that they look to their providers as a trusted source of information regarding the physical activity and healthy eating practices,<sup>16,17</sup> creating an opportunity for nurses in perinatal care settings to capitalize on the “teachable moments” of pregnancy to promote weight self-management behaviors.<sup>17,18</sup> Current evidence-based practice standards are prescriptive and have a heavy focus on weight as the key outcome, rather than using health self-management science to promote physical activity and healthy eating behaviors irrespective of the resulting amount of weight gain or loss.<sup>3,4</sup> Guidelines that do focus on behaviors offer goals for care without providing theory-based health behavior change guidance that outlines the how-to for providers to successfully partner with women to promote self-management of weight and weight-related behaviors.<sup>19</sup>

If nurses are to make an impact on the health of pregnant people, we must not only give behavior change advice; we must partner with our patients to support them as they engage in health self-management at key transition moments. These interventions must include tailoring for attitudes, beliefs, personal factors, and personal preferences to build each person's capacity to seek their own reliable information and support their self-management efforts.

The purpose of this article is to describe the development of a theory to guide perinatal health coaching using an inductive and abductive theory synthesis approach. The resulting theory, derived from salient concepts from 2 existing theoretical frameworks and grounded in empirical data from a perinatal coaching pilot study, provides a definition for the nurse as a coach and a testable framework to guide further intervention development.

### Statements of Significance

#### What is known or assumed to be true about this topic?

- The childbearing year is an opportune time for promotion of physical activity and healthy eating behaviors.
- Although people have frequent contacts with health care professionals during pregnancy and postpartum, health promotion is not a consistent part of prenatal and postnatal care.
- Health behavior change theory has been demonstrated to support effective support of self-management and self-regulation for healthy adults and adults with chronic conditions, but does not take into account the unique context and nature of the childbearing transition.

#### What this article adds:

- We developed the Coaching for Childbearing Health (CoaCH) Model to guide nurses in forming a partnership with women through the perinatal transition to build self-management and self-regulation capacity so that they will be empowered and prepared to self-manage their weight-related behaviors over the lifespan.

## THEORY DEVELOPMENT

This theory synthesis was conducted using the process outlined by Walker and Avant.<sup>20</sup> A statement synthesis (step 2) was included to integrate qualitative data to ensure that perinatal people's needs were central to the final theory. Therefore, the process followed to synthesize theoretical concepts/constructs with the qualitative data included the following steps (Figure):

1. Specify focal concepts to act as anchors for the synthesized theory.
2. Analyze qualitative empirical data observations to make inferential statements.
3. Review the literature to identify factors related to focal concepts and the nature of relationships.
4. Generalize from specific inferential statements to abstract ones.
5. Organize concepts and statements into an integrated, efficient representation of the phenomenon of interest.

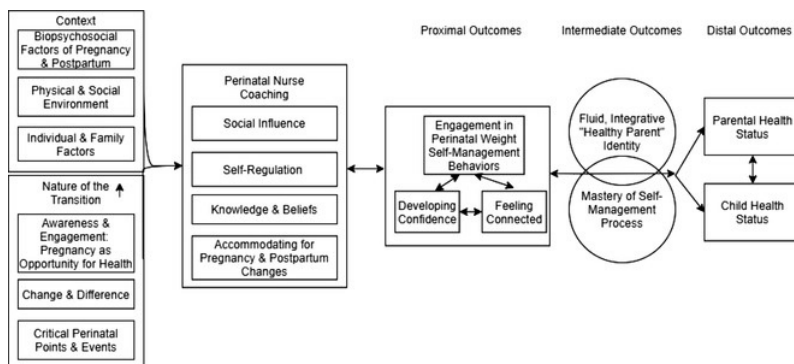


Figure.: Coaching for Childbearing Health Theory.

## Theoretical foundations, concepts, and relationships

Transitions Theory<sup>21</sup> and the Individual and Family Self-Management Theory (IFSMT)<sup>22</sup> provide focal context, process, and outcome concepts to the Coaching for Childbearing Health (CoaCH) Theory. Salient concepts were selected from Transitions Theory and the IFSMT using alignment with an earlier published concept analysis of postpartum weight self-management<sup>23</sup> along with the findings of the literature review performed for this synthesis, which followed the same search strategy while also adding the same search for pregnancy to ensure the literature review was relevant for the entire perinatal period.

### Transitions Theory

Transitions are movements from one life phase to another, through a time-bound set of engaged steps to achieve the outcome of a newly integrated self with greater stability compared with the time prior to the transition. The perinatal transition is a developmental transition.<sup>21</sup> Nursing therapeutics are tailored to key transition conditions, transition properties, and desired outcomes. Nurses must pay special attention to contextual factors that could disrupt a healthy transition to ensure the process results in the person achieving an organized state post-transition.<sup>21</sup>

### Individual and Family Self-Management Theory

The IFSMT,<sup>22</sup> developed by Ryan and Sawin, synthesized existing self-management literature and theories to provide a framework for intervention development to promote health self-management by individuals in a family system. In the IFSMT, self-management is defined as an individual or a family that makes health behaviors an integral part of their functioning and is described a process wherein individuals or families promote health or manage illness via engagement in health-related behaviors. While the individuals or families engage in these health behaviors in a purposeful, self-driven way, they may consult health care providers for a cooperative process to plan their health self-management. The IFSMT is comprised of 3 dimensions: context, processes, and outcomes. The context dimension influences the process dimension, and both affect the outcome dimensions.

These 2 theories share important commonalities for the work of promoting health behavior adoption during the perinatal transition. In both theories, the person's whole and unique context is taken into account and becomes central to the health promotion process. In both, the person is assumed to have agency over their health behavior decisions and the provider contributes influence and support, rather than prescription to the pregnant person. Both theories, via their process, influence a person to develop internal skills that will promote integration of healthy behaviors in a sustainable way, with the end goal of improving long-term health.

### Empirical data for statement synthesis

To develop a theory that meets perinatal people's needs for health behavior promotion as an integrated part of their perinatal transition, the theory must contain concepts that are relevant to the perinatal context. The purpose of the statement synthesis step is twofold: (1) to describe the nature and scope of physical activity and eating goals set by pregnant people as part of a coaching intervention and (2) to incorporate the theme statements inferred from these goals into a synthesized theory of coaching for perinatal health promotion.

Empirical data used in the statement synthesis were collected between summer 2017 and fall 2020. Pregnant people in the first trimester of pregnancy were recruited from 3 perinatal care practices (2 obstetrical, 1 midwifery) serving a socioeconomically and racially diverse population in a mid-sized metropolitan area. Inclusion criteria were: (1) 18 years and older; (2) self-report of sufficient English to participate in consent and study procedures; (3) singleton pregnancy; and (4) 14 gestational weeks or less at enrollment. Participants were excluded if they were in the underweight body mass index category. The study was approved by the institutional review boards of the principal investigator's (PI) university and the 2 health care organizations associated with the study sites. Participants were given a gift card of either \$10 or \$20 after each intervention visit, for a total of

\$50 incentive for each participant who completed all study visits. In total, 37 women participated in the goal-setting pilot and this qualitative analysis. Table 1 presents a presentation of the demographics of participants in this analysis.

Table 1. - Demographics (N = 37)

Characteristic	n (%)
<b>Children at home, n</b>	
<b>0</b>	16 (43.2)
<b>1</b>	12 (32.4)
<b>2</b>	5 (13.5)
<b>&gt;2</b>	4 (10.9)
<b>Partnered status</b>	
<b>Married/live with partner</b>	32 (86.5)
<b>Single</b>	5 (13.5)
<b>Divorced</b>	0
<b>Other</b>	0
<b>Educational level</b>	
<b>Less than high school</b>	3 (8.1)
<b>High school or partial college</b>	24 (64.9)
<b>College degree</b>	7 (18.9)
<b>Graduate degree</b>	3 (8.1)
<b>Race/ethnicity</b>	
<b>Black</b>	16 (43.2)
<b>Latinx</b>	1 (2.7)
<b>White</b>	20 (54.1)
<b>Asian/Pacific Islander</b>	1 (2.7)
<b>Native American</b>	0
<b>African</b>	1 (2.7)
<b>Pre-pregnancy weight self-management behavior<sup>a</sup></b>	
<b>Eat healthy</b>	14 (37.8)
<b>Special diet</b>	3 (8.1)
<b>Runner</b>	2 (5.4)
<b>Other regular exercise</b>	20 (54.1)
<b>Weigh self-regularly</b>	1 (2.7)
<b>Tracked food/exercise</b>	2 (5.4)
<b>Accountability</b>	1 (2.7)

<sup>a</sup>Participants may have engaged in none or more than 1; percentage does not add up to 100.

The study team was made up of the PI, a PhD-prepared researcher, and a team of 3 study coordinators—registered nurses employed by the study health care facility. The PI trained the study team in goal-setting and in recording of participants' goals and plans. Either the PI or study nurse met with each participant once per trimester for approximately 15 minutes after a routine prenatal appointment. Sessions were guided by the 5 A's model<sup>24</sup>: (1) Ask what goals the woman wanted to work toward; (2) Assess current engagement and knowledge; (3) Advise appropriate next steps toward selected goals; (4) seek mutual Agreement about the goal; and (5) Assist the participant to identify specific steps to reach the goals. Each participant's goals were recorded in the REDcap data management system. This statement synthesis was performed using the qualitative notes recorded by study nurses during the goal-setting sessions.

## Data analysis

The data analysis team consisted of the PI (JO) and a doctoral student research assistant (RA) (LA). Both the PI and RA identify as women and have had extensive experience in perinatal-child health nursing, including inpatient labor and delivery, postpartum, perinatal-child public health settings, and lactation consultant care.

The RA imported deidentified data into NVivo and both PI and RA followed a thematic analysis process identified by Terry et al.<sup>25</sup> The researchers independently read participants' first, second, and third trimester goals and comments, becoming familiar with the data. Both team members used semantic coding to generate a set of codes reflecting meanings held by participants. Once the entire dataset was coded, the team met to discuss common patterns identified within and across the sets of goals and engaged in constructing themes. The team then reviewed the set of themes—reengaging the data to confirm theme fit, discussing any discrepancies. The team worked together to develop a consensus on defining and naming the final set of themes. Trustworthiness and reflexivity were established through journaling and discussions wherein the researchers engaged in bias checking and consensus building.

## Themes

The following themes (Table 2) were identified from the notes made about the goals women set during the nurse coaching intervention. These themes were incorporated during steps 4 and 5 of the theory synthesis process.

Table 2. - Themes That Emerged From Empirical Evidence

Themes	Examples
<b>Engagement in health behaviors in the context of pregnancy and postpartum</b>	
<b>Maintaining prepregnancy health behaviors</b>	Continuing fruit and vegetable intake Continuing previous walking regimen Continuing water intake Continue strength training Adding steps or distance to current walking
<b>Adopting new health behaviors</b>	Decrease or eliminate sugary beverages Trying new kinds of physical activity Exchange sugary beverages for water Taking stairs instead of elevator
<b>Replacing unhealthy behaviors with healthy behaviors</b>	Replace rice or breads with whole grains or quinoa
<b>Accommodating for pregnancy and postpartum changes</b>	
<b>Symptom impact on intake</b>	Decreased hunger due to nausea Smaller meals or small range of foods to cope with nausea Occasional treats to address cravings
<b>Changing intake related to pregnancy conditions</b>	Seeking iron sources to combat anemia Following specific diet recommendations: gestational diabetes
<b>Coping with discomforts</b>	Changing type of movement due to body changes Decreasing activity as needed to cope with pain (ie, sciatica, back)
<b>Learning to interpret body sensations as normal or concerning</b>	Modifying exercise goals due to weakness from hyperemesis Modifying running to incline walking due to bladder issues Shortness of breath due to growing uterus

<b>Changing mindset regarding weight and body changes</b>	<p>Pelvic discomfort—normal or indicating risk of injury?</p> <p>Is fatigue normal or due to overexertion?</p> <p>Desire to focus on health rather than numbers</p> <p>Concerns about weight loss in first trimester</p> <p>Body image concerns</p>
<b>Self-regulation strategies</b>	
<b>Eliciting support: tools</b>	Fitness trackers
<b>Eliciting support: people</b>	Partner assistance in meal-prepping and/or grocery shopping
<b>Making specific, detailed plans</b>	<p>Family walks</p> <p>Carrying a water bottle with during day or having a pitcher that is emptied each day to promote water intake</p>
<b>Specific plans for anticipated obstacles</b>	<p>Doing physical activities during TV time or on lunch breaks at work</p> <p>Add kale to smoothies to increase vegetable intake</p> <p>Plans to walk indoors (ie, mall walking, set up treadmill, and join gym) for days with inclement weather</p> <p>Carrying healthy snacks to avoid break room food</p> <p>Finding easy and fast healthy snacks to accommodate busy workday</p> <p>Planning for moderate intake of “treats” on holidays or special events</p>
<b>Mindfulness and attention</b>	<p>Paying attention to times or triggers for overeating</p> <p>Intentionality regarding fruit and vegetable intake</p> <p>Taking notice of sweets eating to remind self to substitute more nutrient-rich foods</p>
<b>Self-rewarding for adhering to goals</b>	<p>Incentivize health behavior by purchasing new items that are used for healthy behaviors</p> <p>Allowing “treats” after meeting a goal</p> <p>“Keeping up with” current children or this future child</p>
<b>Personal motivation factors</b>	<p>Healthy behaviors support healthy baby growth or lactation</p> <p>Data trackers and feedback</p> <p>Stress relief from physical activity</p> <p>Accountability to health care provider or members of the social circle</p>

*Engagement in health behaviors in the context of pregnancy and postpartum.*

Women identified their pregnancies as an opportunity and a challenge in regard to their health behaviors. Some women stated that they had engaged regularly in weight-related health behaviors prior to pregnancy and wanted to continue those behaviors through pregnancy and postpartum, making adjustments as needed. Other women stated either that they would like to work toward a behavior they had never engaged in before or that they wanted to replace previous behaviors that they identified as unhealthy with new, healthier behaviors during pregnancy.

*Accommodating for pregnancy and postpartum changes.*

Women identified specific ways they used to accommodate any physical activity or healthy eating goals, so they could engage in them given their pregnancy changes. Many women identified gastrointestinal pregnancy symptoms as a barrier to healthy eating goals and identified ways they could accommodate those symptoms while also getting the nutrients they and the baby needed; some women identified ways that specific foods or nutrients alleviate those symptoms.



As women progressed through pregnancy, they identified specific ways they could continue moving their bodies despite experiencing physical discomforts. During physical activity, they identified that they learned to pay attention to their bodies and were able to interpret discomforts as either normal or concerning and adjust their physical activity level in response to their interpretation. Finally, many women discussed the fact that physical activity helped them focus on how movement made them healthy rather than focusing on their worry about their weight increasing over the course of the pregnancy.

#### *Self-regulation strategies.*

The interviews elicited specific strategies women use to work toward the goals they set. Participants described ways that they used specific, detailed plans and then sought out both instrumental and social support to carry out their detailed plans. Additionally, women described engaging in mindfulness to anticipate triggers that would take them off track of their goals and making specific plans to accommodate for those anticipated triggers. Finally, women identified ways they spent time identifying their personal motivation factors that were most helpful to keep them oriented toward working toward their identified goals, as well as ways they rewarded themselves for adhering to goals.

## EMERGING THEORY: COACHING FOR CHILDBEARING HEALTH

Guided by review of the literature and analysis of the empirical data, focal constructs were selected<sup>20</sup>: (1) perinatal health promotion context factors, (2) perinatal health promotion process factors—the coaching intervention, and (3) proximal, intermediate, and distal outcomes. In this theory, the properties of the perinatal transition shape the process factors, and nurse coaching is tailored to both, shaping the status of the proximal outcomes. The proximal outcomes and intermediate outcomes, when sustained, shape the distal outcomes. Once the focal constructs were identified, concepts from both theories were selected that fit within either context, process, or outcome. The Figure presents the conceptual model for the CoaCH Theory.

### Theory assumptions

Assumptions that underlie the CoaCH Theory align with assumptions of both theoretical frameworks included in the synthesis, as well as the body of literature underlying health promotion for perinatal people: (1) The perinatal period is viewed by both patients and their providers as an opportune time to set goals to promote sustainable healthy behaviors. (2) The perinatal person's health status is positively impacted by centering them as aware and engaged agents in the goal-setting process. (3) When perinatal people set and achieve health behavior goals during the perinatal transition, those behaviors become part of the parental identity. Please see the Figure for the CoaCH conceptual model.

## REVIEW OF LITERATURE AND INTEGRATION OF EMPIRICAL FINDINGS WITH THEORETICAL CONCEPTS

### Context factors

Salient context factors of the perinatal transition that shape weight self-management processes are: (1) biopsychosocial factors specific to pregnancy and postpartum; (2) physical and social environment; and (3) individual and family factors.

### Biopsychosocial factors specific to pregnancy and postpartum

During the perinatal period, the pregnant person will encounter physical or mental health symptoms<sup>26,27</sup> that require accommodations in order for the person to engage in weight self-management behaviors. Among the women we interviewed, the most commonly identified symptom that interfered with their perception of healthy eating was nausea and vomiting early in pregnancy. Those who experienced nausea reported that it led them to

eat foods they did not consider healthy, and that they worked to take in healthier options on days when they felt better. These women planned to focus on taking in more nutritious food once their pregnancy nausea resolved. Another commonly reported symptom was fatigue, and women were able to identify ways in which they prioritized rest to care for themselves and then resumed physical activity goals on days they felt less fatigued.

As pregnancy progresses, both the growing baby and the physical changes of the body require that both nutritional intake and physical activity goals are altered to meet the needs of the pregnant person and the growing fetus.<sup>19,28</sup> The women in our study reported being aware that they had increased nutrient needs during pregnancy, that they might need to cut back exercise as their bodies changed, or that they might require additional hydration and nutrition to support physical activity as the baby grew. They were able to reference this knowledge to set and adjust goals throughout their pregnancies. During third trimester visits, women often asked about how to resume activity after the birth of their baby, or how to accommodate for breastfeeding with nutrition and hydration. The way these women described their self-management of physical activity and healthy eating throughout the perinatal transition by constantly adjusting to accommodate for these factors supports the role of the nurse as a coach, promoting these efforts through guided goal setting and adjustment.

### Physical and social environment

Each perinatal person is surrounded by factors that can either promote their health self-management or inhibit it.<sup>22</sup> The physical environment includes amenities in the local community, such as distance to health care or to a store with healthy food as well as availability of safe, appropriate places to engage in physical activity. The social environment refers to social and cultural norms regarding physical activity and eating practices during the perinatal period.

Many women interviewed identified things such as safe walking trails and nearby parks, so they could combine physical activity and time with their children as they planned physical activity goals. Other women identified ways they had to overtly plan for grocery trips when there were not grocery stores nearby that carried what they considered to be healthy foods. Work was an environment that was mentioned by several women—for some women, their job that required lots of walking and lifting was physical enough that they wanted to focus on rest over intentional physical activity in their daily lives, while others identified ways that the rhythm of the work environment gave opportunities to plan walking or stair climbing during breaks. Other women stated that there was too much unhealthy food available in break rooms or that it was hard to pack lunches, so they relied on food from cafeterias or vending machines.

### Individual and family factors

Each family has unique factors that impact the perinatal transition and also weight self-management behavior adoption. These factors can include the structure of the family socioeconomic factors, how many children are in the family, and caregiving responsibilities.<sup>21,22</sup> In our analyses, individual and family factors were most prominently reflected in the way women displayed self-regulation strategies, including the kinds of support tools and people available to women, as they plan and work to meet goals. This concept was also apparent in the kinds of obstacles women experienced and the specific plans they made to meet to overcome those obstacles.

### Nature of the transition

If the health promotion efforts do not take into account the nature of the perinatal transition in addition to the person's individual context factors, these efforts are unlikely to be successful. The salient concepts that comprise the nature of the perinatal transition are: (1) change and difference; (2) critical points and events; and (3) pregnancy as an opportunity for health.

## Change and difference

Central to the nature of transitions is the feeling that one has become a different person once the transition is completed.<sup>21</sup> In the case of the postpartum transition, the person experiences the change of adding a child to their life, but also experiences a personal transition that leaves them a fundamentally changed person.<sup>29</sup> As the person navigates the transition process, health care professionals or other influencers can help them to see the possibility that the new, “different” state they are working to achieve is one in which health behaviors such as regular physical activity and healthy eating are part of their daily life.<sup>29,30</sup> In interviews, many women expressed a desire to get healthy, so they could “keep up with” their children and so that they could be role models to their children.

## Critical points and events

The perinatal transition is composed of a series of events that mark progress toward a new parental experience. The nurse should time weight self-management promotion interventions to meet the critical events of the perinatal transition. Coaching meetings occur once per trimester, each meeting addressing current body changes and sensations, while also providing anticipatory guidance for expected upcoming perinatal events. The nurse may consider 2 coaching sessions in the third trimester: 1 early in the trimester, and 1 later that allows the nurse and the pregnant person to plan ahead for the early postpartum period. The final meeting occurs at the 6-week postpartum visit.

The timing of the coaching meetings is organized by medically defined time points of import in the perinatal period, where it can be anticipated that certain pregnancy changes are likely to happen. In the interviews, women identified events that marked time for them. For example, many women planned to make adjustments to their physical activity or eating goals when they got to be a certain physical size, when symptoms subsided, or when their baby started to sleep longer periods after the birth. During coaching sessions, the nurse can assess for what events are significant to each person and tailor advice and support to those time points.

## Awareness and engagement: Pregnancy as an opportunity for health

Awareness is foundational if a pregnant person is going to engage in the necessary tasks of the transition.<sup>21</sup> In the case of the perinatal transition, the person must be aware that they are redefining their sense of self and creating new patterns of behavior. For people who are not actively engaged in the transition process, the nurse can build a supportive relationship that engages the person in the maternal transition as a foundation for health promotion.<sup>14</sup> Persons who are more actively engaged in the perinatal transition are more likely to achieve a positive adaptation to parenthood. In the CoaCH Theory, the nurse intentionally engages the person in therapeutics (coaching) meant to promote weight self-management behaviors as a way to include weight self-management as an integral part of the adaptation and development of a healthy parent identity.

## Process factors and nursing therapeutics

Nursing therapeutics are the work the nurse does to influence the transition, taking into account the nature of the transition and the relevant transition conditions.<sup>21</sup> In the case of perinatal health promotion, the nursing therapeutics serve to promote and support the efforts of the perinatal people to engage in weight self-management behaviors. The coaching is tailored to the context factors and is delivered during scheduled pregnancy provider visits at the critical time points described earlier to allow for sequential goals that are customized for changes that occur throughout the perinatal period.

The 5A's model<sup>24</sup> is an evidence-based framework for operationalizing therapeutic a coaching by the perinatal nurse. The 5 A's model aligns with the process concepts of both Transitions Theory and the IFSMT.<sup>31,32</sup> Providers partner with patients, guiding them through 5 steps (Assess, Advise, Agree, Assist, and Arrange) to develop

patient-led goals and to support them in meeting these goals. The 5 A's approach has demonstrated effectiveness in promoting weight self-management behaviors.<sup>31,32</sup>

### Social influence

Social influence is defined as a change in thinking, motivation, or behavior that occurs because of intervention by a person who is in a position of actual or perceived authority, most often a health care professional. In the CoaCH Theory, the nurse forms a partnership with the perinatal person to leverage that influence and to guide them through the 5A's steps, tailored to that person's perinatal context. There is a growing body of evidence that demonstrates that provider influence is a crucial component of any effort to promote physical activity and healthy eating behaviors in pregnancy.<sup>9,18</sup>

### Self-regulation

Self-regulation is the process a person uses when engaging in a new health behavior that will lead to maintaining that new health behavior and making it part of daily life.<sup>22</sup> Several skills are required for successful self-regulation: goal setting, self-monitoring, reflective thinking, decision-making, planning, enacting one's plan, self-evaluation, and the management of emotions associated with change.<sup>22</sup> Once the nurse has partnered with the perinatal person and has established the social influence relationship, the pair can then work together to set goals that include plans for self-monitoring and reflective evaluation of progress toward goals. Putting the patient at the center of the therapeutic relationship and navigating goal setting as partners promotes setting attainable goals. Once goals are set, the nurse and the perinatal person should engage in specific planning to identify what daily choices the person must make to work toward those goals.

In interviews, women identified ways that goal setting with a provider elicited self-regulation. Women were able to set attainable goals and make detailed plans to achieve the goals, as well as plans to overcome barriers they could anticipate. Many women described monitoring their progress toward physical activity goals, either by being mindful of daily activity levels or via wearable fitness trackers. Most women described ways they used their daily appraisal of progress toward goals to make in-real-time adjustments to both stay on track and accommodate for their pregnancy symptoms or body changes.

### Knowledge and beliefs

Knowledge is the factual information one needs to be prepared to engage in the physical activity and healthy eating during the perinatal period; beliefs are the perceptions one holds about engaging in these behaviors during the perinatal period.<sup>22</sup> In a coaching partnership, the nurse asks the person what they already know about the behaviors, what they know about engaging in these behaviors during the perinatal period, and should tailor any advisement to meet that person's knowledge needs. The nurse should also assess current beliefs and can provide information and guidance tailored to that person's specific belief context.

### Accommodating for pregnancy and postpartum changes

Throughout the pregnancy and after the birth, the nurse can encourage the woman to consider how discomforts or symptoms mean that daily adjustments may need to be made to physical activity goals and plans. The mode of birth will have a significant impact on what physical activity is safe and comfortable after the birth of the baby.<sup>19</sup> The nurse can help the woman anticipate all perinatal changes and can provide anticipatory guidance at every coaching visit. The habit of personal appraisal of pregnancy-related symptoms was evident in women's goals in our interviews, with women describing feeling tuned into their bodily changes and using their self-knowledge of what was healthy to adjust their behaviors in response. Many women described paying attention to their physical sensations and reflecting to interpret whether they were concerning or normal so they could avoid behaviors that would endanger their body or their baby.

## Proximal outcomes

### Engagement in perinatal weight self-management behaviors

In the CoaCH Theory, the proximal outcome is engagement in weight self-management behaviors that would lead to an improved maternal and child health status. In the case of this theory of health coaching, the specific behaviors are the ones identified by the person in partnership with their coach as health promoting and attainable. Because these behaviors must be repeated over and over again, there is no defined end point for the behaviors themselves. Each time the coach and the perinatal person meet, these goals can be assessed for progress and either advanced or adjusted.

### Developing confidence

Behavior maintenance research demonstrates that as a person experiences success in progressing toward their goals, they will develop confidence.<sup>33</sup> In the CoaCH Theory, the pregnant person is guided through the goal-setting and planning process and then repeats an evaluation and repeated goal-setting process several times over the course of the pregnancy. When a person does not achieve their goals, the nurse coach can engage them in reflecting and readjusting goals, so they will gain confidence in their ability to adjust in the future when necessary. This confidence is key to sustainable health behavior change.<sup>22</sup>

### Feeling connected

Both theoretical frameworks in this synthesis, the confluence of the literature, and the empirical evidence shared by participants in the pilot study all identify that connection to others is a crucial part of health behavior change and maintenance during the perinatal transition. Social connection is reflected in the relationship between health coach and perinatal person, as they engage in the shared goal setting and evaluation during several visits over the course of 1 perinatal transition.<sup>34</sup>

The relationship between nurse coach and perinatal person is necessarily time-limited. A key strategy in coaching is to guide the person to identify social connections they can create in their social circle to promote the weight self-management behaviors during pregnancy and to sustain the behaviors into the future.<sup>35,36</sup> These social connections can play multiple roles to support the person's lifetime weight self-management efforts, including shared goal-setting and self-regulation; engaging in health behaviors together; instrumental support, such as offering child care or help with food preparation; and emotional support.

## Intermediate outcomes

### Mastery of self-management process

As perinatal people are coached to set their personal goals and also to identify the ways they will plan for and overcome barriers, they will develop a sense that they are capable of meeting those goals. When they make daily choices to engage in the behaviors or to adjust their behaviors in response to barriers they encounter, they develop the skills necessary to coach themselves in the future and maintain their behaviors.<sup>37</sup>

### Fluid, integrative, “healthy mother” identity

Because the coaching is repeated over time and allows the nurse coach to tailor health promotion to each person's critical points during their perinatal transition, the result of this process will be a person who has reintegrated with the identity of a healthy parent. That healthy parent identity will be composed of a person who actively manages their health as an integral part of parenting.

## Distal outcomes

### Parental health status

The inevitable outcome of a perinatal person who has developed self-management skills and who has regularly engaged in healthy behaviors is that their health status will be steady or improved.<sup>18,38</sup> In the CoaCH Theory,

health is an integrative, biopsychosocial construct, with the perinatal person's mental and social health as important as their physical health status.

### Child health status

The health status of the fetus, and later the newborn, is impacted by the biopsychosocial health of the pregnant parent in utero and birth. The pregnant parent's nutrition and physical activity choices have direct impact on the fetus, as does their emotional health.<sup>15,39</sup> After birth, a parent who is engaging in health behaviors and who has positive mental and social health will be able to meet the newborn's needs, which will impact health for that newborn and into the future. Physical activity and healthy eating behaviors impact the fetus during pregnancy via the intrauterine exposome,<sup>15,40,41</sup> in the newborn phase via infant feeding choices,<sup>15,42,43</sup> and in the early childhood period as the parent has developed physical activity and eating habits that they role model for the child.<sup>44</sup> Pregnant persons who engage in these health behaviors and continue to make healthy feeding and activity choices as they raise their child will improve their child's weight status and overall health.

## DISCUSSION

This theory synthesis has resulted in the development of a comprehensive, testable coaching framework to guide nurses in promotion of health behaviors during the perinatal transition. The CoaCH Theory has applicability to self-management support throughout the entire perinatal period.

Nurses could improve outcomes if they were deployed in a coaching role in obstetrical practices. Traditional perinatal care, where nurses have limited interaction with patients and providers have time constraints for office visits, has not met the health promotion needs for perinatal people.<sup>45</sup> The CoaCH Theory can be employed by nurses with minimal extra cost of care. This theory can offer value added to standard perinatal care to impact health in the short term and in the long term.

Contexts and motivations may change over the course of a pregnancy; women in our interviews indicated that they changed their plans and adjusted their goals on the fly, as their symptoms or their life circumstances changed. If nurses are able to meet with perinatal people repeatedly throughout their care to support their self-management and self-regulation behaviors, they could develop a synergy that helps the perinatal person achieve holistic health via their own efforts. Nurses implementing this coaching could also utilize telehealth or texting between in-person coaching sessions to increase the coaching dose and help perinatal people troubleshoot their goals as things change during pregnancy and postpartum.

Because this theory has proximal, intermediate, and distal outcomes, it is designed to set the stage for habits that will become sustained over a lifespan. In the literature, this phenomenon of sustained health behavior engagement has been referred to as "habit" or "maintenance."<sup>46,47</sup> In the past, it was thought that someone who had achieved a behavior status of maintenance engaged in that behavior consistently over a long period of time. However, more recent conceptual development of "maintenance" has recognized that people who are self-managing their health have lapses and recovery of their health behaviors, as they navigate changes in their life.<sup>47</sup> People who had stronger self-regulation skills have been shown to be more likely to get to the point of health behaviors being a sustained habit.<sup>46</sup> The CoaCH Theory, then, is likely to help women develop the self-management and self-regulation skills during the perinatal transition that will support the practice of returning to regular physical activity and eating behaviors that comprise weight self-management after any lapses throughout the life course.

Next steps include testing of the framework, including intervention development and implementation. As this theory is tested, refined, and implemented, it is crucial that the focus remains on promoting the behaviors that will result in a healthier body weight and cardiometabolic status<sup>48</sup> while deemphasizing weight talk, particularly for people who may experience the most weight stigma.<sup>6,49</sup> Because patients who experience weight stigma

from providers trust health care less and disengage from self-management,<sup>50</sup> patient-centric, authentic connections to promote health behaviors are crucial.<sup>51</sup>

## CONCLUSION

Salient concepts from Transitions Theory and the Individual and Family Self-Management Theory were grounded in empirical data from a perinatal coaching pilot study. The result was the Coaching for Childbearing Health Theory (CoaCH), a situation-specific theory that can guide health promotion to promote physical activity and healthy eating behaviors for perinatal people.

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