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A qualitative study of gestational weight gain counseling and tracking

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Abstract

Objectives—Excessive gestational weight gain (GWG) predicts adverse pregnancy outcomes and later obesity risk for both mother and child. Women who receive GWG advice from their obstetric clinicians are more likely to gain the recommended amount, but many clinicians do not counsel their patients on GWG, pointing to the need for new strategies. Electronic medical records (EMRs) are a useful tool for tracking weight and supporting guideline-concordant care, but their use for care related to GWG has not been evaluated.

Methods—We performed in-depth interviews with 16 obstetric clinicians from a multi-site group practice in Massachusetts that uses an EMR. We recorded, transcribed, coded, and analyzed the interviews using immersion-crystallization.

Results—Many respondents believed that GWG had “a lot” of influence on pregnancy and child health outcomes but that their patients did not consider it important. Most indicated that excessive GWG was a big or moderate problem in their practice, and that inadequate GWG was rarely a problem. All used an EMR feature that calculates total GWG at each visit. Many were enthusiastic about additional EMR-based supports, such as a reference for recommended GWG for each patient based on pre-pregnancy body mass index, a “growth chart” to plot actual and recommended GWG, and an alert to identify out-of-range gains, features which many felt would remind them to counsel patients about excessive weight gain.

Conclusion—Additional decision support tools within EMRs would be well received by many clinicians and may help improve the frequency and accuracy of GWG tracking and counseling.

Keywords

Gestational weight gain; obstetrics; electronic medical record; counseling

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Introduction

Gestational weight gain (GWG) is an important predictor of short- and long-term outcomes of pregnancy for both mother and child.(1) Compared with adequate gain, mothers with excessive GWG are at higher risk for cesarean delivery and postpartum weight retention, and their babies have a higher risk for being born large for gestational age, infant mortality, and obesity in later life.(1-6) Babies born to women with inadequate GWG are at higher risk for preterm birth, small for gestational age, and infant mortality.(2, 3) Unfortunately, a majority of US women gain outside of recommended ranges, especially women who were overweight or obese entering pregnancy, of whom 46-63% experienced excessive GWG in recent years.(2)

Women who receive weight gain advice from their doctor are more likely to gain the recommended amount of weight.(7) However, many obstetric clinicians do not counsel their patients regarding recommended weight gain. We previously found that fewer than three-quarters of obstetric clinicians reported routinely counseling patients regarding appropriate GWG.(8) In a national survey, less than 2/3 of obstetricians modified their GWG recommendations according to maternal pre-pregnancy body mass index (BMI),(9) a practice recommended for over 20 years. Many clinicians may not know how much gain is recommended,(8) a problem likely to have been further compounded by the 2009 change in GWG recommendations.(2)

To help each women achieve optimal gestational weight gain, obstetric clinicians need to determine the appropriate amount of weight gain recommended, advise each woman regarding her GWG target, track weight gains in real time, and counsel or refer women who are gaining too much or too little. Electronic medical records (EMRs) may provide useful tools at each of these steps.

Limited research has assessed current obstetric clinician practices regarding GWG tracking and counseling, especially regarding the use of EMRs. In this qualitative study, we performed an in-depth evaluation of these practices. We also sought to identify desired features of an EMR-based system to support GWG tracking and counseling.

METHODS

Study Design and Population

We conducted qualitative in-depth interviews via telephone with obstetric clinicians from a multi-site group practice in the greater Boston, MA area that has used electronic medical records since 1969. All sites use the same EMR system.

We recruited participants by sending letters of invitation to a random sample of 58 of the 93 obstetric clinicians at this practice (46 MD and 37 CNM in total) and an additional 10 obstetric clinicians selected because of their known interest in weight gain issues. We followed up with them by phone and email. The letters to clinicians described the study and invited them to contact us by phone or email if interested in participating. We received replies from a total of 30 clinicians interested in participating, and recruited the first 16 who were available for interview (6 of the 10 with interest in weight gain, and 10 of the 68 randomly selected). We limited our sample size to 16 because of budgetary constraints. We mailed interested participants an information sheet outlining the risks and benefits of the study. One research staff member (SP), who has been trained in and has experience with qualitative data collection, conducted all of the interviews by telephone from October through December 2010. This research was conducted in accord with prevailing ethical

principles and approved by the Harvard Pilgrim Health Care Human Studies Committee. All participants provided verbal informed consent.

Interview Guide

We developed the interview guide with the goal of learning how obstetric clinicians help their patients gain an appropriate amount of weight during pregnancy, and how they use the EMR to improve quality of care related to weight gain. We used the social contextual model as a theoretical framework (10).. Before we began formal data collection, we conducted 3 pilot interviews with obstetricians not involved in the study, who provided immediate feedback on the relevance, clarity, and length of the interview, which we used to refine the guide.

The guide addressed the following topic areas: (1) The impact of weight and gestational weight gain on pregnancy health outcomes and longer term child health; (2) Usual practices around gestational weight gain counseling, recommendations, and tracking; (3) Tools and resources used in counseling patients on gestational weight gain and tracking weight gain through pregnancy; and (4) Suggestions for tools and resources not currently available that would be useful, especially within the EMR. Set questions guided the interviews, and follow-up probing encouraged participants to elaborate on their responses. Sample questions are included in Table 1.

Data Collection and Analysis

We audio-taped and transcribed all of the interviews. The length ranged from 16-67 minutes, with most lasting 30-40 minutes. Each clinician received a $100 gift card.

We conducted content analysis of the transcribed clinician interviews, incorporating the principles of the immersion-crystallization method.(11) This qualitative approach consists of repeated cycles of immersion into the collected data with subsequent emergence, after reflection, of an intuitive crystallization of the dominant themes. Two investigators (KS, SP) each listened to the audiotapes of the interviews and read the verbatim transcripts; through this immersion process and study team meetings, we identified salient themes that crystallized from the interviews. We continued this process iteratively until no new major themes emerged. We then coded the transcripts according to these themes. We used consensus, discussing coding discrepancies, to ensure consistency in the categorization of the data and had a third investigator (EO) as a final referee in the rare cases when we could not resolve a discrepancy. We summarized the results according to the 4 Topics addressed as well as themes within each topic that emerged from the analysis. We report the themes and representative quotes in Table 2, and in greater detail throughout the Results. Although the analysis is not meant to be quantitative, we present counts of the numbers of clinicians who mentioned each topic or theme to provide a sense of how frequently each theme was addressed.

Results

Respondent Characteristics

We interviewed 16 obstetric clinicians: 10 certified nurse midwives and six physicians. These clinicians represented 11 out of 15 offices of the group practice, including both urban and suburban settings; some clinicians practiced at more than one site. Half (8) of the clinicians completed their training prior to 2000 (range 1985 to 2010). All were female.

Impact of GWG on health outcomes

All clinicians felt that GWG influenced pregnancy outcomes, and cited concerns such as gestational diabetes, shoulder dystocia, and large for gestational age babies. However, some (3/16) thought that the influence was modest, and others (5/16) felt that the influence on pregnancy outcomes was dependent on other factors such as a mother's pre-pregnancy weight or only when the amount was extreme: "once you start getting into 40 and 50 pound weight gain, it's too much." In contrast, only 11 of the 16 believed that GWG influences longer term child health, but 4 responded that they don't know: "it's not something that has been directly correlated, so it's not something that I necessarily say explicitly to patients." Many of the others who did believe in this association stated that scientific evidence supports the link: "data shows… that it's bad to gain a lot of weight." Many clinicians felt that their patients were either unconcerned about GWG, or were overly anxious about it.

Usual practices

Most of the surveyed obstetric clinicians kept the EMR open during prenatal visits (11/16), and many opened the record "right away," while others waited until partway through the encounter: "I talk to them first." Some (4/16) clinicians also commented that patient-specific factors influenced when and how they used the EMR: "I'd rather look at the patient and sit and see how they're feeling … and then I'll go open Epic to review things. Other times, if I don't know the patient or I feel like I need to catch up or I haven't seen them in a while, I may actually go to open Epic first and then refresh my memory." Others (4/16) commented that factors such as room layout, staff assistance, or computer availability influenced how they used the EMR during visits: "the rooms are really small and any time you're at the computer, your back is always to the patient… So I review my charts beforehand." However, they would have found it helpful to have access to the EMR during the visit: "in most of my rooms it's not set up to do that. I would like it to be easier." However, even those few who chose not to use the computer during the patient encounter still relied on the information captured in the EMR to inform the visit: "I don't do any work during a patient visit on [the EMR]. I look at the patient and talk to the patient… I cannot focus on the person and on the answer and being present for them while I'm typing. …. I review my charts, review their weight gains, all prior to the visit."

Almost all of the clinicians reported that they provide advice regarding recommended weight gain ranges at their initial visit with the patient: "basically everyone is going to get a number," and most mentioned that they modify weight gain recommendations based on pre-pregnancy weight. Most advised gains similar to the 2009 Institute of Medicine guidelines, including at least some gain for obese women ("this is not the time to lose weight"), but some recommended lower gains than recommended: "those guidelines are actually wrong for morbidly obese people. Why should they gain any weight at all? …. The guidelines never say zero, but these women, if you give them five pounds they take 20." Only one of the clinicians reported asking patients whether they themselves have a target weight gain in mind, "because they usually don't."

Clinicians reported a wide range of usual practices regarding whether they communicated a woman's actual weight gain to her. Most (10/16) reported that they discussed weight gain at every visit: "why else are we weighing them?" Others (6/16) raised the issue of weight gain only when it was not within the expected range. Some generally did not mention weight gain: "You know, women know. They've been weighed. I don't bring it up unless either they ask me about it or I'm concerned about it." Many clinicians were more likely to discuss weight gain more often with overweight or obese patients, but may not provide information about excess weight gain repeatedly: "if she's been counseled before I usually don't mention it to her anymore." Several clinicians reported that weight gain can be a difficult issue to

raise: “I usually talk about weight and then I have one other issue to bring up after weight, because it tends to be such a sensitive issue, it’s not a good thing to walk into the room and blurt out right away, and it’s not a good thing to end on.”

Tools and resources currently used

Most clinicians reported that they used an existing feature within the EMR that calculates total weight gain at each visit: “there’s a box where you enter their pre-pregnancy weight and the total weight gain is calculated for you. You don’t even need to have to add. Which is good! So I use that every single visit.” Several (6/16) commented that this feature supports discussions with patients about weight gain: “I look from visit to visit how much they’ve gained, how much they’ve gained overall at certain milestones in their pregnancy, and those trigger me to bring it up with the patient.” However, this feature has some limitations, “you have to have a pre-pregnant weight.” Furthermore, it was often difficult for clinicians to determine whether a woman was gaining appropriately at any particular point during pregnancy: “a lot of times, I just eyeball it.” “Just a guestimate.” One clinician suggested that additional support providing such a calculation would be very helpful: “if it’s leading to a potential piece of technology that could do that for me, I’d love it, because there isn’t a way to do that.”

No clinicians relied on the EMR to support patient counseling regarding behaviors or other contributors to GWG, such as diet or physical activity. However, a few of the obstetricians mentioned that they referred patients who were gaining too much weight or had other issues to a nutritionist: “Frankly being an older physician, I learned zero nutrition. Absolutely zero nutrition in medical school. So I don’t even try. Even if I have the time, I don’t have the expertise.”

Suggestions for additional tools and resources

All but 4 respondents had suggestions for additional EMR features, not currently available, that would help them with care related to GWG. Half (8) commented that additional EMR tools would help make care more “uniform” within and across providers: “I would hopefully miss less opportunities to have that discussion.” Many specifically mentioned pre-pregnancy weight as a field that needs to be populated, but is often missed. However, any enhancements would need to be incorporated into clinical care with sensitivity: “I don’t want a big red ‘this patient is obese’ … It has to be gentle.” Also, new tools should not interfere with workflow. One clinician specifically mentioned “alert fatigue.”

Several clinicians suggested enhancements to the existing feature that calculates total GWG, including suggestions that it should incorporate information on a woman’s recommended weight gain and gain in past pregnancies. While a few of the clinicians could access a weight gain chart via the EMR, these charts did not include the recommended ranges for GWG. Many felt that it would be especially helpful to share such a graph with the patient: “because a lot of patients are kind of visual.” Such a weight gain chart would be helpful not only for tracking, but also for counseling regarding future gains: “I think a lot of patients might like that. Because it’s also looking ahead.” To be most useful to patients, such a chart would have to be “easy to understand, patient friendly, pretty colors, without being complicated.”

Many clinicians saw the potential utility of an electronic alert that would identify women during pregnancy who were gaining weight outside of recommended ranges: “you know, some kind of exclamation point or some kind of alert if they’re tracking towards a 40 pound weight gain, to be able to jump in at the 20 pound mark and not at the 35 pound mark.” Such an alert would be most helpful if it were impossible to miss, “so if it could be kind of a

bolder thing that pops up just for us to view right away. So that whoever is seeing her, they can say, 'Oh my gosh!'" Most clinicians (12/16) reported that they would make management changes in response to such an alert, including counseling, dietary assessment, and nutrition referrals; "I would probably be more careful to counsel every patient with this alert."

A few of the clinicians did not think they would use any additional patient handouts printable from within the EMR: "I think we're giving too much paper." However, most thought that it would be helpful to have printable materials regarding diet, "maybe one page with portion sizes" including "samples of foods and the calories in them," and "especially stressing the exercise." In addition to information that could be given to patients early in pregnancy, it would be helpful to have "a diet recall sheet" and "something to hand out to patients when you find they're gaining too much weight" and "interventions that they could do." It might be especially valuable to have this information linked to specific time points during pregnancy: "you could do it at 20 weeks and say, 'Okay, you're doing fine. You know, this is what we'd like to see you gain the rest of the pregnancy." And then you can do one at 30 weeks and say, 'Okay, you know, between 20 and 30 you've now done blah, blah, blah.' Give people a little more specific guidance." Ideally, the materials would be tailored, including "literature based on grade-level reading." In addition to specific handouts, several of the clinicians mentioned that they would appreciate additional supports with counseling – "some pearls, maybe some other motivational tools that we could use" or "a prescription of a weight gain."

Discussion

Clinical-decision support systems embedded within EMRs improve prescribing and reduce the frequency of errors. (12) One area in which EMRs may be particularly helpful is in providing reminders for preventive and healthcare maintenance,(13, 14) including dietary and lifestyle counseling.(15) Several studies have now shown that the use of an EMR improves documentation and treatment of obesity among adults and children.(16-20) Similar to other types of clinicians, obstetricians often do not remember the BMI thresholds related to different weight categories, and the literature suggests that obstetricians frequently recommend gestational weight gains discordant with current guidelines.(8) Therefore, additional supports built within the EMR may be an easy way to identify women in need of specialized counseling or services to prevent or ameliorate excessive GWG, without requiring that obstetric clinicians memorize lists of numbers and thresholds.

Several clinicians addressed the importance of having pre-pregnancy BMI recorded. An EMR could easily include functionality that requires recording of pre-pregnancy BMI, e.g. before an initial obstetric visit can be finalized. Such a 'hard stop' would facilitate ongoing calculation of GWG throughout the remainder of the pregnancy. In contrast, several also mentioned discomfort with discussing weight issues, a problem that is likely to be best addressed by in-person training rather than enhanced EMR tools.

Computerized prenatal records have been available for more than three decades.(21, 22) However, only recently have there been calls for increased uptake of EMRs within obstetrics. In fact, many features of obstetric care, including standardized protocols, make it particularly appropriate for EMR adoption.(23-25) In 2006, the US Preventive Health Service recommended improvements in the EMR to improve the quality of prenatal care. (26)

Only a few, recent studies have evaluated obstetric care measures related to the use of EMRs. In an urban residents' clinic, adopting an EMR was associated with an improved rate

at which prenatal tests were ordered on time, present on the chart, and recorded on a prenatal flow sheet.(27) EMR adoption may improve documentation without adversely affecting workflow.(28, 29) Even within an existing EMR, improved electronic supports may increase measures of quality care. Haberman et al.(30) found that increasing the frequency and modifying the methodology of prompts in an electronic medical record increased documentation of both estimated fetal weight and indications for labor induction. Compliance with documentation may be especially low when electronic reminders are turned off.(31) Among postpartum patients, a computer-based clinical decision support algorithm dramatically increased vaccination among postpartum women.(32)

We were unable to identify any studies that have demonstrated improved obstetric clinical outcomes related to the use of EMR's or specific tools within them. Furthermore, we did not identify any studies that evaluated the role of EMR's within obstetrics for care related to obesity, GWG, or related behaviors. Such studies would provide evidence to support the role of EMR's in improving weight-related outcomes of pregnancy.

Strengths and Limitations

We surveyed obstetric clinicians at one obstetric practice in Massachusetts, all of whom used the same EMR system. Therefore, results may not be generalizable to clinicians elsewhere. Furthermore, those clinicians who chose to participate may not be representative of the overall group, as they may have been more interested in issues related to EMR use. All participants were female, although only 9 of 46 MD's in this practice, and no midwives, were male. However, we included both physicians and nurse midwives, and included clinicians with a range of experience, who practiced at urban and suburban locations. Results also may not apply to practices not currently using an EMR. The benefit of a study sample of providers already using an EMR, however, is that they are already aware of the practical advantages, disadvantages, and pitfalls of such a system. Furthermore as an ever-enlarging proportion of outpatient providers, including obstetric clinicians, is using EMRs, optimizing their features to promote improved support and care is becoming increasingly important.

Conclusions

Improving obstetric practices related to women's weight and weight gain is a clinical and public health priority.(33) Two-thirds of US women of childbearing age are overweight or obese,(34) and up to half of women gain excess weight during pregnancy.(2) Both of these factors are strong predictors of pregnancy outcomes and long-term maternal and child health.(2) This is the first study of which we are aware that has evaluated obstetric clinicians' current practices and opinions related to the use of electronic medical records for tracking of GWG and counseling patients regarding weight-related behaviors. Our qualitative study suggests that additional tools and supports within the prenatal electronic medical record to support prenatal care including required pre-pregnancy BMI entry, GWG charts, patient education materials, and alerts for out of range gains, would be acceptable and helpful to obstetric care clinicians. Additional research that includes studies within settings that adopt enhanced electronic tools related to GWG will be needed to understand the role of an EMR in supporting GWG counseling and tracking.

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Table 1

Interview guide outline and sample questions

Topic	Sample questions
Impact on health	How much influence do you think gestational weight gain has on pregnancy outcomes? How much influence does gestational weight gain have on longer-term child health? What about your patients – how important do you believe they think weight gain is?
Usual practices	Could you tell me a little bit about how you discuss gestational weight gain with your patients? Do you track a woman's gestational weight gain during the course of the pregnancy, and if so, how? How and when do you communicate a woman's weight gain to her?
Tools and resources used	What tools or resources do you use to help you when you are counseling your patients regarding gestational weight gain, and tracking their weight gain through pregnancy?
Suggestions for tools and resources	What tools or resources for gestational weight gain counseling and tracking do you wish you had, but they are not currently available?

Table 2

Themes and representative quotations that emerged for each topic addressed during qualitative interviews with 16 obstetric clinicians

Topic	Themes	# of clinicians who addressed topic	Representative quotations
Impact on health			
Impact on pregnancy outcomes	GWG has a strong influence on pregnancy outcomes	8/16	"Clearly excessive weight gains are associated with increased Caesareans, diabetes, and hypertension, and macrosomia"
	GWG has a modest influence on pregnancy outcomes	3/16	"Some, but I don't think it's huge"
	Influence of GWG depends on other factors	5/16	"What's important is where people start" "Is it the weight gain that's the problem? Or is it the inability to exercise and not being in good shape that's the problem?" "It really is on the physiology of the mother."
Impact on longer-term child health	Yes – and scientific evidence supports an association	11/16	"There's some interesting studies" "I know the literature says it's pretty high" "They've seen some association with problems"
	Don't know/Don't recall	4/16	"I don't know whether it was based on prepregnancy weight gain or a mixture of the both of them. I don't know"
Patient perspective	Patients do not believe GWG is important	7/16	"I don't think they think it's as important as I do."
	Patients who think GWG is important may worry too much	3/16	"They focus on every number." "A lot of them in the population that I'm working with are very scared about weight gain."
	Patient characteristics influence how they feel	5/16	"There is a difference between ethnicities." "It really depends on their level of education." "It's important to those who it was important to throughout their life"
Usual practices			
EMR use during visit	Use EMR during every patient encounter	11/16	"I open it within the first five minutes." "It's not the first thing I do. First I just engage the patient in a conversation."
	EMR use depends on patient factors	4/16	"If the patient asks me a question about her labs and I need to pull them up so she can see, then I will get into Epic when she asks or when it's brought up."
	Environmental factors and computer availability influence whether EMR can easily be used during visit	4/16	"The rooms are really small and any time you're at the computer, your back is always to the patient." "It's… opened by the medical assistant. She goes in. She inputs everything. She brings the patients up on the screen. She secures the screen. When I put in my password it comes right up to the patient, so all her information is right there." "I use a tablet, and I go into the patient's room with my tablet, with her chart open."
Patient communication	Ask patient her own GWG goal	1/16	"I have, yeah. I have, and then I have learned that a lot of people don't necessarily know, so I ask them, you know, what their thoughts are on how much weight they're supposed to gain. In my short experience at this particular practice, a lot of women don't necessarily know, so I kind of end up answering that question for them and kind of addressing questions that come up based on the answer."
	Communicate gain to patient depending on circumstances	6/16	"If it's going heavy, you know, I'll mention it for like, one or maybe two visits."
Tools and resources currently used			
Total GWG calculator	Calculator shared with patients, helpful to	6/16	"If there's a problem with her weight gain… I open it up and I show

Topic	Themes	# of clinicians who addressed topic	Representative quotations
	support discussions		her what her weight gain has been over the time."
	EMR used to support GWG tracking, not counseling	14/16	"Not counseling…Tracking is in the grid. Yeah, and that's what I use to track."
Suggestions for additional features within EMR			
General comments on EMR tools	EMR tools may promote consistency within and across providers	8/16	"It would just catch me when I've missed the math, if I'm not doing it." "I think what can be really hard, is if, a woman is gaining too much weight, but for some reason it's missed at an appointment."
	Information on GWG should be delivered with sensitivity	4/16	"We don't want them skipping meals and starving themselves." "It has to be gentle." "Not punitive in any way."
	EMR features should not interfere with workflow	4/16	"I wouldn't want it to require I click on something to make it go away so I could close the chart. I wouldn't want it to add more." "If it's, you know, however many pounds off, it highlights in red. You know, that's a little less obtrusive than something that pops up and you have to clear out of it."
	Pre-pregnancy weight is key for all EMR tools	9/16	"But you only get that if you put in the pre-pregnant weight…and my peers often do not."
Electronic 'smart phrases'	Smart phrases would save work, be helpful	4/16	"If there are smart phrases in there that give you how much weight she should be gaining or the weight gain chart or the recommendations … like, if I have a hypertensive patient, if I type in … 'pre-eclamptic something smart phrase,' it will come up and give me the recommendations… I am not aware of any of those things for weight gain and pregnancy."
	Smart phrases helpful only if knowledge gaps are present	4/16	"I have no idea … what's the cut-off. I don't even know. And that really annoys me about this whole, like, health insurance thing where we're supposed to put whether the patient's normal weight, overweight or obese… you can't just put BMI in it, and it like translates it… Why can't it say 18, normal?" "I don't think that's really necessary. I feel like it's pretty much in everyone's head."
GWG calculator improvements	GWG calculator should incorporate pre-pregnancy BMI and past pregnancy history	4/15	A "tool to show you how much weight she should have gained at this point. Where you could type in gestational age and her starting BMI or whatever, and have it calculate something that might be helpful." "If there was a way we could compare this pregnancy to last, for instance, I think that would be a good idea"
GWG charts	GWG charts would provide a helpful visual especially for patients, less so for providers	9/16	"I would primarily use that not for myself to see how she's doing but ato show patients." "Now as I think about it, the useful piece of it is to show the patients what's happening."
	GWG charts should include recommended ranges	2/16	"There is a graph I use regularly. What it doesn't have is the parameters."
Alerts for out of range GWG	An alert would be likely to elicit a response from the clinician	12/16	"I guess it would just generate the same discussion, but maybe I would hopefully miss less opportunities to have that discussion." "I would really drill down into what choices are being made and what if anything can be done to modify it." "I would get a diet recall from the patient. If she hasn't seen a nutritionist, recommend a nutritionist" "I'm doing that anyway, just by the math. It would just catch me when I've missed the math."
	Alerts should be tailored to patient weight, timing of visits	5/16	"What happened to the last visit from this visit. If she's gained 10 pounds since the last visit, well maybe that's something we should address today. Versus if she's gained two or three pounds. It also depends on the interval of time and when it is during the pregnancy." "Based on BMI, you know, because that would take into account height and weight."
Behavior change supports	Diet assessment/ information	11/16	"I think having something, a diet log, that would be helpful for patients. With lines maybe and like a week at a time. Maybe one page with portion sizes. I don't think most people, the calories can be really

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			deceptive. But portion sizes maybe.”
	Physical activity assessment/information	5/16	“Safe exercise regiments for a pregnant woman”
	Support for behavior change counseling	4/16	“For other issues where counseling is a big part of delivering care. Like there is almost like a question, it’s that series of questions that we go through with patients, like, for example, like smoking cessation to kind of help formalize it and make it a little bit less individualized and more something that we know that every patient is being asked or address.” “I think it would be very helpful to show the patients some statistics. How many obese patients ended up with a C-section. How many children of obese patients ended up with diabetes or obesity themselves. I think that would be enough to show the patient that yes, there is a risk, and this is what the studies show.”
	Educational handouts should be tailored	4/16	“A lot of those are in our initial obstetric visit packet, but if I have a patient who’s gaining too much or too little and she’s like 28 weeks I have to have the [medical assistant] photocopy that part… which is just kind of a pain in the butt for them.” “We could have some better information, really specific nutrition and exercise information in there.”

GWG – gestational weight gain. EMR – electronic medical record.