Research Gaps in Maternal Weight Gain Ranking Survey--Round 2 Ranking Outcomes of Weight Gain in Pregnancy

All of the proposed research questions to address gaps in knowledge rely on some specification of a measurement of weight or body composition.

Please rank the measure you think is most important to address research gaps related to weight gain in pregnancy as #1 and the least important as #8.

* 1. Candidate measure of maternal weight status (at baseline or as measures of change)

	1	2	3	4	5	6	7	8
Pattern of weight gain across trimesters (e.g., low-low-high vs. low-high-high, etc.)	0	0	0	0	0	0	0	0
Total weight gain from pre-pregnancy to end of pregnancy	0	0	0	0	0	0	0	0
Pre-pregnancy baseline weight/BMI	0	0	0	0	0	0	0	0
Total weight gain from first trimester to end of pregnancy	0	0	0	0	0	0	0	0
Pattern of weight gain across pregnancy as a statistical trend line or function	0	0	0	0	0	0	0	0
Rate of weight gain (e.g., kilograms per week)	Ο	0	0	0	0	0	0	0
Change in body/body fat composition	0	0	0	0	0	0	0	0
Change in BMI from pre-pregnancy to end of pregnancy	0	0	0	0	0	0	0	0

Research Gaps in Maternal Weight Gain Ranking Survey--Round 2 Ranking Outcomes of Weight Gain in Pregnancy--Round 2

All of the proposed research questions to address gaps in knowledge rely on some specification of an outcome or outcomes of interest.

Please rank the outcome you think is most important to address research gaps related to weight gain in pregnancy as #1 and the least important as #5.

* 2. Candidate outcomes of interest related to maternal weight status (at baseline or as measures of change)

	1	2	3	4	5	
Infant health outcomes (e.g. growth in first year of life. developmental milestones)	0	0	0	0	0	
Fetal outcomes (e.g. stillbirth, fetal distress in labor)	0	0	0	0	0	
Maternal postpartum outcomes (e.g. postpartum weight loss, initiation of lactation, duration of lactation)	0	0	0	0	0	
Child health outcomes (e.g. overweight and obesity)	0	0	0	0	0	
Development of gestational diabetes	0	0	0	0	0	

General Evidence Gaps

For the balance of the survey items we have simplified the questions to indicate "[weight gain in pregnancy]" and "[outcomes]" as generic stand-ins for specific targets. The ranking of the above items will be used later by the group to help merge the prioritization of specific measure of weight gain/outcomes with proposed research questions. This will multiply the number of items for final rankings in a future round.

A number of the research questions and suggestions for new items and edits emphasized the need to understand the inter-relationship of causal factors, for instance calorie expenditure, nutritional content of meals, and maternal weight gain. The intent of these questions is to more clearly understand the independent contribution of specific factors of two types: 1) confounders and 2) effect modifiers. The research questions themselves are not required to be accessible to a lay audience, rather to provide information to guide prioritization of topics to file gaps in knowledge at the scientific level. *Don't worry about word-smithing to make the research questions transparent for the public.*

We have grouped the research questions here by focus on confounding versus effect modification. The level of granularity of the items differs from broad to specific.

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of the research, and potential to advance the science.

Confounding

Questions about confounding are aimed at assuring that an influence on outcome(s) is not incorrectly attributed to one factor (e.g. weight gain) if actually being driven by another confounding factor (e.g. nutritional composition of the diet). Confounders are associated with both the exposure of interest (i.e. some specific measure of weight gain in pregnancy) and the outcome under study (i.e. some specific maternal, fetal, or infant outcome) and mask or inflate the estimated effects of the exposure of interest.

3. What factors confound the relationship between [weight gain in pregnancy] and [outcomes]?

Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

4. Does physical activity [metabolic expenditure] confound the relationship between [weight gain in pregnancy] and [outcomes]?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

5. Does pregravid health status confound the relationship between [weight gain in pregnancy] and [outcomes]?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

6. Does pre-pregnancy BMI or pre-pregnancy weight confound the relationship between [weight gain in pregnancy] and [outcomes]?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

General Evidence Gaps (Continued)

Effect Modifiers

Questions about effect modification, also termed interaction, are aimed at understanding whether the relationship between the exposure of interest and the outcome is fundamentally different based on status of another characteristic. For instance: Does Type II diabetes modify the relationship between total maternal weight gain and risk of macrosomia?

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of The research, and potential to advance the science.

7. What physiologic or clinical factors modify the relationship between [weight gain in pregnancy] and [outcomes]?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

8. Does pre-pregnancy BMI or pre-pregnancy weight modify the relationship between [weight gain in pregnancy] and [outcomes]?

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Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

Ranking Choices

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9. Does use of insulin or other diabetes medications modify the relationship between [weight gain in pregnancy] and [outcomes]?

	Ranking Choices	
Overall importance		
Clinical utility		
Feasibility of the research		
Potential to advance the science		

Overall importance	A weight gain tum longer term ing Choices	
potential to advance the science. 10. Does gestational weight gain above targets defined in the 2009 ION guidelines contribute to complications (including antepartum, postpar maternal and infant complications)? Rank Overall importance Clinical utility Feasibility of the research Potential to advance the science 11. Does gestational weight gain below targets defined in the 2009 ION guidelines contribute to complications (including antepartum, postpar maternal and infant complications)? Rank Overall importance 11. Does gestational weight gain below targets defined in the 2009 ION guidelines contribute to complications (including antepartum, postpar maternal and infant complications)? Rank Overall importance Clinical utility Feasibility of the research Potential to advance the science 12. Does maternal age modify the relationship between gestational weight gain and complications in the 2009 IOM weight gain and complicational weight gain and compline weight gain an	A weight gain tum longer term ing Choices	
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Clinical utility	tum longer term	
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Potential to advance the science	tum longer term	
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Potential to advance the science		
12. Does maternal age modify the relationship between gestational we (or below) thresholds defined in the 2009 IOM weight gain and complied		
Overall importance		
Clinical utility		
Feasibility of the research		
Potential to advance the science		
13. What are the harms and benefits of offering standardized weight gain recommendations to all pregnant women?		
Rank	ing Choices	
Overall importance		
Clinical utility		
Feasibility of the research		
Potential to advance the science		

General Evidence Gaps (continued)

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of the research, and potential to advance the science.

14. Which anthropometric tools are most appropriate for determining adiposity in pregnant women?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

15. What is the general health literacy (i.e., the level of knowledge, attitudes and self-efficacy) of women regarding gestational weight gain?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

16. What is the relative impact of total weight gain vs. rate of weight gain vs. timing of weight gain (by trimester) on pregnancy outcomes?

	Ranking Onoices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

17. What is the effect of gestational weight gain on infant (beyond birthweight) and childhood outcomes?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

Ranking Choices

18. What are the optimal gestational weight gains for women with varying degrees of pre-pregnancy obesity?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

19. What research studies and databases are available to describe the distribution of maternal weight gain (prior to, during and after pregnancy) among different populations of women in the US?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

20. What research studies and databases are available to inform our understanding of the effects of different weight patterns (including underweight and overweight) during pregnancy on maternal and child health outcomes?

Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

Interventions

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of the research, and potential to advance the science.

21. Do prenatal care providers have the necessary knowledge, attitudes, and skills to provide appropriate weight gain guidance to women?

Potential to advance the science

22. What methods are effective for helping women acquire knowledge and understanding of the goals for weight gain, and skills for controlling weight gain?

Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

23. What research has been conducted to describe the individual, community, and health care system factors that impede or foster adherence to recommended gestational weight gain guidelines?

Ranking	Choices
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Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

24. What interventions are effective for the outcome of maternal weight gain within the recommended range(s)?

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

25. How does physical activity affect maternal weight gain?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

26. How does total caloric intake, and dietary composition of caloric intake affect maternal weight gain?

	Ranking Choices
Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

Statistical Issues

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of the research, and potential to advance the science.

27. What is the need for standardization of research measures to advance the field of research related to weight gain in pregnancy?

28. Is there a lack of standardization in current research in terms of maternal weight gain measures?

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

Measurement Issues

Please score all items, from 0 (low) to 10 (high), for the following domains: overall interest, clinical utility, feasibility of the research, and potential to advance the science.

29. Is rate of weight gain, change in BMI, adequacy of rate of weight gain, or total weight gain superior for predicting adverse birth, maternal, and infant outcomes?

Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	

30. What are the preferred anthropometric measurements for predicting birth, maternal, and infant outcomes?

Ranking Choices

Overall importance	
Clinical utility	
Feasibility of the research	
Potential to advance the science	