



National WIC Association

# **NWA 2016 Research Needs to Support an Effective and Efficient WIC Program**

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2016 Washington Leadership Conference

- NWA Evaluation Committee.

- Highlight areas for focused research.

- Research to further bolster the four pillars of WIC services.

- 2016: women's health, obesity and data.

- <https://www.nwica.org/research-activities>



#### Overview

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) has benefited greatly from program evaluation and high quality quantitative and qualitative research focused on program impact. It is crucial that such research continues to update, reinforce, and expand the rigorous documentation of WIC's positive effects on the women, infants and young children served by the program. To date, WIC studies have been wide ranging in theme and scale and have covered issues from the impact WIC has on obesity and cognitive development, to how the WIC food package meets the cultural needs of WIC population across the country. In this document, we outline the need for focused research on women's health, the impact WIC has on obesity, and improving the quality and use of WIC data. Each of the areas of focus serve to bolster the four pillars of WIC - nutrition education, breastfeeding support, referrals to health and social services and the healthy food package.

WIC is the only USDA nutrition assistance program with legislative and regulatory requirements to provide nutrition education. Breastfeeding support and referrals to health and social services are also integral for day-to-day WIC service delivery. Research that examines the impact of these services on participant behavior change and identifies best practices continues to be essential. As WIC stays committed to providing participant centered services, considering the needs of the population WIC serves should be central to WIC research.

The benefit most widely known and associated with the WIC Program is the food package. Currently, the WIC food packages are under review by the National Academy of Medicine (formerly called the Institute of Medicine) with recommendations expected in January of 2017. USDA is required to review the food packages every ten years so that they align with the most current nutrition science and the latest Dietary Guidelines for Americans. It is essential that the nutrition community continue to rigorously examine the food and nutrient intake of low income pregnant and breastfeeding women, postpartum women, infants and children to identify the types of foods and nutrients of greatest benefit to these population groups. A myriad of questions related to the maternal and young child populations have great relevance to the program; and well designed studies, even small in scale, have great potential to impact both current and future WIC food packages.

Appropriate resources are needed to support quality WIC research and evaluation. For this reason, the NWA 2017 Legislative Agenda asks for a minimum of \$5 million to support ongoing research efforts and additional funds for grant based research. Some exciting work is being supported by USDA grants and contracts. Currently, the USDA is supporting focused research on how WIC impacts nutrition in the preconception period. In addition, the USDA funded two new research centers: The Center for Collaborative Research on WIC Nutrition Education Innovations, and most recently The Center for Behavioral Economics and

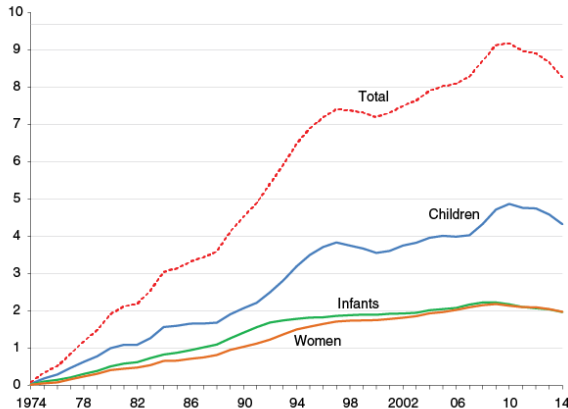
As the nation's premier public health nutrition program, WIC is a cost-effective, sound investment—insuring the health of our children.

**NWA'S MISSION**  
Providing leadership to promote quality nutrition services; advocating for services for all eligible women, infants, and children; and assuring the sound and responsive management of WIC.

# What do you think of when you hear the word research?

Participation for all three WIC groups fell for the fourth year in a row

Average monthly participation, millions of people



WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.  
Source: USDA, Economic Research Service using data from USDA, Food and Nutrition Service.

## RESEARCH

ajog.org

### OBSTETRICS

#### Prepregnancy body mass index in a first uncomplicated pregnancy and outcomes of a second pregnancy

Mary Taha, MD, Sandra H. Risk, DPM, Matthew G. Tsai, MD, George A. Macones, MD, Jin-Jen Chen, PhD

**OBJECTIVE:** This study examined the effect of body mass index (BMI) before a first uncomplicated pregnancy on maternal and fetal outcomes in a subsequent pregnancy, including preterm births, preeclampsia, cesarean delivery, small for gestational age, large for gestational age, and neonatal deaths.

**STUDY DESIGN:** We conducted a population-based cohort study ( $n = 1,213,053$ ) using the Missouri Maternity Linked Birth Registry (1989 through 2010). Multivariable binary logistic regression models were fit to estimate odds ratios and 95% confidence intervals for the parameters of interest after controlling for sociodemographic and pregnancy-related confounders in the second pregnancy.

**RESULTS:** Compared to women with a normal BMI in their first pregnancy, those who were underweight (pregnancy body mass index)

odds for preterm birth by 20% and small for gestational age by 40% in their second pregnancy, while those with pregnancy obesity had increased odds for large for gestational age, preeclampsia, cesarean delivery, and neonatal deaths in their second pregnancy by 54%, 106%, 45%, and 37%, respectively.

**CONCLUSION:** Women starting a first pregnancy with suboptimal BMI may be at risk of adverse maternal and fetal outcomes in a subsequent pregnancy, even if their first pregnancy was uncomplicated or if they reached a normal weight by their second pregnancy. This long-term consequence of suboptimal BMI has early actionable public health implications.

**Keywords:** fetal outcomes, maternal outcomes, prepregnancy body mass index, subsequent pregnancy, uncomplicated pregnancy

**Obstetrical article in: Taha M, Risk SH, Tsai MG, et al. Prepregnancy body mass index in a first uncomplicated pregnancy and outcomes of a second pregnancy. Am J Obstet Gynecol 2013;209:100-106.**

The majority of women in the United States enter pregnancy with a suboptimal body mass index (BMI), most of them being overweight or obese.

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before pregnancy.<sup>1</sup> With the pervasive obesity epidemic, maternal obesity has reached alarming levels among pregnant women, with potential negative implications for pregnancy health and outcomes.<sup>2-4</sup>

The data used in this study were obtained from the Missouri Maternity Linked Birth Registry (1989 through 2010), a population-based cohort study that includes information on maternal and fetal outcomes in a subsequent pregnancy.

Our objective was to examine the association between prepregnancy BMI and outcomes in a subsequent pregnancy, including preterm births, preeclampsia, cesarean delivery, small for gestational age, large for gestational age, and neonatal deaths.

We hypothesized that women with a suboptimal BMI in their first pregnancy would have an increased risk of adverse maternal and fetal outcomes in a subsequent pregnancy.

We conducted a population-based cohort study using the Missouri Maternity Linked Birth Registry (1989 through 2010).

We included all women who had a first uncomplicated pregnancy in Missouri between 1989 and 2010.

We excluded women who had a second pregnancy within 1 year of their first pregnancy.

We used multivariable binary logistic regression models to estimate odds ratios and 95% confidence intervals for the parameters of interest.

We controlled for sociodemographic and pregnancy-related confounders in our models.

We present our results for preterm births, preeclampsia, cesarean delivery, small for gestational age, large for gestational age, and neonatal deaths.

gestational age (SGA) or who have congenital anomalies, including neural tube defects.<sup>5,6</sup> Maternal obesity may also have long-term consequences for the offspring, including nonalcoholic fatty liver disease, attention deficit hyperactivity disorder, autism spectrum disorder, asthma, obesity, and other metabolic complications.<sup>7,8</sup>

While the effects of prepregnancy BMI on pregnancy outcomes have been thoroughly examined,<sup>9-12</sup> little is known about the effect of prepregnancy BMI on the maternal and fetal outcomes in a subsequent pregnancy.

In a population-based retrospective cohort analysis, women who were overweight or obese before their first pregnancy had increased adjusted odds for SGA, pre-eclampsia, and cesarean delivery in their second pregnancy as compared to women who had a normal weight before their first pregnancy, even if they had reached a normal weight by their second pregnancy.<sup>13</sup>

While these findings suggest that prepregnancy BMI might be an important determinant of outcomes in a subsequent pregnancy, more research is needed to confirm these findings.

In this study, we examined the association between prepregnancy BMI and outcomes in a subsequent pregnancy, including preterm births, preeclampsia, cesarean delivery, small for gestational age, large for gestational age, and neonatal deaths.

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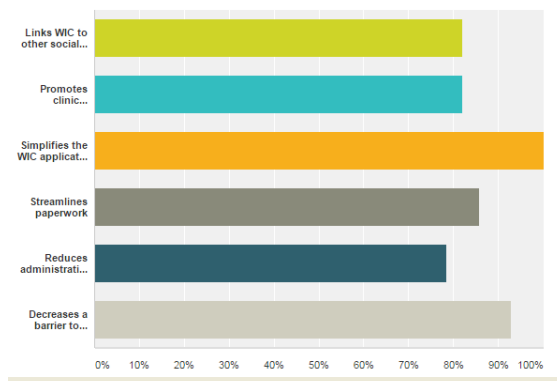
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What are the main benefits of Medicaid adjunctive eligibility (please check the benefits that apply to you)?

Answered: 28 Skipped: 9



	B3	C	D	E	F	G	H	I
71	58.40	44.10	24.59	42.35	41.29	40.76	43.49	41.87
72	44.00	46.77	42.51	45.39	44.27	42.01	45.68	43.59
73	50.72	49.14	46.04	50.63	48.05	60.11	48.85	48.19
74	50.92	46.09	42.32	51.86	42.87	44.00	48.98	65.29
75	39.04	36.49	35.25	38.76	34.74	34.71	35.88	37.52
76	16.72	16.47	48.67	48.61	31.75	31.93	49.17	49.17
77	49.96	48.38	41.08	46.85	50.71	49.42	52.64	50.01
78	71.11	75.60	72.22	75.80	69.59	72.04	75.44	74.21
79	69.92	64.37	67.72	74.17	69.83	67.78	72.03	75.78
80	62.60	65.16	64.70	68.78	65.54	73.80	73.18	72.20
81	37.43	43.13	45.79	55.25	53.18	53.11	54.50	57.54
82	63.54	71.89	60.57	64.69	68.84	68.01	71.86	73.01
83	69.11	67.23	69.85	71.52	72.38	68.90	69.34	63.25
84	56.75	56.43	56.97	49.85	49.58	49.57	47.31	59.56
85	51.71	52.26	46.21	48.67	42.95	49.60	43.79	53.12
86	57.48	60.84	52.45	49.06	46.78	43.48	43.89	53.36
87	37.65	38.25	37.53	41.33	38.11	37.78	39.70	40.37
88	52.46	50.23	46.46	35.24	71.49	61.55	40.11	64.69
89	70.78	69.72	68.65	69.80	69.99	67.65	71.99	69.69
90	44.50	44.75	40.82	43.69	43.45	40.38	44.42	43.59
91	45.31	46.97	45.03	47.01	47.47	44.67	46.97	46.05
92	73.76	76.38	72.16	76.35	76.05	72.36	74.91	72.92
93	55.05	56.19	51.49	55.22	53.48	48.79	54.85	52.51
94	38.33	38.23	37.35	38.27	37.21	35.54	36.35	36.43
95	39.85	38.56	37.86	38.02	36.93	37.14	38.76	36.48
96	41.28	53.25	28.14	40.19	39.18	37.84	52.13	26.82
97	42.37	43.13	39.75	42.34	41.31	38.98	41.85	40.92
98	67.42	69.17	66.68	70.40	71.81	68.75	85.54	59.36
99	38.86	39.61	36.05	38.10	35.42	33.94	56.26	21.31
100	58.61	46.69	48.03	32.37	42.49	32.46	61.49	61.68

# Think of the bigger picture



# Women's Health

- WIC's unique opportunity to engage with women in between pregnancies.
- Address a number of physical and mental health issues, within the scope of WIC practice.



# Recommendations

- Research to explore innovative approaches to addressing postpartum health issues that fall within the appropriate scope of practice for WIC.
- Building partnerships with the medical community to provide services that are beyond that scope – mental health.

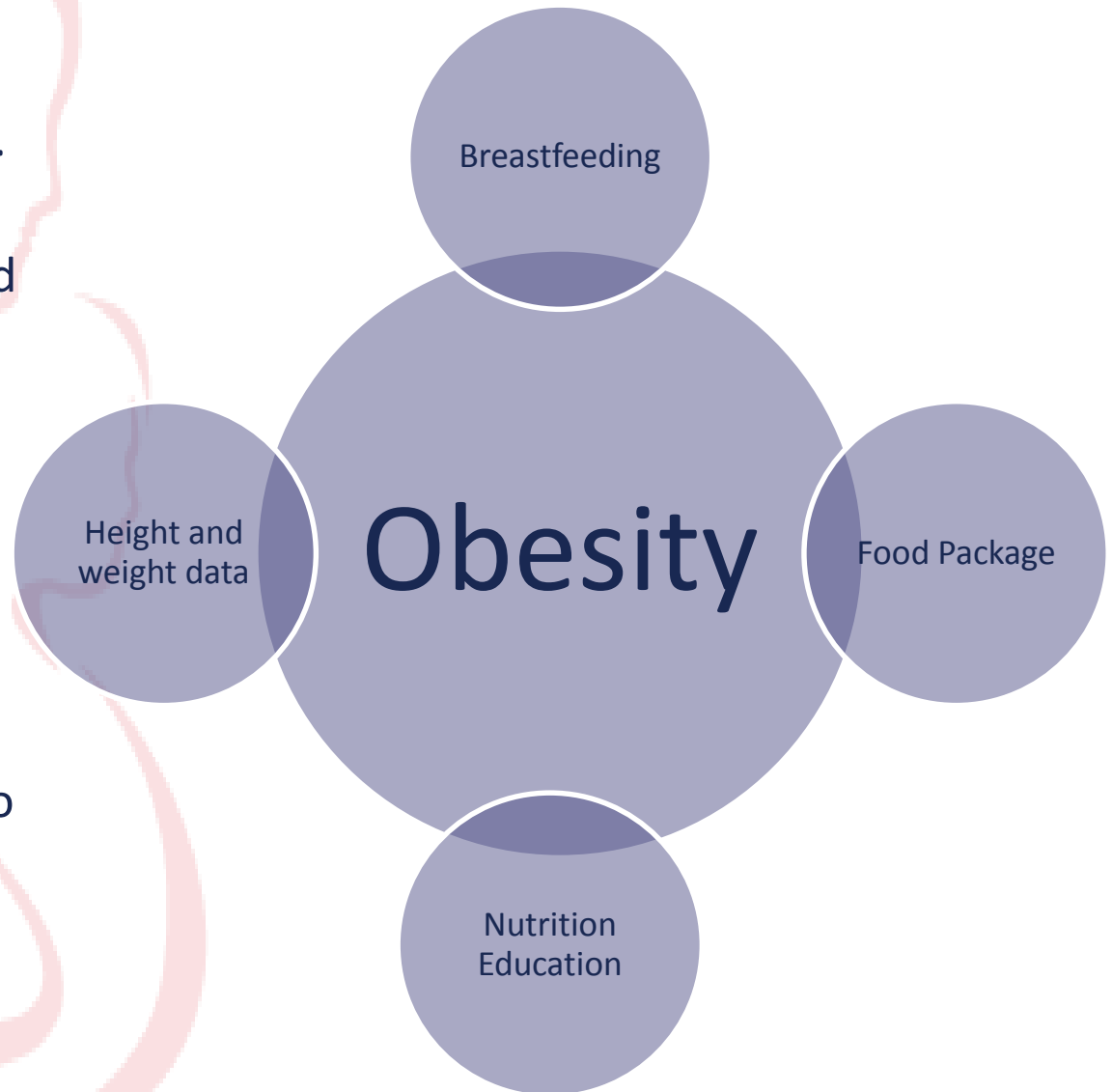


# Obesity

Obesity continues to be a focus of the WIC program.

Childhood obesity is linked to adult obesity and obesity early in life accelerates the onset of obesity-related chronic health problems.

Once an individual becomes overweight or obese, it can be difficult to revert back to a healthy weight.



# Height and weight data

- Loss of Centers for Disease Control and Prevention's (CDC) Pregnancy and Pediatric Nutrition Surveillance Programs (PedNSS/PNSS)
- Coordination is needed at the national and regional levels to facilitate the standardization, planning, and implementation of WIC data-derived obesity reports.
- Important that State WIC programs continue to maintain standardization in measurement, analysis and reporting of childhood obesity prevalence estimates from WIC height and weight measures.





# Data

- Demonstrates effectiveness and efficiency of WIC .
- Program planning, monitoring, evaluation, surveillance.
- Challenge – different ways of collecting data and varying capacities to analyze it.
- Appropriate and sustainable funding streams must be identified.
- Improving data systems can directly benefit state and local programs.
- Data is one of WIC's biggest resources.

# Recommendations for data

- Identify and standardize key variables of interest from WIC administrative and health outcome data
- Evaluate WIC State agency management information systems (MIS) and the type of data collection in which WIC agencies are engaged.
- Explore data warehouse application and reporting systems that give local agency WIC programs access to their administrative data in a user-friendly format.
- Examine linkages with other data sources to explore characteristics of eligible non-participants.
- Explore best practices for utilizing Electronic Benefit Transfer (EBT) data for program management, caseload management, health outcome analysis, and strategic planning, as well as for cost containment and program integrity.

# What do we do with the Research Needs Assessment?

- Use it to engage with researchers, focus research on WIC.
- Monitor research and developments in these three areas and keep you updated.
- **Over 40 years of research!** Use it to demonstrate the amount of research being undertaken on WIC – foundation of research and evidence.
- **Recognizes the value of collaborations between the research and WIC community.**

# <https://www.nwica.org/guidance-for-planning-conducting-and-communicating-a-wic-research-project>



**National WIC Association**

NWA is the non-profit education arm and advocacy voice of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC).



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## TOPICS & RESOURCES

### TOPICS

#### BREASTFEEDING

#### NUTRITION

#### WIC FUNDING AND OPERATION

#### WIC OUTCOMES

### RESOURCES

#### POSITION PAPERS AND FACT SHEETS

#### BIBLIOGRAPHY

#### WIC RESEARCH ACTIVITIES

#### WIC JOB POSTINGS

## Guidance for Planning, Conducting and Communicating a WIC Research Project

### Planning a Research Project

For over 40 years WIC has been helping low-income families access healthy food, breastfeeding support, nutrition counseling and referrals to health and social services. Although WIC is one of the most researched Federal nutrition programs, there are always opportunities for meaningful research that could fill a knowledge gap and provide formative lessons for the program and new data that can support advocacy efforts. Additionally, research on WIC occurs across disciplines and topics, including, for example, nutrition, breastfeeding, food policy, public policy and behavioral economics.

If you are looking for topics to research, we recommend consulting the National WIC Associations' Research Need Assessment, which is a list of high priority research topics for consideration by interested researchers. The latest version can be found here. In addition, there are many other research topics that are of value to WIC and those may be valuable to a specific local context.

If you are considering planning a research project that focuses on a specific locale, we encourage you to consider the research needs of the locale you hope to conduct research within. Synergies between researchers and state and local WIC staff, enable WIC research projects to have a meaningful impact on local WIC programs. For example, WIC state administrators and local staff worked collaboratively with researchers at the University of Illinois (UIC) to develop projects to evaluate the revised WIC food packages and identify barriers to WIC child retention. As a result, the research generated from the partnership has helped inform programmatic direction.

### Conducting Research within the WIC Community

The type of research you conduct may be determined by a number of factors such as timeframe, funding, and scope (whether you are conducting research on a local, state or national level). Another important consideration when

1. Clearly communicate research objectives, both verbally and in writing, when approaching state and/or local agencies with a request for their participation. If it is not possible to communicate verbally with every potential participant due to the scale of your project, consider hosting a webinar.
2. Define who the stakeholders will be in your research project. This may be straightforward or it may be more complex depending on whether the research project is being planned and conducted by the same entity or if contractors are undertaking some aspects of the research. Regardless, all stakeholders should be clear on the roles and responsibilities.
3. Agree on the type and level of input participating State and local agencies will be asked to provide throughout the project and what form of input will be requested (interviews, advisory panel, informal phone calls, reviewing reports, etc.).
4. Be aware of local policy issues that could be of concern to states, locals and WIC participants involved in your research. For example, be aware of sensitive or contentious issues and consider what impact your research could have on policy discussions at a local and national level. If unclear about whether your research could be policy-sensitive, contact NWA or your State WIC Director to discuss.
5. Communicate with WIC staff, what new insights you think your research will contribute to the WIC program or whether the research is being performed to meet federal requirements.
6. Clearly outline what is expected of participating WIC stakeholders involved in your project.
7. Be clear on when there will be opportunities for participating WIC stakeholders to ask questions before, during and after the research takes place.
8. Provide details of the point person WIC should contact if they have questions about your research.
9. Clearly describe how you intend to use feedback provided by participating state and local agencies. For example, if you are proving an opportunity for state and local agencies or advisory panels to review documents, clearly describe how that feedback will influence next steps.
10. If requesting data from WIC state and local agencies, clearly describe the data you would like to obtain, including data fields, timeframe, and expected response time.
11. Mutually agree to how sensitive data will be used for the research. Are there any Internal Review Board or Personal Identifier Information considerations? Is an MOU required? If so, discuss how these will be addressed with all stakeholders.
12. Describe who will have access to data provided for the research, how it will be stored throughout the project lifecycle, and how the data will be handled after the research is complete.
13. Mutually agree to whether and how raw data files and analytic files can be used after the research is complete.
14. If making recommendations, ensure that they are realistic and note limitations relative to their implementation.
15. Discuss with stakeholders how you plan to disseminate study findings.

# NWA Evaluation Committee

- Shannon E. Whaley, PhD, **Chair**
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- Elizabeth Frazao, PhD, **USDA-ERS Partner**
- Melissa Abelev, **USDA-FNS Partner**

A faint, stylized pink logo of the National WIC Association is visible in the background on the left side of the slide. It features a circular emblem with a figure inside, surrounded by the words "NATIONAL WIC ASSOCIATION".

**Are you from a Local WIC Agency and  
interested in research and  
evaluation?**

**We are looking for a new Evaluation Committee  
member!**

[gmachell@nwica.org](mailto:gmachell@nwica.org)



**Thank you!**

