
Identifying Evidence-Based and Evidence-Informed Nutrition Interventions to Advance Maternal Health in Title V Maternal and Child Health Services Block Grant Programs

INTRODUCTION

The purpose of the [Title V Maternal and Child Health \(MCH\) Services Block Grant Program](#), a federal-state partnership, is to improve the health of the nation's mothers, children, including children with special needs, and their families. The Title V MCH Services Block Grant Program supports states and jurisdictions in their efforts to achieve this goal through data driven, evidence-based or –informed strategies. In 2015, Title V MCH Services Block Grant Programs submitted 5-year action plans describing state or jurisdiction MCH priorities, strategies, objectives, and measures, including National Performance Measures (NPM), for 2015 through 2020. [Of the 59 action plans, 53 included an NPM related to maternal health.](#)

A 2016 MCHB-funded publication, [Incorporating Nutrition into the Title V MCH Services Block Grant National Performance Measures](#), documents evidence-based and -informed nutrition strategies that measurably impact the Title V MCH Services Block Grant Program NPMs. Among the 53 action plans noted above, [only 6% indicated addressing nutrition](#) to

improve NPMs related to maternal health. Nutrition is not only one of the few modifiable risk factors for chronic disease, but improving maternal nutrition pre-pregnancy profoundly impacts infant health. Evidence is continuing to grow about the critical importance of preconception weight and nutritional status, and its impact on health throughout the lifespan (King, 2016). Preconception nutrition interventions present valuable opportunities for states and jurisdictions in the Title V MCH Services Block Grant Program to simultaneously work upstream and positively impact maternal and infant health.

Title V staff, including public health nutritionists, can support improved health through improved maternal nutrition by identifying effective and relevant nutrition interventions. This MCH nutrition program brief reviews opportunities to identify appropriate maternal health-related evidence-based and -informed nutrition interventions to advance Title V MCH Services Block Grant Programs' NPMs using online databases.

WHERE TO FIND EVIDENCE-BASED AND -INFORMED NUTRITION INTERVENTIONS

Several online databases catalog evidence-based and –informed nutrition interventions. Two of the most well-known among Title V MCH Services Block Grant Programs include [Strengthen the Evidence Base for MCH Programs](#), maintained by Georgetown University, and the Association of Maternal and Child Health Programs' (AMCHP) [Innovation Station](#). Both of these databases focus on interventions that directly tie to the NPMs. In addition to these two well-known databases, there are several other online databases (see Table 1) that compile evidence-based and -informed MCH interventions, including many nutrition-focused interventions that are relevant to maternal health.

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Table 1: Examples of Databases that Include Evidence-Based and -Informed Nutrition Interventions to Advance Maternal Health*

Database Title	Database Funders	Database Description
The Community Guide	Community Preventive Services Task Force	Database featuring only evidence-based recommendations from the Community Preventive Services Task Force , an independent committee of public health experts. All recommendations are based on systematic reviews of peer-reviewed literature. Database information includes strength of evidence, economic value, intervention resources, and implementation considerations.
Community Health Improvement (CHI) Navigator	HHS Centers for Disease Control and Prevention (CDC)	Database of interventions in four areas of public health: socioeconomic factors, physical environment, health behaviors, and clinical care. Database information includes resource type, resource descriptions, appropriate settings or audiences, and links to related studies or reviews.
Community Health Online Resource Center (CHORC)	HHS CDC	Database of environment and system change resources to decrease tobacco use and prevent obesity. Database information includes resource descriptions, appropriate audiences or settings, and related links.
Healthy People (HP) 2020 Evidence-Based Resources	HHS Office of Disease Prevention and Health Promotion	Database features only evidence-based resources, review articles, toolkits, expert opinions, and relevant white papers. Database information includes resource descriptions, evidence sources and strength, related HP 2020 objectives, and connected PubMed citations.
Innovation Station	HHS HRSA	Database has three defined levels of evidence-informed interventions: “emerging,” “promising,” and “best practices.” Interventions categorized according to related NPM. Evidence is based on program evaluations and peer-reviewed literature. Database information includes an overview of the intervention, evidence, costs, intervention implementation, and NPMs potentially impacted by intervention.
Strengthen the Evidence Base for MCH Programs	HHS HRSA	Database featuring resources and policies categorized according to related NPMs. Database information includes resource descriptions, evidence sources and strength, appropriate audiences, expected outcomes, models, and suggested evaluation measures.
Research-Tested Intervention Programs (RTIPs)	HHS National Institutes of Health National Cancer Institute	Database featuring evidence-based interventions to control and prevent cancer, as well as cancer-associated modifiable risk-factors. Database information includes resource descriptions, evidence strength based on external peer reviewers’ ratings, appropriate audiences, and settings, associated products or materials, costs, and time demands.
Rural Health Information Hub (RHlhub)	HHS HRSA	Database featuring toolkits compiling evidence-informed programs to improve rural health. Database information includes intervention descriptions, why interventions work, examples, implementation considerations, suggested evaluation measures, and relevant resources.
SNAP-Ed Toolkit	U.S. Department of Agriculture	Database featuring policy, system, and environmental change interventions to prevent obesity among low-income populations. Database information includes intervention descriptions, targeted behaviors, appropriate audience or setting, specific intervention evidence, strength of evidence, costs, and suggested evaluation measures.
What Works for Health	Robert Wood Johnson Foundation	Database featuring programs and interventions to address community needs. Database information includes intervention descriptions, expected outcomes, impacts on health disparities, specific intervention evidence, strength of evidence, models, and additional resources.
*(Probert, K. & Adams, B., 2021a); (Probert, K. & Adams, B., 2021b)		

ONLINE DATABASES: A SAMPLE SEARCH

Using the brief [Incorporating Nutrition into the Title V MCH Services Block Grant National Performance Measures](#), Title V staff can find key nutrition-related strategies that impact state priorities or NPMs. The databases indicated in Table 1 can then be used to identify relevant nutrition interventions. Many of the databases provide information on intervention staffing needs, estimated costs, links or contacts for model programs, and implementation considerations and resources. These supporting materials provide a blueprint for Title V MCH Services Block Grant Programs, ultimately paving the way to implement effective maternal nutrition interventions with demonstrated success that are well-matched to grantee needs and resources.

NPM #2 Example – Step 1: Identify Key Nutrition-Related Strategies

For example, [seven states chose NPM #2 in their most recent action plan](#): the percent of cesarean deliveries among low-risk first births. According to [the brief](#), an evidence-based or -informed strategy related to NPM #2 is increasing awareness and identification of nutrition-related indicators for cesarean sections.

As shown in [the brief](#), nutrition-related indicators that relate to cesarean sections based on the above strategy include:

- Increase percentage of women who enter pregnancy at a healthy BMI
 - Rationale: The risk of cesarean delivery is reduced by a healthy pre-pregnancy weight
- Appropriate weight gain during pregnancy
 - Rationale: The risk of cesarean delivery increases linearly with pregnancy weight gain, independent of birth weight
 - Rationale: The risk of cesarean delivery is reduced by a healthy pre-pregnancy weight and appropriate weight gain
- Identify and control for gestational diabetes mellitus (GDM), including:
 - Screening for GDM in asymptomatic pregnant women after 24 weeks of gestation
 - Medical Nutrition Therapy referral for positive screens
- Hypertension
- Pre-existing diabetes

NPM #2 Example – Step 2: Use Online Databases to Identify Nutrition-Related Interventions

After finding key nutrition-related strategies (e.g., increase awareness and identification of nutrition-related indicators for cesarean sections), online databases can be used to identify nutrition-related interventions and initiatives.

Increase percentage of women who enter pregnancy at a healthy BMI

- [The Community Guide](#) recommends [Worksite Obesity Prevention Programs](#), which are a compilation of effective programs increasing nutrition education, self-efficacy, and system changes that promote healthy choices.
- [RTIPs](#) recommends [The Coach Approach](#), a Georgia-area program focused on behavioral theory, nutrition education, coached exercise programs, and peer support.
- [SNAP-Ed Toolkit](#) recommends [The Latino Program](#), a California social and multi-media marketing campaign focused on empowering Latino families to adopt healthy changes.
- [What Works for Health](#) recommends [Multi-faceted Obesity Prevention Programs](#), which describes the common strategies among several effective evidence-based programs, including increased health education, physical activity, and behavior modification activities.

Identify and control for gestational diabetes mellitus

- [CHI](#) recommends [Special Diabetes Program for American Indians](#), a program conducted among 80 U.S. tribes with

- diabetes screening, education, and glucose control training.
- [CHORC](#) recommends [Prevent Diabetes STAT Toolkit](#), a multifaceted toolkit based on published studies. The toolkit focuses on community and clinical partnering, screening, testing, and physician and dietitian referrals to address diabetes.
- [The Community Guide](#) recommends [Creating a Walkable Community](#), a rural North Carolina program that addresses modifying the built environment to promote physical activity.
- [Rural Health Information Hub](#) recommends [Perinatal Health Partners](#) a rural Georgia home visiting program for high-risk pregnant women offering screenings, education, care-coordination, and community resources.

Appropriate weight gain during pregnancy

- [The Community Guide](#) recommends [Lifestyle Interventions for Pregnancy Health](#), which is a compilation of interventions to prevent GDM and support appropriate gestational weight gain.
- [Innovation Station](#) recommends [Baby Blossoms Collaborative Preconception Health Program: Now and Beyond](#), a Nebraska preconception health program and toolkit with healthcare professional training, client education, and community messaging.
- [Strengthen the Evidence Base for MCH Programs](#) recommends [Nutrition Education for Expectant Mothers](#) to provide educational materials or trainings that increase awareness and identify risk factors for nutrition-related indicators that have been shown to increase cesarean deliveries.
- [What Works for Health](#) recommends [Preconception Education Interventions](#), which is an overview of effective comprehensive preconception health interventions, like [Every Woman California](#), emphasizing nutrition, health, and healthy weights before and during pregnancy.

Hypertension

- [CHI](#) recommends [Project FRESH](#), a Michigan farmers market nutrition program providing fresh produce subsidies and nutrition education to low-income, high-need women.
- [HP2020 Evidence-Based Resources](#) recommends [The Healthy Diné Nation Act](#), a Navajo Nation program increasing access to fruits and vegetables through finance policies.
- [RTIPs](#) recommends [Body and Soul](#), a multi-state, church-based program, which includes food and nutrition education, peer support, food policy changes to increase fresh produce access, and supporting materials for participants.
- [SNAP-Ed Toolkit](#) recommends [Voices for Food](#), a multi-state training program increasing food security, food safety, nutrition and cultural education, and fresh produce access in rural, low-income regions.

Pre-existing Diabetes

- [HP2020 Evidence-Based Resources](#) recommends [Diabetes Management: Interventions Engaging Community Health Workers](#), a guidance document outlining and referencing effective practices in diabetes management through training and support of Community Health Workers.
- [Innovation Station](#) recommends [Healthy Weight Program](#), a Massachusetts bilingual obesity prevention program, with community messaging and diabetes management, emphasizing culturally appropriate educational and motivational classes.
- [RTIPs](#) recommends [SIPsmartER](#), a behavior-modification-focused nutrition intervention to reduce the consumption of sugar-sweetened beverages among adults.
- [What Works for Health](#) recommends [Preconception Education Interventions](#), an overview of effective and comprehensive preconception health interventions, including [Healthy Women, Healthy Futures](#), which emphasizes nutrition, health, and disease self-management.

CONCLUSION

Improving maternal nutrition using evidence-based and -informed nutrition interventions represents an opportunity for Title V MCH Services Block Grant Programs to promote both maternal and infant health. Using the two-step procedure described in this brief, Title V MCH Services Block Grant Program staff, including public health nutritionists, can identify appropriate nutrition strategies for each of their state's NPMs and then search online databases to find relevant evidence-based or -informed nutrition interventions.

References Cited:

- Association of Maternal & Child Health Programs (Ed.). (2020). *Erie Family Health Centers' La Vida Sana, La Vida Feliz* (Innovation Station Practice Summary and Implementation Guidance, pp. 1–5). http://www.amchp.org/programsandtopics/BestPractices/InnovationStation/ISDocs/La%20Vida%20Sana,%20La%20Vida%20Feliz_updated%204.2020.pdf
- Association of State Public Health Nutritionists. (2016). *Incorporating Nutrition into the Title V MCH Services Block Grant National Performance Measures* (pp. 1–17) [Health Resources and Services Administration, Maternal and Child Health Bureau Funded Issue Brief]. <https://asphn.org/wp-content/uploads/2017/10/Incorporating-Nutrition-in-the-Title-V-MCH-Services-Block-Grant-National-Performance-Measures.pdf>
- Goldstein, R., Abell, S., Ranasinha, S., Misso, M., Boyle, J., Black, M., Li, N., Hu, G., Corrado, F., Rode, L., Kim, Y., Haugen, M., Song, W., Kim, M., Bogaerts, A., Devlieger, R., Chung, J., & Teede, H. (2017). Association of Gestational Weight Gain With Maternal and Infant Outcomes: A Systematic Review and Meta-analysis. *JAMA*, 317(21), 2207.
- King, J. (2016). A Summary of Pathways or Mechanisms Linking Preconception Maternal Nutrition with Birth Outcomes. *The Journal of Nutrition*, 146(7), 1437S-1444S.
- Probert, K. & Adams, B. (2021)a. Websites With Evidence-Informed Programs to Improve Diet and Exercise Behaviors of Communities. In Barth, M., Bell, R., & Grimmer, K. (Eds.), *Public Health Nutrition: Rural, Urban, and Global Community-Based Practice*: Vol. Appendix (pp. 461–464). Springer Publishing Company.
- Probert, K. & Adams, B. (2021)b. Public Health Nutrition Program Planning. In Barth, M., Bell, R., & Grimmer, K. (Eds.), *Public Health Nutrition: Rural, Urban, and Global Community-Based Practice*: Vol. Chapter 12 (pp. 285–316). Springer Publishing Company.