FIMMA
FOOD IS MEDICINE MASSACHUSETTS

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Food is Medicine as a Part of Prenatal Care for High-Risk Pregnancies

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Expanding on the findings in the Massachusetts Food is Medicine State Plan, the Food is Medicine Massachusetts coalition (FIMMA) has identified specific populations with a heightened need for Food is Medicine (FIM) interventions. These populations include individuals experiencing high-risk pregnancies.

> **High-Risk Pregnancy:** A high-risk pregnancy is defined as one that threatens the health or life of the pregnant individual or the fetus, typically requiring specialized care. Conditions associated with high-risk pregnancies include diabetes, cardiovascular disease, and preeclampsia.

Current research indicates that FIM interventions have the potential to significantly contribute to holistic patient-centered care for these individuals. By integrating FIM interventions into prenatal care, Massachusetts health care payers and providers can promote healthier pregnancies, improved health outcomes, and better quality of life, while reducing health care costs.

PREGNANCY OUTCOMES IN MASSACHUSETTS

Despite being a national leader in public health, Massachusetts must continue to combat poor pregnancy care and outcomes. Racial, ethnic, and socioeconomic disparities in health outcomes further underline the urgency of these issues.

In Massachusetts:

- Rates of inadequate prenatal care increased from 9.1% to 10.9% of live births from 2012-2018.[1]
- The percentage of pre-term births increased from 8.4% in 2015 to 8.9% in 2018.[2]
  - o Nationally, average first year medical costs for preterm infants are ten times greater than for term infants.[3]
- As of 2015, black non-Hispanic and Hispanic individuals experienced the highest rates of preterm birth in the state.[4]
- As of 2007, black non-Hispanic individuals were 1.9 times as likely to die during pregnancy or within one year postpartum as compared to White non-Hispanic individuals.[5]
- As of 2007, compared to women who had private insurance, those who had public insurance were 2.7 times as likely to die during pregnancy or within one year postpartum.[6]

Many of these trends are exacerbated by diet-related chronic disease.

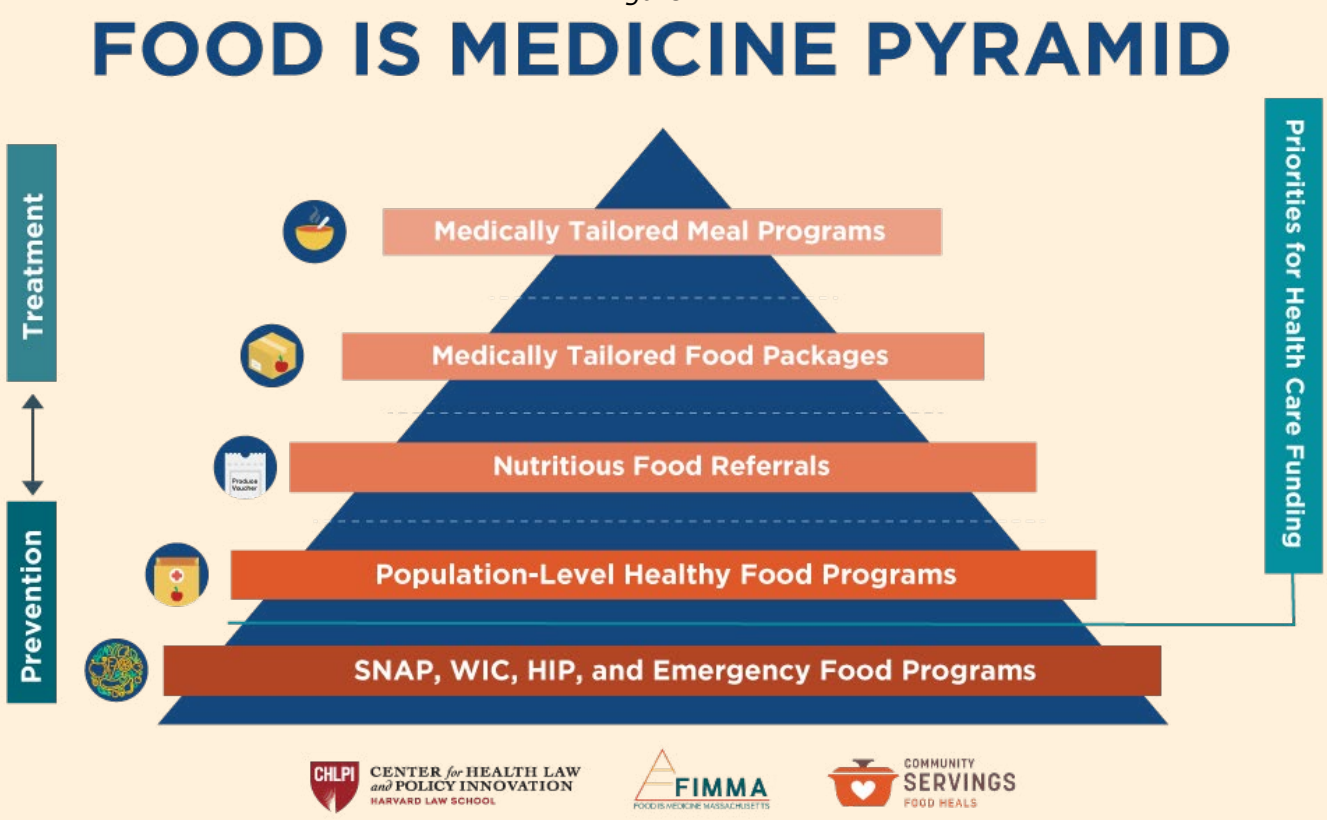
- In Massachusetts, cardiovascular disease is the leading cause of pregnancy-associated death.[7]
- Obesity during pregnancy is associated with an increased use of health care services, including more frequent doctors visits and longer stays in hospitals.[8]
- Obesity is an independent risk factor for neural tube defects, fetal mortality, and preterm delivery.[9]
- Pregnant individuals with heart disease are prone to experiencing congestive heart failure, pulmonary edema, cardiac arrhythmia, and have higher rates of maternal mortality.[10]
- For individuals with multiple chronic conditions (MCC), the length of hospital stays double.[11]
- The average delivery hospitalization cost for an individual with no chronic conditions is $16,000, and $28,000 for individuals with MCC.[12]

ROLE OF FIM IN PRENATAL CARE

As demonstrated by the statistics above, nutrition can play a critical role in prenatal care for individuals experiencing high-risk pregnancies. Broader programs such as the Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC) can improve access to healthy foods for the generalized pregnant population. However, individuals experiencing high-risk pregnancies due to diet-related conditions may require interventions that are more specialized. FIM programs can address these requirements by providing a range of nutrition interventions tailored to patients' individual level of need.

These interventions have been shown to be effective in both improving health outcomes and lowering health care costs.

Figure 1



Source: Food is Medicine Massachusetts, Massachusetts Food is Medicine Case Study, 2020

The Food is Medicine Pyramid illustrates the spectrum of services that recognize and respond to the critical link between nutrition and chronic disease. Interventions at the bottom of the pyramid tend to be more preventive in nature and are generally more widely accessible. Interventions at the top of the pyramid tend to be more treatment-oriented, more tailored to individual health conditions, and more specific in their eligibility criteria. ***(Detailed program definitions can be found at foodismedicinema.org/fimdefinitionsstandards.)*** *While the continued existence of a strong network of anti-hunger and safety net programs, including WIC, SNAP, and the Healthy Incentives Program (HIP) has a tremendous effect on health outcomes, these programs sometimes do not go far enough to address the nutritional needs of high-risk pregnancies.*

SUMMARY OF CURRENT RESEARCH

Additional research is needed to examine the specific impact of FIM interventions for pregnant populations. However, existing peer-reviewed studies show the overarching efficacy of FIM interventions for individuals with diet-related disease. These studies are a promising indicator of potential impact for individuals with high-risk pregnancies.

Nutritious food referrals:

- Increase Healthy Eating Index scores[13]
- Improve anthropometric measurements, such as diastolic blood pressure[14]
- Increase consumption of fruits and vegetables[15]

Medically tailored food packages:

- Increase intake of dietary fiber[16]
- Improve blood pressure[17]

Medically tailored meals:

- Decrease food insecurity rates[18]
- Increase frequency of fruit and vegetable consumption and decrease consumption of fats[19]
- Result in fewer patients sacrificing food for health care or prescriptions[20]
- Decrease overall healthcare spending[21]
- Reduce emergency department visits[22]

Recommendations

The combination of diet-related chronic disease, lack of access to adequate nutrition, and pregnancy places many Massachusetts residents at significant risk, especially those facing systemic barriers related to race, ethnicity, or socioeconomic status. Managing chronic disease with FIM interventions, especially nutrition-related chronic disease, is not only feasible, but has been shown to improve health outcomes, lower health care costs, and improve quality of life. However, without institutional and policy change, access to these interventions will likely remain limited throughout the state. The following actions would improve access to FIM interventions for individuals experiencing high-risk pregnancies in Massachusetts:

POLICYMAKERS / PAYERS

- Require all pregnant individuals to be screened for food insecurity and other nutrition risk factors that may categorize them as "high-risk"
- Maintain high-risk pregnancies as an eligibility category for the MassHealth Flexible Services Program
- Expand coverage of FIM interventions in Medicaid, Medicare, and private insurance.
- Provide recommendations for proper nutrition screenings and potential nutrition interventions in future reports from the Massachusetts Department of Public Health and the Massachusetts Maternal Morbidity Initiative.

HEALTH CARE PROVIDERS AND ACCOUNTABLE CARE ORGANIZATIONS (ACOS)

- Screen all pregnant individuals for food insecurity and other nutrition risk factors that may categorize them as "high-risk"
- Refer all high-risk pregnant individuals to appropriate FIM interventions
- Use Flexible Services funding to provide FIM interventions to individuals experiencing high-risk pregnancies
- Monitor, record, and report data on FIM interventions for pregnant individuals to the state to improve FIM research, implementation, and best care practices

COMMUNITY BASED ORGANIZATIONS / FIM PROVIDERS

- Pursue funding opportunities to expand programming specific to high-risk pregnancies
- Provide pregnancy-related nutrition resources to all pregnant individuals (fact sheets, list of relevant websites, and shopping guides)

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