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Children's Health Weight CoIIN

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Opportunities for Nutrition in Title V Programs

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Opportunities for Nutrition in Title V Programs

- ✔Overweight and obesity
- ✔Breastfeeding promotion
- ✔Preterm birth and infant mortality
- ✔Food security
- ✔Developmental screening
- ✔Well visits among MCH populations
- ✔Bullying

Epidemiology of Overweight & Obesity among US Women 20 Years and Older

- ✔ Two-thirds of US women 20 years or older are overweight (NHANES 2011 – 2012)
  - ✔ 33.8% of 12 – 19 yr old females overweight or obese
  - ✔ Follow similar racial/ethnic patterns to infant mortality

	≥ 20 Years (Total)	20-39 Years	40-59 Years
All races/ethnicities	65.8%	58.5%	71.7%
Non-Hispanic white	63.2%	55.0%	69.1%
Non-Hispanic black	82.0%	80.0%	85.2%
Non-Hispanic Asian	34.7%	26.2%	39.4%
Hispanic	77.2%	69.5%	84.0%

Epidemiology of Obesity among US Women

- ✔ More than one-third of US women are obese

Grade I (BMI ≥ 30)	≥ 20 Years (Total %)	20-39 Years (%)	40-59 Years (%)
All races/ethnicities	36.1	31.8	39.5
Non-Hispanic white	32.8	27.8	36.3
Non-Hispanic black	56.6	55.8	58.6
Non-Hispanic Asian	11.4	10.9	11.8
Hispanic	44.4	35.8	51.9

Epidemiology of Obesity among US Women

Grade II (BMI ≥ 35)	≥ 20 Years (Total %)	20-39 Years (%)	40-59 Years (%)
All races/ethnicities	17.0	15.4	19.1
Non-Hispanic white	15.3	13.7	16.9
Non-Hispanic black	29.2	30.6	30.4
Hispanic	20.2	15.1	25.5

Epidemiology of Obesity among US Women

Grade III (BMI ≥ 40)	≥ 20 Years (Total %)	20-39 Years (%)	40-59 Years (%)
All races/ethnicities	8.3	7.7	9.8
Non-Hispanic white	7.4	6.8	8.8
Non-Hispanic black	16.4	17.5	17.9
Hispanic	7.6	5.8	9.1

Obesity and Maternal-fetal Outcomes

- ✔ Obese women are twice as likely to require induction of labor
  - ✔ 4 times risk of induction secondary to gestational hypertension
  - ✔ 11 times the risk of induction secondary to pre-eclampsia and/or GDM

- ✔ C-section rates are twice as high among obese women
  - ✔ 26% prevalence among ideal weight and overweight women
  - ✔ 38% among class I obese women
  - ✔ 43% among class II obese women
  - ✔ 50% among class III obese women

Obesity and Gestational Weight Gain

31% of women gain within IOM guidelines

- ✔ 25% gain below and 44% gain above
- ✔ White women most likely to gain above (48%)
- ✔ Asian/PI most likely to gain below (32%)

Hanley P et al. Prev Chronic Dis. 2014; Hinkle A et al. Obstet Gynecol. 2015; Kirkegaard H et al. Am J Clin Nutr. 2014

Prepregnancy Weight and Birth Defects

- Overweight and obesity prior to pregnancy is an independent risk factor for some birth defects
  - NTDs (esp spina bifida)
  - Cardiac defects
  - Hypospadia
  - Omphalocele
  - Anorectal atresia and limb reduction (obesity only)

- Underweight prior to pregnancy is a risk for defects
  - cleft lip and palate

Nutrition-Related Risk Factors for Infant Mortality

- ✔ Pre-pregnancy weight status
  - ✔ Underweight prior to pregnancy
  - ✔ Overweight/obesity prior to pregnancy
- ✔ Chronic health conditions prior to pregnancy
  - ✔ Diabetes
  - ✔ Hypertension
- ✔ Inadequate nutrition
  - ✔ Inadequate weight gain in pregnancy
  - ✔ Inadequate intakes of vitamins/minerals
  - ✔ Possibly excessive intake of some macronutrients?
- ✔ Psychosocial stress – food insecurity

Role of Nutrition in Preterm Birth and Low Birthweight Outcomes

- ✔ Many studies are poorly designed
  - ✔ Nutrition status or weight status often a secondary outcome
  - ✔ Poor measurement of dietary intake or nutrition status
  - ✔ Measure total weight gain rather than rate of gain

- ✔ Mechanisms not well understood
  - ✔ Rely on animal models or "natural experiments"
  - ✔ Influences on infection and inflammation are common theories
    - ✔ Nutrition plays a role in mediating both

Nutrition and Preterm Birth

- Iron deficiency is a risk factor for preterm birth
  - Strongest effect among women who are iron deficient in early pregnancy
    - OR = 2.7 (1.2-6.2)
    - 22% of black women vs 10% white women
  - Few studies of iron supplementation in US because supplementation at 12 weeks is standard
  - Possible mechanisms include:
    - Hypoxia
    - Oxidative stress
    - Increased risk of infection

School et al. 2011, Prena-Rosas & Viteria, 2009, Allen 2001, Looker er al 2002

Hypertension Before and During Pregnancy

- 16% of maternal mortality is related to hypertensive disorders
  - Gestational hypertension - > 140or > 90
  - Preeclampsia - GH + > 300 mg protein/day
- 5% to 10% of pregnancies experience a hypertensive disorder
  - 3% experience preeclampsia
  - 17% of women with gestational hypertension go on to develop preeclampsia
- Women with either pre-eclampsia or hypertension but without GDM have been shown to be at 3 times the risk of developing type 2 diabetes within 1-4 years after delivery
  - suggesting that insulin resistance may be contributing factor to both

Obesity and Gestational Diabetes

- Women obese at conception are up to 6 times more likely to develop GDM than normal weight women
  - Risk increases incrementally with class of obesity
    - 9.7% prevalence with class I obesity
    - 13.7% prevalence with class II obesity
    - 16.6% prevalence with class III obesity
    - 6.1% prevalence among ideal weight women

- Women who experience GDM are 13 times more likely to develop type 2 diabetes later in life
  - More than half with experience GDM in subsequent pregnancies

Schummers et al Obstet Gynecol 2015; Bautista-Castano et al PLoS One 2013; Gaillard et al Obesity 2013; El-Chaar et al. J Obstet Gynaecol Can 2013

Preventing Gestational Hypertension and Diabetes

- Unclear if dietary change reduces the risk of GDM or gestational hypertension
  - Mediterranean-type diet appears to have some benefit in preconception period
    - unclear about dietary change in pregnancy
- Low glycemic index diet may reduce risk of LGA by up to 91%
  - Ponderal indexes may be lower in babies born to mothers on low glycemic diets
  - High fiber diets do not show similar effects
  - Glycemic index of 51 showed effects in several studies
    - even with 46% Kcals from CHO

Postpartum Weight Retention

- Less than half of women will revert to their pre-pregnancy weight
  - more than one in four women will retain ≥ 10 lb by 12 months postpartum
- A prospective cohort study found that 75% had a higher weight at 12 months postpartum than their pre-pregnancy weight
  - 47% retaining ≥ 10 lb
  - 24% retaining ≥ 20 lb
- A cohort study of 56,000 women found that
  - 15% of women retained 5 kg by 6 months postpartum
  - 13% moving from a normal pre-pregnancy BMI to an overweight BMI classification

Depression and Postpartum Weight Retention

- Depression may be affected by weight gain in pregnancy and weight retention
  - 19% of women of pregravid normal weight, overview, or class I obesity screen positive for postpartum depression
  - 32% among women with class II obesity
  - 40% with class III obesity prior to pregnancy
- Risk of postpartum depression increased with pregravid weight status; compared to normal weight or overweight women:
  - Women with class II obesity have 3x higher risk
  - Those with class III obesity have 4 x the risk
- 55% to 62% of women with postpartum depression gain excessively in pregnancy
  - Excessive gestational weight gain, in turn, may increase the risk of significant postpartum weight retention, thus creating an ongoing cycle of weight and depression issues

Maternal Obesity and Breastfeeding

- The majority of studies have found that obesity reduced the initiation and duration of breastfeeding
  - Obesity had greater effect on breastfeeding among Latinas than among black women, with white women falling in between these groups
- Greater degree of obesity associated with lower rates of breastfeeding
  - May be confounded by greater risk for GDM, hypertension, C-section or assisted delivery and other maternal complications

Rasmussen Annu Rev Nutr 2007; Turcksin et al. Matern Child Nutr 2014

Child Nutrition

- One in three US children is overweight
  - 17% are obese
  - Disparities in obesity are present at all age group
  - Weight status is a major cause of bullying among school-aged children

- CYSHCN have many nutrition needs
  - 12% have food allergies
  - 27% or more require medication that may interact with food

ASPHN Resources

- ✔ Improving the Nutritional Well-Being of Women, Children and Families
- ✔ The Role of Nutrition in Infant Mortality: A Public Health Perspective
- ✔ Incorporating Nutrition in the Title V MCH Services Block Grant National Performance Measures
- ✔ Preconception Health: The Role of Nutrition
- ✔ Obesity Prevention Matrix
- ✔ The Intersection of Public Health, Community and Clinical Dietetics
- ✔ ASPHN Collaboration Primer
- ✔ Blueprint for Nutrition and Physical Activity

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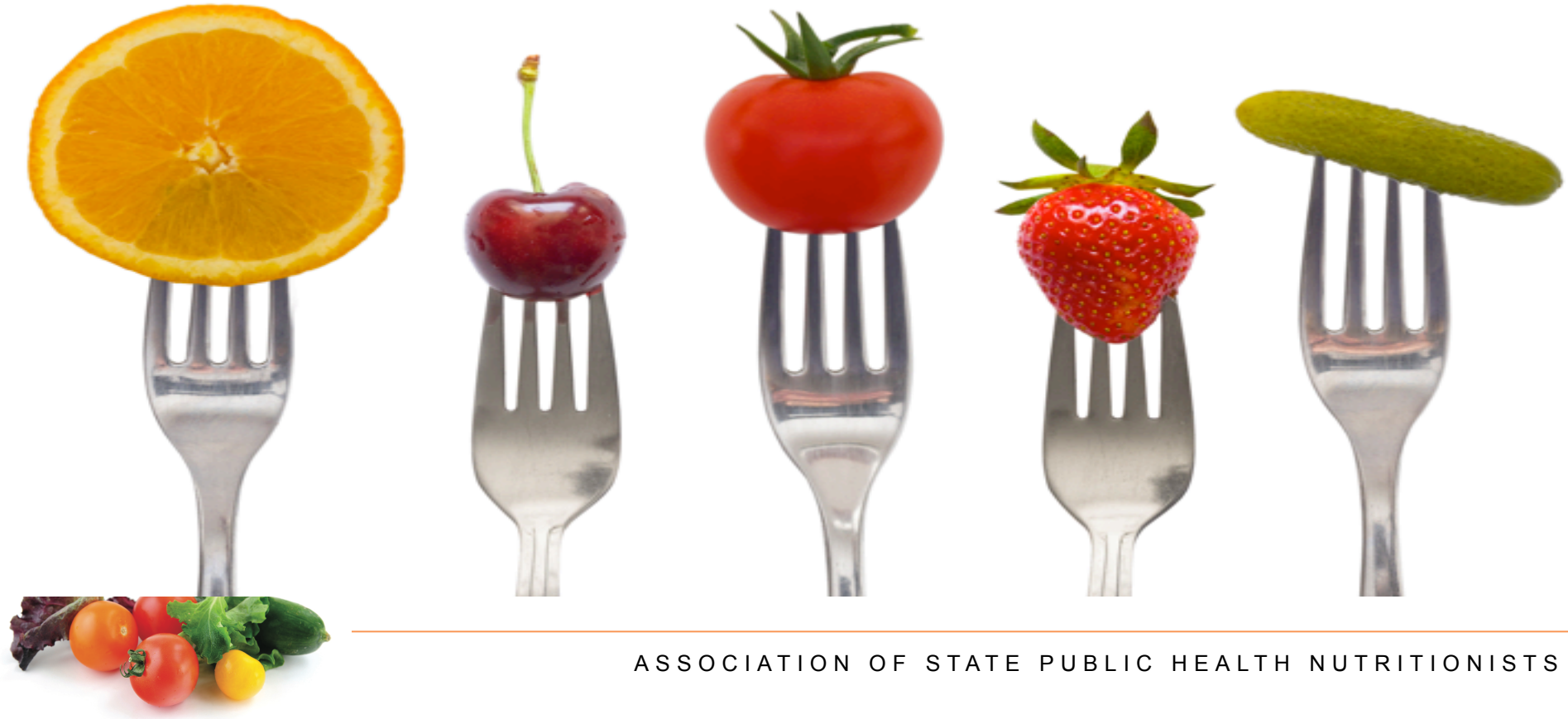
Innovative Nutrition Integration



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Primary Drivers

Innovatively Integrate Nutrition into Title V MCH Block Grant and other MCH Programs

- Improve access to quality nutrition services provided by qualified providers in all Title V supported and affiliated programs.
- Optimize the number of public health nutrition FTEs in the Local, State and National Title V workforce.
- Increase the basic nutrition competency of the entire Title V Workforce, while expanding their awareness of available nutrition experts and appropriate referral criteria.
- Maximize partnerships to integrate nutrition into the Title V Block Grant application, all Title V supported and affiliated programs.
- Develop reliable and accurate messaging on the value of integrating nutrition into all Title V supported and affiliated programs.

The Cornerstones

- ✔Cornerstone 1 - Access
- ✔Cornerstone 2 – Collaboration
- ✔Cornerstone 3 - Science, Research and Evaluation
- ✔Cornerstone 4 – Workforce
- ✔Cornerstone 5 – Communication
- ✔Cornerstone 6 – Policy and Advocacy

AIM

- ✔Innovatively Integrate Nutrition into Title V MCH Block Grant and other MCH Programs.

First Primary Driver

- ✔ Improve access to quality nutrition services provided by qualified providers in all Title V supported and affiliated programs.

Second Primary Driver

- ✔ Optimize the number of public health nutrition FTEs in the Local, State and National Title V workforce.

Third Primary Driver

- ✔ Increase the basic nutrition competency of the entire Title V Workforce, while expanding their awareness of available nutrition experts and appropriate referral criteria.

Fourth Primary Driver

- ✔Maximize partnerships to integrate nutrition into the Title V Block Grant application, all Title V supported and affiliated programs.

Fifth Primary Driver

- ✔Develop reliable and accurate messaging on the value of integrating nutrition into all Title V supported and affiliated programs.

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Step 1: Needs Assessment

- ✔ September – October 2018
- ✔ In September 2018, each state will meet with partners to brainstorm ideas for improving nutrition integration within their States Title V program and identify top 2 priorities.
- ✔ In October 2018, each state will submit summary to CHW-CoIIN
  - ✔ CHW-CoIIN will identify the required and recommended invitees
  - ✔ CHW-CoIIN will provide a reporting template

Step 2: Change Packages

- ✔ October – November 2018
- ✔ National experts to review the top issues and identify trends.
- ✔ Group states into “Teams" of similar priorities.
- ✔ Hold meetings for each “Team” to generate ideas to address their priority.
- ✔ Expert committee develop Change Packages for each “Team”

Step 3: Team Work

- ✔November 2018 – September 2018
- ✔PDSA cycles consistent with Change Package.
- ✔Meet regularly to discuss successes and challenges

Time Line Summary

- ✔September 2018 – Hold Needs Assessment Meeting
- ✔October 2018 – Submit Meeting Summary
- ✔November 2018 – Develop Change Package
- ✔December 2018 – Start “Team” work

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Welcome New Intensive Learning States

Breastfeeding

- ✔ Arkansas
- ✔ Nevada

Physical Activity

- ✔ Texas
- ✔ Wisconsin

Welcome Rebecca Leighton

- ✔Develop Newsletter
- ✔Organize Webinars
- ✔Help manage the State Evaluation form

Evaluation

- ✔Webinar Evaluation conducted by AMCHP
- ✔Email link to survey from Cheryl Clark, cclark@amchp.org
- ✔Survey will be open for 2 weeks.

Upcoming Calls

- ✔PA Workstream Networking Call
  - ✔July 25, 2018 at 1 pm ET
- ✔CHW-CoIIN Webinar
  - ✔August 15, 2018 at 1 pm ET
- ✔BF Workstream Networking Call
  - ✔August 30, 2018 at 1 pm ET