HEALTH DISPARITIES IN AMERICAN INDIAN COMMUNITIES

- American Indians (AI) suffer from severe health inequities
  - High rates of cardiovascular disease, diabetes, and cancer
    - Due in part to extremely high rates of obesity

- Obesity is complex and multi-factorial, begins early in life
  - Significant familial and environmental components

- AI preschool obesity rates are the highest nationally (21%)
  - Highest even among low-income children
  - One of few groups to see increase

May be unique contributing factors…

- Historical trauma
- Family dynamics
- Community support systems
- Food access issues in predominantly rural areas

Spheres of Influence

- Expectations
- Perceptions
- Values
- Norms
- Government (all levels)
- Industry
- Food Systems
- Marketing/Media
- Heritage
- Agriculture
- Land Use
- Education
- Public Health
- Health Care
- Child Care
- Communities
- Schools
- Work Sites
- Rec Facilities
- Policies

Behavior Settings

- Parental knowledge, skills, self-efficacy
- Food security
- Social support
- Mental health

Family

- Family time
- Maternal health
- Home environment
- Food security
- Food access issues in predominantly rural areas

Demographics

- Family
- Early Life Experiences
- SES

Child

- Genetics
- Physiology
HEALTHY CHILDREN, STRONG FAMILIES (HCSF)

- Community-based intervention to improve young child health through home/family-based program (obesity prevention toolkit)
  - Reduce future disease risk
  - Understand factors related to successful change

- Based on Native approach of elders teaching life skills, instilling values of healthy eating and physical activity to the next generation
  - Ongoing engagement with communities
CRITICAL PROGRAM COMPONENTS

• High risk population at a critical age (2-5 years)

• Based in the home
  • Delivery by mail or by in-home mentor

• Addresses both adult and child health

• Wellness focused (4 targets)
  • Increase fruit/veg, decrease sugar
  • Increase physical activity, decrease screen time

• Primary outcome: adult and child weight status
  • Secondary outcomes: health behaviors related to intervention targets
CONFIRMED HIGH OBESITY RATES

• OV/OB children more likely to have OV/OB parent (p<0.05)

Tomayko, Pub Health Nutr (2016)
Healthy Children, Strong Families

- Successful pilot testing in 4 Wisconsin communities
  - Well received by communities

- 150 adult/child pairs enrolled

- No effect of delivery method
  - 57% of overweight/obese children ↓ BMI (63% of adults)
  - Improvement in adult & child behaviors
    - ↑ fruit/vegetable intake (children), ↓ screen time (adults & children)
    - Improved adult self-efficacy for health behavior change
  - Increased family time, children as change agents

Tomayko, Pub Health Nutr (2016)
LESSONS LEARNED: INFORMING HCSF2

• Recognition of overweight was a challenge
  • Maintain family-based wellness focus

• Active control group
  • Safety Journey or Wellness Journey
    • Two-year randomized crossover design
    • Based on important community input

• Mailed only intervention

• Inclusion of stress and sleep as risk factors

• Text messaging and social media (social support)
CURRENT PARTNERS

[Logos of various partners]
HEALTHY CHILDREN, STRONG FAMILIES
Six Targets to Reach a Healthy Life Balance

As part of the Healthy Children Strong Families program, you and your children will learn about six targets to help bring your lives into a healthy balance. These six lifestyle targets are based on traditional values of healthy eating, lots of activity, stress management and good sleep habits with the goal of preventing future disease. A key part of making changes is tracking your progress – both through goal setting and in pictures! Throughout the year, grab your camera and snap photos of your family being active and enjoying time together! These photos will come in handy at the end of the program....wait and see!

1) Be more active

2) Reduce screen time

3) Eat more fruits and vegetables

4) Drink less soda and sugary beverages, eat less candy and other “junk” foods

5) Manage Stress

6) Improve Sleep
WELLNESS JOURNEY TOOLKIT

• Families learn through monthly interactive lessons
  • Designed for both adult and child

• Toolkit includes:
  • Mailed 2-page lessons, supporting materials addressing 6 targets
    • Apple corer, exercise DVD, activity cube
  • Relevant children’s book
  • *Cook With Your Kids* cookbook
  • Text message coaching
  • Private Facebook group (one per site)
WELLNESS TOPICS

- Starting the Journey
- Naturally Sweet & Delicious
- Fun Family Fitness
- Sleep Tight
- Maintaining Harmony
- On Track Snacks
- Suspending Screen Time
- Juicing the Benefits
- Healthy Adventures
- Gifts from the Land
- Fruitful Foods
- Fast Lane to Health
- Maintaining a Healthy Balance
DEVELOPMENT OF THE SAFETY JOURNEY

- Why safety?
- Developed novel child safety curriculum with academic and tribal researchers, community members, wellness staff, child safety experts
- Concern about randomizing families to passive control group
- Safety Journey families receive monthly mailed lessons

- Stranger Danger
- Car Safety
- Fire
- Water Safety
- Poisons
- ATV Safety
- Warm Weather
- Halloween
- Animal Safety
HCSF2: CURRENT STATUS

- 450 families from 5 sites
  - Adult/child dyads

- All families completed intervention in March 2017

- Currently analyzing baseline and intervention data around intervention targets
  - Food security
  - Relationship between adult/child diet
  - Rural/urban differences
WHAT IS THE ROLE OF FOOD SECURITY?

• Identified high prevalence

• Related to diet quality (p<0.05)
  • Food insecure **adults**
    • Lower vegetable intake
    • Higher intake of fried potatoes, fruit juice, sweetened beverages
  • Food insecure **children**
    • Higher intake of fried potatoes, soda, sports drinks

• May be related to intervention efficacy
IMPLEMENTATION OF HCSF2: CHALLENGES AND SUCCESSES

• Local administration of research study within each community
  • Both challenge and success

• Geographic distribution of study sites

• Lack of consistent phone or internet
  • Unexpected benefits of Facebook component

• Successful use of incentives to increase retention

• Changes happening at community level
NEXT STEPS & OPPORTUNITIES

- Analysis of outcome measures awaits trial completion
- Understanding how to disseminate useful components
- How can community-level change support family-level change?

**Overall goal:** *to decrease health disparities for American Indian children during vulnerable period of early childhood*
THANK YOU! QUESTIONS?