Healthy Hearts Family Intervention:
To disrupt patterns of cardiovascular disease in low-income families in northern Colorado

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Introduction
For 23 years, Healthy Hearts in Northern Colorado has provided a successful heart health education and screening program to 4th/5th grade students. In 2012-13, 835 students were screened with 23% having borderline or high total cholesterol (≥170 mg/dL) and 22.5% being overweight or obese.

Methods
Families of children identified to have at least one risk factor for heart disease were invited to participate in the 6-week family intervention to determine if an intergenerational education program could interrupt patterns of CVD through:
- Increased comprehension of risk factors
- Improved heart healthy lifestyle behaviors
- Physical activity
- Improvements in BMI, blood pressure and cholesterol levels

Demographics
75 families (272 participants) enrolled in the program with 72 graduating: N= 95 kids (4th-6th grade), N= 32 teens (7th-12th grade), N= 126 adults
- 80% white
- 37% low income
- 40% of the children (9-18 years) overweight or obese
- 84% of adults (mean age ~41) overweight or obese
- 85% of the families have 3 or more risk factors

6-week class (1 ½ hours long)
Classes were carefully designed to be fun, interactive, and engaging for all ages. Each week families prepared a healthy snack and set a personal goal. Each participant received a Fitbit® to track physical activity.

Week 1: Risk factors for heart disease and stroke, cholesterol, blood pressure, blood sugar, BMI

Week 2: Eating healthy, grocery snack shopping, reading food labels

Week 3: Importance of physical activity

Week 4: Grocery store tour, shop on a budget

Week 5: Stress reduction, tobacco avoidance

Week 6: Recap, goal setting, Healthy Hearts Bingo, graduation

Data collection and contact points
- Pre, post class, 3 month, 6 month health habits and attitudes were collected; Statistical analysis included calculating means, frequencies, percentages and difference scores using SPSS, v. 22
- Pre and 6 months full lipid panel, glucose, and blood pressure were collected; BMI collected at pre, post, 3 month, and 6 month
- Received a $50 grocery gift card at the 4th week, 6 week, 3 month, and 6 month
- Participants wrote a reflection letter to themselves, grantor, PCP or person of their choice which was mailed back to them at the 3 month mark
- Bimonthly emails were sent with heart health tips and ideas
- Automated emails reminded participants 2 days before class
- Participants had access to a free dietician consult

Child Care
On-site child care was provided at no cost for siblings 3rd grade and younger through a grant from Wish (Women Investing in Strategies for Health).
Free child care eliminated a potential financial barrier and allowed families to stay intact for the program and increase attendance.

Results

Ideal behaviors measured:
Physical activity daily (30 min for adults and 60 min for kids), 5 servings of fruits and vegetables combined daily, fish 1-2 times per week, 3 servings of whole grains daily, 3 servings of dairy daily, 1-2 times or fewer eating outside of the home per week, 1 or fewer sugary drinks per week, 1 or fewer times eating high sugar foods per week

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Family Comments
"It is programs like these that help us parents educate ourselves and our children about healthy living. This class has empowered my daughter and myself to make healthy decisions. I have noticed that my daughter now begins to take ownership of her meals and physical activity. Additionally, she is constantly teaching the rest of our family (aunts/uncles and grandparents) about what she has learned. To see her excited and motivated motivates me to continue our journey to a healthier and more active lifestyle."

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