

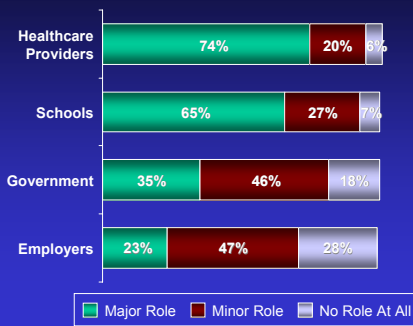
The Battle Against Childhood Obesity: Lessons from the Front Lines Project Healthy Schools

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Childhood Obesity - National Figures

- **Nine million children are overweight**; the number has tripled since 1980
- **Obesity** among kids **age 2-5** has **increased 35%** in past 10 years
- **Minorities are at higher risk** (e.g. 23% African American girls 6-11 vs. 13% non-Hispanic Whites; 27% Mexican-American boys vs. 14% non-Hispanic Whites)
- **Obesity elevated** among **lower income children** although there are differences by race/ethnicity.

How Big a Role Should Each of the Following Have in Helping to Fight the Obesity Problem in the U.S.?

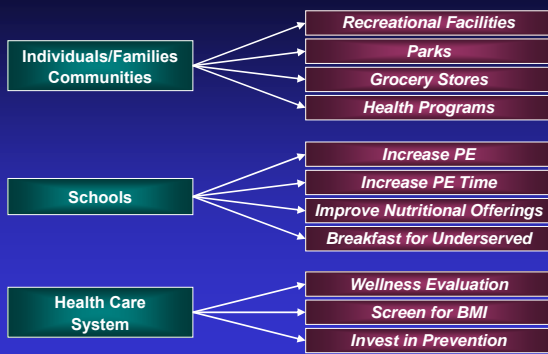


Michigan's Impending Cardiovascular Disease Burden

<u>Risk factor</u>	<u>Prevalence</u>	<u>Rank Among US States</u>
Overweight Youth (Ages 10-17)	14.5%	#20 - worst
Obese Adults (BMI greater than 30.0)	26.8%	#9 - worst
Adult Physical Inactivity (Physical activity in past month)	22.5%	#28 - worst
Adult Diabetes	8.3%	#11 - worst
Adult Hypertension	27.3%	#13 - worst

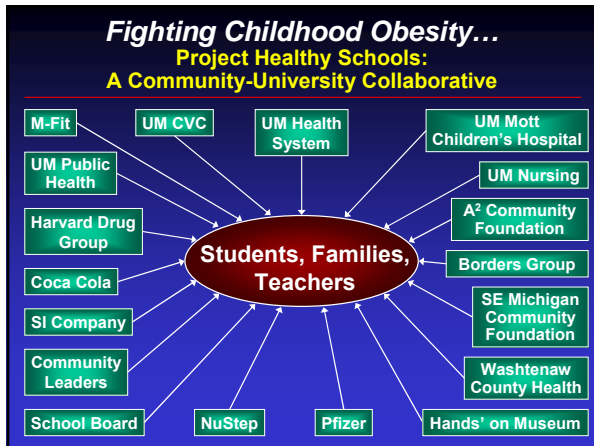
Source: Trust for America's Health, *Fat in Fat: How Obesity Policies are Failing in America*, 2007.

What Do We Need?



Project Healthy Schools: What is the Opportunity? (n=285)

<u>Risk Marker</u>	<u>Frequency</u>
Overweight or Obese	26.2% of Females 38.9% of Males
Systolic BP \geq 124 mmHg	6.0%
Total Cholesterol \geq 170	45.0%
LDL Cholesterol $>$ 130	4.4%
HDL Cholesterol $<$ 45	17.0%
Random glucose $>$ 126	4.5%
"At Risk" – One or More of BMI, SBP, TC, LDL, HDL, Glucose	61.4%



Project Healthy Schools
5 GOALS

#1- Eat more fruits and vegetables

Project Healthy Schools
5 GOALS

2- Make Better Beverage Choices

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5 GOALS

#3- Perform at least 150 minutes of physical activity each week

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5 GOALS

#4- Eat less fast and fatty food

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5 GOALS

#5- Spend less mindless time in front of the TV and computer

Project Healthy Schools

Education

- 10 Health Activities in Advisory Period
- Web site for Students
 - Learn
 - Blog-Log in Activity
- E-News for Parents
- E-communication with teachers, principals, teams

Environment

- Cafeteria re-engineering
- Vending Machines
- Celebrate Health
 - Posters
 - Assemblies
 - Winning students and classes

Measurement

- Height
- Weight
- BP
- 3 min. Step Test
- Resting HR



- Lipid Profile
- Glucose
- Before/After Questionnaire

2006-2007: Baseline and Follow-up Data (5 Middle Schools)

Variables	n	Baseline	Follow up	P value
BMI	852	19.96±4.09	20.28±4.09	0.001
Mean Systolic BP	849	107.89±11.38	106.65±10.65	<0.001
Mean Diastolic BP	849	64.34±8.07	62.47±7.18	<0.001
Cholesterol	655	167.84±28.94	157.97±28.47	<0.001
HDL	656	53.81±12.42	50.19±13.93	<0.001
LDL	554	90.24±26.48	87.86±25.24	0.003
Triglycerides	618	130.51±79.30	112.10±65.70	0.008
Random Glucose	654	95.71±14.37	94.44±19.93	0.167
Resting Heart Rate	850	80.75±11.58	79.71±10.39	0.014
Recovery Heart Rate	779	102.05±17.29	104.16±17.00	0.001
Test Length	778	2.99±0.14	3.12±3.33	.292

Effects of Project Healthy Schools by Race/Ethnic Cohorts (2006-7: 5 Middle Schools)

	White (n=347)	Black (n=81)	Asian (n=87)	Hispanic (n=26)	N. American (n=9)
↓ Systolic BP	1.00	0.94	0.60	2.87	0.33
↓ Diastolic BP	2.38	1.84	1.27	4.35	0.06
↓ Cholesterol	6.43	11.61	4.49	7.80	21.67
↓ LDL	0.86	7.89	-0.98	3.16	18.00
↓ Triglycerides	11.39	5.46	2.71	5.83	-25.67
↓ Glucose	1.45	0.43	1.69	-2.70	7.67

Baseline and Follow Up Data in All Students in Ypsilanti

Variables	n	Baseline	Follow up	P value
BMI	125	21.33±4.92	21.53±5.04	0.064
Mean Systolic BP	126	107.40±8.69	106.36±9.14	0.180
Mean Diastolic BP	126	64.03±6.24	63.22±6.69	0.172
Cholesterol	119	171.05±32.34	153.87±27.90	<0.001*
HDL	119	52.49±14.43	51.94±14.49	0.578
LDL	94	102.0±28.37	86.30±27.13	<0.001*
Triglycerides	119	102.53±69.04	90.84±50.65	0.042*
Random Glucose	119	96.31±10.62	97.43±12.70	0.466
Recovery Heart Rate	117	107.91±17.26	101.23±18.15	0.001*
Height	126	150.36±13.21	154.40±8.13	<0.001*
Weight	126	49.33±14.06	51.86±14.66	<0.001*

*denotes a significant change from baseline to follow-up, p-value <0.05

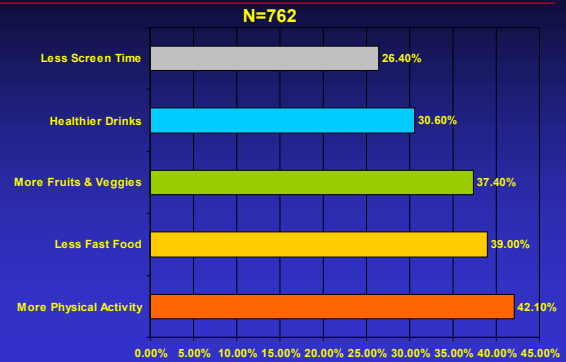
Sustained Benefits of Project Healthy Schools

	N	Start Up	Follow up Year 1 (6 th Gr)	N	Follow up Year 2 (6 th Gr)	P Baseline - Year	P Baseline - Year
Mean SBP	573	107.53±10.76	106.31±10.20	512	107.83±9.80	0.008	0.414
Mean DBP	573	64.89±7.78	62.80±6.85	512	63.4±6.91	<0.001	<0.001
Chol	442	167.39±30.15	160.17±28.27	393	149.85±28.91	<0.001	<0.001
HDL	442	52.94±12.34	49.84±12.91	393	49.94±12.63	<0.001	<0.001
Trig	404	124.16±70.80	114.54±67.16	362	100.22±55.83	0.008	<0.001
Random Glu	440	95.52±15.06	94.53±14.07	393	97.28±13.08	0.265	0.039
LDL	382	912.02±27.12	90.11±26.04	305	82.73±24.45	0.05	<0.001
Rest HR	574	81.39±12.05	79.90±10.45	514	78.58±10.09	0.016	<0.001

High risk Students in Project Healthy Schools – Impacting the Highest Risk Children

	N	Pre	Post	P-Value
SBP (≥126)	27	133.2±1.0	117.4±11.0	<0.001
DBP (≥80)	20	87.1±6.2	70.8±10.0	<0.001
Chol (≥200)	57	218.6±32.5	198.5±29.3	<0.001
HDL (≤45)	124	37.9±6.2	38.3±7.3	0.578
Trig (≥200)	48	272.0±75.8	169.8±93.7	<0.001
Ran Glu (≥140)	7	166.0±25.1	96.6±13.2	<0.001
LDL (≥160)	4	214.0±66.6	190.5±35.02	.285
LDL (≥130)	25	151.8±37.2	130.6±35.2	<0.001

Did anything change in your life because of what you learned from Project Healthy Schools?



Project Healthy Schools: Building a Healthy Community



History

Year	# Middle Schools	# Students	FTC
2004	1 Ann Arbor	160	
2005	3 Ann Arbor	500	
2006	5 Ann Arbor	750	
2007	8 Ann Arbor, Ypsilanti	1000	1
2008	9 Ann Arbor, Ypsilanti, Corunna	1100	3
2009	13 Ann Arbor, Ypsilanti, Corunna, Detroit	1600	3

Free the Children 2008-09

	Clague Middle School	Scarlett Middle School	Tappan Middle School
Number of Students Involved	25-30 members (all grades)	25-30 members (all grades)	25-30 members (all grades)
Teacher Contact	Joey Parins	Joan Grissing + Candace Joslyna	Laura Roth
Life in Action Club	ENOUGH!	English as Second Language and Geography "LIA" Club	ENOUGH! "enough genocide" "we care enough to take action"
Country for Donation	Kono District of Sierra Leone	Jatari Campesino, Ecuador	Darfur, Sudan Mexico Sierra Leone, Sukodu District
Donation	Clean Water Project	Alternative Income	Clean Water Project Alternative Income 400,000 pennies for Darfur
Money Raised	\$5,000	\$500 raised by school and \$500 matched by Club Penguin for a total of \$1,000	\$5,000 Clean Water \$10,000 Alt Income (Matching Grant) \$1082 Coffee \$5,600 Darfur Total: \$21,682
Fundraising Projects/Major Events	<ul style="list-style-type: none"> Healthy bake sales Jewelry sales Dollar-a-day donation Vow of silence African drum ensemble 	<ul style="list-style-type: none"> Penny drive Lunch coin drive Cake walk at carnival Mix-it-up day 	<ul style="list-style-type: none"> Penny collection/online donation for Darfur Fair trade coffee sales cooked at shelter and worked at food bank "Less Junk in your Trunk" snack contest food and clothing donations 1 mile fun run

"Somebody has to do something! It's amazing that it has to be us!"

- Jerry Garcia
The Grateful Dead

