

A Report on Surveillance of Urban School Children



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Saint Paul Public Schools

Grant Background

- **Managing and Preventing Diabetes & Weight Gain (MAP)**
- **CDC-NDEP 5-year grant to the National Association of School Nurses (NASN)**
- **Saint Paul is the first pilot site in the U.S.**

Grant Objectives

Development of a program to

- Increase school nurses knowledge about childhood overweight and diabetes risk
- Effectively manage students who have diabetes in schools
- Focus on inner-city and minority populations
- Provide culturally-competent care

Saint Paul Public Schools Pilot

- **0.2 FTE Licensed School Nurse diabetes prevention resource nurse**
- **0.2 FTE License School Nurse diabetes management resource nurse**
- **Currently in 2nd school-year of pilot**
- **Both diabetes components built upon the chronic disease management model in SPPS**

Diabetes Prevention Pilot

- Licensed School Nurse training:
Childhood Overweight Epidemic
- 4th-grade BMI screening in selected schools
 - School nurse interest and school Principal support
 - Informed parents
- Identification of Childhood Overweight Diabetes Risk Assessment/Medical Referral
- Fourth-grade classroom curriculum

Licensed School Nurse Training

- **Current prevalence of childhood overweight and co-morbidities**
- **Factors that increase risk for developing diabetes**
- **Acanthosis nigricans assessment**
- **Cultural competence**

Center for Cross-Cultural Health

BMI Screening

- **Appropriate equipment**
- **Staffing**
- **Height/weight/BMI training**
- **Other considerations**

Privacy

Time

Method

Identification of Childhood Overweight

- CDC's on-line BMI calculator
- Defined as: \geq or equal to 95th percentile for age/gender

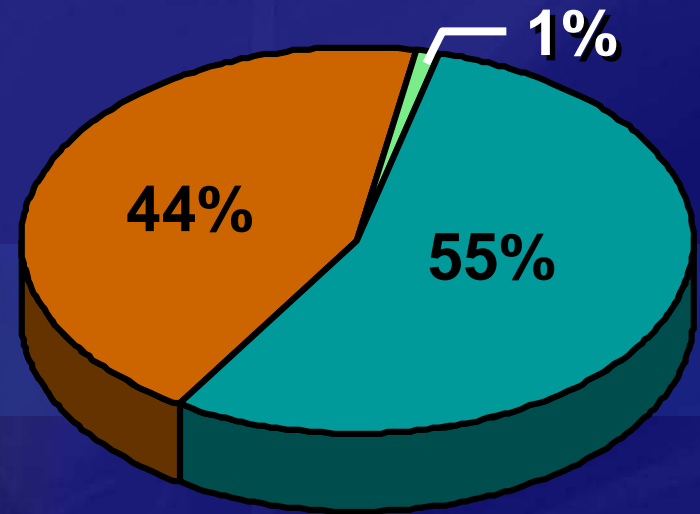
BMI Screening Results 2006/2007

In 8 pilot sites

- 345 4th-grade students screened
- 87 students are **overweight** (25%); compared to 19% nationally
- **Boys > Girls**
- 64 students are **at risk of overweight** (18%)
- 151 students are **overweight or at risk of overweight** (44%)

BMI Screening Results 2005/2006

- Normal
- Overweight/at-risk
- Underweight



SPSS BMI
Screening Results, 2006

In 4 pilot sites

- 188 students screened
- 29% were **overweight**; compared to 16% nationally at that time
- 15% were **at risk of overweight**
- 44% were overweight or at risk of overweight

Diabetes Prevention Medical Referral

Why refer?



Diabetes Prevention Medical Referral

- Used to gather pertinent objective and subjective data

Student

Parent

- Used as a risk factor assessment tool
- Contains current protocols for health care provider's reference (ADA, AHA)

Preliminary Results 2006/2007

- All of 30 at risk for developing diabetes
- 20% had signs of acanthosis nigricans
4 AF, 1 Latino, 1 Asian
- 50% had high blood pressure readings
90th percentile (pre-hypertensive)
> or = 95th percentile (hypertensive)
6 AF, 2 Latino, 1 Asian

Diabetes Prevention Education

- Harvard School of Public Health – "Eat Well and Keep Moving" curriculum
- (6) 40-min sessions during the school day
- Key messages:
 - Increase fruit & vegetable intake
 - Increase physical activity
 - Importance of breakfast
 - Reduce "screen time"
- Physical activity built in

Diabetes Prevention Education

- Individual student teaching
- Individual parent/guardian teaching
- Family teaching
 - Curriculum assignments-
 - family activity
- NDEP written materials in appropriate languages

Role of Diabetes Prevention Resource Nurse

- Provide expertise and education to licensed school nurses
 - Childhood overweight issues
 - Identifying children at risk for diabetes
 - Appropriate referrals for medical evaluation by a health care provider
- Training, coaching and mentoring licensed school nurses in their understanding of the policies, procedures and forms

Role of Diabetes Prevention Resource Nurse

- Provide expert resource, problem solving and mentoring for challenging cases
- Identify community resources
- Support care coordination efforts
- Serve as community liaison
- Disseminate lessons learned

Nursing Process Evaluation

- **School nurses knowledge**

Increased

More comfortable with identifying overweight, discussing overweight with parents and determining at risk for diabetes

- **BMI Training**

Effective

Developed skills

Future: Mentor model perspective

MAP Expansion

In SPPS

- 2006/2007 – Referral process district wide, Student Placement Center, Early Childhood Screening
- 2007/2008 – Incorporate new schools

National

- Oakland, CA
- Columbus, OH
- Albuquerque, NM

Community Partners

- **College of Saint Catherine**
Bilingual nursing students
- **HealthPartners**
Registered Dietician volunteer
- **Allina**
**Exercise Physiologist
volunteer**

Future Directions

The Health Care Community

- **Support funding for community interventions to expand upon programs like "Healthy Lifestyles for All"**
- **Invest in health care provider training: Medical evaluation of overweight children using evidence-based guidelines**
- **Consider BMI screening challenges**
- **Collaborate with and support your school nurse!**

Community Partners

Pediatric Home Service

- **Healthy Lifestyles for All**
- **Medica Foundation grant**
- **Reinforced learning from classroom curriculum**
- **Offered to families of children identified as overweight:**
 - (4) in-home visits 4 weeks apart**
 - Registered Dietician**
 - Nutrition and physical activity goals set by child/family**
 - Weight maintenance**
 - Interpreter support**

Healthy Lifestyles for All Year 1

- 14 students/families completed all 4 visits
- 50% maintained or decreased BMI
- Success stories
- Cultural learning
- Interpreters needed in ~60% of families

Hmong, Spanish and Karen

Challenges

- **BMI screening**
 - Privacy**
 - Student comments**
- **Blood pressure percentiles**
- **Financial resources**
- **School nurse time**
 - BMI screening**
 - Parent interview – risk assessment**
 - Interpreter considerations**

Challenges

Medical Referral

- **Staying current with guidelines**
- **What is the impact?**

Future Directions

SPPS

- Continue program into 3rd year
- Seek input from health care providers re: medical referral
- Continue community liaison work
- Disseminate lessons learned to school nurse organizations
- Partner with community

Resources

- **Centers for Disease Control**
 - Height/weight/BMI training modules**
 - BMI calculator**
- **Guidelines**
 - ADA (2007)-Standards of Medical Care in Diabetes**
 - AHA (2005)-Overweight in Children & Adolescents Scientific Statement**
 - NHLBI (2004)-4th Report on the Diagnosis, Evaluation & Treatment of High Blood Pressure in Children & Adolescents**
- **BMI Screening Considerations**
 - Center for Weight & Health, U.C.-Berkeley**
 - Diabetes Prevention Education Materials**
 - National Diabetes Education Program**

SPPS Contact Information

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***Report on Surveillance in Urban
Schoolchildren***

Stephanie Kimmes, CPNP, MS

- **Was information on childhood obesity (and populations at risk) compelling?**

Report on Surveillance in Urban Schoolchildren

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- **Did barriers regarding data collection relate to need to refer children?**