

## The Need to Prevent Nicotine Addiction and Diabetes in Our Youth

### The Role of School Health Programs

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#### INTRODUCTION

The Centers for Disease Control's "Guidelines for School Health Programs to Prevent Tobacco Use and Addiction" states the "challenge to provide effective tobacco-use prevention programs to all young persons is an ethical imperative. Schools are ideal settings in which to provide such programs to all children and adolescents" (*Centers for Disease Control Morbidity and Mortality Weekly Report*, 1994).

**T**obacco use continues to be the leading cause of preventable premature mortality in the United States. Nicotine addiction combined with type 2 diabetes is an especially lethal combination because of increased risk of heart attack, stroke, and peripheral vascular disease. Smoking may increase the risk for type 2 diabetes. There is even some evidence that passive exposure to cigarette smoke may increase diabetes risk.

People with type 2 diabetes need to stop smoking and most importantly, school children at increased risk for type 2 diabetes need to avoid smoking. School health programs to prevent tobacco use have enormous potential to increase lifespan and quality of life in populations at increased risk for type 2 diabetes. As CDC Guidelines suggest, "School-based tobacco prevention education programs that focus on skills training approaches have proven effective in reducing the onset of smoking." The positive effect of school-based programs is magnified in settings such as ours, in Pine Ridge Indian Reservation in southeastern South Dakota, where smoking and smokeless tobacco use are epidemic and the risk of type 2 diabetes is high.

#### Tobacco Use And Diabetes Risk

The dire consequences of having type 2 diabetes and continuing to smoke have been appreciated for decades. In recent

years, research suggests that smoking may increase the risk of developing type 2 diabetes. For example, in a Harvard School of Public Health study of 114,247 female nurses, the risk of diabetes was nearly 50 percent higher among women who smoked 25 or more cigarettes per day compared with nonsmokers, after adjusting for obesity and other risk factors. The study suggested that the more women smoked, the greater the risk of diabetes (Rimm et al, 1993).

The role of smoking as an independent risk factor for type 2 diabetes probably has been underappreciated. Most research on the causes of the diabetes epidemic have focused on the contributions of poor diet, lack of exercise, and genetic factors. There are many well-known reasons to discourage smoking in school children. Decreasing future risk of diabetes may be yet another.

#### Our Pine Ridge Experience

The Oglala Lakota people of Pine Ridge Indian Reservation, in southeastern South Dakota, have the lowest life expectancy of any people in the western hemisphere, outside of Haiti, according to Dr. Christopher Murray at Harvard's Center for Population Studies. The deadly partnership of smoking and type 2 diabetes is responsible for much of the preventable premature mortality in Pine Ridge.

The multi-site Strong Heart Study, which includes Pine Ridge Reservation, revealed that over half of Oglala Lakota people who survive into their forties or fifties have type 2 diabetes (U.S. Department of Health and Human Services, 2001). There are no reliable estimates of the number of people who smoke in Pine Ridge but we know the number is high. Indian Health Service chart audits suggest that over one third of people with diabetes continue to smoke. A survey of school children conducted by the Oglala Sioux Tribe's Health Education Department in the spring of 2005 showed over 80 percent were exposed to cigarette smoke in the home, a somewhat larger percentage than is found nationally.

When the Oglala Lakota Nation Wellness Team, a coalition of concerned individuals representing the schools, health organizations, and tribal organizations across the reservation, embarked on the dual task of reducing diabetes risk and smoking in Oglala Lakota people over ten years ago, the schools seemed a logical place to begin the battle. If this important work does not happen in the schools, it will probably not happen at all, at least in remote places like Pine Ridge Reservation and in many inner-city populations at increased risk for type 2 diabetes.

As with many groups of people nationally who are at risk for type 2 diabetes, Oglala Lakota people face a number of formidable obstacles, including distance and lack of transportation in getting to a medical provider. Our survey of local medical providers revealed a lack of enthusiasm for either primary prevention of smoking or identifying and treating school children and their parents who are already addicted to nicotine. Ethnic groups most at risk for type 2 diabetes, including Latinos, African Americans, and American Indians, are often less likely than other Americans to have ready access to preventive medical services. Busy inner-city clinics and remote, often understaffed rural health facilities are less than ideal settings for encouraging positive lifestyle changes in school children and their families. Hurried athletic participation physicals, often the only non-emer-

gent visit by many inner-city and remote rural school children to a healthcare provider, are unpromising venues to encourage positive lifestyle decisions.

Our thirteen tribal schools, scattered across the reservation, became enthusiastic partners with the Oglala Lakota Wellness Team in the combined effort to prevent smoking and type 2 diabetes. We have made good progress with most of the Centers for Disease Control's seven recommendations for school health programs to prevent tobacco use and addiction. Those seven recommendations are:

1. Develop and enforce a school policy on tobacco use.
2. Provide instruction about the negative physiologic and social consequences of tobacco use.
3. Provide tobacco-use prevention education in kindergarten through 12th grade.
4. Provide program-specific training for all teachers.
5. Involve parents of families in support of school-based programs to prevent tobacco use.
6. Support cessation efforts among students and all school staff who use tobacco.
7. Assess the tobacco-use prevention program at regular intervals.

Our thirteen school campuses are now smoke free, in contrast to none 10 years ago. Numerous presentations about the negative consequences of tobacco use have been made via health fairs, invited speakers, the American Lung Association's "Not On Tobacco" (N-O-T) program, and health walks in all schools and communities on the reservation. Every school child in every grade is exposed to at least some tobacco use prevention education.

Some program-specific training for teachers has been provided, but staff turnover in our schools is high. We have had some successes, though, especially with one of our school nurses, a former heavy smoker, who is now skilled in tobacco cessation counseling. We have embarked on a school-based program, funded by the

Aberdeen Area Tribal Chairmen's Health Board, to encourage families to sign a smoke-free home pledge.

The last two recommendations have been the most difficult for us. Many of our school children in Pine Ridge initiate smoking at an early age, and we recognize the need to offer treatment in the schools. We are initiating school-based clinics that will offer nicotine addiction treatment to students and staff in the reservation schools this fall.

We also need to develop better assessment tools for gauging the success or failure of our efforts. Our experience with program assessment has been mixed. As with most people nationally, Lakota people are anxious to please by saying the right thing. For example, a stock answer among our people to questions about passive cigarette smoke is "We all smoke outside." A drive through the housing projects in Pine Ridge suggests otherwise.

## Conclusion

School nurses and school health programs are in a unique and enviable position to salvage many years of preventable premature mortality by helping school children make good decisions about smoking. This is especially true in populations at risk for type 2 diabetes, a disease whose effects are compounded by smoking. 🍷

## REFERENCES

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