



## Community-based Oral Disease Prevention Project: Rural Native American Population

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### INTRODUCTION:

Native American population has the poorest oral health status of any ethnic or economic group in the US. The adult population has the highest edentulous rate, the highest use of tobacco and the highest incidence of Periodontal Disease. The prevalence and severity of dental caries in Native American children are substantially higher than any non-Indian children group with their mean dmfs scores (diseased, missing and filled surfaces) over 200% higher than non-Native American population. They have the world's highest prevalence of Early Childhood Caries (ECC). Prevalence of 50 to 80% of the children 5 years of age and younger whereas the national average for ECC is less than 10%.

### OBJECTIVES:

To develop a community-based oral disease prevention program that is effective in reducing the incidence and prevalence of ECC in rural Native American population

### HYPOTHESIS:

That tribal allied health professionals who have specific training in oral disease prevention can be utilized to implement and sustain an oral disease prevention program that is effective in a rural Native American population – Community Oral Health Specialist (COHS).

### BACKGROUND:

**Pine Ridge Indian Reservation:** Second largest in US (1,700,000 acres) , located in southwestern South Dakota, highest poverty rate in US, population of 40,000

**Rosebud Indian Reservation:** 882,416 acres, located in south central South Dakota, 10<sup>th</sup> highest poverty rate, population of 25,000

### GENERAL HEALTH STATUS OF PINE RIDGE & ROSEBUD:

- Highest infant mortality rate of all IHS areas
- Highest age-adjusted death rate
- Highest age-adjusted alcoholism death rate
- Highest age-adjusted Tuberculosis death rate
- Lowest life expectancy rate ~ 11 years below USA rate with males life expectancy = 60.5 & females = 68.3

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### ORAL HEALTH STATUS OF ROSEBUD & PINE RIDGE:

- Less than 50% of population has access to water fluoridation
- Lowest oral hygiene scores with lowest frequency of daily tooth brushing & flossing
- Highest tobacco use ~ 62% of adult population
- 56% of adult population have total tooth loss
- Children: 60% have active, untreated tooth decay – less than 50% have seen a dentist
- Ages 35 – 44: 50% have moderate to severe periodontal disease
- World highest incidence of ECC ~ 80%

### DESIGN: TREATMENT INTERVENTIONS – 4X per yr - estimated 4 to 5,000 children, ages 0 to 4

Medically & Dentally Safe; Proven treatment interventions administered with minimal compliance and with maximal acceptance; uncomplicated and easy to learn, Readily administered by non-dental personnel, inexpensive and readily accessible to the entire population, easily and efficiently to implemented

### COHS CURRICULUM:

Preventive Dentistry: plaque & caries etiology, oral hygiene instruction, use of fluorides, patient behavioral modification, infection control, diet and sugar consumption & nutrition, dental treatment modalities, dental record procedures and billing procedures – charting and coding, HIPAA compliance, patient confidentiality & ethics, referrals and fluoride varnish applications

### OUTCOME MEASURES & QUALITY ASSURANCE:

audits, # of clients served, # of specific services provided

### PROGRAM EFFICACY: dmft/dmfs

The overall effectiveness of the COHS program will be assessed based on the reduction of ECC in the population via 3-yr randomized longitudinal study: 2 Groups: age 0 to 2 & 2 to 4

### LONG TERM GOALS OF PROJECT:

1. Self-efficacy & self-reliance by individuals, families and the community in improving their oral health status
2. Economic development program that provides allied health careers on the reservation