

## Attachment 12.

### **Methodological Comparison of NHANES and the Canadian Health Measurements Surveys' Oral Health Examination**

OMB no. 0920-0237  
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The study will be conducted in a Division of Health and Nutrition Examination Surveys' trailer from June 15, 2007 through July 15, 2007.

The scope of this oral health methodology study is consistent with clinical research designed to assess inter-rater and inter-examiner reliability. Assessing data reliability is an important element in epidemiologic studies using multiple examiners to collect examination data. An objective analysis of the data is based on evaluating examiner performance. The confirmation of data reliability through statistical analyses improves external generalizability of the findings.

The aim of this oral health methodology study is to produce an analytical dataset that will permit us to make direct comparisons between the NHANES reference dental examiner and the reference dental examiner for the Canadian Health Measures Survey (CHMS) to assess oral health data reliability between the two national reference examiners. Dental examiners participating in the US and Canada national health surveys have been trained and calibrated by their respective national reference examiners.

In the United States, national oral health status is assessed by a series of dental examinations now known as the NHANES methods. These methods have been developed over time with some methods remaining very consistent since their first use in the 1960's national health surveys. In Canada, national oral health status is being assessed for the first time by methods adapted from oral health methods developed by the World Health Organization.

Although there are some similarities in the OH assessment protocols for both surveys, there are sufficient differences that negatively impact cross-national comparisons on OH status. We believe that a rigorously structure study can ascertain these differences quantitatively, thus, allowing us to create modification factors that will permit cross national comparisons. We have identified 4 important oral health areas for assessment: Dental caries and restorations, dental sealants, periodontal disease, and dental fluorosis. Selected components from the NHANES 2003-04 oral health examinations and the CHMS 2007-08 oral health examination will be compared.

Study design: In brief, the NHANES reference dental examiner (US) and the CHMS reference dental examiner (CA) will examine the same set of volunteers in the Washington, DC metro area and in Ottawa, Canada. We will use existing oral health data entry software for NHANES and CHMS. The US examiner will use NHANES protocols and entry software while examining volunteers in DC and Ottawa, the CA examiner will use CHMS protocols and software while examining volunteers in Ottawa and DC. Half of the sample examinations for this study will be conducted in DC and half in Ottawa.

Volunteers will be screened for eligibility (asked a few brief demographic questions and the medical exclusion questions) and appointed for examination. For both age groups, age, sex, and race/ethnicity will be asked. For adults, the medical exclusion questions will be asked to determine if antibiotic prophylaxis is required as recommended by the American Heart Association prior to receiving a dental examination.

The DC study site will be located in the mini-NHANES Mobile Examination Center (a RV style trailer). At the examination, volunteers will be consented and compensated. The NHANES examination will be completed first followed by the CHMS examination. At the Ottawa site, the CHMS will be administered first followed by the NHANES examination. Based upon age, the volunteers will receive a subcomponent of the main survey oral health examination.

To maximize dental conditions of interest, 2 age groups have been selected for recruitment: Children/adolescents age 6-19 years and adults age 35-74 years.

NHANES 2007-08

	Tooth Count	Coronal Caries	Dental Sealants	Dental Fluorosis	Periodontal*
Age groups	6-19 / 35-74	6-19 / 35-74	6-19	6-19	35-74

CHMS 2007-08

	Dentition	Fluorosis	Periodontal Disease
Age groups	6-19 / 35-74	6-19	35-74

