



Would you like to take part in a research study to improve oral health of children of Northern Arizona?

The Fofanov Lab at Northern Arizona University is looking for pre-school children, ages 1 through 5, who are willing to participate in a research study entitled: “*Quantifying the biological component of early childhood caries health disparities in preschool children of Northern Arizona*”.

What is the purpose of this study?

Early Childhood Caries (ECC) is a disease that causes cavities in children less than 6 years of age. It is the most common chronic disease in children and occurs 5 times as often as asthma. Arizona has one of the worst rates of ECC cases in the nation and the northern Arizona counties have the highest ECC rates in the state. The typical explanations for this disease (like access to dental care) do not fully explain Arizona’s high ECC rates. We suspect a biological explanation.

This disease is caused by bacteria *Streptococcus mutans* and *Streptococcus sobrinus*. These bacteria live in the mouth between teeth and along the gum line. They process sugars we naturally get from food and produce acid, weakening and damaging teeth. Every 2 out of 5 children in Northern Arizona are thought to have these bacteria. We suspect that bacteria found in Northern Arizona are different from those present elsewhere in the United States. Northern Arizona strains likely have more delayed or active acid production. We wish to test this by collecting and analyzing oral bacteria from children of Northern Arizona.

What would I and my child be asked to do?

We will ask you to fill out a parental consent form to allow the child to participate in the study. We will also ask you to answer a brief 3-question survey. If you allow it, we will collect your child’s saliva and plaque samples. The procedure for collection is a quick swipe with a sterile cotton swab along the gum line. It should cause no more risk or discomfort than regular teeth brushing. A sterile wooden toothpick will be used to pick up any visible plaque deposits. The whole process should take less than a minute. Sample collection will be done by trained dental hygienists of the SMART SMILES program during their regular visit to your school.



What will we do with your samples?

We will grow the ECC bacteria we find in your child saliva and plaque in a petri dish. We will then sequence its genome and measure its acid production. These will be compared to other ECC bacteria from the rest of the United States. Please note that **we are only interested in the bacteria** that live in the mouth. **No human DNA will be sequenced or analyzed** as part of this study.

What should I do if I have questions about the study?

Please contact us at eccproject@nau.edu. A member of the Project Team will respond to answer your questions. Pamphlet with Answers to Frequently Asked Questions can be found online at <http://www.fofanovlab.us/index.php?view=research/NAecc/>. This document will also be available as a hard copy in your child’s classroom.

Can my child receive dental services but NOT participate in this study?

Yes. The study is completely separate from dental hygiene services provided by your school or SMART SMILES program. Your child will participate ONLY if you explicitly approve it.