

Caries Prevalence in Maine Based on College of Dental Medicine (UNE) Findings



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Introduction:

Dental caries is a progressive, irreversible microbial disease affecting the hard tissues of the tooth. It is the most prevalent chronic disease affecting the human race. Once it occurs, its manifestations persist throughout life even when the lesion is treated. It usually begins soon after the teeth erupt into the oral cavity, thus, it is a post eruptive disease. It affects people of both genders, all races, all ages, and all socio- economic groups.

Currently there is limited research regarding the prevalence of caries in the state of Maine, particularly for the adult population. The presence of caries is a major oral health indicator and further research is needed in this area in order to provide better oral health care, especially in the rural areas.

Much of the literature focuses on caries prevalence in children, particularly from a study called the New England Children's Amalgam Trial. A five year follow-up of this study revealed high-risk children continuing to develop new caries even after semi-annual dental care. This finding is alarming and it makes one wonder how the adult population is fairing with caries development as well.

In order to bridge this gap in the literature and determine a more accurate picture of caries prevalence within the state of Maine, this ongoing retrospective study is designed to analyze and record caries prevalence among the patient population at the UNE Dental Clinic using past patient dental records. The DMFT and DMFS indices are epidemiological tools used to measure and classify caries. These two tools were the focus of the data analysis throughout this study. This initial investigation into the caries prevalence of Maine is only the foundation for future research and more definitive conclusions on the state of Maine's adult oral health.

Research Goal:

The goal of this retrospective study is to collect information in order to better understand the needs of the Maine residents and provide the appropriate oral health care in the future.

Methods:

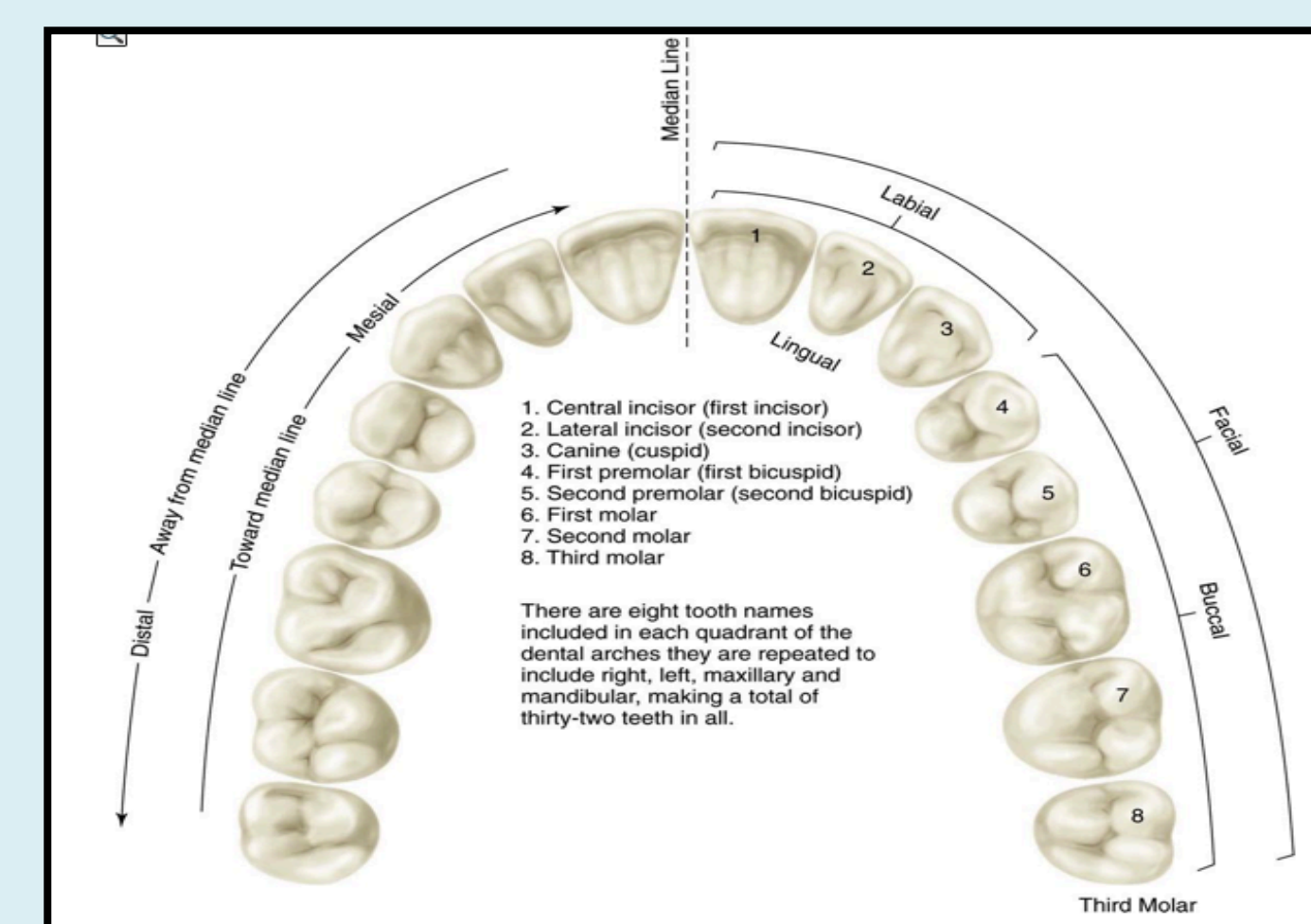
The population investigated derived from the UNE CDM patient pool. After IRB approval from the University of New England and de-identification of the patient population, a sample size of 100 dental charts was blindly analyzed and the DMFT (Decayed, Missing, Filled, Teeth) and DMFS (Decayed, Missing, Filled, Surfaces) indices were calculated.

DMFT stands for Decayed, Missing, or Filled teeth and it applies to each tooth within the permanent dentition of an individual. Scores can range from 0 to 28, or 32, depending on if the third molars are included.

DMFS stands for Decayed, Missing, or Filled surfaces and it applies to each tooth within the permanent dentition of an individual. Scores can range from 0 to 128.

Individual DMFT/DMFS:
Total D+M+F=DMFT/DMFS

Group Average:
Total DMFT/DMFS for each individual
Then divide the total 'DMF' by the # of individuals in the group



Surfaces



Decayed



Missing



Filled

Results:

The **mean DMFT** was found to be **19.27** and the **mean DMFS** was **26.08**. This can be compared to the National Institute of Health (National Institute of Dental and Craniofacial Research) research on the dental caries present in adults, in which the **overall DMFT** was **10.33** and the **overall DMFS** was **30.96**. These results suggest that within the state of Maine the overall DMFT index is higher than the national DMFT index.

This is an ongoing study and data will be accumulated and analyzed over time as well as a constant influx of data as new patients begin care at UNE.

The fact that multiple clinicians charted the carious lesions could be considered as a limitation of this study. In addition, DMF index can be invalid in older adults or in children because the index can overestimate caries recorded by cases other than dental caries.

Summary:

Further research and data analysis of a larger sample size are needed to determine the accuracy of these results, however, this initial investigation reveals the need for better oral health care to Maine's population.

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