

moderately deep and located on 2 surfaces mesio-occlusally in the lower first permanent molar, the mean response times reported were 19.6 minutes for amalgam and 30.2 minutes for resin composite. The first scenario required an estimated average 1.58 times as long for resin composite compared to amalgam. The second required an estimated 1.67 times as long on average for resin composite rather than amalgam. When asked about the financial implications of these interventions, respondents believed the NHS fees would have to increase by 57.5% to support the use of resin composite rather than amalgam in posterior teeth.

### Techniques

Over half of the respondents reported they would use a total etch approach for restoring cavities that were moderately deep or shallow. The restoration of proximal contours was reported by 94% of the respondents to be accomplished preferentially by the use of circumferential metal matrices, with 58.9% reporting using sectional metal matrices and 45.4% using circumferential clear matrices.

When asked about wedging, 88.4% preferred wooden wedges, 62.3% plastic or flexible wedges, and 33.1% used light transmitting or clear wedges. Etch and rinse adhesive was preferred by 73.4% of subjects; 26.6% used a self-etch system. Just over 36% would use a bulk-fill resin composite for posterior cavities. Of these, 80.5% reported these resin composites offered ease of placement, increased predictability, and less postoperative sensitivity than traditional composites.

The most common light curing units (LCUs) were LEDs, with 95.7% reporting their use. Quartz tungsten halogen units were used by 41.5% and plasma arc units by 6.0%.

## DISCUSSION

Amalgam is still the primary material used to restore posterior teeth in adults whose treatment is funded by the NHS in Wales. The barrier to using more current materials appears to be related more to the funding than to any lack of skill in handling composite resins or other alternative materials.

### Clinical Significance

The Minamata Treaty suggested a phase down of amalgam use in dental practice but has not specified how this will be accomplished. If the reimbursement for services continues to be insufficient to pay for the use of more current materials, it appears that dentists will continue to select amalgams rather than the more costly esthetic materials. If the goal is to truly phase down amalgam use, funding for dental services should be adjusted to ensure that minimally invasive dentistry using composite resins can be the method of choice for posterior restorations.

Lynch CD, Farnell DJJ, Stanton H, et al: No more amalgams: Use of amalgam and amalgam alternative materials in primary dental care. *Br Dent J* 225:171-176, 2018

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# IMMIGRANTS

## Improving oral health for immigrants



### BACKGROUND

By 2060, it's expected that immigrant numbers will have increased from 13% in 2014 to 19% of the US population. As immigrants become more familiar with the cultural norms and behaviors of the United States population, there may also be changes in their health behaviors, which may affect their health outcomes. Acculturation tends to have a positive effect on the use of health services in the United States, but negative effects on alcohol use, diet, and hypertension. The acculturation experience can also be accompanied by depression, which can contribute to poor oral health status. Immigrants tend to be at higher risk of developing depression than their US-born counterparts, although longer periods of residency may reduce this risk. Research describing the relationship between

acculturation and oral health in immigrant populations independent of the effects of depression is lacking. A study using a large nationally representative sample was done to describe the oral health status of immigrants to the United States, assess any association between acculturation and oral health without the effects of depression, and explore whether the combination of acculturation and depression have an impact on the oral health of immigrants.

### METHODS

#### Population data

The data were taken from the 2011-2012 National Health and Nutrition Examination Survey (NHANES 2011-12). This

survey used in-home interviews in English or Spanish by trained field interviewers, along with dental examinations done in mobile examination centers by dental professionals. The final sample consisted of 1458 subjects who completed the oral health questionnaire and 1097 persons who underwent dental examinations.

### Measures

The measure of oral health status was a self-report of the condition of the teeth and gums as poor, fair, good, very good, or excellent. The dental examination followed a full-mouth periodontal examination protocol. Acculturation was defined as both English spoken at home and length of stay in the United States. Depression status was determined using the Patient Health Questionnaire-9 (PHQ-9). Among the demographics evaluated were age, sex, race/ethnicity using the categories defined in the NHANES, marital status, health insurance coverage, educational level, and annual family income.

## RESULTS

### Oral health status

Good oral health was reported by 63.4% of the participants. Good oral health was less often reported by those identifying themselves as being of Mexican origin. Good oral health status was more commonly reported among female immigrants, those with a college education or higher, those whose annual family income was \$45,000 or more, and those with health insurance coverage. When acculturation and depression were considered, immigrants who spoke English at home were more likely to report good oral health and those with depression were less likely to do so.

### Periodontitis

Fifty-three percent of the sample received a diagnosis of periodontitis. When those identified with periodontitis were evaluated, older immigrants and those with depression were more likely to be in that group. Those less likely to have periodontitis included female immigrants, non-Hispanic White immigrants, those with a college level education or higher, those whose annual family income was more than \$45,000, those who had health insurance coverage, and persons who spoke English at home.

### Analysis

Statistical analysis of self-reported oral health status indicated no significant association between length of stay in the United States and oral health status. However, English spoken at home was significantly associated with both self-

reported oral health and periodontitis. Those more likely to report good oral health included female immigrants, non-Hispanic Black and non-Hispanic Asian immigrants, those whose annual family income was \$100,000 or greater, and those with health insurance coverage. Depression had no effect on these findings.

Statistical analysis of those with periodontitis indicated a greater likelihood that older immigrants would have periodontitis than those who were younger. When race/ethnicity was considered, those of other races/ethnicities (specifically, Mexican, other Hispanic, non-Hispanic Black, and non-Hispanic Asian) were more likely to have periodontitis than those who were classified as non-Hispanic White individuals. Female immigrants were less likely to have periodontitis than males, as were those who had been in the United States for more than 30 years compared to those whose stay was fewer than 5 years. Periodontitis was less common among individuals who spoke English at home than in those who did not speak English at home. Adding depression to the analysis did not change the significance of these associations. Persons who had depression were at a higher risk for periodontitis.

## DISCUSSION

About 37% of the immigrants rated their oral health as poor, and 53% had a clinical diagnosis of periodontitis. Acculturation was associated with oral health, but depression did not contribute. Being in the United States for a longer period of time and speaking English at home were both associated with lower odds of having periodontitis.

### Clinical Significance

Dentists can offer immigrants the opportunity to improve their oral health through programs that provide assistance in English language proficiency as well as guidance through the health care system. This is an important area where dental care professionals can reach an often previously underserved population who now live in the United States.

Luo H, Hybels CF, Wu B: Acculturation, depression and oral health of immigrants in the USA. *Int Dent J* 68:245-252, 2018

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