

treated (# visits for each diagnosis associated with an antibiotic/total # of visits for each diagnosis). We additionally assessed antibiotic dispensings not associated with a specific visit. **Results:** We analyzed a total of 78,253 p-y. Among those aged 3 to <24 months, overall treatment rates decreased from 2.8 to 2.2 antibiotics/p-y (22%). Acute otitis media (AOM) was the most common diagnosis (2.1/p-y) and the most frequent reason for antibiotics (1.4/p-y) in 1998-1999. These decreased by 19% and 20%, respectively, by 2002-2003 ( $P<0.0001$ ), accounting for 45% of the overall decrease. Antibiotics that were not linked to a visit accounted for another 28%. Among those aged 24 to <48 months, overall treatment rates decreased from 1.7 to 1.5 antibiotics/p-y (11%). AOM was again the most common diagnosis (1.0/p-y) and the most frequent reason for antibiotics (0.7/p-y) in 1998-1999. These decreased by 12% and 11%, respectively, by 2002-2003 ( $P<0.0001$ ). AOM treatment accounted for 43% of the overall decrease in antibiotics and unlinked antibiotics accounted for another 52%. The percent of AOM associated with antibiotics remained stable in both age groups. **Conclusions:** In spite of new recommendations for 'watchful waiting' for some cases, the percent of AOM treated, once diagnosed, remained stable. The substantial overall decline in antibiotic prescribing was driven by declines in rates of diagnosis of AOM and antibiotics not linked to a visit. Unlinked antibiotics included refills and prescriptions after telephone encounters. Decreases in antibiotic use appear to be the result of changes in diagnostic thresholds rather than treatment of diagnosed conditions.

Abstract PS1-37

#### Dentist Attributes Associated With Sealant Placement

William A. Rush, PhD, *HealthPartners Research Foundation*; Stephen E. Asche, MA, *HealthPartners Research Foundation*; D. Brad Rindal, DDS, *HealthPartners Research Foundation*; Andrew M. Schmidt, MS, *HealthPartners Research Foundation*; Wei Ouyang, DDS MA, *HealthPartners Research Foundation*; Olga V. Godlevsky, BA, *HealthPartners Research Foundation*

**Background:** Dental sealants have been shown to be effective in reducing caries by 80%, however, not all children are at risk of developing caries and therefore it is more efficient to seal the teeth in those children at high caries risk. This was an examination of the relationship between patient and dentist characteristics and the application of sealants. **Methods:** This study utilized claims and administrative data from a large dental managed care organization in Minnesota. Sealant placement was a covered benefit in the study period. This study was conducted using the data from 6173 children 6 years of age between 1995 and 2006 who had dental encounters with either a general or pediatric dentist and no prior record of receiving a sealant. They all had an assessment of their level of caries risk (low, moderate or high) at age 6. Sealant placement within 6 months of the caries risk exam visit served as the dependent measurement. **Results:** There were 73 general dentists represented in the study but only 3 pediatric dentists. However, the pediatric dentists had about 20% of the encounters. About 22% of patients were seen by a female dentist and the medium age of the dentist seen was 45. Sixty-two percent of children were deemed at low caries risk and 15% and 23% were at moderate and high risk. Logistic regression analysis predicting 6-month sealant application found higher sealant application rates among children at high or moderate risk (OR 1.89,  $P<0.0001$ ; OR 1.54,  $P<0.0001$ ) and female children (OR 1.39,  $P<0.0001$ ). General dentists were more likely to apply sealants than pediatric dentists (OR 1.94,  $P<0.0001$ ) even though pediatric dentists were almost twice as likely to rate patients at high risk (38% vs. 20%,  $P<0.0001$ ). Younger dentists (under age 55) were more likely to apply sealants (OR 1.21,  $P=0.0483$ ). **Conclusions:** It is encouraging to see that children at moderate and high risk of developing caries are more likely to be sealed than children at low risk. This is not consistent with earlier studies but may be related to the complete coverage of sealants in the study population. The observation that pediatric dentists see more high risk patients but are less likely to seal may relate to different practice patterns or could be an artifact of the small numbers of pediatric dentists in the study. The reduced sealant rate for older dentists may be related to earlier dental school training not encouraging sealant use.

Abstract PS1-38

#### Is the Placement of Dental Sealants Related to Caries Risk?

William A. Rush, PhD, *HealthPartners Research Foundation*; Brad Rindal, DDS, *HealthPartners Research Foundation*; Andrew M. Schmidt, MS, *HealthPartners Research Foundation*; Wei Ouyang, DDS, *HealthPartners Research Foundation*; Olga V. Godlevsky, BA, *HealthPartners Research Foundation*; Stephen E. Asche, MA, *HealthPartners Research Foundation*

**Background:** The purpose of this investigation was to examine the relationship between a caries risk assessment (CRA) score and the subsequent application of sealants. **Methods:** Data were collected from the data sets of a large dental managed care organization in Minnesota. Sealant placement was a covered benefit in the study period. This study was conducted using the data from 8458 children 6 years of age between 1995 and 2006. Six percent of the subjects (472) had a prior history of a sealant at the time of their first CRA and were therefore excluded. This left 7986 subjects. CRAs were classified into 3 scores; low, moderate and high and all analyses were made relative to the first caries risk assessment at age 6. **Results:** The distribution of initial CRAs found 61.4% with low risk, 15.3% with moderate, and 23.3% at high risk. In the high risk category 36.9% of children had dental coverage through public programs versus 18.8% for the low risk group ( $P<0.001$ ). Of the children at low risk 19% received a sealant within 6 months of their CRA while among the children with moderate or high risk, 26% and 27% had subsequent sealant within 6 months ( $P<0.0001$ ). When the 6-month follow-up timeframe to include any later sealant was lifted, sealant rates were 69%, 69% and 67% ( $P=0.19$ ). **Conclusions:** First, higher risk children are composed of significantly more children from lower socioeconomic status. Second, it appears that when a child of 6 years of age is assessed to be at high risk for the development of subsequent caries, they are more likely to receive a sealant within the period following the caries risk assessment. However, as the interval after the caries risk assessment lengthens, other factors impact the likelihood of a sealant application in the low-risk group and their rate approaches that of the high-risk children.

Abstract PS1-39

#### Maximizing Opportunities to Implement and Evaluate Translating Research Findings into Clinical Practice (TRIP)

Sarah J. Beaton, PhD, *Lovelace Clinic Foundation*; Robert E. White, MD, MPH, *Lovelace Clinic Foundation*; Shelley Carter, RN, MPH, MCRP, *Lovelace Clinic Foundation*; G. Micheal Shum, PhD, *Lovelace Clinic Foundation*; Eva Lydick, PhD, *Carencro, LA*

**Background:** The HMORN is an excellent laboratory for translational research, being comprised of a diverse group of health care delivery systems with associated research staff. **Methods:** We interviewed each HMO on formal organizational characteristics of the research organization (RO) and the delivery system (DS), as well as the structural relationship between the RO and the 'parent' system. The interviews focused on TRIP: (1) modifiers, (2) facilitators, and (3) barriers. HMO confidentiality was maintained for all interview data. **Results:** Of the 15 HMORN members, 13 HMOs participated, 9 with individuals from both RO and DS, 2 with individuals from RO only, and 2 with individuals from DS only. Our results contain information from interviews, emailed questionnaires sent to all HMOs, and HMO websites. Results are organized by TRIP areas of focus: **TRIP:** We assigned a TRIP score for each HMO as follows (% of HMO): 1=no system for TRIP or dependent on individual clinicians (7.7%); 2=TRIP driven by departments or care teams, with some information technology support (38.5%); 3=systematic TRIP plus electronic medical record (EMR) functions and decision support (46.2%); and 4=RO integrated into level 3 above (7.7%). **Modifiers:** We created a variable called 'chaos' for both RO and DS where 1=no chaos and 5=total chaos. Most felt a minor degree of chaos was beneficial as it initiated improvement measures. Of the 13 HMOs, 7 were 'academically' oriented with research tending to focus on mainstream science (e.g., NIH R01 grant support). A 3rd modifier was EMR with variation in data use by various organizations and the degree to which ROs had direct access. **Facilitators:** We identified 4 types of facilitators: quality and types of communication between RO and 'parent', extent to which interventional research is conducted in the DS, amount of consulting done by researchers in the DS, and the value placed on publishing results. **Barriers:** This consisted primarily of issues related to communication, implementing change, and organizational