THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Research Brief:
Evaluation of Into the Mouths of Babes Program

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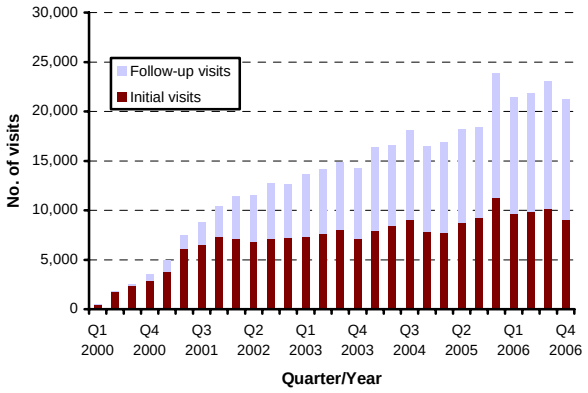
This Research Brief summarizes key findings from an analysis of Medicaid claims and enrollment data from January 2000 through June 2003 done to evaluate the impacts of the *Into the Mouths of Babes* (IMB) program on access to dental care by Medicaid-enrolled children.[1] Findings presented here build on previous studies of medical providers and patients in which we have reported that (1) *IMB* is easily integrated into busy medical practices after the enhanced CME provided originally by the NC Academy of Family Physicians and the NC Pediatric Society, and currently being provided by the Oral Health Section; (2) parents are very satisfied with these services; and (3) these positive features of the program result in widespread implementation across the state.

The IMB program was approved for statewide implementation beginning in January 2000, with training and participation of practices increasing over the next several years. By 2006, the number of visits had steadily grown to more than 80,000 visits (See Figure). In June 2003, the last month included in this analysis, providers in 277 medical offices and public clinics in 86 of North Carolina's 100 counties had been trained and were providing services. These preliminary results therefore pertain to the implementation phase of the program. All analyses are based on observational data rather than a randomized trial and are therefore subject to concerns about possible selection biases that may accompany observational studies.

Number of Medical Office Preventive Dental Visits by Quarter, 2000-2006



Effect of the IMB Program on Access to Preventive Dental Care: The IMB program has led to a substantial increase in access to preventive dental services by enabling Medicaid children younger than 3 years of age to receive dental screening, counseling and fluoride varnish in physicians' offices. By 2002, fewer than one out of every 1,000 children 12 through 23 months of age enrolled in Medicaid had a preventive visit in a dentists' office compared to 145 with one or more IMB visits in a medical office. Out of 1,000 children age 24 through 35 months, 5 had a preventive visit in a dentist office compared to 86 with one or more IMB visits in a medical office. Although the IMB program has therefore substantially increased access to preventive dental care in North Carolina, a large proportion of young children still are not receiving preventive dental care in a given year; albeit the IMB program was still being implemented during the period of time under study. No reduction in use of dentists for preventive care was detected for children up to age 3, indicating that the IMB program supplemented rather than displaced existing levels of preventive dental care. Even in this early implementation phase of IMB, children from every

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county in NC were using these services. The program extended preventive dental services to as many as one-third of the state's counties where no child of this age received any preventive dental care in dental offices before implementation of the program.

Effect of the IMB Program on Access to Restorative Dental Care: The implementation phase analysis showed a statistically significant increase in use of dental restorative services for young children. For example, out of 1,000 children aged 24 months, we estimate that 6.8 children would have received restorative dental treatment in the absence of IMB but 7.3 children received restorative treatment after implementation of IMB. This increase likely occurred for two reasons. First, many of the children receiving IMB services during the implementation phase did not receive preventive services at an early age, i.e., they did not have timely preventive dental care from the time of initial tooth eruption, and consequently the IMB program did not have the opportunity to prevent the dental disease that developed in these children. Second, we believe that providers trained under the IMB program detected existing disease at the time of the preventive visit and, in many cases, helped to facilitate referrals to dentists for timely treatment of that disease. The increase in restorative dental services represents an improvement in the dental health of Medicaid children and therefore is another important outcome of the program.

Effectiveness of the IMB Program in Ultimately Reducing Need for Dental Treatment: To assess the potential of IMB in ultimately reducing dental disease among young children, we conducted additional analyses comparing dental outcomes for children who received at least four IMB visits and were eligible for Medicaid at 6 months of age to children who never received IMB services. These analyses showed a statistically significant reduction in restorative treatments for anterior teeth that increased with age. By four years of age, the estimated cumulative reduction in the number of restorative treatments was 39% for anterior teeth. (A 12% reduction in restorative treatments for posterior teeth was not statistically significant.) The sample size did not allow an analysis beyond age four, and the sample of children available for analysis at this age was extremely small.

Cost-effectiveness of the IMB Program: Because the costs of increasing access to preventive dental care are not offset (at least as currently estimated) by reductions in restorative treatment costs, the IMB program was not cost-saving to Medicaid during the implementation phase. However, access to care and dental health were both improved by the program. We have deferred an analysis of cost-effectiveness of the program until we can increase the size of the sample receiving greater exposure to IMB services (i.e., four or more visits) and use estimates of benefits in terms of reduced need for dental treatment up to age seven years.

Ongoing Research Activities: Additional Medicaid files through 2006 are being used to provide further assessments of these evaluation questions beyond the implementation phase. In particular, we will assess the extent to which the IMB program results in better access to preventive and restorative care as well as cost-effectiveness and cost implications for the Medicaid program.

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