



# Interactive Web Technology Provides Significant Advantages in Oral Health Education

By Fred Ferguson, DDS

Tooth decay is the most common medical condition in children, and poor oral health has significant impact on school attendance and performance. Oral health of young children is determined by parents and care givers. As children grow to adolescence, their oral health will determine much of their future health and quality of life. Oral health is highly behaviorally determined and oral health education can easily be provided to school systems through interactive Web technology.

**J**over 30 years of meeting parents through my pediatric practice and dental education, it never ceases to amaze me how little most know about how to care for their child's oral health. Inevitably, they answer "no" to my question about whether or not they received any information, before or during their pregnancy, or even during their child's early years, about how to manage their child's oral health. They don't know that their child care will have a most significant impact on their child's future in this regard. Many of those who have taken their child for dental care have gained little knowledge of what dental visits should entail for their child (and themselves). They do not realize that oral health problems are among the most prevalent health concerns and that poor oral health is intimately connected to life style and general health. As children reach puberty, their risk for

poor oral health increases as their life styles become more independent and they respond to market and peer pressures.

Dental care is a significant cost concern for families. Reports from the 1990s show that nearly \$12 billion were expended for children's dental care, averaging \$375 per child who obtained care. Overall sources of payment were: 47% out of pocket, 45% insurance, and 8% "other," primarily Medicaid. Disproportionately little spending was made on behalf of low-income and minority children, who also have a higher incidence of dental problems. The proportion of spending that was paid out-of-pocket was high for all groups of children, including those eligible for Medicaid, even though Medicaid prohibits cost sharing. Dental insurance has had a significant effect on access to dental care. Studies showed that in 1996, 42.9% of all dental expen-

ditures were paid by private dental insurance. It is important to note that even with dental insurance, out-of-pocket expense for dental care amounts to about 50% and affects how people seek dental care.

Common mouth problems (i.e., tooth decay, bleeding gums, bone loss around teeth, and oral malodor) are caused by mouth bacteria and behaviors that help specific germs harm the teeth, soft tissues and bone. Increasingly, studies show oral health to be a factor in the risk of conditions such as diabetes, heart disease, stroke, preterm low birth weight, pneumonia, brittle bone disease in women . . . and the list will grow. And many common medications taken orally (e.g., blood pressure, mood, etc.) have side effects that can harm oral health.

## Oral Health Education

Reflecting the public's lack of knowledge, it is not surprising that school systems do not have uniform oral health education standards. Dental care visits account for more missed school days than any other healthcare visit (51 million school hours, affecting both the children's number of absences and care givers' missed work hours). Even more significant is that the behavioral health concerns that are important for children have a connection to behavioral oral health. Examples include obesity, tobacco, alcohol and drug use, and sexually transmitted diseases. For teens, self care, life styles and habits are at the core of oral health, which is connected to (and predicts) general health. The psychosocial development of adolescents provides a great opportunity for a behavioral health curriculum, and oral health could be an invaluable core for health promotion. In 2004, I did an oral health knowledge assessment for two school systems on Long Island (New York). Two very significant findings were that the most common concern for teens is breath problems, and that over one-third of the study group demonstrated significant misconceptions about their oral health and self-care practice.

Each child's risk for poor oral health begins with parental oral health activity and continues as self-care and life styles become more independent. Increasingly, "quality of life" is a recognized marker of health and wellness, and oral health is very significant in this concept. Healthful behaviors that support oral health go far beyond a healthy smile. A person's (child or adult) risk can be easily assessed through questionnaires about behaviors and situations recognized to be significant to oral health and general health.

Internet-based risk assessment/counseling tools can provide school systems with an easy, low-cost, personalized, progressive and secure (behavioral health curriculum) record. Individuals will be more likely to respond to information that is specific to them that removes misconceptions about oral problems, and helps them to become wise consumers for professional health care. This kind of software program can very easily provide students, teachers, curriculum director, and school system with precise data reports to demonstrate the students' acquisition of knowledge, which results in behavior change to more healthful life styles. The program would not add to the curriculum burden or teachers' time. Even more important is that assessment and outcome measures can be repeated to determine if the message is being learned.

Timely dental visits are as important as any professional healthcare encounter; however, many children do not have their first dental visit

until it is a requirement for school, or when there is a complaint. As children (and their care givers) learn that timely visits are important, and have a level of sophistication about what is expected, they become better consumers of healthcare visits. The benefits to the student, community and school system could be invaluable and far reaching.

## About Smiles

Currently, an interactive Web based software product exists that provides age-appropriate and timely oral health risk assessment and recommendations to individuals and care givers. This tool, MySmileGuide.com, also enhances the benefit of dental visits by providing a "Dental Visit Check List" for better understanding of the findings of the dentist's examination. Enhancement of the patient-provider relationship is a significant desire of consumers. My SmileGuide can also be licensed and customized as a private health curriculum for school districts, health promotion by insurance companies, HMOs, or any community that wants to promote behavioral health and capture precise group data reports (e.g., unions, employers, special needs groups, etc.). Students (anyone) can self-learn through a "behavioral health" curriculum that integrates the behavioral/general health concerns so important to the health and well-being of children and adolescents. Further, data (i.e., grades, outcomes, etc.) are easily managed (by student, classroom, grade, school, etc.) and provided to teachers and administrators by the software without any effort on their part. Group data can be used for determining educational as well as health outcomes and help the school district become more responsive to student needs and curriculum development. 🍷

### ABOUT THE AUTHOR

**Fred Ferguson, DDS** is President of AboutSmiles, Inc., an information and communications company focused on oral health through [www.AboutSmiles.com](http://www.AboutSmiles.com). He is the creator of [www.MySmileGuide.com](http://www.MySmileGuide.com), an innovative, interactive and secure oral health wellness tool that integrates oral and general health. It provides individuals and families with a personal oral health record that even helps with dental visits. Dr. Ferguson is also Professor, Pediatric Dentistry, at Stony Brook University, Stony Brook, New York. Dr. Ferguson can be contacted at [ferguson@aboutsmiles.com](mailto:ferguson@aboutsmiles.com)

### REFERENCES

- Edelstein, B.L., Manski, R.J., & Moeller, J.F. (2002). Child dental expenditures. *Pediatric Dent.* 24(1):11-7.
- Locker, D., Frosina, C., Murray, H., Wiebe, D., & Wiebe, P. (2004). Identifying children with dental care needs: evaluation of a targeted school-based dental screening program. *Journal Public Health Dent.* 64(2):63-70.
- Manski, R.J., Edelstein, B.L., Moeller, J.F. (2001). The impact of insurance coverage on children's dental visits and expenditures, 1996. *J Am Dent Assoc.* 132(8):1137-1145.
- Manski, R.J., Macek, M.D., Moeller, J.F. (2002). Private dental coverage: who has it and how does it influence dental visits and expenditures? *Journal Am Dent Assoc.* 133(11):151-1559.
- Manski, R.J., Moeller, J.F., Maas, W.R. (1999). Dental services: use, expenditures and sources of payment, 1987. *J Am Dent Assoc.* 130(4):500-508.
- Newacheck, P.W., Wong, S.T., Galbraith, A.A., Hung, Y.Y. (2003). Adolescent health care expenditures: a descriptive profile. *J Adolesc Health.* 32(6 Suppl):3-11.
- Surgeon General's Oral Health Report 2000.

**INTRODUCTION** The following is an actual report that the caregiver/parent receives in "My SmileGuide." Jackie is the child and Chris is the parent/caregiver.

**My SmileGuide** PATENT PENDING  
**Jackie Boll**



---

## Snack Contract

Dear Chris

We know that you are concerned about how much sugar and snack foods Jackie eats. Excess sugars and starch foods can increase the risk for several health concerns:

- Risk for tooth decay.
- Risk for obesity and adult type diabetes.
- Poor diets are associated with heart problems and generally poor health as we age.
- Risk for your child not being hungry at family meal times when you prepare nutritious meals.

To help you and Jackie, we provide a way to:

- Lessen the risk for tooth decay.
- Have your child enjoy foods that they like.
- Give you confidence in controlling harmful diet habits.
- Help your child know that some foods can be enjoyed but should be limited.
- Help your child feel that they are helping you.
- Help protect your child's health.

During the week (school days), I feel that there are two times you can give your child snack foods. We suggest that you select one time that is best for you and your child. Limit the time for snacks to 15 -30 minutes and teeth are brushed right after.

- Just after school, as long as there is ample time for them become hungry for dinner.
- After dinner, if your child has finished their dinner to your liking.
- Must include food choices that are OK for you.

We feel that the "Snack Contract" is very helpful once your child can print their name and can begin to tell time.

After you and you child have a **"Snack Contract"**, place it where it can be easily seen.

The "Snack Contract" may present a logo and information about a product of a sponsor (such as a tooth brush) company for you to review. If there is information about a sponsor or product, the information is carried in Your SmileGuide and does not provide your personal information to any individual or company.

➔ **"Snack Contract" for preschool aged child.**  
**"Snack Contract" for school aged child.**

Come back to print out a new contract whenever you need to change your contract.

**Find a pediatric dentist** (specialist for children)  
**Find an orthodontist** (specialist for bite problems)

We will contact you in 12 months to return to My SmileGuide.

More information AboutSmiles