ORAL HEALTH LITERACY TOOL KIT

Oral Health Literacy is the degree to which individuals have the capacity to obtain, process, and understand basic oral health information and services needed to make appropriate oral health decisions. It is at the center of preventing dental diseases and is a critically important, but often overlooked, determinant of oral health.

Nearly half of all American adults—90 million people—have difficulty understanding and using health information.
SECTION I: INTRODUCTION

Oral health is an important component of overall health and good oral health should be maintained throughout a person’s lifespan. Good oral health means not only having all your teeth and having those teeth being free from cavities, decay, or fillings, but also being free from conditions producing chronic oral pain, oral and throat cancers, oral tissue lesions, and other diseases, conditions, or disorders that affect the oral, dental and craniofacial tissues. Good oral health is also having low bacterial counts of dental disease causing bacteria.

The mouth serves as a mirror, reflecting overall general health and well-being throughout life. Changes in the mouth are often the first signs of problems elsewhere in the body, such as infectious diseases, immune disorders, nutritional deficiencies, and cancer. Poor oral health, most of which is preventable, ranges from cavities to cancers and results in needless pain, suffering, disabilities, and even death.

THE MAGNITUDE OF THE PROBLEM

While oral health has improved over the past 50 years with great progress made in understanding oral diseases, a large number of people still continue to experience needless pain and suffering, complications and financial and social costs and challenges as a result of poor oral health. In a study of 291 major diseases and injuries, untreated tooth decay or cavities in permanent teeth was the most common disease worldwide, with oral conditions affecting 3.9 billion people, which is over half of the total world population.

Although oral diseases are for the most part preventable and effective interventions are available both at the community and individual level, oral diseases still affect a large proportion of the New York State population, with disparities in oral health and the utilization of dental services observed.

- Only 1 in 327 infants under 12 months of age enrolled in the Medicaid Program for 90 continuous days received any type of dental services during 2013.
- Two in five preschoolers in Head Start and over half of third graders have a history of tooth decay; among children experiencing dental caries disease, approximately one-third still have untreated caries.
- Approximately 3.4 million NYS children will experience tooth decay by high school graduation.
- The percent of adults visiting a dentist in the past year varies by age, race, ethnicity, education, and income, with New Yorkers with less education and lower incomes, minority individuals, and younger adults all less likely to have had a dental visit.
- Slightly over half of adults 18 to 65 years of age have lost one or more teeth to gum disease or decay, while 3 in 5 New Yorkers 45-64 years of age report losing one or more teeth due to tooth decay or gum disease.
- Approximately 12% of New Yorkers 65 years of age and older have lost all of their teeth.
- Statewide, nearly $453 million was paid in 2010 for dental claims on behalf of Medicaid beneficiaries in the Medicaid Fee-For-Service Program.
Slightly over 20% of fee-for-service payments were for prevention services and nearly 41% were for the treatment of preventable oral diseases.

The most costly service provided was for restorations, accounting for nearly $1 of every $4 spent.

THE IMPORTANCE OF ORAL HEALTH LITERACY

Oral health literacy is the ability to read, understand, and act on oral health information to make appropriate oral health decisions. It is at the center of preventing dental diseases and is a critically important, but often overlooked, determinant of oral health.\textsuperscript{4-13}

- Literacy skills are a stronger predictor of an individual’s oral health status than age, income, employment status, education level, or racial/ethnic group.

- Low oral health literacy is negatively associated with the use of preventive services.

- As many as 88% of adults have difficulty with the way health information is currently presented and most do not have the ability to recognize and understand risk, sort through conflicting information, or act upon information.

- It is estimated that at least 36% of adults in the United States have limited health literacy and nearly half of all American adults - 90 million people - have difficulty understanding and using health information:
  
  - One out of five American adults reads at the 5\textsuperscript{th} grade level or below and the average American reads at the 8\textsuperscript{th} to 9\textsuperscript{th} grade level. Most health materials, however, are written above the 10\textsuperscript{th} grade level.
  
  - Nine in ten adults (9 in 10) have difficulty using everyday health information.
  
  - People from low socioeconomic status are more likely to have low health literacy levels.
  
  - More than 66% of U.S. adults age 60 years and older have inadequate or marginal literacy skills.
  
  - A disproportionate number of minorities and immigrants have literacy problems:
    - 50% of Hispanics
    - 40% of Blacks
    - 33% of Asians

- If health professionals were able to take the time to ask their patients to explain exactly what they understand about their conditions and instructions, they would find many gaps in knowledge, difficulties in understanding, and misinterpretations.

Oral health literacy can be the most important contributor to oral health. Improving a population’s oral health literacy promotes oral health and can prevent a great amount of oral diseases. Understanding what you need to do to “be healthy” and building systems of care and services that are navigable and accessible are fundamental for improving population health. Efforts to enhance population oral health literacy, and primary and secondary prevention are intricately linked and translate primary and secondary prevention
into (1) what we need to know and do to have optimal oral health, and (2) detecting and treating oral diseases early to improve overall outcomes.\(^5\)

**PURPOSE OF THE TOOL KIT**

The purpose of this tool kit is to inform and provide resources on oral health literacy to dental and healthcare professionals and other individuals and programs providing care and services to individuals at risk for dental diseases. Understanding oral health problems and their consequences and the important role that oral health literacy plays will help provide better oral health care and education for at risk populations. The knowledge gained from understanding oral health problems and how best to reach individuals with low oral health literacy will help to provide optimal dental care, education, and support.

This tool kit also serves as a resource for implementation of the New York State Department of Health Prevention Agenda. The Prevention Agenda is the State's five year health improvement plan for 2013 through 2017 and serves as a blueprint for state and local action to improve the health of New Yorkers in five priority areas and to reduce health disparities for racial, ethnic, disability, socioeconomic and other groups who experience them. Various interventions to improve oral health literacy are provided for the five tiers of the Health Impact Pyramid, which is a framework based on the potential reach and relative impact of interventions. Interventions are also displayed by stakeholder groups so that each sector can identify evidence-based or promising practices they can adapt for implementation to address the oral health literacy issues and the needs of at risk individuals in their communities.

**REFERENCES**


SECTION II: ORAL HEALTH LITERACY Q&A

Q: What is Health Literacy?

A: Health literacy is the ability to read, understand, and act on health information or, as defined by the National Library of Medicine and used by Healthy People 2020, “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions”.

Health literacy is the ability to get needed health information and to understand it. It is also about using the information to make good decisions about health and medical care. More than a measurement of reading skills, health literacy also includes writing, listening, speaking, arithmetic, and conceptual knowledge.

Health literacy skills and capacities are mediated by an individual’s education, culture, and language. Equally important are the communication and assessment skills of the people with whom individuals interact regarding health, as well as the ability of the media, the marketplace, and government agencies to provide health information in a manner appropriate to the audience.

Q: What is Oral Health Literacy?

A: Oral health literacy is defined as the degree to which individuals have the capacity to obtain, process and understand basic oral health information and services needed to make appropriate oral health decisions.

There are five important key dimensions for oral health literacy:

1. oral health care system knowledge and utilization
2. basic oral health knowledge
3. market and consumer behavior
4. oral health competencies at the workplace
5. political participation

Health literacy in dentistry is multidimensional, context-specific and is usually influenced by individual literacy skills (i.e., the ability to perform basic reading and numerical tasks), psychosocial dynamics, and various health contexts (i.e., anxiety experienced during a dental encounter, complexity of information being described and/or the ability of the dental provider to effectively communicate).

Based on numerous studies on oral health literacy:

- The General Public:
  - does not understand how to prevent dental caries
  - does not know what fluoride is or what it does
  - does not know what sealants are or what they are used for

- Health Providers:
  - many, including dentists and dental hygienists, do not have a good understanding about how to prevent tooth decay
• most health care providers do not use recommended communication techniques

• The public and health care providers are largely unaware of the basic risk factors and preventive procedures for many oral diseases:
  o The fact that dental caries is both infectious and preventable is not generally known by the public and most health care providers.
  o The relationship between good oral health and well-being is also not well understood.

• Cultural and societal influences can affect oral health literacy:\textsuperscript{4}
  o how people communicate and understand oral health information
  o how people think and feel about their oral health
  o if and how people value oral health
  o when and from whom people seek care
  o how people respond to recommendations for lifestyle changes and treatment

• Culture affects providers:\textsuperscript{4}
  o how providers communicate and understand oral health information
  o how providers think and feel about racial/ethnic/economic groups other than their own
  o how providers value oral health
  o when and from whom people seek care
  o if and how providers respond to evidence-based recommendations and guidelines

• The demands of the healthcare and public health systems can negatively impact on oral health literacy. Individuals need to:\textsuperscript{4}
  o know how to locate and navigate a health facility
  o read, understand, and complete many kinds of forms to receive treatment and payment reimbursement
  o articulate their signs and symptoms
  o know about various types of health professionals and what services they provide and how to access those services

There are also three distinct levels in oral health literacy:\textsuperscript{6}

• **Functional**: basic skills in reading and writing necessary for effective functioning in an oral health context;

• **Interactive**: more advanced cognitive literacy and social skills that enable active participation in oral health care; and

• **Critical**: the ability to critically analyze and use information to participate in actions that overcome structural barriers to oral health.
Oral health literacy is considered to be obtained and processed the following way:\textsuperscript{6}

Q: Why is oral health literacy important?

A: Limited oral health literacy is associated with inaccurate knowledge about preventive measures such as water fluoridation, dental care visits and oral health-related quality of life.\textsuperscript{8} Oral health and other health information are not presented in an effective way, and as a result, affect whether or not individuals follow instructions that would benefit their oral health.

Studies have shown oral health literacy is associated with:\textsuperscript{4, 7-9}

- level of knowledge
- dental care visits: nationally only 44\% of adults with less than basic health literacy skills had a dental visit in the preceding year compared with 77\% of those with proficient health literacy skills
- carries severity
- oral health quality of life
- failed appointments/no shows

The American Dental Association affirmed that limited health literacy is a potential barrier to effective prevention, diagnosis and treatment of oral disease, and that clear, accurate and effective communication is an essential skill for the effective practice of dentistry.\textsuperscript{9}
Q: Does the oral health literacy of parents impact on the oral health status of their children?

A: Many children suffer needlessly from dental caries disease because too many parents lack information about the importance of healthy teeth and gums.\textsuperscript{5}

Oral Health literacy is important in the prevention of early childhood caries (ECC). Parents need both knowledge and skills to prevent ECC.\textsuperscript{10}

- **Knowledge Needed to Prevent ECC**
  - importance of oral health
  - dental caries can be prevented
  - fluorides prevent dental caries
  - know level of fluoride in their drinking water
  - most bottled water is fluoride deficient
  - when to use which fluorides
  - when to take infant/child to dental office

- **Skills Needed to Prevent ECC**
  - how to routinely clean the infant’s mouth
  - how to recognize normal/abnormal teeth (decalcification)
  - how to re-mineralize decalcified surfaces
  - how to inspect the child’s mouth
  - how to administer fluoride appropriately
  - how to limit the type and amount of sweets

Many reasons explain why preventable oral diseases remain widespread in children and why caregivers may not adopt preventive practices that are effective in maintaining oral health. In one study, it was hypothesized that caregiver literacy may be an important explanatory variable in oral health behavior and development of dental caries among children. According to the authors (Miller, et. al.), caregiver literacy is related to other health outcomes among young children and may represent a variable factor for overcoming dental health disparities.\textsuperscript{11}

The specific aims of the Miller study were to investigate the relationship between caregiver literacy and four oral health outcomes:

- oral health knowledge,
- oral health behaviors,
- primary caregivers’ reports of their child’s oral health status, and
- the clinical oral health status of the child as determined by disease severity.

Caregivers of children with mild to moderate treatment needs were more likely to have higher oral health literacy scores on the REALD-30 (Rapid Estimate of Adult Literacy in Dentistry) than those with severe treatment needs. Low caregiver literacy was also associated with poorer child dental health status. This relationship was sustained even after adjustment for race and income as potential confounding variables.\textsuperscript{11}
Q: Who is at risk for low oral health literacy?
A: Populations most likely to experience low oral health literacy are:10

- older adults,
- racial and ethnic minorities,
- people with less than a high school degree or GED certificate,
- people with low income levels,
- non-native speakers of English, and
- people with compromised health status.

Education, language, culture, access to resources, and age are all factors that affect a person's oral health literacy skills.

Q: What is Plain Language?
A: Plain language is communication that users can understand the first time they read or hear it. Plain language is a strategy for making written and oral information easier to understand and is one important tool for improving oral health literacy.12

Key elements of plain language include:

- organizing information so that the most important points come first
- breaking complex information into understandable chunks
- using simple language and defining technical terms
- using the active voice

Language that is plain to one set of individuals may not be plain to others. No one technique defines plain language. Rather, plain language is defined by results - it is easy to read, understand, and use. It is therefore critical to know your audience and have them test your materials before, during, and after they are developed.

Plain writing means writing that is clear, concise, well-organized, and follows best practices appropriate to the subject or field and intended audience. With reasonable time and effort, a plain language document is one in which people can find what they need, understand what they find, and act appropriately on that understanding.12

Speaking plainly is just as important as writing plainly. Many plain language techniques apply to verbal messages, such as avoiding jargon and explaining technical or medical/dental terms.

In March 2011, and subsequently revised in May 2011, the government issued extensive guidelines on the use of plain language that include information on:12

- identifying and writing for your audience
- Organizing the material to meet the readers’ needs
- the use of verbs, nouns, pronouns, and other word issues
- sentence structure, paragraphs, and other aids to clarity
- writing for the web
Q: What is Ask Me 3™?

A: Ask Me 3™ is a patient education program designed by the National Patient Safety Foundation to improve communication between patients and health care providers, encourage patients to become active members of their health care team, and promote improved health outcomes. The program encourages patients to ask their health care providers three questions:

1. What is my main problem?
2. What do I need to do?
3. Why is it important for me to do this?

Studies show that when people understand health instructions they make fewer mistakes when taking medicines or preparing for a medical procedure. They may also get well sooner or be able to better manage a chronic health condition.13

Q: What is the federal government doing to improve oral health literacy?

A: The U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion issued a National Action Plan to Improve Health Literacy14 that seeks to engage organizations, professionals, policymakers, communities, individuals, and families in a linked, multisector effort to improve health literacy. The plan is based on the principles that everyone has the right to health information that helps them make informed decisions and that health services should be delivered in ways that are understandable and beneficial to health, longevity, and quality of life.

The plan contains seven goals to improve health literacy and suggested strategies for achieving them:

1. Develop and disseminate health and safety information that is accurate, accessible, and actionable.
2. Promote changes in the health care system that improve health information, communication, informed decision making, and access to health services.
3. Incorporate accurate, standards-based, and developmentally appropriate health and science information and curricula in child care and education through the university level.
4. Support and expand local efforts to provide adult education, English language instruction, and culturally and linguistically appropriate health information services in the community.
5. Build partnerships, develop guidance, and change policies.
6. Increase basic research and the development, implementation, and evaluation of practices and interventions to improve health literacy.
7. Increase the dissemination and use of evidence-based health literacy practices and interventions.

The Patient Protection & Affordable Care Act of 2010 and the Plain Writing Act of 2010 implemented laws requiring federal agencies to use clear government communication that the public can understand and use. Executive orders E.O. 12866, E.O. 12988, and
E.O. 13563 cover the use of plain language in regulations. These laws and Executive orders show that there has been an attempt to address people’s health literacy ability. The importance of the plain language act is to help the public discover information more quickly, understand better, find information more compelling and to be more likely to take action.12

Several government publications and guidance documents on health literacy have been published to assist in preparing materials for audiences with limited literacy skills:


The National Maternal and Child Oral Health Resource Center has likewise published a guidance document of tips on writing educational oral health materials for audiences with limited literacy that are easy for everyone to understand. Techniques to make writing clearer include:15

- Use:
  - simple words
  - active voice
  - concrete words and examples
  - a positive tone
  - simple layout
- Eliminate unnecessary words
- Create:
  - short sentences
  - short paragraphs
  - short lists - maximum of seven items
  - headings that give information or ask an important question
- Explain technical or unfamiliar terms

Q: **What else is the federal government doing to improve oral health literacy?**

A: Healthy People 2020 provides science-based, 10-year national objectives for improving the health of all Americans, establishes benchmarks, and monitors progress over time in order to encourage collaborations across communities and sectors, empower individuals toward making informed health decisions, and measure the impact of prevention activities. Health literacy is addressed in Healthy People 2020 in Health Communication and Health Technology:16
• **HC/HIT-1**: Improve the health literacy of the population:
  o Increase the proportion of persons who report that their health care provider always gave them easy-to-understand instructions about what to do to take care of their illness or health condition.
  o Increase the proportion of persons who report that their health care provider always asked them to describe how they will follow the instructions.

• **HC/HIT-2**: Increase the proportion of persons who report that their health care providers have satisfactory communication skills:
  o Increase the proportion of persons who report that their health care providers always listened carefully to them.
  o Increase the proportion of persons who report that their health care providers always explained things so they could understand them.
  o Increase the proportion of persons who report that their health care providers always showed respect for what they had to say.

• **HC/HIT-4**: Increase the proportion of patients whose doctor recommends personalized health information resources to help them manage their health.

• **HC/HIT-8**: Increase proportion of quality, health-related websites:
  o Increase the proportion of health-related websites that meet three or more evaluation criteria disclosing information that can be used to assess information reliability.
  o Increase the proportion of health-related websites that follow established usability principles.

• **HC/HIT-9**: Increase the proportion of online health information seekers who report easily accessing health information.

**Q: Who is responsible for improving health literacy?**

**A:** The primary responsibility for improving health literacy lies with public health professionals and the healthcare and public health systems. These entities must work together to ensure that health information and services can be understood and used by all Americans and to engage in skill building with healthcare consumers and health professionals. Adult educators can also be productive partners in reaching adults with limited literacy skills.

**Q: What can be done to improve oral health literacy and oral health status?**

**A:** To get the best oral health outcomes, oral health-related decisions should be based on a clear and correct understanding of relevant oral health information and services. There are many reasons why this often does not happen. People who are not literate in general will likely not be oral health literate. People with cultural backgrounds different from the society-at-large in which they live may have attitudes or customs at odds with conventional oral health practices. People using the oral health care system may not be able to navigate the system and find the right resources. There are many challenges to educate, prepare, and assist people in obtaining the resources they need to make good
oral health decisions. Clear communication in plain language about oral health information and services will help create and promote oral health literacy.\textsuperscript{10}

In making oral health decisions, a person decides what to do based on an understanding of facts, issues, options for action, and consequences. Providers should encourage patients to use Ask Me \textsuperscript{3TM} and help them to understand the answers.\textsuperscript{10}

Good oral health is dependent upon appropriate self-care and the appropriate use of professional care. Both of these actions require the application of accurate knowledge and skills, which are essential elements of oral health literacy. Because most individuals state they receive their oral health information from their dentist, the communication skills, the currency of the dentist's knowledge and the general preventive environment is critical in developing and supporting patient proficiency in caring for his or her oral health.\textsuperscript{18}

A “universal precaution approach” should be utilized by all oral health care employees and practitioners and incorporated into all interactions with oral health care consumers to make it easier for all persons to access, navigate, understand, and use information and services to take care of their oral health and make informed decisions. The “universal precaution approach” does not make any assumptions about the health literacy level of any consumers of oral health care and should incorporate the following tenets:\textsuperscript{19}

- Always ask about an individual’s preferred language to discuss oral health care.
- Perform a learning needs assessment that assists in individualizing communication for each individual’s needs, which includes:
  - educational level
  - readiness to learn
  - learning preferences
  - cultural, developmental and religious considerations
- Communicate and educate using plain language.
- Incorporate “teach-back” and document outcomes.
- Always ask “what questions do you have?” rather than “do you have any questions?” to provide a comfortable, shame-free environment.

Q: What can dental health care professionals do to improve the oral health literacy and oral health status of their patients?

A: Many providers do not know how to recognize when patients do not understand oral health information or printed materials.

Oral Healthcare Professionals can help by:

- Using simple language, short sentences and avoid jargon and technical terms.
- Supplementing instruction with appropriate materials, illustrations, pictures and models or real devices.
- Organizing information so that the most important points stand out and repeat this information.
- Limiting new concepts to a maximum of 3 per visit.
• Allowing patients/parents to explain their story without interruption.
• Asking patients to explain your instructions (teach back method), demonstrate the procedure, or to repeat in their own words the oral health guidance provided.
• Asking questions that begin with “how” and “what,” rather than closed-ended yes/no questions in order to evaluate comprehension.
• Improving the physical environment by using lots of universal symbols.
• Offering assistance with completing forms.

Whenever possible, office and professional staff should ideally reflect the age, culture and ethnic/racial diversity of patients. For Limited English Proficiency (LEP) patients, try to make information available in patients’ primary languages.

Q: **What is the framework for oral health literacy?**

A: The framework for oral health literacy identifies three major areas of potential intervention and illustrates the possible influence on oral health literacy as individuals interact with educational systems, health systems, and cultural and social factors, and suggests that these factors may ultimately contribute to oral health outcomes and costs.⁹,²⁰

**Potential Points for Intervention in the Health Literacy Framework**

<table>
<thead>
<tr>
<th>Health System</th>
<th>Oral Health Literacy</th>
<th>Health Outcomes and Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and Society</td>
<td>ORAL HEALTH LITERACY</td>
<td>Education System</td>
</tr>
</tbody>
</table>

Q: **Is there a way to measure oral health literacy?**

A: There are many tests available to measure health literacy, but relatively few that deal specifically with oral health literacy.²¹

**Oral Health Literacy Instruments include:**
- Reading recognition (Process)
- Vocabulary knowledge (Understand)
- Comprehension (Obtain or Act Upon)

**REALD-30:**
The Rapid Estimate of Adult Literacy in Dentistry is a screening tool used to identify adults with low dental health literacy. The REALD-30 uses a validated word recognition test.¹⁹ Words are chosen based on etiology, anatomy, prevention, and treatment. The words are read aloud by the person whose dental health literacy is
being assessed, and scored based on correctness of pronunciation. Words are arranged in order of increasing difficulty, with scores ranging between 0 (lowest literacy) and 30 (highest literacy).\textsuperscript{16, 17} The REALD-30, unfortunately, only measures reading ability and does not assess the broad context of oral health literacy, which can include oral health-related knowledge, behaviors, and ability to process information from other media.\textsuperscript{20}

- **TOFHiD:**

Test of Functional Health Literacy in Dentistry measures the patients’ ability to read and comprehend items commonly encountered as part of oral health care. It has been shown to be valid and reliable indicators of a patient’s ability to read oral health-related materials. It also includes assessments of the patient’s ability to interpret numerical data.\textsuperscript{21}

**Q:** Is there a way to determine the reading level of printed patient materials?

**A:** Health literature is often written for skilled readers, contains complex words and sentence structures, and attempts to explain difficult scientific concepts. Most individuals, regardless of literacy level, prefer simple, easy-to-read materials.

- Patients with limited reading skills take words literally rather than in context, quickly tire of long passages, and often skip over unfamiliar words.
- Those with low literacy often guess their way through instructions and read so slowly that they miss the context of the information and draw incorrect conclusions.
- Patients with inadequate literacy usually have adequate intelligence and are capable of learning new information if it is presented in a way that links it to information they already know or is personally relevant.\textsuperscript{22, 23}

There are numerous tools (see Resource Section, page 25) available to assess the reading level of printed materials to ensure that they reasonably meet the reading skills of patients or particular populations. Many of these tools are available free of charge at http://www.readabilityformulas.com/freetests/six-readability-formulas.php.

**REFERENCES**


SECTION III: STATE EFFORTS TO PROMOTE AND IMPROVE ORAL HEALTH LITERACY

This section of the toolkit reflects the priorities of the NYS Prevention Agenda with respect to improving the oral health of women of child-bearing age, pregnant women, and infants and children. Oral health interventions by levels of the Health Impact Pyramid and suggested interventions for sectors and stakeholder groups are provided.

THE NEW YORK STATE PREVENTION AGENDA

The New York State Department of Health Prevention Agenda is the State's five year health improvement plan for 2013 through 2017 and serves as a blueprint for state and local action to improve the health of New Yorkers in five priority areas and to reduce health disparities for racial, ethnic, disability, socioeconomic and other groups who experience them. The plan was developed in collaboration with more than 140 organizations from across the State; identifies New York’s most urgent health concerns; and suggests ways in which local health departments, hospitals, health care providers, health plans, community based organizations, advocacy groups, state agencies, and partners from the health, business, education and nonprofit organizations can work together to address and solve urgent health concerns.¹ ²

One of the overarching goals of the Prevention Agenda is to improve health status in five priority areas and reduce racial, ethnic, socioeconomic and other health disparities including those among persons with disabilities. Various types of interventions by the five tiers of the Health Impact Pyramid, which is a framework based on the potential reach and relative impact of interventions, are described. The Prevention Agenda also identifies interventions shown to be effective to reach each goal. These interventions are displayed by stakeholder groups so that each sector can identify evidence based or promising practices they can adapt for implementation to address the specific health issues in their communities.³

THE HEALTH IMPACT PYRAMID

The Health Impact Pyramid was developed by Dr. Thomas Frieden of the CDC and is a 5-tiered framework for public health action that describes the impact of different types of public health interventions to improve health. The most impactful types of public health interventions are at the bottom and the least impactful are at the top. Interventions focusing on lower levels of the pyramid tend to be more effective because they reach broader segments of society and require less individual effort. Implementing interventions at each of the levels can achieve the maximum possible sustained public health benefit.⁴

- Interventions that address socioeconomic factors, such as education and inequality, have the greatest potential impact.
- Changing the context are interventions that make healthy decisions the default decision. Here, people need to go out of their way to avoid the benefits, regardless of their income, level of education, or health insurance status. Law and public policy decisions, such those that regulate private sector behavior and invest in infrastructure, are the public health tools that make these interventions possible.
- Long-lasting protective interventions are clinical interventions that require limited contact, reach people only an individual basis and are extremely effective.

¹ ² ³ ⁴
• **Clinical interventions** are ongoing direct clinical care and usually require a visit to a doctor’s or dentist’s office and include things such as screening and treatment. Although they have preventive benefits, interventions in this category fall short because they reach individuals one at a time and not a population all at once. They also are not always effective and do not benefit people without access to a regular source of health or dental care.

• **Counseling and education** interventions are generally the most common, but least effective types of public health interventions. Educational interventions are based on the idea that people will do healthy things if they know what is good for them and what is not. While these interventions work for some people, they do not for most in the absence of supporting environmental changes.

![CDC Health Impact Pyramid](image)

### THE NYS PREVENTION AGENDA 2013-17 AND ORAL HEALTH LITERACY

Although not specifically listed as a separate goal or objective in the Prevention Agenda, oral health literacy is addressed under two levels of the Health Impact Pyramid (socioeconomic factors and counseling/education) and in a limited number of sectors (media and philanthropy).

**Oral Health Interventions by Levels of the Health Impact Pyramid**

The following table contains an expanded list of recommended oral health literacy-related interventions by levels of the Health Impact Pyramid.

<table>
<thead>
<tr>
<th>Levels of Health Impact Pyramid</th>
<th>Oral Health Literacy Interventions</th>
</tr>
</thead>
</table>
| Counseling and Education        | • Identify and use clear, accurate and effective communication tools on oral health and services written in plain language to help create and promote oral health literacy.  
• Use published guidance documents of tips when writing oral health education materials for audiences with limited literacy that are easy for everyone to understand. |
- Use plain language that users can understand the first time they read or hear it in all oral health counseling and education interactions in order to make the information easier to understand.
- Become familiar with cultural and societal influences that can affect oral health literacy.
- Use the Ask Me 3™ education program in helping individuals to understand oral health facts, issues, options for action, and consequences.
- Promote oral health educational messages and documents that are sensitive to the oral health literacy needs of the target audience and that have been demonstrated to improve knowledge, attitudes, skills and/or behavior related to oral health.
- Conduct targeted health communication and social marketing campaigns on the importance of oral health care, risk factors, and prevention interventions.
- Use social marketing campaigns to improve oral health literacy, knowledge, attitudes and skills.
- Develop, evaluate, replicate and disseminate evidence-based and innovative strategies to improve oral health literacy behaviors and use of dental services.
- Identify and promote educational messages and formats that have been shown to improve knowledge, attitudes, skills and/or behavior on preventing dental caries, improving oral health status, increasing the utilization of dental services and reducing oral health disparities.

<table>
<thead>
<tr>
<th>Clinical Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ensure that health and dental care providers are sensitive to the cultural beliefs and practices of the individuals they serve.</td>
</tr>
<tr>
<td>• Improve the education of dental and health care providers on the impact of oral health literacy on the utilization of services and adoption of healthy oral health practices.</td>
</tr>
<tr>
<td>• Educate providers of health and dental care and supportive services to ensure they have knowledge, skills, tools, cultural competence and motivation to effectively counsel patients about oral health and risk reduction behaviors.</td>
</tr>
<tr>
<td>• Implement Motivational Interviewing to help bring about improvements in oral health.</td>
</tr>
<tr>
<td>• Establish training programs across the health professional spectrum, to include enhancement of patient-centered skills and providers’ cultural competence.</td>
</tr>
<tr>
<td>• Improve the communication skills of dental professionals to facilitate the development and support of patient proficiency in caring for their oral health.</td>
</tr>
<tr>
<td>• Use plain language in interactions with patients in order to make oral health information easier to understand.</td>
</tr>
<tr>
<td>• Use Ask Me 3™ to help patients understand oral health facts, issues, options for action, and consequences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long-Lasting Protective Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enhance oral disease prevention and risk reduction education to reach individuals and health providers with varying levels of oral health literacy.</td>
</tr>
<tr>
<td>• Expand the use of plain language materials to improve oral health literacy.</td>
</tr>
<tr>
<td>• Conduct public health detailing to improve service providers' knowledge, beliefs and skills related to oral health and oral health literacy.</td>
</tr>
<tr>
<td>• Incorporate the “universal precaution approach” in interactions with oral health care consumers to make it easier for all persons to access, navigate, understand, and use information and services to take care of their oral health and make informed decisions.</td>
</tr>
</tbody>
</table>
Changing the Context to Make Individuals’ Decisions Healthy

- Strengthen the emphasis on preventive oral health care and oral health literacy.
- Improve community-based oral disease prevention interventions and use of plain language in all communications.
- Engage and mobilize multiple community sectors in recognizing, discussing and intervening to promote consistent health messages, behaviors and policies.
- Develop and use easy to read enrollment forms for accessing oral health care and 3rd party dental coverage.

Socioeconomic Factors

- Improve the readability of all oral health education materials.
- Promote the use of oral health materials that take into account and are sensitive to the oral health literacy of individuals.
- Improve access to oral health information and care.
- Improve access to oral health education about daily oral health care and healthy foods and eating habits to reduce the prevalence of dental disease.
- Empower individuals to advocate for their own dental health care needs through expanded health education.

Interventions for Oral Health Literacy by Sectors

To achieve excellent oral health outcomes and reduce costs, oral health literacy should be identified as an essential core component within each sector and strategic plans developed and implemented to improve oral health literacy and foster a culture of diversity and cultural competency, inclusion, and effective communication sensitive to the abilities and skills of the communities served. The following figure\(^5\) depicts the inclusion of oral health literacy as an essential component for improving patient outcomes.

Suggested interventions by sector for addressing and improving oral health literacy are presented on the following pages:\(^6\)
<table>
<thead>
<tr>
<th>Interventions by Sector</th>
<th>Recommendations for Oral Health Literacy</th>
</tr>
</thead>
</table>
| **Healthcare Delivery System** | • Establish a core set of oral health competencies and essential skills that dental and non-dental health care professionals need in order to improve their own oral health literacy and to be able to provide quality oral health care information and/or services.  
    • Assure cultural competency training for providers, especially about oral health literacy.  
    • Provide education on best practices in patient-provider communication skills that result in improved oral health behaviors.  
    • Disseminate materials to assist health providers to speak with patients and families.  
    • Implement continuing education programs for dental and medical professionals on how to communicate to increasingly diverse populations about the prevention of dental caries, periodontal disease and oral cancers.  
    • Support social media and mass marketing campaigns to improve oral health literacy and engage persons at risk in the oral health care system.  
    • Launch educational campaigns to improve health literacy and patient participation in oral health care, especially among high-need populations.  
    • Develop and/or use oral health prevention and treatment materials that take into account the diversity of patients and level of literacy.  
    • Implement the use of Ask Me 3™ to improve communication between patients and health care providers and improve health and dental outcomes. |
| **Employers, Business, and Unions** | • Make information about the importance of oral hygiene and dental care available for employees and union members.  
    • Provide dental insurance for employees and their families, including oral health preventive and treatment services.  
    • Support social media and mass marketing campaigns to improve oral health literacy and engage persons at risk in the oral health care system.  
    • Improve efforts to educate parents, children and schools about the importance of oral health. |
| **Media** | • Increase the availability of brochures, posters, videos and educational material promoting oral health that take into account the oral health literacy needs of targeted populations.  
    • Develop effective marketing campaigns that collaborate with Crest, Colgate and the American Dental Association to raise awareness about the importance of oral health.  
    • Implement community-wide public education campaigns on the causes and implications of oral diseases and the effectiveness of prevention interventions.  
    • Develop innovative marketing strategies to promote oral health among low literacy populations.  
    • Establish relationships with magazines, social-media websites and newsletters to feature articles about the importance of oral health, the do’s and don’ts of healthy eating and beverage consumption, and recommendations for dental visits and oral hygiene throughout the life cycle.  
    • Develop strategies to educate stakeholders about the unique oral health challenges faced by individuals with low oral health literacy.  
    • Help government and community-based organizations develop effective marketing campaigns that improve oral health literacy, knowledge, attitudes and skills.  
    • Make increased advertising space and resources available for health promotion/social marketing campaigns.  
    • Develop strategies to educate stakeholders about the unique oral health challenges faced by individuals with limited oral health literacy. |
| **Academia** | • Provide training and continuing education for dental and health care professionals on cultural competency; how to communicate to increasingly diverse populations about the prevention of dental caries, periodontal disease and oral cancers; and best practices in |
Patient-Provider Communication Skills that Result in Improved Oral Health Behaviors

- Establish a core set of oral health competencies and essential skills that dental and non-dental health care professionals need in order to improve their own oral health literacy and to be able to provide quality oral health care information and/or services.
- Encourage educational and training programs to update competencies and standards to enhance oral health communication skills.
- Expand the curriculum and training offered to medical students and primary care residents by including information on oral health and health literacy.
- Incorporate community-based education into dental schools in which students, residents and faculty provide care for members of underserved populations with limited oral health literacy skills.

Community-Based Organizations

- Make recommendations on how best to integrate oral health messages across programs and disseminate information.
- Integrate oral health messages across all providers and programs that serve high risk populations and establish linkages with community dental providers to refer individuals in need of services.
- Use paraprofessionals, such as peer counselors, lay health advisors, and local community health workers, to reinforce oral health education and oral health service utilization.
- Establish community health collaborative groups that can partner with local dental schools and article 28 dental clinics to develop activities that further promote oral health.
- Provide oral health workshops to discuss the importance of good oral health hygiene and oral health practices.
- Conduct periodic community assessments to determine the oral health literacy of the population and high risk groups and oral health care needs.
- Identify and promote educational messages in formats that have demonstrated to improve knowledge, attitudes, skills and behavior related to oral health prevention and service utilization.
- Conduct enhanced outreach to engage high-risk populations in oral health care services and prevention practices.
- Develop community wide guides in plain language on the importance of oral health care and on how to access services.
- Provide dental education and materials to teachers, caregivers and patients that improve oral health literacy.

Other Governmental Agencies

- Implement comprehensive, evidence-based, age appropriate oral health education for children and youth in schools to improve oral health literacy.
- Provide comprehensive, evidence-based oral health education that includes oral health literacy and consumer skills for use of oral health care services for targeted populations.
- Integrate oral health messages across all providers and programs and establish linkages with community dental providers to refer families in need of services.
- Conduct enhanced outreach to engage high-risk populations in oral health care and disease prevention activities.
- Provide education to elected officials on the importance of oral health and the need to increase oral health literacy.
- Develop oral health literacy appropriate materials to educate the public on why oral health is important.
- Provide Head Start and Early Head Start programs with age-appropriate, plain language materials for use with parents to promote oral health care, prevention and risk reduction, oral hygiene and improve oral health literacy.
- Make recommendations on how changes in oral health literacy may be monitored and measured over time.
| **Governmental Public Health** | • Explore ways of improving oral health literacy and cultural competence.  
• Emphasize disease prevention and oral health promotion.  
• Promote collaborations among private and public stakeholders to address oral health literacy.  
• Design and implement oral health literacy campaigns for NYS  
• Enhance the role of non-dental health care providers in addressing oral health and improving oral health literacy.  
• Implement an essential dental health benefit package that includes coverage for oral health preventive and treatment services.  
• Support efforts that promote oral health education and activities through Maternal Child Federal grants.  
• Invest in workforce innovations to improve oral health that focus on core competency development, education and training to allow for the use of all health care professionals in oral health care.  
• Increase the diversity and improve the cultural competence of the workforce providing oral health education and/or oral health care services. |
| **Non-Governmental Public Health** | • Integrate oral health messages across all providers and programs and establish linkages with community dental providers to refer families in need of services  
• Develop and use plain language materials on the importance of oral health and how to access oral health services.  
• Conduct public health detailing to improve health and human service providers' knowledge, beliefs and skills related to improved use of evidence-based clinical and community-based interventions to improve oral health literacy and the use of oral health care services.  
• Streamline and simplify enrollment/renewal forms for health insurance and dental benefits. |
| **Policymakers and Elected Officials** | • Require that all state and federal-funded programs and agencies providing education and/or healthcare undertake oral health literacy and education efforts aimed at individuals, communities and health care professionals that emphasize the causes and implications of oral diseases and the effectiveness of preventive interventions.  
• Develop and implement statewide policies which require oral health promotion and diseases prevention strategies aimed at improving access to care to be included in all state and federal-funded programs and agencies providing education and/or healthcare.  
• Implement Affordable Care Act reforms to assure comprehensive, affordable health insurance that includes coverage for dental health services and the provision of education services that take into consideration of the oral health literacy of enrollees. |
| **Communities** | • Conduct annual community assessments to determine the oral health literacy of dental and health care providers and members of target populations.  
• Integrate oral health messages across all providers and programs that serve the target population, especially individuals with low oral health literacy.  
• Establish community oral health taskforce/coalitions which collaborate with local county health departments in developing an oral health education campaign targeting individuals with low oral health literacy. |
| **Philanthropy** | • Fund the development, evaluation, replication and dissemination of evidence-based and innovative strategies to improve oral health literacy, behaviors and use of preventive dental services among affected populations.  
• Fund training programs and quality improvement collaboration to strengthen oral health literacy efforts and capacity and improve the effectiveness of prenatal and children’s oral health education services. |
REFERENCES


SECTION IV: RESOURCES

DETERMINING THE READING LEVEL OF PRINTED MATERIALS

There are numerous tools, including those described below, available to assess the reading level of printed materials to ensure that they reasonably meet the reading skills of patients or particular populations. Many of these tools are available free of charge at http://www.readabilityformulas.com/freetests/six-readability-formulas.php.

- **Dale-Chall**: Unlike other formulas that use word-length to assess word difficulty, the Dale-Chall Formula uses a count of ‘hard’ words and calculates the US grade level of a text sample based on sentence length and the number of ‘hard’ words. These ‘hard’ words are words that do not appear on a specially designed list of common words familiar to most 4th-grade students. The original Dale-Chall Formula had a list of 763 non-hard or familiar words; the revised Dale-Chall Formula was expanded in 1995 to 3,000 familiar words. The New Dale-Chall Formula is deemed an accurate readability formula since it is based on the use of familiar words, rather than syllable or letter counts. Reading tests show that readers usually find it easier to read, process and recall a passage if they find the words familiar. The Dale-Chall is ideal to gauge the readability of more advanced texts, i.e., fourth grade and above.

- **The Flesch Reading Ease Readability Formula**: Flesch Reading Ease Formula, which was developed in 1948, is considered one of the oldest and most accurate readability formulas. Outputs range from 0 to 100, with a higher score indicating easier reading. An average document has a Flesch Reading Ease score between 6-70. As a rule of thumb, the best text should contain shorter sentences and words.
  - scores of 90-100 are able to be understood by an average 5th grader
  - scores of 60-70 can be understood by 8th and 9th grade students
  - scores of 0-30 can be understood by college graduates

  The Flesch Reading Ease Formula is primarily used to assess the difficulty of a reading passage written in English.

- **The Flesch-Kincaid Grade Level Readability Formula**: The Flesch Grade Level Readability Formula improves upon the Flesch Reading Ease Readability Formula, is inbuilt within the MS-Word application, and scores text up to a grade 12 reading level (any grade level above 12 is reported as Grade 12). A score of 7.4 indicates that the average student in the 7th grade can understand the text.

- **The Gunning’s Fog Index Readability Formula** (or FOG Index) is similar to the Flesch scale in that it compares syllables and sentence lengths. A Fog score of 5 is readable, 10 is hard, 15 is difficult, and 20 is very difficult. Based on its name, 'Foggy' words are words that contain 3 or more syllables.

- **SMOG Readability Formula**: The SMOG Readability Formula estimates the years of education a person needs to understand a piece of writing and was created as an improvement over other readability formulas. SMOG is frequently presented as an acronym for Simple Measure of Gobbledygook, and is a popular method to use to determine the literacy level of printed health materials.

- **Automated Readability Index**: The Automated Readability Index (ARI) is a readability test designed to assess the understandability of a text. Like other popular readability formulas, the
ARI formula outputs a number which approximates the age needed to comprehend the text. For example, if the ARI outputs the number 20, this equates to a student in college; a number 10 means students in the 4th grade should be able to comprehend the text.

- **The Fry Graph Readability Formula:** This is one of the more popular reading formulas and uses a graph-based test to determine readability through high school. In 1977, the graph was extended to test through the college years as an individual’s vocabulary continues to grow during college years, yet reading ability varies depending on the individual and the subjects taught.

- **The Powers-Sumner-Kearl Readability Formula:** This is considered to be one of the best formulas to use to calculate the US grade level of a text sample based on sentence length and number of syllables. The formula is suited for primary age children (age 7-10) and usually is not considered ideal for children above the age of 10 years.

- **The FORCAST Readability Formula:** Sumner and Kearl recalculated the Gunning FOG Index Formula to develop FORCAST. The FORCAST Readability Formula is the only test not designed for running narrative and is considered perfect for evaluating adult questionnaires, forms, multiple choice tests, applications, entrance forms, job material and so on that are not in narrative form. It is not prescribed for assessing primary age reading materials. The FORCAST readability formula focuses on functional literacy and ignores both the number of sentences and their lengths. The basis of the FORCAST formula has to do with the number of single-syllable words present in the material being evaluated.

- **The SPACHE Readability Formula:** This is a vocabulary-based formula widely used in assessing primary through fourth grade materials. The formula calculates the grade level of a text sample based on sentence length and number of unfamiliar words and considers “unfamiliar words” as words that 3rd grade and below do not recognize.

- **PEMAT:** The Patient Education Materials Assessment Tool is used to evaluate and compare the understandability and actionability of patient education materials. Understandability is when consumers of diverse backgrounds and varying levels of health literacy can process and explain key messages. Actionability is when consumers of diverse backgrounds and varying levels of health literacy can identify what they can do based on the information presented.

Using an inventory of both desirable and undesirable characteristics of patient education materials, the PEMAT produces separate numeric scores for understandability and actionability.

- **PEMAT-P** for printable materials (e.g., brochures, pamphlets, PDFs), consists of 17 items measuring understandability and 7 items measuring actionability.

- **PEMAT-A/V** for audiovisual materials (e.g., videos, multimedia materials), consists of 13 items measuring understandability and 4 items measuring actionability.


Validated Health Literacy Questions for Patients

1. How sure are you that you can complete medical forms correctly when you fill them out by yourself?
   - Not at all sure
   - A little sure
   - Somewhat sure
   - Quite sure
   - Extremely sure

2. How sure are you that you can follow the written instructions on a bottle of Tylenol or aspirin?
   - Not at all sure
   - A little sure
   - Somewhat sure
   - Quite sure
   - Extremely sure

3. How often do you have someone help you read printed materials that your health care provider gave you?
   - Never have someone help
   - Occasionally have someone help
   - Sometimes have someone help
   - Often have someone help
   - Always have someone help

Tells Us What You Think

How we interact and talk with you is an important part of your total dental health care. We hope you feel comfortable with all the staff and are able to talk with any one of us about your dental health concerns or dental treatment or to ask questions.

Please circle the way the dentist, dental hygienist and dental staff speak with and treat you.

All of your responses are completely confidential, so please be open and honest.

Thank You.

<table>
<thead>
<tr>
<th>The dentist/dental hygienist</th>
<th>1 Poor</th>
<th>2 Fair</th>
<th>3 Good</th>
<th>4 Very Good</th>
<th>5 Excellent</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeted me in a way that made me feel comfortable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Treated me with respect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Showed interest in my ideas about my oral health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Understood my main health concerns</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Paid attention to me (looked at me, listened carefully)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Let me talk without interruptions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Gave me as much information as I wanted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Talked in terms I could understand</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Showed me how to do oral hygiene procedures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Had me demonstrate how to do the oral hygiene procedures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Checked to be sure I understood everything</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Encouraged me to ask questions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Involved me in decisions as much as I wanted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Discussed next steps, including any follow-up plans</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Showed care and concern</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>Spent the right amount of time with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>NA</td>
</tr>
</tbody>
</table>

The dental staff

| Treated me with respect | 1 | 2 | 3 | 4 | 5 | NA |

Communication assessment tool. (Courtesy of Gregory Makoul, PhD, Chicago, Ill. Copyright 2004.)
TOOLS FOR ORAL HEALTH LITERACY


This is a free on-line free training program developed by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) to improve patient-provider communication skills by increasing awareness and knowledge of the three main factors contributing to effective health communication:

- **Health literacy:** address low health literacy and bridge knowledge gaps that can prevent patients from adhering to prevention and treatment protocols.

- **Cultural competency:** acknowledge cultural diversity and deal sensitively with cultural differences that affect the way patients navigate the health care system.

- **Limited English proficiency:** accommodate low English proficiency and effectively use tools that do not rely on the written or spoken word.


• **Gateway to Health Communication & Social Marketing Practice**

Health communication and social marketing share a common goal of creating social change by changing people's attitudes, external structures, and/or modifying or eliminating certain behaviors. Products, programs or interventions are created and used to promote health changes in individuals and communities.

**Health communication** uses multiple behavioral and social learning theories and models to advance program planning and identify steps to influence attitudes and behavior. CDC and the National Cancer Institute define health communication as the study and use of communication strategies to inform and influence individual decisions that enhance health.

Health communication can take many forms, both written and verbal. Essential to effective health communication is some variation on these steps:

- Review background information to define the problem (What's out there?)
- Set communication objectives (What do we want to accomplish?)
- Analyze and segment target audiences (Who do we want to reach?)
- Develop and pretest message concepts (What do we want to say?)
- Select communication channels (Where do we want to say it?)
- Select, create and pretest messages and products (How do we want to say it?)
- Develop promotion plan/production (How do we get it used?)
- Implement communication strategies and conduct process evaluation (Getting it out there)
- Conduct outcome and impact evaluation (How well did we do?)

**Social marketing** is about identifying the specific target audience segment(s), describing the benefits being offered, and creating interventions that influence or support desired behavior change. Social marketing uses marketing principles to influence human
behavior to improve health or benefit society and incorporates the Four “P”s of marketing into program planning and looks at the provision of health services from the viewpoint of the consumer.

The "Four P's of Marketing" are:

**PRODUCT** is the desired behavior you are asking your audience to do and the associated benefits that support behavior change.

**PRICE** is the cost of overcoming barriers in making the desired behavior change.

**PLACE** is where the audience will perform the desired behavior, where they will access the program products and services, or where they are thinking about your issue.

**PROMOTION** stands for communication messages, materials, channels, and activities that will effectively reach your audience.

Sometimes there is a fifth "P" – Policy. **POLICY** is the laws and regulations that influence the desired behavior, such as requiring community water systems to obtain approval from the DOH prior to discontinuing fluoridation, or requiring all child healthcare providers to include caries risk assessments as a standard of care.

http://www.cdc.gov/healthcommunication/healthbasics/whatishc.html

**GUIDELINES AND RESOURCES FOR ORAL HEALTH MATERIALS TO IMPROVE ORAL HEALTH LITERACY**

**The Three A's for Oral Health Information:**

Oral health information should be:

- **Accurate:** Using health literacy best practices does not mean "dumbing-down" the information or distorting the science. Health literacy practices ensure that the information is presented accurately and in ways that people can understand.

- **Accessible:** Just because you create oral health information doesn't mean people see it or can use it. An often over-looked aspect of health literacy is the issue of access.
  - How are you presenting your information?
  - Is the font large enough?
  - Do you use sub-headings and bullets to chunk the information?
  - Do the images match the text?
  - Where are you distributing your information?
  - How will people who aren't actively looking for your information be exposed to it?

Even in the digital age where posting information on the Web is easy and low-cost, the Web is not always the best way to reach "the general public." Multiple channels and formats are best, and it is your responsibility to ensure the information you created reaches the public in a useable format.

- **Actionable:** It is human nature to want to tell people all we know about something, but that doesn’t necessarily help. In the health field, we typically want people to start or stop doing something, or do more or less of something. We often spend our resources
giving people background information instead of recommendations. Some background information may be important, but make sure you provide actionable information so the people you want to reach can do something with the information provided.

http://www.cdc.gov/healthcommunication/

Creating Oral Health Materials:

Creating oral health materials that lead to increased knowledge or changes in beliefs, attitudes, or behaviors requires that the messages are clear, relevant, and appropriate for the intended audience. Following are tips for deciding what to say and how to say it so that the audience will understand, remember and act on the information.

- Give the most important information first
- Limit the number of messages to no more than 3 or 4 main ideas per document
- Tell audiences what they need to know and clearly state the actions you want your audience to take
- Tell your audience what they will gain
- Choose your word carefully
  - Use words with one or two syllables when you can
  - Communicate as if you were talking to a friend
  - Respect and value your audience and do not talk down or preach
  - Use a tone that encourages the audience
  - Limit the use of jargon, technical, or scientific language
  - Choose words with a single definition or connotation
  - Be consistent with word use
  - Use analogies familiar to your audience and references that your audience will recognize when making comparisons
  - Avoid unnecessary abbreviations and acronyms
  - Limit the use of statistics and use general words like most, many and half
  - Limit the use of symbol
  - Limit the use of quotation marks

The following resource (http://www.cdc.gov/healthliteracy/pdf/simply_put.pdf) provides a guide for creating easy-to-understand materials:
Developing Effective Print Materials for Low-Literacy Intended Audiences:

Present oral health messages in a more easily understood way by making specific choices about writing style, vocabulary, typography, layout, graphics, and color. These choices affect whether the message is read and how well intended audiences with low literacy skills understand it. A common misconception is that low-literacy materials are synonymous with low-reading-level materials. That is, if you avoid polysyllabic words and long sentences, you’ve met the need. In fact, low literacy encompasses more than reading level, and meeting this need requires that you complete the same planning and research steps and adhere to the same fundamental communication principles that you would use for any other health communication material. The difference is that certain aspects of the process must be done with particular rigor.

The following list includes pointers for designing materials for low-literacy intended audiences:

- **Include only the information needed to convey the behavioral objective and support the intended audience in attaining it.**
  - Limit the content because poor readers struggle with every word, often reading letter by letter.
  - Keep the piece short and focused and exclude concepts and content points that fall outside of the category of "information the reader must know."
  - Do not include information just because it may interest the reader.

- **Organize topics in the order the reader will use them.** Less skilled readers have particular difficulty connecting topics and processing the flow of an argument.

- **Present the most important points first and last.** Studies show that intended audiences with limited literacy skills remember these best.

- **Group information into chunks, with a clear, ordered format.** Use steps (1, 2, 3), chronology (by time of day), or topical arrangement (main heading, subheadings), depending on how the person will use the information.

- **Respect the intended audience.** This is especially critical when designing low-literacy materials. The low-literacy population encompasses people of different ages, genders, cultures, and socioeconomic status, including highly intelligent adults with significant life experience who just cannot read very skilfully.

- **Follow these guidelines.**
  - Use short sentences and paragraphs.
  - Write in the active voice.
  - Clarify concepts with examples.
  - Avoid jargon, technical terms, abbreviations, and acronyms.
  - Include a glossary if necessary (but define key words within the sentence).
  - Give the reader an action step he or she can take right away (e.g., call your clinic, send in a request); this tends to improve retention of information and encourages the reader to begin practicing the desired behaviors immediately.
Use graphics and design to make the reader’s job easier and to increase comprehension and recall; make sure they support, rather than compete with, the text.

Don’t assume that pictorial signs, symbols, and charts are more effective than words for low-literacy intended audiences. Some experts suggest that “universal” symbols, such as a stop sign, an arrow, or a big black "X," usually test well. Don’t confuse this intended audience with large, busy matrices—for example, functionally illiterate individuals have trouble using a bus schedule.

Avoid using all capital letters; they are more difficult for everyone to read, particularly so for less skilled readers.

Use captioned illustrations that are relevant to the subject matter and model the desired behavior.

Use headings and subheadings to convey a message and help reinforce the flow and content.

Use bullets and other graphic devices to highlight key messages and to avoid large blocks of print.

Avoid right-justified margins.

- **Pretest all materials with the intended audience.** This is absolutely crucial with low-literacy intended audiences. Writers and communication specialists are highly literate by definition. It is impossible for a person who reads well and has a good vocabulary to guess what people without those skills will understand. For example, an FDA brochure on food safety used the key message, "Keep hot foods hot, keep cold foods cold." Pretesting showed that low-literacy readers had no idea what they were supposed to do based on this message, nor did they understand what foods fell into the hot and cold categories.


**Clear Communication Index:**

The CDC Clear Communication Index (Index) is a new research-based tool to plan and assess public communication materials. The 4 questions and 20 items in the Index are drawn from the scientific literature in communication and related disciplines. The items represent the most important characteristics to enhance clarity and aid people’s understanding of information. The Index provides a numerical score on a scale of 100 so that developers of communication products can objectively assess and improve materials based on the best available science.

The Index assesses materials in seven areas.

- main message and call to action
- language
- information design
- state of the science
- behavioral recommendations
- recommendations
- numbers
- risk

A Way with Words: Guidelines for Writing Oral Health Materials for Audiences with Limited Literacy

About 90 million adults (approximately half of the population) in the United States read at a 5th- to 8th-grade level. These adults have difficulty reading most printed materials distributed by health organizations. According to a report from the Institute of Medicine, individuals with limited literacy usually have limited health literacy, defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”

This document provides tips that can help you write educational oral health materials that are easy for everyone to understand. Try these techniques to make your writing clearer.

Use

Simple words. For example, instead of “smoking cessation,” use “quitting smoking” or “stopping smoking.” Instead of “monitor,” use “watch for” or “look for.” Instead of “be aware,” use “know.”

Active voice. For example, instead of “cleaning your infant’s gums should be started before her teeth come in,” use “start cleaning your infant’s gums before her teeth come in.”

Concrete words and examples. For example, instead of “good oral health care is important to the health of teeth and gums,” use “for healthy teeth and gums, brush twice a day and floss once a day. Also, visit the dentist every 6 months.”

A positive tone. For example, instead of “adults with gum disease should brush and floss more often,” use “if you have gum disease, brushing and flossing often can help make your gums healthier.”

A simple layout. For example, use an uncluttered layout with lots of white space.

Eliminate

Unnecessary words. They make writing harder to understand and follow.

Create

Short sentences, written mostly in subject-verb-object order. However, you also need to vary your sentence style; or the writing won’t sound smooth. Try to create a flow from one sentence to the next. Keep sentences under 15 words.

Short paragraphs, with one major idea that comes in the first sentence. Try to create a flow from one paragraph to the next. Keep your paragraphs under 100 words.

Short lists with a maximum of seven items. Bullets, numbers, or letters can all be used.

Headings that give information or ask an important question. For example, use “What Is Tooth Decay?” or “When Should a Child First Visit the Dentist?”
Explain

Technical or unfamiliar terms. If you have to use technical terminology, try to place it after simpler terminology. For example, instead of “fluoridated toothpaste,” use “toothpaste with fluoride.” Or consider following the term with a guide to how it is pronounced (e.g., “fluoride [floor-ide]”). People with limited literacy may be able to understand the word if they see how to pronounce it.

These are a few simple tips to make the educational oral health materials you produce easier to read. The result? People who read your materials will be more likely to understand the messages they need to improve their oral health.

Resources


This fact sheet has been produced by Ruth Barzel of the National Maternal and Child Oral Health Resource Center, supported under its grant (1H7MC00048) from the Maternal and Child Health Bureau, Health Resources and Services Administration.


Permission is given to photocopy this publication. Requests for permission to use all or part of the information contained in this publication in other ways should be sent to

National Maternal and Child Oral Health Resource Center
Georgetown University
Box 571272
Washington, DC 20057-1272
Telephone: (202) 784-9771
Fax: (202) 784-9777
E-mail: info@macoralhealth.org
Web site: http://www.macoralhealth.org

**Readability Checklist Example**

**Content is Well-planned**
- □ Does the content have only 3 to 5 main points?
- □ Does the content tell patients only what they need to know to do the desired action?
- □ Are the key points in the order readers expect to find and use them?
- □ Is the content appropriate for the audience’s age and culture?

**Content is Conversational**
- □ Does the content use mostly one- and two-syllable words?
- □ Are sentences short and clear?
- □ Does the content avoid confusing jargon?
- □ Are acronyms used sparingly and spelled out on the first use so they make sense to the patient?
- □ Is the content written in the active voice?
- □ Is the content written at or below a 6th to 8th grade level?

**Fonts and Styles are Consistent**
- □ Is the body of the text written in at least 12-point serif font?
- □ Does the content have no more than 3 different font styles?
- □ Is the format consistent throughout?
- □ Is the text in upper and lower case instead of ALL CAPITALS?

**Layout is Easy to Read**
- □ Is the format clean and simple?
- □ Does the text cover no more than 50% of the space?
- □ Does the content have headings and subheadings?
- □ Does the content use bulleted lists?
- □ Are illustrations easy to recognize? Do they relate to the text? Do they make sense to the patient? Are they age- and culturally-appropriate?
- □ Is the document accessible to people with disabilities of all kinds?
# Health Literacy Tools for Developing Print Materials

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
</table>
Over the last several years, the use of Facebook, YouTube, Twitter and other social media tools to disseminate health messages has grown significantly, and continues to trend upward. Using social media tools has become an effective way to expand reach, foster engagement and increase access to credible, science-based health messages. Integrating social media into health communication campaigns and activities allows health communicators to leverage social dynamics and networks to encourage participation, conversation and community – all of which can help spread key messages and influence health decision making. Social media also helps reach people when, where and how they want to receive health messages; it improves the availability of content and may influence satisfaction and trust in the health messages delivered. Likewise, tapping into personal networks and presenting information in multiple formats, spaces, and sources helps to make messages more credible and effective.

The Health Communicator's Social Media Toolkit

This toolkit was designed by CDC to provide guidance and share lessons learned in more than three years of integrating social media into CDC health communication campaigns, activities and emergency response efforts. Information on using social media includes determining which channels best meet communication objectives, creating a social media

---

**Health Literacy Tools for Creating Websites**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eichner J, Dullabh P (2007). <em>Accessible Health Information Technology (Health IT) for Populations With Limited Literacy: A Guide for Developers and Purchasers of Health IT</em> <a href="http://healthit.ahrq.gov/sites/default/files/docs/page/literacy_guide.html">http://healthit.ahrq.gov/sites/default/files/docs/page/literacy_guide.html</a></td>
<td>Evidence-based guide for website developers includes general recommendations for improving accessibility of all health IT and specific recommendations that address the needs of users with limited literacy</td>
</tr>
<tr>
<td>Usability.gov <a href="http://www.usability.gov/guidelines/">http://www.usability.gov/guidelines/</a></td>
<td>Includes usability guidelines established by the federal government</td>
</tr>
<tr>
<td>Web Accessibility Initiative <a href="http://www.w3.org/WAI/users/overview.html">http://www.w3.org/WAI/users/overview.html</a></td>
<td>Includes strategies, guidelines, and resources to help make the web accessible to people with disabilities</td>
</tr>
</tbody>
</table>
strategy, how to develop materials for each venue, tips on creating great campaigns and best practices. Social media covered includes:

- Buttons and Badges
- Image Sharing
- Content Syndication
- RSS Feeds
- Podcasts
- Online Video Sharing
- Widgets
- eCards
- Mobile Technologies
- Twitter
- Blogs
- Facebook


TOOLKITS ON ORAL HEALTH LITERACY


Toolkit for Making Written Material Clear and Effective

This toolkit is a health literacy resource from the Centers for Medicare and Medicaid Services (CMS) and is an 11-part resource that provides a detailed and comprehensive set of tools to help make written material in printed formats easier for people to read, understand, and use. http://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/index.html

Toolkit Part 1: About this Toolkit and how it can help you
Toolkit Part 2: Using a reader-centered approach to develop and test written material
Toolkit Part 3: Summary List of the "Toolkit Guidelines for Writing and Design"
Toolkit Part 4: Understanding and using the "Toolkit Guidelines for Writing"
Toolkit Part 5: Understanding and using the "Toolkit Guidelines for Graphic Design"
Toolkit Part 6: How to collect and use feedback from readers
Toolkit Part 7: Using readability formulas: A cautionary note
Toolkit Part 8: Will your written material be on a website?
Toolkit Part 9: Things to know if your written material is for older adults
Toolkit Part 10: "Before and after" example: Using this Toolkit’s guidelines to revise a brochure
Toolkit Part 11: Understanding and using the "Toolkit Guidelines for Culturally Appropriate Translation"
SAMPLES OF LOW LITERACY ORAL HEALTH MATERIALS

Clean your baby's teeth with a clean, soft cloth or a baby toothbrush.

Think Teeth
Every Step of The Way

Give your baby healthy teeth from the start.

It's easy!

- Gently brush baby’s teeth twice a day. Use a tiny amount of fluoride toothpaste.
- Take your baby to the dentist by her first birthday. Continue regular check-ups as recommended.
- Tooth decay is caused by bacteria. Your baby can “catch” the bacteria from you.
  - Keep your mouth healthy.
  - Don’t share cups or spoons.
- Put only water, milk or formula in bottles or sippy cups.
- Don’t put your baby to bed with a bottle or sippy cup.
- Limit sweet snacks and sugary drinks, including juice.

Medicaid and CHIP cover children’s dental services, such as teeth cleanings, check-ups, x-rays, fluoride, dental sealants and fillings. Your child could be eligible!

To enroll your child or find a dentist, call 1-877-KIDS-NOW or visit InsureKidsNow.gov

For more information about new, affordable health insurance options for the whole family through the Health Insurance Marketplace, visit HealthCare.gov.
LIFT THE LIP
KEEP YOUR BABY CAVITY FREE

CLEAN BABY'S MOUTH
• Begin cleaning baby's gums and tongue the day after baby comes home from the hospital. Use a clean, damp washcloth.
• When baby is about one year, clean teeth with a soft toothbrush and a smear of fluoride toothpaste.

LIFT BABY'S LIP ONCE A MONTH
• Look for early cavities – white lines near the gum line.

UNIVERSITY OF MARYLAND
Think Teeth
See Your Dentist
While You Are Pregnant

It’s important to visit the dentist while you are pregnant. Why? Your oral health is important for your growing baby’s health.

- Tooth decay is caused by bacteria. Your baby can “catch” the bacteria from you.
- Keeping your teeth and gums healthy now can help protect your baby’s teeth later.
- Here’s how you can prevent dental disease:
  - Brush and floss daily, and use fluoride toothpaste.
  - Eat a healthy diet.
  - Visit the dentist. Dental care during pregnancy is safe – this includes x-rays and local anesthesia.

Schedule a check-up today. If you need help finding a dentist, ask your doctor. Be sure to tell your dentist or hygienist that you are pregnant.

You could be eligible for free or low-cost health coverage through Medicaid. Some states have dental coverage for pregnant women.

To learn more, call 1-877-KIDS-NOW or visit InsureKidsNow.gov.

For more information about new, affordable health insurance options for the whole family through the Health Insurance Marketplace, visit HealthCare.gov.

NOTES:

CMS Product No. 11684
Baby Teeth are Important

Healthy baby teeth help your child to sleep, eat and talk.

Tooth decay in baby teeth may lead to...

- Problems sleeping, chewing and talking
- Infection and illness
- Difficulty learning
- Learn more at http://www.health.state.ny.us/publications/0824.pdf

The project was made possible by funding from the US Department of Health and Human Services, Health Resources Services Administration.
Pregnancy and Dental Care

Continue to see a dentist and dental hygienist for check-ups even when you are pregnant.

Having healthy teeth and gums when you are pregnant will help keep you healthy.

There are germs in your mouth that cause tooth decay. These germs can be passed to your baby.

Moms with healthy teeth and gums are less likely to pass these germs to their babies.

Learn more at http://www.health.state.ny.us/publications/0824.pdf

This project was made possible by funding from US Department of Health and Human Services, Health Resource Services Administration.
How to Care for Your Child’s Mouth

1. **Clean.** Clean your baby’s gums before teeth come in. Once teeth come in, brush with fluoride toothpaste twice a day, every day, especially before bed.

2. **Visit dentist.** First visit by first birthday. To find a dentist, call 1-855-45-TEETH (85336).

3. **No bottle in bed.** Do not lay your baby down with a bottle at nap time or at night.

4. **Give milk or water.** Give your child milk or water, do not give your child drinks with added sugar, such as soda, juice, or punch.

5. **Do not share food, spoons, or forks.** If you put food or eating utensils in your mouth, do not put them in your child’s mouth to avoid spreading germs that can cause cavities.

Find a dentist and schedule an appointment for your child today.

Learn more about caring for your child’s mouth.

Spread the word, let others know it is important to care for their child’s mouth.

www.HealthyTeethHealthyKids.org
1-855-45-TEETH (85336)

Healthy Teeth Healthy Kids

Healthy mouths are important—even for babies and young children.

- Poor oral health can cause your child to have problems eating, speaking, and learning.
- Baby teeth hold space for adult teeth.

A healthy mouth is necessary for overall health.

- Cavities can cause your child pain and serious health problems.
- You can help prevent cavities by taking care of your child’s mouth every day.

Dental Health Coverage

Maryland Healthy Smiles Dental Program (Maryland’s Medicaid Dental Program) covers dental visit costs for pregnant women and children up to age 20. For more information, go to www.HealthyTeethHealthyKids.org or call 1-855-45-TEETH (85336).

Keep your child’s mouth healthy; give your child a healthy mouth for life.
Healthy teeth start at home. There are lots of simple things you can do to help your young child learn to take good care of his mouth—especially his first (baby) teeth. Use these ideas to get started.

**Tooth Together Time!**
Brushing at least twice a day—after breakfast and before bed—is one of the best ways to take care of teeth. Help your child become a Super Brusher with these tips:

**My Turn, Your Turn:** Preschoolers are still developing the muscles and skills they need to brush on their own. Help your child brush his teeth, and then ask him to take the lead and imitate your actions. Have fun as you remind him to rinse and spit out the toothpaste.

**Round and Round:** Show your child how to brush in gentle circles, remembering to include the front, back, inside, and outside of his teeth (even the ones that are hard to reach!), and how to open up to brush the tops of teeth.

**Brush and Groove:** Your child should brush for about two minutes. Play music or sing “The A-B-C Song” to your child to help him keep track of the time.

**THAT’S THE TOOTH!**
Children should grow a total of 20 baby teeth. These teeth usually start to come in when children are 6 to 10 months old, and finish coming in by age 3.
**Tools of the Trade**

These two trusty tools help keep your child’s teeth (and body!) healthy for a lifetime:

**Toothbrush**
- Look for children’s toothbrushes that have small heads and soft bristles. Add to your child’s interest by letting her choose the color.
- Keep germs away by rinsing your child’s toothbrush after brushing. Stand it up to help it air dry.
- Change your child’s toothbrush about once every three months. If the bristles are no longer straight and firm, or if your child has been sick, change the toothbrush right away.

**Toothpaste**
- Help your child learn to use the right amount by putting toothpaste on her brush (just a smear for children under age 2; a pea-size amount for children ages 2 to 5).

**Infant and toddler:**
- Use a soft washcloth to clean your baby’s gums and teeth every day, as soon as they come in.
- Schedule your child’s first dental visit within six months after his first tooth, or by his first birthday.
- Soothe your teething child by gently rubbing her gums with a clean finger, cold washcloth, or chilled teething ring.

**Pre-schooler:**
- Remember to help your child brush his teeth.
- Set up regular dental visits. There you can also find out more about common concerns, such as thumb-sucking and mouth injuries.

**School-age child:**
- Keep track of your child’s brushing and flossing routines. Help out when needed.
- During your child’s regular dental visits, get advice about caring for baby teeth or new, permanent teeth. Feel free to ask for advice on issues from using mouth guards for sports to chewing gum with xylitol (a sugar substitute).
SNACK TIPS

#1
Be sure your child brushes, or at least rinses, his teeth after snacks and after drinks such as milk or juice.

#2
Space your child’s meals and snacks to give his mouth time to wash away food.

strong teeth, strong bodies

Foods that are good for teeth can also give your growing child the energy she needs to learn and play.

Healthy Choices
Talk to your child about “anytime” and “sometime” foods.

- “Anytime” foods have lots of nutrients and can be eaten any time. They include fresh fruit (apples, pears); fresh vegetables (carrots, celery); low-fat cheese; water. Encourage your child to “eat a rainbow” of colorful fruits and vegetables.

- “Sometime” foods are usually sugary, salty, or fatty. They should be eaten only once in a while. “Sometime” foods include sticky sweets (caramels, chewy fruit “snacks”); sugary or acidic snacks and drinks (sour candy, sports drinks); starchy snacks (chips, cookies).
Good Questions for Your Good Health

Ask Me 3™

Every time you talk with your doctor, nurse, or pharmacist, ask these questions

1. What is my main problem?
2. What do I need to do?
3. Why is it important for me to do this?

The more you know about your health, the better

Ask Me 3™ is an educational program provided by the Partnership for Clear Health Communication at the National Patient Safety Foundation™

www.npsf.org/askme3
abscess: sore, wound, infection
annual: yearly, every year, once every year, once a year, each year
annually: yearly, every year, once every year, once a year, each year
anterior teeth: front teeth
bacteria: germ
bruxism: clinching and/or grinding teeth
buccal: side of mouth, inside cheek
calculus: hard crusty deposit on teeth
caries (dental): cavities, tooth decay, holes in teeth
chronic: constant, never ending, does not go away, long term, lasting a long time, long-lasting
chronic disease: long-lasting disease, disease that lasts for years
chronic health condition: constant health problem, something that effects your health for a long period of time
cleft lip and/or palate: harelip, birth defect(s) that affect the upper lip and roof of the mouth
concentration: strength, focus
consume: eat, drink, use up
contagious: catching, spreading, able to make others sick, spreadable, a disease that can be spread from one person to another; someone who is sick and might make you sick too, sick
crossbite: upper teeth are biting inside the lower teeth
crown (gold, porcelain or stainless steel): cap that covers tooth (stainless steel most often used on "baby teeth")
deciduous tooth: baby tooth
dental caries: cavities, tooth decay, holes in teeth
dental sealant (pit and fissure sealant): thin layer of plastic painted onto teeth to prevent decay
dentin: main bone-like part of a tooth
detrimental: bad, harmful, dangerous
diabetes: diabetes, disease with too much sugar in the blood, problem with making food into energy
diagnose: test, find out, figure out, learn cause, name
diagnosis: finding out the cause of an illness, condition, disease, medical answer
dysphagia: swallowing disorder, swallowing problem
early childhood caries (ECC): baby bottle tooth decay, tooth decay in infants
edentulous: no teeth
enamel: hard covering on outside of tooth
endodontic: treatment of root canal for diseased nerve in tooth
erosions: small pits, small holes in teeth or bones
etiology: the cause of
excessive: too much, more than needed
general anesthesia: put to "sleep"
gingiva: gums
gingivectomy: gum surgery, remove or reshape gums to remove space between teeth and gums
gingivitis: inflammation of the gums
illness rate or clinical attack rate: number of sick people; (Use a ratio like “3 in every 10 New Yorkers are sick” or a percentage like “30 percent of all Floridians are sick.”)
impaction: teeth pressing together, teeth not visible above sum line
implement: start, begin, put into action; carry out
inability: not able to
in excess of: more than
incidence: how many people get sick, number of sick people
incisors: front teeth, front “biting” teeth, fangs
infect: disease spread by germ or virus, to get sick, to make someone sick, to spread a disease
infection: disease, illness, sickness, virus, bug, illness caused by germs, a sickness you get from germs, control how to stop sickness
infectious agent: virus, germs, something that makes you sick, disease, flu, parasite
infectious: something that can spread disease
intervention: care
lingual: on the tongue
local anesthesia: drug that causes numbing only in the area of the body where the drug is put by spreading it or with a shot
localized: in a small area, only in one place
malignant: cancer
malignant tumor: cancer, tumor, mass
malocclusion: crowded teeth, misaligned teeth, crossbite, overbite, underbite, open bite
manage: control, direct, be in charge of, take care of, watch
mandible: lower jaw
manifest: clear, plain, evident, show
maxilla: upper jaw
molars: back teeth, back “grinding” teeth
mucosal (mucus) membranes: soft, moist areas just inside the openings to your body
nutrition: food, meal, diet, healthy food
nutritious: wholesome, food that is good for you, healthy eating, healthy food
obstetrician: pregnancy doctor
occlusal: chewing or grinding surface of back teeth
open bite: upper and lower front teeth do not touch even when mouth is closed and/or back teeth are touching
oral: mouth and jaw
oral surgery: mouth operation, mouth surgery, teeth operation
orthodontic: braces, teeth straightening
overbite: front upper teeth overlap lower teeth, "bucktoothed"
palate: roof of mouth
pediatrician: baby doctor; children’s doctor
perinatal: near the time of birth
periodontal disease (periodontitis): gum disease
periodontic: treatment of gum disease and related bone loss
pit and fissure sealant (dental sealant): thin layer of plastic painted onto teeth to prevent decay
plaque: sticky film with germs on teeth
posterior teeth: back teeth
prevalence: number of sick people, spread, disease spread, number, figure
prevent: stop, keep from happening, forbid, bar, keep
preventive: (i.e.; preventive services) practices that help keep you well
prevention: stop, bar, not permitted, not allowed, to avoid ill effects
primary teeth: baby teeth, first teeth
progression: move forward, go on, get worse, advance
prophylaxis (dental, oral): basic teeth cleaning
prosthodontic: treatment using crowns, bridges, partials and/or dentures
public health: everyone’s health, our health, health of the community as a whole
pulp: tooth nerve
pulpectomy: remove nerve from tooth
pulpitis: infection of nerve inside tooth
pulpotomy: take out the nerve from a tooth
rampant: unchecked, raging, uncontrolled
reflux: spit up, backward flow of body fluid
restoration: filling, fix a tooth, tooth replacement
risk reduction: lowering the chances, making less likely
risk: chance
root canal: remove the nerve from inside the root of a permanent tooth
root planing and scaling: deep tooth cleaning
scaling and root planning: removal of hard and soft deposits from teeth above and below gums
severe: strong, serious, harmful, dangerous, very bad
status: state, condition
surveillance: keep a close eye on, watch closely, monitor
susceptible: more open to, in danger of getting, likely to get
symptom: sign (of disease or sickness), indicator, warning
tartar: crust on teeth, plaque
therapy: treatment
third molars: wisdom teeth, last teeth to come into mouth
topical: on the surface, on the skin, on the body
underbite: lower teeth extend past upper front teeth
white spot lesion: white spot on tooth, beginning decay