
# IV

# Background & Resources

This section of the guide provides background information on health and literacy as well as a list of current resources.

# Background Information on Health and Literacy

## Overview

The published findings from the 1992 National Adult Literacy Survey (NALS) and the 2003 National Assessment of Adult Literacy (NAAL) generated headlines of shock and dismay. Indeed, findings indicate that about half of U.S. adults do not have the reading, writing, and math skills commonly assumed. As a result, they are not able to use, with accuracy and consistency, available print materials for everyday activities such as those related to health and safety, finance, or civic engagement. An analysis of health literacy among U.S. adults indicates that half of U.S. adults would be expected to have a great deal of difficulty successfully performing a broad range of health-related activities.

The field of inquiry known as *health literacy* focuses on critical communication issues in the health fields as well as on explorations of links between literacy skills and health outcomes. The Institute of Medicine (IOM) report *Health Literacy: A Prescription to End Confusion* suggests that health literacy be considered an interaction between social demands and the skills of individuals. The IOM committee concluded that more than 90 million U.S. adults may lack the needed literacy skills to effectively use the U.S. health system (IOM, 2004). The Agency for Healthcare Research and Quality (AHRQ) 2004 evidence report *Literacy and Health Outcomes* concludes that low literacy, as measured by poor reading skills, is associated with a range of adverse health outcomes (Berkman et al., 2004). Health literacy is on the national agenda as researchers continue to explore the links between literacy skills and health outcomes, as well as monitor and measure the match between health workers' expectations and patients' skills.

## Demands and Expectations

More than 600 studies published in public health, medical, dental, and mental health journals are focused on the match or mismatch between health-related materials and messages and the skills of the intended audience. The written materials under study have included informed consent materials, patient education booklets, insurance packages, medical directives, public health messages, and reports, addressing a wide array of health issues and representing a broad scope of health disciplines. In general, findings indicate that unnecessary use of scientific terms, professional jargon, complex sentences, poorly organized text, faulty assumptions about background information, and other measured text characteristics hamper communication efforts. Study findings indicate a troublesome mismatch between the reading grade level of health materials (one measure of demand) and the average reading skills of U.S. adults.

## Literacy Skills of U.S. Adults

Most studies calculate average reading skills at about the 8th grade level. However, educators do not associate literacy with reading alone, but instead envision and measure a constellation of related skills that include reading, writing, basic mathematical calculations, oral speech, and speech comprehension. The National Literacy Act of 1991 proposed that *functional literacy* is:

> The ability to read, write, and speak and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential.

In the early 1990s, this definition of functional literacy was accepted by the U.S. and other industrialized nations as the foundation for examinations of adult literacy skills. Throughout the 1990s, three literacy components—reading, writing, and mathematical calculations— were measured in 22 industrialized nations (Kirsch, 2001). Oral language skills had been assessed as part of an earlier and smaller survey but were not assessed in the 1990s, in part because of time constraints, machinery, and because of a perceived burden on survey participants who were all interviewed in home settings. The 2003 literacy assessment survey contained an oral language component captured on computers. Initial analyses of the 2003 data were provided in December 2005 and analyses of oral skills are forthcoming. The national and

international examinations of adults' literacy skills focused on adults' ability to use print materials to accomplish everyday tasks. The survey developers drew materials from six domains of adult activities in order to represent literacy activities of everyday life. These included text materials related to: home and family, health and safety, community and citizenship, consumer economics, work, and leisure and recreation.

Participants were asked to undertake tasks associated with materials focusing on these six areas. For example, participants were given a label from an over-the-counter pediatric medicine and were asked to use the materials to determine how much medicine to give a child of a specified age and weight.

The 1993 NALS report and the 2005 NAAL report provide literacy proficiency scores for three types of print materials:

- **Prose Literacy:** measures of proficiency focused on tasks involving continuous texts with full sentences in paragraph format.
- **Document Literacy**: measures of proficiency focused on tasks involving texts formatted as lists, charts, and graphs.
- **Quantitative Literacy:** measures of proficiency focused on tasks involving text with numbers requiring the application of basic mathematical processes (addition, subtraction, multiplication, and division).

All of the existing large-scale surveys of adult literacy skills are based on materials consisting of prose, and documents, as well as both continuous and non-continuous texts requiring one or more arithmetic operations. The tasks associated with the materials include finding information and identifying or constructing responses from the available information. Materials and tasks for these surveys are calibrated for level of complexity and difficulty. The assessments consider both the difficulty of the text and the complexity of the task. A simple text is generally short and without distracting information. A simple task involves locating a word or sentence, or performing a clearly defined mathematical process. More complex tasks involve locating several pieces of information, comparing or contrasting information provided, interpreting meaning, or responding to an inquiry by finding and using information in a text. Proficiency was assessed based on accuracy and consistency (Kirsch, 2001).

Findings were reported in 1993 by score level and in quintile groupings, averaged for various population groups, and analyzed through a wide range of critical variables such as educational background, country of origin, and economic status. In addition to assessing participants' literacy skills, the NALS gathered extensive background information on demographic and socioeconomic characteristics and on literacy practices (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993).

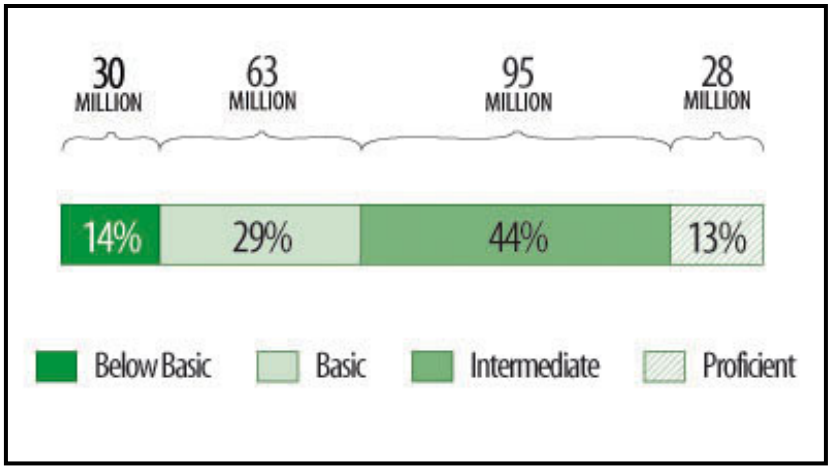
NALS scores ranged from 0 to 500. The scores in 1993 indicate that 22% of U.S. adults fall into the lowest skill category. NALS level 1 represents scores of 0 to 225 and signifies very limited abilities to use text. People scoring between 0 and 175 are considered unable to use English language text. However, more than half of adults at this level can generally perform simple and routine tasks using brief and uncomplicated texts and documents. For example, adults at NALS Level 1 can generally locate a piece of information in a news story or on a simple form such as a social security card. An additional 27% of U.S. adults score in NALS Level 2 with scores ranging from 226 to 275. These adults can, with accuracy and consistency, locate information in somewhat more complex text and make low-level inferences using print materials. The 49% of adults who score in these two lowest levels can locate information but are generally not able, with accuracy and consistency, to find and integrate two related pieces of information, to use long or dense materials, or to determine appropriate arithmetic operations based on information provided.

Scores below 275 indicate a limited ability to use print materials with accuracy and consistency. Working adults have stronger literacy skills than those who are not employed or have retired. As would be expected, literacy skills are stronger amongst U.S.-born adults than they are for those who have immigrated to the United States from non-English speaking countries. Those with higher incomes are more likely to have stronger skills than are those without resources or who are living in poverty. European-Americans (whites) have stronger literacy proficiencies than do minority population groups such as Hispanics and African-Americans. Educators and economists note that the challenges of industrialized societies require high-level literacy skills (in the range of 275 and above). NALS findings indicate that average scores for U.S. adults in 1992 were 273 for prose, 267 for document, and 274 for quantitative literacy scores.

The 2005 analysis of the 2003 National Assessment of Adult Literacy (NAAL) modified the reporting of performance levels to more closely reflect educational categories of need (below basic, basic, intermediate, and proficient). The below basic level includes skills necessary to perform no more than the most simple and concrete literacy skills. Basic skills are those necessary to perform simple and everyday literacy activities. Intermediate skills are those necessary to perform moderately challenging literacy activities. Proficient skills are those necessary to perform more complex and challenging literacy activities.

Overall, literacy is the lowest for adults who did not complete high school (Kutner, Greenberg, & Baer, 2005). The following graph illustrates the range of scores.

***Findings from the 2003 National Assessment of Adult Literacy***

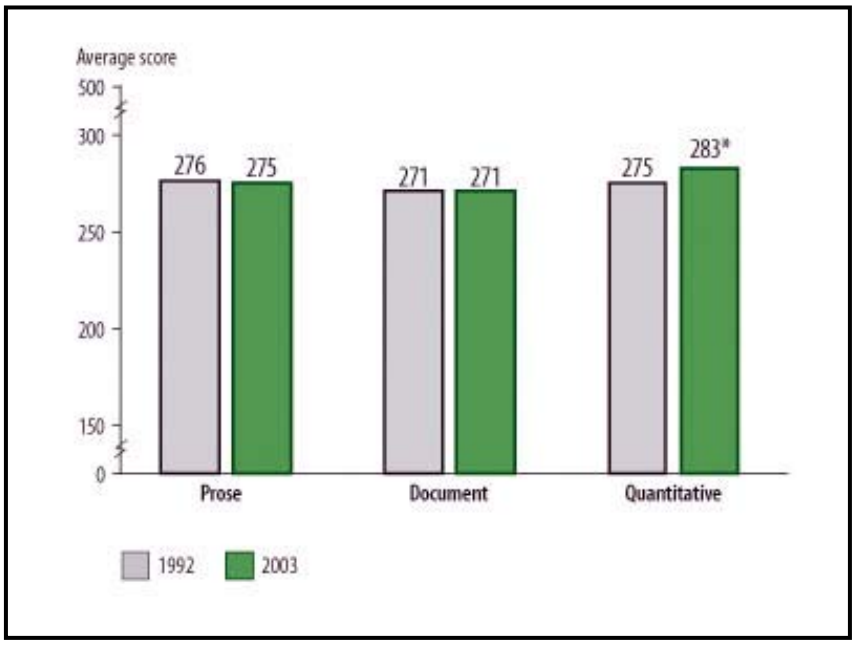



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

The graph on the following page, offers a comparison of findings from the 1992 and the 2003 data. The 1992 data was modified to reflect the new categories and a reconfigured measure of accuracy. Findings indicate little change over time. Although the educational attainment of U.S. adults increased between 1992 and 2003, prose literacy decreased for all levels of educational attainment. As was true in 1992, literacy was lowest for adults who did not complete high school (Kutner et al, 2005).

Overall, findings from the national surveys indicate that a vast majority of U.S. adults can read and do report reading. However, the average literacy scores for adults in the U.S. indicate limited ability to use print materials found in everyday life to accomplish everyday tasks.

***Average Scores of U.S. Adults for Prose, Document, and Quantitative Literacy Comparison of Findings from the 1992 NALS and the 2003 NAAL***




*Significantly different from 1992.
NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed due to language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

## Health Literacy Skills of U.S. Adults

A baseline for the health literacy skills of U.S. adults was established in 2004 by researchers at the Harvard School of Public Health and the Educational Testing Services. *Literacy and Health in America* (Rudd, Kirsch, & Yamamoto, 2004) reports on an analysis of health-related items drawn from the large-scale surveys of adult literacy skills, all of which adopted the functional definition of literacy as noted above. A new scale, the Health Activities Literacy Scale (HALS) was constructed through an examination of all items from all large-scale surveys conducted before 2003 to identify and code health-related materials and tasks. These surveys include

the assessment of the nation's young population (Kirsch & Jungeblut, 1986), the assessment of unemployed and economically disadvantaged adults (Kirsch, Jungeblut, & Campbell, 1992), the National Adult Literacy Survey (Kirsch et al., 1993), and the International Adult Literacy Surveys (Organization for Economic Co-Operation and Development, 1995, 2000).

The HALS, consisting of 191 items, represents a range of health activities for health promotion, health protection, disease prevention, care and maintenance, and systems navigation. Scores were linked to the NALS database, which includes information on the literacy proficiencies of a sample of 26,091 adults aged 16 and older as well as supplemental samples from 12 states yielding state representative samples (Kirsch et al., 1993).

HALS findings indicate that large percentages of at-risk groups in this country do not have adequate skills to meet many of the health-related demands they are likely to encounter. Findings indicate that the distribution of health-related literacy is not independent of general literacy skills at a population or subpopulation level. While there is clearly some unique procedural and declarative knowledge that is needed to function in health contexts, those with more general literacy skills will also be more likely to have stronger health literacy skills. Consequently, large numbers of adults would be expected to have a great deal of difficulty successfully performing a broad range of health-related literacy activities found in the U.S.

The designers of the 2003 NAAL worked closely with the U.S. Department of Health and Human Services to include additional health-related items on the 2003 adult literacy survey instrument so that a separate report could focus on health literacy skills of U.S. adults. New stimulus materials were included as were 28 health literacy tasks designed to elicit respondents' skills for locating and understanding health-related information and services. These tasks focused on clinical, prevention, and navigation domains. This change represents a purposive inclusion of health literacy skills. Findings, in a September 2006 report titled, The Health Literacy of America's Adults, are based on performance for these 28 tasks. The report states that the majority of U.S. adults do have skills necessary to perform *moderately challenging* health literacy activities.

The average health literacy scores were 248 for women and 242 for men. Adults in the oldest age group, 65 and older, had lower average health literacy scores (214) than adults in younger age groups (scores range from 244 to 256). The average health literacy score increased with each higher level of educational attainment. Those with less than a high school degree/GED certificate had an average health literacy score of 184. High school graduates/GED certificate had an average health literacy score of 232. Those with a 4-year college degree had an average health literacy score of 280.

Findings from the 1992 NALS and from the 2003 NAAL indicate that a significant number of U.S. adults have low level literacy skills that constrain their participation in society and in the economy. The early analysis of health literacy skills based on data from 1992 and the more recent analysis of 2006, based on a purposive sample of health items, indicate that U.S. adults have health literacy skills that constrain or compromise their participation in health-related activities.

> **Note:** A direct comparison of findings from the 1992 and 2003 surveys is difficult because of changes in the structure of the analysis. First, 3% of the population was not included in the NAAL analysis (those who could not communicate in either English or Spanish or who had a mental disability). Next, NAAL tasks were mapped to a point on the scale where an adult would have a 67% probability of doing the task correctly while NALS tasks were mapped to a point on the scale where an adult would have an 80% probability of doing the task correctly.

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## Additional Resources: Literacy

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## Additional Resources: Health and Literacy

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