Skills for Disease Prevention and Screening

Materials in Preparation for Session One

The following materials will provide some context for this Health Literacy Study Circle+, help to prepare participants for the overall experience, and serve as the basis for discussion in Session One.

Please send the following materials and readings out to participants at least two weeks before this study circle begins, and please ask participants to read these materials before attending Session One.

Materials and Handouts (3)

1. The Welcome Letter to Participants (customize your own version with appropriate information)
2. Participant Expectation sheet *
3. Participant Definition of Health Literacy

Background Readings (11)

1. Skills for Disease Prevention and Screening: Goals and Objectives
2. Development of the Guides to the Health Literacy Study Circles+
3. A Letter from Rima Rudd, Principal Investigator, Health Literacy Studies
4. A Letter to Adult Education Practitioners from Lee Hewitt, an ESOL Teacher and Health Curriculum Developer
5. Guiding Questions for *A Maturing Partnership* by Rima E. Rudd
6. *A Maturing Partnership* by Rima E. Rudd
7. Shared Goals but Different Roles in Health Literacy
8. The River Parable
9. *Prevention: Get Preventive Screening*
10. *In Other Words...Working with Numbers* by Helen Osborne
11. Additional Resources

List of Participants

If you do not have time to create a list of participants with contact information before Session One, please bring the following form (List of Participants) to Session One and ask people to sign it. Then make copies for everyone so people can contact each other between sessions.

* Participants should complete and return the Participant Expectation sheet to you before Session One.

Health Literacy Study Circle+
Skills for Disease Prevention and Screening
Dates: _____

List of Participants

Name	Program Information	Phone number and E-mail address
Facilitator:		

Welcome Letter to Participants
(A template for you to customize)

Dear Participant:

Welcome to the Health Literacy Study Circle+ on Skills for Disease Prevention and Screening. This program will be an exciting, enriching, and challenging experience that I truly hope you will enjoy.

In preparation for your participation in the Study Circle+, I would like to point out the dates, times, and locations of the five sessions:

	Date	Time	Location
Session One			
Session Two			
Session Three			
Session Four			
Session Five			

Given the highly interactive nature of this study circle and the interconnectedness of its sessions, it is essential that you attend all sessions.

Please notify me immediately if you cannot attend one of these sessions.

The Study Circle+ will be an intense, hands-on learning experience. Study Circles provide an opportunity for individuals to reflect in-depth about a topic and exchange ideas. In this Study Circle+, you will do that and more. You will:

- Discuss health literacy
- Consider how to bring lessons and units on health literacy skill development to your classes
- Identify your students' needs and interests related to health activities and tasks
- Try out health literacy lessons with your students and create your own lessons and units

The Study Circle+ sessions themselves will provide a venue for preparing for and reflecting on your new teaching experiences. Come prepared to share your ideas, learn from others, and "roll up your sleeves" as you engage in activities that may challenge your current thinking and practice.

Background Readings and Handouts (11)

This packet includes the following materials, which were designed to help you prepare for Session One.

Handouts

1. Participant Expectation sheet *
2. Participant Definition of Health Literacy

Background Readings

1. Skills for Disease Prevention and Screening : Goals and Objectives
2. Development of the Guides to the Health Literacy Study Circles+
3. A Letter from Rima Rudd, Principal Investigator, Health Literacy Studies
4. A Letter to Adult Education Practitioners from Lee Hewitt, an ESOL Teacher and Health Curriculum Developer
5. Guiding Questions for *A Maturing Partnership* by Rima E. Rudd
6. *A Maturing Partnership* by Rima E. Rudd
7. Shared Goals but Different Roles in Health Literacy
8. The River Parable
9. *Prevention: Get Preventive Screening*
10. *In Other Words...Working with Numbers* by Helen Osborne
11. Additional Resources

Before Session One begins

- Read the materials included in this packet. They will serve as the basis for discussions. Please bring them with you to Session One.
- Complete and return the Participant Expectations sheet to me, using the enclosed self-addressed envelope.
- Complete the Participant Definition of Health Literacy and bring it with you to Session One.

* Participants should complete and return the Participant Expectation sheet to the facilitator before Session One.

Please contact me if you are missing any of the materials listed above, or if you have any questions about this study circle. I look forward to meeting with you at our first session on _____(date).

Sincerely,

The Facilitator (Your Name)
Mailing Address
Phone number and Email address

Participant Expectations

~ Please complete and mail this back to the facilitator prior to Session One ~

List three things about health literacy and/or health literacy skill development that you are interested in learning.

1)

2)

3)

Participant Definition of Health Literacy

~Please answer this question and bring this sheet to Session One~

What is your definition of "health literacy?"

Skills for Disease Prevention and Screening: Goals and Objectives

Study Circle+ Goals

The overall goal of the Health Literacy Study Circle+ is to build the capacity of adult education instructors to incorporate health literacy skills into their curriculum and instruction.

The goal for the Disease Prevention and Screening Study Circle+ is to prepare participants to help their students develop basic skills needed to engage in disease prevention and screening activities. These skills include:

- Understanding and acting on public health recommendations.
- Taking disease prevention actions.
- Making informed decisions about participating in screening tests.
- Asking questions to clarify screening test results.
- Planning for and taking appropriate follow-up actions.

Study Circle+ Objectives

Participants in the Disease Prevention and Screening Study Circle+ will:

1. Develop a shared definition of "health literacy."
2. Identify the activities people engage in related to disease prevention and screening.
3. Identify literacy related barriers faced by people as they engage in disease prevention and screening activities.
4. Identify health literacy skills needed to accomplish the many tasks involved in disease prevention and screening activities.
5. Teach, modify, and critique sample lessons designed to build students' literacy and numeracy skills related to disease prevention and screening.
6. Create and pilot a lesson based on students' needs.
7. Outline a sequence of lessons for a health literacy unit and an evaluation plan.
8. Develop strategies for incorporating health literacy skills into classroom activities.

Development of the Guides to the Health Literacy Study Circles+

As the Health and Adult Literacy and Learning (HALL) team assembled to develop the Health Literacy Study Circles+ guides, we listed the multiple health activities adults engage in when they are at home, at work, in the community, in health care settings, and even in the voting booth.

Health Activities

Health activities are part of everyday life. We maintain and safeguard our health and that of loved ones, fellow workers, and neighbors. We make decisions about food purchases and preparation. We buy and use home products that include food and cleaning chemicals, as well as appliances and equipment. We are concerned with the quality of our houses or apartments and our community. We pay attention to work processes and chemicals. We take action when we are well to prevent illness and disease. We seek care when we do not feel well and make decisions about when we, or those we love, need to talk with a doctor, nurse, dentist, or pharmacist. We have to sift through papers and fill out forms when we apply for insurance or benefits. We need to be aware of and advocate for our rights.

Rima Rudd organized the many health-related tasks of everyday life into the following five groups of activities: *

1) **Health Promotion:** Those actions we take to stay healthy. Included are everyday decisions about eating, exercise, and rest.
2) **Health Protection:** Those actions we take to protect our health and that of our community. Included are rules and regulations about product labels, clean air and water, and safe food and products.
3) **Disease Prevention:** Those actions we take to prevent disease and to detect disease at very early stages. Included are actions such as use of sunscreen or participation in a screening test.
4) **Health Care and Maintenance:** Those actions we take when we seek advice or help from health care professionals, whether we are well, ill, in recovery, or when we need to manage a chronic disease. Included are well baby visits, checkups, and advice and care when we do not feel well.
5) **Navigation:** Those actions we take to obtain health coverage and care, and to make our way through the hallways of health institutions, agencies, and service providers. Included are decisions about benefit packages, giving informed consent for procedures, and completing the many forms needed to obtain coverage and care.

* Rudd, R., Kirsh, I., Yamamoto, K., *Literacy and Health in America*. Princeton N.J. Educational Testing Services Report, 2004.

Table 1 offers a brief description of each of these groups of activities, with examples of materials we use and tasks we undertake.

Table 1: Health Activities, Materials, and Tasks

Health Activities	Focus	Materials Adults are Expected to Use	Tasks Adults are Expected to Accomplish
Health Promotion	Enhance and maintain health	Labels on cans of food or recipes Articles in newspapers and magazines Charts and graphs such as the Body Mass Index Health education booklets (such as well baby care)	Purchase food Prepare a dish from a recipe Plan exercise Maintain healthy habits (re: nutrition, sleep, exercise) Take care of everyday health (self and family members)
Health Protection	Safeguard health of individuals and communities	Newspaper chart about air quality Water report in the mail Health and safety posting at work Label on a cleaning product	Decide among product options Use products safely Vote on community issues Avoid harmful exposures
Disease Prevention	Take preventive measures and engage in screening and early detection	Postings for inoculations and screening Letters reporting test results Articles in newspapers and magazines Charts and graphs	Take preventive action Determine risk Engage in screening or diagnostic tests Follow up
Health Care & Maintenance	Seek care and form a partnership with a doctor, dentist, or nurse	Health history forms Labels on medicine Health education booklets Directions for using a tool such as a peak flow meter	Seek professional care when needed Describe symptoms Follow directions Measure symptoms Manage a chronic disease (follow regimen, monitor symptoms, adjust regimen as needed, seek care as appropriate)
Navigation	Access health services, and get coverage and benefits	Application forms Statements of rights and responsibilities Informed consent forms Benefit packages	Locate facilities Apply for benefits Fill out forms Offer informed consent

Health Materials, Tasks, and Skills

Many ordinary health tasks require us to use specific materials. Parents turn to the label on the package to find out how much medicine to give children. Elders fill out Medicare forms to obtain needed services. Consumers read product labels as they mull over which products will best serve their needs. Patients are given discharge instructions when they leave the hospital to return home and minister to their own needs.

Sadly, over 400 articles in public health and medical journals indicate that health materials are often complex, contain scientific terms instead of everyday language, and are written at reading levels beyond the level of difficulty found in high school texts. As a result, there is a mismatch between the demands of health materials and the average reading skills of U.S. adults. Many health materials – the tools that are supposed to help us by providing information, directions, rights and responsibilities - do not serve this purpose. Background information is often not provided or made explicit.

For example, consider the labels on food products. Does everyone know the names of the types and forms of sugar? Or consider what seems to be a simple direction: *Take one tablet three times a day*. The doctor, dentist, nurse, or pharmacist knows that medicine needs to be in the body throughout the day. As a result, they want the patient to take the medicine at very different times of the day so that it is distributed evenly. However, this is not stated. The patient who anticipates a very busy day and who follows directions by taking one pill at 7 am, one pill at 7:30 am, and one pill at 8 am may harm him or herself. As another example, the chart on the box of an over-the-counter medicine often requires sophisticated reading and math skills in order to determine how much medicine to take.

Those responsible for health communication need to make changes in the materials we ask adults to use. Health care professionals also need to improve their ways of explaining health care instructions so that adults are able to take care of themselves and their loved ones. At the same time, adult educators need to consider and improve the skills adults need as they engage in health related activities.

Reducing Health Disparities

As you might imagine, the full array of health-related activities, materials, tasks, and skills can be overwhelming. We chose to focus on critical issues and needs that are related to health disparities in the United States. A growing body of public health and medical literature indicates that those who are poor and those with less education are more likely to face health problems than are those with higher income and more advanced education. For example, the 1998 report from the Secretary of Health and Human Services to the President and Congress indicated that health status is related to income and education.

- Children in lower income families are less likely to receive needed health care than are children from higher income families.
- Adults under the age of 65 with low family incomes are less likely to have health insurance coverage compared to adults with higher incomes.
- Life expectancy is related to family income. People with lower family incomes tend to die at a younger age than are those with higher incomes.
- Adults with low incomes are far more likely to report fair or poor health status compared with adults who have higher incomes.
- Infant mortality is more common among the children of less educated mothers than among children of more educated mothers.
- Adults with less education are more likely to die from chronic diseases, communicable diseases, and injuries than are adults with more education.[*]

Unfortunately, a 2002 report, *Trends in the Health of Americans*, indicated that these disparities continue to exist. [**]

The Role of Adult Education

Improved health literacy is one of the objectives for our country, as noted in *Healthy People 2010*, the document that offers the 10-year health goals and objectives for the nation. The Department of Health and Human Services calls for partnerships between the public health and adult literacy fields in *Communicating Health (2003)*, an action plan for the nation. In addition, the importance of these partnerships is highlighted by the National Academies of Science in the Institute of Medicine report *Health Literacy: A Prescription to End Confusion (2004).*

During 2004, Surgeon General Carmona noted, "Health literacy is the currency for all I am trying to do to reduce health disparities in the United States." Health literacy is of critical importance. Increasingly, health policymakers are recognizing how much they can learn from adult educators who are experts in teaching literacy skills to adults. Policy reports have highlighted the need for partnerships among professionals and practitioners in the two fields of health and adult education.

The Health Literacy Study Circles+ Series

The HALL team developed three study circles, each one focused on a set of skills of critical importance to the people coming to adult education programs. Each of the three study circles explores a group of health activities where we see health disparities and where adults with limited literacy skills may face serious barriers.

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[*] Pamuk, Majuc, Heck, Reuben, Lochner. *Socioeconomic Status and Health Chartbook. Health, United States, 1998.* Hyattsville, MD: National Center for Health Statistics. 1998.

[**] Pastor, Makuc, Reuben, and Zia. Chartbook on Trends in the Health of Americans, Health, United States. 2002. Hyattsville MD: National Center for Health Statistics. 2002.

- **Skills for Health Care Access and Navigation:** This study circle was developed because adults with less income and less education do not have the same access to health care as do adults with more income and education. Those with limited literacy skills face cumbersome signs, vocabulary, processes, and forms as they try to access care and make their way through various health care settings. Stronger skills in vocabulary, advocacy, and in completing forms, for example, can help adult learners gain access to coverage, care, and services and help them better understand their rights and responsibilities.

- **Skills for Chronic Disease Management:** This study circle was developed because adults with less education are more likely to die of a chronic disease than are adults with more education. Adults need strong skills related to using labels and documents, talking about and describing feelings and change in one's body, and understanding and using measurement tools - in order to manage a chronic disease such as asthma, diabetes, or hypertension.

- **Skills for Disease Prevention and Screening:** This study circle was developed because adults with less education and less income do not engage in disease prevention activities and take part in screening programs at the same rate as do those with more resources. Adults with limited literacy skills have difficulty with math concepts such as rates and proportions or risk and probability. Adults need strong literacy skills to understand consent documents and follow-up reports.

The work in the study circles focuses on existing skills adult educators have and use to teach reading, writing, oral presentation, oral comprehension, and math skills. These skills are needed to use health print materials, to apply basic math to health problems, and to engage in dialogue and discussion with health professionals. The focus of these study circles meets articulated goals and objectives of state education plans for ABE and ESOL instruction. At the same time, these study circle activities can help improve health literacy and the ability of adults to meet the many expectations and demands of everyday life.

We look forward to this partnership.

Rima Rudd

Rima Rudd, Sc. D.
Harvard School of Public Health

A Letter from Rima Rudd, Principal Investigator, Health Literacy Studies

Dear Study Circle+ Participants:

Since 2003, the U.S. Surgeon General of the United States has been emphasizing the importance of health literacy and the link between literacy and health outcomes. *Healthy People 2010*, the nation's ten-year statement of health goals and objectives, includes the objective "improve health literacy." In April 2004, the Institute of Medicine of the National Academics of Science published a committee report on this topic: *Health Literacy: A Prescription to End Confusion*. This report highlighted the fact that health literacy is really an interaction between the demands of health systems and the skills of individuals.

The term "health literacy" is still defined in various ways. In general, the term indicates a growing recognition in the fields of public health, medicine, nursing, dentistry, and pharmacy that strong literacy skills are critical for health-related actions.

Over the past several years, various organizations have supported national and local forums and training programs, as well as films and educational materials for health researchers, practitioners, and institutional administrators to address issues related to health literacy. Many of these initiatives are designed to improve the communication skills of health professionals. Some are also focused on improving the written materials used in health care settings and the communication approaches used in community based health programs.

Of course, U.S. adults need to improve their skills as well. When literacy is limited, words can get in the way. Adults with limited literacy skills may take a more passive role in their encounters with health professionals. They may lose their way, lose their coverage, lose their rights, or endanger their health. The adult basic education and ESOL systems are wonderful vehicles for promoting such skill development. Note the emphasis on skills. Those of us at HALL feel it is inappropriate to ask adult education teachers to teach health content. Instead, we hope they will use their expertise as adult educators to integrate health literacy skills into their programs.

Health literacy skills refer to those reading, writing, listening, speaking, and math skills adults need in order to use health materials and accomplish health-related tasks. Adults in today's society need to interact with social service agencies and find their way in health and dental care settings. They are expected to form partnerships with health providers and manage their own health needs and the tasks involved in living with a chronic disease. They are also expected to learn health information and take action to prevent disease and to detect disease at early stages. These and other tasks can be daunting.

Many health professionals talk about the large numbers of people in care who do not follow their regimens. These patients might not, for example, follow dietary guidelines or may not take their medicine as instructed. Few professionals, however, have paid attention to the demands of these activities and to the skills needed to carry them out. For example, following dietary guidelines may involve the following activities:

- Reading labels on food items to check salt or sugar content
- Reading and following directions for new ways to cook
- Understanding how professionals group foods and what the terms mean (e.g. carbohydrates, protein)
- Understanding and measuring correct "portion size"
- Substituting appropriate ethnic foods for the more generic lists found in most handouts

Thus "following guidelines" demands very sophisticated reading and measurement skills. Similarly, "taking medicine" for a chronic disease is not a simple task. A person is expected to read and understand medicine labels, to differentiate among several different pills, to count dosages, and to use a clock and a calendar to plan when to take medicine.

We are asking you, as experts in adult education, to continue to focus on the skills you help your students develop. We do not ask you to become health experts. Instead, we hope you will be able to focus on skill development within a health context. For example, when you help your students learn to read a chart, you might want to use one that illustrates body mass index. As a result, you will be making a profound contribution to health literacy.

We hope to engage you in a variety of activities, to encourage you to analyze the needs and interests of your students, and to discuss and develop lessons designed to increase the health literacy of adult learners. We also hope to learn from you. We want to improve the processes and activities of study circles. We plan to add to a compendium of possible lessons and curricula. We encourage you to take an active role in providing feedback to us and in developing lessons to be shared with others.

Sincerely,

Rima Rudd

Rima Rudd, Sc. D.
Principal Investigator, Health and Literacy Studies
Harvard School of Public Health

A Letter to Adult Education Practitioners From Lee Hewitt, an ESOL Teacher and Health Curriculum Developer

Dear Colleagues:

I have had many opportunities to work with health content in adult education classes with ESOL learners. Many of these experiences involved the publication of student-written stories, plays or essays about health topics. The students gave one such collection the title *Health is Life - A Treasure To Take Care Of*.

I believe this title captures why it is so important to deal with health issues in an adult education classroom. Good health allows us so many opportunities. Even challenges to our health that are taken care of or well-managed can still allow us to live a life we may treasure.

Over time, I have come to realize that one of the most pressing health issues facing many adult education students is in fact literacy itself. Without at least basic literacy skills, the health of any individual in the U.S.A. is compromised. The seemingly simple task of navigating a hospital requires good literacy skills. Without these skills, getting from one place to another may become a humiliating experience. Without these skills, an individual may not be able to communicate valuable information to her health care provider. Without these skills, an individual may never be able to control the path of her own health care experience in a way she wants to or needs to for a truly healthy life.

A number of researchers have examined patients' skills as well as the literacy demands of the health care system and have found a mismatch.[1] For example health care pamphlets frequently are produced at a reading level beyond the reach of many of our adult education students. Unfortunately, the medical

establishment is only slowly recognizing how the limited literacy skills of many of its patients interfere with communication and quality care.

Where does this lead us as adult educators? I believe this leads us back to learning about the literacy issues of our students, so we can teach them the reading, writing and math skills they need. It also leads us back to learning *from* them. How do their literacy challenges influence their daily lives? How do these challenges influence their experiences with the health care system and with maintaining their own health? Most adult educators already invest a lot of time learning about their students. Many seek to learn from them. I believe this is what makes adult educators such a vibrant community of teachers.

I also believe that changes in the medical establishment will come from the learners that we teach, who use their developing literacy skills to ask the questions they need to ask- to reach for the words that will clarify their confusion and to write down the truth of their lives.

Sincerely,

Lee Hewitt

ESOL Teacher
Health Curriculum Developer

[1] K. Beaver and K. Kuker. Readability of patient information booklets for women with breast cancer. *Patient Education & Counseling*,31(2):95-102,1993.

Guiding Questions for *A Maturing Partnership*

Consider these questions before and after you read the following article, "A Maturing Partnership" by Rima E. Rudd. You do not need to write out your answers to these questions but you may want to bring your thoughts about these questions into discussions and activities during the study circle sessions.

General Questions

1. Does the cited evidence support a relationship between health outcomes and educational achievement?

2. Which of the many events in the fields of public health or adult literacy contributed the most to our understanding of the link between health outcomes and literacy skills?

3. Is the author's description of the influence of health education on adult education curricula consistent with your experience or knowledge?

4. What are the implications in the shift in focus from *health content* to *health-related tasks and literacy skills* for your teaching?

Connections to Disease Prevention and Screening

1. What aspect of this article was most relevant to you as you think about how you might teach basic skills for disease prevention and screening in your own classroom?

2. Disease prevention and screening activities are based on an understanding of prevention and on concepts of risk and probability. What kinds of improvements would you want to see in adult learners' basic skills related to disease prevention and screening?

A Maturing Partnership
by Rima E. Rudd

How did the literacy and health fields come to work together? Now that this partnership, tentative as it is, has begun, what direction should it take? As a public health researcher, I have worked to bring these two worlds together, believing passionately that the relationship will be beneficial for both fields, and, most importantly, for the clients of the health and literacy systems. In this article I will trace early innovations in this movement, through some current activities, and provide some suggestions for next steps.

Demographic information such as measures of age, race, income, and education are traditionally collected in all health surveys so that researchers can examine differences among various population groups. Two of these items, income and education, are considered measures of socioeconomic status. We have strong evidence that socioeconomic status and health are linked. Of course, adult educators who work with low-income learners will not be surprised to learn that those who are poor or have lower educational achievement have more health problems than do those with higher income or higher educational achievement.

The Secretary of Health and Human Services prepares an annual report to the President and Congress on national trends in health statistics, highlighting a different area each year. The 1998 report focused specifically on socioeconomic status and health (Pamuk et al., 1998). This report offered evidence from accumulated studies that health, morbidity - the rate of incidence of a disease - and mortality are related to socioeconomic factors. For example, life expectancy is related to family income. So, too, are death rates from cancer and heart disease, incidences of diabetes and hypertension, and use of health services. Furthermore, death rates for chronic disease, communicable diseases, and injuries are inversely related to education: those with lower education achievement are more likely to die of a chronic disease than are those with higher education achievement. In addition, those with less than a high school education have higher rates of suicide, homicide, cigarette smoking, and heavy alcohol use than do those with higher education. The lower your income or educational achievement, the poorer your health.

Thus, links between critical health outcomes and income/education are well established. However, until recently, health researchers had not examined any particular components of education such as literacy skills. This is because education itself was not the major consideration; education was only considered a marker of social status. Another barrier to examining any specific role that education might play was that specific skills such as literacy were not consistently defined or measured. A number of events have led some researchers to explore the possibility that limited literacy skills might influence a person's health behaviors and health outcomes.

From *Focus on Basics*, Volume 5, Issue C • February 2002. World Education, NCSALL

Key Events

Dozens of articles in the 1980s and scores of articles in the early 1990s offered evidence that written documents in the health field were very demanding and were often assessed at reading levels beyond high school (Rudd et al., 1999a). While this comes as no surprise to anyone who tries to read the inserts in over-the-counter medicines, what is common knowledge had never been systematically documented.

In addition, a number of health analysts writing in the 1980s had noted connections between illiteracy and health (for example, Grueninger, 1986; Kappel, 1988). A literature review published in the *Annual Review of Public Health* highlighted growing evidence in international studies that a mother's literacy was linked to her child's health (Grosse & Auffrey, 1989). In 1991, the US Department of Health and Human Services published *Literacy and Health in the United States* (Aspen Systems Corp., 1991), which highlighted the importance of paying attention to literacy issues. It offered an annotated bibliography of journal articles and books that assessed health materials, as well as studies that showed a relationship between literacy skills and health-related knowledge and behaviors. For example, some differences between people with high educational achievement and those who reported that they could not read were noted (Perrin, 1989; Weiss et al., 1991). A number of studies conducted in Ontario, Canada, drew attention as well (Breen, 1993).

The main focus of most of the literacy and health inquiries, however, were studies of the reading level of written health education materials. Among those researching this subject was Terry Davis, a medical school faculty member and researcher (Davis et al., 1990). Davis and colleagues wanted an easy-to-use tool to assess and document the reading level of patients so that they could study some health-related differences between people with limited and with strong literacy skills. They developed and tested a health-related literacy assessment tool called the Rapid Estimate of Adult Literacy in Medicine, or REALM (Davis et al., 1991). This tool enabled them to examine differences between people with high and low scores for literacy and health behavior differences, such as engaging in screening tests for early disease detection.

Later, for example, Davis and colleagues found that women with limited literacy skills did not understand the purpose of a mammogram and did not access screening (Davis et al., 1996). The REALM tests a person's ability to read through a list of medical words, moving from short and easy words to difficult and multi-syllabic words. It correlates well with reading tests and offers a good marker of literacy level. This tool helped a small group of researchers around the country to make health-related comparisons between those with and without strong literacy skills.

Further interest in this type of research was fueled by the first national assessment of functional literacy skills. The 1993 publication of the first wave of

analysis of the National Adult Literacy Survey and the findings that half of the US adult population had limited literacy skills provided critical information (Kirsch et al., 1993). The National Adult Literacy Survey (NALS) focused on functional literacy, defined in the National Literacy Act of 1991 as "an individual's ability to read, write and speak in English, 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."

The NALS measured people's ability to use the written word for everyday tasks. Thus, people's functional literacy skills were examined in terms of their ability to find and apply information from commonly available materials such as newspapers (prose), forms (documents), and common math processes such as computation for addition or percentages (numeracy). The NALS established a uniform measure of functional literacy and offered a portrait of literacy among adults in the United States. Fully 47 to 51 percent of adults scored in the lower range: unable to use the written word to accomplish many everyday tasks such as finding a fact or two in a newspaper article, finding information on a Social Security form, or calculating the tip on a bill.

This information was a wake-up call to some researchers in the health field. We must remember that it takes a while for information to spread and, especially, to cross over disciplinary lines. Of course, the 1993 NALS findings are still "news" to many people in health and even in education (see the side bar on page 8 for a discussion of the diffusion process). But, as a result of these published findings, some health researchers began to think about people's ability to function in health care settings and carry through with tasks many doctors and nurses take for granted: the ability to read announcements and learn about screening, to read directions on medicine labels, to follow recommended action for self care.

Among those at the forefront were Ruth Parker and Mark Williams, medical doctors practicing in a public hospital in Atlanta. They were interested in measuring and documenting people's functional literacy skills related to medical tasks. In 1995, Parker and Williams worked with colleagues in education and measured people's ability to read appointment slips, medicine labels, and informed consent documents. They then used these tasks to develop a functional test of health literacy for adults in both English and Spanish (TOFHLA) modeled on the NALS. Studies undertaken by a team of researchers working with patients in a public hospital indicated that 41 percent of patients did not understand basic instructions, 26 percent did not understand appointment slips, and 60 percent did not understand informed consent forms (Parker et al., 1995; Williams et al., 1995). Findings from these studies are being used to convince doctors that literacy is something to which attention should be paid.

With the development of the REALM (1991) and the TOFHLA (1995), people assessing the readability of written health materials could now more precisely examine the match between the materials and the reading ability of members of the intended audience. Furthermore, researchers now had tools for a quick

assessment of literacy skills so that they could include measures of literacy in health studies. As a result, we've learned that people with low literacy skills come into care with more advanced stages of prostate cancer (Bennett et al., 1998); that they have less knowledge of disease, medication, and protocols for asthma, hypertension, and diabetes (Williams et al., 1996, 1998); and that they are more likely to be hospitalized than are patients with adequate literacy (Baker et al., 1998). These studies set the foundation for rigorous research into ways that limited literacy skills may affect health.

On the Literacy Side

Health topics have long been included in curricula for students in adult basic education (ABE) classes and in English for speakers of other languages (ESOL) courses. Making appointments and identifying body parts in English were seen as necessary survival skills, particularly, for example, in refugee resettlement classes in the 1980s. Topics such as nutrition and hygiene were popular with many teachers, who reported that health issues interested their students and could be used as the subject of reading materials for developing reading and writing skills (Rudd et al., 1999a).

In the early 1990s, links were being forged between health educators and adult educators. For several years, the National Cancer Institute supported regular working group meetings of health and education researchers. Local initiatives such as those developed by Sue Stableford at a medical school in Maine, Kathy Coyne at a cancer center in Colorado, and Lauren McGrail at a nonprofit organization in Massachusetts worked across disciplinary lines and linked health researchers and practitioners with adult educators. They could now work together on developing appropriate health materials and on bringing health curricula to adult education programs. Over time, some model program funds from the National Institutes of Health, the Centers for Disease Control and Health Promotion, and, in some cases, state Departments of Public Health, supported the development of adult education curricula in specific topic areas such as breast and cervical cancer or smoking prevention. The idea of integrating health topics into adult learning centers was based on the assumption that health curricula would enhance the goals of the health field while also supporting the goals of adult education. Health practitioners working with the adult education systems gained access to and communicated with adults who are not reached through the more traditional health outreach efforts and communication channels. Thus, adult education learning centers provided the health field with an ideal site for reaching poor, minority, and medically underserved populations.

Bringing health topics to adult education programs was similarly viewed as beneficial to the adult education system. Teachers focused on health-related lessons would be building skills for full participation in society. In fact, NCSALL studies indicated that state directors and teachers considered that a health-

related content would likely engage adult students and thereby increase learner interest, motivation, and persistence (Rudd et al., 1999a, b). Several curricula, such as the *Health Promotion for Adult Literacy Students* (1997), *Rosalie's Neighborhood*, *What the HEALTH?,* and *HEAL: Breast and Cervical Cancer* offered substantive full curricula for teachers who wished to offer in-depth health lessons incorporating basic skill development. However, the NCSALL survey revealed that teachers and directors were cautious about the appropriateness of asking adult education teachers to teach health content. This is not, after all, their area of expertise.

Literacy for Health Action

Teachers' and directors' discomfort with responsibility for certain health information led a number of us working in this area to move away from a focus on health content towards a closer examination of literacy skills needed for health-related action. After all, adult educators have the expertise to help learners build basic skills related to reading, writing, vocabulary, verbal presentation, oral comprehension, as well as math. These skills are critical for adults who need to fill out insurance and medical forms, describe or monitor symptoms, manage a chronic disease, listen to recommendations, and make health-related purchases and decisions. Furthermore, many of us were interested in expanding our work beyond the medical care setting and a focus on disease to a more public health focus with attention to maintaining health at home and in the community.

New opportunities for productive partnerships may come about because of a growing emphasis on health literacy. The term has been defined in several ways. The US Department of Health and Human (HHS) Services' publication *Healthy People 2010* defined health literacy in terms of functional literacy related to health tasks: "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (US DHHS, 2001). This definition, although focused on health care, is general enough to include health-related activities outside of medical care settings such as maintaining our well being, caring for ourselves and for others, and protecting our health at home, in the community, and on the job. Tasks can include reading a patient education brochure, deciding whether to buy a brand of food based on nutritional labeling, figuring out how to use a particular product, or choosing a health insurance plan.

A partnership between the US Department of Health and Human Services and the developers for the National Assessment of Adult Literacy (NAALS) planned for 2002 led to the inclusion of health-related tasks in this second wave of adult literacy assessment. Therefore, the 2002 NAALS will include three different clusters of key types of health and health care information and services that the general population is likely to face, identified as clinical, prevention, and navigation. The clinical area will include activities such as filling out patient

information forms or determining how to take a medicine. The prevention area will include tasks such as identifying needed changes in eating or exercise habits. Finally, the navigation area will include tasks related to understanding rights in health care or finding information in health insurance plans.

In addition, health literacy is included in the goals and objectives for the health of the nation. *Healthy People 2010* is the planning document that sets health objectives for the nation and is used in national and state plans and to shape requests for proposals for federal funds. It offers 467 objectives in 28 focus areas, making this decade's report, according to the Surgeon General's report, an encyclopedic compilation of health improvement opportunities (US DHHS, 2001). This document now includes literacy-related objectives for the first time. Objective 11.2 is *to improve the health literacy of persons with inadequate or marginal literacy skills*. The listing of a specific literacy-related objective is listed under health communication and is also referenced under oral health. This attention is viewed as a milestone.

Professionals in public health and health care do not have the skills or mechanisms to improve the literacy skills of their community population or of their patients. They can, however, work to improve their own communication skills, the procedures followed for communicating with and interacting with people, and the forms and materials they write. Health workers at all levels would benefit from interactions with adult educators who could help them better understand the communication needs and learning styles of people with limited literacy skills. In addition, those in the health field are increasingly aware that a population with good literacy skills may make better use of health information and health services than those with limited skills. The potential benefits from partnerships between those in the health fields and those in adult education are becoming clearer.

New Collaborations

The health literacy objective in *Healthy People 2010* may offer new and different opportunities for collaboration between practitioners in health and in education. Many of the early partnerships, as noted above, were focused on bringing health-related topics and curricula to basic education or language programs. The emphasis was on bringing new information to adult learners. Because the health literacy objective in *Healthy People 2010* focuses on skills, new partnerships may more easily emphasize health-related tasks and related literacy skills rather than specific health topic areas such as cancer or diabetes.

Adults take health-related action in multiple settings; they determine priorities and consult and solve problems with family, friends, neighbors, and fellow workers about health-related issues and actions. In today's society, adults may need to find information on the Internet, differentiate fact from myth, or

establish the source of information. Thus, skill-building opportunities related to forms, directions, and information packets are important but do not suffice.

For example, adults who have accessed care and successfully developed the needed skills to follow the complicated regimen to manage asthma may still face difficulties with asthma triggers beyond their control. Living in a multifamily dwelling with exposure to cigarette smoke, dust, mold, mildew or roaches; living in a neighborhood with heavy traffic or idling buses; and working with a variety of chemicals all have asthma-related consequences. Becoming aware of new findings, gathering information, participating in tenants' associations, and involvement in community or labor action groups require skills related to research, discussion, analysis, decision making, and action. Thus, as we explore this area and define needed skills, we must be sure to move beyond the realm of medical care and include action taken at home, at work, in the community, and in the policy arena.

Many of these broader communication skills are already being taught in adult education programs. Adult educators focus on language and vocabulary acquisition, reading, writing, numeracy, oral comprehension, dialogue, and discussion. Their expertise can support and enhance health literacy goals. Health-related curricula incorporating attention to these skills can enrich adult learners' experiences and will support health literacy goals. With a focus on health literacy skills, the *Healthy People 2010* objectives will encourage health practitioners to work with adult educators on the delineation of needed skills to support health literacy rather than on a transfer of health information.

Another task is at hand as well. Many of the health-related literacy tasks under discussion involve the use of existing medical documents such as appointment slips, consent forms, and prescriptions. An underlying assumption is that the materials and directions are clear and appropriately written. Yet, we know from the results of more than 200 studies that the reading level of most health materials is well beyond the reading ability of the average reader and that the format or presentation of information is similarly inappropriate (Rudd, 1999a). The links between literacy skills and oral comprehension have not been explored in health studies and the vocabulary of medicine and health may well provide barriers in spoken exchange.

Twofold Strategies

As a consequence of these findings, strategies must be twofold: increase adults' health-related literacy skills and increase health professionals' communication skills. Adult educators can contribute to these efforts. Their skills and experience can help health professionals to understand better the factors that contribute to reading and oral comprehension. Educators can also help health professionals to improve written materials and, perhaps, verbal presentation of information as well. The Canadian Public Health Association, for example, has

mandated that all materials geared for the general public use so-called plain language and avoid the jargon, scientific vocabulary, and complex sentences that make materials difficult to read. Accreditation committees are increasingly encouraging hospitals and health centers to examine and redesign their documents and procedures for informed consent. Expert advice from adult education professionals will clearly be needed and welcomed.

A new partnership between health and adult education researchers and practitioners can also contribute to improved teaching and learning in both fields. Studies of participatory programs, participatory pedagogy, and efficacy-building in classrooms, community programs, and doctors' offices indicate that learning is enhanced and change is supported through experiential learning opportunities. Roter and colleagues (2001), for example, provide evidence for the value of adopting lessons from participatory pedagogy in doctor/patient encounters. Minkler (1989) and Green and Kreuter (1999) have long supported such approaches for health promotion on the group and community levels. However, participatory programs and experiential learning are still not the norm in either heath or adult education settings. Perhaps partnerships among practitioners in both fields will lead to rich explorations of approaches that support adult learning.

Health literacy is a new concept that is getting a good deal of attention. We can support healthful action by considering the skills needed for active engagement and by envisioning the adult, healthy or ill, as an active partner and decision maker. Educators, researchers, and practitioners can work together to explore strategies for improving communication, increasing needed skills, and fostering efficacy.

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Shared Goals but Different Roles in Health Literacy

What medical professionals should do...

- Make health care services and resources available
- Offer and explain appropriate screening procedures
- Diagnose illnesses and develop a plan for patient care
- Prescribe medicines and explain their purposes and side effects
- Teach patients how to use medical tools, such as inhalers and glucose meters
- Suggest measures to protect individual and family health

What adult educators can do...

- Enhance students' ability to complete forms, make inquiries for information and navigate new environments
- Teach students to ask questions about tests, test procedures, and results
- Develop students' capacity to participate in planning by seeking clarification and offering suggestions
- Teach students how to read medicine labels and calculate amounts and timing of dosages
- Strengthen students' ability to read charts and scales and interpret ranges
- Help students learn to locate information to guide their health-related decisions

The River Parable

Emergency at the River

People at Sweet Water were awakened in the early morning by shouts and panicked cries for help. A large group of residents ran to the river to find a state of emergency. Hundreds of people were struggling to stay afloat in the cold and rapid waters. Many seemed to be going under.

Despite their rescue efforts, many residents of Sweet Water witnessed people floating by. They knew that those they could not reach would have an even harder time in the rapids ahead. Sadly, many of the residents witnessed the death of those who did not respond to CPR.

A man in the crowd of rescuers decided to walk upstream. Many people grew angry and criticized the man for leaving because there were so many people who needed to be rescued. However, the man said that he needed to find out who or what was causing the people to fall into the river. Several others joined him.

Why is it important to walk up the river?
What does the man in the story represent?

This story focuses on a public health perspective (prevention) in contrast to a medical perspective (treatment). Variations of this story appear in public health textbooks.

Reading reflections:

- *How does the scenario help you understand issues related to prevention?*
- *How would your students respond to this story?*

You might consider re-writing this story to match the reading skills of your current students. You might consider follow-up questions that engage the students on a more personal level. For example, you might ask your students to answer the following questions:

- *Why take my baby to a well-baby clinic if everything is ok?*
- *My doctor wants me to get a 'physical'. What's the point to that?*
- *My mother is feeling fine. Why should she pay to see a doctor every year?*

Prevention: Get Preventive Screening

Preventive screenings and tests save lives. Unfortunately, many Americans do not routinely follow some basic health screening recommendations. Routine screenings can identify a previously undiagnosed condition or risk of condition. This allows physicians to intervene early with treatments and therapies to control the condition or inform the individual of lifestyle changes that can be taken to improve health outcomes and costs.

For example, screening for high blood pressure and high blood cholesterol is an important first step in identifying individuals who are at risk for chronic diseases but may be undiagnosed. Screening and appropriate follow-up for high blood pressure and elevated cholesterol can also save the lives of those at risk for heart disease. Early detection and treatment for diabetes can improve health, and the CDC [Centers for Disease Control] recommends health professionals screen high-risk patients periodically, even when those individuals are visiting their doctor for another reason. Such opportunistic screenings can alert a health professional to troubling results requiring follow-up care.

Many studies have shown that dietary changes and therapies can dramatically reduce the risk of heart disease and stroke, especially when these modifications reduce high blood pressure and high blood cholesterol. When coupled with lifestyle changes, these therapies can be even more effective in lowering the risk of a heart attack or stroke. About 90 percent of all adults now have their blood pressure measured at least once every two years. In 1998, only 67 percent of adults had had their blood cholesterol checked within the preceding five years. Of the estimated 17 million people with diabetes in the country, about 5.9 million are undiagnosed. Without effective diagnosis and treatment, diabetes becomes a leading cause of blindness, kidney failure, heart disease, and stroke.

There are additional simple, preventive measures many Americans can take to reduce bad health outcomes. Pneumonia and influenza are responsible for more than 30,000 deaths among older adults each year. Immunization can substantially reduce the severity, risk of hospitalization, and risk of death from these diseases.

From: Healthier US.Gov http://www.healthierus.gov/prevention.html

When you are on this website, you can click on the following to get more information about specific screening tests:

Screenings

- Cancer.gov
- Child Health Guide
- Colorectal Cancer: Basic Facts on Screening (PDF–314k)
- Colorectal Cancer Screening Saves Lives (PDF–651k)

- Consumer Education: Living Healthy – An Educated Choice
- Personal Health Guide
- Staying Healthy at 50+

Blood Pressure

- What Is High Blood Pressure?
- Your Guide to Lowering High Blood Pressure

Cholesterol

- Empower Yourself! Learn Your Cholesterol Number
- High Blood Cholesterol - What You Need to Know

Obesity

- Aim for a Healthy Weight: Information for Patients and the Public
- Calculate Your Body Mass Index
- Choosing a Safe and Successful Weight Loss Program
- Do You Know the Health Risks of Being Overweight?
- Embrace Your Health! Lose Weight If You Are Overweight
- Helping Your Overweight Child
- Overweight and Obesity: What You Can Do
- Overweight in Children and Adolescents
- Surgeon General's Healthy Weight Advice for Consumers

Brought to you by the Executive Office of the President and the Department of Health and Human Services.

In Other Words... Working With Numbers

By: Helen Osborne, MEd, OTR/L, President,
Health Literacy Consulting

This article appears in *On Call*, June/July 2004.

"Medicine is inherently numerical," says Lisa M. Schwartz, MD, MS, general internist and senior research associate at the VA Medical Center in White River, Vermont. Patients need to understand numbers in order to make health decisions based on risk and benefit information.

Schwartz, who is also associate professor of medicine in the department of community and family medicine at Dartmouth Medical School in Hanover, New Hampshire, says numbers convey the magnitude of risks and benefits more clearly than words. For example, the term "likely benefit" may have different meanings to people depending on their point of view. A health professional might understand a likely benefit as one that occurs at least 10 percent of the time. A patient, especially one seeking hope, might instead assume that he or she has at least a 70 percent chance of benefiting from a particular intervention. "There is a huge range of what words can mean," says Schwartz. "The only way to understand magnitude is to use numbers."

But numbers are hard for many people to understand. The 1992 National Adult Literacy Survey (the most recent data available) looked at quantitative literacy-defined as "the knowledge and skills required to apply arithmetic operations ... [and use] numbers embedded in printed materials." The survey found that 47 percent of the adults in the U.S. have inadequate quantitative skills. This means that they are likely to have significant difficulty with, or be unable to use, number-based information presented in complicated formats like schedules, tables, or graphs.

In addition, many people have difficulty using numbers to calculate concepts like probability. In an informal study, Schwartz asked a group of health professionals what ".1%" means and found that about 25 percent of the respondents got the answer wrong. When her colleague asked the same question of the general public, about 75 percent of respondents were incorrect. Indeed, many people do not know that ".1% probability" means a probability of "1 out of 1,000."

Misunderstandings like this can have a significant impact when people make health decisions based on numbers. Health professionals can help. Schwartz has some suggestions for ways to help patients better understand and use numbers in health information.

Know why you are using numbers. Numbers can be used to tell people what they need to know. For instance, they can express the differences in risks and benefits among comparable treatment options. They can also be used to motivate people. For example, numbers can emphasize the benefits of not smoking or of losing weight. Knowing what you hope to achieve when you use numbers will help you decide what numbers to present. It will also make it easier to present data in a balanced and fair way-using all the relevant data, not just the most compelling numbers.

Additionally, discussing and explaining numbers takes time-time that may be better spent in other ways. Schwartz recommends that health providers talk about numbers when risk information is very important. For instance, when patients need to understand the magnitude of benefits and harms of their treatment choices, numbers are needed. But numbers may not be necessary when you are talking about the importance of screening or health-promotion activities. Instead, stories or anecdotes may be more effective in communicating these types of health messages.

Use numbers when there is good data. A good time to use numbers is when the absolute magnitude is impressive, says Schwartz. This means that the data holds up in study after study. When the science is strong, she says, it is usually worth the time to help people understand the numbers and what they mean. A good example would be explaining data from randomized trials for breast-cancer treatment.

Sometimes, the data is less clear. In nutrition studies, for instance, it is often hard to isolate the effect of certain foods or to determine whether health benefits are due to diet, exercise, or both. In cases like these, Schwartz recommends that health professionals highlight in more general terms how good nutrition helps, rather than introduce numbers that may be somewhat questionable.

There may be times when patients ask for numbers and the data is uncertain. In such cases, be honest. Say the data is not clear. You can, however, go on to talk about what you believe to be true based on the available evidence.

Create risk charts. Risk charts are simple, low-tech, visual tools that put disease risk into context. Schwartz and her colleagues have created examples of risk charts that show how many people out of 1000 will die of a particular disease within the next 10 years. There are separate charts for men and women, smokers and non-smokers-with risk data for people ages 20 to 90. The charts not only are appealing to look at, but easy to understand. You can find examples and more information about risk charts at the Journal of the National Cancer Institute's Web site: jncicancerspectrum.oupjournals.org/cgi/content/full/jnci;94/11/799?ij

Use benchmarks for comparisons. Many people have difficulty understanding the magnitude of specific risks. You can sometimes help people understand numbers by giving them a benchmark or point of comparison. For example, a benchmark might be the risk of being hit by a meteorite or the chance of being in a minor car accident. Benchmarks like these, Schwarz says, give people a way to understand magnitudes by anchoring unfamiliar concepts to ones they can understand.

Help patients be informed users of data. Offering guidance in the following ways can help reduce the difficulty of working with complex numbers:

- Teach patients the meaning of key terms like "risk" and "probability."
- Explain how to assess the quality of data and other scientific information.
- Educate patients about what to look for in risk statements, such as: What is the risk? What is the time frame? Who is at risk?
- Help patients put risk information into context, such as not giving undue weight to sensational events.
- Encourage patients to ask a lot of questions and have a healthy skepticism about numbers.

Numbers are powerful communication tools, but when used improperly, they can raise people's sense of vulnerability and fear rather than help them maintain their health. Scaring people with numbers can be counterproductive. Helping them know what the numbers mean moves them beyond fear so they can understand what they need to know about their health.

How to Find Out More

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About the Author

As president of Health Literacy Consulting, Helen Osborne helps health professionals communicate in ways patients, families, and employees can understand. To learn more, please visit the Health Literacy Consulting Web site at www.healthliteracy.com.

Additional Resources

(For Your Information)

The following materials may help you explore, understand, and engage in an active dialogue around the issues of health literacy and disease prevention and screening.

This list includes links to health related Web sites such as National Institutes of Health, the U. S. Food and Drug Administration, the Center for Disease Control, Medline Plus, and WebMD.

This information serves as a resource for you in your work on health literacy. You do not need to read or review all of the materials listed below, but do look through them and read the ones of interest to you.

These materials are organized in the following way:

- Research on Health Literacy
- Information on Disease Prevention and Screening
- Communicating with Your Doctor
- Teaching Resources

Research on Health Literacy

Health Literacy: A Prescription to End Confusion

Health Literacy Committee of the IOM (2004). Institute of Medicine.
Washington DC: National Academies of Science.
Available online at: http//www.iom.edu

Summary: A concerted effort by the public health and health care systems, the education system, the media, and health care consumers is needed to improve the nation's health literacy, the report says. If patients cannot comprehend needed health information, attempts to improve the quality of care and reduce health care costs and disparities may fail. The report recommends that health care systems develop and support programs to reduce the negative effects of limited health literacy and that health knowledge and skills be incorporated into the existing curricula of kindergarten through 12th grade classes, as well as into adult education and community programs. Furthermore, programs to promote health literacy, health education, and health promotion should be developed with involvement from the people who will use them, and all such efforts must be sensitive to cultural and language preferences.

Literacy and Health in America

Rudd, R., Kirsch, I. & Yamamoto, K. (2004)
Princeton NJ: Educational Testing Services
Available online at: http://www.ets.org/research/pic (available research reports)

Summary: For the first time, the authors, Rima Rudd of the Harvard School of Public Health, and Irwin Kirsch and Kentaro Yamamoto of ETS, identified 191 health-related tasks among data from the National Adult Literacy Survey (NALS) and the International Adult Literacy Survey (IALS) and created a Health Activities Literacy Scale (HALS), a 0 to 500 scale that reflects a progression of five levels of health literacy.

The researchers found that some 23 million people, or 12 percent of U.S. adults, are estimated to have skills in the lowest level (Level 1) on the HALS, while an additional 7 percent, or 13.4 million, are not able to perform even simple health literacy tasks with a high degree of proficiency (below Level 1). Those performing below Level 1 are about evenly divided between U.S.-born and foreign-born adults. Results are alarming for at-risk and vulnerable populations. For example, among adults who have not completed high school, almost half scored at or below the lowest literacy level. Similarly, almost half of adults over the age of 65 performed at or below the lowest level. Minority populations, including adults born outside the United States, scored significantly below white adults and adults born in the United States, on average.

Findings from a National Survey of State Directors of Adult Education

Rudd, R., Zahner, L. & Banh, M. (1999).
(NCSALL Report #9)
Available online at: http://www.ncsall.net/?id=673

Summary: State Directors of Adult Education were asked to consider health within the context of adult learning and to offer priority ratings for health as a content area through which other skills may be taught, as a subject of study, as a skill area, and as a barrier to learning. In addition, directors were asked to list barriers to incorporating health lessons in adult learning centers and to identify concerns or considerations that must be addressed. Additional commentary was invited.

The survey response rate was 88%. The state directors offered relatively high priority ratings for health issues, with mean ratings between 3 and 4 on a five point scale (1 indicating low priority and 5 indicating high priority.) The most frequently listed barriers were lack of curriculum on health and lack of teacher training. They identified a variety of concerns with a strong emphasis on structural issues and resources.

Integrating Health and Literacy: Adult Educators' Experiences

Rudd, R., Zacharia, C. & Daube, K. (1998).
(NCSALL Report #5)
Available online at: http://www.ncsall.net/?id=672

Summary: This exploratory study addresses the experience of adult educators in Massachusetts who have integrated a health unit into adult education classes focused on reading, writing, and communication skill development. Health as a topic area may serve to motivate learners and support critical skill development and, at the same time, offer a venue in which health issues and information can be presented, discussed, and critically analyzed. This study focuses on the teachers' perceptions of advantages and disadvantages of a focus on health.

The participating teachers indicated that health units helped them meet classroom objectives and supported the teaching of reading, writing, vocabulary building, and speaking skills. Teachers noted that they valued health as a subject of study because of its relevance to students' lives, and that their students were interested and motivated to read or write on health issues and speak in class or in groups about the subject.

The findings from this study have implications for program designers and practitioners in the fields of education and public health.

Health and Literacy: A Review of Medical and Public Health Literature

Rudd, R., Moeykens, B.A., & Colton, T. (1999).
The Annual Review of Adult Learning and Literacy, Vol. 1: Chapter Five

Available online at: http://www.ncsall.net/?id=522
An updated literature review by Rudd and colleagues will be published in late 2006.

Summary: In Chapter Five of *The Annual Review of Adult Learning and Literacy*, Vol. 1:, Rima Rudd, Barbara A. Moeykens and Tayla C. Colton share their examination of the medical and public health literature regarding links between health and literacy and identify trends in research and practice. Education may influence lifestyle behaviors, problem-solving abilities, and values. Study findings indicate that literacy is related to patients' ability to describe their own symptoms, which can in turn influence the care that they receive. Further, literacy has been demonstrated to directly influence patients' access to information on their rights and health care, including instructions and understanding of preventative measures and risks involved in medical procedures.

Too often, research shows, the literacy demands of material encountered by patients exceed the literacy abilities of the readers. For example, this has been found to be the case with informed-consent materials, package inserts and a variety of health education materials on topics including diabetes, prenatal care, and cancer, among others.

The authors also reveal the relationships shown between literacy and health outcomes. Lower levels of literacy are clearly associated with poorer health, and low levels of health literacy have a measurable impact on rates of screening and early detection. The authors recommend strategies for improving communication with patients, including improved readability of materials, involvement of patients in designing more effective materials, and education of health care providers on the needs of low-literacy populations.

Rudd, Moeykens, and Colton call for more research on the relationship between levels of health literacy and health outcomes, the intermediate factors that influence health outcomes, and health care costs. They stress the need for continued efforts to develop strategies to address the special needs of those with low health literacy. The authors close by describing some exemplary projects that illustrate the potential for effective collaboration between professionals in education and health in seeking to meet the needs of less literate populations.

Health Literacy Studies: The Harvard School of Public Health

(from the Department of Society, Human Development and Health at the Harvard School of Public Health)
Available at: http://www.hsph.harvard.edu/healthliteracy

Summary: The Health Literacy Studies Web site is designed for professionals in health and education who are interested in health literacy.

Information on Disease Prevention and Screening

National Institutes of Health (NIH)

Available online at: http://www.nih.gov/

Summary: The National Institutes of Health is an agency under the U.S. Department of Health and Human Services. Its mission is science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability. Health information is organized with an A-Z index of NIH health resources, clinical trials, health hotlines, MEDLINEplus, and drug information.

NIH Institute and Center Resources on Disease Prevention

Available online at: http://health.nih.gov/result.asp/1108

Summary: This site includes links that are related to disease prevention and screening.

Centers for Disease Control and Prevention

Available online at: http://www.cdc.gov/

Summary: The Centers for Disease Control and Prevention (CDC) is a federal agency that focuses on protecting the health and safety of people - at home and abroad - providing credible information to enhance health decisions, and promoting health through strong partnerships. The CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States. Web sites from CDC contain a variety of topics and are updated for use by the general public.

Easy to Read Publications

(From the U. S. Food and Drug Administration)
Available online at: http://www.fda.gov/opacom/lowlit/englow.html

Summary: The FDA provides easy-to-read health brochures in both English and Spanish. These brochures are available on this Web site in both PDF and HTML formats. Some of the titles you will find at this Web site include:

Eating for a Healthy Heart (FDA 00-2302)
Eating Well as We Age (FDA 00-2311)
How to Protect Yourself from AIDS (FDA 00-1296)
Mammograms and Breast Cancer (FDA 00-4269) - Internet Only
Protecting Your Child Against Serious Diseases: Making Sure Kids Get All Their 'Shots' (FDA02-9019)
Safer Sunning in Seven Steps (FDA 99-1279) - Internet Only

The Truth About Choosing Medical Treatments (FDA 00-1248) - Internet Only

Your Disease Risks (an on-line survey)
(from The Harvard Center for Cancer Prevention)
Available online at: http://www.yourdiseaserisk.harvard.edu/

Summary: This educational Web site was developed by the Harvard Center for Cancer Prevention. Based at the Harvard School of Public Health, the Center promotes prevention as the primary approach to controlling cancer and other chronic diseases. This site offers a quick survey to find out your risk of developing five of the most important diseases in the United States (cancer, diabetes, heart disease, osteoporosis, and stroke) and get personalized tips for preventing them.

Healthy Roads Media
Available online at: http://www.healthyroadsmedia.org/

Summary: This site contains free audio, written, and multimedia health education materials in a number of languages on topics including asthma, cancer, dental health, diabetes, health services, your heart, immunizations, nutrition, and exercise.

1on1health
(The content in the 1on1health program was developed by GlaxoSmithKline in association with WebMD)
Available online at: http://www.1on1health.com

Summary: This Web site contains information, tools and activities to help you live a healthier life and better manage your condition. Information is presented in English and Spanish. Topics include anxiety disorders, asthma, bipolar disorder, depression, diabetes - type 2, enlarged prostate, erectile function, heart failure, herpes, high blood pressure, migraines, nasal allergies, obesity, osteoarthritis, restless legs syndrome, and vaccines.

In Other Words... What They Need to Know... Communicating About Risk
(By: Helen Osborne, M.Ed., OTR/L, President, Health Literacy Consulting)
Available online at: http://www.healthliteracy.com/articles.asp

Summary: This article recommends ways that health professionals can do a better job of communicating health risk information to patients and their families.

Understanding Your Tests: Reference Ranges and What They Mean
(from Lab Tests Online, a public resource on clinical lab testing)
Available online at:
http://www.labtestsonline.org/understanding/features/ref_ranges.html

Summary: Test results are usually interpreted based on their relation to a reference range. This article will help to explain what a reference range is, what it isn't, and why test results and reference ranges should not be interpreted together in a vacuum. The interpretation of any clinical laboratory test involves an important concept in comparing the patient's results to the test's "reference range." (It's also commonly called the "normal range," but today reference range is considered a more descriptive term. This article defines "reference ranges" and explains what they mean.)

Communicating with Your Doctor

Talking With Your Doctor
(from Medline Plus, a service of the U. S. National Library of Medicine and the National Institutes of Health)
Available online at:
http://www.nlm.nih.gov/medlineplus/talkingwithyourdoctor.html

Summary: This Web site contains links to articles about talking to health care professionals. Subjects include talking to your doctor, tips for talking to healthcare professionals, getting a second opinion, how to talk to your child's doctor, talking to the pharmacist, and more.

Teaching Resources

The Virginia Adult Education Health Literacy Toolkit
(from The Virginia Adult Learning Resource Center)
Available online at http://www.aelweb.vcu.edu/publications/healthlit/

Summary: This toolkit is a resource to help adult education instructors and administrators better understand the problem of health literacy as it affects their learners. It is designed to support creative approaches to help learners increase health literacy as they engage in sound, productive adult literacy instruction. Information and resources are provided to educate the educator about health care in the United States and cultural issues relating to health, and to simplify creation of health lessons and curricula for teachers and programs.