WHCA ACTION GUIDE
World Health Communication Associates

HEALTH LITERACY

PART 1 'THE BASICS'

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Action Guide

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The internet and other media marketplace information sources shape people's health perceptions, choices and behaviours and can have positive and negative impacts on people's health literacy.

FOREWORD

Part 1 "The Basics" of the World Health Communication Associates (WHCA) Action Guide on Health Literacy is presented for use by local, national and international advocates and agencies that are working on and/or planning to take action to enhance people's health literacy. It reflects a concern about the fact that while much has been written about why addressing health literacy is important, less attention has been paid to what individuals, communities, institutions and systems can do about it. The guide's primary aim is to fill this gap and be a 'how to' manual. Actions described not only focus on individual behaviour changes but also look at initiatives being taken to strengthen and adjust systems in order to address institutional and structural deterrents to health literacy, make information more accessible and understandable, and make 'navigation' through health, education systems and work, community and policy-making settings easier.

The guide has been developed through a process which has involved all the authors and their extended networks. Drafts were reviewed at a United Nations Economic and Social Council (ECOSOC) Regional meeting in Beijing in April 2009 and a WHO Healthy Cities meeting in Liverpool, United Kingdom in May 2009. A more detailed publication is planned which will include a broader summary of available evidence and, more importantly, case studies describing initiatives which people are currently taking in the six systems and settings described in the guide. The authors wish to thank all those people, projects and agencies who have shared their work with us. Special thanks to Michael S. Wolf and Stacy Cooper Bailey for their presentations and contributions to the Liverpool meeting and background papers used. Additionally, we wish to thank Tuuli Sauren for her design work.

This guide is a work in progress. Updates will be posted on the WHCA website: www.whcaonline.org. In addition to sharing our approaches with you, we would like to invite readers to give us some feedback about whether the conceptual approaches described herein make sense in your contexts. We would very much like to enter into a dialogue with you about the relevance and usefulness of various interventions described.

Please forward any comments to: franklin@whcaonline.org

Franklin Apfel

For the Guide Development Team

SUMMARY

Health Literacy at a Glance

WHO IS THIS GUIDE FOR?

This guide is for health professionals, educators, policy makers and advocates who wish to improve individual and population health literacy. This *Health Literacy Action Guide* summarises current knowledge on why health literacy is important and how we can improve health literacy.

WHAT IS HEALTH LITERACY?

Health literacy refers to a person's capacity to obtain health information, process it and act upon it. Health literacy skills include basic reading, writing, numeracy and the ability to communicate and question. Health literacy also requires functional abilities to recognise risk, sort through conflicting information, make health-related decisions, navigate often complex health systems and 'speak up' for change when health system, community and governmental policies and structures do not adequately serve needs. People's health literacy shapes their health behaviours and choices—and ultimately their health and wellbeing.

WHY IS HEALTH LITERACY IMPORTANT?

There is strong scientific evidence that shows that poor health literacy leads to less healthy choices, riskier behaviours, poorer health, more hospitalisations and higher health care costs. Poor health literacy has been shown to be a major public health problem in all countries where the issue has been studied. Very large numbers of people in both developed and developing countries have poor health literacy skills. In the US, for example, about 90 million adults—half of the adult population—are thought to lack the literacy skills needed to effectively use the US health care system.

WHY THIS GUIDE?

Poor health literacy is not just an individual problem but a systemic societal problem. It is best addressed when information, education and all types of communication from health and other services are aligned with the skills and needs of their users. While poor health literacy skills are common and have been found to be a significant determinant of health, to date there has been little systematic corrective action in

© Photo by Steve Turner

Health literacy advocates need to capture the power of the media to help individuals and agencies improve their skills and capacities.

most countries. This guide aims to address this by providing a framework for action and identifying useful interventions that people and agencies can take to strengthen health literacy.

SIX KEY AREAS FOR INTERVENTIONS

This guide focuses on action in six key social systems and settings. The settings outlined may either facilitate or be a barrier to the development and expression of health literacy skills. They include health and education systems, media marketplaces, home and community settings, workplaces and policy-making arenas on all levels.

ORGANISATION OF THE GUIDE

The guide is organised into six sections around six key questions:

Section 1: What is health literacy?

This section defines health literacy and describes the demands and complexities of different systems, which shape people's ability to access, integrate and act on health information.

Section 2: Why is health literacy important?

This section looks at the size of the problem and briefly reviews evidence of its impact on health, wellbeing and health system costs.

Section 3: How is health literacy measured?

This section looks at measurement tools for assessing individual health literacy skills and competencies, as well as the health literacy 'friendliness' of the systems and settings where health information is obtained.

Section 4: What can individuals, agencies and systems do to strengthen health literacy?

This section looks at interventions in six key systems and settings: health systems, education, media health information marketplaces, home and community, workplace and policy-making arenas.

Section 5: How can we advocate for more attention, investment and action to strengthen health literacy?

This section identifies messages to key stakeholders and describes specific health advocacy communication strategies.

Section 6: What should be the components of a national or local health literacy strengthening action plan?

This section suggests several steps that can be taken to develop systematic approaches to enhancing health literacy.

SECTION 1: WHAT IS HEALTH LITERACY?

This guide defines health literacy as *"The capacity to obtain, interpret and understand basic health information and services and the competence to use such information and services to enhance health."*

(Ratzan and Parker 2000; IOM 2004).

However, this is not just determined by an individual's basic literacy skills, but is also defined by their interaction (or alignment) with the systems within which they need to function (*see Figure 1*). Health literacy varies by context and setting. It is dependent on individual and system factors. This includes both user and provider communication skills and knowledge of health topics, culture, and the demands of the health care, public health and other relevant systems and settings where people obtain health information (Healthy People 2010). When these services or systems require knowledge or a language level that is too high for the user, health will suffer.

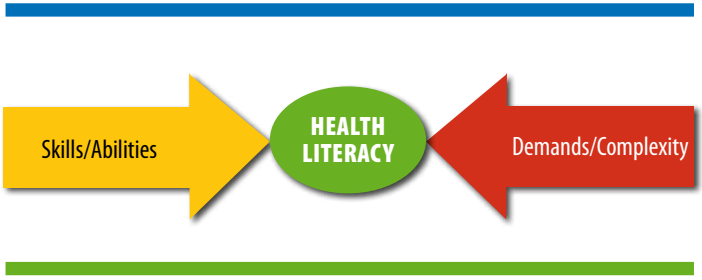


Figure 1. Health Literacy Framework (Parker 2009, pers.comm.)

Over 300 studies in the US and UK, for example, demonstrate that printed materials, including consent forms, and web-based information sources are written in language above the average reading ability of most of their adult populations (IOM 2004).

Action to enhance health literacy, therefore, has to focus on both improving individual skills and making health service, education and information systems more health literacy friendly. Health literacy friendly systems and settings are ones which actively measure, monitor, evaluate and adjust their communications to meet the needs (and skills) of their users.

IDENTIFYING SYSTEM DEMANDS AND COMPLEXITY

This guide identifies six key systems and settings—the so-called 'domains of influence'—which help shape both the development of health literacy skills and their expression (*see Box 1*).

BOX 1 : SIX DOMAINS OF INFLUENCE ON HEALTH LITERACY
(adapted from Kickbusch and Maag 2008)

Health systems — Health systems play a major role in developing individual and population health literacy skills. Health systems can be made more health literacy friendly in a variety of ways. Workers may be trained to recognise the specific needs of users, and user information—such as forms, signs and letters—can be made more accessible and understandable. If done appropriately, this will help users access information and improve their ability to navigate the health system, assess risks, select appropriate pathways of care and engage in self-care. Health systems can also advocate for and shape the 'health literacy friendliness' of other systems and settings. They can do this by raising awareness of the negative health consequences of weak health literacy skills and, importantly, identifying good practice and advocating for more effective policies and interventions.

Educational systems — Schools and other formal and informal educational establishments play a major role in developing literacy skills and fostering literacy in all countries. They help children and adults to learn about healthy and unhealthy choices and where to find reliable information. The development of such literacy skills should be included in all school and adult education programmes.

Media marketplaces — For many people media marketplaces are a main source of health information. These marketplaces shape people's health perceptions, behaviours and choices. Commercial and political interests often dominate, with interested parties using sophisticated communication techniques to sell their products and ideas. Public health advocates need to learn from commercial advertisers and marketers. They should use the same approaches to help people make healthier decisions when choosing goods and services. This would also serve

to counteract the negative influences of industries—tobacco, alcohol and fast food companies—which glamourise and promote unhealthy products and lifestyles.

Home and community settings — People are called upon to make daily 'health' decisions in their homes and communities. Families, peer groups and communities are primary sources of health information. They help to shape functional health literacy skills related to product and service choices. These sources can provide important information about health-promoting, health-protecting and disease-preventing behaviours, as well as 'alternative therapies', self- and family care, available support services and first aid.

Workplace settings — By providing clear and consistent health messages to employees, employers can help prevent accidents and lower the risk of industrial or occupational diseases. Health-promoting work environments go further and address lifestyle choices, such as alcohol and drug use and stress factors, including job security and work–life balance.

Policy making arenas — Policies on all levels—institutional, community, national and regional—shape the social and structural factors which determine health literacy and health. The engagement of citizens in policy making processes are fundamental democratic principles. A key trend in many health system reforms is the empowerment of patients and the development of patient-centred care.

BUILDING INDIVIDUAL SKILLS

Building health literacy skills and abilities is a lifelong process, and noone is ever totally health literate (or illiterate[1]). People develop their health literacy over time and from a wide variety of sources. These may include their family and work settings; primary, secondary, higher and adult education; health providers; print and on-line health information; the media; and a wide variety of community-based resources, such as support groups to assist in quitting smoking.

[1] This guide intentionally avoids use of the term 'health illiteracy', as it is both inaccurate and an emotionally loaded term which all too often causes stigma and shame.

Health literacy skills (*see Box 2*) include basic reading, writing, numeracy and the ability to communicate and question. Health literacy also requires functional abilities to recognise risk, sort through conflicting information, take health-related decisions, navigate often complex health systems and 'speak up' for change when health systems, community and governmental policies and structures do not serve needs.

BOX 2 : HEALTH LITERACY—FOUR INDIVIDUAL LEVEL SKILL SETS

Health literacy related skills can be categorised as: cognitive (knowledge), behavioural (functional), advocatory (proactive) and existential (spiritual).

Cognitive skills include general literacy, numeracy, information gathering skills and analysis. These skills are used for health-related actions like reading health warnings and food labels, filling in forms, deciphering prescription drug instructions, as well as the ability to understand written and oral information given by health care professionals.

Behavioural skills include more interactive literacy and social skills used to make health risk assessment and lifestyle choices; system 'navigation' (finding the way to services or negotiating complex systems); self-care; and interpersonal communication and negotiating (e.g., asking for and receiving information, filing complaints or understanding health care charges, costs and bills).

Advocacy skills include critical competencies to analyse health information, understand the political and economic dimensions of health, and take action to express opinions and make changes at institutional, community and political levels. This may include 'speaking up' for oneself and others, taking action to promote new or change existing policies, lobbying and organising campaigns.

Existential skills include the ability to make sense of a life with illness, live with uncertainty, and avoid descending into depression, self-pity, hopelessness or helplessness. It includes the ability to grieve and to prepare for and die in a peaceful way.

Health literacy is best viewed as a dynamic continuum of skills. People's needs change over time as they face different health challenges. Some of these changes are predictable based on life stages or whether preventive, disease care or rehabilitative information is being sought. The need for other skills arises when new behaviours are required: for example, to respond to the emergence of new health threats like pandemic influenza, climate change related heat waves and floods. But no one is totally health literate. Everyone at some point needs help in understanding or acting upon important health information. Even highly educated individuals may find systems too complicated to understand, especially when made more vulnerable by poor health.

Chronic illness and the aging of societies have led to the need for more self care and management skills.

SECTION 2: WHY IS HEALTH LITERACY IMPORTANT?

Poor health literacy skills are very common

In the United Kingdom, US, Australia and Canada surveys have shown poor health literacy skills in 20-50% of populations tested (NCC 2004; Kutner et al. 2006).

POOR LITERACY SKILLS ARE ASSOCIATED WITH POORER HEALTH AND WEALTH

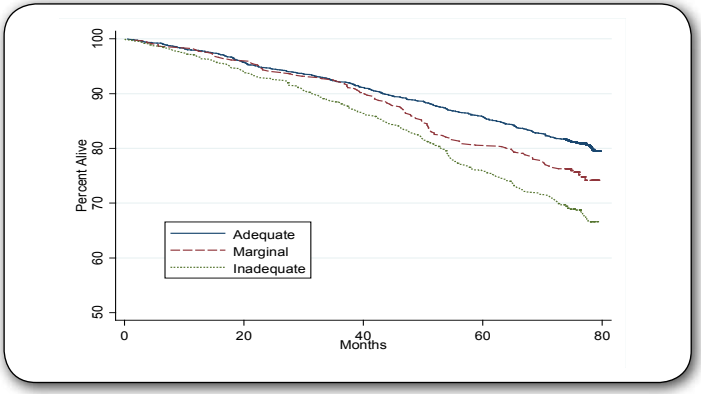
Literacy—along with primary and secondary school attendance—is positively correlated to personal income, economic growth, female empowerment, life expectancy and having fewer children (Wils 2002). Education affects health outcomes in many ways. Enhancing a mother's education level reduces infant and child mortality in developing countries (Ratzan 2001). The number of years spent in formal education have been found to be inversely related to age-adjusted mortality in many countries, such as Norway, England and Hungary (Ratzan et al. 2000). Higher educational levels are related to decreases in smoking prevalence and higher rates of smoking cessation in Europe (Cavelaars et al. 2000), and educational level has been shown to be related to more ideal body weight in Europe, Russia and China (Molarius et al. 2000).

POOR HEALTH LITERACY IS ASSOCIATED WITH MANY ADVERSE HEALTH OUTCOMES

Empirical data supports an association between limited health literacy and numerous adverse health outcomes (Baker 1999; DeWalt, Berkman, Sheridan, Lohr & Pignone 2004; IOM 2004; Paasche-Orlow & Wolf 2007) (*see Box 3*).

BOX 3 : HEALTH OUTCOMES OF POOR HEALTH LITERACY

- Poorer health choices
- Riskier behaviours
- Less use of preventive services
- More delayed diagnoses
- Poorer understanding of medical conditions
- Less adherence to medical instructions
- Poorer self-management skills
- Increased risk of hospitalisation
- Poorer physical and mental health
- Increased mortality risk (*see Graph 1*)
- Higher health care costs



Graph 1: Literacy and Mortality Risk—Over time, the percentage of elderly people alive is greater among those with better health literacy. (Baker et al. 2007)

HIGHER HEALTH CARE COSTS

Health literacy has a strong economic component. A low level of health literacy can lead to inappropriate use of the health care system, reduced effectiveness and efficiency of health care interventions or increases in the likelihood of unhealthy lifestyles. One analysis in the US, by the National Academy on Aging Society, estimates that poor health literacy costs the US health care system $30-$73 billion annually. Sixty-three percent of the additional costs attributed to low health literacy may be borne by public programmes (Friedland 1998).

Telecommunications can reach into all communities and help strengthen health literacy.

SECTION 3: HOW IS HEALTH LITERACY MEASURED?

Most health literacy measures in current use tend to assess reading skills (word recognition or reading comprehension) and numeracy rather than measure the full range of skills needed for health literacy. There are no current measures of health literacy that include oral communication skills or writing skills and none that measure the health literacy demands within different health contexts (IOM 2004, p.51). This is an area of active research and some promising tools appear to be in the pipeline.

3.1 CURRENT MEASUREMENT TOOLS—INDIVIDUAL SKILLS AND ABILITIES

REALM

The Rapid Estimate of Adult Literacy in Medicine (REALM) is a word recognition test. It measures an adult person's ability to read medical terms. Patients are asked to read a list of 66 increasingly difficult medical terms. The number of correctly pronounced words is subsequently related to approximate grade levels of reading (0-18: third grade (age 7) and below; 19-44: fourth to sixth grade (age 8-10); 45-60: seventh and eighth grade (age 11-12); 61-66: ninth grade and above (age 13+)). REALM is simple, brief (administered in two to three minutes), and useful for profiling patients' reading skills (http://www.ihs.gov/nonmedicalprograms/healthed/PDF/PtEd_REALM_Examiner_WordList.PDF).

TOFHLA and S-TOFHLA

Comprehension tests—such as the Test of Functional Health Literacy in Adults (TOFHLA) and the Short Test of Functional Health Literacy in Adults (S-TOFHLA)—were designed to provide a broader assessment of functional health literacy. They take into account reading comprehension and quantitative literacy (numeracy).

TOFHLA and S-TOFHLA have been shown to be reliable and valid measures of functional health literacy. Although TOFHLA and S-TOFHLA are the primary instruments by which reading comprehension and numeracy skills are measured, the time—22 minutes for the TOFHLA and 12 minutes for the S-TOFHLA—and complexity have limited their use to research within health care environments.

NVS

The Newest Vital Sign (NVS) test is a health literacy screening tool administered in three minutes. It requires users to read a standard nutrition label from a carton of ice cream and answer a series of six questions. The concept implies that health literacy is a vital sign, just as heart rate and blood pressure are.

One-Item Screening Measures

While researchers may choose to use one of the above tools, it may be necessary for practitioners in a busy health care environment to simplify the measurement of health literacy. Because of the shame associated with limited health literacy, efforts have been made to identify simple screening questions that avoid the perception of literacy testing.

One study evaluated a series of questions as potential predictors of health literacy as measured by the S-TOFHLA. Three questions emerged from the analysis as best single-item screening measures:

- How often do you have problems learning about your medical condition because of difficulty understanding written information?
- How confident are you filling out medical forms by yourself?
- How often do you have someone help you read hospital materials?

Using a one-item screening question during individual encounters is simple, less intrusive, and may be a practical alternative to more complex measures.

3.2 MEASURING THE DEMAND AND COMPLEXITY SIDE—HEALTH LITERACY INTERVENTIONS

Some researchers have begun developing tools to evaluate the health literacy friendliness of systems. One such tool (Matthews & Sewell 2002) collects information on whether health literacy is considered in programme development and service activities; the degree to which organisations follow health literacy principles in their programmes; whether organisations pilot test materials for comprehension or cultural competence; evaluation of materials; which activities people associate with health literacy; and lessons learned.

System assessments

In addition to activity/intervention analysis, researchers have used assessment tools to evaluate how well a health service meets the needs of patients with limited

health literacy skills. One study applied an assessment tool to a pharmacy setting. It evaluated patient understanding of medications and adherence to prescribed regimens (Jacobson 2008). Additionally, the assessment tools:

- Raise pharmacy staff awareness of health literacy issues.
- Detect barriers that may prevent people with limited literacy skills from accessing, comprehending and using health information and services provided by the organisation.
- Identify opportunities for improvement.

Conducting an organisational assessment may also provide a baseline assessment prior to implementing an intervention. Jacobson identified nine key elements of an organisational health literacy intervention: management, measurement, workforce, care process, physical environment, technology, paperwork and written communications, culture and alignment. Evaluating these elements provides a comprehensive audit to assess congruence between patient, provider and organisational perspectives of health literacy. A follow-up assessment allows evaluation of the intervention's impact on an organisation's accessibility to those with limited health literacy.

3.3 SCORECARDS

Some have proposed the development of health literacy scorecards for individual and system monitoring of literacy. The individual scorecard would identify a few key health indicators that are associated with a healthy physical and mental state. Individuals could rate themselves against a standard and agencies would be measured on how many of their users successfully achieved the score parameters. The challenge here will be to ensure that the variables selected truly reflect the health literacy status of individuals and agencies.

3.4 A MEASURE OF HEALTH DEVELOPMENT

It has been suggested that population health literacy should be considered a measure of health development. A population health literacy index which measures the alignment between people's skills and the health literacy friendliness of key systems and settings in which they need to function could provide a useful and unique picture of population health competence. Such an index could provide a new type of health index for societies that complements measures such as the disability adjusted life years (DALYs) and morbidity and mortality data (Ratzan 2000; Kickbusch 2003).

SECTION 4: WHAT CAN INDIVIDUALS, AGENCIES AND SYSTEMS DO TO STRENGTHEN HEALTH LITERACY?

Health literacy is a society-wide responsibility—it is everybody's business. We have identified and focused on different interventions that can be taken in the six domains of activity identified earlier.

While health literacy is influenced by many aspects of society, health care and public health workers have a special responsibility in this area. Not only should they improve their own communication capacities and those of the systems in which they work, they should try to facilitate change and development needed in other settings.

A NOTE OF CAUTION

While much can be learned from the activities of others, this guide is not promoting the wholesale adoption of any intervention. It is important that any definition of health literacy recognises the potential effect of cultural differences on the communication and understanding of health information (Nutbeam 2000). Native language, socioeconomic status, gender, race and ethnicity, along with mass culture—news publishing, advertising, marketing, and the plethora of health information sources available through electronic channels—all influence health literacy.

4.1 HEALTH SYSTEMS

Complexity of health systems

Advances in medical science, changes in the delivery of care and the adoption of a business approach to health reform in many countries[2] have resulted in less accessible and more complex health systems. These changes all make high health literacy demands on their users. Navigating such health care systems, with their numerous layers of bureaucracy, procedures and processes, can be a challenging task. People often have to choose a provider, make a decision about treatment depending upon the severity of illness, and assess the ease and quality of various treatment options.

[2] The adoption of a business approach to health reform, guided by efficiency outcome measures, has often led to a re-orientation of priorities. Economic values inherent in an industrial and/or for-profit approach have in many places replaced fundamental commitment to access and care for many vulnerable persons, e.g. the poor, elderly and unemployed. Time management of health professional visits, for example, reduces the amount of contact time and opportunities for information exchange between providers (especially doctors) and patients.

They also have to move from community settings to hospitals, and from public to private providers (IOM 2004, p.148). An adult's ability or inability to make these decisions and navigate these systems is a reflection of systemic complexity as well as individual skill levels. Patients, clients and their family members are often unfamiliar with these systems. Their health literacy can be thought of as the currency needed to negotiate the system (Selden 2000); or a compass for what may be a difficult and unpredictable journey (Kickbusch and Maag 2008).

Health Literacy enhancement interventions

Health system related interventions to improve individual and population health literacy can be divided into four categories:

1. Provision of simplified/more attractive written materials
2. Technology-based communication techniques
3. Navigator services
4. Training of educators and providers

4.1.1 PROVISION OF SIMPLIFIED/MORE ATTRACTIVE WRITTEN MATERIALS

Health information materials and official documents—including informed consent forms, social services forms and public health and medical instructions—often use jargon and technical language that make them difficult to use (Rudd et al. 2000, cited in IOM 2003, p.168). Moreover, studies suggest that health information is often more difficult to comprehend than other types of information (Root and Stableford 1999).

Most of the approaches in this category involve producing patient information materials that are written with simplified language, have improved format (for example, more white space and friendlier layout), or use pictograms or other graphics.

4.1.2 TECHNOLOGY-BASED COMMUNICATION TECHNIQUES

A systematic review of technology-based communication techniques shows that such decision aids improve knowledge, reduce decisional conflict and stimulate patients to be more active in decision-making without increasing anxiety (O'Connor et al. 1999).

One widely-used type of technology-based communication technique is telephone-delivered interventions (TDIs), in which counselling and health reminders are delivered using the telephone or through text messaging. TDIs can vary by the

type of service provider and the extent to which the call is scripted. They may also vary depending on characteristics and responses of the individual, and the extent to which subsequent calls take into account information from other encounters with the person (IOM 2002).

New communication technologies offer educational opportunities that help people to be more involved in their health decisions and treatment. These technologies include web-based learning, audio-visual aids (for example videos, DVDs, spoken word), interactive games and 'mobile health' (M-health). 'Mobile health' is working on capturing the power of short message service (SMS) messaging to support literacy. One example of this is in India. 'Baby Centre' is a service to which mothers can SMS their due dates to a service centre. They will then receive a set of texts with their injection dates and scan dates, thereby providing a tailored response (Ratzan 2009, pers. comm.).

4.1.3 NAVIGATING HEALTH SYSTEMS

Many health systems, particularly at institutional and community level, have tried to make their services more navigable by using case managers and navigators to help patients. Navigators can be community health workers, lay or professional, paid or volunteers, but their role is to help patients through the health or social care system. They can be trained to provide health education, interpret health information and assist in obtaining access to services (Freeman et al. 1995).

4.1.4 PROVIDER TRAINING

Providers should be trained to communicate more effectively to help them care for patients with limited health literacy. Training should focus on enhancing clinician communication skills and understanding of cultural sensitivities (Frankel and Stein 2001). Furthermore, the need for improved clinician skills in fostering mutual learning, partnership-building, collaborative goal-setting and behaviour change with and for chronic disease patients has been identified (Wagner 2003; Youmans and Schillinger 2003). Training works best when it is informed by users with limited health literacy, who are often under-represented in clinical research (IOM 2004, p277).

© Photo by Kara Jacobson

Times of illness often provide 'teachable' moments and opportunities to enhance health literacy skills and knowledge.

© Photo by Steve Turner

Health education can be provided in formal and informal settings.

4.2 EDUCATIONAL SYSTEMS

Schools and other formal and informal educational establishments play a key role in developing general, health and media literacy skills in all countries. They can assist children and adults to learn about healthy and unhealthy choices and where to find reliable information. The development of such literacy skills should be included in all primary, secondary and adult education programmes.

The opportunity to provide health education also exists within institutional and community-based health services. There is a sound justification for embedding health literacy instruction into these settings for children and adults. Educational research has documented the impact of context and content on learning, retention and transfer. This research has shown that learners retain and apply information best in contexts similar to those in which they learned it (Bereiter 1997; Mayer & Wittrock 1996; Perkins 1992).

BOX 4 : CRITERIA FOR HEALTH EDUCATION CURRICULA

(Lohrmann and Wooley 1998)

1. Be research-based and theory-driven.
2. Include information that is accurate and developmentally appropriate.
3. Actively engage students using interactive activities.
4. Ensure all students model and practise relevant social skills.
5. Discuss how social or media influences affect behaviour.
6. Support health-enhancing behaviour.
7. Provide adequate time for students to gain knowledge and skills.
8. Train teachers to effectively convey the material.

For example, children and young people can learn about health and hygiene, nutrition and physical activity while learning about sexual and reproductive health. Information about birth control can be given at the same time as information about the prevention of HIV/AIDS and other sexually transmitted diseases—so-called dual protection. Learning opportunities also exist during immunization experiences, such that families and recipients understand the disease and the public health benefits of immunization.

Obstacles to Health Education Initiatives

The World Health Organization (1996) has described several barriers that may impede the implementation of school health programmes. Firstly, policy makers and political leaders, as well as the public at large, often do not fully understand the true impact of modern school health programmes on health. Secondly, some may not support the programmes because the content is considered too controversial, for example those that discuss HIV infection, other prevalent STDs and unintended pregnancy. Thirdly, modern school health programmes require effective collaboration, especially between separate education and health agencies (IOM 2004, p.145). Any planned educational intervention will need to address these potential obstacles.

4.3 MEDIA MARKETPLACES

For many people media marketplaces—including print, radio, television, internet, mobile phones and public advertising spaces—are a main source of health information. These marketplaces shape people's health perceptions, behaviours and choices even though they often contain information of variable quality that can be more confusing than helpful. Separating fact from fiction requires some well-developed health literacy skills. National health information services, like the NHS Direct in the UK (http://www.nhsdirect.nhs.uk/), can help provide support to people in deciphering and navigating these health information marketplaces. Some basic quality control standards and certifications, such as the Health On the Net (HON) standards (http://www.hon.ch/HONcode/Conduct.htm), have been developed for health web pages but have not yet been applied globally and have not been shown to make websites easier to understand.

Commercial and political interests often dominate the media marketplaces. Industries, such as tobacco, alcohol and fast food companies, use sophisticated communication techniques which glamourise and promote unhealthy products and lifestyles. Recognising and countering these negative health messages require literacy skills to distinguish credible, reliable and independent information from sales-driven product marketing and advertising.

Interventions

Increasingly, public health advocates and educators are using a wide range of technologies, media and social marketing approaches to get independent, evidence-based information to stand out and shape people's perceptions, choices and behaviours.

This domain of health literacy activity has been a very active area for health and related media literacy interventions in all countries. Public information approaches which strengthen health literacy are thought to provide a necessary basis for:

- informed decision-making;
- understanding of bias and levels of evidence;
- statistics and probabilities; and
- critical thinking skills.

Edutainment

Educational entertainment approaches—so-called edutainment—have been shown to have a positive impact upon learning and action by target audiences. For example, studies indicate that discussions of immunization on soap operas in some countries have actually increased the number of mothers seeking vaccinations for their children (Glik et al. 1998).

4.4 HOME AND COMMUNITY SETTINGS

People are called upon to make daily 'health' decisions in their homes and communities. Families, friends, peers and community resources are key sources of health information. These sources model behaviours and shape the early and continuing development of functional health literacy skills related to product and service choices. They also provide basic information about health-promoting, health-protecting and disease-preventing behaviours, as well as self and family care, 'alternative therapies', available support services and first aid.

4.4.1 CHALLENGES

Chronic diseases

According to the World Health Organization (2005), chronic diseases (for example diabetes, emphysema, heart disease, cancer) currently account for more than half of the global disease burden in both developed and developing countries. People with chronic diseases have more health literacy demands, such as the need for self management (see below), coordinating care with multiple providers and managing multiple lifelong prescription medications. These people, however, often have fewer health literacy skills.

The WHO and several international health professional associations have called for major changes in health workforce training to develop the provider skills required to meet the health literacy and other needs created by the prevalence of chronic illness. Skills called for include the ability of providers to support self-managed care, build more partnership-based provider–patient relationships, and communicate more effectively (Pruitt and Epping-Jordan 2005).

Self management

In the past, patient health management was primarily the responsibility of the physician. However, in many health systems people are increasingly encouraged to take more responsibility for their own health. To make appropriate self-management decisions, people must locate health information, evaluate the information for credibility and quality, and analyse risks and benefits. Furthermore, people must be able to ask pertinent questions and express health concerns clearly by describing symptoms in ways the providers can understand (IOM 2004, p168).

Health care providers need to take 'universal precautions' in relation to health literacy and assume that everyone may have trouble understanding health information. They should take steps to strengthen their own and their institutions' communications.

Community participation

Community participation aims to identify, shape and advance shared interests in priority issues for community health. This might be investment in education for self-care, increased penetration of vaccinations, elimination of vectors and control of sexually transmitted diseases. Investment in such participatory health literacy skill development can help individuals to utilize systems effectively and help key systems and settings improve their health literacy 'friendliness' (IOM 2004, p213).

4.5 WORKPLACE SETTINGS

The workplace directly influences the physical, mental, economic and social wellbeing of workers and in turn, the health of their families, communities and society. It offers an infrastructure to improve health literacy through educational and health promotional interventions.

WHO (2008) has defined workplace health promotion as the combined efforts of employers, employees and society to improve the health and wellbeing of people at work. It places particular emphasis on improving the work organisation by increasing workers' participation in shaping the working environment and encouraging professional development.

Some health promotion activities in the workplace tend to focus on a single illness or risk factor (for example, HIV/AIDS or heart disease) or on changing personal behaviours (for example, smoking and diet). However, there is a growing appreciation that there are other determinants of workers' health—for example, environmental and family stresses that affect employee wellbeing—that need to be addressed as part of a more comprehensive approach.

WHO has introduced the concept of the health promoting workplace (HPW) as an integrated way of paying proper attention to workers' health and safety. HPW programmes aim to:

- Help workers make healthier decisions and choices for themselves and their families;
- Reduce workplace-related health risks;
- Enhance awareness and action regarding protecting health from work-related environmental factors – for example, pollution control;
- Influence occupational health and safety programmes so they help reduce worker and community risks;

- Use the workplace setting for medical diagnosis, health screening and assessment of functional capacities; and
- Link with other community-based activities related to major diseases (e.g., HIV/AIDS, heart disease) as part of larger disease prevention and control strategies. (WHO 2008)

4.6 POLICY-MAKING ARENAS

Policies at all levels (institutional, community, national and regional) shape the factors which determine health literacy and health. The engagement of citizens in policy-making processes is a fundamental democratic principle. Furthermore, a key trend in many health system reforms is empowerment of patients and the development of more patient-centred care. To function effectively in politics and policy-making, people need the ability to advocate for policy change; be active citizens (for example, vote); be knowledgeable about health rights and responsibilities; and be able to participate in health organisations.

Advocacy

This guide sees advocacy as an important part of the health literacy skills continuum. Advocacy[3], as discussed here, applies mainly to policy changes in systems. These 'systems' include any institution, community, citizen group, association or agency, governmental or non-governmental, public or private, national or international, that can influence individual and community health.

[3] The term 'advocacy', particularly in the sense in which it is used in this guide, may not translate directly into some languages and several words may be needed to capture the sense of the English word. The advocacy focused on in this guide is not legal advocacy, i.e. pleading for another person in court or upholding the legal or human rights of one or a group of clients at their request (Wheeler 2000; Mallik 1998).

SECTION 5: MESSAGES TO KEY STAKEHOLDERS

GENERAL PUBLIC

1. Strengthen your own health literacy—engage with formal and informal education systems.
2. Ask and act—seek out information from health providers, systems and other reliable sources. Where access is denied, advocate for change.
3. Support others—join forces with others in patient associations or community groups seeking enhanced alignment between skills and demands.

POLICY MAKERS

1. Recognise the importance of strengthening health literacy and that improvements in health equity, affordability and quality require health literacy.
2. Put health literacy on the agenda. Develop policies that support health literacy development.
3. Fund necessary research.

HEALTH PROFESSIONALS AND ADVOCATES

1. Approach health literacy with 'universal precaution': i.e., assume everyone has weak health literacy skills and pay careful attention to all communications. Weak health literacy is common and often undisclosed.
2. Create health literacy friendly health care settings. Adapt materials, forms and signs accordingly. Make navigation easier.
3. Enhance your communications skills. Provide information in accessible, understandable and culturally sensitive ways. Professional schools and professional continuing education programmes in health and related fields, including medicine, dentistry, pharmacy, social work, anthropology, nursing, and public health, should incorporate communications into their curricula and areas of competence.
4. Advocate for system change where needed. Use your professional associations and cultural authority to catalyse policy and structural changes needed to strengthen people's skills and systems' healthy literacy friendliness.

RESEARCHERS

1. Develop and test assessment tools which can measure skills and abilities and demands and complexities. Current assessment tools and research findings cannot differentiate among (1) reading ability, (2) lack of background knowledge in health-related domains, such as biology, (3) lack of familiarity with language and types of materials, and (4) cultural differences in approaches to health and health care. No current measures of health literacy include oral communication, writing, advocacy and citizenship skills and none measure the health literacy demands on individuals within different contexts.
2. Develop causality models that can explain the relationships between skills and demands at different life stages and in different settings.
3. Evaluate interventions. There is a need for more intervention-based evaluations with guidance on efficacy and efficiency.

EDUCATORS

1. Use all formal and informal settings to teach health literacy. Educators should take advantage of all opportunities to transfer relevant health-related information.
2. Use new approaches and technologies. There is a need to develop more non-reading solutions, recognising that addressing health literacy goes beyond better-written communications.
3. Pay attention to different needs throughout the lifespan.

SECTION 6: BUILDING NATIONAL AND LOCAL HEALTH LITERACY ACTION PLANS

1. **Recognise the problem and its significance. Include health literacy on your action agenda.**
   - Assess health literacy among your target populations.
   - Measure the alignment of skills/abilities with task demands/complexity. Both must be measured. The goal is for both to be 'health literate'.
   - Identify and monitor indicators that will reflect progress toward aligning skills with demands.
   - Measure skills and abilities on multiple levels. What gets measured gets done.

2. **Support improvements in education and information access.**
   - Make health literacy skills an essential element on school agendas.
   - Help children and adults opt for healthy choices in everyday life.
   - Help people access and evaluate reliable sources for health information.

3. **Build health literacy friendly systems that better align demands with skills.**
   - Identify the specific health demands/tasks for targeted health actions.
   - Understand and simplify navigational demands.
   - Sensitise and train providers.
   - Identify and communicate essential information and desired behaviours in an accessible, understandable and culturally sensitive way.

4. **Set, measure and evaluate goals for improved alignment of skills/ ability with task demands/complexity.**

5. **Engage with members of your target population at all stages of planning, implementation and evaluation. The real experts in health literacy are those with trouble understanding what they must do to take care of their health.**

- Tasks: How complex are they?
- Information: Is it understandable?
- Navigation demands: Can they be simplified?

REFERENCES

Allen CE. 2001. 2000 presidential address: Eliminating health disparities. *American Journal of Public Health*. 91(7):1142-1143.

AMA Foundation, *Quick Facts about Health Literacy*. www.ama-assn.org/ama/pub/category/8577.html (12 May 2003).

Apfel FJ. 2008. *Promoting Health. Advocacy Guide for Health Professionals*. International Council of Nurses, Geneva.

Baker DW. 2006. The meaning and the measure of health literacy. *J Gen Intern Med.* 21:878-883.

Baker DW. 1999. Reading between the lines: deciphering the connections between literacy and health. *J Gen Intern Med.* 14:315-317.

Baker DW, Gazmararian JA, Williams MV, Scott T, Parker RM, Green D, Ren J & Peel J. 2002. Functional health literacy and the risk of hospital admission among Medicare managed care enrollees. *Am J Public Health*. 92:1278-1283.

Baker DW, Parker RM, Williams MV & Clark WS. 1998. Health literacy and the risk of hospital admission. J *Gen Intern Med.* 13:791-798.

Barro RJ. 1991. Economic Growth in a Cross-Section of Countries. *The Quarterly Journal of Economics* (May).

Bereiter C. 1997. Situated cognition and how to overcome it. In: *Situated Cognition: Social, Semiotic and Psychological Perspectives*. Kirschner D, Whitsun JA, Editors. Mahwah, NJ: Erlbaum.

Bird JA, McPhee SJ, Ha NT, Le B, Davis T, Jenkins CN. 1998. Opening pathways to cancer screening for Vietnamese-American women: Lay health workers hold a key. *Preventive Medicine*. 27(6):821-829.

Brown DR, et al. 2003. Health literacy: universal precautions needed. *Journal of Allied Health.* 33:150-155.

Cassen R. 2002. *Education and Development: A Note on Instrumental Effects.* Prepared for the Global Science Panel on Population and Environment, "Science Meeting on Population and Sustainable Development," 21-23 March 2002, International Institute of Applied Systems Analysis, Laxenburg, Austria. Available online at http://www.iiasa.ac.at/gsp/papers_iiasa.html?sb=13.

Cavelaars AE, et al. 2000. Educational differences in smoking: international comparison. *British Medical Journal*, 22:1102-1107.

Coleman JS. 1988. Social Capital in the creation of human capital. *American Journal of Sociology.* 94s:S95–S120.

Commission on the Social Determinants of Health. 2008. *Closing the gap in a generation. Health equity through action on the social determinants of health.* World Health Organization, Geneva.

Davis TC, Fredrickson DD, Arnold C, Murphy PW, Herbst M & Bocchini JA. 1998. A polio immunization pamphlet with increased appeal and simplified language does not improve comprehension to an acceptable level. *Pat Ed Couns.* 35:25-33.

Doak LG, Doak CC, Meade CD. 1996. Strategies to improve cancer education materials. *Oncology Nursing Forum*. 23(8):1305-1312.

Doak CC, Doak LG, Root JH. 1996. *Teaching patients with low literacy skills*. 2nd ed. Philadelphia: Lippincott.

DeWalt DA & Pignone MP. 2005. Reading is fundamental: the relationship between literacy and health. *Arch Intern Med, 26.*165(17):1943-1944.

DeWalt DA, Berkman ND, Sheridan S, Lohr KN & Pignone MP. 2004. Literacy and health outcomes: a systematic review of the literature. *J Gen Intern Med.* 19:1228-1239.

Dzenowagis J. 2004. *Bridging the Digital Divide in Health*. Expert Meeting on free and open source software. UNCTAD, Geneva, September 2004. http://r0.unctad.org/ecommerce/event_docs/fossem/dzenowagis.pdf. Accessed 24/4/09.

Figueroa ME, Kincaid DL, Rani M, Lewis G. 2002. *Communication for Social Change Working Paper Series*. Communication for Social Change: An Integrated Model for Measuring the Process and Its Outcomes. New York: The Rockefeller Foundation and Johns Hopkins University Center for Communication Programs.

Frankel RM, Stein T. 2001. Getting the most out of the clinical encounter: The four habits model. *Journal of Medical Practice Management*. 16(4):184-191.

Freeman HP, Muth BJ, Kerner JF. 1995. Expanding access to cancer screening and clinical follow-up among the medically underserved. *Cancer Practice*. 3(1):19-30.

Friedland R. 1998. New Estimates of the High Costs of Inadequate Health Literacy, in Pfizer Inc. conference proceedings report from Promoting Health Literacy: A Call to Action, New York City, 7-8 October 1998, 6-10.

Gerber BS, Brodsky IG, Lawless KA, Smolin LI, Arozullah AM, Smith EV, Berbaum ML, Heckerling PS & Eiser AR. 2005. Implementation and evaluation of a low-literacy diabetes education computer multimedia application. *Diabetes Care.* 28:1574-1580.

Ginsburg P. 2002. Rough Seas Ahead for Purchasers and Consumers. *Navigating A Changing Health System: Mapping Today's Markets for Policy Makers*. July 2002. www.hschange.org/CONTENT/452 (4 September 2002).

Glik D, Berkanovic E, Stone K, Ibarra L, Jones MC, Rosen B, Schreibman M, Gordon L, Minassian L & Richardes D. 1998. Health Education Goes Hollywood: Working with Prime-time and Daytime Entertainment Television for Immunization Promotion. *Journal of Health Communication*. 3:263-282.

Hastings G. 2007. *Social Marketing: Why should the devil have all the best tunes?* Butterworth-Heinemann.

Health Care Association of New York. 2002. *HANYS Breast Cancer Demonstration Project*. [Online]. Available: www.hanys.org/quality_index/Breast_Cancer_Project/pnresourcekit.htm [accessed: September, 2003]

Healthy People 2010. 2000. U.S. Department of Health and Human Services http://www.healthypeople.gov/Document/html/uih/uih_bw/uih_2.htm.

Herman A. 2007. *Empowering Parents, Benefiting Children: A Study of the Impact of Health Literacy Training on Head Start Parents and the Healthcare System*. Health Care Institute at UCLA Anderson School of Management.

Houts PS, Witmer JT, Egeth HE, Loscalzo MJ & Zabora JR. 2001. Using pictographs to enhance recall of spoken medical instructions. *Patient Education and Counseling*. 43(3):231-242.

Hunink M, Goldman L, Tosteson ANA, Mittleman MA, Goldman PA, Williams LW, Tsevat J & Weinstein MC. 1997. The recent decline in mortality from coronary heart disease: the effect of secular trends in risk factors and treatment. *Journal of the American Medical Profession.* 277:535-542.

IOM (Institute of Medicine). 2000. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press.

Institute of Medicine. 2002. *Speaking of Health. Assessing Health Communication Strategies for Diverse Populations*. Washington, DC: The National Academies Press.

Institute of Medicine. 2004. *Health Literacy: A Prescription to End Confusion*. Washington, DC: National Academy of Science.

Jacobson K. 2008. *Strategies to Improve Communication between Pharmacy Staff and Patients: A Training Program for Pharmacy Staff.* The Agency for Healthcare Research and Quality [http://www.ahrq.gov/qual/pharmlit/pharmtrain.htm].

Kalichman SC, Ramachandran B & Catz S. 1999. Adherence to combination antiretroviral therapies in HIV patients of low health literacy. *J Gen Intern Med.*14:267-273.

Kickbusch I. 2002. Health Literacy: a search for new categories. *Health Promotion International.*17(1):1-2.

Kickbusch I, Wait S and Maag D. 2008. *Navigating Health*. *The Role of Health Literacy*. Alliance for Health and the Future, London.

Kickbusch I and Maag D. 2008. Health Literacy. In: Kris Heggenhougen and Stella Quah, editors. *International Encyclopedia of Public Health*, Vol 3. San Diego: Academic Press; 2008. pp. 204-211.

Kirsch IS. 2001. *The International Adult Literacy Survey (IALS): Understanding What Was Measured*. Princeton, NJ: Educational Testing Service.

Kirsch IS, Jungeblut A, Jenkins L & Kolstad A. 1993. *Adult Literacy in America: A First Look at the results of the National Adult Literacy Survey (NALS)*. Washington, DC: National Center for Education Statistics, US Department of Education.

Kutner M, Greenberg E & Baer J. 2005. *A First Look at the Literacy of America's Adults in the 21st Century (NCES 2006-470)*. US Department of Education. Washington, DC: National Center for Education Statistics.

Kutner M, Greenberg E, Jin Y & Paulsen C. 2006. *The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy (NCES 2006-483)*. US Department of Education. Washington, DC: National Center for Education Statistics.

Lee V, Kennedy A, Rogers A. 2006. Implementing and managing self-management skills training within primary care organisations: a national survey of the expert patients programme within its pilot phase. *Implement Sci*. 1:6.

Lohrmann DK, Wooley SF. 1998. Comprehensive school health education. In: *A Guide to Coordinated School Health Programs*. Marx E, Woolley SF, Northrop D, Editors. New York: Teachers College Press. Pp. 43-66.

Lorig KR, Ritter P, Stewart AL, et al. 2001. Chronic disease self-management program: 2-year health status and health care utilization outcomes. *Med Care*. 39(11):1217-1223.

Lorig KR, Sobel DS, Stewart AL, et al. 1999. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. *Med Care*. 37(1):5-14.

Mallik M. 1998. Advocacy in nursing: perceptions and attitudes of the nursing elite in the United Kingdom. *Journal of Advanced Nursing*. 28(5):1001-1011.

Mancuso CA & Rincon M. 2006. Impact of health literacy on longitudinal asthma outcomes. J *Gen Intern Med*. 21:813-817.

Manderson L. 1999. New perspectives in anthropology and cancer control, disease and palliative care. *Anthropology and Medicine*. 6(3):317-322.

Matthews TL, Sewell JC. 2002. *State Official's Guide to Health Literacy*. Lexington, KY: The Council of State Governments.

Mayer RE, Wittrock MC. 1996. Problem-solving transfer. In: *Handbook of Educational Psychology*. Berliner DD, Calfee RC, Editors. New York: Macmillan.

Molarius A, Seidell JC, Sans S, Tuomilehto J & Kuulasmaa K. 2000. Educational level, relative body weight, and changes in their association over 10 years: an international perspective from the WHO Monica Project. *American Journal of Public Health*. 90:1260-1268.

National Consumer Council. 2004. *Health Literacy: being able to make the most of health*. London. Available at www.ncc.org.uk.

Nussbaum MC. 2000. *Women and Human Development. The Capabilities Approach*. Press Syndicate of the University of Cambridge, Cambridge, UK.

Nutbeam D. 2000. Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*. 15(3):259-267.

O'Connor AM, Rostom A, Fiset V, Tetroe J, Entwistle V, Llewellyn-Thomas H, Holmes-Rovner M, Barry M, Jones J. 1999. Decision aids for patients facing health treatment screening decisions: Systematic review. *British Medical Journal*. 319(7212):731-734.

Paasche-Orlow MK, Schillinger D, Greene SM & Wagner EH. 2006. How health care systems can begin to address the challenge of limited literacy. *J Gen Intern Med.* 21(8):884-887.

Parikh NS, Parker RM, Nurss JR, Baker DW, Williams MV.1996. Shame and health literacy: the unspoken connection. *Patient Educ Couns.* 27:33-39.

Parker RM, Ratzan, SC & Lurie N. 2003. Health Literacy: A Policy Challenge For Advancing High-Quality Health Care. *Market Watch*. 22(4):147-153.

Perkins DN. 1992. *Smart Schools: From Training Memories to Educating Minds*. New York: Free Press/Macmillan.

Pruitt SD, Epping-Jordan JE. 2005. Preparing the 21st century global healthcare workforce. *BMJ*. 330:637-639.

Putman RD. 2000. *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster.

Ratzan S. 2001. Health literacy: communication for the public good. *Health Promotion International*. 16(2):207-214.

Ratzan SC, Parker RM. 2000. Introduction. In *National Library of Medicine Current Bibliographies in Medicine: Health Literacy*. Selden CR, Zorn M, Ratzan SC, Parker RM, Editors. NLM Pub. No. CBM 2000-1. Bethesda, MD: National Institutes of Health, US Department of Health, US Department of Health and Human Services.

Ratzan SC, Filerman GF & LeSar JW. 2000. *Attaining Global Health: Challenges and Opportunities*. Population Bulletin, Washington, DC.

Revere D, Dunbar PJ. 2001. Review of computer-generated outpatient health behaviour interventions: Clinical encounters "in Absentia". *Journal of the American Medical Informatics Association*. 8:62-79.

Root J, Stableford S. 1999. Easy to read consumer communication: A missing link in medicaid managed care. *Journal of Health Politics, Policy and Law*. 24(1):1-26.

Rothman RL, DeWalt DA, Malone R, Bryant B, Shintani A, Crigler B, Weinberger M & Pignone M. 2004. Influence of patient literacy on the effectiveness of a primary care-based diabetes disease management program. *JAMA*. 292:1711-1716.

Rudd RE, Colton T, Schacht R. 2000. *An Overview of Medical and Public Health Literature Addressing Literacy Issues: An Annotated Bibliography. Report #14*. Cambridge, MA: National Center for the Study of Adult Learning and Literacy.

Rudd RE, Kirsch I & Yamamoto K. 2004. *Literacy and health in America*. Princeton, NJ: Educational Testing Service.

Scheepers E, Christofides NJ, Goldstein S, Usdin S, Patel DS, Japhet G. 2004. Evaluating health communication - A holistic overview of the impact of Soul City IV *Health Promotion Journal of Australia*. 15(2):89–176.

Schillinger D, Bindman A, Stewart A, Wang F, Piette J. 2004. Functional health literacy and the quality of physician-patient communication among diabetes patients. *Patient Education and Counseling*. 52(3):315-323.

Schillinger D, Grumbach K, Piette J, Wang F, Osmond D, Daher C, Palacios J, Sullivan GD & Bindman AB. 2002. Association of health literacy with diabetes outcomes. *JAMA*. 288:475-482.

Scholman BF. 2004. Health literacy: a key ingredient for managing personal health. *Online Journal of Issues in Nursing*: http://nursingworld.org.

Selden CR, Zorn M, Ratzan SC, Parker RM, Editors. 2000. *National Library of Medicine Current Bibliographies in Medicine: Health Literacy*. NLM Pub. No. CBM 2000-1. Bethesda, MD: National Institutes of Health, US Department of Health, US Department of Health and Human Services.

Sen A. 1990. The Arturo Tanco Memorial Lecture, 2 August 1990, London: Public Action to Remedy Hunger. The Hunger Project. http://www.thp.org:80/reports/sen/sen890.htm accessed 08/01/08.

Sen A. 1999. *Development as Freedom*. Oxford University Press, Oxford, UK.

Sida H. 2005. *An Advocacy Tool Kit for Hospices and Palliative Care Organisations.* UK forum for hospice and palliative care worldwide, Help the Hospices, UK.

Sudore RL, Yaffe K, Satterfield S, Harris TB, Mehta KM, Simonsick EM, Newman AB, Rosano C, Rooks R, Rubin SM, Ayonayon HN & Schillinger D. 2006. Limited literacy and mortality in the elderly: the health, aging, and body composition study. *J Gen Intern Med*. 21:806-812.

UNESCO. 2003. Literacy as Freedom. Paris, France: UNESCO.

Wallack L, Dorfman L, Jernigan D, Themba M. 1993. *Media Advocacy and Public Health: Power for Prevention*. Sage Publications.

Wallack L, Woodruff K, Dorfman L, Diaz I. 1999. *News for a Change. An Advocate's guide to working with the Media*. Sage Press.

Watters EK. 2003. Literacy for health: An interdisciplinary model. *Journal of Transcultural Nursing*. 14(1):48-54.

Wheeler P. 2000. Is advocacy at the heart of professional practice? *Nursing Standard.* 14(36):39-41.

Whitehead M & Dahlgren G. 2007. *Concepts and principles for tackling social inequities in health: Levelling up Part 1*. Studies on social and economic determinants of population health, No. 2. World Health Organization Regional Office for Europe, Copenhagen.

Williams MV, Baker DW, Honig EG, Lee TM, Nowlan A. 1998a. Inadequate literacy is a barrier to asthma knowledge and self-care. *Chest*. 114(4):1008-1015.

Williams MV, Baker DW, Parker RM, Nurss JR. 1998b. Relationship of functional health literacy to patients' knowledge of their chronic disease. A study of patients with hypertension and diabetes. *Archives of Internal Medicine*. 158(2):166-172.

Wils A. 2002. *On Accelerating the Global Literacy Transition*. Research and Assessment Systems for Sustainability Program Discussion Paper 2002-18. Cambridge, MA: Environment and Natural Resources Program, Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University.

Wolf MS, Parker RM, Ratzan SC. 2008. Literacy and Public Health. *International Encyclopedia of Public Health*. Elsevier Inc. pp98-104.

Wolf MS, Davis TC, Skripkauskas S, Bennett CL & Makoul G. 2006. Literacy, self-efficacy, and HIV medication adherence. *Patient Education and Counseling*.

Wolf MS, Feinglass JM, Carrion V, Gazmararian J & Baker D. 2006. Literacy and mortality among Medicare enrollees. [Abstract]. *J Gen Intern Med*. 21:81.

Wolf MS, Gazmararian JA & Baker DW. 2005. Health literacy and functional health status among older adults. *Arch Intern Med*. 165:1946-1952.

World Health Organization. 1996. *Improving School Health Program: Barriers and strategies*. Geneva: World Health Organization.

WHO. 2008. Occupational health. http://www.who.int/occupational_health/topics/workplace/en/index1.html accessed 24/4/09.

WHO. 2009. *Health in times of global economic crisis: implications for the WHO European Region*. Paper presented at Oslo meeting, April 2009.

Youmans S, Schillinger D. 2003. Functional health literacy and medication management: The role of the pharmacist. *Annals of Pharmacotherapy*. 37(11):1726-1729.

NOTES

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