

October 2006

Improving Health Literacy in Connecticut: A Prescription for Healthy Lives and Communities

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Recommended Citation

Beaulieu, Annamarie; Lewendon, Kimberly ; Torres, Christine ; and DeChello, Laurie, "Improving Health Literacy in Connecticut: A Prescription for Healthy Lives and Communities" (2006). *UCHC Graduate School Presentations*. 4.
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**University of Connecticut Graduate Program
in Public Health**

2006 Practicum Project Summary Report

**Improving Health Literacy in
Connecticut: A Prescription for
Healthy Lives and Communities**

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Students of the Entering Class of 2005

Presented to the State of Connecticut on
October 17, 2006



UCONN

Preparing the Public Health Workforce for the 21st Century

**UCONN Graduate Public Health Program's
Practicum Projects**

- 2005 Halting Childhood Obesity in Connecticut**
- 2006 Improving Health Literacy in Connecticut: A prescription for healthy lives and communities**
- 2007 Overcoming the Challenges of Disability**

The UCONN Graduate Public Health Program's Practicum Project

The Practicum Project is a supervised service-learning experience that integrates curriculum with hands-on experience in a public health setting. All 2nd year students are expected to work collaboratively in assessing the extent, causes and public health responses to a selected public health problem confronting citizens of Connecticut. The focal topic for the 2006 Project was Health Literacy in Connecticut.

During this past spring, 17 students of our program, working alongside and in partnership with more than 75 community-based stakeholders across Connecticut, completed over 1800 hours of service-learning in pursuit of answers to 3 questions:

Can the present and future burden of health literacy be estimated for Connecticut?

What is the current capacity of Connecticut's health and social service system to halt the crisis we confront today?

Can new policy and regulatory strategies be put forth to reduce the severity and scope of the problem?

This occasion and the accompanying report mark the completion of their project and acknowledge the considerable contributions that many have made to the success of this educational experience. Through those combined efforts, students gained experience and skill addressing one of the most significant public health issues of our time; also, they gained insight into the breadth and capacity of our public health system and established invaluable relationships with public health practitioners, agencies and institutions around the state. Their report documents a rich campus-community partnership to advance public health goals.

October 2006

2006 Practicum Project Report

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Improving Health Literacy in Connecticut

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Health Literacy Practicum Logic Model

Assumptions	Resources	Activities	Outputs	Outcomes	Impact
<ul style="list-style-type: none"> -All levels of SES have unique health literacy issues -There is a gap in info and understanding between health providers and patients -No review system to ensure health reading material is appropriate -Lack of health literacy education among health professionals -Poor health literacy leads to inappropriate health care utilization -English as a 2nd language, low literacy and cultural differences contribute to poor health literacy -Public has a lack of knowledge about health literacy issues 	<ul style="list-style-type: none"> -The Internet -Stakeholders -Universities -Patient health information reading materials -Secondary data -Primary data -Health insurance providers -Medical & allied health schools -Federal and state departments of health & education -Federal and local professional groups (e.g., AMA) -Published literature 	<ul style="list-style-type: none"> -Inventory the capacity of CT to deal with health literacy issues -Review legislative and policy options -Support implementation of interventions -Review available data & statistics -Estimation of low health literacy of Connecticut residents -Survey public regarding public health literacy 	<ul style="list-style-type: none"> -Draft summary report with recommendations -Call stakeholders together for forum -Encourage collaboration between public health practitioners and other interested parties 	<ul style="list-style-type: none"> -Connecticut health literacy task force formed -Health literacy legislation -Health literacy policies formed -Health literacy programs created and implemented in communities 	<ul style="list-style-type: none"> -Health professionals more educated and attentive to health literacy issues -Health literacy of persons with inadequate or marginal literacy skills increased -Increased health literacy skill of all CT residents regardless of SES

Health literacy is the ability of an individual to access, understand and use health related information and services to make appropriate health decisions. **–R. H. Carmona, U.S. Surgeon General**

Health literacy refers to an individual's ability to acquire, understand and use health information[1] that is critical to the delivery and receipt of beneficial health services that include wellness care, preventive strategies and screenings and practices for managing a chronic disease. How health literate a person is has been found to be associated with indicators such as their functional literacy level, socioeconomic status, presence of cognitive impairment or learning disabilities and age, as well as the presence of language or ethnic/cultural barriers. The literacy requirements of medical information can be assessed by a variety of tools described in this report. Strategies and services to minimize differences between how health literate an individual is and the expectations for his or her understanding of important health information are also outlined here.

Persons with low health literacy face greater risk that they will experience unnecessary illness, disability and even death. Persons with low health literacy are more likely to be hospitalized and have difficulty managing chronic illnesses. Low health literacy can cause individuals to make errors in their use of medication and/or self-care instructions. Caregivers may be lead to falsely presume an individual is non-compliant with treatment recommendations when, in fact, poor health literacy is the underlying problem.[2] Many well educated people are also challenged by low health literacy and struggle with the medical terminology associated with their health care.[3] Low health literacy can compromise health care by hindering the patient-clinician communications, leading to unnecessary, repeat or invasive, costly procedures on the one hand, or missed opportunity to prevent, detect or treat health problems.[4] The costs of care for persons with low health literacy are believed to be four times that of the general population.[5]

The consequences of low health literacy for the community are also substantial and serious. An already overburdened health care system must treat preventable or advanced conditions with higher costs due to the need for complicated, extended care. Several studies have shown a relationship between low literacy skills, greater use of health services and overall poorer health. Persons with low literacy skills have

WARNING: The contents of this and other pages of the report are written for reading comprehension at the 12th grade or higher. Persons unable to read this report will have limited opportunity to benefit from its contents!

difficulty understanding medical treatment, are unable to follow prescription medication instructions, and are less likely to adhere to recommendations about therapy. Equally important, persons who function with low health literacy cannot fully participate in civic discussions about how and what health care is available to the community. It is within our government's scope of responsibility, principally through our public health system, to address health literacy in an effort to "assure the conditions for people to be healthy" [6] and engage one another in constructive dialogue about how good health is maintained and illnesses are managed. It is in this spirit that the

A Prescription for Miscommunication

The following directions on a child's prescription for anti-seizure medication could easily have left parents uncertain about what to do, or perhaps caused harm to their child:

Two one half teaspoons day one then one and one half teaspoonsful once daily thereafter.

Was the correct dosage on the first day 1, $1\frac{1}{2}$ or $1\frac{1}{2} + 1$ teaspoons of medicine?

Was the medicine to be given in one or more doses throughout the day?

For day 2 and beyond, was the correct dosage $1\frac{1}{2}$ or 1 teaspoon of medicine?

How much medicine should I pore into a teaspoon?

For a parent going through a stressful time with a sick child, these directions can be very confusing. To make these directions easier to understand, we could:

- Put directions for each day in separate sentences
- Use numbers instead of spelling them out
- Use milliliters instead of teaspoons

following report is submitted.

Assuring adequate health literacy for individuals and the communities where they live is more important today than ever because health care has become consumer-driven. Individuals, regardless of

their literacy level, are forced to take more active roles in managing their health and medical care and to do so in the most efficient, cost-effective way.[7] Those with chronic illness or high health care expenses often find their problems are compounded by low health literacy skills that make it even more difficult to obtain high quality services at low cost.[8] Consumer-driven health insurance is increasingly becoming the sole option available to some patients. Costs associated with incorrect use of medications, failure to comply with medical directions, and safety risks in the workplace are indications that support the need for change in current policies. Government regulations, such as plain language requirements, can substantially affect changes in health education materials. Professional organizations must be encouraged to make health literacy issues a high priority on their policy, research, and practice agendas and to develop positions, policy statements, and papers.

Health Literacy Domains

The challenge for individuals, patients and health care providers is to make sure that communication about health and health care is complete and accurate. The many aspects of health literacy that are necessary to consider include:

Preventive Literacy

Ability to access, process and apply health care information to the activities associated with maintaining and promoting good health and healthy behaviors in order to prevent disease, as well as intervene in emerging health problems in their earliest stages. [9]

Clinical Literacy

Comprehending requirements and procedures for successful clinical experiences, such as filling out a patient information form for an office visit, understanding instructions for medication use and adherence, understanding steps for the self-management of an illness, following a health care provider's recommendation for a diagnostic test, and providing accurate information for a medical history, either verbal or written.[9]

<i>Public Health Literacy</i>	Receipt and compliance with information and directives intended to facilitate the monitoring of community health status, assuring healthy environments and promoting healthful policies and practices guidelines.
<i>Navigational Literacy</i>	Obtaining and managing information on how to access health services.
<i>Professional Literacy</i>	Acknowledgement by health care professionals of the complexity and urgency of communicating health information to patients during clinical encounters.

As prevention health literacy is better understood and improved, the potential for considerable health care cost savings is real. Investments in patient and provider education to make sure that the public receives and responds to messages about how to prevent disease and disability will ultimately be more cost effective than treatment of conditions that could be avoided.

Clinical health literacy affects not only the patient's health, but the health care system as a whole. By taking steps to limit misdirected or overuse of health care services we can focus expenditures on groups in greatest need. The high costs associated with incorrect use of medications, failure to comply with medical directions, and preventable emergency room visits are indications that support the need for a closer look at the clinical health literacy barrier.

Better public health literacy will allow local and state health departments to distribute information to communities as a whole. Not only are such methods good at reaching large numbers of persons, they are essential in reaching communities in event of public health emergencies. Due to recent world events, the need for effective health risk communication at the state and local levels cannot be understated. Considering "public health emergencies have always included a significant communication component in the form of warnings, risk messages, evacuation notification, messages regarding self-efficacy, information regarding symptoms and medical treatment, among many others,"[10] the role of effective risk communication is a significant one. If such messages are not effectively developed and distributed with regards to the public's varying functional literacy levels, critical information and services prior to and during times of crises are bound to

fail. The public must regard their state agencies as credible and reliable. When public health messages are unclear, the perception of the related agencies can be compromised.

Proper navigation requires familiarity with the operational vocabulary, concepts, and processes of the health care system. Examples include the ability to access and apply covered and non-covered benefits for health insurance plans, determining eligibility for public assistance programs, and being able to give informed consent for a health care service.[9] Information regarding health care services is available through many sources, each requiring different levels of health literacy and providing individuals with different tools with which to navigate through the health care system.

Currently, there is a lack of education focused on health literacy for health care professionals. Patients are often embarrassed to admit to their health care providers that they do not understand treatment instructions.[11] The gap between the literacy level of patients and expectations of health providers can be bridged either by patient education or by improving the communication skills of the health providers.[12, 13] Failure to recognize the low health literacy of a patient can make communication between parties difficult and/or ineffectual.[14] Professionals tend to communicate with technical terminology in an effort to be precise and informative to the patient. Patients are most often pre-occupied with their symptoms, which compounds any challenges due to any low health literacy indicators. Optimal communication methods between patient and physician have yet to be identified and are worthy of future research efforts. [15]

What's to be done?

Few states have enacted policies or programs to address health literacy. A survey of what states are doing to make it easier for someone with low health literacy to navigate the health care system and the efforts to improve health literacy was done by the Council of State Governments.[16] They found that, although states are not directly addressing health literacy in a comprehensive manner, a handful of states have created programs, hired staff, or established task forces to respond to health literacy. Virginia's state agency, the Center for Primary Care and Rural Health, created the Health Literacy Network, which promotes the use of plain language and provides health care workers, agency staff, and others with resources to assist specific populations in accessing health care. Massachusetts' Medical Assistance Programs provide multilingual assistance, videos in multiple languages, and training for staff. Georgia's Department of Adult and Technical Information hired a Health Literacy Coordinator. Alabama's

Medicaid agency conducts considerable pilot testing of materials utilized by enrollees. Illinois Secretary of State's Literacy Office created a health literacy task force, which targets parents. Louisiana's state legislature also enacted a health literacy task force in 2003. The goals of the task force were to address health literacy issues regarding health care access, unnecessary health spending and to improve health outcomes.[17]

Two states have formed partnerships with Pfizer in attempt to address health literacy in their states. The California Health Literacy Initiative is a partnership between a non-profit organization (Literacy, Inc.) and Pfizer. They inform and partner with individuals and organizations to create solutions to improve the health and well-being of people with low literacy.[18] Pfizer has also partnered with the Duval County Health Department in Florida for the Know Your Health program.[19] This program provides culturally sensitive education for individuals with diabetes and hypertension, while addressing potential health literacy issues.

Connecticut's Health Literacy Burden

Most adults read at an 8th grade level, although 1 in 5 persons reads at or below a 5th grade level.[20] Remarkably, most health care materials are written for someone who reads at a 10th grade level, suggesting that much of the printed health care material provided to individuals is written at a level too advanced for them to fully understand.[21] Since persons often do not question what they do not understand, health providers often believe that the health literacy of their patients is higher than it actually is. To increase effectiveness of health education materials, they must be written at a 6th grade or lower reading level in clear, concise language, and include pictures or illustrations.

Many researchers cite language barriers and cultural differences as factors associated with low health literacy.[1] Immigrants are more likely than native-born citizens to be uninsured, especially since they tend to work in low paying jobs which do not offer employee sponsored health benefits (ESI). Those lacking insurance exhibit difficulty seeking care and lack of a relationship with a primary care physician. This, in turn, fosters delay of care to patients until they present in emergency rooms with more serious conditions typically associated with poorer outcomes. At the present time, roughly 1 in 8 Connecticut residents are foreign born.[22]

Uninsured persons face significant challenges to obtaining appropriate health care, in part, because they lack necessary understanding of how to navigate the system without health insurance.

According to the Office of Health Care Access 2004 Household Survey, 5.8 % of Connecticut's population, or just fewer than 200,000 residents, is uninsured. [23] Persons without health insurance, especially those with chronic illness and disease are often unable to obtain the health care services they need, know how to obtain low cost health care, and once they obtain care, are unable to understand the health materials and communications with their providers pertaining to their illness.

Health Literacy and Civic Engagement

According to the Flesch-Kincaid scale, the following passages reflect a 12th grade reading level

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. –Thomas Jefferson

Persons who cannot read and understand such material may have difficulty participating fully in civic debate in our society.

The following passage reflects a 10th grade reading level.

Mr. and Mrs. Dursley, of number four, Privet Drive, were proud to say that they were perfectly normal, thank you very much. They were the last people you'd expect to be involved in anything strange or mysterious, because they just didn't hold with such nonsense. –J.K Rowling, author of Harry Potter

Individuals who cannot read and understand such passages may have difficulty participating fully in the social and cultural experiences of our community.

Similarly, if people cannot read health care information given to them by their doctors, public health professionals, insurance companies, government or businesses, how can they be expected to fully participate in discussion and development around their personal health needs or our health care system?

How bad is the problem of low literacy in Connecticut? According to the *Improving Health Literacy Prevalence Calculator*, [24] we can compute an estimate based on the percent of our population who may have difficulty understanding medical information and instructions {what is termed “limited health literacy”} by considering the portions of our population who are:

- Over 65 years of age
- Enrolled in Medicaid or other public assistance programs
- White, Black (African-American) and Hispanic
- Mainly speakers of a language other than English

Connecticut’s Low Health Literacy Burden

There are as many as 528,495 Connecticut residents (15.1%) who may be considered to have limited health literacy.

County-specific totals and percent of the population are:

Fairfield	128,822	14.6	New Haven	123,601	15.0
Hartford	125,149	14.6	New London	43,786	16.9
Litchfield	34,434	18.9	Tolland	25,636	18.8
Middlesex	27,758	17.9	Windham	19,309	17.7

With an estimated annual per capita health care expenditure in the U.S. during 2005 of \$5,635 [25] and a statewide population estimated to be 3,510,297 residents [26], annual health care costs for Connecticut could be estimated to reach \$19,800,000,000. Because persons with low health literacy have health care costs that average four times those of other persons [5], **we estimate that annual health care expenditures attributable to low health literacy in Connecticut exceed \$6,154,000,000.** In essence, 15.1% of the state’s population produces 31% of our total health care expenditures.

If only one-half of the above number of individuals was so affected, we estimate that annual health care costs for Connecticut attributable to low literacy would be roughly \$3,900,000,000 or 20% of the total for the state. In turn, reducing that number of individuals by 10% would result in an annual savings of more than \$340,000,000!

Resources to Address Health Literacy in Connecticut

Our review of efforts to improve health literacy identified many agencies, programs and services committed to this effort. Nonetheless, based on the statewide health literacy estimates, it is clear that more needs to, and can, be done to establish a consistent, comprehensive effort to improve health literacy. Health literacy has been addressed within state policy and law, some aspects of clinical care, by some health insurance providers, and through some public health education and training.

Federal Government

Center for Disease Control and Prevention (CDC)

State health department web sites are published by the CDC and are linked at the CDC web site. The CDC's Office of Communications collaborates with program development at the CDC to ensure appropriate and clear communication materials are created for distribution and invites multi-media parties to consult with the CDC about health messages included in their productions.

Even Start Family Literacy Program

The Even Start Family Literacy Program [27], while not specifically addressing health literacy, is an education program that targets the nation's low-income families with initiatives to help parents improve their literacy or basic educational skills. This program helps parents become full partners in educating their children and can help to ensure early childhood education for young children.

Reach Out and Read (ROR)

ROR is a nonprofit early literacy program that encourages the pediatric clinical setting to provide not only medical care, but free books and age appropriate advice to parents about reading with their child.[28] ROR pediatricians have targeted children growing up in poverty. Trained doctors, residents and nurses are promoting ROR to children and families in more than 2,900 hospitals, health centers and private pediatric practices.

Agency for Healthcare Research & Quality (AHRQ)

AHRQ has a valuable web site that provides information on choosing a health plan, doctor, treatments, hospital, and long-term care.[29] It also tells readers how to assess health information on the Internet and quick checks in determining quality health care. The web site explains concepts in easy to understand terms, and

provides worksheets and questions to consider, helping people make decisions about their health care.

Connecticut State Government

Connecticut has not passed any laws or regulations specifically addressing the issue of health literacy directly. However, there are some state laws and regulations pertaining to health literacy that do exist across the nation. Some states have used Tobacco Master Settlement agreement dollars to fund health literacy related programs.[30]

Raised Connecticut Senate Bill 649, An Act Examining Hospitals' Cultural and Linguistic Competence

The components of this bill clearly lend themselves to improved health literacy within Connecticut hospitals, which includes the state's two dedicated Children's Hospitals. Unfortunately, at the conclusion of the Spring 2006 legislative session, SB 649 had not yet moved from the Public Health Committee to another committee, the Legislative Commissioner's Office or the Appropriations Committee.

Office of the Healthcare Advocate

The goals of the Office of the Healthcare Advocate are to "assist consumers with health care issues through the establishment of effective outreach programs and the development of communications related to consumer rights and responsibilities as members of managed care plans." [31] It also aims "to provide consumer-friendly assistance to those who may be confused about health care in general and need help in working through various managed care issues." The web site provides guidance in easy-to-read language on the different types of managed care plans. It goes through how to select a health plan by comparing services offered, comparing providers, determining the cost of the health plan, and determining the quality of health plans. The web site gives tips on what to look for in shopping for an individual health plan. It has a glossary of health care definitions, and lists the areas of coverage mandated by Connecticut law.

The Connecticut Clearinghouse

The Connecticut Clearinghouse is a freestanding library that is a program of the Wheeler Clinic and is funded by the State Department of Mental Health and Addiction Services. As the name

implies, materials are obtained from a wide variety of sources and in many modalities, are catalogued, and are available for loan. Members of the organization may obtain multiple copies of some materials in limited quantities. Interestingly, curricula and teacher resource publications are available for loan.

The Community Distribution Center

The Center represents two programs created by Concerned Citizens for Humanity: a warehouse for educational materials and an educational materials development organization. The storage and distribution functions are by contract with the State Department of Public Health, AIDS and Chronic Diseases Division. The development of materials is by request and is partly met under that funding, but also through additional grants. The development process includes engaging creative subcontractors and community individuals in the production of an issue-oriented product. Past projects have been in English, Spanish, and Arabic languages, and incorporated ethnically varied visuals. The outcome is not limited to pamphlets, but has included posters, indoor and outdoor murals, and audiovisuals.

Connecticut Insurance Department

The Connecticut Insurance Department provides a multitude of resources on its web site for the insured as well as uninsured. Such resources range from the many different health insurance companies to definitions of different types of health insurance plans.

Connecticut State Department of Public Health

The DPH Office of Communications creates messages and distributes them to the public about emergency happenings in the state. The *Connecticut Guide to Emergency Preparedness* is a guide for Connecticut residents on what to do in case of a biological/chemical/natural public health emergency and was distributed to the public as an insert in the Hartford Courant.

At the program level, CT DPH staff use readability tools and write materials at grade levels that the “average person can understand.” The health promotion programs at DPH address health literacy, and share their knowledge with other departments. The chronic disease section of DPH also works closely with the State of Connecticut Department of Education. In many instances, it is difficult to determine if resources are appropriately reviewed for reading level

as there are no staff within the department specifically assigned this responsibility. Rather, there are a large number of designated spokespersons at the state level that are granted the ability to speak to the public about any other type of risk without set protocol, such as language (vocabulary) level, or any type of format in which the messages must be delivered.

Local Health Departments

In Connecticut, there is a mixture of full- and part-time local health departments (there are 49 full-time and 33 part-time departments presently serving Connecticut's 169 towns). Local health directors provide communities with a variety of public health messages ranging from health promotion recommendations to guidelines regarding environmental regulation. The literacy level of such information was found to vary from topic to topic and from locale to locale.

Discussion with 5 local health directors regarding their perceptions about health literacy efforts revealed:

- 1) All acknowledge the importance of health literacy in the design of messages for communities, yet several examples of brochures/materials/messages required high reading levels.
- 2) All perceived their messages to be tailored to certain audiences, and preferred quality over quantity (i.e. larger more complete guides as opposed to 3 sided flyers, the selective distribution of paper materials, the mass distribution of information to only selected, affected groups of people).
- 3) All made reference to the issue of "name recognition" as being an important component of their community's ability to access the resources they need.
- 4) All had a grasp on the concept of health literacy, but did not have the time to concentrate on that component of their department in a primary way.

Local & Regional Community Programs and Services

Central Area Health Education Center (AHEC)

The Central AHEC is part of the newly formed Mayor's Healthy Communities Initiative, a Health Network for Hartford's Uninsured. This new program was scheduled to begin May 1, 2006. There are three major objectives for the program that involve working with city hospitals and clinics. The first is to create a common, shared Medical Information Database and Patient Membership Card

System to better coordinate health care services for uninsured patients. Second, provide assigned Patient Navigators who will guide uninsured residents through the health care system, including the enrollment process for Medicaid insurance. Lastly, offer Medical Interpreters/Cultural Translators to help patients better communicate with their health providers. [32]

Hartford Health Literacy Task Force

The Greater Hartford Literacy Council convened a health literacy task force in 2002. This task force generated a report that included numerous recommendations to improve health literacy. Members of local government and staff of not-for-profit agencies participated in this task force.[33] This task force is an example of a community effort that ultimately required state and federal backing to install the initiatives determined necessary. Beyond the need for local health literacy initiatives, practitioners profess the need for, not only improved health literacy, but also increased science literacy, reading and math literacy.[34] All of these contribute to better health education and thus health literacy and can be introduced at the local educational level.

Literacy Volunteers of Greater Hartford

The Literacy Volunteers of Greater Hartford address individuals with limited reading ability and those with English as a second language. Health education is indirectly a part of the curriculum. Small health literacy grants have helped to initiate programs addressing AIDS, nutrition, obesity, smoking and stress management.

University of Connecticut Health Center Patient School

The mission of the University of Connecticut Health Center's Connecticut Health program is to improve the health of all Connecticut citizens. One project pertinent to health literacy is The Patient School.[36] This initiative acknowledges the complexity of today's health care system and the varying degree of challenges it can pose to all patients, regardless of education level and reading ability. A reduction in health care expenses is likely by improving a patient's ability to comprehend and advocate for their rights and responsibilities, optimize medical office visits and hospitalizations and have easier access to reliable sources of health information.

Middlesex Hospital

The Diabetes Care Program, Diabetes Support Group, and

outpatient diabetes education programs are all available at Middlesex Hospital. The program curriculum is based on guidelines from the International Diabetes Center, and is accredited by the National Center for Quality Assurance (NCQA) to ensure that all written education materials are at the 6th grade reading level. The program also uses materials from the American Diabetes Association. Printed materials are limited to Spanish and English, although they have resources such as Language Line to translate into Turkish, Hindi, etc. The program also relies on Middlesex Hospital medical librarians to research relevant aspects of other countries or cultures, as needed, to facilitate interaction with foreign patients. Program staff assess patients during initial visits for their reading level and, when necessary, rely on pictures to convey information. Currently, there are efforts to train residents in Family Practice on health literacy issues. For this training, educational resources largely come from the American Medical Association's Health Literacy guidelines.

AIR Middlesex (Asthma Integrated Resources of Middlesex Hospital) is designed to help patients manage and control their asthma. Although written information is only available in English and Spanish, the hospital has access to Language Line for other language needs. Currently, the program staff meet with clients before beginning the program, to administer a simple form to assess the patient's literacy level. Depending on the literacy level of the patient, program staff will verbally explain and assist in completing intake forms, assessments and other paperwork as needed. Reportedly, the health literature distributed to patients has been assessed to be at the 6th grade reading level. Information and patient education is largely hands-on and heavily utilizes pictures and visual aids to convey messages.

Community Health Centers

Connecticut's Community Health Centers (CHCs) provide "one-stop shopping" for patients, offering medical, dental and psychosocial health care services in one location. There are 13 main CHCs in Connecticut. They are located in the following cities: Bridgeport (two), Hartford (two), Middletown, Torrington, East Hartford, New Haven (two), Willimantic, Norwalk, Norwich and Waterbury. CHCs are Federally Qualified Health Care facilities and provide services to those with little or no ability to pay for health care. They have been providing medical, dental and social services in Connecticut for nearly 40 years. There were more than 830,000 patient visits to

the CHCs in 2005 and it is estimated that the number of patients is increasing by about 18,000 per year.[5]

Awareness of health literacy is important for the CHCs because they act as first responders to prevent and address medical issues before they reach an acute level. This is where the provider has the opportunity to provide the patient with the correct information and education they need to be able to properly manage their illness or disease. Patients living in poverty, with no health insurance are more likely to present in the emergency room with preventable conditions. If health conditions are properly managed from treatment at CHCs, there may be a reduction in the need for Emergency Department visits and inpatient stays.[5]

Translation Services

There are at least three translation services available in Connecticut for use by health care providers. It is important to note that there is a fee for both the Language Line and CyraCom services.

Language Line (877) 886-3885

AT&T provides toll-free language translation services in over 150 languages. The agency needs to set up a toll-free line for this service, and fees are set accordingly. Special double handset phones can be utilized to assist with the process, where provider and patient can be on the line at the same time with the interpreter. [37]

CyraCom Transparent Language Services (800) 713-4950

CyraCom Transparent Language Services provide telephone translation services in 150 languages, 24 hours a day.[38] In the event that a provider does not speak the same language as the patient and a “suitable” translator is unavailable, the provider simply calls CyraCom, and is connected to a translator, who then facilitates communication between patient and provider in real-time. Appropriate utilization of the translation service in this manner may help decrease unnecessary office visits, increase access to health care information, and improve communication between patients and providers.

Multi-Cultural Educational Services

Multi-Cultural Educational Services offers Bosnian materials focusing on family planning and maternal/child care, and also an

extensive translation service.[39] The organization will translate documents from several languages, including Bosnian, for a fee.

Tools to assess health literacy level of materials

There are several established tools to help assess the reading grade level of written materials, as well as broader assessment of written health materials. These include:

Reading grade level assessments

Most reading grade level scores focus on sentence length and vocabulary (generally assessed by number of syllables in words) in a text. Poor readers have problems with long sentences (those including phrases set aside by commas, multiple ideas, lists) because they can lose the main idea part way through the sentence. Multi-syllabic words indicate vocabulary difficulty.

Readability Formulas

There are several formulas to assess the readability of text. Some are computer generated, others are calculated by hand. The most commonly used computerized formulas include the Flesch Grade Level Formula and the Flesch-Kincaid Index. Hand-calculated formulas include the FOG method and the SMOG, which predicts 100% comprehension. The SMOG is considered easy to use and is well designed for fieldwork.

The Simplified Measure Of Gobbledygoop (SMOG) Test

The SMOG is a hand-calculated readability test created by McLaughlin in 1969.[40] Reportedly, it predicts 100% comprehension and is used frequently by the Harvard Health Literacy Studies Group. According to the CDC, the SMOG test is a recommended and tested way to grade the readability of written materials. It is quick, simple and suitable for shorter materials such as an information pamphlet. The SMOG Readability Formula is available at <http://www.cdc.gov/OD/ads/smog.htm>. The site offers an extensive list of “readable replacement words/phrases for polysyllabic terms common to CDC consent forms”. An online SMOG calculator is available at: http://www.linda-andrews.com/readability_tool.htm. It will analyze a written passage of up to 2000 words.

Fry Readability Scale

The Fry Readability Scale utilizes a graph to assess readability

based on several factors, such as number of words, the number of sentences in each 100 words, and length of sentences.[41] Directions for use can be found at <http://www.cdc.gov/od/ads/fry.htm>.

The SOL Readability Formula

This formula is widely used to determine how easily written health education materials are read and understood. McLaughlin published the formula in 1969, stating that “the counting of polysyllabic words in a fixed number of sentences gives an accurate index of the relative difficulty of various texts”.[40] A readability formula is a mathematical equation derived by regression analysis, where the best fitting model is the one that predicts the difficulty experienced by people reading a given text in relation to certain linguistic characteristics of the text.[42]

Suitability of Materials

Overall readability is based on more than just grade-level readability. To address the overall suitability of materials, Doak and Doak developed the Suitability Assessment of Materials (SAM).[43] The SAM scores materials based on content, literacy demand, graphics, layout and typography, learning stimulation and cultural appropriateness, and can identify shortcomings that reduce the suitability of materials.

Readability of Charts and Graphs

Document literacy refers to the ability to understand forms, tables, graphs, charts and lists. Researchers Mosenthal and Kirsch developed a measure to assess document literacy, called the PMOSE/IKIRSCH document readability formula, which measures according to a proficiency scale that can be translated into a grade-level equivalent.

Resources for assessing print materials

Teaching Patients with Low Literacy Skills[43] is a manual for nurses and other health professionals incorporating the latest teaching/learning theories and cultural considerations relevant to patient education.

Resources for assessing web sites

The web site, <http://www.useit.com> provides tips for improving web usability for people with disabilities. A list of readability formulas with explanations of their application is found at <http://>

Health-Related Web Site Evaluation Form

This form is an instrument for health educators and clinicians to use in evaluating the appropriateness of web sites for their clients regarding further health education. Sub-topics of evaluation included on the form are content, accuracy, audience and navigation. It is available at <http://www.sph.emory.edu/WELLNESS/instrument.html>.

Gunning FOG Readability Index

This is a rather simple method for estimating the readability of written material. As an illustration, consider the following passage:

Colorectal cancer is the second most common cause of cancer death. When it is found early, chances for a cure are good. A regular general physical examination usually includes a digital examination of the rectum and a guaiac slide test of a stool specimen to check for invisible blood.

To compute the Gunning FOG Readability Index:

1. Compute average sentence length (ASL). Count the number of words and number of sentences in a typical passage. The following passage contains 49 words in 3 sentences; the ASL is $49 \div 3$ or 16.3.
2. Compute the percentage of 'hard words' within the passage (%HW). Hard words contain 3 or more syllables, excluding those that end in 'es', 'ed', or 'ing', as well as proper names, compound (newspaper) and hyphenated (state-of-the-art) words and phrases. In the preceding passage, 10 of 49 words were considered to be 'hard words'; The $\%HW = 10 \div 49$ or 20.4
3. Determine reading level according to the formula:
Reading Level = $0.4(ASL + \%HW)$.

The above passage requires a 15th grade reading level.

$$\text{Reading Level} = 0.4(16.3 + 20.4) = 14.7$$

The SMOG Readability Formula

The SMOG Readability Formula is a simple method you can use to determine the reading level of your written materials. If a person reads at or above a grade level, they will understand 90-100% of the information. Generally, you need to aim for a reading level of sixth grade or less. In addition, to ensure that the text is clear and readable, read your draft aloud.

How to use the SMOG formula (for passages with 30 or more sentences):

1. Count 10 sentences in a row near the beginning of your material. Count 10 sentences in the middle. Count 10 sentences near the end. (30 total sentences)
2. Count every word with 3 or more syllables in each group of sentences, even if the same word appears more than once.
3. Add the total number of 3 or more syllable words counted in the last step. Look up this number in the "Word Count" column in SMOG Conversion Table I to find the grade level.

SMOG for Shorter Passages

Use this formula and SMOG Conversion Table II for material containing less than 30 sentences, and at least 10 sentences.

1. Count the total number of sentences in the material.
2. Count the number of words with 3 or more syllables.
3. Find the total number of sentences and the corresponding conversion number in SMOG Conversion Table II. Multiply the total number of words with 3 or more syllables by the conversion number. Use this number as the word count to find the correct grade level from Table I.

Word Counting Rules:

- A sentence is any group of words ending with a period, exclamation point, or question mark.
- Words with hyphens count-as-one-word.
- Proper nouns are counted.
- Read numbers out loud to decide the number of syllables.

- In long sentences with colons or semicolons followed by a list, count each part of the list with the beginning phrase of the sentence as an individual sentence.
- Count abbreviations as the whole word they represent.

SMOG Conversion Tables

<u>Word Count</u>	<u>Grade Level</u>
0-2	4
3-6	5
7-12	6
13-20	7
21-30	8
31-42	9
43-56	10
57-72	11
73-90	12
91-110	13
111-132	14
133-156	15
157-182	16
183-210	17
211-240	18

<u># Sentences</u>	<u>Conversion #</u>
29	1.03
28	1.07
27	1.1
26	1.15
25	1.2
24	1.25
23	1.3
22	1.36
21	1.43
20	1.5
19	1.58
18	1.67
17	1.76
16	1.87
15	2.0
14	2.14
13	2.3
12	2.5
11	2.7
10	3.0

Navigation of the Health Care System

Hospital Web Sites

These web sites contain a variety of information, some in more than one language and at all levels of navigation. Some information that can be found on the various sites includes, but may not be limited to: patient/consumer education on diseases and conditions, clinical programs/services, patient/visitor services, billing/insurance issues, and information on medical staff.

Health Insurance Web Sites

Health insurance web sites also offer a variety of information on all different levels of understanding and ease of navigation. Examples of information that can be accessed on these sites include: quotes for insurance, searches for specialists, searches for specific coverage, information around Pharmacy coverage, including Medicare Pharmacy Part D, education on specific diseases and conditions, patient/visitor services, and administrative services. Some of the web sites do offer information in more than one language, usually Spanish.

Other sources of information for navigation

- The yellow pages in the phonebook can be used to find basic information about a provider (i.e. name, address, telephone number, as well as specialty).
- A Certificate of Coverage is a document provided to the consumer upon enrollment in a health insurance company. This source offers more detailed and defined information regarding terms and conditions of the coverage, eligibility, type of benefits and services that are available. Since these documents are often lengthy, as well as complicated, they require higher levels of literacy, health literacy, and sometimes even legal literacy in order to comprehend coverage.
- Employers also provide health information to their employees in the form of booklets, pamphlets and flyers.
- People use magazines to get health information and news regarding health and well-being. This can be a very important and effective tool to spread health information and awareness.
- Provider (i.e. doctors, hospitals) information varies, and may include instructions on how to use medication, information on health conditions, news regarding research and studies in health and

science, and tips on how to manage chronic conditions. The information provided to a patient requires a high level of literacy and health literacy, often due to terminology used. There are many opportunities to improve the literacy and health literacy of this source of information.

- At the beginning of the 21st century, the Internet and electronic communication has become one of the most important tools for disseminating health information. Since the change to a consumer-driven health care market, there has been more and more pressure for patients to make difficult, and often critical decisions about their health care. This requires patients to have relatively good knowledge of the health care system and health issues. Consequently, a resource used to obtain this information is the Internet.

- A substantial amount of health care knowledge is ascertained in an informal approach, such as family and friends. People talk and share their knowledge and experiences, learn from each other, and ask each other about their diseases and health problems.

Health Profession Education and Training

Many health care professionals are not sensitive to or aware of the many issues revolving around health literacy.[45, 46] There are gaps in information and understanding between health care professionals and their patients in the area of health literacy.

A number of schools in Connecticut that train health care professionals were interviewed to determine how students were being introduced to health literacy at four levels: undergraduate allied health, medical/health care professional schools, residency training programs and continuing medical education for practicing medical/health care professionals. The educational venues and stakeholders that were interviewed include the University of Connecticut Health Center, University of Connecticut School of Nursing and School of Pharmacy and the health care associated schools of the University of Hartford, St. Joseph College, Yale University and 12 of the state's community colleges. Also included were the Medical Associations of New Haven, Hartford and Fairfield Counties, the University of Connecticut Health Center Medical Group and the residency programs of UCHC, Yale and Stamford Hospital.

Findings from the interviews indicate that at the community college level there is no health literacy training. However, the UCONN undergraduate School of Nursing offers some health literacy components in their curriculum, such as the introduction of health literacy in relation to advanced directives, informed consent and ethics consults. Nursing students at UCONN were also taught preliminary health literacy assessment skills, such as the use of scales (e.g. REALM).

Formal training in health literacy needs to be introduced into the training programs for allied health professionals. Allied health care professionals, including medical assistants, physician assistants, licensed practical nurses, nurses and office staff, often have the most direct and sustained contact with patients.

Health literacy should also be formally introduced and reinforced throughout the academic careers of masters and doctoral level medical and health care professionals. Professional schools varied in their health literacy curriculum offerings, ranging from a 1-hour lecture on health literacy to simulated patient interactions focusing on health literacy and the use of health literacy specific materials. The residency program at UCHC does offer some component of health literacy training, especially the pediatrics specialty, which includes a once-a-week morning report on systems-based medicine and the teaching of assessment and interviewing skills with adolescents.

Non-oral instructions, such as captioned illustrations and color-coding, can complement spoken instruction and improve recall.[47] The

Provider Instruction Tips

Instructions from a health care provider, including procedure preparation and post-operation instructions, can be vague or confusing for people with low literacy, or even people with higher levels of literacy. Tips to decrease the reading grade level of a document:

- Limit use of jargon or scientific language
- Use conversational style as if you were talking to a friend
- Avoid abbreviations and acronyms
- Avoid use of symbols
- Use bulleted lists
- Avoid listing several instructions in one bullet

use of written drug information (WDI) also has proven to have some impact on consumer use compliance and satisfaction.[48] Currently, diagnostic tools used by practitioners include Single Item Literacy Screening (SILS), Test of Functional Health Literacy in Adults (TOFHLA), Rapid Estimate of Adult Literacy in Medicine (REALM), and Wide Range Achievement Test and Cloze Procedure TOFHLA. [49-53]. One study has illustrated that the answers to three simple questions are a practical indicator for inadequate health literacy. [54] These three questions are “How often do you have someone help you read hospital materials?”, “How confident are you filling out medical forms by yourself?” and “How often do you have problems learning about your medical condition because of difficulty understanding written information?”

One of the largest gaps in training in health literacy exists among the education of practicing health care professionals. With the exception of the continuing education programs and educational materials of the American Medical Association, there are no health literacy training components for practicing professionals. According to our research, virtually all programs do have plans to further develop formal education in health literacy. Continuing medical education (CME) web sites, including Medscape and the American Medical Association, currently have no CME programs pertaining to health literacy, although these and many other web sites do provide excellent educational materials. There is clearly room for growth and development of training programs.

Mental Health Literacy

Mental health literacy includes a person's ability to obtain, process and understand mental health information and services needed to make appropriate mental health decisions. Mental health literacy consists of several components, including: (a) the ability to recognize specific disorders or different types of psychological distress, (b) knowledge and beliefs about risk factors and causes, (c) knowledge and beliefs about self-help interventions, (d) knowledge and beliefs about professional help available, (e) attitudes which facilitate recognition and appropriate help-seeking, and (f) knowledge of how to seek mental health information. An estimated 50 million Americans experience a mental disorder in any given year and only one-fourth of them actually receive mental health and other services.[55]

The concept of mental health literacy, while fairly new to professionals and even more so to consumers, has been actively addressed by the World Health Organization, as well as other countries around the world. For example, in British Columbia, The Ministry of Health Services/Health Planning developed the Mental Health and Addictions Plan for Mental Health Literacy in 2003 which established goals to improve and sustain high quality mental health and addictions care. The vision of this plan is "an evidenced-based, health promotion, prevention- and recovery-oriented mental health and addictions system of care that supports resiliency, self-care and access to necessary mental health and addictions care." [56] The goals for this plan are high quality patient-centered care, improved health and wellness, and a sustainable, affordable public health system. Australia developed a similar program entitled Beyond Blue.[55] Implemented in 2002, Beyond Blue was designed to promote community awareness and understanding of mental health and mental health literacy, with specific attention paid to depression and depression literacy.

In early 2000, President George W. Bush and The President's New Freedom Commission on Mental Health announced a new program: Achieving the Promise: Transforming Mental Health Care in America.[57] The six goals are:

- Americans understand that mental health is essential to overall health.
- Mental health care is consumer and family driven.
- Disparities in mental health services are eliminated.
- Early mental health screening, assessment and referral to services are common practice.
- Excellent mental health care is delivered and research is accelerated.

- Technology is used to access mental health care and information .

Stigma and Mental Health Literacy

The U.S. Surgeon General, in his 1999 report on mental health, identified stigma as a key barrier, not only to adequate treatment, but also to the extent of opportunities for people with mental illness.[58] Stigma is more than the use of a wrong word or action associated with a person; it is labeling a person as different, about disrespect and

How to Use SMOG

Prevention magazine published an article titled, “More than the blues: learn how to spot kid’s depression.” This is published for the general public and should therefore be written at a reading level most adults can read. We will use this example to illustrate how to perform the SMOG Readability Formula.

This article contains 18 sentences, so we will use the SMOG for Shorter Passages. Below is an excerpt from the article; we included “•” between syllables of words.

“Check for symp•toms. Kids may com•plain of vague phy•si•cal prob•lems such as head•ache or stom•ach•ache. They may al•so be more an•xious and eas•il•y frust•rat•ed, lose in•ter•est in act•iv•it•ies or friends, and gen•er•al•ly act up. Teens' symp•toms of•ten in•clude sleep and ap•pe•tite chang•es, with•draw•al from friends and fam•il•y, reck•less be•hav•ior, and poor grades.”

In this excerpt, there are 11 words with 3 syllables. In the whole article, there were 43 words with 3 or more syllables. When we look in the SMOG Conversion Table 2, we see that with 18 sentences the conversion number is 1.67. We multiply the conversion number (1.67) by the number of words with 3 or more syllables (43), which equals 71.8. When we look up 71.8 in the SMOG Conversion Table 1 “Word Count” column, we see that this article has a reading grade level of 11, but is very close to being in the 12th grade reading level.

disapproval, and about discrimination towards the person. Studies have shown that people with mental illness perceive themselves as being stigmatized by others in different ways, expect to be treated poorly by the public and suffer from demoralization and low self-esteem.[59]

There are various approaches to changing public stigma regarding mental health. Protests, education about mental illness and contact with legislators and the public have proven most effective.[60]

The National Alliance for the Mentally Ill (NAMI) is the "nation's largest organization dedicated to improving the lives of persons affected by serious mental illness." [61] The branch of NAMI gaining the most awareness is "Stigmabusters" which advocates around the world to address and correct the numerous erroneous representations of mental illness.

Here in Connecticut, the issue of mental health stigma is slowly being addressed by state agencies and organizations. The State Mental Health Planning Council created an anti-stigma campaign in 2003 to create public awareness of mental illness and how it affects the daily lives of people. The Department of Mental Health and Addiction Services (DHMAS) offers education and training to DHMAS funded agency and state employees. In their educational trainings, they include courses around the issue of stigma, and on how to recognize and manage it. The Connecticut Chapter of the National Alliance for the Mentally Ill offers courses and workshops around the issue of stigma. [62] The Connecticut Clearinghouse offers different educational materials regarding mental illness stigma. Various materials explain stigma as the use of negative labels to identify a person living with mental illness, although they are designed above a fifth grade reading level.

In recent years, our understanding of how to improve community attitudes toward mental illness has become more sophisticated. As education and community efforts to demystify mental illness become more widespread, today's public and future generations will better understand the early signs of mental illness and be better prepared to seek support and treatment for themselves and others.

Culture and Mental Health

The thesis that cultural and social processes must be considered in treatment, prevention, and mental health service delivery has been advanced over the last several decades.[59, 60, 63] Understanding people's diverse cultures, their values, traditions, history and institutions is integral in eliminating health care disparities and providing high-quality patient care. The culture of a person impacts

how they manifest or define the symptoms of their illness, the type of illnesses they are experiencing, the stressors they have from the illnesses and the willingness to seek treatment. Culture influences the way patients respond to medical services and preventive interventions and impacts the way physicians deliver those services.

In a society as culturally diverse as the United States, physicians and others in health care delivery need to increase their awareness of and sensitivity toward diverse patient populations and work to understand culturally influenced health behaviors. According to the Surgeon General Report on Mental Health, minorities experience greater disability and limitation when suffering from mental illness because they face greater barriers in accessing health care.[59]

Strategies to overcome the many cultural barriers that exist in today's health care system include:

- the promotion of health materials written in various languages at the appropriate levels of medical and health care system terminology
- the adoption of translation protocols, support consensus development, adoption, and dissemination of glossaries and dictionaries that attempt to standardize medical terminology, especially for small language groups
- the development of a centralized database of translated materials that include regular review and updating, ideally on the World Wide Web.

A consequence of poor mental health literacy is that the task of preventing and helping mental disorders is largely confined to professionals. However, the prevalence of mental disorders is so high that the mental health workforce cannot help everyone affected and tends to focus on those with more severe and chronic problems. If there are to be greater gains in prevention, early intervention, self-help and support of others in the community, then we need a 'mental health literate' society in which basic knowledge and skills are more widely distributed.

Mental Health Literacy in the United States

The Institute for Mental Health Initiatives is addressing low mental health literacy at the national level. The Institute for Mental Health Initiatives (IMHI) has developed Project Easy-to-Understand: Addressing Low-Literacy in Mental Health.[64] "By making mental health research and clinical knowledge accessible to low-literate, underserved populations, IMHI strives to help close the gap between low-literacy and good mental health." [64] One focus of Project Easy-to-Understand is to work with agencies to make their health and mental

health materials more appropriate for low literacy populations.

Mental Health Literacy in Connecticut

In 2004, approximately 34 percent of Connecticut adults experienced poor mental health.[65] Connecticut ranked sixth in the country for mental health per capita expenditures in 2001. Analysis of the dollars directed toward mental health services indicates little investment was made in mental health literacy and/or prevention.

According to a 2003 Hartford Health Survey [66], the rate of depression and other mental health disorders are steadily increasing. Depression has the second highest prevalence rate among chronic diseases, only slightly behind new hypertension diagnoses. About 15% of Connecticut residents living at or below the poverty level reported a history of mental health problems, compared to 5.2 percent of those living above the poverty level.

Resources to Address Mental Health Literacy in Connecticut

Currently, there are a variety of programs throughout the state that address mental health and mental health literacy to varying degrees. Governor M. Jodi Rell has brought fourteen state agencies and the judicial branch together to develop a statewide plan to address transformation of the mental health system and incorporate the six goals of the President's *Transforming Mental Health Care in America* plan.[57] Additionally, in 2005, the Connecticut Clearinghouse announced a statewide conference, the Kaleidoscope of Prevention; People, Programs and Progress. Behavioral health issues and promotion of healthy lifestyles were addressed. This conference was part of the Connecticut Coalition for the Advancement of Preventions statewide conference. The mission of this coalition is to advance a coordinated, statewide prevention system that embraces diversity and effectively promotes the health and well-being of all individuals, families and communities in Connecticut. This coalition has representatives from key state agencies, coalitions and community-based agencies and is funded through the Department of Mental Health and Addiction Services and the Substance Abuse and Mental Health Services Administration.

The following programs in the State of Connecticut address the issue of mental health literacy.

Connecticut's Community Health Centers (CHCs)

CHCs are federally funded clinics that provide primary and preventive health services to underserved population. The educational materials used by CHCs to address the issues of prevention and mental health

are provided by the Connecticut Clearinghouse. However, it is not clear how accessible this information is to the majority of providers and consumers of health care information. A survey assessing services and thoughts on Preventive Mental Health was developed by the UConn MPH students and sent to thirteen Connecticut Community Health Centers.

Department of Mental Health and Addiction Services (DMHAS)

The Department of Mental Health and Addiction Services (DMHAS) is responsible for the administration of federal funding to state mental health and substance abuse programs. The Prevention and Intervention Unit attempts to provide efficient, cost effective developmentally appropriate and culturally sensitive mental health services based on scientific models and best practices using a comprehensive system that matches services to the needs of the individual and local communities. For prevention efforts to achieve optimal success, focus must be concentrated at the community level. The DMHAS Consumer Survey, a quality assessment tool accessible to various agencies and program administrators, loses some of its value as it currently is written at a reading level of 10.6, as per the Flesch Kincaid reading scale.

UConn Health Center (UCHC)

UCHC provides numerous prevention health programs through its Department of Psychiatry. These programs include the enhancement of mental and behavioral health expertise in school-based clinics, depression education for 10 year olds and their families and the evaluation of an evidence based youth violence prevention program.

Hartford's Community Health Partnership

Hartford's Community Health Partnership, which has representation from three major Hartford hospitals, community organizations, city and state health departments and UCHC, has established a Call to Action in Mental Health.[35] This initiative was the product of the Hartford Health Survey results of 1997, 2000, and 2003. The Call to Action brochure which was distributed to community leaders, the public, employers and political leadership, brought to the forefront Hartford's Mental Health and Substance Abuse Problems and the associated costs. Recommendations included the development of a culturally appropriate Neighborhood-by-Neighborhood Plan for Education and Interventions, a clearer understanding of the economic consequences of not addressing behavioral health problems.

State of Connecticut Pregnancy and Depression Awareness Campaign

This Awareness Campaign helps pregnant women and new mothers recognize the symptoms of perinatal depression and the effect depression can have on their health and on pregnancy outcome. Health literacy is addressed in this statewide training for providers and caseworkers. The program speaks specifically to making sure the patients understand what is being communicated to them and that the patients know how to get help. Connecticut's 211 Infoline collaborated in this campaign and is another important resource for information. The Patient Health Questionnaire (PHQ)[67, 68] is an excellent illustration of how health information can be easily and effectively communicated. A readily available tool, such as the PHQ, combined with an annual mental health check-up could greatly reduce the incidence of mental health crises among women.

Health Literacy Recommendations

To improve everyone's access to health communications and their ability to comprehend and apply their newly acquired information, serious improvement efforts must be made within all aspects of health literacy. Various recommendations have been put forth that can both further the awareness process regarding health literacy as well as initiate the programs and activities necessary to reduce the prevalence of low health literacy among today's health care consumers. State policy and practice initiatives that would have a positive impact on the general status of health literacy in Connecticut include:

- Promote original language development of health materials that incorporate community input and appropriate levels of medical and health care system terminology. Keeping in mind that written communications are best understood at a 6th grade reading level, guidelines should be established which dictate this lower reading level when developing new materials.
- Conduct regional conferences or workshops throughout the state on the topic of health literacy, as well as distributing health literacy resource and educational information to state legislators, especially members of the public health and education committees. The materials should, at a minimum, include Pfizer Clear Health Communication, AskMe3, Healthy People 2010 Communication Objectives and Office of Disease Prevention and Health Promotion health literacy action plans.
- The Connecticut General Assembly needs to pass and the governor needs to sign a special act regarding health literacy. Special Act No. 03-13, Substitute House Bill No. 6362 can be a model for compiling needed information about the work being conducted at the state level regarding health literacy. Referring to this bill, as well as the Louisiana Bill establishing their Health Literacy Task Force, provides successful models for health literacy legislation efforts. A task force would be useful in determining next step recommendations for the governor, legislature, and state departments.
- Establish funding for some of the numerous recommendations from the 2003 Greater Hartford Literacy Council's Health Literacy Task Force Report, such as the inclusion of health literacy into "health status" for each local and state department of public health, the addition of staffing that would coordinate cultural competency education and program initiatives addressing health literacy issues.
- Support participation in translation certification programs for community-based interpreters/translators, especially from small language groups, and promote the adoption of translation protocols

(such as those developed by California and Minnesota state agencies) by community-based organizations, providers, provider organizations, and other agencies that produce or use translated materials.

- Support consensus development, adoption, and dissemination of glossaries and dictionaries that attempt to standardize medical terminology, especially for small language groups.
- Develop a centralized database of translated health care materials that are available on the World Wide Web to both consumers and providers.
- Head Start programs have the potential to effectively implement health literacy and educational initiatives and should be considered in future efforts to increase family health literacy.

Recommendations that more specifically address the subtypes of health literacy discussed in this report include:

Prevention Health Literacy

- Raise awareness around the concept of health literacy with respect to prevention through health literacy campaigns with state agencies, health care centers and professional clinical associations.
- Investment in appropriately communicated prevention programs, while increasing initial costs, will ultimately prove to be cost effective, as more costly treatment expenses are reduced.

Clinical Health Literacy

- To reduce the gap of knowledge regarding pharmacist interactions, obtaining medications, understanding dosage instructions, or the type/purpose of the medication, appropriately written communications available at both the initial clinical appointment and upon receipt of prescription from the pharmacist are necessary.
- Recent survey data suggests a need for continuing health education efforts regarding high maintenance disease management, such as that of asthma and diabetes. The need for intervention regarding diabetes and asthma management in Hartford is indicated.
- Local WIC programs can considerably ease the clinical experience for many families. Ensuring that these facilities are prepared with appropriately written educational materials will greatly improve the comprehension of health care and the health status of this population.

Lower the Reading Level

The following is from the American Red Cross web site:

Overexposure to the sun's ultraviolet (UV) rays seriously threatens human health. Besides the immediate effect of sunburn, over time excess UV radiation can cause skin cancer, eye damage, immune system suppression, and premature aging. Children are highly susceptible to harmful UV radiation. About 23 percent of lifetime sun exposure occurs before the age of 18. Just one or two blistering sunburns in childhood may double the risk of developing melanoma. Teaching children about sun safety is the key to reducing the risk of future health problems. (Flesch-Kincaid 12th grade level)

You can bring reading materials to a lower reading level by shortening sentences and using smaller words. Below is an example of how to get the same message across at a lower reading level:

Don't stay in the sun too long. The sun's ultraviolet (UV) rays will burn your skin. Over time, you can increase your chances of skin cancer and eye damage. You also may have trouble getting over being sick and appear to age more quickly. UV rays are very harmful to children. About 23 percent of a person's exposure to the sun happens before age 18. One or two bad sunburns that cause a child's skin to blister may double their risk of developing a serious form of cancer called melanoma. (Flesch-Kincaid 6th grade level)

Public Health Literacy

- While local health directors as well as State Department of Public Health officials are aware of how health literacy can affect the understanding and use of health information, there is no formal health literacy training. A required tutorial of health literacy and its impact on personal and public health could be essential in the effort to improve health literacy.
- Prepared multilingual emergency health messages should always be available for mass distribution to the public. Additional staff at local

health departments are needed who speak different languages, either to field phone calls or to help develop materials.

Navigation of the Health Care System

- To ensure that employees are cognizant of their health care coverage options, a detailed questionnaire should be administered at time of enrollment. This would allow for better understanding of coverage details, as well as an opportunity to make any adjustments necessary based on misunderstandings.
- Necessary to properly navigate the many hospital web sites are easy, user-friendly navigation, comprehensibility to the general public and the availability of useful information, such as FAQ's on billing, insurance, HIPAA, admissions, medical staff and cultural services.
- Connecticut Health should continue to offer and expand their Patient School program.

Professional Health Literacy

- Formal training in health literacy needs to be introduced into the training programs for allied health professionals. Allied health care professionals, including medical assistants, physician assistants, licensed practical nurses, nurses and office staff, often have the most direct and sustained contact with patients.
- Health Literacy needs to also be formally introduced and reinforced throughout the academic careers of masters and doctoral level medical and health care professionals.
- The inclusion of health literacy curricula in the required CME programs would provide broad exposure of health literacy awareness to practicing health care professionals, currently one of the largest gaps in health literacy training.
- Educate providers on reading level assessment tools which can assist them in determining the health literacy level of their patients. Instruction on the application of an easy assessment tool such as the Single Item Literacy Screener is necessary.

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Our Service-Learning Partners

The following organizations were instrumental in completing the work described in this report. We acknowledge the many individuals, and the organizations they work in, for the considerable help they provided our students. Their ongoing commitment on behalf of the health of citizens of Connecticut is greatly appreciated. Thank you!

Accreditation Council for Graduate Medical Education
Bristol-Burlington Health District
Boston Medical Center
Bridgeport Community Health Care Center
Central CT Health District
Charter Oak Health Center
Colchester Health Department
Community Health & Wellness Center of Greater Torrington
Community Health Services
Concerned Citizens for Humanity
CRT Early Care and Education
CT Children's Medical Center
CT Clearinghouse
CT Department of Public Health
CT DPH Diabetes Prevention and Control Program
CT DPH Office of Communications
CT Primary Care Association
Danbury WIC Program
East Hartford Health Department
Eastern Highlands Health District
Fairfield County Medical Society
Greater Hartford Literacy Council
Hartford County Medical Society
Hartford Gay and Lesbian Health Collective
Hartford Health and Human Services
Institute for Health Care Improvement
Literacy Volunteers of Eastern CT
Manchester Health Department
Middlesex Hospital
New Haven County Medical Society
Office of the Speaker of the House, State of MA
St. Joseph's College
Stamford Hospital

Staywell Health Center
Torrington Area Health District WIC Program
Uncas Health District
United Community and Family Services
Vernon/Rockville WIC Program
Wallingford Committee on Aging
Wallingford Health Department
Wallingford Senior Center
Westbrook Health Department
Windham Regional Community Council
Windham WIC Program
Yale University Health Services
Yale University

Resources

Connecticut Programs

Agency for Healthcare Research and Quality http://www.ahcpr.gov/consumer/	301-427-1364
AIR Middlesex (Middlesex Hospital) Veronica_mansfield@midhosp.org	888-704-3011
Central Area Health Education Center http://www.centralctahec.org	860-233-7561
Community Distribution Center	860-322-3222
Connecticut Clearinghouse http://www.ctclearinghouse.org	800-232-4424
Connecticut Insurance Department http://www.ct.gov/cid	800-203-3447
Department of Mental Health and Addiction Services http://www.dmhas.state.ct.us	800-446-7348
Department of Public Health http://www.dph.state.ct.us	860-509-8000
Diabetes Care Program (Middlesex Hospital) Denice_mucke@midhosp.org	860-704-3003
Even Start Family Literacy Program http://www.ed.gov/programs/evenstartformula/index.html	202-860-0826
Literacy Volunteers of Greater Hartford http://lvhg.org	860-233-3853 860-528-7422
Hartford's Community Health Partnership http://www.hchp.org	tmclaug@harthosp.org
National Alliance for the Mentally Ill http://www.nami.org	703-524-7600
Office of the Healthcare Advocate http://www.ct.gov/oha	866-HMO-4446
Pregnancy and Depression Awareness Campaign	211
The Patient School (Connecticut Health) http://www.connecticuthealth.org	800-535-6232
Reach Out and Read http://www.reachoutandread.org	202-260-0826
UCHC Department of Psychiatry http://www10.uchc.edu	860-679-4282

Readability Resources

Fry Readability Scale	http://www.cdc.gov/od/ads/fry.htm
SMOG Test	http://www.cdc.gov/od/ads/smog.htm
SOL Readability Formula	See reference #42

Translation Services

Language Line http://www.language.com	877-886-3885
CyraCom http://www.cyracom.com	800-713-4950

Web-based Training

Health literacy: From patient Care to Policy
http://www.lacnyc.org/resources/healthlit/Baker_health_lit.ppt
Basic Health Literacy Lecture
<http://www.healthsystem.virginia.edu/internet/som-hlc/Lecture.cfm>
Virginia Adult Education health literacy toolkit
<http://www.aelweb.vcu.edu/publications/healthlit>
Education in Palliative and End-of-Life Care
<http://www.epec.net/EPEC/webpages/index.cfm>
End of Life/Palliative Education Resource Center
<http://www.eperc.mcw.edu>
A Family Physician's Practical Guide to Culturally Competent Care
http://cccm.thinkculturalhealth.org/GUIs/GUI_WhatisNew.asp

Information Web Sites

AMA Foundation Health Literacy
<http://www.ama-assn.org/ama/pub/category/8115.html>
Ask Me 3
<http://www.askme3.org>
California Health Literacy Initiative
<http://www.cahealthliteracy.org>
The Canadian Public Health Association's National Literacy and Health Program
<http://www.nlhp.cpha.ca>
Center for Health Care Strategies
<http://www.chcs.org>
Clear Health Communication Initiative
<http://www.clearhealthcommunication.org>
Clear Language Group
<http://www.clearlanguagegroup.com>
Ethnomed
<http://www.ethnomed.org>
Harvard School of Public Health: Health literacy studies
<http://www.hsph.harvard.edu/healthliteracy>
Health and Literacy Compendium
<http://www.worlded.org>
Health Literacy Consulting
<http://www.healthliteracy.com>
Institute of Medicine health literacy links
<http://www.iom.edu/CMS/3775/3827/15441.aspx>
National Academy on Aging Society and Medicare Education
<http://www.medicareed.org>
Plain Language
<http://www.plainlanguage.gov>

The UCONN Graduate Program in Public Health

Preparing public health professionals to achieve high standards of leadership through exemplary education, public service and research.

The University of Connecticut Graduate Program in Public Health offers an integrated theory-practice curriculum leading to the Master of Public Health (MPH) Degree. Our program, accredited by the National Council on Education for Public Health, reflects its mission by seeking to:

- Implement curriculum that addresses present and emerging public health concerns.
- Advance the teaching of public health by developing and disseminating innovative pedagogy.
- Provide service learning experiences to all students built upon shared visions and goals among collaborating academicians, practitioner and community partners.
- Establish problem-based learning experiences as an element of our core curriculum.
- Support a multi-disciplinary learning environment.
- Advance a diverse public health workforce for our State and nation capable of addressing needs across a range of social and cultural circumstances.
- Promote the discipline of public health by innovative approaches to applied practice.
- Pursue broad aim of social justice so as to reduce inequities of health status, health care access and health service delivery across the population.
- Advance the sciences of public health through innovative scholarship.
- Support translational research that brings efficacious, cost-effective services to communities in need.
- Conduct community-based, participatory research that recognizes the fundamental rights and capabilities of community partners to as full partners in collaborative research focused on, and affecting, those communities.
- Exhibit honesty, fairness, responsibility and compassion in dealing with colleagues, students, collaborators, clients and the public at large.

For further information about our program, contact:

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