HEALTH EDUCATION IN MASSACHUSETTS ADULT BASIC EDUCATION PROGRAMS

THE PEER LEADERSHIP-EMPOWERMENT MODEL

IMPACTS AND OUTCOMES

An Exploratory Study

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March 2004

This report is dedicated to adult literacy students everywhere who continue to inspire me with their commitment to learning, growing and transformation in the face of frequently daunting circumstances

And

To Adult and Community Learning Services at the Massachusetts Department of Education for their unswerving support for the literacy and health work.

INTRODUCTION

This exploratory study was undertaken by Marcia Drew Hohn, Ed.D. as part of a Fall 2002 sabbatical project under SABES (System for Adult Basic Education Support). The time to carry out this sabbatical project was generously provided by Adult and Community Learning Services at the Massachusetts Department of Education with additional support from Northern Essex Community College in Lawrence, MA.

The purpose of the report is document the peer leadership model of health education developed in the Massachusetts, and the impacts and outcomes of the ten plus years of work using this empowerment model. Over the years, a variety of evaluations and informal evidence has been accumulating that indicated adult basic education students vigorously embraced learning about health and benefited from being taught by peers. There was also growing evidence that students were changing both their thinking and acting about health and the health of their families. Student Health Teams, the cornerstone of the peer leadership-empowerment model, were learning about health issues at deep levels and increasing their confidence and skill to address many life areas. Programs and teachers were experiencing how self-directed students could be when they were excited about learning in a crucial life issue, and movement was seen toward a more student-centered approach in programs. However, there had not been a systematic assessment of the work statewide, especially about changes in students' health thinking and acting and impact on the program's organizational development.

In the fall of 2002, the author undertook an exploratory study of the impacts and outcomes of the literacy and health work in the adult basic education programs through a series of informal focus groups and individual interviews with adult students who had participated in the peer-led health programs, student health team members, teachers and program directors. Fifteen informal focus groups and six individual interviews were conducted in 11 programs. Fifty-two students, teachers and program directors participated from programs that represented 78% of the total programs funded to do health. Participants volunteered to be part of the study and included the majority of current health team members, directors and health team facilitators in programs funded to do health.

Major findings from this study are summarized on the following page. Overall, it is clear that health embedded education in adult basic education programs has had a powerful impact on how students think and act about their health and the health of their families. Health topics and issues catalyzed literacy instruction, engaging and exciting students to learn through a vital life topic. It has also had substantial impacts on teachers, directors and programs' overall organizational development. Additional studies are recommended to confirm findings across a greater number of students and to investigate what and how changes are sustained.

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I would again like to express my appreciation to the Adult and Community Learning Services at the Department of Education for their continuing support and advocacy of integrated literacy and health education. Their support has provided the critical foundation for the exemplary work of adult basic education students, Student Health Teams, teachers and directors in the literacy and health work over the last decade.

SETTING THE STAGE

Adult Education Theory and the Equipped for the Future Framework

Adult education theory recognizes that adult learning is effective when it is embedded in the life needs of the learners and addresses immediate needs and concerns. Adult education curriculum and instruction that is embedded and contextualized in learners' lives can catalyze and enhance learning. Auerbach (1992) and Fingeret (1990) both promote an approach in which literacy education is understood in the context of adults' lives, rather than separated from it. For Fingeret, the context of adults' lives – their issues, problems, aspirations, skills, cultures, languages -- create the basis for literacy work as well as the tools to engage in it. Adult literacy education is seen to be less about accepting a passive role and more about enabling learners to become active participants in shaping their own reality. Paulo Friere argued that traditional adult literacy approaches promoted literacy as a set of monolithic skills existing independently of how or where they are used, and as an individual deficit to be corrected, perpetuating the marginalization of learners (Auerbach, 1992). This leads to the "banking" model of education, in which learners are seen as empty vessels awaiting deposits of knowledge by the teacher, who makes all the decisions and controls the process. According to Friere, the banking model supports the development of individuals who accept the passive role imposed on them and learn, along with a fragmented view of reality, to adapt to the world as it is and not to act upon and change it (Rudd & Cummings, 1994).

These views of literacy learning are apparent in the National Institute for Literacy's Equipped for the Future (EFF) educational reform effort. EFF, which was developed through a process with adult learners, promotes literacy education in the contexts of adult learners' roles as workers, parents and community members. In EFF, the purpose of adult education is to equip learners with the knowledge and skills they need to develop their voice, access information, and take independent action within their roles as workers, parents and citizens -- and to keep on learning throughout their lives.

However, while many adult basic education practitioners believe in the need to have curriculum and instruction embedded and contextualized in learners' lives, they struggle to make this philosophy and approach come alive in their programs and their classrooms. Health can be an excellent way to get started! Health is a critical issue for learners, their families and their communities. It is also a common denominator across levels and types of classrooms. Bob Bickerton, Director of Adult and Community Learning Services in Massachusetts, notes that health "can be jet fuel for programs to begin discussions about how contextualized curriculum and instruction is approached and how curriculum can be reshaped."

The Massachusetts Adult Basic Education System

Massachusetts has a highly developed Adult Basic Education (ABE) system, administered through the State Department of Education, Adult and Community Learning Services. A sophisticated data system, licensure for ABE teachers, ABE Curriculum Frameworks, and a community planning process for local programs are key elements of the system. Services are delivered through 150+ programs that provide instruction in the areas of:

- General Education Diplomas (GED),
- pre-GED programs,
- basic education from beginning literacy levels to pre-GED and,

- English for Speakers of Other Language (ESOL).

Specialty programs such as Family Literacy, Workplace Education, Homeless Education, Corrections Education and Transition to Higher Education are included under the umbrella of adult basic education.

In Massachusetts, the demographic profile of the 25,000+ adult students who participate in these programs shows that:

- The majority are between the ages of 25 and 44 with most in their mid-30s,
  - 60% are female, 40% are male,
  - 59% are employed,
  - 36% are white, 32% are Hispanic, 19% are black, 12% are Asian.

Funding comes primarily from the state budget at $28.1 million with supplementation appropriations from the federal government of $11.3 million and an additional $4.6 for Family Literacy. The per student expenditure is around $2000.

How the Health Work Began in Massachusetts

In 1991, a group of adult basic education practitioners and health educators began meeting at World Education in Boston to discuss and describe what embedding health in adult basic education programs might look like. The group had formed through individual conversations among some key members and found a home at World Education through their work with SABES (System for Adult Basic Education Support). There was philosophical agreement with health promotion theory as articulated by Robertson & Minkler. The following guiding principles emerged from the discussions:

- Health needs to be broadly defined to include the social and economic determinants of health,
- to go beyond individual lifestyle and behavioral changes to include social and political strategies for achieve good health,
- to embrace individual and collective empowerment,
- and to advocate for participation of the community in identifying health problems and strategies for addressing those problem.

In the decade of work that has ensued, these principles have guided the work and provided a philosophical foundation. As you will see in reading in this report, there has been great success in having the community of adult basic education students participate in identifying health problems and strategies to address those problems, and in embracing individual and collective empowerment. Health has been defined broadly to include all of the areas adult students say are important to them, which include areas infrequently cited – such as street and family violence and trash on the streets. Students have taken control of learning about health through Student Health Teams and overall, students have increased their advocacy skills for self and family. However, the early emphasis on identifying and trying to address social and economic determinants of health has diminished over the years.

The first efforts at embedding health education took the form of discrete projects, usually focused on a disease or body part. They included such projects as the HIV/AIDS kit and Project HEAL (Health Education in Adult Literacy) that focused on early detection of breast and cervical

cancer. While many of these projects worked with adult basic education students to develop curricula, materials and integrated literacy activities, their subsequent use in classrooms has, in many cases, tended to emphasize the health learning over the literacy learning. This approach had significant limitations since many teachers felt it asked them to be health educators more than literacy educators, and teachers had their own issues with many of the health topics. Moreover, limited time was available to more fully integrate health with literacy development activities.

Funding

When tobacco tax dollars became available (1994) to support the literacy and health work, it was possible to take a broader, more inclusive approach. The Literacy and Health Group that had been meeting at World Education asked for a meeting with the Adult and Community Learning Services department at the Department of Education to discuss use of the tobacco tax dollars. The group advocated for that the proposal requests be framed in a peer leadership-empowerment approach and they found a receptive ear from staff members in Adult and Community Learning. Since that historic meeting and the formation of the Comprehensive Health Projects, over 50 adult basic education programs in Massachusetts have been funded with a range of $10,000 to $20,000 each annually. Currently, 14 programs (out of 88 total in the state) are funded under Comprehensive Health dollars for a five-year period under regular adult basic education funding (since tobacco tax dollars were lost in 1998). Another venue for the literacy and health work exists in the Student Leadership/Health Mini-grants and has involved an additional 21 programs. The mini-grants support shorter-term projects at $2000 to $4000 per project and are administered through SABES (System for Adult Basic Education Support).

Student Health Teams

The guiding principles of individual and collective empowerment that informed the proposed projects took the form of Student Health Teams. These teams are comprised of five to ten students who work with a team facilitator, teachers, community health organizations, and health practitioners. Using teamwork and creative methodologies such as drama, art, and music, these teams employ a peer teaching and learning together approach to engage in a variety of activities. Team members are drawn from the body of students in the program. Interested students apply (usually encouraged by teachers) and are interviewed and selected by the health team facilitator and/or the program director. In more established teams, experienced members interview and select new members. Teams usually meet on a weekly basis, with more intense activity when they are carrying out health learning activities. They are paid, ranging from $8 to $13 per hour. Student Health Team activities include such activities as:

- researching health information,
- teaching other students about health,
- making and distributing health brochures,
- developing and conducting health surveys,
- participating in or running health fairs,
- arranging for medical screening services at the program site,
- documenting and taking action around community health issues.

Students join a health team for a variety of reasons. Often, they are attracted by the money they earn as team members but compelling reasons are also the desire to practice English, make friends, get involved in something new and develop new knowledge and skills. Money, say team members, may attract you in the beginning but it is not what keeps you there. What keeps you there is the excitement of learning new health information, making new friends, learning to give input and get feedback,

gaining new skills such as computers/internet searching and talking to health people, rapidly improving language and literacy skills, and the positive feelings that come from experiencing the support and warmth of being in a team. Especially important to many students was the opportunity to travel to the statewide celebrations and share their work with other student teams and teachers. For many, this was a very new experience and one that had a profound effect on them.

Increased confidence to speak was a major and important outcome. One student related that when she realized that what she had to say was more important than how she said it, she became free of worrying "that my English isn't perfect." Before, she said, she was so afraid of making a mistake that she could not speak. Other students described feeling like the tape over their heads had been lifted – that they could now see and speak and were no longer deaf and dumb – that the sun had come out for them. Other students use words such as "tight seeds going to blossom", and "being lifted up to grab the strings of opportunity".

Of course not every student in every team experienced all of this. Nevertheless, the overall experience of being part of a health team greatly increased confidence and abilities to talk and teach about health, and began a change to perceiving themselves as people who could help other students and make things change for themselves and others.

One student team member put it this way:

> *I am and have been a member of the health team for a long time. No matter what, we will always be a team because we also became a very unusual family. We had two parent figures {our facilitators} who help us to grow and to become who we are. They were always there to listen and help just like a parent should. Most of us did not have this and I feel the value of this non-judgment atmosphere was a major influencing asset in our growth as individuals and as a team. We had to learn to trust them first, then we were able to trust each other and finally start trusting ourselves.*

Being in a team and working with others to learn about health has been a powerful experience for most health team members. The skill of the facilitator(s) is crucial to establishing the atmosphere in which students' can grow and learn in health. The facilitator also functions as the bridge to the health care community and the program teachers in planning and carrying out health activities. Facilitators are usually drawn from teaching or counseling staff and are practitioners with knowledge and skill in participatory process. Participatory process is not a laissez-faire, hands-off approach. It is actually the opposite, requiring significant time in planning, a sense of the appropriate tool at any given time, and the use of a wide variety of nontraditional approaches and methods for facilitation. Power issues between the team and the facilitator and within the team itself can be very difficult. It is crucial that facilitators have opportunities to exchange ideas and experiences with other facilitators. For a more detailed discussion of participatory process and power issues, please see the dissertation "Partnering for Empowerment Health Education in Adult Literacy" by this author.

A cornerstone of Student Health Team work is to find out and respond to the health information needs and interests of the other students in the program. Teams do the choice of the health topic in a variety of ways. Some provide a list of possible topics and have students vote their top choice or choices. Some have classrooms vote their choices. Some do individual surveys. In one program, ten major health topics were posted in the common area and everyone in the program (students and staff) voted their three top choices by placing a colored dot next to their choices. In that way, the community

vote was seen physically emerging. Having students choose the health topics they are interested in learning about has promoted ownership over the learning, generating intense interest in what the Student Health Team would provide on that topic, and is foundational to the Peer Leadership-Empowerment Model. The following pages provide an overview of the model and then discuss the specific health areas students wanted to learn about – and the impacts and outcomes of that learning.

THE PEER LEADERSHIP-EMPOWERMENT MODEL FOR HEALTH

Students Perspectives on Their Health information Needs

While Comprehensive Health Projects varied from program to program, certain needs and characteristics have evolved over the years that define the literacy and health projects. Massachusetts' adult basic education learners have been articulate about what they see as the problems with health education for limited literacy individuals and groups. They see materials written at an appropriate level as important but only the tip of the iceberg of the communication and learning issues. Here is what they say:

- There is too much emphasis on written materials.
- Health information needs to be connected to everyday life in a supportive environment for learning, respectful of different cultural beliefs.
- Having or getting health insurance is an issue but understanding both private and public health insurance programs, especially HMOs, is equally important say students. It is understanding how systems operate that is of primary concern.
- Deeper issues, stemming from lack of experience and different cultural orientation, are also present.

One of the important, deeper issues is that immigrants often have little or no experience with the concepts of prevention and early detection and their allied community health programs. Health promotion messages are not taken into their consciousness and extra care has to be taken to ensure these concepts are communicated. Another important issue that surfaced is that adult students express fear of discrimination in health care settings when they do not know the language and/or do not have health insurance. They are therefore less likely to engage with prevention and early detection, delaying medical care until it is too late. For example, research by American Cancer Center has established that poor women die more frequently from cervical cancer – a cancer that is 100% curable if found early – but poor woman often do not have the information and understanding of PAP tests and trust in community screening programs to seek services early enough.

Principles and Characteristics of Programs

The articulation of needs and response to the needs has been an iterative process. As one level of need is addressed and trust is developed, deeper concerns emerged -- as in the case of fear of discrimination cited above. As Student Health Teams have developed and piloted programs, what "works" has been identified and shared through regional meetings. A two-year participatory action research conducted with a Student Health Team at an adult basic education program articulated three guiding principles that have been incorporated into the on-going health work and the Massachusetts Adult Basic Education Health Curriculum Framework. These principles include:

- **Decide the basic information to be given about the health topic (what you want the students to know and be aware of).**
  This means that the Student Health Team needs to research and understand the health topic, working with informational resources such as Prevention Centers and community health people. Student Health Teams are not trying to become experts in the health topic but see

themselves as tools to get where the information is and identify the issues around it. To do this they need to develop their own knowledge working with their team facilitator who helps them identify resources, guides them through a participatory learning process, and supports them as individuals and as a team. The overall learning process and deciding basic information/messages is a collaborative process among the Student Health Team, their facilitator, and community health people that usually takes two months.

Then, teams use as much time and different methodologies as needed to ensure that other students and staff understand the information and connect it to everyday life. For example, when one team was teaching about depression, they wanted students to understand that 1) depression is a medical condition that happens to a lot of people, 2) there are symptoms of depression (and what they are), 3) depression can be treated (and how it is treated) and 4) where to go locally for help. They used drama to show different levels of depression and treatments and small group discussions for students to discuss depression as they, their families and/or friends have experienced it, as well as different cultural beliefs and attitudes about depression. A brochure was developed that included information on where to go for help.

- **Provide opportunities for hands-on and/or concrete activities whenever possible**. This is easy when there are topics such as early detection of breast cancer and breast self-exam can be taught. Another example is practicing putting a condom on a banana when teaching about HIV/AIDS. It gets more difficult when the issue is saying no to unprotected sex, leaving a violent home situation, or what to do about garbage piling up near your home. Role plays, social action theater (evocative dramas where actors stay in character so the audience can ask them questions), small group discussion and strategizing, and visiting community organizations can be useful in providing the concrete activities.

- **Connect students with community health services.** It is crucial for students to know next steps and what is available to them locally. This can be accomplished by written information about community resources, representatives visiting the program to describe services, having students share information and experience about local services, having services brought on site at the program (health vans that do a variety of screening tests) or, in special cases, actually escorting students to services.

The literacy and health programs also have special modes of operating and special characteristics that include:

- **Students choose the health topic.** This usually happens through a voting process in which multiple choices are presented by the Student Health Team and classroom students vote for their choices. For example, at one program, there is a program-wide dot-voting process on a poster board in the communal area. Possible topics are described to students ahead of the vote through mini-presentations or information on posters to increase understanding of the possible health topics. Giving students the choice about what they want to learn about promotes ownership over the learning and connection to everyday life. Some health people have expressed concern that adult students may not have enough information to make informed choices. However, students are interested in the great health issues of the day (see interview results).

- **Student health teams lead the learning, working with community health people and material resources, program teachers and a health team facilitator.** This learning together

approach creates a leveler playing ground than is typical in educational programs. The community health people have health knowledge; teachers have expertise in literacy development; Student Health Team members have authentic knowledge of adult students' health learning needs, awareness of cultural frameworks and the trust of other students. The health team facilitator is the bridge between the three groups in developing and implementing the programs.

- **Student Health Teams use drama, role play, small group discussions and visuals to increase understanding and to provide a respectful learning environment.** The use of drama in particular has been a powerful venue for health learning. The use of different and creative methodologies has been cited as important in health communications research, especially when working with diverse ethnic and language groups. Dramas are embedded in real-life situations of students. For example, one drama about stress showed a new immigrant trying to cash a paycheck and running into cultural misunderstanding and language difficulties. Another drama showed a busy mother trying to juggle a crying baby, a demanding husband and an uncooperative teenager.

- **Developing understanding of the basic information about the health topic and promoting student participation in the program is all-important to the Student Health Teams.** Usually, Student Health Teams do presentations in classrooms and/or sponsor community health people. Participating students are encouraged to share personal stories to make meaning and sense for themselves as individuals but also for their families. Students are encouraged to think about why the information might be important and how they might apply it in their lives.

- **Teachers work with the Student Health Teams to build literacy activities in reading, speaking and listening, writing and math around the health topic**. Literacy skill development can be further developed through researching health community resources, researching health topics on the internet with an eye toward critical evaluation of the authenticity of the information, and role-playing self and family advocacy skills. Inherent in all the work is enhanced speaking, listening and communication.

Some Teachers' Reactions

Collectively, the guiding principles developed through and with adult students, the characteristics of the programs as they evolved, add up to a very different approach to health education and literacy learning. As one teacher put it:

> *I see this as a very different kind of health education. Lots of ESOL teachers have done health but it has always been pedestrian. It assumes the health education framework is already there and can be transferred over by language. But the Student Health Teams do not assume any knowledge or experience.*

Another teacher reflected on the use of drama.

> *It always surprises me how evocative the dramas are. In spite of the giggling and the unease, they can be frightening powerful.*

There is almost a universal perception by teachers and directors in this study that outside speakers and health brochures by themselves did little to "get to" students unless it was accompanied by Student Health Team activities. One teacher expressed it like this:

> *I see outsiders [health educators] using too high language and authority – not knowing how to communicate. And power issues are also present. The Health Team is engagement beyond words and dramas connect across languages.*

Teachers are also delighted with how health energizes and catalyzes literacy learning. Health is a topic that encourages learners to take ownership over their learning and to be self-directed. Teachers at a program that did not have a health grant and did not have a Student Health Team, were engaging with students to develop curriculum based on students' health interests and needs. They were profoundly affected by the process.

> *The students were so open and excited, wanting to participate and willing to share. Students really can direct their own learning and we will never again presume to know what students need, want and know. This was a learning process for all of us.*

A classroom teacher noted that:

> *Health is a place where students are willing to push the limits of their communicative ability. It is a topic close to the bone—as opposed to a topic like civic stuff for citizenship. That's not the kind of stuff where we are going to spend a lot of time in [trying] to be communicative—making ourselves understood. But when I did a follow-up on [a health team] session [with my beginning English class], I was impressed with their willingness to "language it out"—how hard they worked to exchange information.*
>
> *Health is not a topic to dry up fast. It's personal, not re-learning. It's new information well within your grasp …so engaging, that even though struggling with language,*

will keep at it. [It] frees you from dependence on the teacher …you are learning 'tools for life'…and building vocabulary that gives you control around an important life topic. Health is important to everyone and a universal experience that cuts cuts across everyone's concerns.

So what is happening as a result of a decade of work in Massachusetts using the Peer Leadership- Empowerment model? What health topics have students learned about? What health knowledge and skills have they gained? What have been the impacts and outcomes on health thinking and acting for Student Health Team members and the students who participated in their programs? How have programs and teachers learned, grown and changed as a result? The following pages detail the exploratory study and its findings.

THE EXPLORATORY STUDY

Beginnings

The Massachusetts' literacy and health work began over a decade ago. Over the years, a variety of evaluations and anecdotal evidence has been accumulating that indicated that students vigorously embraced learning about health, benefited from being taught by peers, and were changing their thinking and acting about their health and health of their families. Student Health Teams were learning and growing in their health at deep levels and increasing their confidence and know-how in addressing many areas of their lives. Programs and teachers were experiencing how self-directed students could be when they were excited about learning in a crucial life issue, and movement was seen toward a more student-centered approach in programs. The various pieces of evidence were also confirmed in a formal, single site case approach using participatory action research study that took place over a 2 year period (conducted by this author). However, there has not been a systematic assessment of the work statewide, especially around changes in health thinking and acting and impact on the program's organizational development.

In the fall of 2002, the author undertook a qualitative study of the impacts and outcomes of the literacy and health work through a series of interviews with adult students, student health team members, teachers and other program staff. Fifteen informal focus groups and six individual interviews were conducted in 11 programs. Nine of these programs had annual funding for a 2000-2005 five year cycle to support student health teams and a team facilitator. Some of these nine programs had been engaged with health since the mid-1990s. One of the additional programs was engaged with the the Massachusetts (Adult Basic Education) Health Curriculum Framework and the other had received a Student Leadership/Health Mini-grant.

In total, 52 people were interviewed – 23 students (11 in health teams, 12 were classroom students), 17 teachers, 11 program directors and one health educator. It is important to note that teaching and learning about health through a Student Health Team is multi-level teaching and learning. The Student Team learns about the chosen health topic through initial research but this learning is deepened through teaching other students and teachers. Teachers are learning about the health topics through team presentations in their classrooms and working collaboratively with the team to connect the health area to literacy development activities (vocabulary building, reading, writing, speaking, listening, math etc.). Classroom students are also learning through the team presentations and engaging in readings, discussions and writing about the health topic.

There was not an attempt to distinguish among responses although teachers and other program staff were asked to respond to questions in terms of impact on students. They were also asked to comment on literacy and health work's impact on the program's organizational development. In general, Student Health Team members were more likely to respond in greater detail and depth than classroom students.

Original interview questions:

1. What health topics did you learn about?

2. What were the most important things you learned about those health topics?

3. Did you share what you learned with others? If so, what did you share? Who did you talk to?

4. Thinking back to a year ago --do you think differently now about your health, your family's health now? If so, what is different?

5. Thinking back to a year ago -- what do you do differently now about your health? Your family's health?

Additional input was received from 40 classroom students (8 classrooms) who wrote replies to my questions as a classroom writing exercise. These responses were of limited value since students were more concerned with writing correctly than responding to the questions in depth.

Later on, additional input came from students and health team facilitators in two regional meetings where the findings were presented. Approximately 30 students and 10 facilitators gave additional input based on three questions:

- Is there anything you think should be added to these findings?
- Can you give some examples from your own life to further illustrate these findings?
- How would you apply these findings in your own life?

What health topics did students learn about? What were the important things they learned?

Stress and Depression: As reported in the focus groups and interviews, stress was the health topic most frequently learned about, with depression a close second. Stress is not surprising since adult literacy students, like many Americans, often juggle families, work and school simultaneously. English-language students are often adjusting to a new culture, new language, and a different type of life simultaneously. As one student said, "everyone has stress – this is a topic everyone can relate to – students, teachers, everyone." But serious, health-threatening stress is inherent in many lives of adult literacy students, undoubtedly more than in the general population.

Students said that they felt relieved to have their stress being acknowledged and that it was important for them to learn about the emotional and physical effects of stress. Many said that they did not know that stress could raise your blood pressure and that on-going, severe stress might contribute to chronic high blood pressure and play a role in the development of heart disease. Many said they didn't know that stress could cause your muscles to tighten, resulting in headaches and backaches. As one Health Team member put it:

> *I didn't know stress and my back pain were related. I was taking drugs for my back pain but what I really needed to do was get my stress under control. I see how things are connected more now and that there are different options.*

Students were very interested in examining connections between stress and emotional outcomes and behaviors, especially anger and conflict. In finding out what physical things happened in severe stress, in examining the various emotional reactions, and the interplay between the physical and mental, students talked about stressful situations in their lives that spiraled out of control in their families and at work – and how these situations might have been better controlled if they had acknowledged their stress and learned methods to reduce stress levels. One Health Team did a special

program on conflict resolution to get students talking about different options in dealing with stressful situations.

> *We did different scenarios on conflict common to students, acting them out in dramas and skits. The students got really involved in discussing options [to reduce the stress and conflict]. This was much better than just sharing information because everyone got involved and understood more deeply. And we moved from being concerned about being "right" in delivering information but more concerned with "did they really get it".*

Students reported learning about stress reducing activities as fun and interesting. Stress reducing activities such as self-massage, deep breathing, acupressure and stretching were mentioned frequently, as well as listening to music, exercise and reading. Students also introduced stress-relieving techniques from their particular cultures, especially around massage methods and meditation. Students talked about smoking as a stress reaction, how hard it is to give up smoking when you are stressed about so many things in your life, and how stress reduction can be a prelude to giving up smoking. Drinking is prevalent as a stress reducer in many cultures, including the American culture. Students talked openly about excessive use of alcohol in their cultures and in their families as the way people self-medicate their stress and their depression.

English-language students often experience depression in making the transition to life in the United States. Sometimes it is due to past trauma, sometimes it is due to loss of culture and language, sometimes being overwhelmed by the many necessary cultural and social adjustments, sometimes it is due to feeling powerless, sometimes by personally difficult life circumstances. Most often, the depression is a result of combined factors. Many American born adult literacy students often feel defeated by many failures in their lives and hopeless about making significant enough progress to substantially improve their lives.

A layer of complexity surrounds the depression. There are many different cultural beliefs, societal perspectives and experiences among both English-language and English speaking students about mental illness in general and depression in particular. Some cultures and societies do not acknowledge mental health issues, nor pursue drug and therapy interventions. Some cultures, including American sub-cultures, consider depressed people to be lazy or unmotivated. Moreover, ESOL students frequently have little familiarity with community health resources for screening and/or treatment.

Students felt it was good to learn about the differences between sadness and depression and stress and depression – and how to recognize symptoms and different levels of depression. They appreciated learning that there is a medical basis for depression that can be treated. Some students who were recent immigrants were feeling that something was wrong with them to feel so down. They felt they should be happy because they are now finally in America as they wanted to be and instead were overwhelmed and depressed about loss of culture, language and often, family.

> *I couldn't understand why I felt so bad. After all, I was in America and this is what I wanted. But*

my children are still back in my country and it will be many years before I can bring them here. I miss my language and English is so hard and there is so much I do not understand about the culture. I feel so alone. I feel better knowing my feelings have a name and there are things I can do to feel better.

A health educator who was working with immigrant students who wanted to learn about depression said:

My heart went out to many who were feeling so sad and inadequate. They were not giving themselves credit and not getting the help they needed when real depression was often evident.

Teaching and learning about depression had some difficult sides also. One teacher related how "depression tore some people open." Students, she said, bared their souls and it was the strength of the program environment that showed up in the way students and staff supported each other.

My ABE [Adult Basic Education] students have trouble with boundaries. They are a fragile and vulnerable population. They may reveal too much and they get confused about where I [as the teacher] and you [as the student] end. In their need for support, they share too much, then get scared and leave the program or they get afraid that what they revealed will be used against them.

Clearly, issues with depression involved special consideration for ethical boundaries and the need to have referral services for help readily available. One teacher estimated that in her program, maybe five (out of 350) had serious depression issues and needed referral for professional services (facilitated by program counselors). However, many staff and students felt depression is a very real issue for many students with staff having their own share of problems with depression also. Just bringing up the topic was important, they said, as well as providing the social space to discuss effects of depression on school and learning. One teacher noted that "what students want to know is that they will survive this and there are people and places to help you – that there is a light at the end of the tunnel." Knowing that exercise, eating right and not isolating yourself was also important for students to know and discuss for themselves and their loved ones.

Diet and Exercise: If everyone has stress, everyone also has to eat, and food is closely allied to culture and social traditions. This was a topic that generated enthusiastic conversation and it is hard to know where to begin because so many things were discussed. There were the obvious areas such as learning about:

- the food pyramid,
- carbohydrates, proteins, and fat,
- how to read food labels,

- portion sizes,
- importance of fruits and vegetables,
- and the importance of water.

Many students reported that they had not seriously considered what they ate, in what quantities and how they prepared food. One student said:

> *I was appalled when I saw how much [fat] was in coke, fries and hamburgers. I did not know this before and I was really shocked. I am trying to eat at home more and use healthy recipes.*

Other students reported similar shock when they saw physically how much sugar is in coke, how much fat is in McDonald's French fries, how much sugar and carbohydrate in "Dunkin Donuts", and the amount of fat and sodium in snack foods like Doritos. The nutrition extension services and the WIC program provide especially good teaching tools and models that students said helped them understand content of various foods, especially prepared foods. In reading food labels, students gained a better understanding of cholesterol -- that then led to discussions about the role of cholesterol in heart disease, what are considered acceptable cholesterol levels, and how to get your cholesterol checked.

"Getting fat in America" was a recurring theme.

> *In my country everyone walks. But here, everyone rides in a car or a bus. And when it is cold, you stay inside and watch television and eat. There is food everywhere and sizes are so big. You get fat in America.*

Discussions about being overweight and trying to lose weight occurred in every interview. The amount of sugar in foods, especially hidden sugar, was talked about vigorously, and how eating a lot of sugar could raise your blood sugar levels and increase the possibility one could develop diabetes. Students talked about the connections between eating habits, well-being and medical conditions – connections that they said they did not see before, such as weight being a factor in high blood pressure.

Students talked about what you ate in relationship to stress and depression. When you are stressed, they say, you grab food without thinking and don't plan for balanced meals. One student related how upset she was with a neighbor who fed her children potato chips and coke for dinner. "But I see now that she was depressed and didn't have the strength to fix a good dinner – or do anything really. But the lack of good food was making her depression worse. And her children suffered." The constant presence and availability of junk food was also discussed. One teacher related that lots of students often come to class without breakfast and with Doritos and coke in hand.

Teachers noted that they were especially happy to see discussions about the importance of a good breakfast for both the students and their families. A lot of students, they say, come to classes without eating breakfast and are noticeably less alert and less likely to learn. Teachers noted ruefully that they don't always eat healthily or have breakfast and that "these are issues for us as well as for students."

Food preparation and methods of cooking was also part of the dietary learning. Students talked about learning to trim fat from beef and chicken before preparing, using recipes that used less oil and salt in their preparation, and incorporating more fruits and vegetables into meals. One program had a "Healthy Eating" Fair where the Health Team prepared healthy dishes from various countries represented at the program (with accompanying recipes). Some Health Teams sponsor "best healthy recipes" contests with prizes. There was great interest in providing nutritious meals and snacks for families, especially children. Most students are in their mid-30s and have school-age children. One Health Team Member noted that:

> *Spanish people fry everything and use a lot of butter and mayonnaise. They need to know how much fat that adds to what they are eating. I told my Mom to try different ways to prepare food and she is trying.*

Overall, awareness and knowledge about healthy eating opened up vigorous engagement with issues of diet. Diet and exercise were talked about together although there was less specificity about exercise. Most of the discussion revolved around the important of exercise in relationship to weight control and general well being. Walking was the most common form of exercise and many students talked about the amount of walking they did in their native countries "but here everyone rides in cars, takes the bus and subway, and when the weather is cold, everyone sits inside watching television…you get fat in America."

Exercise was also discussed in reducing stress, especially stretching exercises -- and how exercise can help with depression. There was little discussion about exercise for disease prevention/ management or in relationship to cholesterol levels and blood pressure. Again, walking was the most common form of exercise mentioned. Organized sports, such as soccer, were brought up but no one actually participated in such programs. Dancing, particularly ethnic dances, was brought up as a fun way to get good exercise. No one said they belonged to a gym or having exercise equipment at home, although a few said they swam in the summer. In general, the array of exercise options was small, perhaps reflecting different cultural and social approaches and/or lack of financial resources. Since walking was the primary form of exercise, some Health Teams prepared posters about nice and safe places to walk in the local city or town and low cost gyms so that students gained knowledge about local opportunities. One team also prepared information about playgrounds and YMCA programs for kids so that students who were parents to provide would know about exercise opportunities for their children.

Other Health Areas

Smoking and Cancer: Smoking and cancer was the third cluster of health topics mentioned frequently. Most Health Teams taught about the effects of smoking on the body, including secondhand smoke. The effects of secondhand smoke were often new and surprising information for many students. Smoking was discussed as a stress reaction, adversely affecting energy levels and its role in developing certain diseases, especially cancer. The emphasis was on how to stop. Cancer was of concern to students, primarily because of its presence in their families and they wanted to learn about different types of cancers and their treatments. Breast cancer was of particular interest, perhaps because of publicity from the Breast and Cervical Cancer Initiatives combined with the large number of women in the programs. Cervical cancer had less emphasis although the women students were more at risk for this type of cancer because of their age (mid 30s).

A myriad of other health topics were mentioned less explicitly and in fewer numbers -- STDs including HIV/AIDS, pregnancy, birth control, first aid, caring for elder parents, domestic violence, alcohol and drug abuse, the specifics of diabetes and asthma (both prevalent in students' families), hand washing techniques, SARS and West Nile Disease. Some of these topics seemed to appear as a result of other discussions, rather than being explicitly named as an area that students were interested in specifically exploring. For example, an HIV/AIDS discussion including information about use of condoms might lead to a discussion of birth control methods that might lead to a discussion of teen pregnancy that might lead to a discussion of alcohol and drug abuse. Threads of a wide variety of health topics were often tightly intertwined.

Learning across Health Areas

Students also related a variety of new knowledge and skills resulted from their engagement with health. Combined with the new health knowledge discussed previously, it seems apparent that self-efficacy about both individual and family health is promoted and enhanced.

Health vocabulary was named as one of the most important knowledge areas developed. Knowing what such terms as depression, stress, blood pressure, blood sugar and cholesterol mean was very important to students. Knowing the terms for such body parts as cervix, uterus, prostate, testicle and the names for screening tests such as PAPs , mammograms and PSAs was also very important. It gave students a vocabulary for describing and discussing health.

Inherent in all the work was communicating about health. Students reported knowing more about how to describe what it meant to them to be healthy as well as physical symptoms of medical conditions. For example, several mentioned that they did not know it was important to mention things such as increased thirst, being tired, difficulty seeing, etc. Overall, there was greatly increased skill and confidence to talk about health. Students said they were less afraid to ask questions of doctors and other health care people for both themselves and their families, that they had more confidence to say when they did not understand. Within the programs, a social space opened to talk about health and to give and receive support. Several students said that they felt afraid of some screening tests (PAPs particularly) but were encouraged by other students and felt better being able to share their anxiety. Overall, there was greatly increased levels of discussion about what is health and how to maintain health in individuals, families and communities.

Skills increased in finding and evaluating health information. Most Health Teams put great emphasis on where to find community health services, especially for prevention and early detection, and where to find health information locally. Students were also accessing health information from the Internet and were learning about sites with easy to read materials and to distinguish authentic sources from sales pitches. Students, especially Health Team members, increased their confidence in questioning health information, seeing that there was sometimes disagreement among professionals about the best course of action, and different opinions about options.

The introduction of the concepts of prevention and early detection was of great importance to English language students who had recently immigrated to the United States. Many English language students come from countries where prevention and early detection methods are not practiced so students had little or no experience with blood pressure checks, blood sugar and cholesterol screening, mammograms, PAP tests, PSAs etc. Learning about the importance and availability of these tests was an important prelude to the specific health learning. One Health Team member remarked that all of the advertising for community vans to do mammograms went right over the heads of many students because "…they had not had any experience with this and there was nothing in their heads to make the information important to them."

Learning about community health services available was critically important for students, especially as a follow-up for immigrant students being introduced to the concepts of prevention and early detection for the first time. Students learned about services through the Community Health Centers and mobile vans that do a range of screening tests and services from blood pressure/blood sugar/cholesterol to HIV/AIDS to sight and hearing to flu vaccine.

Skill development in reading nutrition labels was named specifically by many students as being very important to them in improving the nutritional quality of meals for both themselves and their families, and in controlling weight.

What was absent?

Surprisingly, there was little mention or discussion about health insurance. While a significant number of Health Teams provided information about free or reduced fee health services and the MassHealth program (the state insurance program for low-income groups), there was not a lot of interest shown about getting health insurance. There was confusion expressed about what health policies covered and what you could expect. Several directors and health team facilitators said they were surprised to learn that many of their students were covered under work health policies of family members. They had perceived that most students would not have any health insurance and would be entirely dependent on public health programs.

It may also be that interest in learning about the other health topics was much more compelling. Whatever the reasons, the lack of talk about health insurance was conspicuous in its absence, especially in this time of reduced Medicaid and state public health funds. Similarly, there was little discussion about different cultural beliefs about health. Students said they enjoyed learning from other students about how other cultures and countries perceive and address health (and non-health) and the connections between body, mind and health. They liked sharing about traditions and home remedies. However, the emphasis was clearly on the new learning they were doing together.

As previously mentioned, it may be that newer health topics where students had very little or no information were more compelling. There are always issues of time and energy to work with a range of health issues and the need to focus on fewer topics where there is a great interest. Clearly, those health areas where there was great interest did produce a phenomenal degree of change in thinking and acting about health.

What Students Are Doing Differently About Their Health

Stress and depression were the topics of greatest interest to literacy students because of their pervasive presence in their lives. Most of the change in these areas had more to do with developing new understanding and acknowledgement that stress and depression are both physical and psychological conditions that underlie or are related to overall health and to various medical conditions. Specific changes included:

- **An eagerness to openly talk about stress** as it operates in students' daily lives and the lives of their families. The talk also focused on how stress affects learning, family interactions, conflict situations, physical and emotional/psychological well being, and overall health. Having a vocabulary and framework in which to discuss stress greatly facilitated the discussions.

- **Many examples of actions to control stress** were given with exercise, music, special stretching and self-massage mentioned most often. There was less discussion about trying to change the factors creating stress, as most students seemed to perceive there were few choices to be made among the things they had to handle in their lives. Stress came from adjusting to a new culture, a new language, studying to increase reading/writing and math levels and juggling families, work and school – not areas that adult literacy students – or anyone -- can drop or readjust easily.

- **Affirming that depression is a real, medical condition** and those terrible feelings of hopelessness, of feeling bad all the time have a name and can be addressed through medication, therapy, exercise and diet. For many students, this was a breakthrough change in their knowledge and thinking that mitigated blaming and opened the door to new possibilities for themselves and their families. While there were few instances of specific referral for services, there was widespread and palpable relief to have this topic out in the open for discussion and relating its affects to learning, families and other life areas.

Diet was the area where many changes were reported.

- **Cutting down on junk food:** With the increase in knowledge from reading food labels and awareness about the amount of fat, sugar and sodium in snack food, many students reported cutting down on junk food for both themselves and their children, making a concerted effort to eat more regular, nutritionally balanced meals. Teachers did note a decrease in coke and Doritos being brought in for breakfast and students would encourage (sometimes berate) fellow students about eating junk. Some Student Health Teams were making efforts to get "healthy snacks" vending machines to replace those with more traditional soft drinks and junk food.

- **Incorporating vegetables and fruit into recipes and to use fruit as a snack** - Students enjoyed sharing "healthy" recipes, learning about the fruits and vegetables unique to particular cultural cooking (available in most supermarkets now), and how to incorporate them into family meals. Healthy Eating Cookbooks, developed by Student Health Teams, were a popular outcome of sharing recipes. Posters made by health teams were also a popular way to share general nutritional information.

- **Preparing food to have less fat** through trimming fat, broiling rather than frying, reducing butter and mayonnaise in preparation and other techniques. Again, sharing "healthy recipes" was a popular way for both students to get ideas for low-fat preparation – an important step toward change for students from cultures where frying is the norm in food preparation.

- **Replacing soda drinks with water and increasing their water intake overall** - This was especially true for Student Health Teams that frequently have snacks at their meetings. There appeared to be a substantial and sustained behavioral change in what they choose to eat at meetings as well as a desire to be "an example" for other students.

Exercise was an area of some change, primarily in relationship to weight control, stress reduction and general well being, although students who had studied depression recognized the role of exercise in treating depression. Walking was the main mode of exercise and students reported substituting walking for riding whenever possible, and beach/park walking during the warm weather months. Students often live in unsafe neighborhoods so continuous walking is not always an option. A few walking groups were formed by the Health Teams but these were difficult to sustain. There was only one mention of playing sports (soccer) and no one belonged to a gym or participated in exercise classes. Undoubtedly, this was a lack of both time and financial resources.

Other Areas of Change

There were many attempts to stop smoking although no one reported that they had actually been able to stop completely. Most were in the process of cutting down and were very interested in stopping completely "to save money and my health". The one area in which definitive change was reported was around second-hand smoke. As previously mentioned, this was new information for many students and they were upset to learn that their smoking habit could adversely affect their children. A substantial number of students who smoked reported no longer smoking in their homes and going outside to smoke. One Health Team reported that students no longer clustered in a particular doorway to smoke since the children from the daycare center passed through it on an on-going basis.

Increased hand washing was another area of substantial behavior change in programs undertaking this topic. A number of Student Health Teams did programs on the importance of hand washing in preventing illness and made up clever songs to accompany the washing. A few teams also used a special light for showing where the washing missed areas. Students really enjoy having hands-on tools like the light that show concrete evidence. The SARS scare in 2002-2003 heightened awareness of measures to prevent the spread of illness.

Increased participation in screening/ early detection checks and flu vaccination programs - Most of this activity was driven by Student Health Teams that arranged for community health vans or local health agencies to come on-site to conduct the tests. Most popular (and easiest to do) were blood pressure checks. Blood sugar and cholesterol were another set of screenings done frequently with HIV/AIDS and other disease screening occurring less often. Most students are not age appropriate for mammograms but they did encourage mothers, older sisters and aunts to take advantage of free screening services, sometimes literally dragging them down to the screening site. Increased understanding of the purpose of Pap tests led several students to request this screening from local health centers. Flu vaccine, usually provided free of charge by local health centers, was a popular, on-site service in which student participated enthusiastically. Having services provided on-site greatly increased the numbers of students receiving the service since almost all classes at the Adult Basic Education program participated, and often brought family and friends.

Increased reading of health brochures. - With increased literacy skill from their classes and feelings of greater control and confidence about health issues, a substantial number of students reported picking up and reading health brochures at the program, from health centers and local stores such as CVS. One student related how she, for the first time, picked up a brochure about diabetes and read it with understanding. She then realized she had the symptoms of diabetes that was later confirmed by a blood test. But, as she said, "a year ago, I would never have even picked up a health brochure".

Students share what they learn about health with family and friends. Students expressed great pride in "having the right information – understanding the information". They were eager to share what they had learned with others. Specifically what they shared and how that information was received was not probed and will be an important part of future studies.

Students ask about health services and products available to them through community health centers and other venues. As they became more knowledgeable, skillful and confidence about talking about health, they increasingly sought out opportunities for immunizations, prescription drugs, nutritional counseling, therapy etc. at free or reduced costs –beginning the movement from being passive recipients of health care to active and more knowledgeable consumers of health care.

Students reported asking doctors more questions about their health and the health of their families. As students' confidence and ability to talk about health increased, their confidence to say when they did not understand, and to ask questions also increased. Teachers also reported increased and more probing communication with doctors. Much of this communication was around children's health and about older family who were experiencing serious illness such as cancer.

Students get excited about learning about health and health catalyzes literacy learning. Students perceive that learning about health is vital for themselves and their families and there was widespread enthusiasm for continued learning about health. They saw that literacy programs are a good place to learn about health and that the content of health accelerated their reading, writing, math and English-language skills. And this increased literacy skill development also increased their health learning so there was a mutual reinforcement. Teachers were highly affirming of health. As one teacher said, "health is so engaging, so exciting that students push themselves to the limits of their abilities… then all the literacy learning sneaks up…all of the sudden, students realize what they are speaking English and they are reading and discussing things they thought were beyond them".

New health knowledge, new areas of skills, changes in thinking and acting about health both individually and within families appear to have collectively enhanced students' sense of self-efficacy about their own health and the health of their families and promoted self-care.

Health, Student Health Teams, and Programs' Organizational Development

Many adult literacy programs have a philosophy based in adult learning principles, participatory process and democratic ideals. However, this philosophy is often difficult to put into actual practice and the stresses, strains of under-funding and part-time staffing further exacerbate the difficulties. There have been many indicators that programs undertaking health and literacy work, especially those with student health teams, were undergoing an organizational transformation and were rethinking their interactions with students. For this reason, the author included focus group and interview questions specifically for program directors and teachers to probe if they saw any changes within their programs resulting from undertaking the health work.

From the data, it is apparent that undertaking health through a peer leadership model has been a way for programs to initiate a more participatory approach within their programs and to put the needs and interests of students into the heart of learning. As one director put it:

> *Health issues are right there with students' needs. They don't have the information they need and {limited} access to services. The health team is reaching students in a new way. It is so incredibility effective. The health team really reached the students and the students got the help they needed. It has heightened consciousness about student leadership and helped make student purposes and goals the centerpiece of the program [as well as] deepening the commitment to providing a variety of learning and growth experiences. It infused a different methodology across the program to a critical mass of staff.*

Having student health teams as leaders has made a new role for teachers – one in which they did not have to be the health experts but working with the team for " before and after" literacy activities to deepen understanding. Not every teacher was comfortable with students as their leaders

but most teachers expressed relief that in this learning together approach, there was shared responsibility. Shared responsibility for getting to information, collaborative work with community health organizations, and in creating a program environment – a social space -- to support discussion of sometimes difficult health issues.

One program, that did not have a health grant or a student health team decided to develop their curriculum around health. They wanted to involve students in the planning through surveying student health interests and discussions in the classrooms. They related being so surprised to get an unexpected selection (depression as the major topic of interest) and elated by the students' excitement about selecting their topic, wanting to participate and willingness to share responsibility for teaching and learning. A teacher there said that she "would never again assume what students need and want to know…this was a learning process for all of us".

Many other programs re-iterated this sentiment. For example,

> "*For us, this [health] was the epitome of student-centered process. We had developed our curriculum on what we thought we knew about students. But we found that students know what they need to learn and they can direct their own learning…we are learning from our students"*.

Clearly, undertaking health through a peer leadership approach or explicit involvement of students in the planning has been a powerful change catalyst in many programs. It has led programs to initiate other student leadership programs such as Student Councils and civic participation projects. It has led programs to seek out student voices in developing curriculum and supported mutual responsibility for learning. Bob Bickerton, Director of Adult and Community Learning Services in Massachusetts, characterizes health as "the jet fuel" for programs to begin discussions about how contextualized curriculum and instruction are approached.

Health has fostered learning across classrooms and opened social space to discuss critical life issues. It actualizes the "Equipped for the Future" vision of promoting adult students voice, access and action. As recounted many times in this report, health was a vehicle to students to find their voice and articulate their needs and interests about health, to direct their learning about health and access to health care, ultimately promoting the potential for action about health.

CONCLUSIONS

This report related what student health team members, program students, teachers and directors in adult basic education programs told the author in response to questions about their experiences with the health teaching and learning and resulting changes in thinking and acting about health. While not every student or staff member reported the experiences and changes related in this report, the findings were strong themes across programs statewide. A very strong sample of programs (78% of total programs funded for health education) gave their input in 21 informal focus groups and individual interviews that included 52 student health team members, program students, teachers and directors. Less extensive input was gathered from an additional 70 students and 11 health team facilitators. Self-reported data has some limitations. However, the following conclusions point to a powerful impact of health and adult literacy among that support the current work and encourage its expansion.

- Students and program staff in this study affirm that it is important to learn about health in adult literacy programs.

- Learning about health catalyzes literacy instruction.

- Learning about health through a peer leadership and/or empowerment model promotes self-efficacy about both individual and family health, and promotes changes in thinking and acting about health.

- Students in this study increased their knowledge and skills about stress and depression, diet and exercise, and a variety of other health areas. They acted upon this new knowledge and skill to make changes in eating and exercising habits, prevention and self-care practices, and in advocating for themselves and their families.

- For students in this study, there appears to be a shift in beliefs about what can be done about health, and a move toward thinking that it is possible to be healthier both as an individual and as a family.

- There appears to be an intense engagement with health learning that shifts the relationship to positive interaction with health education and sets the stage for life-long learning about health. .

- There is affirmation of the need and responsibility for health care professionals to communicate more clearly through both print materials and other communication approaches for all populations. Empowerment is about participants on both sides of an issues moving toward one another and not the expectation that all the change will occur for one of the parties.

Recommendations for Further Study

There is a need to confirm these findings across greater numbers of students in programs undertaking literacy and health work, perhaps through a survey given by each funded program at the end of the year, relevant to the particular health topics studied. There may also be some value in using a before and after self-efficacy scale although the appropriateness of such instruments are questionable with this population.

There are some specific areas found in this study that need further probing. For example, students report sharing information about what they learned about health with family and friends. However, what they are sharing, with whom and how the information is received is not known.

Overall, there is great need to see if changes in thinking and acting about health are sustained, and if there continues to be engagement with health education when it is external to the adult basic education program.

BACKGROUND INFORMATION

CONNECTIONS BETWEEN LOW LITERACY AND POOR HEALTH

BACKGROUND

Low Literacy and Health

It has been over a decade since the results of the 1992 National Adult Literacy Survey (U.S. Department of Education, 1992) shocked and sobered the nation. The National Adult Literacy Survey (NALS) found that over 45 % (90 million people) of the U.S. population has limited literacy skills, falling into the two lowest of the study's five levels. The NALS also confirmed that low literacy is correlated with low income, unemployment and disability – and that African-Americans, Hispanics, Native Americans and the elderly are represented in disproportional numbers in the two lowest levels. These findings have significant implications for public health initiatives aimed at addressing disparities in health status and access to health care.

The NALS findings have been of a particular concern to both adult basic educators and health care professionals alike. Aware that literacy skills are particularly critical in accessing and understanding health information and services, the health field has begun to research the impact of low literacy on health and health care. The findings that are emerging are alarming.

- Studies have established the connections between literacy level and health status and have found strong evidence that low literacy and poor health are inexorably linked (Clenland & Van Ginniken, 1988; Perrin, 1989; Grosse & Auffrey, 1989; Weiss et al., 1992, Williams et al., 1995).

- In the U.S., where chronic disease has become a major cause of sickness and death, and the location of care has shifted to outpatient settings, health education and health promotion have an increasingly important function (Healthy People, 2010).

- With health care costs skyrocketing and an increasingly aging population, Health Maintenance Organizations (HMOs), including Medicare and Medicaid HMOs, have an economic interest in effecting health communication with client groups. These organizations also increasingly rely on health education to encourage prevention and early detection strategies (Sissel & Hohn, 1996).

- However, health education and health promotion are accomplished primarily through print materials. These materials are frequently written at the 10+ grade levels (American Medical Association 2000; Chen, 1994; Doak, Doak & Root, 1996; Williams et al., 1995). These resources are of limited use to the 90 million people with limited literacy who are more likely to be low-income, minority, or elderly (Kirsch et al., 1993).

As a result, there is a huge segment of the population, concentrated in low-income minority groups, that is not reached by traditional health education and health promotion activities. This is the same population that has been found to have poorer health status overall with a higher incidence of chronic disease (Davis et al., 1996), higher rates of infant mortality (U.S. DHHS, Public Health Service, 1991) and shorter life expectancy (U.S. Bureau of the Census, 1993). The

situation is further exacerbated for the rising number of immigrants and refugees with limited English skills.

Low Literacy Level and Poor Health are Directly Linked - The Research Base

Healthy People 2000 &t & Other Strategic Plans identify educational level as key determinant for access to health education promotion activities and health services.

Studies in non-industrialized nations indicate direct relationship between literacy level and key health indicators.

Studies in Canada by Perrin and in the U.S. by Davis, Weiss & Williams confirm interaction between literacy level and health, linking low reading level and poor health, further documented y Healthy People 2010 & AMA reports

90 Million Adults in the U.S. Have Limited Literacy Skills- The National Adult Literacy Survey (NALS)

The NALS Study establishes that 45 % of the U.S. population (90 million) people have extremely limited (20%) or limited (25%) literacy skill concentrated in minority populations.

Health Education-Promotion Relies on Print Materials that Low Literacy Adults Cannot Understand

Health education-promotion is a key strategy in today's health care.

Most Health education-promotion material is in print form written at or above the 10th grade level.

Print materials frequently make cultural assumptions that are misleading or not understandable by different groups.

Therefore, the 90 million people who are in greatest need of health education-promotion do not bene from current health education practice about prevention and early detection.