

DOCUMENT RESUME

ED 437 604

CS 013 737

TITLE The Price We Pay for Illiteracy. Hearing of the Committee on Labor and Human Resources on Examining Educational Goals, Focusing on Literacy. United States Senate, One Hundred Fifth Congress, Second Session.

INSTITUTION Congress of the U.S., Washington, DC. Senate Committee on Labor and Human Resources.

REPORT NO Senate-Hrg-105-787

ISBN ISBN-0-16-057994-5

PUB DATE 1998-12-11

NOTE 98p.; Some figures contain illegible print.

AVAILABLE FROM U.S. Government Printing Office, Superintendent of Documents Sales Office, Washington, DC 20402.

PUB TYPE Legal/Legislative/Regulatory Materials (090)

EDRS PRICE MF01/PC04 Plus Postage.

DESCRIPTORS Adult Basic Education; *Adult Literacy; Educationally Disadvantaged; Hearings; *Illiteracy; *Reading Skills; *Remedial Reading; *Workplace Literacy

IDENTIFIERS Congress 105th; Health Communication; *Literacy as a Social Process; *Literacy Assessment

ABSTRACT

This document presents the transcript of Congressional hearings held before the Committee on Labor and Human Resources on the scope and implications of illiteracy in the United States and on school and adult programs addressing literacy. After opening statements of the Hon. James M. Jeffords and the Hon. Christopher J. Dodd, the transcript for the hearing on the implications of illiteracy includes the texts of oral statements and prepared statements by the following individuals or organizations: Enrique Ramirez, Andy Hartman, Jean DeVard-Kemp, John P. Comings, and Richard C. Wade. Contains additional articles, "Understanding Health Literacy: New Estimates of the Costs of Inadequate Health Literacy" by Robert B. Friedland and Greg O'Neill, and a letter of Robert B. Friedland to the Hon. James M. Jeffords including a summary of research presented in the aforementioned article. (EF)

ENTIRE DOCUMENT:
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THE PRICE WE PAY FOR ILLITERACY

ED 437 604

HEARING OF THE COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

ON
EXAMINING EDUCATIONAL GOALS, FOCUSING ON LITERACY

DECEMBER 11, 1998

Printed for the use of the Committee on Labor and Human Resources



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WASHINGTON : 1998

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Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-057994-5

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THE PRICE WE PAY FOR ILLITERACY

FRIDAY, DECEMBER 11, 1998

U.S. SENATE,
COMMITTEE ON LABOR AND HUMAN RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m., in room SD-430, Dirksen Senate Office Building, Hon. James M. Jeffords (chairman of the committee) presiding.

Present: Senator Jeffords.

OPENING STATEMENT OF SENATOR JEFFORDS

The CHAIRMAN. Good morning. The Committee on Labor and Human Resources will come to order.

Today the committee is holding the second in a series of hearings to examine our educational goals. Last week, we focused on early childhood education; this morning's focus is on literacy.

Goal 6 of the goals adapted by our Nation's Governors at the beginning of this decade states that "By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship."

Unfortunately, the statistics used to assess Goal 6 indicate that we are a long way off from meeting that goal. The most recent national survey of reading achievement by fourth-graders, the 1994 National Assessment of Educational Progress, indicates that 44 percent of schoolchildren are reading below a basic level of achievement. Unfortunately, these statistics do not improve when looking at the findings from the most recent National Adult Literacy Survey. This survey found that 23 percent of adults were at the lowest literacy level. Adults in this category displayed difficulty using reading and writing skills essential for carrying out daily routine activities.

In my own State of Vermont, a State often regarded as a leader in education, 80,000 people are in need of adult educational services. That is a staggering number in a State where the population is under 600,000.

It is important to note that illiteracy is not only a problem in the United States but around the world. This week UNICEF published its annual report, which found that one-sixth of the 5.9 billion people in the world cannot read or write.

There are several federally-funded programs that attempt to address the literacy issue. These include Title I of the Elementary and Secondary Education Act, which supports instructional activities that help students meet high standards in core subject areas

(1)

such as reading and math; Even Start, created by my friend Chairman Bill Goodling, which provides family literacy programs for parents and children; and Reading is Fundamental, which promotes the establishment of reading programs, including the distribution of inexpensive books to students.

We also have Adult Education State Grants, which give assistance to educationally disadvantaged adults in developing basic literacy skills, and the Reading Excellence Act, which Congress passed this year to provide professional development for reading teachers and tutorial assistance for students who need additional help in reading.

The existing programs have a good track record for those whom they have served. However, many are not able to participate in these programs. For example, Title I currently serves only two-thirds of those students eligible to receive Title I services. Even Start provides support to about one-fourth of those individuals who could be assisted by participation in the Even Start program, and adult education is estimated to serve only one-seventh of those adults who are functionally illiterate.

In addition to the Federal programs I have mentioned, there are a number of well-established private sector efforts that are involved in the literacy effort.

Many of us on this panel are involved in a volunteer reading program called Everybody Wins. As a founder of the DC. Everybody Wins program, I am thrilled at the large number of Senators, Congressmen and congressional staff who participate on a weekly basis in reading to students in the DC. schools.

Volunteer efforts are important, but they alone will not eradicate our growing illiteracy problem. In addition to the Everybody Wins program, DC. public schools are launching Saturday reading classes for up to 10,000 students to try to increase the number of children who read and write at grade level.

Earlier this week, I had the opportunity to visit with students participating in the Vermont Adult Learning program, a program that receives funding from Federal and State government sources in addition to some private funding. One student told me he was a D or D-minus student all the way through high school. However, it was not until his senior year of high school that a teacher informed him that he was in danger of not graduating—a clear example of social promotion. A dropout, he tried to enter the military but was rejected because he could not read or write. Now in his mid-40s and about to pass the adult education course offered through the Vermont Adult Learning program, this gentleman reads National Geographic for enjoyment. Imagine how the world has been opened to him.

His message to me was: "Please see to it that those individuals like myself, who know the embarrassment of not being able to read a newspaper or a book to their children, have the opportunity to change their lives by creating a literacy system that will provide services to both adults and children, and they too will be able to read National Geographic magazine."

I look forward to hearing from our outstanding witnesses today. At this point, I would submit for the record the statement of Senator Dodd, and I also will ask unanimous consent—and I do not

think I will have a problem with that today—that any other Members be allowed to place statements in the record at this point.

[The prepared statement of Senator Dodd follows:]

PREPARED STATEMENT OF SENATOR DODD

Mr. Chairman, I would like to extend my gratitude to you for holding this hearing today, and for all you have done to promote the cause of literacy in this country. There are few members in this body who have done more on behalf of literacy than yourself.

Literacy is without a doubt the most fundamental and necessary skill that one can possess. It makes us good parents, good workers, and good citizens. Imagine not being able to read—from start to finish, each day would be nearly impossible.

Unfortunately, however, for many of our citizens, such days are their reality. Almost one quarter of our population, between 40 and 44 million Americans, lack basic literacy skills. In Connecticut, 16 percent of the adult population is unable to read or compute in any language. In Hartford, the Capitol of our State, that number rises to 41 percent! And when those who are literate in another language, but not English, are factored in, the statewide illiteracy figure rises to 41 percent.

These statistics affect every one of us. Roughly 75 percent of all unemployed individuals are illiterate. Thirty-eight percent of the population on government assistance cannot even fill out a job application because they cannot read. American businesses are estimated to lose more than \$60 billion in productivity each year due to employees' lack of basic skills. Seventy percent of the State and Federal prison population have such poor literacy skills that they are unable to write a letter or understand a train schedule. And individuals with low literacy skills are at risk of health problems for they are unable to comprehend nutritional information or medical instructions provided by health care professionals.

How can this be in a country as rich in resources and human potential as ours? As I am certain we will hear today, there are many causes. Many of those without literacy skills left school prematurely. Many have learning problems which frustrate their efforts to learn. Many were taught by teachers who lacked the necessary skills to teach reading.

Beyond the individual, the tragedy of illiteracy is that it is self-perpetuating. Parents who are illiterate cannot read to their children. And children not read to start school already behind in important literacy skills. Research has shown that children who fall behind as early as the second and third grade do not catch up or become fluent readers unless expensive, intensive help is available to them. If such help is not available, these children become increasingly frustrated and are at high risk of dropping out of school altogether. And this population will likely become unemployed or incarcerated.

To attain a literate society is a tall order, but we have a tremendous advantage today in that we know so much more about the physiological process of learning to read and what works and what does not, for both children and adults. But we must make sure that this new base of knowledge gets out beyond academia and its scholarly journals and directly into the lives of our citizens.

Such work can be done in many ways. New Federal and State grants are available for this purpose because of the Reading Excellence Act we passed last year.

States and local districts will receive \$260 million to shore up the training of teachers in reading and to invest in strong local literacy partnerships. This program will also support family literacy programs which achieve results for more than one generation of a family. And importantly, this funding will also make sure young children have access to the most basic reading tool of all—Books.

And other partners are active in this effort. Businesses should continue to invest in basic literacy programs for kids as well as workplace literacy programs to provide workers with the skills they need to obtain or retain employment. Partnerships between literacy programs and health providers are another means of making a significant difference in low literate communities. Public library literacy programs must continue to receive our full-fledged support at the Federal and local level.

While there is much to be done, there is much already in place. For instance, would note for the record, Mr. Chairman, that citizens throughout the United States can access free referrals to local literacy programs 24 hours a day via a toll-free hotline (800-228-8813 or 800-552-9097 TTY) administered by the National Institute for Literacy. A simple phone call may be all it takes to change one's life.

Mr. Chairman, I thank you for giving a forum to this subject and for giving literacy the attention it deserves and look forward to working with you to ensure that all Americans can read.

The CHAIRMAN. Our first witness today is Enrique Ramirez, an employee of United Airlines in San Francisco. It is certainly a pleasure to have Enrique here; he has experienced first-hand the wonderful results of a successful adult literacy program and will be sharing that experience with us.

Enrique, please proceed.

STATEMENTS OF ENRIQUE RAMIREZ, SAN FRANCISCO, CA, FORMER ADULT EDUCATION STUDENT; ANDY HARTMAN, EXECUTIVE DIRECTOR, NATIONAL INSTITUTE FOR LITERACY, WASHINGTON, DC; JEAN DEVARD-KEMP, ASSISTANT COMMISSIONER FOR ADULT LITERACY PROGRAMS; GEORGIA DEPARTMENT OF TECHNICAL AND ADULT EDUCATION, ATLANTA, GA; JOHN P. COMINGS, DIRECTOR, NATIONAL CENTER FOR THE STUDY OF ADULT LEARNING AND LITERACY, HARVARD UNIVERSITY, CAMBRIDGE, MA; AND RICHARD C. WADE, PROFESSOR EMERITUS, GRADUATE PROGRAM, CITY UNIVERSITY OF NEW YORK, NEW YORK, NY

Mr. RAMIREZ. Good morning, everybody. It is a pleasure to be here. I am really nervous right now, so—

The CHAIRMAN. I know you are, but just relax. I am a good guy, and we are just very pleased to have you here.

Mr. RAMIREZ. Thank you.

It was about 16 years ago when it really hit me. My son was being born at that time. I got a page that my wife was in labor and had been taken to the hospital. I drove down there, ran into the

hospital and asked them, "Where do I go for newborn?" The guy said, "Go down the hall and follow the signs."

I ran down the hall, and I could not find my way. I could not read a sign that said "Newborn." I almost could not be there for my son's birth because I could not read the sign. I was lucky enough to be there by asking somebody, "How do I get there, how do I get there?" and being persistent, saying, "I need to find my wife, I need to find out where my son is being born."

I almost missed one of the important events in life, that is, watching my son being born, because I could not read a simple sign.

I struggled through school. I was put in special ed to help me learn to read and write. They put a group of us in special ed. That classroom setting for us did not work. A lot of us turned to crime, a lot of us turned to drugs, and we just hung out.

Special ed did not work for us. The classroom setting for us did not work. All through that elementary system when I was in school, I was neglected. I was trying to reach out. I caused trouble in school; maybe that was a red flag. I never turned in a complete assignment, I never passed on a spelling test, and nobody cared. I just kept getting pushed through the school system.

But I did have one talent, and that was running, because you see, I had a lot of practice growing up in the neighborhood. You run a lot—you run from your friends, or you run from your parents, but you are running, and I enjoyed running. So I took up track. I had a coach who said, "You know, you can do something with this."

Then I had a dream. My dream was to be in the 1976 Olympics. That was my goal. My coach told me I had the talent, I had the heart, and I was willing to go the extra mile for him. But I just could not do my homework. I could not stay on the team because I could not finish anything in class.

They said they would get me a tutor, and I said great. So they got me a tutor, and I told him, "Hey, this is not working"—so he did my homework so I could stay on the track team.

I won a lot of awards track and even broke some records in track. Then, in the ninth grade, there was something else I broke—I tore the muscle in my leg running through the courtyard to play ball. As the muscle tore, I could see my whole future going down the drain. I lost everything. I lost my dream. I lost the tutor. I had nothing left.

I was going through the school system not knowing how to read or write, and now I could not run. I had nothing left to look forward to. I went from hanging around with a crowd of people who liked to exercise and work out to a group of guys who liked to smoke weed, do drugs, drink, cause trouble, steal cars, break into schools.

I am not proud of what I did growing up in high school, but that was what I did. I went to high school, I showed up, but nobody cared. I signed in to say, yes, I was here; they did not care. I never showed up a lot of times. I even dropped out of high school. My parents never knew. A notice was never sent home that I had dropped out.

I went to college—I never graduated from high school, and then I went to college. People were amazed—how in the heck did you

get to college? Well, you see, it was my name—Ramirez. You had to meet a certain standard to get in; they just let me in because of my name.

I did not know how to read or write, but I wanted to try architecture, so they put me in architecture. I told them I had trouble reading, so they put me in a beginning reading class, and I could not even understand the teacher. I thought it was a foreign language. It did not work. I tried.

I had low-paying jobs. After I dropped out, I got low-paying jobs, and I could not function. It is tough. I tried going through that school system, and it hurt me; it was tearing me apart.

Then, when my son was born, and I almost could not be there—it was hard. And as time went on, as my son got a little older, he would come to me and ask, “Daddy, can you read me this book?” You know, fatherhood is very special to me. A father and his children are very special. My father was an alcoholic, but he never abused us. He was always home, but he was never with me. I did not want to see that happen to my son. I wanted to build a strong relationship. But every time he wanted me to read a book, I would say, “No, I do not have time for you. Why don’t you just go to bed?” Every night, his eyes would water-up, and he would go to his room crying, and every night, I had a lump in my throat, and my heart would hurt, because I was pushing away my boy, my little son, a part of me—I was pushing him away, and it was not right.

One night, I happened to be watching TV—because I am not reading anything—and at one o’clock in the morning, I saw a commercial on TV about a gentleman who wanted to learn to read and write, and he went through a reading program, and he improved himself at work.

So I thought I would try it out. I called—one o’clock in the morning—I am pumped up, ready to do it. I called, and they said I would have to call back, because at one o’clock in the morning they really cannot help you. So they gave me a phone number, and I called, and it was the library. I said all right. They asked, “Can you come down?” and I said sure.

So I went down there the next day about 9 o’clock. As I was driving down there, I was thinking, “Cool, this is going to be great—I am going to go down to the library, and by noon, I will come out knowing how to read.”

No, it did not work like that. I went down there, and I found out that I was at about third grade reading level. I could not write. I knew that. I could not read, and I knew that.

They asked me, “What is your goal?”

I said, “My goal is just to read a bedtime story. That is all I want to do. I just want to read a bedtime story to my son.”

They said, “OK, we can work on that.”

I thought, Oh, cool. And as we were talking, I was looking around, thinking, Wow, so this is a library. So this is what goes on here. Before, I used to just write my name on the wall outside—“E.L.R.” I could do that. Those were my initials. I probably could not write my whole name, but that was what I could do. I used to put the gang saying on there; I knew how to do that. But I had never known what was inside these buildings.

I have been in the program now for almost 11 years, and it has changed my life a lot.

The CHAIRMAN. The same program?

Mr. RAMIREZ. The same program—Project Read in South San Francisco. I think it is one of the best programs in the country, but there are many programs in the country that are the best.

But it has changed my life, and not just mine, but thousands of others throughout this country. It has changed lives. I was able to get a better-paying job. I work for United Airlines now—and no, I am not the one who throws your bags on the wrong airplane. I can read the tags.

But the point is the program has been there for me. It is a very successful program. They have changed people's lives.

I always harp on this—they always say that the children are our future, the children are our future. Well, guess what? You said that to me, and you all blew it. You blew it. There were 30 kids in my class, and whose future are we? The only futures we gave were to correction officers, drug rehab centers, hospitals, and morgues.

I lost a lot of friends who were really smart at a younger age but grew up to be what we call losers. They became losers. I happened to break away from that because I wanted to make that change. I looked at my son, and I said I have got to make a change, and I made that change. I walked away from that life and began a different life.

My children are the most important things to me. This literacy program has made me realize that reading is the greatest tool, the greatest weapon that a person can have. I have a weapon of knowledge, and I pass that on to my kids.

They say that if the parents cannot read, the children cannot read. I broke that myth a long time ago. My kids can read, and I am very proud of them. It is exciting to hear them read to me. I ask them, "How do you feel about Daddy having trouble reading?" and it is okay. They still love me because I am there; they know daddy has a little problem, but they help me, and it is great.

That is why literacy programs work. It is the best investment you can ever make. Yes, the stock market falls; people invest and lose money. But let me tell you, if the Government really wants to spend money in a positive way, if you invest in adult literacy, your return is great, because not only do you teach an adult how to read and write, but you pull that person off welfare and get him or her into the job market. I am living proof of that.

I went out, and I got a job, and I got a good-paying job. Now that I can read, I work, I am a voter. I finally took my own driving test, the written exam, which was exciting—and I got my first library card, which was another great, exciting thing.

People take learning to read for granted. Recently, I spoke with some people here, and I told them I just came back from Japan. If you have ever been to Japan, and you cannot read Japanese, try reading a menu. You do not know what you are ordering. That is what it is like.

If you want to feel the frustration, tie your hands behind your back and have a child ask you to pour him a glass of milk. You know you can do it, but you just cannot, because you cannot get your arms to pick up that milk to pour it. What kicks in is frustra-

tion. That is what it is like for an adult who cannot read. People take it for granted. You should not take it for granted. This is the most beautiful thing you can do.

This is what Project Read gave me. It gave me a second chance at life. People say, well, reading—it does change lives. I am living proof of that. It has changed my life, and it changes a lot of other people's lives.

I got a good-paying job. I finally received my GED. I got a high school diploma. I feel good about myself, and my kids feel good about me. And just to let you know, I did finish reading that bedtime story to my kids, and it felt great.

All I can say is these programs do work, they do change lives. I encourage every Senator, if you have just 30 minutes—that is all it takes—to go to any literacy program, just walk in. It is not much, but just go down there and take a look at what is actually going on. Look at where the money is being spent, and I guarantee you, every adult who cannot read who goes in there comes out learning how to read. It is one program—I hate to say this—but it is one program that the Government developed, supported, and it is actually working. Do not cut it off by its legs; if it is working, continue it. It makes sense. Maybe it makes too much sense. I do not know. All I know is people are learning.

I have met many adults who are now feeling good about themselves. They could have been in jail, but they are not. They are out there, working; they are part of the community. Again, it is a second chance at life.

Visit it, check it out, be a hands-on learner like I was. See what is happening. I am telling you it is great. It is great being able to read a Christmas story at Christmas-time at my program; I can do that. It is great going up there and reading a story to 20 little children; now I can do that.

The most important thing is when my kids look at me and say, "There is my Daddy. He can read it." The only thing they do not like is that I can read their report cards.

That is all I have to say. It is a pleasure being here. I hope you will take to heart that these programs really do work. Adult literacy programs do change lives. Take a really close look at them. Do not just look at the figures. Visit the programs. Actually see what goes on. It works.

The CHAIRMAN. Thank you. Thank you very much for a very moving story and a great opening to this hearing which is trying to utilize your experience and make sure that every American has the same opportunity and hopefully the same success.

[The prepared statement of Mr. Ramirez follows.]

PREPARED STATEMENT OF ENRIQUE RAMIREZ

It is a pleasure to speak to you on behalf of adult literacy students throughout the United States. Until I learned to read at the age of 28, I was not able to use my local library. I was really excited when I got my first library card and checked out my first book. It was even more exciting when I read my first bedtime story to my son. Now I'm able to do the same with my three (3) year old daughter.

I got help to learn to read at my library. Library literacy programs are changing not just my life, but thousands of others throughout the United States. I strongly urge Congress to help fund volunteer literacy programs in libraries throughout the country. This is a cost effective way to address literacy problems in the workplace

and the loss of our competitive edge in the global marketplace. Literacy makes good sense not just at work, but also at home.

My son, when he was three years old, was the main reason for me to seek help. He would ask me to read bedtime stories to him, but because I could not read, I would push him away angrily by saying "I don't have time". As he left the room, I could see his eyes water and a lump would grow in my throat and my heart would ache. I knew that this was not what being a father was all about. Not long after that I saw an ad on TV about a free reading program at the San Francisco Public Library. I went in for an interview and was tested as reading at the third grade level. In addition to wanting to read to my son, I wanted to study to pass my GED and get a better job.

Many people ask me the same question, "Why didn't you learn to read and write?". When I was in third grade, I was put in a class for oddly speed reading. The class was held in a large auditorium with an elderly teacher. She was notable to control the kids so we didn't learn the skills she was teaching us. I had this same reading teacher for the next three years. When I graduated to 7th grade, I joined the track team and was placed in classes for slow learners. I was assigned a tutor who did my homework for me so that I could stay on the track team. I did well as a runner and was encouraged to focus on training for the Olympics. But suddenly, in the ninth grade, I injured my leg and my dreams were shattered. By the eleventh grade I was so discouraged I just stopped going to school. Without completing school, I enrolled at a local college to study architecture and improve my reading skills. The classroom setting didn't work for me and I dropped out and went to work at low paying jobs.

Once I enrolled in the library's literacy program, I began to feel good about myself. I moved to South San Francisco and continued improving my skills by going to Project Read at the South San Francisco Public Library. At present I am quite active in all aspects of the program. The strengths of Project Read are numerous. I find that there is always plenty of support available. I attend discussion groups and participate in varied activities with other adult learners. This program's advantages include one on one tutoring and flexible hours. When goals are reached, I not only feel self-satisfaction, but receive positive reinforcement from those I work with.

The only weakness I can see in the program is the lack of public awareness which could be achieved through more television and radio campaigns. Many non-readers are hesitant to seek help because they are afraid, embarrassed or fear that there is a charge for this program. Many good readers don't know that there is a program available where they can offer their skills to help someone else learn to read.

Since I began working with a personal tutor, there have been many positive changes in my life. I have obtained a well-paying and stable job at United Airlines so that I can provide for my family and future. I have taken time off from my work to help out my literacy program and to help promote awareness of need for free programs like this at work and in the community. I have served on the California State Joint Task Force on workplace Literacy. I have been a founding member of the New Reader Council of the Bay Area, helped plan the first Adult Learner Conference of the Bay Area in 1989, and have taught numerous workshops to other new readers on public speaking and starting student groups.

In summary, libraries have a unique role in helping teach adults to read and write. Working with a personal tutor makes all the difference. Many people cannot learn successfully in adult school classes.

Libraries can use community volunteers to provide a very needed and valuable service.

I hope my testimony speaks to you about how important it is for libraries to provide help for people like me. Without this program I would never have taken my son to obtain his first library card.

Now I read to him and my daughter all of the time without being afraid or embarrassed. My son reads to me and to his classmates and has received high marks in reading and writing. I think I have been able to model how important reading and writing is to my son.

The CHAIRMAN. Our next witness is Dr. Andy Hartman, who is an old friend. Throughout the years that I have been in the Congress, he has been enormously helpful in our efforts to combat illiteracy.

Dr. Hartman is director of the National Institute for Literacy here in Washington.

Andy, please proceed.

Mr. HARTMAN. Thank you, Senator Jeffords and guests of the hearings.

If this were a court case, I would just say we rest our case and let the other side try to make theirs. One thing I would say to Enrique is that what he was saying at the end to you—and I think he was saying it to you symbolizing all the Senators, but also maybe all the American public—in this case, by talking to Senator Jeffords directly, you are really talking to someone who does know all those things and has visited the programs. In fact, even yesterday, Senator Jeffords, Sheri was saying that you were up in Vermont, and you have recently visited a literacy program. Senator Jeffords has been there and seen it and believes in it.

Since I met him over 13 years ago in the House of Representatives, he has really been a champion of literacy and now, as chairman of this committee, has really become one of the real leaders at the policy level, nationally. Two years ago—you talked about creating more opportunities—the largest-ever increase in adult education literacy funding, a 40 percent increase, happened in a room that Senator Jeffords happened to be in and happened to come out with that kind of an increase for literacy, and it had much to do with his presence there.

Last year, with the reauthorization of the Workforce Investment Act, we came out with a very strong Adult and Family Literacy Act as Title II of that legislation, and then the Reading Excellence Act.

Literacy and adult education have been on a pretty good roll in the last few years, relatively. We need to do more, you are right, Enrique, but I just wanted to thank you, Senator Jeffords, for the leadership that you have been providing on this. Just having the hearing today is the kind of thing we need more of, as you know.

My role today is sort of an unenviable one, following Enrique. It is a little bit drier, and it is to briefly describe the literacy challenge to American today, and I am going to use some overheads because there are some charts at the back of my testimony.

Literacy today in the United States, in 1998, is a much greater and much more serious challenge that it was even 7 or 8 years ago, and certainly 13 years ago when we first met, Senator. And this is not really because Americans have become a less literate people. In fact, we are on average a more literate people today than we ever have been. But what is happening—and I think Enrique was talking about this—is the world is changing so fast around us, and the literacy demands and requirements are increasing, and it is not really anything that anyone is doing. Just by working and NAFTA having passed, people's skills and the competition have gone up, and I will be talking a little bit about that.

Managed care, the ability to access and make good decisions, and the information processing that it takes is much greater as well.

The internet, the ability to get information and understand what is going on in the world, takes greater literacy skills than it ever has.

It has really changed what it means to be literate. It is one of the challenges that we all have when people ask what is literacy, because it is always changing. You recall cannot overstate it today, because investing in the skills and knowledge is no longer a luxury, but is a very, very basic necessity.

I would like to use a few graphs to make some quick points before we move on to the other witnesses. In 1993—and in some ways, I am preaching to the choir; I know you are very familiar with a lot of this data, Senator Jeffords—but in 1993, the Department of Education for the first time did a survey of literacy, a representative sample of the whole United States population. You talked about some of this data in your testimony.

They found, using a 500-point scale and dividing it into five levels, much as they do in the National Assessment of Educational Progress, that 21 percent of Americans fell in level 1 and about 27 percent in level 2. This represents about 40 to 50 million Americans, relatively, or 90 million Americans in those two levels.

To give you some sense of what this means, people have compared the upper level, level 1, as people who are reading and doing math and problem-solving at about the fifth grade level, and level 2, in terms of the upper level, people who are passing the GED, the average scores on the NALS, which is this assessment, were at the bottom level of level 3.

So levels 1 and 2 are often considered to be people who have functional illiteracy difficulties; level 1, fairly serious literacy problems, so we are talking about 40 million Americans, and another 40 million Americans who have some difficulty with reading and writing.

The CHAIRMAN. What are the other levels?

Mr. HARTMAN. The whole 500-point scale was divided into five levels, with levels 1 and 2 typically being considered people who, like Enrique was saying, are having trouble doing tasks at home, going out and doing the arithmetic to figure out the tip on a bill, tasks like that. This is probably beginning to represent level 3, or what we here in the United States consider to be high school-level skills; and levels four and five are what would probably be considered to be associated more with postsecondary education—although as you will see in a moment, educational attainment is only a rough predictor of what people's literacy skills are.

The CHAIRMAN. Just so I understand the normally used categories, would the first two levels be functionally illiterate?

Mr. HARTMAN. We have been trying as a group—and this is a way of trying to discuss and describe—to use the word “illiteracy” less, and saying that America has more of a literacy problem.

About 3 percent of the American population might be considered illiterate, meaning they almost cannot read and write at all, like Enrique, from what he was describing of his own reading and writing skills, people who are native-born—they are not just coming into this country and speaking no English at all—about 3 percent of the native-born population from the NALS survey appear to have real illiteracy.

What America's real problem is—and that is a serious problem for those people, of course—but almost 50 percent, or 90 million people, have a literacy problem. They can actually read and write, just like the 40 percent of young children in third grade. Most of those young children can read some. They are not completely illiterate, but they are not reading at the level they need to to be able to do third grade work. It is the same thing here; it is a similar type of standard.

Of course, that is the national data. If you look at it by State—this is from a report that the Institute for Literacy did using data that the Department of Education had prepared—what you can see is that the purple States are more literate, the red State the least, and yellow and green—these are bands of percentage of adults at level 1 in those States.

You can see that while on the one hand, every State has a percentage of its population in level 1—this is just the lowest literacy level we are talking about there—on the other hand, there is quite a bit of variation. Not surprisingly, this correlates pretty highly with what the NAEP scores look like in 12th grade.

A minute ago, I mentioned—and this is something that I know you talk about quite a bit, Senator Jeffords—that while literacy is related to education level—Enrique gave a great example—you can go through a lot of education and come out with not very great literacy skills. We know that. This graph shows the NALS scores broken out by educational attainment, and this is a figure I have actually heard you use in some of your speeches, Senator Jeffords. You can see that about 52 percent of all high school graduates scored in levels 1 and 2; about 16 percent of high school graduates scored in level 1, which is about the lowest level; and about 36 percent of adults in the U.S. population who have a high school diploma scored at 16 percent. And obviously, of high school dropouts, nearly all high school dropouts. But interestingly enough, even as you get into 2 years of college and 4-year degrees, there is a certain percentage. If Enrique had not torn his calf muscle, there is a good chance that he could have been part of this figure.

The CHAIRMAN. And what are the two on the right?

Mr. HARTMAN. This shows high school dropouts, high school diploma, 2-year degree, 4-year degree.

The CHAIRMAN. And for the 4-year degree, is that measured after they have graduated from college?

Mr. HARTMAN. Yes.

The CHAIRMAN. They are all graduates.

Mr. HARTMAN. These are adults who have a 4-year degree. They said, yes, I have a bachelor's degree. When they were given the NALS assessment, 4 percent of them scored at level 1. So this is retrospective; this has already happened. And it was carried out by the Census Bureau, and it was a representative sample of the total population of the United States.

That data comes from 1993. In the National Education Goals Panel report, they said we do not have very recent data on adult literacy skills of the U.S. population, although there is no really great reason given immigration trends and dropout rates—they have been relatively unchanged since 1993—that the data I showed you would be any different.

But in 1997, the United States participated in a project with the Organization for Economic Cooperation and Development, OECD, which is an international group that looks at education and literacy skills. This is a little bit hard to do, but I just want to make one point here.

These are the countries—Sweden, the Netherlands, Canada and so on—there are essentially 12 North American or European industrialized countries that are considered competitors or partners of

the United States. If you look at the United States, what this shows is that we actually have a relatively large group at level 1, the lowest level, and a relatively large group at levels four and five. Our middle is relatively narrow, let us say, compared to New Zealand, Germany, Switzerland and the United Kingdom, where they actually have more adults going on, doing a little better than level 1. I think that is probably related to the fact that in the United States, we have a relatively large number of high school dropouts and a relatively large number of individuals who go on to post-secondary education. The United States has this sort of bifurcated feeder system into education, where we are to a certain extent leading industrialized nations in high school dropouts and leading industrialized countries in individuals going on to postsecondary education. So we have a lot of people at the very low end and the high end and a narrow middle.

I think what we are seeing in terms that we are at historic levels of income divergence is greatly explained by that.

This is another chart that takes another look at the same international data. What I think is interesting about this is that the square dots are the literacy skills of those individuals in each country who did not complete high school. What we see is that school dropouts in the United States are performing more poorly than school dropouts in every other Nation in the world. High school graduates, the circles—the same thing—only Poland is doing somewhat worse. When you get up to the postsecondary level, we are at about the same level.

This is particularly troubling given the fact that there was a report of indicators in "Education at a Glance" put out by OECD last week—you may have seen it in the newspaper—where the United States has historically led the world in the number of individuals in the adult population who have a high school diploma. In the last report, it showed that actually, about seven or eight European countries have surpassed the United States in high school graduation rates. The United States is not the preeminent country in the industrialized world in terms of that.

So not only do our high school dropouts have lower literacy skills than our competitors, but we have relatively more and more of our population here than other countries.

Let me turn for a second to what does all this mean in the lives of individuals, and again, it really just illustrates what Enrique was talking about. This shows the number of weeks worked by individuals who took the NALS over the last 12 months by literacy level. As you can see, as you go up in literacy skills, people are working a great deal more. Just in levels 1 and 2, it is about a 50 percent increase in weeks of work. And if you look at income, it is exactly the same thing.

Enrique did not mention this, but he now is teaching and training other United Airlines employees to use hand-held computers and technology for his firm. I would imagine, Enrique, that as your skills are going up, you are moving into these bars. So you can see what has happened.

This is also again particularly troublesome, what the recent economic research is showing, that people with low skills who are entering the low-paying jobs are basically stuck there for a longer and

longer period of time. There is very, very little job mobility for low-literacy, low-skilled adults in this country.

That all really adds up to, then, if you look at unemployment rates, in this case by educational attainment as a proxy for literacy—this is November, or last month's unemployment rate—you can see 6.9 percent of people without a high school diploma versus 3.7 percent, 2.6 and 1.7.

In fact, just 2 years ago, before the current very tight employment situation in the job market, high school dropouts had an unemployment rate over 10 percent, which was almost three times the high school rate.

That is what is happening right now. What has been happening historically—and this is why I am saying that skills have never mattered more—is that in 1980, this chart shows the weekly earnings of high school dropouts versus high school graduates, those with some postsecondary education, and bachelor's degree. You can see the spread between 1985, 1990, 1995, 1997. You can see what is happening.

There was an article in *The Washington Post* yesterday about educational attainment and income. I am not sure if you had a chance to see it, but this is the article: "Education Producing Wider Earnings Gaps."

What the graph shows is—it is the same data I just showed you, essentially, a different way—the black line is income between 1975 and 1985 of individuals without a high school education; this is high school and some postsecondary, and advanced degrees.

The article is interesting. It says—the Census Bureau survey confirmed the quote—"The bottom has fallen out for the value of a high school education." Well, it certainly has, but for the millions of people, the 10 percent of the U.S. work force that does not have a high school diploma, the bottom has more than fallen out—there was never a great bottom—but they have been literally left in the dust by the rest of the United States population.

We know that there is almost no mobility out of this line to these other lines anymore. There used to be quite a bit of mobility. Hard work would help you move between the different lines. Now, hard work does not get you out of your line; if you do not have the skills, you do not move out of your group.

Finally, I have been talking primarily about the economic impact, and that is frankly because we have a lot of data there, but Enrique was talking about his kids, and I think that is really, really important to bring up as the final piece here in terms of costs.

We have known this for a long time, but the National Adult Literacy Survey nailed it down one more time. As parents' education level goes up—which is really a proxy for their own skills, as Enrique said—so does the skill level of their children. So things like family literacy and Even Start make so much sense, because Title I is an early childhood program, Head Start is an early childhood program, but adult education is an early childhood program in that to the extent that Enrique goes home and reads to his kids, and his kids value and learn to read, adult literacy is an early childhood education program.

I hope that that data give some more general power to the really very powerful personal statement that Enrique gave. It really shows the extent of this in the United States.

What is very difficult is that when you look at that last graph, the United States has a national policy, and we have a certain will that is articulated for those other groups. We have HOPE scholarships now, we have Pell grants, we have State scholarships. There are many ways that, if you are at one point, and you want to reach for the next ring of postsecondary education, which is the door to the middle class today—the only door to the middle class is some postsecondary education—and you do not have a high school degree or you do not have skills, all those things mean nothing. In fact, as more people take advantage of HOPE scholarships and Pell grants and the like, as that broadens, people who do not have that fall further behind. By doing nothing in their lives, by doing nothing wrong, nothing worse, they fall behind.

And while your support in what we have done to improve and expand adult education over the last several years has been great, we are still really just touching the tip of the iceberg of the issue. There are millions of people like Enrique who either do not have a program to go to, or have programs, frankly, that are struggling. There are waiting lists all around the District of Columbia for quality programs.

So I really want to thank you again for holding this hearing and for inviting such an excellent panel, but I also hope that the administration and the Nation will really do more and have more vision for people like Enrique.

Thank you.

[The prepared statement of Mr. Hartman follows:]

PREPARED STATEMENT OF ANDY HARTMAN

Mr. Chairman. It is a real honor and a great pleasure to be a part of this hearing on the price America pays for low literacy. You have been a champion of the literacy issue since you came to the Congress, and now, in your position as Chairman of this Committee, you have become one of the true literacy policy leaders.

Just two years ago, you played a key role in a forty-percent increase in federal funding for adult education and literacy. This was the single largest increase in literacy funding ever enacted. Last year, you and this committee enacted a strong adult and family literacy program as part of the Workforce Investment Act and also created the Reading Excellence Act. This has been a good time for literacy programs, and you have been at the center of much of the action!

We hope the hearing today will provide you and the other Members of the committee with:

- A better statistical understanding of the state of literacy in America;
- A deeper appreciation of what literacy means in the life of individuals who have taken responsibility for improving their own literacy skills;
- An overview of what we have learned from recent research about the cost of low literacy and what it will take to create more effective literacy programs; and
- A better sense of what it will take in terms of community support to make the kind of progress envisioned by the National Education Goals.

The challenge that literacy poses to individual Americans, to American businesses, and to the nation is different today than it was fifteen or twenty years ago.

This is not because we are becoming a less literate people, but because the world around us is changing in ways that demand and reward greater knowledge and skills. NAFTA and the global economy, the Internet and the new importance of information exchange, managed care and the critical necessity for making informed decisions—these new and growing demands have literally changed what it means to be “literate.”

The reality can't be overstated: in our Nation today, possessing skills and knowledge has become not just a luxury but a necessity.

*The Literacy Skills of Adult Americans***Figure 1**

In 1993, the U.S. Department of Education carried out the best survey to date of literacy skills in the adult population of the United States. The National Adult Literacy Survey (NALS) was reported on a 500-point scale, similar to that used by the National Assessment of Educational Progress (NAEP). For reporting purposes, the scale was divided into five levels, with one being the lowest and five the highest literacy level.

To get some sense of what this scale means, those performing at level 1 are assumed to be reading below the "fifth grade level." Only a relatively small percentage of the total population, about 3 percent, would be considered illiterate—completely unable to read and write. Most of the 40 million adults at level 1 can carry out very basic reading and math functions but would have difficulty locating two pieces of information in a sports article or adding several items on a purchase order.

Adults at level 2 can carry out slightly more advanced reading and math tasks than adults at Level 1 but still lack a consistent demonstration of the skills associated with a high school education. For example, the average NALS scores of adults who passed the GED fall in Level 3. Moreover, when the National Education Goals Panel asked a panel of experts to review the content of the NALS, they concluded that adults performing at Levels 1 and 2 would have difficulty getting a decent job in the current economy—these are the people often referred to as "functionally illiterate."

Figure 2

Figure 2 indicates the percentage of adults at level 1 on the NALS in each of the 50 United States. The map clearly shows that, while some states have greater literacy problems than others, no state can afford to ignore the problem. The NIFL's State of Literacy Report, which each Member of the Committee has received (and which we have extra copies of here today), also breaks this data down by county and Congressional District. Again, the maps show that low literacy is a problem in every community across the country.

Figure 3

Historically, level of education has been used as an indirect measure of the skills an individual possesses. Figure 3 clearly shows that while level of education is highly correlated with level of basic skills, it is not a perfect relationship. For example, 52 percent of adults with a high school diploma still scored in levels 1 and 2 on the NALS. Even at the postsecondary level, about 25 percent of all adults with two-year degrees scored at levels 1 and 2. These findings help to explain the complaints from employers and others about the questionable value of the high school diploma.

Figure 4

In 1997, the Organization for Economic Cooperation and Development (OECD) published the results of the International Adult Literacy Survey (IALS), a comparison of the literacy skills in 12 OECD member countries.

Figure 4 provides a sample of the data from this literacy survey, comparing adults in the US with several other industrialized nations. As you can see, compared to the other nations, the United States tends to have a relatively large percent of its population at level 1, the lowest level, and at level 5, the highest. Many of the other countries have a relatively larger middle group, made up of levels 2 and 3.

Figure 5

The IALS data also provides data that allows us to look at how Americans with different levels of educational attainment compare to their Canadian and European counterparts. As you can see in Figure 5, Americans at all three levels of educational attainment perform relatively poorly on the IALS, outperforming only Poland across the board.

This data is especially important when placed in the context of other data released by OECD two weeks ago. That report, *Education at a Glance*, showed that the United States is losing the distinction it enjoyed for years of having the largest percentage of high school graduates in its adult population. Not only are our high school dropouts and graduates performing more poorly than their peers in other countries, but there are also relatively larger numbers of US adults in these categories of educational attainment when compared to our North American and European competitors.

The Impact of Literacy

Not that long ago in America, one could have a good life and support a family with a strong work ethic, the most basic of educational skills, and a little luck. Clearly, those days are over. The research is unequivocal: adults who possess low levels of basic skills are relegated to low-paying jobs that have very little prospect of advancement or mobility.

Figures 6 and 7

As you can see from the next two charts, adults with low levels of basic skills work less than those with more advanced skills and earn less money when they are working. For example, adults with skills at Level 3 on the NALS earn about 50 percent more than adults with skills at the lowest level (Level 1) and on average work 50 percent more weeks of the year. Not surprisingly, this leads to a much higher poverty rate and greater dependence on public assistance among adults and families at the lowest two literacy levels.

Figure 8

Unfortunately, we have not had the opportunity to collect nationally representative data on literacy since 1993. For more recent information about the impact of skills on the lives of Americans, we need to rely on educational level as a proxy for skill mastery.

Figure 8 shows the most recent unemployment data released by the Department of Labor. The good news has continued: unemployment continues to decline, as part of a three-year trend. However, as you can see, the unemployment rate for school dropouts is twice the rate for high school graduates. Prior to the current tight labor market, the unemployment rate for high school dropouts was over 10 percent.

Figure 9

As I mentioned before, it was not that long ago that adults with relatively low levels of basic skills could earn a decent living and have a good life if they were willing to work hard. Figure 9 illustrates this point. Since 1980, the wage differences between adults without a high school diploma, with a high school diploma, and with some postsecondary education have steadily grown wider.

This trend helps explain why the income differential between the top 20 percent and the bottom 20 percent of the income distribution is currently at a historic high. More than ever before in the history of our country, the level of skills you possess determines which side of the income divide you fall—and the divide is growing wider.

Figure 10

As significant as the economic impact of literacy is on the individual, the employer, and the economy, it is not the only area where we pay a cost for low literacy. We have known for some time that the educational attainment of a parent is one of the best predictors of a child's school achievement. The NALS data provide one more confirmation of this finding. As you can see from Figure 10, as parents' educational attainment increases, so do the literacy skills of their children. Data like this strengthens the rationale for taking an intergenerational approach to literacy, such as family literacy programs. We cannot think we will be able to address the nation's literacy problems simply by improving instruction in our elementary schools.

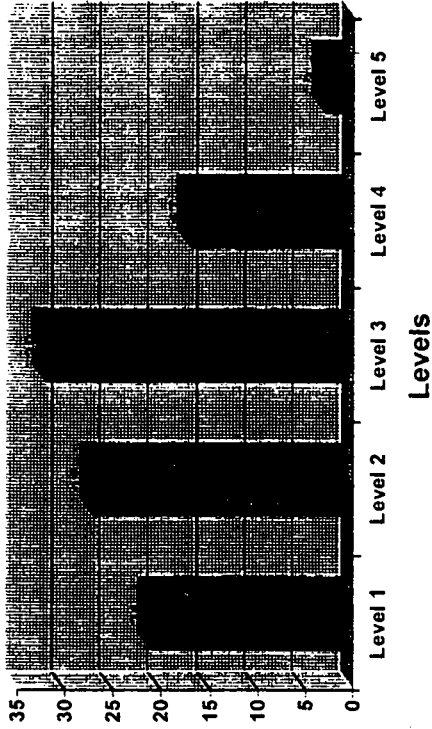
Conclusion

While there are relatively few illiterate native-born Americans, there are tens of millions of adults who need to significantly improve their skills in order to fulfill their roles in the workplace, family, and community. The cost of low literacy on individuals, families, communities, and the nation has never been greater. Research shows that today, in order to enter the bottom rung of the famous middle class, one needs some postsecondary education or training. For the millions of Americans who do not have the skills and/or credentials to qualify for entrance into postsecondary education and the necessary financial assistance, the door to the "American dream" is closed, and they are locked out.

The system of education that is currently available to adults who want to improve their basic skills was not created to meet this level of challenge. We lack the national will and a national policy that is up to the task of providing a first-class opportunity for the millions of Americans who take personal responsibility for raising their own level of skills. America should and must do better.

Thank you.

Figure 1
Percent of U.S. Population at Each Literacy Level

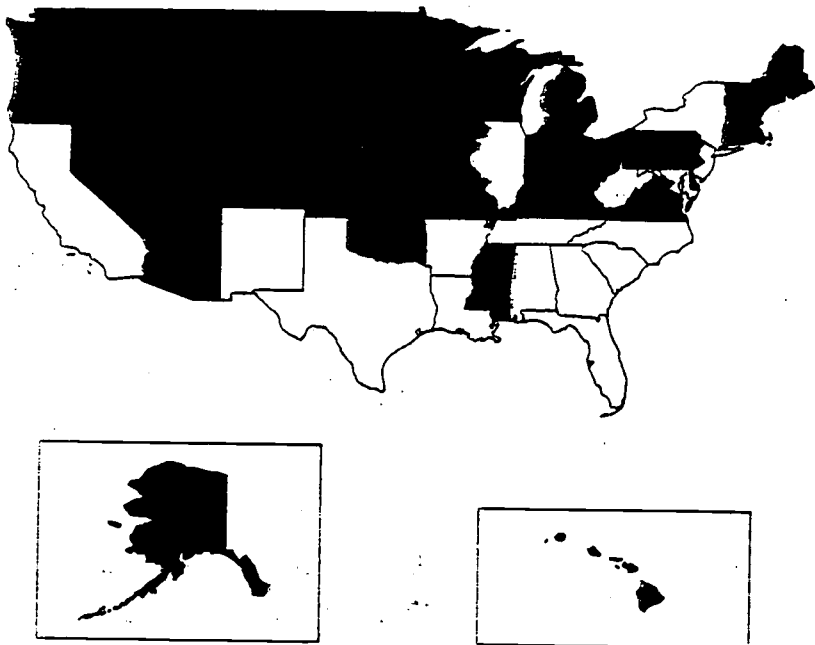


Sources: *Adult Literacy in America, National Adult Literacy Survey, 1993*. U.S. Department of Education, National Center for Education Statistics

Figure 2

The State of Literacy in America

Level 1 Literacy Rates by State



Source: U.S. Department of Education
Division of Adult Education and Literacy

Refer to the Frequently Asked Questions (FAQs), and to Appendix 1, the Technical Report, for additional information about these estimates. Information about the confidence interval/standard error associated with each estimate and other levels of literacy is available in a separate database on the NREL home page (<http://www.nrel.gov>).

Percentage of adult population
with Level 1 Literacy skills

■	30% or greater	(1)
■	20% to 30%	(1)
■	10% to 20%	(1)
■	10% or less	(0)
□	no estimate available	(14)

Figure 3

Literacy Proficiency¹ by Level of Education

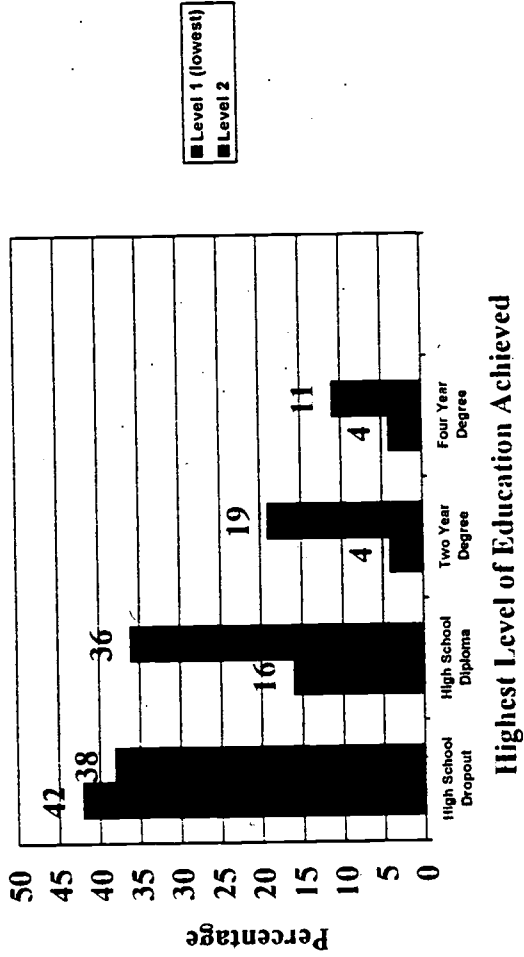
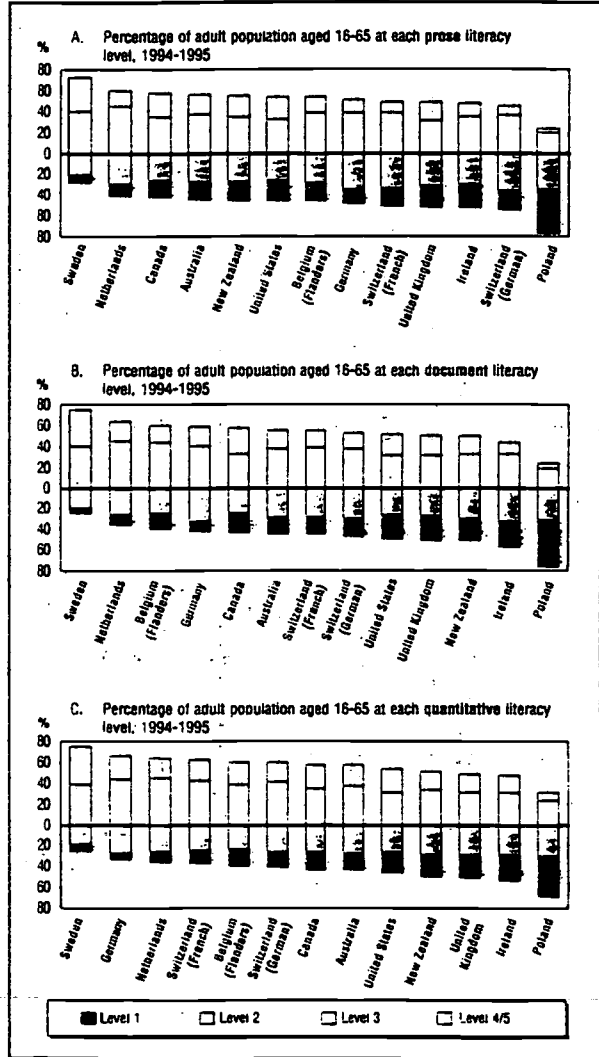


Figure 4

FIGURE 1.2
Comparative distribution of literacy levels

All countries have some proportion of their adult population at each literacy level on the prose, document and quantitative scales, but there are substantial differences between countries in the proportions at a given level. For example, while the Netherlands has a large proportion of its population at prose skill levels 3 and 4/5, the proportion at the highest level is considerably smaller than the proportion at this level in Sweden.

The figure shows the estimated proportion of the adult population at each of the prose, document and quantitative literacy levels for each country. Proportions at levels 1 and 2 are represented by the bar segments below the reference line and the proportions at levels 3 and 4/5 by the bar segments above the line.



Countries are ranked by the proportion in levels 3 and 4/5.
Source: International Adult Literacy Survey, 1994-1995.

Figure 5

Educational attainment and literacy proficiency

A. Mean prose score on a scale with range 0-500 points, by level of educational attainment, persons aged 16-65, 1994-1995

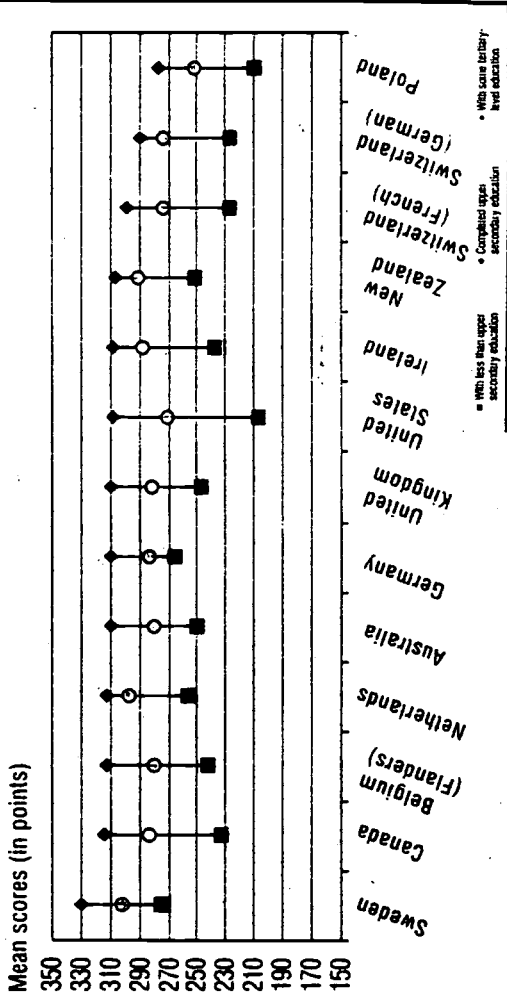
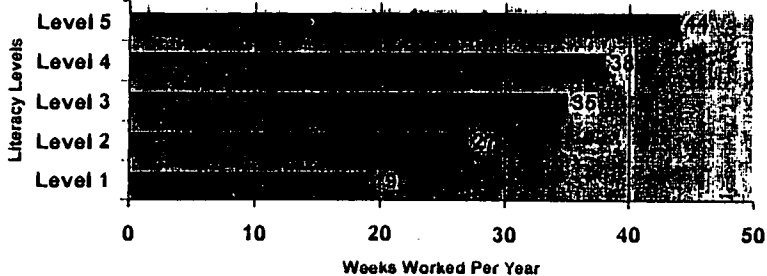
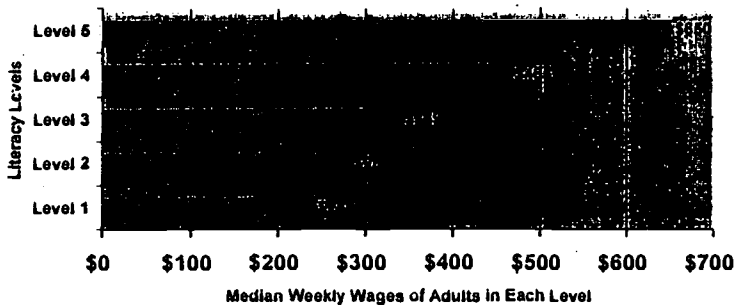


Figure 6
Average Number of Weeks Worked in the Past 12 Months by Literacy Levels



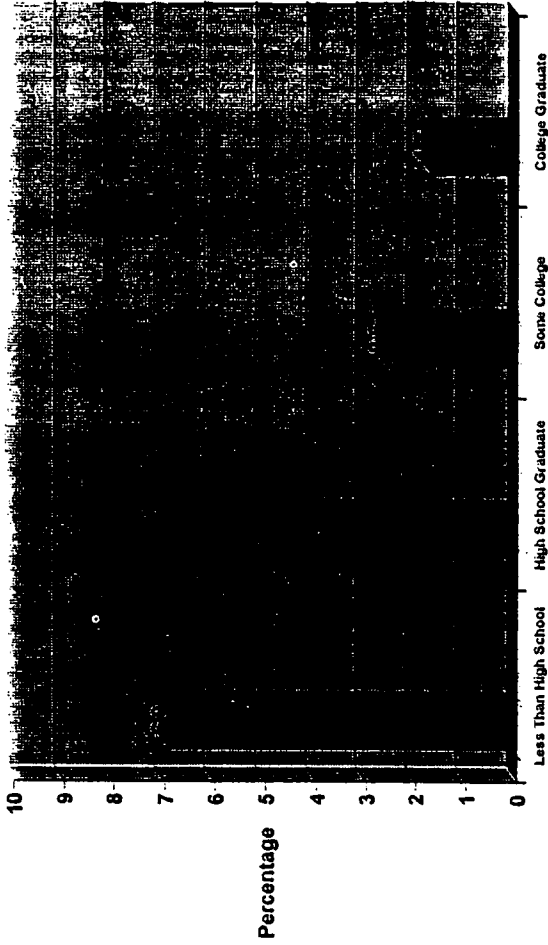
Sources: *Adult Literacy in America, National Adult Literacy Survey, 1992*, U.S. Department of Education, National Center for Education Statistics

Figure 7
Median Weekly Wages by Literacy Levels



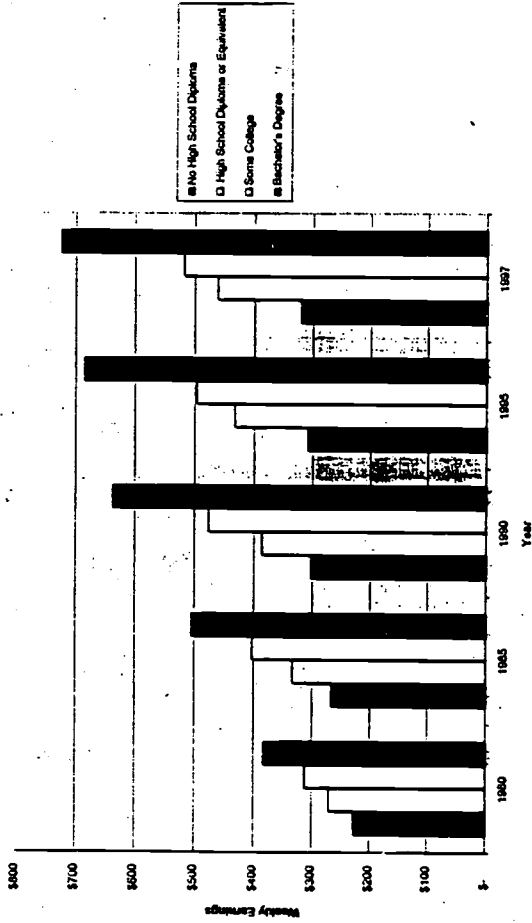
Sources: *Adult Literacy in America, National Adult Literacy Survey, 1992*, U.S. Department of Education, National Center for Education Statistics

Figure 8
U.S. Unemployment Rate by Education Level
November 1998



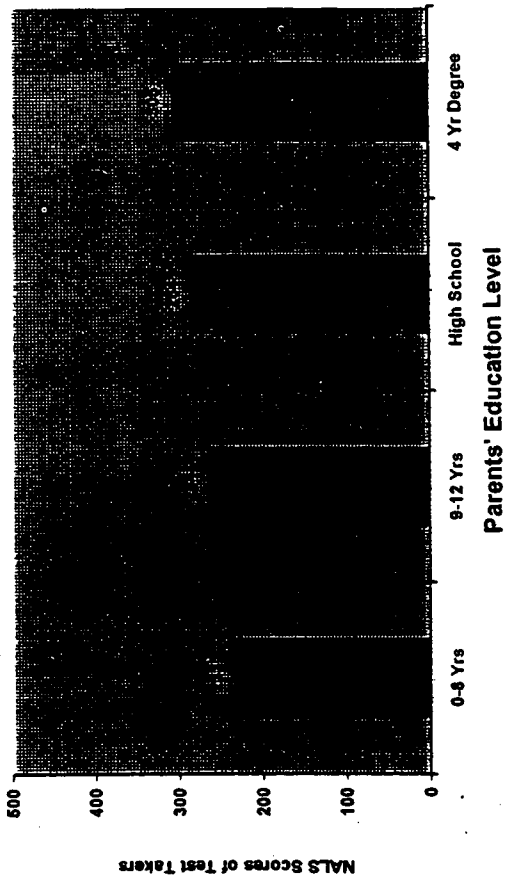
Source: U.S. Department of Labor
Note: This includes the civilian population age 25 and over.

Figure 9
Weekly Earnings by Education Level 1980 - 1997



SOURCE: Bureau of Labor Statistics, Current Population Survey

Figure 10
Average Literacy Proficiency by Parents' Educational Level



30

30

The CHAIRMAN. Thank you very much. I am going to ask you a couple of questions, because we are establishing kind of a base of knowledge here, before I go to the other panelists.

One of our goals in Goals 2000 is that 90 percent of our young people graduate from high school. The question I ask from your charts is whether that includes people who are in the lowest and next-to-lowest level. We compare ourselves to European and Asian class graduates; do they have the same problem—because I have seen what I believe are exit exams of Asian and European schools which indicate a rather high level of knowledge, whereas our GED test relative to theirs is very simple.

So am I wrong that we may be not really graduating at high school level a large number because of those figures?

Mr. HARTMAN. You are right that the one chart showed—it is not even a hunch—it is very clear that U.S. high school graduates, when you look at their skills—when you do not worry about whether they have a credential, but you look at what skills they possess versus the skills that comparable students in other countries possess, at least in the ones that were measured, of which there are quite a few—United States students do not measure up.

We knew that a little bit, and I am sure you have heard it from employers here, saying, “I do not know what to make of a high school diploma anymore; I cannot count on it essentially as a credential that means something to me. I have to give my own assessment.” Almost all industries and businesses in the United States now screen their own employees for that reason.

So I think that that is absolutely right, and what I am saying is that in the United States, those who do not graduate from high school are in fact falling behind.

We do actually have a very relatively large and well-educated top group compared to the Europeans. The U.S. has access, there is no question about it. Twenty-five percent of the U.S. population have a bachelor's degree. That is a large number compared to our competitors. But it is the bottom group, and it is how much can the United States economically and socially carry that load; how much are we willing to do that. I mean, you can kind of work around it.

And now, with welfare reform—it is one thing if we are just willing to pay taxes to essentially give people money to live on and say to them, look, we are not going to worry that you do not have these skills, but here is some money to at least stay alive so we can all feel good that you are not falling completely through the bottom—but now we are asking people to work in an economy where we know there are no really good jobs and no advancement if you do not have skills.

So we essentially have a policy of work first in a world that rewards skills, and we know the skill levels of most adults who have been on welfare. So it is confusing to a lot of people like myself who work in this field to know what is our national policy—is it a skill policy, or are we going to just maintain a low-skilled population and focus on those who are most advantaged skill-wise.

The CHAIRMAN. Thank you. I am deeply concerned. I sit on the Goals Panel, too, and first of all, we do not have much to crow about anyway as to what has happened in the past 15 years, but

I also think that some of the things we point to as being successes relative to Asia and the European community are not really successes. The fact is 95 percent of kids graduate, but if they do not graduate with an adequate high school education, we are fooling ourselves that we have reached that goal.

Mr. HARTMAN. I would point out that when the Goals Panel reports the high school graduation rate, I believe they combine all young adults who get either a regular high school degree or a GED. And if you look at the data over the last 7 or 8 years, the percentage of GED graduates who are contributing to our high school graduation rate has been going up. I think about 6 percent of high school graduates now are actually getting their degree through a GED. That is a relatively larger percentage than it used to be.

What some people are speculating is that as we raise the standards, there is less social promotion and more accountability, so schools are being held accountable for kids who are not—these kids are being pushed out and often being sent, frankly, to adult education programs, being told, "Go over there and get your GED."

So I guess what I am saying is that you may see changes in the achievement levels of kids who are being kept in schools—you could see a statistical uptick—but what is really happening is the lower-performing students are being pushed out of the formal post-secondary education system, sent to adult education, and they now become part of the statistics in our system. But when they get their GED., it scores as a "high school graduate" back on the Goals Panel list.

So there is a dynamic going on there, and we know that while the GED. is a great thing, it is not as strong, and it is not as good a credential in the economy as a high school diploma. It is better than nothing, but—

The CHAIRMAN. Or at least as a high school diploma should be.

Mr. HARTMAN. Should be, or even as it currently is. As you can see, it is actually a little bit less powerful.

So I think the Goals Panel report—you are right, there was not a lot of good news—but it even hides some potentially even worse news if you look within that high school graduation rate.

The CHAIRMAN. Thank you.

Our next witness is Dr. Jean DeVard-Kemp, who has traveled from Georgia to be with us here today. She has been the assistant commissioner for adult literacy programs at the Georgia Department of Technical and Adult Education since 1988. We look forward to hearing about the campaign in Georgia to combat illiteracy.

Please proceed.

Ms. DEVARD-KEMP. Thank you very much, Senator, and thank you for the opportunity to testify today.

Andy spoke about the HOPE scholarship, and I want you to know that you have the HOPE scholarship because of Governor Zell Miller's desire to really be an education Governor in Georgia. He implemented the HOPE scholarship in Georgia, and it came to the attention of President Clinton, and now everybody knows about it.

In Georgia, it was estimated in 1980 that we had about 7 million Georgians, but we had an illiteracy rate of about 1.4 million. That

is scary when you think that one out of every four persons walking around in Georgia was illiterate.

In 1988, we had a meeting, realizing that money could never solve all the problems, and maybe if we thought about a community problem and community efforts to deal with the problem—because Georgia has a large rural population, and we realized that a lot of people were not being served.

So I want to use my time to talk about a program that we are very proud of. It is the Certified Literate Community Program that we in Georgia call CLCP. This program promotes literacy in Georgia by involving the entire community.

When literacy becomes a community-wide commitment, a broad variety of community resources are mobilized to promote and support literacy training. The CLCP is a business-education-government partnership that results in improved literacy levels of children, families and workers in entire communities. A totally committed community can reach its citizens in a way that no outside source can by including local elected officials, business and industry, chambers of commerce, civic groups and community-based organizations as well as other sector agencies and educational organizations at all levels.

The purpose of the CLCP is to harness the power of the community. It addresses the twin problems of scarce adult literacy funding and the need to recruit adult literacy students in greater numbers. Georgia recognize that with scarce public funds, we must reach large numbers of adults effectively and in a relatively brief period of time, or we will fall hopelessly behind.

In Georgia, we believe that the CLCP is important because it enables communities to improve their literacy rate, it fosters a collaborative approach, and it mobilizes all community resources to fight illiteracy.

The program began in 1989 with five pilot programs representing large communities, small communities, urban communities and small communities. The following year, we established a mission statement, we established goals and standards that were developed for the CLCP.

The Georgia Council on Adult Literacy, or GCAL, is a 15-member panel appointed by the Governor. This body adopted the CLCP as its number one initiative, and a new program in Georgia began. GCAL oversees the adult literacy operations, reviews applications for participatory status and conducts onsite evaluations of CLCP programs. Currently, the CLCP has 41 participating counties—that is 25 percent of the 159 counties in the State of Georgia—with approximately 20 other communities in various stages of organizing for the program.

The Office of Adult Literacy provides a full-time executive director who is responsible for providing technical assistance to the communities as they develop the structure to attain adult community literacy status.

The Certified Literate Community Program begins to work only when a community realizes that it wants to become a part of the Georgia solution, and community representatives contact the CLCP office to obtain further information. The community decides that it wants to meet the bold challenges and standards of the program.

For example, participating communities must maintain a steering committee made up of multicultural representation as well as a 10-year commitment to the program. The target population for that program must be to meet 50 percent of its population. Additionally, the community must develop a program that fits its size, its character and its needs. Finally, the community sets its own goals, makes plans to attain them and applies for certification as a participant in the Certified Literate Community Program.

Once a community is accepted into the program, it receives certification twice—once upon meeting the eight criteria for becoming a Certified Literate Community participant, and later, when the community qualifies as a Certified Literate Community.

In September of 1997, First Lady Shirley Miller unveiled road signs recognizing CLCP communities. The road signs bear the "Reading—Key to the Future" logo in the center of the signs, and on the outside border, it says "Certified Literate Community Program" and the name of that community.

CLCPs have forged strong collaborations with business and industry, and many companies have initiated literacy programs for their employees in the workplace. Because of CLCPs, we have increased adult literacy class participation by 35 percent in some counties, we have increased GED recipients by 75 percent in some counties, and we have increased the number of adult students who progress from one literacy level of competence to a higher level.

The Certified Literate Community Program features involvement of leaders from all major segments of the community. It is a strong community organization that assumes responsibility for the program's success. It has technical and networking support from the Office of Adult Literacy and certification by the State to provide outside credibility and recognition.

The Office of Adult Literacy is committed to keeping the initiative alive, coordinating the community program on a Statewide basis, providing advice on funding, because there are no State or Federal funds in the program. It is creating informational materials for use throughout the State on how that community organized and how they did their fundraisers. It provides measurable standards for individual as well as program progress, and it facilitates an information network among participating communities.

I agree with renowned anthropologist Margaret Mead when she said, "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever does."

As assistant commissioner for the past 11 years, I personally feel that a broad-based community organization dedicated to adult literacy changes the character of that community. Participating communities in Georgia express a tremendous sense of pride in what they are accomplishing.

The CHAIRMAN. Thank you. You should be proud of that. It is a wonderful program. Thank you. I will come back to questions, and we can all talk about where we go from here.

[The prepared statement of Ms. DeVard-Kemp follows:]

JEAN DeVARD-KEMP, Ph.D.
 Assistant Commissioner
 State of Georgia
 Department of Technical and Adult Education
 Office of Adult Literacy
 Atlanta, Georgia

TESTIMONY
BEFORE THE UNITED STATES SENATE
 Committee on Labor and Human Resources
 Friday, December 11, 1998
 Dirksen Senate Building Washington, District of Columbia

THE PRICE WE PAY FOR ILLITERACY

The State of Georgia's Certified Literate Community Program

The Certified Literate Community Program, called *CLCP*, promotes literacy in Georgia by involving entire communities. When literacy becomes a community-wide commitment, a broad variety of community resources are mobilized to promote and support literacy training. The *CLCP* is a business-education-government partnership that results in improved literacy levels of children, families and workers in entire communities. A totally committed community can reach its citizens in a way that no outside source can by including local elected officials, business and industry, chambers of commerce, civic groups and community based organizations as well as other public sector agencies and educational organizations at all levels.

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The Office of Adult Literacy provides a full-time *CLCP* Executive Director who is responsible for providing technical assistance to communities as they develop the structure to attain Certified Literate Community status.

The Certified Literate Community Program begins to work when a community realizes that it wants to become a part of the Georgia solution and community representatives contact the CLCP office to obtain further information. The community decides that it wants to meet the bold challenges and standards of the program. For example, participating communities must maintain a steering committee of multi-cultural representation as well as a 10-year commitment to serve 50% or more of the target population for adult literacy in that community. Additionally, the community must develop a program that fits its size, character, and needs. Finally, the community sets its goals, makes plans to attain them, and applies for certification as a Participant in the Certified Literate Community Program.

Once a community is accepted into the program, it receives certification twice; first upon meeting the eight criteria for becoming a Certified Literate Community Participant; and, later when the community qualifies as a "Certified Literate Community."

In September of 1997, First Lady Shirley Miller unveiled road signs recognizing CLCP communities. The road signs bear the "Reading-Key to the Future" logo in the center of the signs and identify the community as a "Participating Certified Literate Community." Each CLCP attaining participant status receives two road signs from the Office of Adult Literacy.

CLCPs have forged strong collaborations with business and industry. Many companies have initiated literacy programs for their employees in the workplace. Because of CLCPs, we have:

- Increased adult literacy class participation by as much as 35% in some counties;
- Increased GED recipients by 75% in some counties; and
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I agree with renowned anthropologist Margaret Mead when she said, "Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it's the only thing that ever does."

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BIOGRAPHICAL SKETCH

Jean DeVard-Kemp, Ph.D.

Appointed in 1985 as the first Assistant Commissioner for Adult Literacy Programs in the State of Georgia, Department of Technical and Adult Education, Dr. Jean DeVard-Kemp's visionary leadership has continued to move Georgia literacy efforts to new heights. Named Georgia Manager of the Year by Governor Zell Miller and the Georgia Society of Certified Public Managers, DeVard-Kemp's diverse background has made a distinct contribution to the extensive adult literacy program operation throughout the State.

A native of Florida, Jean DeVard-Kemp was educated in Florida, South Carolina, and earned a Ph.D. Degree from the University of Connecticut. Her career in education has taken on several dimensions; public school teaching, counseling, university professorship, supervision, program administration, and State policy formation. She has spent her life "teaching/coaching/advising/facilitating" the learning experiences of students from kindergarten through adulthood. Her philosophy is based on the belief that education is a continuous, lifelong learning process that influences all ages. The investment that brings her the most joy is to encounter former students who have chosen careers in the vast field of education. She concludes that this "cycle of education" has a golden lining. She believes that she was destined to teach and reminds her staff that "teaching is in her blood."

Following Jean DeVard-Kemp's lead, Georgia's First Lady adopted adult literacy as the cause to champion and did so with uniring fervor through the two executive terms that her husband served as Governor. With Dr. DeVard-Kemp's full commitment, Georgia's adult literacy programs have served over a half million adults in the past five years. More than 500 businesses and organizations have earned gold and platinum Governor's Awards for Achievement in Workplace Learning. Eighty-four companies have been certified for tax credit. Thirty-five adult students have been selected and recognized in Georgia's unique EAGLE (Exceptional Adult Georgians in Literacy Education) Program, serving as Ambassadors for Literacy throughout the State and representing Georgia at national events.

While Dr. DeVard-Kemp has been at the helm, Georgia has credentialed nearly 94,000 GED graduates in the last five years, and has been recognized nationally for increasing testing volume and for GED outreach. On her watch, Governor Miller led the way for the funding of a full-time adult literacy teacher in each one of Georgia's 159 counties, and adding as a technology resource, a test-station computer lab in each of the 159 counties as well. The Georgia legislature increased funding, thus expanding adult literacy programs over the ten-year life of the Office of Adult Literacy.

A community leader in every community in which she has lived-- in the States of Florida, South Carolina, Connecticut, New York, and Georgia, Jean DeVard-Kemp knows the true meaning of collaboration. Under her guidance, regional collaboratives support business, education and community interests in adult literacy and workforce education. As a result, she has overseen the origination and development of one of the most unique collaborative efforts ever, the Certified Literate Community Program. Through community resources and business-education-government partnerships, this program works to improve literacy levels of children, families, and employees in entire communities.

For these reasons and many more, Dr. Jean DeVard-Kemp is a vibrant leader whose unforgettable style and determined focus leave you wondering what hurdle she will tackle next. The obvious answer is that she will succeed at jumping over, going around, or just plain removing the hurdles to reach her goal. When you meet her, you will remember that you have met one of Georgia's most dynamic human resources.

The CHAIRMAN. Dr. Comings.

Mr. COMINGS. I am happy to be here. Thank you very much, Senator. I have been up in your State a couple of times in the last couple of years, looking at your literacy program, and there are some very creative and hardworking people up there doing a good job. I hope to be up there again in January doing a presentation on some research that your State has helped us to do.

The CHAIRMAN. Please let me know when you are there, seriously.

Mr. COMINGS. Yes, I will.

My job is to bring the world of research findings to this committee—not only the research that has been published, some of which Andy has already talked about, but research that is also in progress.

I might point out that when Andy put up the NALS levels, adults who could not speak English were not included in the NALS, so there are another 6 million adults whose oral English language skills are insufficient to participate in the economic and social life of our country as well.

As far as the goal is concerned, I think the NALS gives us an interesting way to look at this goal of reaching a fully literate society by the year 2000. In some ways, we could say that we have already done it. According to the NALS in 1992, there were only 5 million adults who could really not read and write at all.

The goal now, as Andy said, is really an issue of low literacy and how we are going to increase the literacy skills of our population. Another way of looking at the goal, then, would be to take a look at NALS-1, which about 21 to 23 percent of our population fell into in the early nineties, and our goal really ought to be to move half of those people into NALS-2 and then to take half of those people in NALS-2 and move them into NALS-3. This would be equivalent to the best of the European countries—Sweden—so it is a goal that we know another country has reached, and it is a goal that we could reach.

I am going to talk about the research within the three adult roles in the Equipped for the Future Initiative, which I know you are aware of, that the National Institute for Literacy has been undertaking. The roles are that of worker, of parent and of citizen.

Again, as Andy pointed out, as far as income is concerned, all the studies that look at income say that those with a college degree do better than those with a high school degree, those with a high school degree do better than those without a high school degree.

Some recent research that we have been doing on people who have taken the GED, both those who have passed and those who have not passed, gives us a little better measure because we actually have a skill measure of the score, and what we are finding is that the actual score on the GED predicts income even for those people who do not pass the GED. So every level that you go up in your GED score, the higher your income, and this effect seems to be stronger for minorities than it is for nonminorities.

Up to about 20 years ago, incomes for all Americans were increasing. The incomes for those Americans who are at the lowest

level, who have dropped out of high school and do not have a high school degree, have actually been declining in real terms.

One of my colleagues, Dick Murnane, and one of his friends from MIT, Frank Levy, published a book a couple of years ago of a study that they had done looking at entry-level positions in industries in the United States that really offered people a career where they would get a reasonable salary and benefits and one in which they could move up. Those jobs now require, their study found, at least a ninth grade reading, writing and math skill level.

That is approximately what NALS level 3 starts at, so those people who are in 3, 4 and 5, as far as their adult role as workers, are sort of in the ball park to be successful in the 21st century. Those people in NALS-1 and 2, even though, if we brought them in here, many of them could open books and read, are really not prepared to be successful.

As far as parenting is concerned, again, the research is very strong. More educated parents have children who do better in school. Reading to your children is definitely important. But there are other ways in which educated and literate parents interact with their children to prepare them well for school, and I will talk about that in a minute.

As far as being a citizen, every aspect of our national life is becoming more complicated and difficult, and to understand these issues and be able to make decisions about them becomes harder and harder every day. People without good reading, writing and math skills are finding this increasingly difficult.

This is also an issue for people in your position who look at public opinion polls, because those polls are written at around a seventh grade reading level which is considered the average. Many of the issues that you are now dealing with having to do with the economy and the environment and the globalization of the economy cannot really be presented well at a seventh grade level.

Let me turn to some of the reasons why education and particularly literacy—reading, writing and math—have an effect upon these three roles. There is not a lot of research, but there is some.

The International Adult Literacy Survey Report, looking at the workplace and literacy skills, found that with the common element of the modern workplace, of having constant change and the unfamiliar in your environment, people who have a higher level of reading, writing and math skills are able to deal with this change and this unfamiliarity a lot more easily.

As you know, the Maulden Mill in our State burned down 2 years ago, and this is really kind of an interesting case study. I have a doctoral student who has been working on workplace education with workers up there. This was an industry that was moving along, and workers were able to deal with these machines. They say they could actually feel them to find out what was wrong with them and make adjustments to them. The plant burned down, all new equipment came in, and now that same machine has three or four computer screens, with graphs and various kinds of information that they have to integrate together. Maulden Mill is providing those workers with retraining so they can deal with that.

There are many workers who lose their jobs in the kind of industry where they could put their hands on the machine and feel what

was right or wrong about it, and then they go back into the workplace to try to find another job, and that job has three computer screens in front of their machine.

Another line of research that has been looking at what might be causing these effects deals with oral language skills. It is a kind of complicated linguistic term, "decontextualized language." You mentioned UNICEF's recent pronouncement about adult illiteracy in the Third World. As you may know, the strongest predictor of all kinds of positive child health and family planning outcomes in the Third World is directly related to the educational level of women—it is a direct relationship—and even when things like socioeconomic standing are controlled, urbanization is controlled, availability of services is controlled, it is still the strongest predictor of the health of children and the size of the family.

Research into the mechanisms that mediate between that education and these effects has shown that it is actually not just years of education but literacy skill level, and some of my colleagues have taken it the next step—what is it in literacy skill that makes this difference? It is really an oral skill. Let me just take a moment to explain these two ends of a continuum on language.

At one end is what we would call contextualized language. This is the kind of language that you have around your breakfast table with your wife and your children. If you tape-recorded that and did a transcript of it, it really would not make sense to us, because you would be pointing to things and saying that thing is about to break, and it has to be fixed. You would be using all kinds of shortened terms that the two or three of you hold in common within that context.

If you come into a context like this, we do not share that common context, so as I start to tell you things, I have got to build a whole picture for you; I have got to orient myself to the listener and give him or her more detail about what I am talking about.

This skill, this ability to deal with decontextualized language—this is an oral skill—the ability to add all of that context for the listener is related to literacy skill level. It is also a very strong predictor in children of how well they are going to do in school, and this relates back to the impact of family literacy. It is not just reading to kids; it is the way in which parents orally interact with their children and the kinds of oral skills that they build with them.

The ability of a parent to do that, or the likelihood of a parent to do that, is related to their literacy skills. There are many exceptions. I think Mr. Ramirez is an example of an exception, a parent who may have had low literacy skills but overcame them to interact with his children in ways that prepared them for school.

Another piece of research we are doing is in a sense taking the NALS the next step. We are actually giving 1,000 adults around the country, 600 of whom are native speakers and 400 of whom are ESL students, a battery of tests where we can look at the components of literacy, not just their comprehension score, which the NALS provides us with, but their ability to decode syllables, their oral vocabulary, a number of different measures of their spelling and so forth. And what we are finding is that there are populations in this group of students who are coming into these classes, and therefore in the general population, whose oral vocabulary is very

low, at the third, fourth, and fifth grade levels. This is something that would not necessarily be picked up by the NALS.

Oral vocabulary, again, is critically important to being successful as a worker and being successful as a citizen. Also, oral vocabulary of children when they enter school is a big predictor of how well they are going to do in school.

So the relationship between particularly these skills of reading, writing and math, but also the broader set of skills that the Equipped for the Future Initiative is looking at, that SCANS has looked at, that Murnane and Levy outlined in their book, the research is there to show that the relationship exists, that as your skills go up, the chance of having a good income goes up; as your skills go up, the chances of your children doing better in school go up; as your skills go up, the chances of you being able to be a full participant as a citizen and a leader in your community go up.

The question, then, is how do we provide these skills to adults who do not have them, and the research on that is very little and does not really support very much the idea that we are being effective. We have a lot of anecdotal information—we have some here today—that these programs are successful, but we do not have very good data, and we do not have it for three reasons.

One, we just have not done the research. Two, where we have done the research, it is extremely difficult. We just did a study in New England that included Vermont, where we identified 150 adult learners in classes. Four months later, we looked at who was still there and who was not there. About 100 were still participating in that program or in another one. Of the 50 who were no longer participating in a program, 33 of them we found impossible to locate after just 4 months, even though we had their addresses and phone numbers, next-of-kin, a good friend, and other ways of locating them. We finally got a secondhand connection to about half of those 33, so we did not actually get to talk with them, but we did find out what happened to them.

This makes research in this field extremely difficult, but in addition, the programs themselves are funded at a level that makes it very difficult for them to have an impact.

This has led us to start looking at what kind of program has to exist for us to be able to do this research in a way in which we can really look at effects, both as far as student achievement and impact on their lives. And right now, we are looking at four things that have to change.

One, we have to have higher funding for this field. Of course, we have to have it to expand services. There are people on waiting lists, but we have to start spending more on each individual student. This is particularly critical around the issue of teachers, and I know you have spoken in the K through 12 system about how important teacher training is to improving the system. This system has about a 30 percent annual turnover in teachers, so even if you had funded a really good staff development program, 30 percent of your teachers are going to be leaving every year, and it is very difficult to have an impact with that staff development.

We also need to identify standards and measures of both learner progress, which we have not done very well—again, the National Institute for Literacy is taking this on, and I think they are doing

a good job—but also program quality—and the Department of Education is working on this issue— so that at least we can say to taxpayers, starting with the quality, that the programs that we are funding meet these standards of quality that we believe and have some research to prove will actually have this impact.

This question of whether or not students actually achieve in these programs and if there is an impact upon their lives and in their roles as workers, as parents and as citizens is really a complicated research problem that might better be done by taking a look at a sample of people who go through these quality programs.

The fourth is that many of the people who come into these programs need other kinds of social services—day care, transportation, job counseling and other kinds of counseling. We have to do a better job of collaborating between our programs and those services. We cannot expect these programs to take on all of these issues even though they come into the classroom. We have to help these programs focus on their educational mission.

One reason why this does not happen more is that in many States, the director of adult education, the person who oversees these programs at the State level, is really not at a very high level in the bureaucracy and really cannot come to the table with any authority. In fact, some States do not have a full-time person at that level whose only job is to look out for adult education. And in some places where they do have a full-time person—I was talking with a State director 2 days ago, and he is spending 30 percent of his time on school reform issues, not on adult literacy, because school reform, as you said, is really the kind of issue that the State bureaucracies are looking at, and this issue gets set aside.

And fourth, we really need a lot more research in this area. I feel that we do need more research on how adults learn to read and write and do math, but we know a lot already. What we need to do at this point is some programmatic research to really try to find out what kinds of programs work and for which populations. The people who come into these programs span a wide range of skills—people who are native speakers come in with learning disabilities and very low literacy skills, low oral vocabulary, and all kinds of other problems, and people who come in without English as their first language, people who come in with low decoding skills but a high vocabulary, and low vocabulary with high decoding skills—all kinds of people come into these programs. There are probably actually nine or ten different subsets, and we should have a programmatic approach for each.

In the same way that you would not say that the K through 12 system is not doing a very good job because the average reading level is fifth grade—which, if you took all the K through 12 students and gave them a test, that is what you would end up with—you cannot really speak about this field with averages. You have to really look at each of these groups separately, and we are now, with some of our research, trying to identify exactly what these groups are.

I think I would like to end by saying that the title of the hearing today is "The Price we pay for Illiteracy," but I really think we should take a more positive vision. The Americans who, 150 years ago, began to establish schooling for all children in America were

trying to answer social and economic problems that existed at the time. They wanted everyone to be able to read the Bible. They wanted educated workers for the new industries that were developing in our country. They did not understand where this was going to lead, this kind of technological society, knowledge society, that we have today, and we do not really understand what would happen if 80 or 90 percent of our population were reading, writing, and doing math at NALS levels 3, 4, and 5. It would not only solve a lot of social problems, it would really open up a lot of opportunities for our country that we cannot really envision at this time.

So, like other people on this panel, I would call for the committee and for the Senate and the House and this administration and the next administration to really pay attention to this issue, to understand that it is not simple, that it takes many learners a long time, that adult literacy skills and a GED are not enough—people also need job skill training and a higher education. This is a big commitment, and it will take a long time and a lot of effort.

Thank you.

The CHAIRMAN. Thank you very much.

Just to let everyone know what your background is, Mr. Comings is director of the National Center for the Study of Adult Learning and Literacy and a faculty member of the Harvard University Graduate School of Education. The Center researches adult learning and literacy services and disseminates that information.

Thank you, and as I warn everybody, once you have testified, you are on my list, so I will be bugging you.

Mr. COMINGS. I am also on the way home for you.

The CHAIRMAN. All right.

[The prepared statement of Mr. Comings follows:]

PREPARED STATEMENT OF JOHN P. COMINGS

I would like to begin my testimony by suggesting a change in the title of the hearings from *The Price We Pay for Illiteracy to Achieving Our Full Potential*. About five million Americans are truly illiterate, but tens of millions more lack the basic skills and knowledge needed to reach their full potential as workers, parents, and citizens. In fact, America is becoming a nation of two populations—one that has the education to compete in the global economy, help their children succeed in school, and play a leadership role in their communities and another whose inadequate education leaves them and their families beyond the reach of opportunity. Federal investments that expand and improve educational opportunities for adults will help address this economic and social problem, and they will also bring us more quickly to a time when all Americans have the education they need to succeed in the 21st Century. I believe this committee should focus on this positive vision of the future.

In 1992, the National Adult Literacy Survey (NALS) divided the U.S. population into five levels of competency in relation to its test of reading and math skills. According to NALS, approximately 40 million U.S. citizens (21 to 23 percent of the adult population) would score in the lowest level on its test, and an additional 50 million adults (25 to 28 percent of the adult population) would score in the second lowest level. In *Teaching the New Basic Skills*, Murnane and Levy identified 9th grade reading, writing, and math skills (along with oral communications, problem solving, and computer skills) as essential for economic success in today's workplace. Most of the 50 million adults who fall into the second of the two lowest NALS levels do not meet these criteria, and the 40 million who fall into the lowest level of the NALS are extremely disadvantaged in relation to this benchmark.

Among those who are educationally disadvantaged in today's world are approximately 40 million Americans who lack a high school credential. In addition, at least 6 million adults lack English language skills. The potential adult population that might benefit from programs that would help them improve their basic skills, learn English, and acquire a high school diploma, therefore, may be greater than 90 million. Even if half of this population would never choose to participate in a program

of basic skills education, the pool of potential participants would be approximately 50 million, which is equivalent to all the students presently in the K-12 system. All of the funding (Federal, State, local government, and private sources) available to support basic skills education for adults is probably between \$1 billion and \$1.5 billion each year, an amount of money that is inadequate for the size of the problem.

In today's technological society, all Americans need higher levels of basic skills to fulfill their adult roles as parents and family members, as community members and citizens, and as workers. In addition, they need to acquire, maintain, and apply new skills throughout their lives. The increasing complexity of modern life places a burden on us all. In his recent study, *In Over Our Heads: The Mental Demands of Modern Life*, psychologist Robert Kegan presents detailed descriptions of the kinds of cognitive and emotional development that modern adults are expected to achieve to function well in everyday life. Maintaining relationships, parenting a child, and performing a social or work task now require much higher levels of psychological, economic, and legal understanding than they did thirty years ago. Even in old age, adults cannot count on living in the same world they were raised in, or in which they reared their children. Older adults must cope with change and maintain self-direction.

All recent studies of income levels in the U.S. indicate that college graduates do much better than high school graduates and that school dropouts do least well. Research now taking place at the National Center for the Study of Adult Learning and Literacy (NCSALL) is looking at the economic impact of acquiring a GED certificate, and it suggests that passing the test does send a signal to employers that, for some populations, leads to increased income. A more consistent indicator of economic impact appears to be the score achieved on the test. For each level of increase in score, even for people who do not score high enough to pass the test, income is higher. This effect appears to be even stronger for minority populations than it is for non-minorities. If they are to achieve even a moderate level of prosperity, low-income adults need opportunities to build their basic skills, participate in job training, and pursue a college education.

A child's chance for success in school and in her or his own adult life is greatly affected by the educational attainment, attitude toward education, and economic stability of her or his parents. Those households headed by well educated adults are more likely to be rich in print media, to have computers, to be managed in ways that allow time for reading, conversation, and homework, and to have an atmosphere where academic success is encouraged and valued. The recent National Research Council report, *Preventing Reading Difficulties in Young Children*, identifies the home environment as a critical factor contributing to the success of children in learning to read. The children of parents who have high levels of basic skills are better prepared to become well-educated adults whose own children are more likely to become well-educated as well.

Adults who have high levels of basic skills are also more likely to ensure better health for themselves and their children, and within households composed of better-educated adults, occurrence of teenage pregnancies is low. Managing the complicated details of everyday life, such as dealing effectively with insurance policies, securing and handling health information and benefits, managing credit, and understanding legal matters, now requires well-developed reading, writing and math skills. Healthy self-esteem now requires more than a conviction that one is industrious and honest; it also requires the confidence that comes from mastering skills widely held to be important in our culture.

Our citizens now need high levels of basic skills to understand school issues, real estate, commerce, laws and codes, zoning regulations, proposed legislation, and the platforms and qualifications of political candidates. They need to know how to gain access to administrators, policy makers, and police, to unite and advocate for change, to inform one another, to negotiate among themselves and with those in power, to use the power of their votes, and to seek and hold positions of power themselves. They must be able to understand and use the media to support community goals. When we learn of a community that has turned itself around, or when we experience such an improvement in our own communities, we almost always discover that adults with strong basic skills have come forward to lead the effort.

Effective social action at the state and national levels also depends more and more on the skill levels of all our citizens. The successful dissemination of public health, safety, and environmental information depends, in part, on the ability of adults to read. But these kinds of information are growing more technically sophisticated. The effects of ingesting lead paint, the safe use of pesticides and toxic household products, the possibility of unsafe levels of radon in the home, and the potential impact of a proposed landfill or radioactive waste storage site are difficult matters to present in simple terms. While basic skills play an important part in keeping

adults informed and involved, the role of these skills in keeping policy makers informed and involved is just as important. For example, surveys designed to measure public opinion in America today are written at the seventh grade reading level, that of the average reader. But every year it becomes more difficult to present the true complexity of modern social and political issues at that level. Those people responsible for interpreting public responses to surveys and polls must take into account the possibility that many respondents were not able to engage these questions critically.

Reading, writing, and math skills, English language skills, the skills measured by the GED, and the wider set of new basic skills outlined by Murnane and Levy, the SCANS report, and NIFL's Equipped for the Future initiative all provide a foundation on which to build a successful life in the 21st Century. These skills help adults to play their role as their children's first teacher and as their children's most important support during their school years. These skills help adults to compete for good jobs in the world economy, and these skills help adults to play their roles as active participants and leaders in their communities and their nation. These skills also provide a foundation for success in further vocational or academic training.

Recent studies have shed some light on why basic skills are becoming a dividing line between those who have and those who do not have an opportunity to prosper in the 21st Century. A recently published report of the International Adult Literacy Survey (IALS) concluded that a high level of basic skills makes learning more efficient, and this allows workers to more easily adapt to changing job requirements. The report also notes that higher skilled workers have a greater ability to deal with the unfamiliar, and this facilitates adaptation to the rapid change that typifies jobs in the global marketplace.

Research on literacy skill acquisition sheds some light on why higher levels of reading and writing might lead to success in jobs that don't appear to demand these skills. This research has focused on a specific type of oral language. This speech is oriented to the listener and is the form of language used most in school. Use of this form of language indicates that the speaker is taking into account all of the contextual factors that the listener might not know and providing them in his or her speech. This form of oral language is characterized by the use of broader category names and abstract vocabulary, which orient the listener to the speaker's situation. This ability to have an orientation to the listener allows one to provide the more precise information that a listener might need to understand a complicated communication. Modern life requires this type of speech, and the ability to use it grows with literacy skill level. In addition, young children who acquire these oral skills through interactions with their parents are more likely to succeed in school than those who do not.

Another NCSALL study is looking at the various components of the reading skills measured by the NALS. These include measures of decoding skills, reading comprehension, oral vocabulary, spelling, and word recognition. Many of the adults who come to adult education programs, both native speakers and non-native speakers of English, score low on tests of oral vocabulary. Modern life in the United States requires an extensive oral vocabulary. Again, children who acquire a strong vocabulary through interactions with their parents are more likely to succeed in school than those who do not.

Even without more evidence of the mechanisms that mediate between basic skills and success as a worker, parent, and citizen, there is really no doubt that they are a critical foundation. The question that has not been answered well is: How are we going to help adults improve their basic skills? Many adults are doing so in literacy, English language, and GED programs around the country, but evidence of achievement and positive impact is weak. This is true, in part, because research into achievement and impact with this population is extremely difficult. More importantly, most of the programs funded to provide services to adults do not have the resources they need to provide a quality opportunity to learn. If we want to address this need, we must do four things:

1. Increase public and private resources for adult basic education services.

The current level of Federal, State, local, and private support for the adult basic education system is no longer sufficient to meet the present need for services, ensure quality, and improve effectiveness. Most programs are stretched to the limit trying to serve those who want services. Teachers need the same support for professional development as that provided to teachers in the K-12 system. Without adequate salaries, benefits, and time, teachers cannot be expected to invest in professional improvement or to apply those promising new approaches that they do learn. This does not mean that there is not a valuable role to be played by volunteers and part-time teachers. In fact, their contributions are essential. But programs must be built on a foundation of full-time paid practitioners.

Underfunding contributes to the instability of programs. Because so many practitioners hold part-time positions without adequate benefits or any benefits at all, programs experience a high rate of staff turnover. The quality of physical sites, the range and quality of critical equipment such as computers and photocopy machines, and the provision of adult-appropriate learning materials are all adversely affected by low funding levels. The national consensus on the need for increasing the basic skills of all Americans has resulted in stronger funding for the K-12 and community college systems; by the same token, the adult basic education system needs strong support so that it can provide effective educational services.

2. Identify standards and measures of learner progress and program quality.

The rate of progress that adults in need of basic skills make is often undervalued, misunderstood, or unfairly compared to that of younger, more advantaged students. The nation needs a clear understanding of the basic skills that adult education programs should be teaching and useful measures of progress in improving those skills. The Equipped for the Future initiative of the National Institute for Literacy is presently formulating learning objectives across the roles that teachers and adult students have identified as important. Those objectives are reflective of the broader purposes of adult education and inclusive of clear educational and economic gains. These kinds of measures need to be validated so that real and realistic progress can be measured.

We also need standards for program services that are rigorous enough to ensure quality services. These quality standards should be the criteria used to determine funding. Holding programs accountable for the achievement of their students is difficult and problematic. Holding programs accountable for meeting standards of quality service is easier and provides taxpayers with a clear measure as to whether or not their funds are being well spent. Research can answer the more difficult question of what are taxpayers buying in terms of increased skills and positive impact on the lives of adult students who study in the programs that meet these quality standards.

3. Build stronger collaboration between adult education programs and the other agencies that serve the same population.

At the local level, many adult basic education program managers have been successful at collaborating with other agencies that serve their students. Securing childcare for single parents, for example, has proven to be a tremendous aid to adult students. When social service agencies provide job or personal counseling, adults become more strongly motivated to seek learning and persist at it.

If these collaborative approaches are to become more widespread, state and federal administrators charged with directing the course of the adult basic education system must be given greater authority. Most find themselves relegated to relatively weak positions, which reflects the persistent assumption that this work is not as important as that of the K-12 and post-secondary systems. Adult basic education is important enough that its administrators should be invested with the power and authority to come to the table with other agencies and work out effective collaborations. Otherwise, their educational mission will be diminished or lost among competing priorities in the lives of adult students.

4. Pursue an ambitious agenda of research and development that improves the programs that serve adults who need higher levels of basic skills.

Government and academic research efforts that focus on the adult learner are growing in number, but a great deal more needs to be done. Research into adult basic skills education needs to pull abreast of the volume and intensity of the present K-12 research effort so that critical issues unique to adult learners can be addressed. Teachers need to know more about those who need services, what they need to learn, and how to teach them. The field needs to know more about adult learner motivation, especially ways to help adults persist longer in their studies.

The NALS will be repeated in 2002 and will provide a basic description of the population that could benefit from educational services, but further research is needed that provides detailed information useful to policy makers and practitioners. This research should expand beyond the basic skills of literacy and measure the skills and knowledge outlined by the EFF initiative. In addition, national program evaluation and longitudinal studies should look for evidence of the long-term effects of participation in adult education services and connect that impact to elements of the programs that served them.

Improving programs through research is not an easy task, since useful research must eventually operate at the program level. We need effective programs, and the knowledge that will help us build them must look at the whole as well as its various parts. We should establish prototype programs in which we put into practice all that we know about effective teaching. Researchers can use these programs to conduct studies that identify the key elements of a quality program, measure the learning

gains and life impacts for the adults who study in these programs, calculate the cost of these programs, and develop ways to hold these programs accountable to the taxpayers who support them.

We do have some insights into which social and economic problems might be lessened if 80 percent of the U.S. population scored in the three highest of the five NALS levels instead of only the present 50 percent. But we don't know what America would look like if it achieved that goal. We would not only solve problems; we would produce many new opportunities. Eventually, the K-12 and higher education systems will help all our children prepare to reach their full potential. If we want to reach that day soon, we must help all Americans to prepare now to reach their full potential by providing them with quality adult education programs.

John Comings is Director of the National Center for the Study of Adult Learning and Literacy (NCSALL), which is funded by the U.S. Department of Education through its Office of Educational Research and Improvement. NCSALL is based at the Harvard University Graduate School of Education, where Dr. Comings is a member of the faculty. NCSALL is a collaboration between Harvard and World Education (a nonprofit based in Boston), Rutgers University in New Jersey, the University of Tennessee, and Portland State University in Oregon.

Before coming to Harvard, Dr. Comings spent 12 years as vice president of World Education. He was a Peace Corps volunteer in Nepal and has worked in Asia, Africa, and the Caribbean on projects funded by Peace Corps, USAID, UNDP, and the World Bank. In the United States, he has served as the director of the State Literacy Resource Center in Massachusetts, assisted in the design of instructor training programs, and directed projects that focused on improving the teaching of both math and health in adult education programs. His research and writing has focused on the impact of adult literacy programs and the factors that lead to that impact in the United States and in Third World countries. His present research is focused on factors that lead to learner persistence in ABE, ESL and GED programs.

The CHAIRMAN. Our final witness is Dr. Richard Wade, who is professor emeritus at City University of New York Graduate Center. He was chairman of the New York Governor's Commission on Libraries.

Welcome, Dr. Wade. Please proceed.

Mr. WADE. Thank you very much, Senator Jeffords, for the opportunity to discuss this question and the consequences of adult illiteracy. You have been among the first to identify the issue and for years continued to press for public attention and action. We look forward to your and Senator Kennedy's continuing leadership in this field.

The committee's interest in adult illiteracy could not come at a better time. You will notice I use the word "illiteracy." Congress and this administration are discussing a wide range of legislation running from crime, schools, welfare and employment skills. The statute which has just been passed establishing a National Institute of Literacy addresses a fundamental question that underlies all of them. It creates for the first time a tool for analysis and research on a question of general concern, instead of approaching problems one by one without fully considering the interconnections.

It is important that it vests the Institute with a wide responsibility not restricted by conventional compartmental boundaries. It brings together the work of numerous Federal agencies who maintain mandates contained in some part of what is called "literacy." The bill also recognizes the interests and activities of State, city and local governments, which have a deep responsibility in elementary literacy.

Most of all, it opens up a discussion of a topic which has been for a variety of reasons omitted in the public discourse. The issue of adult illiteracy will only get worse and more dangerous if it is

not recognized. The National Institute for Literacy is not just a first, but a giant step toward rectifying a national scandal.

As early as 1990, President George Bush called a White House Conference on Libraries. He enthusiastically embraced its recommendations, one of which was, as you have already noted, "to eliminate adult illiteracy by the year 2000." At subsequent Governors' conferences, both Republicans and Democrats have renewed the pledge. Bill Clinton, both as Governor and as President, has endorsed the goal. Ten years ago, at least one in five American adults, or 27 million, could not read or write. That figure is now 30 million and growing, as you can see in a chart that one of our colleagues has put up today.

This dereliction is important. It is important because this country was built on the assumption of general literacy. Indeed, in 1900, we were the most literate Nation in the world. There are arguments about the precise numbers, but none over the general extent. Nearly every branch library in this country has a pamphlet that begins: "One out of every five of your neighbors cannot read this sentence." Two recent university studies, Princeton and the University of Pennsylvania, placed the number at 40 million.

However it is measured, this country, whose literate work force fueled the industrial revolution of the last two centuries, will soon discover that it is hopelessly unprepared for the present technological revolution. Our abundance of extraordinary people on the creative edge of cyberspace cannot long carry the weight of a growing illiterate population with all its consequences.

"Illiterate" does not mean people who cannot handle difficult material but, in the language of the California legislation, those who "cannot read a want ad, cannot fill out an application, cannot read elementary medical instructions, cannot do elementary banking" and indeed, cannot read their kids' report cards. Moreover, they come from all walks of life and background. Forty-two percent are American-born, English-speaking whites; 24 percent—and these figures may be a little out-of-date by about 5 years—are American-born, English-speaking blacks; 27 percent are foreign-born, foreign-speaking but illiterate in their own language. The rest are people with physical problems such as dyslexia. While many are unemployed or on welfare, most contrive to make a living in regular jobs, and more than a few are even executives in flourishing businesses.

It is hard for an American to accept these facts. Until a few years ago, I could not imagine that this country was not almost fully literate. Then Mario Cuomo named me chairman of the New York Governor's Commission on Libraries. A remarkable staff of librarians introduced me to the frightful facts of adult illiteracy.

My subsequent research included a long series of taped interviews in the same vein as we heard this morning, of people who are just learning to read and write, asking them what was life like when you could not read, asking about homes and children, jobs, health, the hospital question that has been raised, and schooling. In the process of doing that all across the country—New York, Birmingham, Cincinnati, Chicago, San Jose and so forth—it was indicated to me, both through the research and my interviews particularly, that the problem was massively understated.

Every bad statistic I found only concealed an even worse one. As an historian, I had confidently expected that every American, except for newcomers or the physically impaired, could read and write. You can see, Mr. Chairman, there is no academic arrogance here. This, I learned after 50 years of teaching.

It took some time before I understood the consequences of this historical reversal. It is clear to me now that we are heading toward two societies—one literate, and exceptionally so; and the other illiterate, and newly so.

The President's State of the Union speech last year made education the centerpiece of his second term and his lasting legacy to history. He spoke of helping elementary schools, providing tuition for students in college, and the inclusion of high technology at every level of instruction. He also asked for more parent involvement, especially in the early years.

Yet there was no mention of adult illiteracy. A large portion of the parents who are asked to read to their children cannot themselves read. When a child comes home from school, he or she will find no books, much less a computer, and parents who, no matter how loving, cannot be fully helpful. Illiterate parents produce illiterate children, obviously, in disproportionate numbers.

It should be clear by now that you cannot save the children without helping the parents. Until this country faces up to that fact, no amount of money, buildings, more teachers or computers will stem the slide into mediocrity.

Recent years have been celebrated as "Year of the Family" and "Education for the 21st Century." A family that reads together will more likely stay together. In the process, both parent and child become more useful contributors to society.

The CHAIRMAN. Dr. Wade, I am sorry to interrupt you. I have suddenly had a message from my Leader that I am to be there at 11:30 to talk about the legislation. I have read your statement, and it is an excellent one, so I would like to now, if I may, turn to some questions so that I will be able to make my commitment.

Incidentally, Senator Kennedy was unable to be here today, but he speaks very highly of you, and I appreciate that. So if I may interrupt now, I would appreciate it, and you will have an opportunity to help answer questions, and if I have additional questions for you, we will submit them to you in writing.

[The prepared statement of Mr. Wade follows:]

PREPARED STATEMENT OF RICHARD C. WADE

As early as 1990, President George Bush called a White House Conference on Libraries. He enthusiastically embraced its recommendations, one of which was "to eliminate adult illiteracy by the year 2000." At subsequent Governors' conferences both Republicans and Democrats have renewed the pledge. Bill Clinton, both as Governor and President, has endorsed the goal. Ten years ago at least one in five American adults or 27 million, could not read or write. The figure now is 30 million and growing each year.

This dereliction is important. It is important because this country was built on the assumption of general literacy. Indeed, in 1900 we were the most literate nation in the world. We are now, by every study, the lowest in industrial countries. There are arguments about the precise numbers but none over the general extent. Nearly every branch library in the country has a pamphlet that begins, "one out of every five of your neighbors cannot read this sentence." Two recent university studies, Princeton and the University of Pennsylvania, places the number at 40 million.

However it is measured, this country, whose literate work force fueled the industrial revolution of the last two centuries, will soon discover that it is hopelessly unprepared for the present technological revolution. Our abundance of extraordinary people on the creative edge of cyberspace cannot long carry the weight of a growing illiterate population with its consequences.

"Illiterate" doesn't mean people who cannot handle difficult material but, in the language of the California legislation, those who "cannot read a want ad, cannot fill out an application, cannot read elementary medical instructions, cannot do elementary banking", indeed, cannot read their children's report cards. Moreover, they come from all walks of life and backgrounds. Forty-two percent are American-born English-speaking whites, 24 percent American-born English-speaking blacks, 27 percent are foreign-born, foreign-speaking but illiterate in their own language. The rest are people with physical problems such as dyslexia. While many are unemployed or on welfare, most contrive to make a living in regular jobs, more than a few even are executives in flourishing businesses.

It is hard for an American to accept these facts. Until a few years ago, I could not imagine that this country was not almost fully literate. Then Mario Cuomo named me chairman of New York's Governor's Commission on Libraries. A remarkable staff of librarians introduced me to the frightful facts of adult illiteracy. My subsequent research, including taped interviews with adults who have only recently learned to read and write, indicated that the problem was massively understated. Every bad statistic I found only concealed an even worse one. As an historian, I had confidently expected that every American, except for newcomers or the physically impaired, could read and write. It took some time before I understood the consequences of this historical reversal. It is clear to me now that we are heading toward two societies, one literate and exceptionally so, and the other illiterate and newly so.

The President's State of the Union speech last year made education the centerpiece of his second term and his lasting legacy to history. He spoke of helping elementary schools, providing tuition for students in college, and the inclusion of high technology at every level of instruction. He also asked for more parent involvement, especially in the early years. Yet there was no mention of adult illiteracy. A large portion of the parents who are asked to read to their children cannot themselves read. When that child comes home from school he/she will find no books, much less a computer, and parents who, no matter how loving, cannot be fully helpful. Illiterate parents produce illiterate children in disproportionate numbers. It should be clear by now that you cannot save the children without helping the parents. Until this country faces up to that fact, no amount of money, buildings, more teachers or computers will stem the slide into mediocrity.

Recent years have been celebrated as "year of the family" and "education for the 21st century". A family that reads together will more likely stay together. In the process both parent and child become useful contributors to society. Without a serious program for adult illiterates there is not the slightest chance that every eight-year-old will be able to read by the year 2000 or any other year. Even more remote is that every young American will go to college. Without a new initiative and commitment it is easy to predict that today's one in five adult illiterates will become one in four, and international rankings will see the United States remaining at the bottom.

Moreover, the leaders of both parties agree on balancing the budget through the next decade without even considering one of the most inhibiting factors. Each year adult illiteracy costs the nation at least 300 billion dollars in unemployment, underemployment, health, welfare and incarceration. And this estimate is the most conservative. Newer figures are far higher and project worse numbers every year. The illiteracy rate of our major international competitors, Germany and Japan, is under five percent. For most of this and the last century the little red school house, public schools and libraries provided the literacy needed by a mechanical society; indeed, their success underlay this country's industrial supremacy. But the next century will require a sophisticated work force that our rivals will have and we will not if we don't recognize our Achilles heel.

After a balanced budget, the most popular possibilities of change invoke the phrases "workfare not welfare" and "job training for the 21st Century." Both assume a literate workforce. Therefore all that is needed, it is argued, is a regular job. But the computer revolution is fast phasing out old routine employment. Under the new "welfare reform" a person who cannot read or write is required to find a decent job within two years or, ultimately, five years; if not, she/he will be cut off welfare along with the children. What are the chances of someone who cannot read or write being able to master the computer and other complicated instruments demanded by the emerging technological age in two or five years?

Richard Berman, writing in the *Wall Street Journal* in an article condemning the minimum wage law, ran into the literacy road block. He noted that the army now rejects as illiterate ten times the number of recruits than it did during World War II. Worse still, the Washington Literacy Council calculates that 65 percent of those not working or not looking for work are functionally illiterate and 70 percent of the unemployed fall into the "lowest" literacy level. The future is perhaps contained in the stark fact that 85 percent of unwed mothers, black and white, are illiterate. "Workfare" will soon have to answer a simple question: Who will hire someone who cannot read or write? If the answer is not many, "workfare" will inevitably once again become "welfare" and the literacy imperative will be more urgent.

A recent study by the Department of Education demonstrates that the literacy problem is already dragging down America's future economic prospects. Its survey of six advanced countries found that Americans who are already employed ranked fifth in elementary reading skills, followed only by Poland.

The federal government presently has over 50 "literacy" programs scattered across a dozen agencies. Yet after nearly a decade, the reading scores of the young (12-25 years) dropped 11 to 14 points on a 500 scale and adult illiteracy increased. The National Center on Adult Literacy has concluded that "this challenge (adult illiteracy) cannot be expected to be overcome through the typical, short-term, adult illiteracy campaign."

Another popular remedy for society's ills is "vouchers." Instead of Washington simply "throwing money" at problems through a maze of bureaucrats, the government would now give vouchers to individuals or groups directly, allowing them to have choices when making decisions about schools, housing and health.

For example, those now receiving government subsidies in publicly-financed housing would be given money in the form of vouchers and told to find their own housing. Recipients would necessarily need to go through the classifieds, deal with realtors and finally sign a lease. This throws people who cannot even read the vouchers into the trickiest market to be found anywhere with no assistance or protection.

Government vouchers for health care would also require people who cannot read or write to go shopping for an appropriate health plan, comparing one HMO with another to understand the extent and limits of coverage. Even Ph.D.'s blanch at this decision.

Similarly parents would be given vouchers to pay tuition for the school of their "choice." But for adult illiterates there is only one school—the closest. The "choice" requires shopping around in unfamiliar neighborhoods, filling out applications and participating in Parent-Teacher affairs. They already have only a tenuous relation with their schools, vouchers would only weaken it.

Crime, of course, is the single most resonant and unting issue. Everyone is against it and politicians compete only on how "tough" they can be on offenders and how many new jails should be built. Both decry "revolving door" justice without examining its primary cause. At least 70 percent of convicts go to jail illiterate and come out illiterate. Unable to get a job or find a place in their communities, they invariably wind up back in jail after additional and usually worse crimes. The American recidivism rate in prisons is well above 60 percent; in Japan, where prisoners cannot get out until they can read and write, the figure is three percent. At present all this country is doing is building new jails for those already incarcerated awaiting a new sentence. Proposals to "reform" the criminal justice system are bound to founder on the rock of illiteracy no matter how many policemen are on the street or how "tough" the sentencing by judges.

Unfortunately adult illiterates have little influence in deciding matters that affect them most. Some vote, and many more are registered by churches, unions or public agencies. But the bulk do not want to get involved in the electoral process. To vote they have to line up with their neighbors, sign in, go into the booth confronted by a ballot with lots of names, parties, offices and complicated initiatives. After every election "experts" try to explain why the "turnout" declines each year until it is now under half the eligible voters. The usual explanations center around "flawed candidates," "negative campaigning," "registration complications" and a public "turned off" by the whole political system. Growing illiteracy is never mentioned. In the year 2000 it is inevitable that the same "experts" will contrive still additional reasons for yet another drop in voter participation. Every other modern democracy, and most of all of the new ones, consider anything less than a 70 percent turnout to be "light." The country that invented electoral democracy is now its most celebrated laggard.

Adult illiterates can, with help, learn to read and write and most are anxious to do so. It takes about two years and costs about \$2,000 for space, materials and tutors to teach a new learner; it now costs \$9,000 a year to put one on welfare, and \$50,000 for incarceration. A "Late Start" program would certainly be the most "cost

effective" reform in history. Under "Late Start" the federal and state governments each would pay \$1,000 to public or private organizations and institutions for moving a tested illiterate to tested elementary literacy. Testing is important because the stipend should reward success, not merely attendance. There should be little contention because "Late Start" is non-partisan, inter generational, race and gender free, and neither liberal nor conservative.

The country desperately needs an all-out assault on adult illiteracy. The first step is to recognize the extent of the problem and the public's perception of it. To most the word "illiterate" connotes ignorance and even mental retardation. Supreme Court Justice Clarence Thomas complained that his critics were "illiterate." He didn't mean that they could not read or write, but rather they were hopelessly dumb and uneducated and probably uneducatable. But underneath this problem and any attempt to address it is shame: The public doesn't want to accept it, and illiterates are ashamed of their disability. Until there is an honest reckoning by the public that this is a crucial and dangerous condition and adult illiterates learn that their problem is shared by 30 million other Americans, that they are not alone, there is no chance of avoiding a catastrophe down the road.

Happily we are not without recourse or resources. A skeleton structure is already in place. There are countless voluntary organizations, libraries, union and workplace programs already functioning. They are doing heroic work with very little financial or public support. But even if all present programs were 100 percent successful, we would still be falling behind each year by at least a half million new ones. We do have intact, though in great jeopardy, the most extensive and successful public library system in the world. It has the space, materials and professional personnel to undertake an energetic initiative on a large scale. We also have untold thousands of retired teachers and librarians whose skills are waiting to serve again.

Also an obvious resource for this enterprise is the growing number of older people. The common wisdom suggests that down the road they will be a special burden. Far from that, they could be an irreplaceable component of a literacy campaign. Many are well educated professionals, and still others helped their own children to read and write. The American Association of Retired People, one organized voice, is a natural ally. It knows better than most the talent and energy that resides in its huge membership.

Even welfare recipients can be valuable assets. Most can read and write, many very well. It would be more "cost-effective" if they taught other adults to read rather than doing make-work. Moreover, the recipients would feel more like productive citizens than permanent mendicants.

Higher education, too, has a deep stake in basic literacy since it depends on the written word. Universities and colleges already have space, material and professional librarians. Their students, often recipients of public grants, can easily adopt a family near campus. Each one to teach one should be useful and stimulating experience while earning a degree.

The publishing world has the most immediate and obvious stake in reducing illiteracy. An industry that lives on the printed word cannot passively watch its prospective audience decline by one million a year. Newspaper experts usually blame television and other diversions for declining circulations. Yet other countries, such as the United Kingdom, have these things accompanied by robust circulations.

Mr. Chairman, the legislation opens up an opportunity to erase this scandal. It recognizes the problem, provides for a consolidation of numberless federal agencies which have a "literacy" component, provides for consolidation of federal research on literacy. It seeks to strengthen city, state and volunteer efforts. Most of all it recognizes, with the exception of race, the most serious issue facing this country—hence, it makes audible the silent scandal.

Little has been done to attack the problem. The President and Governors still ignore their own promises. All the while recent studies demonstrate that the issue grows larger every year. The National Adult Literacy Survey asserted that 46 to 61 percent of adults, or 90 million, fall into the category called "functionally" illiterate "the inability to effectively use reading, speaking, writing and computational skills in every day life situations." It is what the retirees' organization, AARP, described as "America's dirty little secret," concluding that "you can't get rid of the problem by accounting for ethnicity or visual impairment." No society is so wealthy that it can afford to waste this immense human resource.

Most of these people are just as intelligent as the general population. Their only handicap is that they cannot read or write. To remedy that, however, will be no easy task. Nor is it made easier by the educational establishment's constant intoning the "joy" of the whole learning experience. For many children that is certainly so. But for most it is hard and long work and seldom "fun." The satisfaction comes with success, not with the doing. The inducement should be: it is going to be tough going,

but it is well worth it. And we can give all the help you need. The rewards of literacy are not only personal, but to be a better parent, more helpful neighbor and a full contributor to society. But, let us be clear, success will not come easily or quickly. Americans have always had a weakness for the short-distance crusade. A problem is identified as so dangerous that there is a "crisis" that only a "crusade" can confront. Proclaimed with much fanfare, the issue slowly fades. Soon we are on to another totally different "crusade." The illiteracy crisis developed over two generations. It will take time to be rectified.

The excitement surrounding the new millennium, rightfully trumpets the spread of political freedom and the growing general rise in the standard of living around the world. The next century will require American leadership to protect and advance this global progress. But it has to be an America universally literate, well educated and creative, as it was in the past, to be a fit sentinel of freedom as well as the world's most productive society.

Select Sources

The State of Literacy in America: Estimates at the Local, State, and National Levels, National Institute for Literacy, 1998

Literacy Behind Prison Walls, U.S. Department of Education, National Center for Education Statistics, October 1994

Literacy of Older Adults in America, U.S. Department of Education, National Center for Education Statistics, November 1996

Literacy and Dependence: The Literacy Skills of Welfare Recipients in the United States, Educational Testing Service, 1995

Kirsch, I. S., Berlin, M., Mohadjer, L., Rock, D., Yamamoto, K., & others, *Technical report of the 1992 National Adult Literacy Survey*. Washington, DC: National Center for Education Statistics

Kirsch, I.S., Jungeblut, A., Jenkins, L., & Kolstad, A. (1993) *Adult Literacy in America: A first look at the results of the National Adult Literacy Survey*. Washington, DC: National Center for Education Statistics.

The CHAIRMAN. Enrique, would you tell us what your current job is with United Airlines?

Mr. RAMIREZ. I work for United Airlines as a ramp serviceman. Now I am a trainer. We have just moved up in technology and scanning, and they gave me the opportunity to learn it. There are only three of us who know how to use it, and now I train all United employees on how to use it.

The CHAIRMAN. Have they assisted you in any way in improving your literacy?

Mr. RAMIREZ. They have been very, very supportive. My lack of reading and writing skills has never held me back in my job. They understand that. I am still able to do my job.

The CHAIRMAN. What about the modern requirements for some literacy in computers? Have you had an opportunity to gain some literacy in that respect?

Mr. RAMIREZ. I was always petrified of computers, but a co-worker showed me, a little at a time, how to use them, and that is how I advanced myself to where I am now. A lot of it was on-the-job learning.

The CHAIRMAN. From your experience working with your coworkers, is this something that is becoming necessary in order to be part of being, quote, "literate"?

Mr. RAMIREZ. Yes. As we were saying earlier, the workplace is changing. There are many people in our work area who do not want to touch the computer. As I have learned, I teach them, and they find it to be very easy the way I teach them, because that is the way I was taught, and that is the way I learned reading and writing. That is why they have me doing what I do now, training other people, because a lot of the people who are out there working cannot read or write, but I can find a way to help them do their jobs.

The CHAIRMAN. I will start with Dr. Hartman and go to each of you. Should we be adding that to the definition of literacy?

Mr. HARTMAN. I think without a question—in fact, John Comings mentioned a project of the Institute called “Equipped for the Future.” That has been a 4-year research project where we have been attempting to redefine in a research-based way what are the skills and knowledge that adults need to be successful in these roles we have all been talking about. We will be publishing the results, those standards, in April of 1999, and one of the areas—we present it in a pie chart, and one of the pie slices is technology. It came through from some of the research like the Murnane and Levy research, in terms of what people know; it came through from focus groups of employers, and it comes through from the students themselves.

It is interesting—students are coming into programs and saying they want to read and write, but they are also saying, “I want technology,” and it is popping up more and more in literacy programs. I think what has also changed quite a bit is what that means. Five or 10 years ago, I think people thought they would need to learn programming skills. I think using technology as a way of communicating, e-mail, and getting information is the critical skill now. The technical part of it is not necessarily, I think, what the basic skills are.

My father recently had a fairly serious health crisis. My mother does not use ATM machines; she has never used anything remotely like a keyboard. And when she went to the doctor, he was explaining to her what my father’s condition was—my father is a doctor—and she was asking questions, and he said, “If you want to know more, you really should look on the internet; there is a lot of information there about the condition he has.”

She said “Internet”? She had never used a computer. Well, my brother-in-law, who fortunately is in the computer business, showed her how to do it, and she did do that; she found information, printed it out and read it.

To take care of the health of your family now, in many cases, especially with managed care, you have to use technology. So I have seen instances of that in my own life, and I think we all know in our own lives that using technology for communication, getting information and making decisions is a basic skill, no question about it.

The CHAIRMAN. Before we go to Dr. DeVard-Kemp, let me explain what I am trying to do now as we go into the Elementary and Secondary Education Act. I am trying to look at what is it that students are supposed to know when they get out of high school. That is problem one. And related to that; are our departments of education and schools preparing teachers to come into the school system able to know what is expected and what their outcomes are supposed to be.

Second, and related to that, is for the millions of students who are already in the system and moving through the system without these skills, what can we develop in order to be sure they gain those skills along the way so that all of the children and young adults end up with these skills through remedial help when they graduate from high school.

So that is my goal, and when I ask this question about computers, that is a part of it. We in this Nation are far behind where we ought to be as far as having graduates from high school, and related to that, of course, is how do we determine at the end, in high school, that they have these skills. Right now, we really do not determine those things. If you pass all your classes, you graduate, even though you may not have learned anything. So I am looking at what we can recommend as to exit criteria. We have SATs to determine if you are qualified to go to college, but are you qualified to go into the work force, and what can you show or demonstrate to an employer that you have literacy in the sense of the necessary tools.

With that, I will go down the row. Dr. DeVard-Kemp?

Ms. DEVARD-KEMP. I have been thinking about that as you spoke. We are having a problem—and I think it is all over the United States—where the dropout rate is so rapidly accelerating that we in adult literacy are receiving the students in adult literacy without the skills. But on top of that, the older adult learners who are there are not very comfortable with the 16-, 17- and 18-year-olds coming into the program, because they have not made that transition from teenage years into adulthood.

Our program is for adults and not younger people, and I do not know what is really happening that they are—well, they are being expelled from school, and they are 15, 16 and 17, not adults yet. So instead of being out of school, they are coming to our program, and I think that across the country, this causes a disruption of the adult learner who is there for specific reasons.

So I think we need to really look at what we are going to do to bridge that gap between the 16- and 18-year-old dropouts in our country who are coming to our program, because I do not think we are really equipped at this point to handle the emotional and disruptive behavior of these young students. I do not know if anybody else has experienced that problem, but that is one of the serious problems that we are encountering at this particular time.

The CHAIRMAN. Dr. Comings.

Mr. COMINGS. Let me speak to the issue of testing students. The Murnane and Levy book said that reading, writing and math are critical; they called them the "hard skills." But they also said that there are what they call "soft skills," problem-solving—not only individual critical thinking but group problem-solving—oral and written communication and computer skills.

Since their children and my child go to the same public high school in Massachusetts, I know about their second book which they are working on now, and they seem to be finding that what has happened since they have written the last book is that reading, writing and math are now computer-mediated skills, so it is not just important that you can do reading, writing and math by taking an SAT test or a GED test and proving it, but you have got to be able to do it with computers if you are going to be successful. And what they were calling the "soft skills"—problem-solving, group problem-solving, oral and written communication—are becoming more important than they were before.

So we are in this situation both for high school and for the high school dropouts that we deal with, that technology and the tech-

nology of the modern workplace—communications and group problem-solving—are coming in to affect the basic skills even of reading, writing and math.

The CHAIRMAN. Dr. Wade.

Mr. WADE. I am enjoying the comments of my colleagues here, but I think I am at the wrong hearing. The object of my comments was to have this Institute make public the extent of illiteracy and the consequences of illiteracy.

Right now, we are paralyzed in any kind of discussion of this because of the shame, the shame of the people who cannot read and write—they think they are alone, that they are the only ones who cannot—and therefore, they become marginalized and more marginalized all the time, with all the consequences to their children—to workfare, to welfare, to criminal activity. Until we as a society say we have these people with this handicap in the 20th century, who will not be able to function, their children will be in worse shape—it now costs us \$300 billion a year to have these people there under these circumstances, in unemployment, underemployment, health, welfare and incarceration.

You could really balance the budget if you started going after that. But we have a system now with the money going into the criminal system—75 to 80 percent of people going into our prisons now are illiterate, and they come out illiterate. They can find no place in the community, and they are back in jail again, after committing probably a worse crime. All we are doing now is building jails for those people already in jail, and it is endless unless something is done.

When you ask one of these offenders, “What grade did you go through?” he will say seventh, eighth, or even to college. What they should do is simply test them as they go in and then tell the judge this fellow cannot read or write. In Japan, you cannot get out of jail until you can read and write. Their recidivism rate is 3 percent; ours is 60 percent and getting larger. If the judge were simply to say, okay, you are in for 8 years, but if you learn to read and write, you will be out in 3 years, 5 years, or whatever it might be. We do this now for community service; we do it for all kinds of alternative service.

We also have in jail some very learned people. For example, Judge Wachler from New York folded linen in jail for 18 months. He could have taught 100 of those inmates and brought them down the road to the possibility of being reintegrated into American society.

We have the question of vouchers. People now say they want to carpet-bomb the society with vouchers. But just think about what you are saying. You are giving a person a voucher for his housing. You tell him, okay, you go out and find your own housing, and here is a voucher to help you. First of all, he cannot read the voucher; then, he has to read the classifieds, go to a real estate agent, fill out an application, and then, mind you, sign a lease without the simplest protection.

Or take the question of workfare. Everybody says we have reduced welfare. We have now, but in the year 2001, those people under welfare will be told they have to get out. They did not find

a job in 2 years, some of them, and then in 5 years. Well, who is going to hire someone who cannot read or write?

One other thing, because we have mentioned democracy a lot. The voter participation in this country has gone down steadily, and if you use a chart, it will look very much like the rise of illiteracy. Why? Some of them are registered—they are usually registered by a church or a union or something—but they do not go and vote, and for a good reason. If you go to vote, you have to stand in line, get a ticket, go in, there are probably some initiatives and things, and then go in and pull some levers on a big screen.

The CHAIRMAN. Oh, I agree with you. We have got to improve the education to enable people on welfare to work. I want to go on—

Mr. WADE. I would just like to make a final point, if I may.

The CHAIRMAN. Yes, go ahead.

Mr. WADE. Unless we start talking about this as the problem, we are never—these people work with virtually nobody. I would bet that if you put all together what they are receiving, you could not even buy a good shortstop for a major league baseball team.

The CHAIRMAN. You make a good point there.

Mr. WADE. You have got to reduce the shame of the American people like us, like I had, to find out who it is, and reduce the shame of the people. Elsewhere in my statement, I propose a program called Late Start, which is a way of approaching this problem. Namely—we have people in the field already, all kinds of people—anybody, libraries in particular, schools, who takes someone from testing illiterate to the second or third step will be paid \$1,000 from the Federal Government and \$1,000 from the State. We have a library system that we are letting go down the drain. If you passed this law, they would not only be in good shape, but we would really be prepared for the 21st century. But the shame—I was ashamed not to know after 50 years of teaching. Most of the people I talk to do not know it, and they are ashamed about it. We have to get this out of the closet.

The CHAIRMAN. I agree.

Andy, 52 percent of people with a high school diploma who score at levels 1 or 2 in the literacy survey go on to postsecondary education. Is there any data that reflects how many dollars are then devoted to remedial education in postsecondary institutions?

Mr. HARTMAN. I am not sure if there is a total cumulative amount. I know that at one time, the Department of Education was trying to estimate just the amount of Pell grants that went to non-credit-bearing courses, which are largely—colleges do not want to call them literacy courses, obviously—they call them developmental courses or remedial courses. I think that at that time, they were talking about \$800 million of Pell grants going to those kinds of courses. So when you think that the adult education program is \$340 million, just Pell grants alone may be subsidizing almost twice as much adult education/literacy.

The CHAIRMAN. Would you give me that figure again? Eight hundred million of Pell grants is used—

Mr. HARTMAN. It goes toward noncredit-bearing courses. As long as you are taking credit courses, you can use your Pell grant to support you while you are also taking developmental courses.

So there is a large percentage. As you probably know, there is a backlash policy-wise—this follows up on what Dr. Wade was saying. At City University of New York recently, I believe the chancellor and the board voted to eliminate these noncredit-bearing developmental courses at the university, and it is also being considered in California.

In some ways, you can see why people say, hey, this is post-secondary education. What are we doing, teaching people how to read and write? But I would ask what is the plan in America; whose job and responsibility is it, then, to help people make that leap? Just connecting back to your point about the Elementary and Secondary Education Act, if you are going to have exit exams and higher standards and no social promotion in secondary schools, as Dr. DeVard-Kemp said, where that happens, the doorbell starts ringing in adult education programs, because those kids who are not socially promoted through are going to be pushed out of school, and a percentage of those who want to go on to school are going to come to adult education programs.

Colleges and universities stop providing remedial education programs, which they increasingly are, and you have this squeeze going on, and then the adult education system I guess is a part of it, but nobody, as they think about these other two decisions—I read articles about both of these decisions, about social promotion and getting rid of remedial education in colleges—and nobody ever talks about where are these people going to go, and are we funding that system to pick up that slack.

I think the problem is—and Dr. Wade says it, too—that we do not see adult education as part of our national education system. I do not think most people even know there is an adult education system in this country, let alone how deplorably we fund it.

So I think that as people make decisions on elementary and secondary education, we cannot say, well, we did adult education last Congress. So I think we need to think about the impact the decisions you make this Congress are going to have on the programs we are talking about.

The CHAIRMAN. Dr. Comings, do you have any thoughts about how social promotion contributes to the percentage of adults who fall into the “functionally illiterate” category in the most recent adult literacy study?

Mr. COMINGS. I know that there are plenty of people who come to our programs who left high school with very low literacy skills. In fact, I did some work through the Mayor’s Commission on Literacy in Philadelphia, and the director there said 20 percent of their students had a high school degree from a Philadelphia school.

We have the testing mechanisms to know very early on in a child’s school career exactly what his or her weaknesses are, and why the system is not arrayed to deal with those weaknesses is beyond me, because it is something that can be done.

On the other hand, many of the students who are failing are living in communities and are in families that are in many senses what we just have to call chaotic. Think of yourself as a teacher or an administrator in that kind of a school, and you see a student, and you can identify the problems he or she has, and you even know how to address them, but they are living in a social environ-

ment that is in no way conducive—you put yourself in a position where you are going to penalize this child not for his lack of hard work, but for his accident of birth. That is a very difficult thing for people to do, and I can see how, as a teacher or an administrator, I would pass students along.

The CHAIRMAN. This is the final question I will have time for, and it is somewhat related. I am concerned about retention and the structure of our school year relative to European and Asian countries. I think all the countries which are our international competitors have a standard 30 days off in the summer and 30 days at Christmas time, and they have a considerably higher number of days in school than we do. I know there are studies—I do not know if they are good enough—that show that a child's retention after 30 days decreases substantially, and the longer it goes, there is a dramatic increase. This was, incidentally, amplified to me yesterday. I read to a very bright, young child every week, and I asked her that question yesterday, and her answer kind of surprised me.

I asked, "Do you think you are off too long in the summer, and do the kids have a problem retaining things?"

She said they certainly do. She said, "It takes 2, 3 months while I sit there and wait for the other kids to get caught up so we can go on and learn something new."

This struck me—wow—and she is a bright, young kid, and I can understand it. But if you take a look at our problems with math, for instance, if you take the additional time off in the summer, and you do that every year, and then you spend another month or so bringing the kids back up because they have not been there for 30 days, it ends up being about a 3- or 4-year difference in the amount of education time they have had in the classroom.

So I would ask you that and ask if any of you have any data on retention that you are aware of that I can use, and second, do you believe that this is a problem?

Mr. COMINGS. I did read one study just on reading skills and this issue, and it looked at three kinds of kids and how they spend their summer time—kids who really did not do any reading, kids who did some reading but did reading at grade level, and kids who did reading that was somewhat challenging to their grade level. And of course, the kids who did no reading did not do as well as the kids who did some reading; but the kids who had a little bit more challenging reading during the summer did a little bit better. People who have looked at this time period find that it is not just that kids do not do anything—it is really the quality of what kids do during that time.

One way to address that would be to extend the school period, but another way to address it would be to have better-educated parents who are pushing their kids to read more difficult material and providing them with a rich home environment. Without that rich home environment, most kids are not going to benefit a lot from the changes that we know from research would make a difference in the K through 12 system. So it is really a partnership that must exist.

The CHAIRMAN. Dr. Wade?

Mr. WADE. In reference to that problem, I would like to say that I think we could do a good deal if the education establishment

would get rid of the idea that learning to read and write is "fun." We always say it is joyful—well, the joy comes after you have done it. We always say the child likes reading, he enjoys it—yes, a good portion of the students do, but for most students, learning to read and write is difficult.

I was taught to read and write by the Sisters of Mercy—mis-named. [Laughter.] It was no fun. You just did it, and when it was all through, you might find that you could read the sports page—which is what I was after in the first place.

I think it is important to know that learning to read and write is difficult, and not to think that if you are not having fun, you are falling behind, or there is something wrong with you. That is one of the biggest things—I am talking about just facing up to this thing and telling parents it is hard for those kids to learn, and you help them. We can have all the nice, little books that make people jump up and down, but when you get right down to it, you have got to do it, and it is not going to be fun.

Mr. HARTMAN. Senator Jeffords, just adding to what John Comings said—and we could provide you with this—there is a lot of research, and probably one of the greatest truisms of learning research is, essentially, more time, more learning. For example, learning to read—you learn to become a good reader by millions of repetitions and things like that. Certainly, that would be better.

I think my understanding of the policy of it, though, is that it is incredibly expensive to extend the school year and to shorten vacations, not to mention as a policy thing, saying to parents you cannot take summer vacations, and so on, and paying teachers.

I think that what John Comings is suggesting is that perhaps an alternative to keeping the buildings open longer, keeping the teachers longer, and all the expenses associated with that, is to have the parents more involved. That may be a better way to get to the same end, because the kids that he is talking about, the kids who are being socially promoted—and we are really talking about setting a bar or pushing them out of school—sitting them in school longer will not help them learn better.

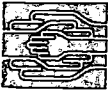
So unless you deal with the quality and what goes on at home, I think you could have kids sit there 365 days a year, and they are probably just going to leave faster, or we are going to learn faster that they are not going to be promoted, so we are not going to socially promote them. I think we will probably be able to sort them faster, because we will see the problems earlier, but unless we a) have better teaching quality like John was talking about and b) get the family involved, I guess I am not sure personally whether that would be a great economic investment.

The CHAIRMAN. Well, thank you.

I will ask all of you to allow me to submit some questions in writing, because I have 1 minute to get to my Leader. Thank you all very much. It has been an excellent hearing, and I appreciate all the work that has gone into it. I thank all of you very profusely.

And Enrique, you have made our day in showing us that there is hope. Thank you very much.

[Additional material submitted for the record follows:]



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Understanding Health Literacy: New Estimates of the Costs of Inadequate Health Literacy

Submitted to the
Committee on Labor and Human Resources
United States Senate
For the Hearing on
The Price We Pay For Illiteracy
December 11, 1998

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Summary

- Health literacy is based on the concept of functional literacy as it applies to the use of the health care "system." In 1992, the National Adult Literacy Survey found that as many as 44 million of the 191 million adults (age 16 and older) in the United States were functionally illiterate. Another 53.5 million adults had only marginally better functional literacy skills. For many of these two groups of adults it may be difficult, if not impossible, to make informed decisions about health care options or to effectively comply with patient instructions.
- This paper reports on two distinct efforts. The first is to estimate health literacy in the Survey of Income and Program Participation, based on the functional literacy in the National Adult Literacy Survey. The second effort was to use these results in conjunction with national health care expenditure data to estimate the cost of inadequate health literacy.
- Generally speaking, people with adequate health literacy were more likely to have employer-provided health insurance. People with inadequate health insurance were more likely to have Medicare coverage, Medicaid coverage, or were uninsured.
- Without regard to health status or the source of coverage, those with inadequate health literacy used substantially more health care services than those with adequate health literacy. However, those with inadequate health literacy reporting that they were in poor health, used fewer health care services. When examined by source of health care coverage, those with inadequate health literacy tended to have fewer physician visits but substantially longer hospital days.
- Depending on who is and who is not considered health literate, the cost of inadequate health literacy was estimated to range from \$30 billion to \$73 billion in 1998 dollars; or about 3.2 to 7.6 percent of personal health care expenditures.
- This cost falls disproportionately on patients with inadequate health literacy. Their out-of-pocket expenses are over 6 percent higher. Employers, however, may be financing as much as 17 percent of the costs of inadequate health literacy, or about 4 percent of their health insurance "premiums".

Introduction and Background

At every point in the health care system, patients are required to read. From the start, signs indicate where to go and where to sign-in. Patients are asked to complete forms that tell about their health history, tell the provider who to bill and tell why the patient is there. Consent forms are required for some procedures and patients receive written informational pamphlets on conditions, treatment, and pre- and post-procedural instructions. Health education materials on preventing or managing health problems are given to patients. Prescriptions come with instructions and inserts of information about the medication. Health plans require referral and approval forms and visits are often followed by a plethora of pieces of paper about benefits, rights and coverage.

Considerable effort has been made to simplify language and include diagrammatic expressions to accompany prose, but the bias is to assume that most people read and that people understand what they read. This presumption is wrong. Most people can read, but a substantial number of people may not be able to read well enough to function effectively within our health care system.

Many aspects of our health care system require being able to understand and ask questions. It is hard for a person to understand or ask questions if they are busy trying to hide the root of their lack of understanding. It takes effort to pretend to know how to read or to hide confusion when you are ashamed to admit that you are not understanding. This may inhibit people from seeking assistance that may ease their anxiety or relieve their pain.

This paper examines the health care costs associated with low levels of functional literacy. Surveys on health status, health care use, and health care expenditures do not yet include either measures of functional literacy or health literacy. Consequently, much of the work reported here is based on information obtained from the 1992 National Adult Literacy Survey (NALS) and applied to the 1993 Survey of Income and Program Participation (SIPP). SIPP provides the data used to estimate and compare health insurance coverage, sources of insurance, self-reported health status, and health care use.

The paper begins with a discussion about health literacy. A discussion of the reasons inadequate health literacy is likely to result in wasted health care resources follows. Finally, the paper examines some of the costs associated with inadequate health literacy.

What is Health Literacy?

The concept of "health literacy" is drawn from functional literacy. Literacy reflects reading ability, but *functional* literacy reflects an ability to understand and use what is read. Functional literacy differs from education, because it represents what people remember and apply in their daily living. In fact, years of schooling only explain about one-third of the variations in functional literacy tests (Pryor and Schaffer, 1997). Functional literacy also differs from native intelligence, since the skills needed and their application can be learned.

Health literacy is based on the concept of functional literacy as it applies to the use of the health care "system." As consumers, people must effectively communicate with health plans and insurers to gain access to needed health care and to use covered benefits. As patients, people must effectively communicate with health care providers when they seek medical care, and must effectively use information to maintain or improve their health status. Good communication and

a solid understanding may also be critical to motivate patients to properly comply with various therapies and treatment methods (Hulka, et. al., 1976).

Communication does not require reading, but given the complexity and fragmentation of our financing system and the high degree of medical specialization, written communication has evolved as the primary means of health care communication. The presumption is that most adults can read and thus the onus is on patients to inform health plans and health care providers when they do not understand. Poor reading skills can lead to comprehension problems, which may lead to misinformation, confusion, or mistakes. Shame and the attendant efforts to hide one's illiteracy may inhibit seeking verbal clarification or assistance (Parikh, et. al., 1996).

For people who have gotten by with relatively poor reading skills, venturing into the health care system must be a scary undertaking. For most people, substantial contact with the health care system comes very late in life, and long after they have left the labor force. They may never have had good functional literacy skills or, perhaps, their skills were better when they were working. But time away from the workplace and hence less use of functional literacy skills may have resulted in atrophy of those skills. Other adults may need reading, computational and communication skills to care for their children or for their elderly parents. Parents must keep up with an array of changing well-child health care guidelines and respond to the frightening episodes of childhood diseases and viral and bacterial infections. The children of elderly parents are often called upon to help manage their parents' health care and to make arrangements for long-term care.

What is the Extent of the Problem?

Respondents to the National Adult Literacy Survey (NALS) were given a series of tasks that required using information. Scores from the set of tasks were used to assign a level of functional literacy. Those whose scores placed them in Level 1 (of five levels) were considered functionally illiterate. Scores in Level 2 are considered marginally functionally literate. The NALS found that as many as 44 million of the 191 million adults (age 16 and older) in the United States were functionally illiterate in 1992. Another 53.5 million adults had marginally better reading and computational skills, such as being able to make low level inferences, locate information, and conduct a single arithmetic operation. However, they were unable to integrate multiple pieces of written information and conduct an arithmetic operation using two or more numbers. These findings suggest that as many as 97.5 million people, or 53 percent of the adult population in 1992 had difficulties reading prose, filling out documents, or making very simple numerical calculations. (Kirsch, et. al., 1993).

Among those who scored at the lowest level of document proficiency (Level 1), more than one-third were elderly. More than one-half (54 percent) were white. Nearly two thirds (62 percent) had not completed high school. About one-quarter of the functionally illiterate population had either a physical, mental, or health condition. Among the elderly, more than half (53 percent) were functionally illiterate. In fact about 85 percent of the elderly were classified as either functionally illiterate (Level 1) or marginally literate (Level 2). Table 1 summarizes the characteristics of the adult population in Levels 1 and Level 2.

Table 1
 Characteristics of Adult Population in Level 1 and Level 2 (Document Literacy)

Country of Birth	78	92
Born in the USA	22	8
Born in another country or territory		
Education Level 1		
Still in High School	3	5
0 to 8 Years	33	6
9 to 12 Years	26	17
GED	3	6
High School	23	36
Some College (no degree)	8	20
2 Year College Degree	1	5
4 Year College Degree	2	5
Graduate Studies/degree	1	3
Race/Ethnicity		
Black	20	14
Hispanic	21	9
Asian/Pacific Islander	3	2
American Indian/Alaskan Native	1	1
White	54	73
Other	1	0
Age		
16 to 24 Years	11	20
25 to 34 Years	15	19
35 to 44 Years	14	18
45 to 54 Years	11	14
55 to 64 Years	13	12
65 Years and Older	35	17
Any Physical, Mental, Health Condition		
Yes	26	12
No	74	88
Visual Difficulty		
Yes	18	7
No	82	93
Hearing Difficulty		
Yes	13	8
No	87	92
Learning Disability		
Yes	3	2
No	92	98

Source: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

The National Adult Literacy Survey builds on the conceptual and methodological advances made in two previous national assessments of adult literacy. The approach is based on a definition of literacy that emphasized functionality broadly rather than just being able to read.¹ Functional literacy is not a single skill or a fixed group of skills but rather a combination of skills that varies depending on the set of tasks. For example, under one set of tasks respondents were tested on their understanding and use of information from texts that include editorials, news stories, poems, and fiction. Under a second set of tasks, respondents were tested on their ability to locate and use information contained in materials like job applications, payroll forms, transportation schedules, maps, tables and graphs. Under a third set of tasks, respondents were tested on their ability to apply arithmetic operations like balancing a checkbook or computing a tip using numbers embedded in printed materials.

The skills tested were not specific to health care information, patient instructions, prescriptions, or insurance forms. Health care has its own language with terms that are not only complex but whose meaning can change. The terms change and the options change making it difficult for even the most functionally literate to make informed decisions about where to go, who to see, or what to do. For the 44 million people who are functionally illiterate, it may be next to impossible to make informed decisions about health care options or to effectively comply with patient instructions. Research has suggested that for a large portion of the 53.5 million people with marginally better literacy skills (those in Level 2), the health care system may be impossible to effectively navigate at some critical points (Williams, et. al., 1995).

¹ The definition adopted is: Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.

Education, Functional Literacy, and Health

Numerous studies have shown that people with higher levels of education have better health. Initially, it was assumed that since people with higher levels of education usually have higher incomes it was the income that enabled both better access to health care and a greater ability to ensure a good diet and a clean and safe environment. It also makes sense that poor health can disrupt employment and hence lower income.² However, people with higher levels of schooling tend to have better health, regardless of their income, suggesting that there is a relationship between education and health that is separate from the relationship between income and health. The literature that has emerged has offered many different reasons but there is not yet a consensus on this relationship. Perhaps this is because functional literacy is also an important factor above and beyond the level of education attained.

Education is not a great indicator of functional literacy, especially long after attaining that level of education. Initial studies that have examined the relationship between educational attainment and functional literacy have already revealed a very complex relationship between education and functional literacy. For example, in a study of wage growth among workers who had attained a university education, Pryor and Schafer (1997) found that university graduates with lower functional literacy skills tended towards lower paying jobs with less potential wage growth. Is this because the labor market did such a good job of sorting skills among university graduates or is it because functional literacy is either enhanced or maintained while working? Is functional literacy a result of attitude and motivation, which too would have an impact on the

² See for example, Victor R. Fuchs, *How We Live*, (Cambridge, MA: Harvard University Press, 1983), or Michael Grossman, The Correlation Between Health and Schooling, in *Household Production and Consumption*, ed. Nestor E. Terleckyj, (New York: Columbia University Press, 1976), or Linda K. George, Social Factors and Illness, in *Handbook of Aging and the Social Sciences*, ed. Robert H. Binstock and Linda K. George, (New York: Academic Press, 1996).

type of employment chosen or on the subsequent career path? Attitude and motivation, which may be related to functional literacy, may be critical aspects in better understanding how people use and interact with the health care system. In a study of earnings differentials by race and gender, Raudenbush and Kasim (1998) found that functional literacy helps to explain a substantial portion of the variations in earnings and occupations that could not be explained by simply examining education.³

As a practical matter, however, it is much easier to collect data on education levels than to determine whether or not respondents understand what they read. Clearly, the relationship between education and functional literacy is more complicated than previously understood. The relationship between education and health literacy may be even more complicated (Weiss, et. al., 1992).

Very recently, a few pioneering researchers have taken on the question of health literacy and health care use directly. For example, Baker, et. al., (1997) reports from a study conducted at two teaching hospitals, that hospital use among those with inadequate health literacy was found to be 56 percent greater than among people with adequate health literacy. A study based on data from 402 Medicaid beneficiaries (Weiss, et. al., 1994) did not find any cost differentials between Medicaid beneficiaries whose reading ability was above the 7th grade and those below. However, prior to the printing of this publication, it was reported that Dr. Weiss made a presentation based on 1,000 Medicaid beneficiaries enrolled in the study. In that presentation Jenks (1992) reports that Weiss found that the mean annual charge for an illiterate individual was

³ It should be pointed out that their study strongly supported discrimination in the labor market, since functional literacy did not fully explain the variation in occupations and earnings.

21 percent higher than that of Medicaid beneficiaries reading at the 8th grade level or higher.

Perhaps additional results will be forthcoming.

Health Literacy and Health Care Costs

Table 2 identifies many of the junctures at which communication and information are necessary to navigate the health care system. It is especially important to examine the points in the health care system where patients are expected to administer and make decisions about their own care, as well as taking initiatives for preventive care. At any of these junctures a failure to understand may lead to missed opportunities for needed care, needless anxiety, or a waste of health care resources.

Table 2
Junctures of Health Care Communication

Accessing Health Care	Using Health Care
> Obtaining health insurance coverage	> Following patient instructions
> Enrolling in a specific health plan	> Following product instructions
> Making appointments	> Understanding test results
> Understanding the referral process	> Understanding disease or condition-specific information on issues and options
> Reconciling financial responsibility between the patient and payers	
> Filing pre-care administrative forms	
> Responding to post-care information and billing forms	
> Arranging for transportation	

Higher levels of health literacy may help to improve health care costs by bringing about more timely, effective and appropriate health care use. However, since not all preventative

health care is known to be "cost-effective," higher levels of health literacy may lead to additional tests and services that either add little additional information or uncover conditions for which treatment may make little impact. Hence it must be recognized that some improvements in health literacy could lead to new costs. Therefore, it is really the net of these two effects that is the issue. There is reason to believe that the net effect of improving health literacy will, overall, reduce unnecessary health care resources.

The most critical influence on the demand for health care is the advice of health care providers. The complex calculus that transpires in the examination, diagnosis and treatment process is influenced by the communication between the patient and the health care provider. Eventually patients must follow instructions or take prescribed tests or medications to maintain or improve their health status. The ability of patients (or their guardians) to use reading, writing, and computational skills to gather information and apply that information will affect how people interact with every aspect of the health care economy. Table 3 outlines potential sources of direct and indirect health care costs that may arise from low levels of functional literacy.

Table 3
Sources of Direct and Indirect Health Care Costs

Direct Health Care Costs	Indirect Costs
> Additional emergency room visits	Loss of productivity
> Increased hospitalizations	Loss of wages
> Longer stays in the hospital	Additional pain and suffering relat
> Additional physician visits	Additional transportation costs
> Additional diagnostic tests	Unwanted pregnancies
> Ineffective prescriptions	
> Additional prescriptions	
> Premature nursing home admission	
> Additional home care use	
> Ineffective patient educational materia	

The literature on the cost implications of patients either misunderstanding or not complying with health care instructions is substantial. These studies tend to be provider or site-specific, disease-specific, or activity-specific, (i.e., taking prescription drugs or self-care following surgery). From this literature it is clear that poor communication or inadequate information has real consequences, not only for the patient, but also for the health care system. Samples of the key results of some of these different types of studies are provided in Table 4.

Table 4
A Sampling of Studies Reflecting the Cost of Non-Compliance

Source of Cost	Cost Estimate	Study
Prescription Drug Patient Compliance Studies		
Total Cost of failing to comply with Prescription Drugs	\$50 B Direct \$50 B Indirect	Johnson & Bootman, 1995
Hospital costs of failing to comply with Prescription Drugs	5 percent of admissions or \$8.5 B Direct \$17-25 Indirect	Sullivan, et. al., 1990
Disease Specific Patient Compliance Studies		
Compliance among Cardiovascular Disease Patients	\$1.5 B Direct	Bond & Hussar, 1990
Compliance among Non-mild Hypertension Patients	54 percent more costs per mild or severe hypertension patient who is not compliant	Smith, 1993
Net Savings from Specific Patient Education Programs		
Net Savings from Pharmaceutical Education and Support Services	\$3.20 saved per \$1 spent to provide individualized support	Borgsdorf, et. al., 1994
Net Savings from Asthma Education and Support Service	\$22.50 saved per \$1 spent to provide individualized support	Bolton, et. al., 1991
Net Savings from a discharge and follow-up program for older congestive heart failure patients	9 percent cost savings per patient	Weinberger, et. al., 1988

The Distribution of Health Literacy Costs

In addition to estimating the cost of poor communication within the health care system, a second set of questions concerns how these costs are distributed. To the extent that the overall costs of health care are pooled across health risks, those financing health care costs would share the net costs associated with inadequate health literacy. However, the potential risk pool is

fragmented, given that not everyone has health insurance coverage and even among those with coverage neither the scope of coverage or the depth of that coverage is the same.

This fragmentation has resulted in the evolution of a very complex system of financing care. Although access to primary, preventative, as well as acute care can be seriously impeded by the source of insurance (or lack of insurance), needed health care is usually rendered eventually. Someone must cover those costs. The system that has evolved includes both direct and indirect cross subsidies from employers, taxpayers, and patients who can pay to help finance the care for those who cannot. This makes it less clear who is paying for any net costs due to low levels of health literacy.

Studies now in progress that measure health care use, expenditures, and health literacy are likely to show just how critical health literacy is to understanding health care costs. Presumably, better health literacy would result in more appropriate diagnoses sooner and more effective treatments (Center for Health Care Strategies, 1997). Presumably, more timely and effective health care will result in the use of fewer health care resources over the course of an episode of care. The question is how much additional health care would have been avoidable if the interaction between the patient and the system were different, and how much of this difference can be attributable to inadequate health literacy?

The Analysis and Results

The following two sections summarize the analysis undertaken and the findings from two distinct efforts. The first section reports on estimating health literacy using probabilities of functional literacy in the National Adult Literacy Survey and applying those probabilities to the Survey of Income and Program Participation. In this section, sources of health care coverage,

self-reported health status, and health care use, are compared by health literacy status. The second section reports on using some of the results from the first section in conjunction with national estimates of personal health care expenditures to estimate the cost of inadequate health literacy.

Estimating Health Literacy

Methodology

National surveys of health care use, expenditures, or health insurance coverage do not yet include measures of health literacy. Until they do, researchers who want to better understand literacy and health care will have to rely on local surveys or use the wealth of information collected in the National Adult Literacy Survey to inform the survey responses in other national surveys. For this paper the National Adult Literacy Survey is used to estimate the health literacy of the population responding to the Survey of Income and Program Participation. The Survey of Income and Program Participation is then used to analyze the health care use, health status, and source of health insurance coverage of those with adequate and inadequate health literacy.

Data Sources Used

The National Adult Literacy Survey (NALS) was conducted during the first 8 months of 1992. More than 400 interviewers, some of whom were bilingual in English and Spanish, visited nearly 27,000 households to interview a nationally representative sample of 13,600 adults (aged 16 and older). The interviews took about one hour and most participants were paid \$20 for their time.⁴ In addition to completing a booklet of specific tasks designed to test functional literacy

⁴ A separate sample of unpaid participants was also tested so that researchers could examine whether paying respondents changes the quality of the responses. Prisoners were paid with a certificate of participation that had no monetary value, since federal laws prohibited the interviewers to pay them.

skills, personal background information was obtained. Black and Hispanic households were oversampled. In addition to the nationally drawn sample, 11 states decided to participate in the survey and 1,000 adults aged 16 to 64 were surveyed in order to make state level comparisons in and across those states. Finally, more than 1,100 inmates in some 80 federal and state prisons were also interviewed, although the background questionnaire to prisoners was different.

Survey respondents randomly received different sets of tasks from which the literacy skills were tested. Everyone was asked to perform 12 out of 24 tasks, but the 12 tasks were randomly selected. Since people were compared across different groups of tasks, there was a chance that the differences in scores reflected differing abilities associated with a particular task. Hence scores are really probabilities that an individual can achieve a set of tasks. As a result, while most people who scored well on higher level tasks also scored very well on lower level tasks, there are people who scored higher on a more demanding set of tasks than they did on the less demanding set of tasks.

Fortunately, a few basic characteristics, such as age, gender, race, marital status, earnings, and educational attainment, which are found in most surveys, explain much of the observed difference in literacy levels among respondents. Using these characteristics as independent variables, a predictive model of functional literacy was developed in the NALS data and used to construct a measure of the probability of being literate for individuals aged 16 and older in the Survey of Income and Program Participation (SIPP) data set. The SIPP is a continuous national survey of about 36,000 households. Survey respondents are interviewed in person every 4 months over a 2-1/2 year period. The core questionnaire collects basic information about household and family structure, labor force participation, public program participation, education, and financial circumstances. Topical modules are used to go into more

depth on particular topics. In addition to the core data from Waves 6 and 7 of the 1993 Panel, this analysis also examined data from the Wave 6 Topical Module that included information about health care status, coverage, and use.

Predicting Functional Literacy

The independent variables listed above also exist in the SIPP data. Therefore, the equation developed from the NALS data can be applied to observations from the SIPP data to construct a measure that represents the probability that an individual is literate, as defined in the NALS data. The predicted literacy measure is defined by the following equation:

$$\text{Predicted Probability (Literate)} = e^b / (1 + e^b),$$

where b is the product of a regression equation which includes the model intercept and parameter estimates derived from the NALS variables, applied to the corresponding set of independent variables in the SIPP data. The constructed measure is a continuous variable that takes on values between 0 and 1. The final step then was to recode the constructed variable of literacy into a dichotomous variable (1 for literate, 0 otherwise) whose distribution closely matched the marginal distribution of literacy found in the NALS data. Table 5, below compares the observed and constructed measures of literacy in the NALS and SIPP data, respectively.

Table 5
Observed Measures from the Adult Literacy Survey and the Constructed Measures From
The Survey of Income and Program Participation

Group	Mean Probability	Percent Scoring Above Level 2	Mean Probability	Percent Scoring Above Level 2
Overall	.486	48.6%	.496	49.6%
Black	.215	21.48%	.240	13.99%
Other Minority	.361	36.14%	.430	44.58%

Female	.469	46.86%	.478	49.91%
Married	.514	51.44%	.525	56.44%
Employed	.588	58.75%	.603	67.53%
Ages 25-40	.606	60.58%	.620	76.55%
Ages 41-64	.480	48.04%	.499	44.28%
Ages 65+	.155	15.45%	.168	10.54%
Somehs	.248	24.82%	.244	24.44%
Highgrad	.420	42.03%	.390	37.58%
Somecoll	.658	65.83%	.652	79.60%
Collegegrad	.816	81.65%	.809	96.36%
Postgrad	.867	86.67%	.860	99.12%

The results are very similar, but they are not exactly the same. The constructed variable of functional literacy slightly overestimates the likelihood that an individual is functionally literate. Specifically, the model underestimates the percentage of blacks that are functionally literate but overestimates the percentage of other minorities who are functionally literate in SIPP. The model slightly overestimates the percentage of female, married, and employed SIPP respondents who are functionally literate. The constructed variable predicts that literate individuals are younger than the NALS data suggests, while over-predicting the functional literacy rates of more educated individuals.

After estimating the probability of having scored above Level 2 in the NALS and constructing this probability within SIPP, analysis was conducted on the source of health insurance coverage and health care use. This analysis was also repeated by estimating the model that would predict the probability of scoring above Level 1.⁵ The results of this second analysis are not presented here although the results are used in the next section to estimate the cost implications of inadequate health literacy.⁶

⁵ Technically, the cut-offs used were 276 or higher for above level 2 and 226 or higher for above level 1 on the scores reported for the document tasks.

⁶ An overview of the statistical methods employed and the estimation results of both models is available from the authors.

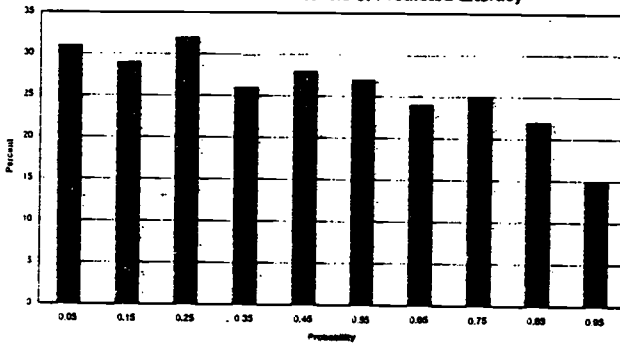
Applying Probability Estimates from NALS to SIPP

The following provides an overview of four different relationships examined after constructing the functional literacy probabilities in SIPP.

Health Literacy and Health Care Coverage

Generally speaking, people who had a high probability of having scored above Level 2 were more likely to have employer-provided health insurance and are less likely to have either Medicaid or Medicare. Figure 1 shows the percentage of adults (age 16 or older) with employer-provided health insurance at different levels of the probability of scoring above Level 2. Although people with a very low likelihood of having high literacy skills are substantially less likely to have employer-provided health insurance, some do have employer-provided health insurance.

Figure 1
The Percentage of Adults With Employer Provided Health Insurance At Different Levels of Predicted Literacy



Figures 2 and 3 show the probability distribution among Medicaid and Medicare beneficiaries. These two figures show that Medicaid and Medicare beneficiaries, in particular, are even more likely to have low literacy skills. This is consistent with the findings in the Adult Literacy Survey showing both the high proportion of elderly with low literacy levels and the fact that more than a third of the functionally illiterate adults were age 65 or older.

Figure 2
The Percentage of Adults With Medicaid At Different Levels of Predicted Literacy

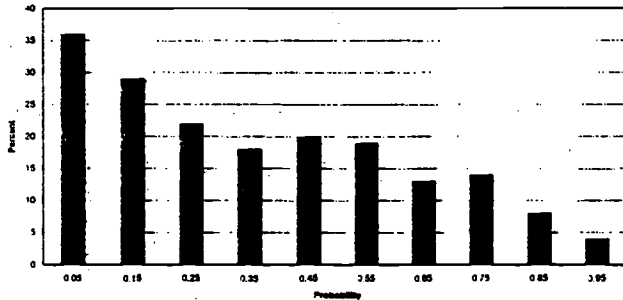


Figure 3
The Percentage of Adults With Medicare At Different Levels of Predicted Literacy

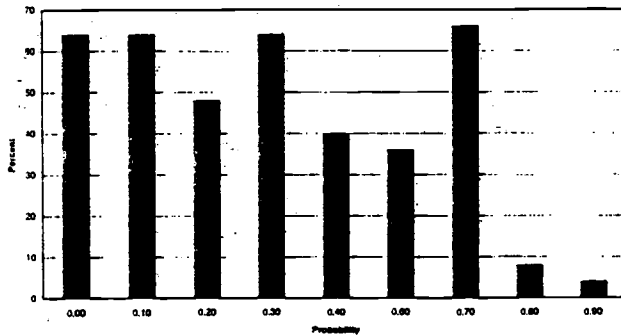
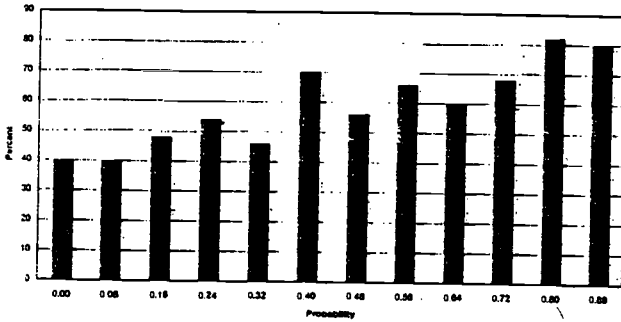


Figure 4 shows the distribution among those without any health insurance. This distribution looks similar to that found among Medicaid beneficiaries, except that there are more uninsured with high probabilities of scoring above Level 2.

Figure 4
The Percentage of Adults Without Health Insurance At
Different Levels of Predicted Literacy



Health Literacy and Health Care Use

Respondents to SIPP were asked a number of questions about their health care use in the past year.⁷ Table 6 compares average visits or days among different populations by health literacy level. In each case the average being compared is between those with and without adequate health literacy. Inadequate health literacy in this table is assumed to be those who would have scored at Level 2 or below on the document tasks used in the National Adult Literacy Survey. Asterisks indicate whether or not the difference in the means is statistically significant. The plus or minus sign indicates whether or not the means of the inadequate health literacy are greater than (+) or less than (-) the mean of those who are health literate.

Table 6

⁷ It should be noted that SIPP excludes people who are institutionalized.

Average Hospital Use and Physician Visits Among Users and Self-Reported Health Status

	Inadequate Health Literacy	Adequate Health Literacy	Difference
Users of Health Care Services			
Average Hospital Visits	1.26	1.183	(+)
Average Hospital Days	6.3	4.04	(+)
Average Physician Visits	5.52	4.61	(+)
Users of Health Care Services Controlling for Self-Reported Health Status			
Poor Health Status			
Average Hospital Visits	1.4	1.5	(-)
Average Hospital Days	8.25	8.31	(-)
Average Physician Visits	12.3	15.5	(-)
Good or Fair Health Status			
Average Hospital Visits	1.25	1.23	(+)
Average Hospital Days	6.43	4.91	(+)
Average Physician Visits	5.83	6.6	(-)
Very Good or Excellent Health Status			
Average Hospital Visits	1.14	1.11	(+)
Average Hospital Days	4.18	2.92	(+)
Average Physician Visits	3.73	3.7	(+)

Note: Difference in the means are either statistically significant at the .001, .01; or .05 percent level of significance if marked by 3, 2, or 1 asterisks, respectively. Comparisons with no asterisk were not found to be statistically significant.

‡ In this table, low health literacy is assumed for anyone with a high probability of having scored at level 2 or below in the National Adult Literacy Survey (Documents tests).

When these measures of health care use are examined by level of functional literacy it is quite clear that those with inadequate health literacy use more health care services. The difference in the mean values between those with inadequate health literacy and those with adequate health literacy is statistically significant at the 0.001 probability level. These findings continue to hold when the comparisons are made among only those who used any services. Among those with any hospital visits, those with inadequate health literacy had, on average, about 6 percent more visits and stayed in the hospital nearly 2 days longer. Among people with

any physician visit, people with inadequate health literacy also averaged an additional office visit.

Health Literacy and Self-Reported Health Status

Controlling for self-reported health status, however, complicates the story. Among those who report they are in poor health, those with inadequate health literacy, on average used fewer services. Only the fewer physician visits is statistically significant. At the other extreme, among those who claim very good or excellent health, those with inadequate health literacy use, on average, more health care services. But only hospital days used is statistically significant.

These findings may be consistent with the efforts on the part of people with inadequate health literacy to avoid contact with the health system. But in the case of those who are in better health, this delay may have resulted in the need to stay in the hospital longer. For those who acknowledge they are in poor health, health literacy had no real impact on their use of hospital care. Of course, what we do not know is whether the recollection of prior health care use in the past 12 months is consistent with self-reported health status at the time of the interview.

Health Literacy, Health Care Use and Source of Health Care Coverage

Table 7 compares average use by source of health insurance coverage. Overall, among those with inadequate health literacy, for most sources of health care coverage, average hospital visits and hospital days tended to be higher. However, the average number of physician visits tended to be lower. The difference in the average use between those with and without adequate health literacy was only statistically significant for hospital use among those with employer-provided coverage and for those without health insurance. The difference in the average number

of physician visits between those with and without adequate health literacy was only statistically significant for Medicaid beneficiaries.

Table 7
Average Hospital Use and Physician Visits by Source of Insurance

	Inadequate Health Literacy	Adequate Health Literacy	Difference
Employer-Provided Insurance			
Average Hospital Visits	.068	.067	(+)
Average Hospital Days	.29	.22	(+) ***
Average Physician Visits	3.12	3.2	(-)
Medicare			
Average Hospital Visits	.2	.16	(+)
Average Hospital Days	1.13	.88	(+)
Average Physician Visits	5.66	5.91	(-)
Medicaid			
Average Hospital Visits	.21	.25	(-)
Average Hospital Days	.98	.95	(+)
Average Physician Visits	5.86	6.68	(-)*
Uninsured			
Average Hospital Visits	.076	.054	(+)**
Average Hospital Days	.32	.17	(+)**
Average Physician Visits	2.35	2.44	(-)

Note: Difference in the means are either statistically significant at the .001, .01, or .05 percent level of significance if marked by 3, 2, or 1 asterisks, respectively. Comparisons with no asterisk were not found to be statistically significant.

* In this table, low health literacy is assumed for anyone with a high probability of having scored at level 2 or below in the National Adult Literacy Survey (Documents tests).

Discussion

These results must be viewed as preliminary. Although SIPP provides comprehensive information on the well-being of households and non-institutionalized people in the United States, it is not a health survey. Health is a part of a topical module added to the core data. It is anticipated that this analysis using the Medical Expenditures Panel Survey (MEPS) will add

additional insights into the preliminary results from SIPP. MEPS is a national representative survey, designed exclusively to measure health status, health care use, health care expenditures and health insurance coverage. Unfortunately, only the files containing health status and health insurance coverage have been released to the public. The files with health care use and expenditures are scheduled to be released in February 1999.

This analysis, however, has provided sufficient information to make a preliminary estimate of the health care cost implications of low levels of functional literacy. It is not clear why the general results changed (or more precisely were no longer statistically significant) when we examined health care use by self-reported health status or by source of coverage. Those with inadequate health literacy and in poor health used fewer services, suggesting that their health literacy was a barrier to seeking or gaining access to care; except when it comes to hospital care.

The more compelling story may be among those who express better health status. Why is it that their health care use is greater when their functional literacy levels are lower? Why is it that it is not only greater but sometimes significantly greater than those who are health literate? Is this because they are more inefficient users of health care? Have there been more episodes in which care was delayed and a hospitalization was needed? Have there been times in which poor communication led to missed opportunities to provide needed care?

Estimating the Cost of Inadequate Health Literacy

The literature on patient compliance and patient education is consistent with the basic findings in this study. Overall, low levels of understanding and poor communication will result in the use of more health care resources. The question is still by how much and who bears the additional costs?

Methodology

To cost out the implications of health literacy, published data on the 1996 population by source of coverage was used in conjunction with national personal health care expenditures for 1996 to compute average per capita personal health care expenditures by health care payer and the source of service. The health data comes from The Office of the Actuary for the Health Care Financing Administration (HCFA). HCFA provides annual estimates of how personal health care expenditures were made on behalf of all public and private payers for large service categories, such as hospital care, physician services, prescription drugs, nursing home care, among others (Levit, et. al, 1997). The population estimates used were the same ones used by HCFA, only the distribution of the population by health insurance coverage comes from comparing tabulations from the Census Bureau's Current Population Survey done by the Employee Benefit Research Institute.⁴

Holding the overall per person average expenditure constant, per person expenditures for those with and without adequate health literacy was calculated. It was assumed that the expenditure difference per person reflected the change in resources associated with inadequate health literacy. As discussed above, this did not always result in higher expenditures. In some cases, inadequate health literacy reduced physician visits and hence physician expenditures on behalf of this population were reduced. But in these situations, hospital use was found to be substantially higher, suggesting that some of the reduction in physician expenditures resulted in additional hospital expenditures. SIPP tabulations by source of coverage for hospital use and physician visits were used. For all other services it was simply assumed that expenditures were one percent more per person for everything but home health care and prescription drugs. Given

the relative importance of patient communication in these areas, assumed that inadequate health literacy contributed a 10 percent expenditure differential for home care and prescription drugs. Based on the literature on prescription drugs this is a very conservative estimate (Johnson and Bostman, 1995).

Using tabulations from SIPP, the population by source of coverage was divided into two groups: those considered health literate and those who are not. Using these population counts and the adjusted average per person expenditure amounts the total additional expenditures were computed by comparing the expenditures of the two population groups.

These sets of calculations were undertaken using two very different definitions of health literacy. To derive a lower bound estimate, everyone was assumed to be health literate except those who were functionally illiterate (scoring at Level 1). At the other extreme, those who were health literate were those who were not either functionally illiterate or marginally literate (Level 1 or Level 2). The tabulations in SIPP, as well as, the population counts and the adjusted expenditures per person by insurance source and health care service were done using these two different assumptions of who is and who is not health literate. These two sets of calculations serve as the basis for the estimate of the cost of inadequate health literacy.

The Cost Estimate Results

Assuming that only the population that is functionally illiterate is not health literate, then the estimated additional health care resources due to inadequate health literacy are calculated to have been about \$29 billion in 1996. This would be over \$30 billion in 1998 health care dollars. On the other hand, if the marginally literate (Level 2) are not considered health literate, then the

^a Which, in percentage terms matched our tabulations of insurance coverage in SIPP.

estimated cost of inadequate health literacy were more than \$69 billion in 1996. This would be over \$73 billion in 1998 health care dollars. This means that between 3.2 and 7.6 percent of personal health care expenditures may be wasted resources because of inadequate levels of health literacy. A summary of the cost estimates is provided in Table 8.

Table 8
Comparison of Health Care Expenditure by Source of Payment

Payment Source	Dollars (billions)	Percent of Health Literacy Cost	Percent of Expenditures	Dollars (billions)	Percent of Health Literacy Cost	Percent of Expenditures
Patients	\$ 5.06	17%	2.95%	\$ 10.87	16%	6.35%
Employers	\$ 2.60	9%	.89%	\$ 11.43	17%	3.91%
Medicare	\$ 9.32	32%	4.71%	\$ 26.73	39%	13.52%
Medicaid	\$ 6.09	21%	4.26%	\$ 9.71	14%	6.95%
Other Public Programs	\$ 4.91	17%	6.59%	\$ 7.18	10%	9.64%
Other Private Sources	\$ 1.10	4%	3.46%	\$ 3.19	5%	10.07%
Total Personal Health Care	\$ 29.01	100%	3.20%	\$ 69.12	100%	7.62%

Note: Lower Estimate assumes only those who are functionally illiterate are not health literate. Upper Estimate assumes those in Level 1 and Level 2 are not health literate.

Seven percent of personal health care expenditures is a substantial amount of resources. To put this cost in perspective, seven percent of personal health care expenditures is more than what every state and local government paid to finance their share of the Medicaid program. And it is more than the entire bill for physician services, dental services, home health care, prescription drugs, and nursing home care financed by Medicare.

Who Pays For Inadequate Health Literacy?

Who pays the costs of inadequate health literacy? We all do. However, as shown above these costs are not evenly distributed. The burden falls disproportionately on patients with inadequate health literacy. Their out-of-pocket expenses for health care services are over 6 percent higher because of inadequate health literacy.

A most interesting part of the story is the implications for employers. As shown in Table 8, employers may be financing as much as 17 percent of the costs of inadequate health literacy. From the employers perspective, this is about 4 percent of health insurance "premiums".

Discussion

The difference between the higher and the lower additional cost estimate stems from the question of whether people who score at Level 2 in the Adult Literacy Survey are health literate. If most are health literate then the lower estimate should prevail; but if a substantial proportion of the population scoring at Level 2 are not health literate, then

the upper estimate is appropriate. We need a better understanding of the correlation between measures of functional literacy and those of health literacy to answer this question.

If people who are marginally functionally literate are not health literate then employers are paying a very hefty part of the costs of inadequate health literacy. Relatively few people who are functionally illiterate are covered by an employer's health plan. The functionally illiterate are more likely to be enrolled in Medicare, Medicaid, or not to have health insurance. However, the marginally functionally literate, those in Level 2, are very likely to be covered by an employer's plan. If the additional costs imposed by the marginally functionally literate are due to inadequate health literacy (as we suspect) then employers are financing a substantially larger share of the costs of inadequate health literacy.

Examining the data and reviewing the literature suggests that the lower cost estimate is unrealistically low. Inadequate health literacy is not limited to the functionally illiterate. On the other hand, there is not enough evidence to assume that everyone within Level 2 would have such inadequate health literacy skills that their experiences with the health care system would, on net, result in extra health care expenses. The utilization differences we did observe for hospital and physician uses, suggests that health literacy does matter among everyone defined as either functionally illiterate or marginally literate. Further work either in SIPP or preferably with a much more comprehensive health survey (like MEPS) is likely to provide better insights into this difference, for physician and hospital care, as well as other types of services, adjusted for measured health status.

Conclusion

Most of the financial burden of inadequate health literacy that does not fall directly on patients is distributed among an even larger population: taxpayers generally and the working taxpayer, in particular. The cost of inadequate health literacy emanating from Medicare beneficiaries is large in both absolute and relative terms. Given the fact that physician use is less among those with inadequate health literacy, most of this cost falls onto Part A of Medicare. Most (about 89 percent) of Part A is financed through FICA taxes on workers.

The cost of Medicaid is also financed by taxpayers, with about one-half coming from the federal income tax and the most of the balance coming from a variety of state and local taxes. General revenues also finance "other" public programs; but the cost of "other" private sources is financed by a wide array of philanthropic enterprises. The cost to employers is likely to be disbursed to workers, owners, and consumers, depending on the industry and the firm's market share and the labor market in that industry.

The direct costs of inadequate health literacy are not insignificant. While a disproportionate burden falls on the patient with low literacy skills, health care providers and those that finance those providers are not immune. Taxpayers, including employers, assume the vast majority of the costs of inadequate health literacy. No attempt was made to estimate the indirect cost implications. It is conceivable, however, that the indirect costs could approach the magnitude of the direct costs, suggesting that society forgoes \$50 to \$130 billion in resources due to inadequate health literacy. From a financial perspective, all payers of health care could save direct health care expenditures if they invested in programs and personnel to help reduce the barriers people face in trying to navigate the health care system. From a broader perspective, anything that can be done to improve functional literacy skills can only improve every aspect of our society.

Bibliography

- Baker, D.W., Parker, R.M., Williams, M.V., Clark, S., & Nurss, J. (1997). The relationship of patient reading ability to self-reported health and use of health services. *American Journal of Public Health*, 87(6), 1027-1030.
- Bolton, M.B., Tilley, B.C., Kuder, J., Reeves, T., & Schultz, L.R. (1991). The cost and effectiveness of an education program for adults who have asthma. *Journal of General Internal Medicine*, 6, 401-407.
- Bond, C.A., & Monson, R. (1984). Sustained improvement in drug documentation, compliance, and disease control: A four-year analysis of an ambulatory care model. *Archives of Internal Medicine*, 144, 1159-1162.
- Bond, W.S., & Hussar, D.A. (1991). Detection methods and strategies for improving medication compliance. *American Journal of Hospital Pharmacy*, 48, 1978-1988.
- Borgsdorf, L.R., Miano, J.S., & Knapp, K.K. (1994). Pharmacist-managed medication review in a managed care system. *American Journal of Hospital Pharmacy*, 51, 772-777.
- Calkins, D.R., Davis, R.B., Reiley, P., Phillips, R.S., Pineo, K.L.C., Deibanco, T.L., & Iezzoni, L.I. (1997). Patient-physician communication at hospital discharge and patients' understanding of the postdischarge treatment plan. *Archives of Internal Medicine*, 157, 1026-1030.
- Center for Health Care Strategies (1997). *Proceedings. Health Literacy: A National Conference*. June 3, 1997. Washington D.C.
- Clark, N.M., Feldman, C.H., Evans, D., Levison, M.J., Wasilewski, Y., & Mellins, R.B. (1986). The impact of health education on frequency and cost of health care use by low income children with asthma. *Journal of Allergy Clinical Immunology*, 78(1), 108-115.
- Epstein, et. al., (1990). Do the Poor Cost More? A Multihospital Study of Patient's Socioeconomic Status and Use of Hospital Resources. *New England Journal of Medicine*, 322 (16), 1122-1128.
- Fuchs, V.R. (1983). *How We Live*. (Cambridge, MA: Harvard University Press).
- . (1982a). "Time Preference and Health: An Exploratory Study, in *Economic Aspects of Health*," ed. V. R. Fuchs (Chicago: University of Chicago Press, 93-120).
- . (1982b). "Schooling and Health: The Cigarette Connection." *Journal of Health Economics*, 1(December), 217-230.

George, L. K. (1996). "Social Factors and Illness," in *Handbook of Aging and the Social Sciences*, ed. R. H. Binstock and L. K. George. (New York: Academic Press):

Grossman, M. (1976). "The Correlation Between Health and Schooling," in *Household Production and Consumption*, ed. N. E. Terlecky, (New York: Columbia University Press).

Hanson-Divers, E.C. (1997). "Developing a medical achievement reading test to evaluate patient literacy skills: A preliminary study," *Journal of Health Care for the Poor and Underserved*, 8(1), 56-69.

Hulka, B.S.; Cassel, J.C., Kupper, L.L., & Burdette, J.A. (1976). "Communication, compliance, and concordance between physicians and patients with prescribed medications." *American Journal of Public Health*, 66(9), 847-853.

Jenks, S. (1992). "Researchers link low literacy to high health care costs." *Journal of the National Cancer Institute*, 84(14), 1068-1069.

Johnson, J.A., & Bootman, J.L. (1995). "Drug-related morbidity and mortality: A cost-of-illness model." *Archives of Internal Medicine*, 155, 1949-1956.

JAMA, *Medical News & Perspectives* September 24, 1997

Kirsch, I.S., Jugeblut, A., Jenkins, L. and Kolstad, A. (1993). *Adult Literacy in America*. National Center For Education Statistics, US Department of Education, (Washington, D.C.: GPO).

Levenson, T., Grammer, L.C., Yarnold, P.R., & Patterson, R. (1997). "Cost-effective management of malignant potentially fatal asthma." *Allergy and Asthma Proceedings*, 18(2), 73-78.

Levit, K.R., Lazenby, H.C., Braden, B.R., Cowan, C.A., Sensenig, A. L., McDonnell, P.A., Stiller, J.M., Won, D.K., Martin, A. B., Sivarajan, L., Donham, C. S., Long, A.M., and Stewart, M.W. (1997). "National Health Care Expenditures, 1996." *Health Care Financing Review*, 19(1), 161-200.

MacKeigan, L.D., & Bootman, J.L. (1988). "A review of cost-benefit and cost-effective analyses of clinical pharmacy services." *Journal of Pharmaceutical Marketing & Management*, 2(3), 63-84.

Manson, A. (1988). "Language concordance as a determinant of patient compliance and emergency room use in patients with asthma." *Medical Care*, 26(12), 1119-1128.

Mayeaux, E.J., Murphy, P.W., Arnold, C., Davis, T.C., Jackson, R.H., & Sentell, T. (1996). "Improving patient education for patients with low literacy skills." *American Family Physician*, 53(1), 205-211.

- Mayo, P.H., Richman, J., & Harris, H.W. (1990). "Results of a program to reduce admissions for adult asthma." *Annals of Internal Medicine*, 112(11), 864-871.
- Miles, S., & Davis, T. (1995). "Patient who can't read: Implications for health care system." *Journal of American Medical Association*, 274(21), 1719-1720.
- Naylor, M., Brooten, D., Jones, R., Lavizzo-Mourey, R., Mezey, M., & Pauly, M. (1994). "Comprehensive discharge planning for the hospitalized elderly: A randomized clinical trial." *Annals of Internal Medicine*, 120(12), 999-1006.
- Olson, R.M.C., Blank, D., Cardinal, E., Hopf, G., & Chalmers, R.K. (1996). Understanding medication-related need of low-literacy patients. *Journal of American Pharmaceutical Association*, NS36(7), 424-429.
- Parikh, N.S., Parker, R.M., Nurss, J.R., Baker, D.W., & Williams, M.V. (1996). Shame and health literacy: The unspoken connection. *Patient Education and Counseling*, 27(1), 33-39.
- Parker, R.M., Williams, M.V., Baker, D.W., & Nurss, J.R. (1996). Literacy and contraception: Exploring the link. *Obstetrics & Gynecology*, 88(3), 725-775.
- Pryor, F. L. and Schaffer, D., Wages and the University Educated: A Paradox Resolved. *Monthly Labor Review*. Volume 120. No. 7. (July 1997), pages 3-14.
- Raudenbush, S. W., and Kasim, R. M., Cognitive Skill and Economic Inequality: Findings from the National Adult Literacy Survey, *Harvard Education Review*. Spring 1998 (Vol. 68, No. 1, pp. 33-79).
- Rich, M.W., Beckham, V., Wittenberg, C., Leven, C.L., Freedland, K.E., & Carney, R.M. (1995). A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *The New England Journal of Medicine*, 333(18), 1190-1195.
- Rizzo, J.A., Abbott, T.A., & Pashko, S. (1996). Labour productivity effects of prescribed medicines for chronically ill workers. *Health Economics*, 5, 249-265.
- Smith, D.L. (April, 1993). The effect of patient noncompliance on health care costs. *Medical Interface*, 74-76.
- Standberg, L.R. (July, 1984). Drug as a reason for nursing home admissions. *American Health Care Association Journal*, 10, 20-23.
- Sullivan, S.D., Kreling, D.H., & Hazlet, T.K. (1990). Noncompliance with medication regimens and subsequent hospitalizations: A literature analysis and cost of hospitalization estimate. *Journal of Research in Pharmaceutical Economics*, 2(2), 19-33.
- Weinberger, M., Smith, D.M., Katz, B.P., Moore, P.S. (1988). The cost-effectiveness of intensive postdischarge care. *Medical Care*, 26(11), 1092-1102.
- Weiss, B.D., & Coyne, C. (1997). Communication with patients who cannot read. *The New England Journal of Medicine*, 337(4), 272-274.
- Weiss, B.D., Hart, G., and Pust, R.E., 1994. Illiteracy Among Medicaid Recipients and its Relationship To health Care Costs. *Journal of Health Care for the Poor and Underserved*, 5(2), 99-111.
- Weiss, B.D., Hart, G., Mcgee, D.L., & D'Estelle (1992). Health status of illiterate adults: Relation between literacy and health status among persons with low literacy skills. *Journal of American Board Family Practice*, 5(3), 257-264.
- Williams, M.V., Parker, R.M., Baker, D.W., Parikh, N.S., Pitkin, K., Coates, W.C., Nurss, J.R., (1995). Inadequate Functional Health Literacy Among Patients at Two Public Hospitals, *JAMA*, 274(21), 1677-1682.



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December 22, 1998

The Honorable Jim Jeffords
United States Senate
Washington, DC 20510-6300

Dear Senator Jeffords:

We want to commend you for your efforts to increase literacy in the United States. As you clearly recognized at the December 11, 1998 hearing on *The Price We Pay For Illiteracy*, literacy skills are necessary if we are to compete in the global economy. For the record, we would like to submit information on the health care costs that America pays because of low functional literacy.

The National Academy on an Aging Society has estimated that the additional health care costs associated with low functional literacy may be more than \$70 billion, or about 7 percent of the nation's personal health care expenditures. These costs are borne not only by patients directly but also by the payers and providers of health care. We have estimated that Medicare and Medicaid are financing more than one-half of these costs; employers are financing nearly 17 percent of these costs.

Accessing the health care system and subsequently making health care decisions is confusing for most of us. But poor literacy skills and perhaps shame about those skills raises the likelihood of poor patient compliance. Missed opportunities and mistakes can lead to additional health care expenditures.

We would very much like to contribute to the discussion framed by the Senate Committee on Labor and Human Resources by submitting a two page summary of our research and the supporting research paper. We would also be delighted to work with you and your staff to help others understand these cost implications.

Sincerely,

Robert B. Friedland
Director

Attachments

A Policy Institute of The Gerontological Society of America

1030 15th Street, N.W., Suite 250 • Washington, D.C. 20005-1503 • tel: 202.408.3375 • fax: 202.842.1150
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LOW HEALTH LITERACY SKILLS INCREASE ANNUAL HEALTH CARE EXPENDITURES BY \$73 BILLION

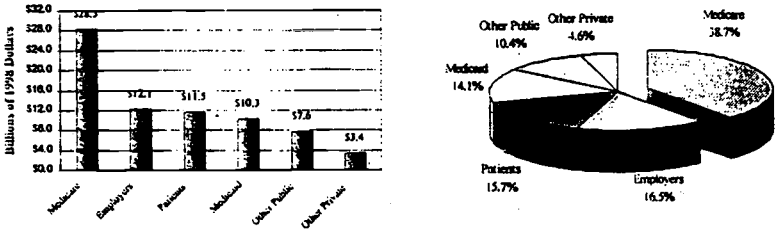
Low Health Literacy Skills Contribute To Higher Utilization of Health Care Services Use

Health literacy refers to the set of skills needed to read, understand, and act on basic health care information. Over 90 million adults with low health literacy skills (see box on next page) have limited ability to read and understand the instructions contained on prescriptions or medicine bottles, appointment slips, informed consent documents, insurance forms, and health educational materials. Poor health literacy skills have profound economic consequences.

Using data from a nationally representative sample of the U.S. adult population age 16 and older, the National Academy on an Aging Society examined the impact of literacy on the use of health care services. The study found that people with low health literacy skills use more health care services.

- Among adults who stayed overnight in a hospital in 1994, those with low health literacy skills averaged 6 percent more hospital visits, and stayed in the hospital nearly 2 days longer than adults with higher health literacy skills.
- Among adults with at least one doctor visit in 1994, those with low health literacy skills had on average one more doctor visit than adults with higher health literacy skills.
- When self-reported health status is taken into account, patients with low health literacy skills had fewer doctor visits but used substantially more hospital resources.

Who Pays for the Costs of Low Health Literacy?



Source: National Academy on an Aging Society. *Understanding Health Literacy: New Estimates of the Costs of Inadequate Health Literacy*. Presented at the Pfizer Conference on Health Literacy "Promoting Health Literacy: A Call To Action." October 7-8, 1998; Washington D.C.

National Academy on an Aging Society

Center for Health Care Strategies, Inc.

Overall, the study found that the primary source of higher health care expenditures for persons with low health literacy skills is longer hospital stays. Other factors, such as the ineffective use of prescriptions or misunderstandings about treatment plans may also have financial consequences.

- The estimated additional health care expenditures due to low health literacy skills are about \$73 billion in 1998 health care dollars. This includes an estimated \$30 billion for the population that is *functionally* illiterate plus \$43 billion for the population that is *marginally* literate.
- This amount is about what Medicare is expected to pay to finance physician services, dental services, home health care, prescription drugs, and nursing home care combined.

While a significant share of the health care costs fall on the patients with low health literacy skills, health care providers and those that finance those providers share the burden.

- Medicare pays 39 percent of the expenditures. Most of the additional expenditure is financed through FICA taxes on workers.
- Employers may be financing as much as 17 percent of the additional health care expenditures due to low health literacy skills.
- Out-of-pocket expenditures by patients total more than \$11 billion dollars or 16 percent of the additional health care expenditures.
- Medicaid pays more than \$10 billion dollars, or 14 percent of the additional health care expenditures.

No study has directly measured the health literacy skills of the U.S. population. However, it is possible to estimate the number of people who have low health literacy skills using results from the 1992 National Adult Literacy Survey (NALS). The survey reported that some 40 to 44 million of the 191 million adults in this country are *functionally* illiterate. They read at or below a fifth-grade level, or cannot read at all. Another 50 million are only *marginally* literate. They are generally able to locate and assimilate information in a simple text, but are unable to perform tasks that require them to assimilate or synthesize information from complex or lengthy texts. Because of the literacy demands upon patients in the increasingly complex health care system, adults who are functionally illiterate or marginally literate are likely to have low health literacy skills. Health care use, status, and insurance coverage data are derived from the 1993 Survey of Income and Program Participation (SIPP).

Funding for this research on health care cost implications of low functional literacy was provided by Pfizer Inc.

The CHAIRMAN. The hearing is adjourned.
[Whereupon, at 11:30 a.m., the committee was adjourned.]

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ISBN 0-16-057994-5



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