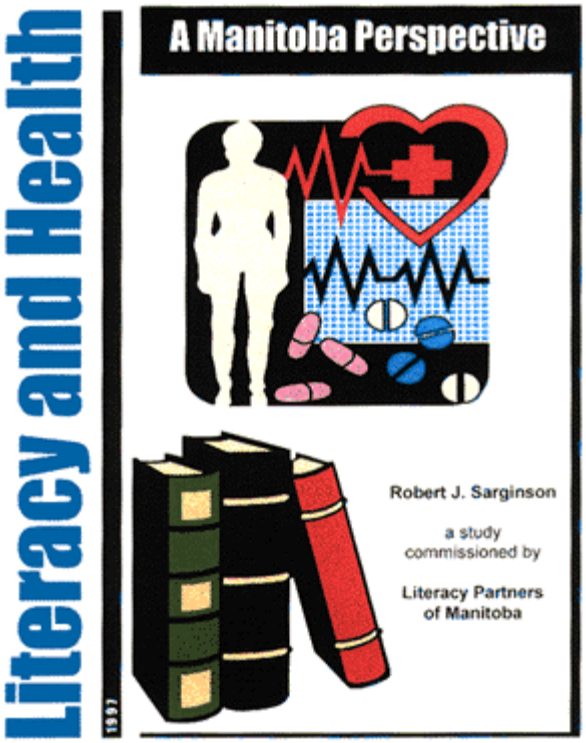

Literacy and Health:

A Manitoba Perspective

by Robert J. Sarginson

A study commissioned by

Literacy Partners of Manitoba

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Summary

Evidence from many researchers reveals a connection between low literacy and poor health that, though not causal, is certainly contributory. Once the geographic distribution of low literate populations are charted in Manitoba, an opportunity exists for the comparison of health indicators for high and low literate areas.

The lowest education levels and the poorest health are co-existent in the same regions. Health is a direct correlative of income level; literacy is a key requirement for attaining higher income. Health costs in low literate areas will decrease when there are more jobs and skill-upgrading available to the people of remote areas. Health costs for reserve populations will likely explode in the near future without immediate intervention. Document and prose literacy rates must increase through an increased investment in adult education in our communities

A. Is Literacy Linked to Poor Health?

Dr. Irving Rootman, Director of the Centre for Health Promotion at University of Toronto, in 1991, noted that "literacy is becoming increasingly recognized by those working in the field of health as a critical determinant of health". Citing the conclusion of a report done by the Ontario Public Health Association, he said: "Virtually all health-related aspects of people with limited literacy skills are worse than for others (Rootman,1991,P.64)."

Direct impacts of low literacy such as the inability to read prescriptions or medical directions have led to numerous hospitalizations, adverse drug reactions and medicine poisonings of children and of seniors with prescribed medications. (Preston, 1995, Internet). Information about healthy nutrition for babies, hygiene, common treatments for childhood diseases, is inaccessible to parents who can't read it. (Woodhouse, 1995. p.24).

But the greatest detriment to low literacy are the lifestyle choices which have long-term impacts not only on the individual, but also on his or her family. For example, a study of smoking in Canada revealed that though well-educated people had reduced their tobacco use substantially in response to publicity through the 1970's, the poorly educated continued to puff their way toward lung cancer at the former rate (Manga, 1987, P. 644).

"Illiteracy", Rootman argues, "leads to poor lifestyle practices, stress, unhealthy living and working conditions" as well as " to inappropriate use of medical and health service" (Rootman,1991, P. 65). These indirect lifestyle problems pose the long-term challenge to our health care system and defy easy resolution.

Although the health effects of low literacy are difficult to quantify, circumstances in Manitoba today have unlocked data which are useful in linking literacy to health. Such a linkage may help us understand why there are so many under-educated people in the emergency ward and why, by teaching people to read better, we may reduce the medical costs for a significant portion of our population.

It is difficult to isolate a population statistically so that it can be analyzed for the effects of low literacy. Nevertheless, thanks to data published by the Manitoba Centre for Health Policy and Evaluation at the University of Manitoba, it has become possible to compare areas of Manitoba according to the health and the literacy levels of their residents.

B. The Relationship Between Health and Literacy

Several years ago, the Manitoba government commissioned the Manitoba Centre for Health Policy and Evaluation at the Faculty of Medicine of the University of Manitoba to study the patterns of health care utilization in the province. Since Manitoba's Department of Health has collected records on citizens using the provincial medicare system since the early 1970's, there is a wealth of detailed information constituting one of the most reliable data banks in North America (Frohlich et al, 1994,P.ii).

When literacy levels from the 1991 Canada Census are superimposed on the health regions designated by the Manitoba Centre for Health Policy and Evaluation, it becomes possible to draw some conclusions about health and literacy in Manitoba. The picture

which emerges is startling.

1. Instances of disease and epidemic increase markedly in areas in which the literacy rates are low.

The Thompson region has not only the highest rate of rural illiteracy at 38% (Map #1) but the highest rates for hospitalizations due to infectious disease (six times that of Winnipeg), pneumonia (six times that of Winnipeg), influenza (19 times that of Winnipeg), and tuberculosis (7 times that of Winnipeg).

2. Violent death is also more prevalent in low-literate areas that elsewhere in Manitoba.

The Thompson region has many fatal accidents: four times the rate of motor vehicle accidents as Winnipeg, six times the rate of drownings, twice the rate of poisonings, five times the rate of death due to fire and flames (Cohen and MacWilliam, 1993, P. 39). The murder rate is five times that of Winnipeg.

3. Hospital usage by children is highest in low-literate communities.

Demographic studies show that native Canadians "are in the midst of a baby boom" (Foot, 1996, P.199) and that "36% of the aboriginal population is less than 15 years of age". Children on reserves will soon become the most fertile population in Manitoba. Unfortunately, overcrowding, poor quality housing, impure sources of water, uncertain hygienic procedures and questionable infant and toddler nutrition combine to create a ticking health time bomb.

A report prepared for Manitoba Health in 1992 indicated the prevalence of babies susceptible to chronic medical problems among those with lower literacy skill. "Mothers with the lowest education were twice as likely to have a low birth weight baby than mothers with university level education" (Health Advisory Network, 1992, P.36).

Hospital usage is obviously going to increase as impoverished conditions continue and the population birthrate increases.

4. Already marked by the highest rates of pediatric hospitalization, the highest rates of hospitalization for infectious disease and the highest rates of accidental and violent death, the difficulties of low literate life on reserves are attested to by the virtual absence of old people in the population (Frohlich et al, 1994, P. 70).

C. Implications for Health

Each indicator in the list is an effective measure of several influences upon health. Many of the medical incidences already mentioned are related to hygiene, familial care and supervision, poor diet and abuse of alcohol.

The six indicators must describe something about these conditions which either lead to or away from poor health.

1. The percentage of the labour force unemployed, 15 to 24, reflects the amount of youth unemployment and generally shows not only how many jobs there are for young people, but also how well their skills are matched to the jobs available. This statistic permits generalization about the ability of the local economy to launch stable careers and shows whether youth have access to the economy (Harp,1996, interview).

Idle time for this age group is somewhat problematic; these are very energetic years in which most people find jobs that will carry them through their careers. The lack of a steady income puts anyone at a disadvantage, but if the main wage earner in a young family has inconsistent employment during these years, the stability needed to raise young children and develop strong familial bonds may be absent. It is a loss to society that rates of youth unemployment are double or triple the rate for the whole population (Harp,1996, interview).

Several tangible health effects have been noted among young unemployed: for males, greater use of tobacco and alcohol; and for females, greater use of medication, such as pills, vitamins, minerals, ointments, tranquillizers, and pain relievers" (D'Arcy and Siddique, 1987, P. 255). Unemployed singles reported greater consumption of alcohol than those who were married.

2. The second factor, “the percentage unemployed between age 45 and 54”, indicates discontinuity of employment and the inability of the local economy to sustain career-long employment. This influences the general wealth of the family as these are the peak earning years (Gartley, 1994, P.17) in which money is set aside for retirement security.

Mid-career lay-off or unemployment is an important blow to a family's economy, and a possible indication of familial stress. Studies suggest that with unemployment comes "deterioration of one's physical and mental health" (D'Arcy and Siddique, 1987,P. 255). Higher income and higher levels of education have been found to be variables which reduced "the negative effects of unemployment" (ibid, P.256).

3. The third factor, the percentage of single parent female households, indicates income level instability in many cases. Statistics reveal that families headed by women average only 38% of the annual income of dual wage families and are often well below the poverty line (Colombo, 1992, P. 85). Single parent families tend to be less able than two parent families to provide supervision for children so as to limit the risk of accidents.

Single mothers with less than a grade nine working full-time averaged $17,406 in 1991 in Canada (Gartley, 1994, P. 21). This level of family income translates into limited access to housing, food, clothing and safe transportation. It has been observed that if a lone parent’s incomes must exceed $20,000 before wages compensate them enough to pay for child care and to be able to work outside the home (Gartley,1994, P. 22). Jobs of this calibre are rare in outlying regions of Manitoba, consequently many low-skilled lone parents rely upon social assistance.

4. The fourth factor, the percentage of the population between the ages of 25 and 34 having completed high school, is an indication of how educated the "core" workforce is. Since high school graduates are more likely to be employed than those without diplomas (Communications Branch, 1996, P.1) and to therefore earn higher salaries (Kirsch, et al, 1993, P. 66), then this factor reveals the likely proportion of successful job-holders in the region. As with the other employment-related factors, high school completion is an indicator of possible income. Adults in this age group are most productive in their work and benefit from a steady income which allows them to establish homes and families.

5. The fifth factor, the percentage of female labour force participation, suggests the availability of jobs and consequent extra income for families. If females are in the workforce, the implication is that there is a "job rich" economy; there may also be a number of two income families suggesting higher household income, better surroundings, housing, health care, foods, transportation, ability to afford child care, etc.

6. The final factor, the average dwelling value is a direct measurement of how much money there is in the home. It implies what kind of neighbourhood or community the home might be in, the facilities it might have, and the likelihood of its being a safe, healthy environment for children.

There are other impoverished communities in northern Manitoba besides Shamattawa. They all need to build the fabric of the society before good health will be attained. What investment can be made to ensure a long term solution to the ills in such desperate places?

D. Literacy and Health Factors

Of the six indicators selected as best explaining diffences in regional health quality, three are directly related to literacy abilities.

As literacy skills are clearly important in the acquisition and maintenance of employment, and because the percentage of graduates from high school is a direct indication of (potential) literacy skill, the link between literacy and health is made!

If we can accept that two of the other factors, namely dwelling value and female partication in the workforce, are also indicators of income, and that those with higher literacy skills are shown to have higher incomes (Statistics Canada, 1995, P.132), then we can see the literacy connection in five out of the six indicators.

E. Health in Low Literacy Regions

While other factors including ethnic origins, income, mother tongue, age, and mobility of population were rejected as being less determinant, the six most accurate factors were grouped into a Socio-Economic Risk Index.

The researchers at the Manitoba Health Centre for Policy and Evaluation have used the Socio-Economic Risk Index (SERI) to explain components in health across the province and to illustrate "differences in the lifetime burdens of illness" (Frohlich and Mustard,1994, P. 20).

After analysis using the SERI, certain facts stand out. Residents of Thompson and Norman regions scored highest on the SERI. There were high rates of unemployment at all ages, a high percentage of single female parented families, low rates of high school

completion, low rates of female participation in the workforce and low housing values. (Frohlich and Mustard, 1994, P. 21).

Thompson, Norman, and Parklands residents had the highest rates of acute medical care in the province, approximately twice the rate of Winnipeggers (ibid. P. 55). Thompson and Norman residents also had the province's highest rates of persons hospitalized, and days of hospital care. Children were sent to hospital more often from the Parklands, Norman, and Thompson regions; two to three times more frequently than Winnipeg's youngsters (Frohlich and Mustard, 1994, P. 62).

Norman also led the province in the need for surgical procedures, exceeding the provincial average by 45% (ibid, P. 64). The health of people within these northern regions is clearly poorer than that of other Manitobans.

The direct impact of low literacy in these areas is seen in several sorts of cases. Since many of the northern hospitalizations are long distance transferrals using air ambulance, face to face contacts between doctor and the patient's care-givers are rare. Patient consent forms must be administered orally, sometimes by telephone. During emergencies, forms are signed by only partially comprehending clients (Jacobs,1991, P. 10).

In "long distance medicine" there is an increased reliance upon written or printed instructions in post-hospital recovery (Lerner, 1993, P. 18). Re-admittals are common and costly as the period of recovery is lengthened (Frohlich, et al, 1994, P. 45).

Although reserve populations seem to dominate many of the regional statistics, all rural low-literates do not live on reserves. Sixty-nine Manitoba towns and municipalities have rates of grade nine non-completion of between 25 and 50%.

Low literacy exacerbates inherent dangers associated with daily work and leisure activities. Safety regulations accompanying fertilizers, pesticides and other farm and home chemicals are violated by those who merely "guess" at what the instructions say, for example.

Difficulty comprehending precautions on farm and recreational machinery such as all-terrain vehicles, watersleds, snowmobiles and farm equipment of all sorts, make rural life more dangerous. Hunting, fishing, boating, and driving regulations may be written down, but compliance is often a question of reading skill and comprehension.

F. The Health Cost of Rural Low Literacy Rates

Overall, rural Manitobans are hospitalized 46% more often than Winnipeg residents (Frohlich et al, 1994, P. 44). This costs millions of dollars, annually, which could be saved if the rates of poor health could be reduced.

Every year, the people of Manitoba pay a high price in lives, serious injuries, preventable diseases, accidents, and hospitalizations due to low literacy levels. Every example entails loss and grief to families and to communities. As well, there are also losses to the economy in terms of potential human resources, talents and productivity.

One example which shows the magnitude of expenditure on medical services in the North is the cost of emergency medical evacuation which has recently been scrutinized by the Manitoba government. The total bill for northern medical transport alone in 1991/92 , (Lerner, 1993, Appendix B, P. 1) was in excess of $13 million. That year, patients from the North spent a total of 30,383 days in Winnipeg hospitals, enough to fill a hundred-bed hospital for almost a year (Lerner, 1991, Appendix B P.2).

How can these bills be reduced? How can the cost in lives and in suffering be decreased? How can communities end the horrific conditions which engender so much tragedy?

One of the fundamental improvements which will reduce the cost of health care is improved levels of adult literacy. "Access to the health care system requires a level of literacy competency," states one native community worker, "Those without it are unaware of their rights and the services available" (Jacobs, 1991, P. 10).

G. Literacy Programming – Solutions to Health Costs

Literacy programming is cheaper than medical care, hospital stays, physician visits and medi-transit. It builds autonomy rather than dependence. Literacy skills help to improve communication and develop a sense of community rather than a sense of isolation. Readers are empowered rather weakened. Once adults can read well, they can acquire other marketable skills and training.

Adult literacy programs have a track record around the globe. In the third world, the greatest improvements in health and reduction of mortality occurred when the women were educated.. "Literacy leads to better health and hygiene, lower infant mortality and better child care" (Fox and Powell,1991, P. 10).

"A man who is illiterate cannot participate fully in social and economic life. He is likely to be less healthy, poorer, and die sooner than his literate brother." (Fox and Powell, 1991, P. 4)

This grim fact takes on a looming urgency today, as the scourge of AIDS is spreading through many rural communities at an alarming rate (Goulding, 1996, P.43). The main defence against AIDS is information, which is available to adults mostly through pamphlets and newspaper accounts - media most unlikely to reach low-literate populations in remote areas.

Preventing just one AIDS case would save more money in one year than the cost of a dozen part-time literacy programs across the North.

Another strategy for the reduction of low literacy would be to maintain strong support for the public school system, the main agent of literacy skill development, in their efforts to encourage students to continue their schooling until graduation.

The best motivator, for continued education, however, as one witnesses elsewhere , is the promise of work when the schooling is finished. Keeping a new generation in school long enough to get their grade twelve diplomas, and then helping them to find meaningful full-time jobs would do more to reduce the cost of rural medical care than any single-focus solution (National Forum on Health, 1997, P. 26) .

H. Conclusion

In the United Kingdom, the United States, and in Canada, studies have concluded that incidence of arthritis, diabetes, heart conditions, and tooth loss is at least twice the rate for low income as for high income families. Lifespans of the poor are up to eight years shorter than for the rich (Manga, 1987, P. 644).

In the earlier discussion of health indicators, we can see that the low income earner and the low-literate can be seen as basically the same population. We have an understanding that the literacy problem is most evident among Manitoba's least affluent citizens.

Low literacy contributes to the poor health of citizens by eliminating them from consideration for high-waged work, thereby limiting their options in housing, food, clothing, and transportation. Low literacy also makes inaccessible helpful lifestyle information which might come from newspapers, pamphlets, food and medicine labels, and books.

That poverty causes low literacy or that low literacy leads to poverty is not the issue. It is that literacy is an opportunity to break the grip of poverty by transforming the unskilled person into a skilled one.

Rural low-literates are at a disadvantage in our economy. Lower literacy skills result in interrupted or reduced employment.

One report to the Government of Canada described the effects of enforced joblessness in these terms:

"Low individual and family incomes restrict the capacity of families and communities to obtain adequate housing, good nutrition and appropriate cultural and recreational pursuits. Low levels of employment restrict achievement of financial security and independence. They also undermine confidence and self-esteem, leading to physical and mental problems associated with poverty, dependence and socio-cultural alienation". (Pacific Region Medical Services Branch, 1995, P. ii)

Those who live on reserves are at great risk. Lower incomes, poorer nutrition, inadequate housing, overcrowding, and higher rates of single parent families all serve to set the stage for poorer levels of health compared to urban Manitobans.

The health care of the North is about to get much more expensive as the populations of reserves increase, and the communities continue to manifest the effects of extreme poverty and societal breakdown.

The most effective way for the jobless to regain a secure footing is for them to gain access to the mainstream economy. Since low education levels are a barrier to entry, people with limited educations must "re-tool". For governments at all levels not take action to remedy the situation could be seen as a waste of human potential. We must pay now or pay later.

I. Recommendations

1. Speak in Plain Language in Government Publications on Health Topics
Recent interest in providing consumers with plain language advertising and product information has been fuelled by a dialogue on literacy among several key national groups. The Consumers' Association of Canada, with the support of the National Literacy Secretariat, is preparing a series of "Shop Smart" informational messages. The objectives of this project, which will involve the Movement for Canadian Literacy Learners Committee, are to provide clear information related to shopping for food and nutritional basics. These messages are being field tested in questionnaires with learners in Manitoba and other provinces this fall.

Involvement in a coordinated approach including the provincial ministries of Education and Training (ALCE branch) as well as staff from Manitoba Health (Food Protection, Home Care staff, Healthy Communities, Rural and Northern Operation, Pamphlets and Publications and Pharmacare branches) and the Consumer Bureau would help maximize the impact of public awareness and outreach campaign. Redesigning the Pharmacare Form which tests out at a Grade 13 reading level, would be a good first project.

Several other national organizations have discussed assisting in the distribution of these Food Tips pamphlets once their content has been finalized:

- Heart & Stroke Foundation of Canada as part of a national education program on healthy eating
- Canadian Public Health Association for use with their Literacy Program for Health Professionals
- Consumers' Association of Canada and their provincial networks. Literacy Partners of Manitoba has already contacted the local office and alerted them to this campaign.
- Canadian Council of Grocery Distributors as a possible hand out at "point of purchase" grocery shopping for their members. Considering that selection of nutritional items often is more expensive than buying food with empty calories, the more education the better the health benefit to customers and their families.
- Canadian Egg Marketing Agency to be incorporated into their promotional and educational campaign on healthy eating.

We invite Manitoba Agriculture to follow in these footsteps as they continue on their promotional campaign which features items grown in Manitoba. Government assistance in raising the issue of signage and client education with the hospital and clinic staffs in Manitoba would be appreciated.

The Social Planning Council has already targeted work principles of *a healthy environment and investing in a healthy population* for the Poverty Committee. They have been supporting the work of The Child Poverty Report card. In January of 1997, the SPC joined with other concerned sectors to form the Manitoba Action Committee on Children and Youth to present action recommendations to the Social Services Committee of Cabinet. Much of the news in this study validates the call to action issued on child poverty.

Literacy Partners of Manitoba are members of the SPC and plan to be involved actively in this work as well. This group may be able to assist government in making a difference to the emergence of a future healthy citizenry in rural and urban areas of

concern.

2. Help Literacy Programs Link to Community Projects
Government is involved in many projects to target health. We need to links these clients to literacy programs when appropriate. Here is one example of how increased cooperation could work.

Healthy Start for Mom and Me drop in programs involve a peer outreach worker, nurse and dietician in 8 community settings in Winnipeg. Rural communities tap into the Healthy Start initiative in other ways.

Developing a communications network to link these organizations with literacy programs would help avoid duplication of services, provide guest speakers to adult education classes in a non-threatening atmosphere, and validate the work of all organizations involved. Even the simple step of advertising the free LEARN helpline referral service would link people to more options for adult education.

3. Re-instate a Northern Coordinator
The dedicated professionals at the Adult Literacy and Continuing Education branch of Manitoba Education and Training continue to shoulder an increasing load, as welfare reform involves reallocation of time and staff dollars. While employment outcomes for many literacy level learners is the most desirable and cost-efficient result of involvement in adult upgrading, personal lifestyle topics are also vital to healthy families. The Rural Literacy Coordinator, Marie Matheson, supervises a huge geographical area. She is mandated to provide professional development training for coordinators and volunteers, evaluate literacy programming, assist with delivery concerns and liaise with the community partners involved in adult literacy. One paid government employee for the thousands of literacy level adults in rural areas is not sufficient ROI. If even **one** adult makes a major lifestyle change, the cost savings to the social service network is obvious.

The salary of an additional civil servant would be covered instantly by these savings. Given the distance and statistical rationale for a concerted focus on rural areas, a return of the northern literacy coordinator position to assist Marie in her travels would help address the need where it is being felt the most. There had been an additional staffing allocation for a northern coordinator until the spring of 1996; this position needs to be renewed to facilitate support to isolated learners and their teachers.

4. Give Literacy a Higher Priority in Training and Employment Planning
The election of Grand Chief Phil Fontaine to the national Assembly of First Nations leadership leaves a vacancy in Manitoba in the AMC. In his keynote address to the national literacy conference, Bridging the Centuries, Chief Fontaine recognized the positive steps that the federal and provincial governments have taken in assisting in the provision of literacy training in friendship centres, to tribal councils and education authorities. “We acknowledge that we do need help in addressing the literacy problems of our people”, he cried out several times to the educators in attendance from across Canada. He noted that the INAC survey of 1987 charted that 50% of Manitoba First Nations members had less than a grade 9 education, but the statistics echo the national trend that the youth are bringing up that average. More and more college and university graduates are emerging from the First Nations communities as well. Only 5 years later, the 1991 Aboriginal People’s National Survey by StatsCan showed that 4,000 people of aboriginal descent, both on and off the reserve, were “functionally illiterate”, 30% were unemployed and 88% had an income of less than $20,000. He made an impassioned plea for more literacy programs on reserves, and more First Nations content in literacy

programs and school classrooms to lead to greater empowerment and understanding across culture.

The signing of the Framework Agreement in 1994 heralded a new ear for addressing the "need to have an empowered, well-educated, and employable people to meet our goals and objectives as we move towards and beyond the year 2000".

Provincial officials dealing with the devolution of federal powers in aboriginal self government and education and training may be able to ensure that literacy is a major consideration in future negotiations under a new leader.

5. Maintain Long-term Commitments to Literacy

In the 1997 round of federal/provincial grant approvals for community-based literacy projects, requests came to almost three times the money available. The Minister herself has encouraged adults to return to school. For the health and welfare of these families, support for a widespread public relations campaign to encourage second chance learners to invest in their own upgrading would be a timely second step in this positive direction. Although the Manitoba government allocates thousands of dollars towards community programming each year, rural programs have difficulty recruiting a full slate of learners in many high-need settings. Urban programs cope with huge waiting lists.

By extending the Stay in School campaign to a Return to the Classroom message, we may be able to offset the negative memories of adults who were not successful scholars the first time around. Literacy pays off. Offer incentives to second chance learners such as bus passes and bonus payments for completion of Stage II Certificate in literacy.

For the health of our province's population, an increased influx into literacy classrooms as a free first step would be a positive step in a new direction.

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