Jack Semiatycki

THE DISTRIBUTION OF DISEASE

The best form of providing health protection would be to change the economic system which produces ill-health, and liquidate ignorance, poverty and unemployment.

—Norman Bethune

It is commonly believed that workers and the poor need equal access to health care in order to achieve parity in health status. This is not true. Even if everybody got the same amount and quality of medical care, the incidence of sickness would still be much higher among workers and the poor. The reason: disease and disability are directly related to social class and living conditions.

This is a revised excerpt from a report entitled "Living Conditions and Health: With Special Reference to Low Income Areas of Montreal" written by the author when he was Research Director for the Point St. Charles Community Clinic in Montreal. In it he documents the much higher incidence of death and illness among the working and the welfare poor. It is his conclusion that if the health of the working class is to improve, the social conditions created by capitalism must be changed.

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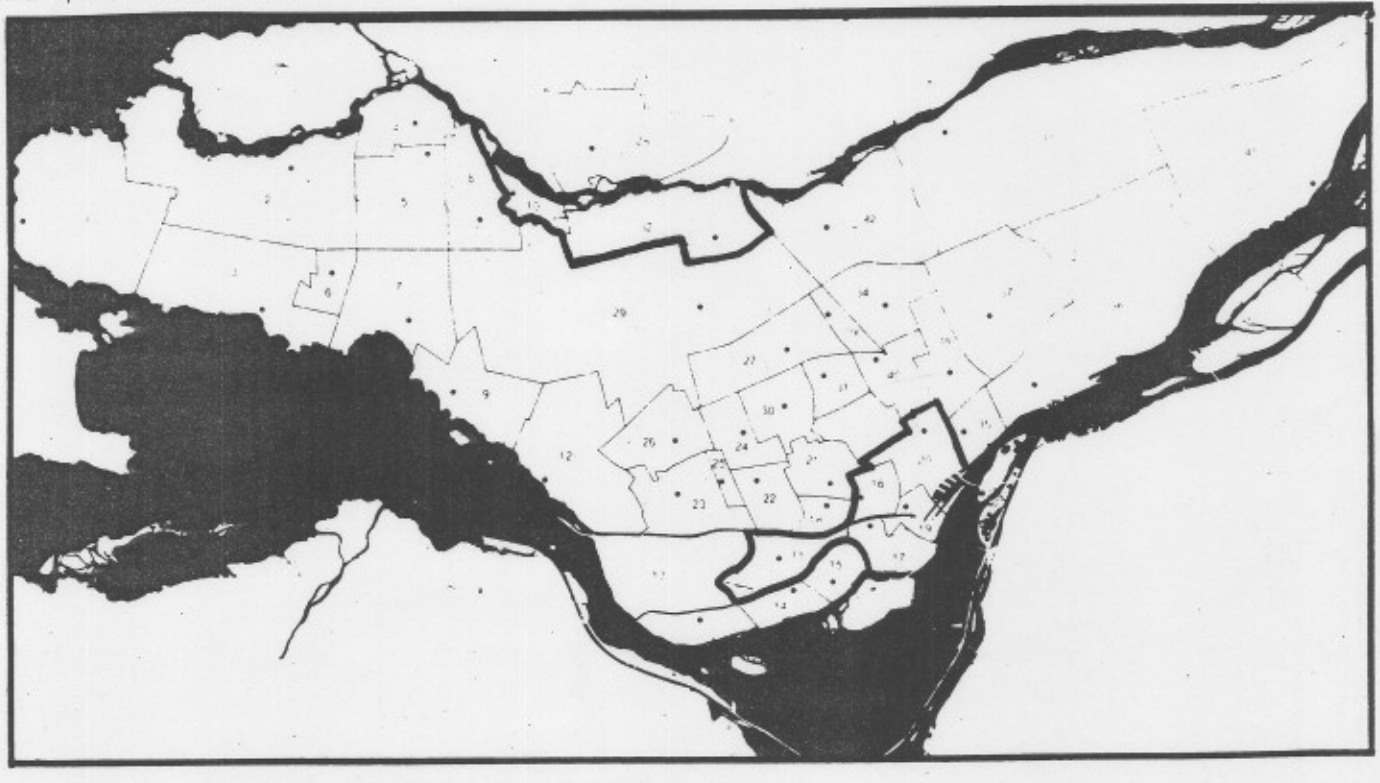
The two areas compared in this article are outlined below. The northern [upper] area comprises Villeray and Ahuntsic, while Point St. Charles, St. Henri, St. Jacques and Ville Emard make up the southern area.



Data from Chicago, New York City, and Montreal show significantly higher death rates in poor areas of the city. In Chicago for every 1,000 whites almost 2 more people died in the poverty areas than in other areas—this, despite the fact that more old people lived in the non-poverty areas.

In 1965 the health commissioner of New York City examined the rates of death in two areas of his city; one affluent and the other a slum. He found that the poor area had substantially higher rates of death from all leading causes of death. In fact, he calculated that if the entire city had the same rates as those that were prevalent in the affluent area, there would be an annual saving of 13,000 lives in New York City! On this basis, he concluded that poor living conditions, acting through various disease processes, had caused these deaths and that poverty was the third leading cause of death in New York.

Throughout this article comparisons will be made between the southern area of the City of Montreal (Point St. Charles, St. Henri, St. Jacques, Ville Emard), made up largely of low income workers and unemployed, and the northern area (Ahuntsic and Villeray) which has greater numbers of self-employed, white collar workers, businessmen, and professionals.

In general, the people of the northern region enjoy a higher standard of living than those in the south. However it should be emphasized that the northern area is as affluent as many of the suburbs of Montreal.

In 1970, 0.58% of the population of the northern area died while the corresponding rate in the southern area was 1.17%. If the chance of dying in the poorer area had also been 0.58%, 1,161 of the 2,305 southern area deaths would not have occurred!

Infant Mortality

The death of babies up to the first year of life is considered by health experts as one of the most telling indices of community health, reflecting the general health of mothers, the medical care which they receive before, during, and after birth, the medical care which the baby receives, and the healthfulness of the baby's environment.

Infant mortality is strongly related to economic class. Studies in England, New York City, Chicago, Boston, and data from Montreal all indicate that the economic situation of the family has a substantial influence upon whether or not the child survives its first year. For instance, from 1965 to 1967, infant mortality in the poor working class area in the south of Montreal was almost three times as

high as in the more affluent West-island suburbs like Pierrefonds, Baie d'Urfe, Beaconsfield and Dorval.

Cardio-vascular disease

This category of disease is the nation's number one killer, accounting for over 50% of all deaths. Because of its increase with industrialization and because it is more prevalent in the western world, cardio-vascular disease has erroneously become known as a disease of affluence. This view was supported by early British evidence which indicated that heart disease mortality increased with higher social class in Britain. A number of studies of heart disease and socio-economic class have been done in North America and although there is some conflicting evidence, most of those which are based on urban populations show opposite results to the British ones.

The National Health Survey of 1960-1962, in the U.S. indicated that people whose family income exceeded $10,000 had less coronary health disease, myocardial infarction, or angina than the rest of the population. A study of deaths in Chicago in 1951 and 1953 indicated that in the age range 45-64, labourers suffered twice as much death due to cardiovascular-renal disease as did any other occupational group. The employees of the Du Pont Company in the U.S.A. were categorized into 5 income groupings, and a number of health characteristics were studied over a period of time. The incidence of heart attacks was 1½ times as great and the incidence of strokes was almost twice as great in the lower income groups than in the higher income groups. Similarly, a recent study of the employees of the Bell System in the U.S. showed the greatest incidence of coronary heart disease among the lowest paid workers. In Montreal, the overall picture is similar with the southern working-class area of Montreal having about twice as high a rate of death by cardio-vascular disease as the more affluent northern area of the city.

Not only is the risk of getting cardio-vascular disease higher among the poor, but once having gotten the disease, the risk of succumbing is greater among the poor than among the affluent.

Cancer

In Canada about 25% of all deaths are due to cancer. Again, a comprehensive review of cancer research up to 1964 showed a definite relationship to social-economic class. Because cancers of different sites are associated with different causes, it is reasonable to consider them separately. Rates of cancer in the following sites were found to be higher in the lower social-economic class than in the upper: stomach, esophagus, gastrointestinal tract, lung, cervix, lip, tongue, pharynx, and larynx. The most prevalent ones are cancer of the stomach, cancer of the lung and cancer of the cervix, and these are precisely those with strongest social class association. Of the major cancers, only cancer of the breast is associated with higher economic class. Even once the disease is present, the chance for survival is not the same for all social classes. Cancer patients of higher social class survive their disease better than lower social class patients for almost every site of cancer and every stage of disease.

Table 1 illustrates the social class differences in cancer death rates in Montreal.

Diabetes

This is still a major killer and one of the most common chronic illnesses. Because of its association with an excess amount of blood sugar, it, too, has erronously been associated with affluence. A large American survey has shown that the lower the income level, the greater the risk of high levels of blood sugar. Among Du Pont labourers the rate of new cases of diabetes was almost twice as great as among the higher salaried employees. In New York the death rate from diabetes was twice as great in the slum area as in the wealthy area and in Montreal the working class area had twice as high a rate of diabetes mortality than did the

TABLE 1

Death rates per 100,000 persons, due to selected causes, in two areas of the City of Montreal, 1970.

Cause of death	Northern area (wealthier)	Southern area (poorer)
Cancer	129.8	275.1
Diabetes	12.8	37.1
Stroke	53.1	94.6
Coronary and other heart disease	234.5	464.2
Accident	31.4	53.4
All other causes	120.3	247.4
Total death rate	581.9	1171.8

N.B. The rates as reported are not age standardised, but the slight difference in age structure of these two areas would only explain a small part of the observed differences in death rates. Note that for each cause, the poorer area has a substantially higher rate than the wealthier area.

Source: Report of the Department of Health, City of Montreal, 1970.

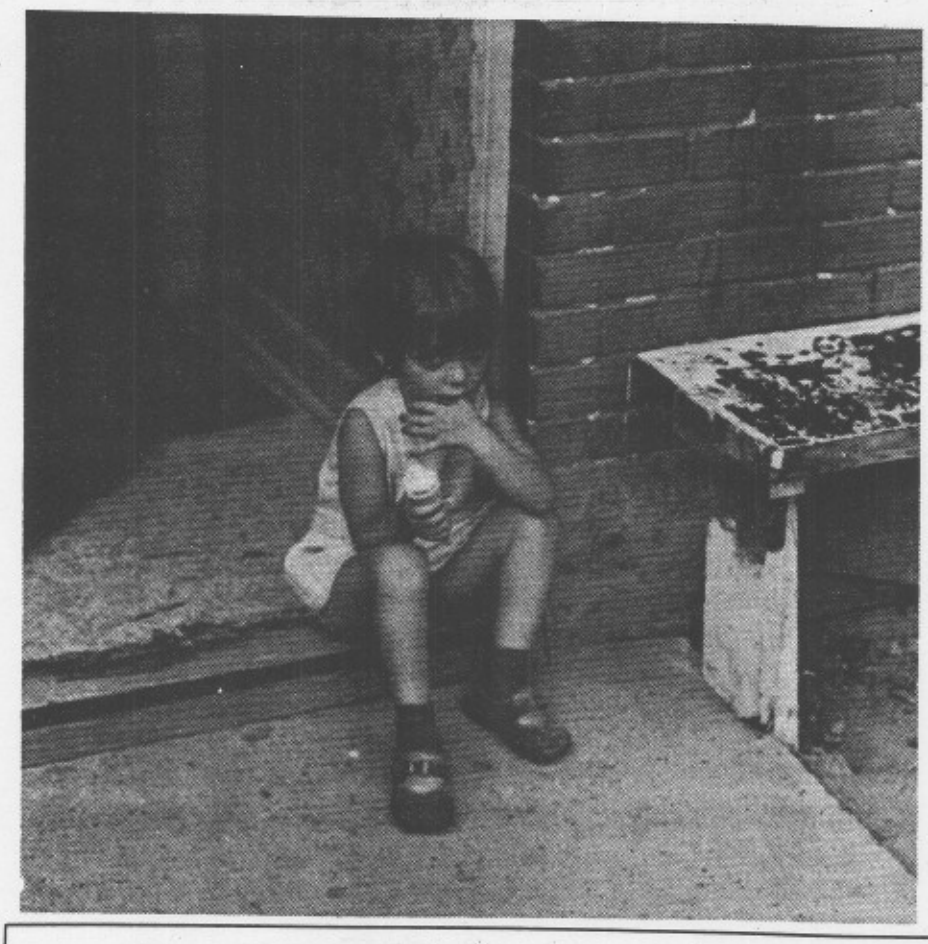


TABLE 2
Measures of Sickness by Family Income. U.S. 1968-69.

Family Income	Days of restricted activity due to illness per person in each age-income group per year. 17-44 years	45-64 years	Percent of persons in each age-income group with some limitation of activity due to chronic conditions. 17-44 years	45-64 years
Under $3,000	18.5	42.8	13.6%	40.9%
$3,000-3,999	15.9	29.3	10.9%	28.3%
$4,000-6,999	12.0	20.8	7.6%	19.6%
$7,000-9,999	10.9	16.9	6.1%	15.3%
$10,000-14,999	10.4	15.1	6.0%	12.3%
$15,000-over	9.4	12.7	5.1%	11.2%

Note that for each of the two measures of sickness and each age group, the amount of sickness decreases as you read down the column; i.e. as the family income increases.
Source: U.S. Nat. Health Survey. Age Patterns in Medical Care, Illness and Disability. Series 10. No. 70.

more affluent area.
(Table 1.)

Infectious Diseases

There has never been much doubt that infections diseases are associated with poor living conditions. A 1966-67 Montreal Catholic School Commission study of 833 first-graders showed that the group from under-privileged areas had been hospitalized during their pre-school years about 5 times as much as other children. Among the leading casues of this hospitalization were whooping cough, tuberculosis, gastro-enteritis, and pneumonia.

Montreal in 1970 reported rates of whooping cough, bacillary dysentery, and hepatitis were substantially higher in the southern area than in the northern area. The same was true for death rates due to influenza and pneumonia.

Deficiency Diseases

Various deficiency diseases have shown up among children in Montreal. Rickets relating to vitamin D deficiency has been causing about 300 hospital admissions per year in Quebec. This is an under-estimation of the problem since many cases don't get to hospitals. An analysis by a group of medical students showed that most of these cases were localized in the poor working class areas of Montreal. The few studies of iron deficiency anemia that have been done, have indicated rather high prevalences among the North American poor. One study of Negro school children in Washington, indicated that, using a conservative cut-off point for the diagnosis of anemia (10.5 gm/100 ml concentration), almost 50% of children up to age six were anemic. Among white children in New York up to 40% had hemoglobin concentrations below the World Health Organization standard (11 gms/100 ml) while over 7% of white adult males and 20% of white adult females were also below that level. Very little research has been done on other dificiency diseases and urban poverty. However, a major

study carried out recently among poor people in Texas and Louisiana indicated alarmingly low levels of hemoglobin, serum albumin, serum vitamin A and vitamin C, urinary riboflavin, and thiamine.

Dental Disorders

Dental disorders are among the most common of all diseases in North America. A recent study of nearly 4,000 5-year-old children of Contra Costo County, California, showed that the prevalence of dental caries was inversely related to socio-economic status. Children in the lowest socio-economic group had 50% more caries than those in the highest group. Similar results were found in a survey of school children in Buffalo, New York. In a national American survey it was seen that periodontal disease (disease of the supporting tissue of the teeth) was much more prevalent in the low income families. It was also found that among the lowest income group 50% of adults needed immediate dental care; this was twice as high a rate as among the highest income group.

Routine dental examinations carried out in Montreal schools in 1970 gave the following results. In the northern area schools, the average number of dental caries per child examined was 3.7. In the southern area the average was 6.9 caries per child! In a special clinic conducted in the working class district of Point St. Charles in June 1971, dentists found that 60 of the 130 people that they examined had very poor or terrible dental status.

Mental Disorders

"The evidence is unambiguous that the lowest social classes have the highest rates of severe psychiatric disorder. Regardless of the measures employed, regardless of the method of study, the great majority of results all point clearly to the fact that the lowest social class has by far the greatest incidence of psychoses. It is striking that despite the strength and consistency of this finding and the infrequency of such results in the social sciences, it remains in the limbo of facts that continue to be understated, challenged, and rarely examined for clarification". This conclusion was based on a review of thirty-four studies, mostly American, ranging over the last 30 years.

Although the evidence is more ambiguous when considering milder mental disorders (e.g. neuroses, depressions, personality impairments), studies which have been based on population surveys instead of on psychiatric treatment records, have shown higher rates of illness among the lower income groups. The reason for this distinction is that poor people are less likely to get psychiatric care than people who can pay for it, and thus the poor will be under-represented when psychiatric records are consulted.

Mental retardation is another important problem which has been shown to be very strongly associated with lower socio-economic status.

Recent studies of suicide in America show that lower classes have higher suicide rates, with the highest rates among those who have fallen in socio-economic status.

A survey carried out in an elementary school in the working class St. Jacques area of Montreal showed that of the 225 children in the first grade, 42% were diagnosed as suffering from emotional problems.

Other Diseases

Lead poisoning in children from 1 to 4 years is a serious health problem in old deteriorated houses painted with lead-based paints. Surveys in American slum areas showed that 10% to 25% of young children show increased lead absorption while 2% to 5% show evidence of poisoning. Serious damage to the brain, the blood system, digestive system, or nervous system can result from lead poisoning. A small survey of children living in old houses in Verdun showed some two-thirds have high values of lead in their urine.

Gastric ulcers have been associated with a consistent increased risk of mortality with decreasing social-economic standing; duodenal ulcers have shown no such relationship. In North American studies, cirrhosis of the liver has been associated with working class men.

In Britain chronic bronchitis is strongly related to low income status.

A national U.S. study showed rheumatoid arthritis to be more common among the low income group.

Chronic diseases which cause limitation of activity also showed the same strong relationship to income. Most commonly, these conditions are heart problems, arthritis and rheumatism, mental and nervous problems, high blood pressure, and (non-paralytic) orthopedic problems. One US survey interviewed 125,000 people about the amount of restricted activity and work loss due to illness. It was estimated that people in the lowest income group had, on the average, more than twice as many days of restricted activity as did people in the highest income group. Similarly, despite the fact that poor people can least afford to be absent from work, they lost almost twice as much from work (due to illness) as did the highest income group.

Routine complete medical examinations carried out in Montreal schools in 1970 gave the following results. In the Northern area schools, 21% of the Children examined were found to have some health defect. In the poorer southern area 45% had some health defect.

The Causes

The relatively higher incidence of illness among the poor should not be surprising. Here are some of the causal mechanisms:

Housing

A California study into the effects of people moving from slums to decent houses indicated that in the months subsequent to the move, the people experienced a significant reduction in the need for medical care.

Respiratory infections (such as pneumonia) can be caused by inadequate heating or insulation. Overcrowding increases the risk of spreading infectious diseases and combined with poor ventilation it can

cause discomfort, headache and nausea. Overcrowding and lack of privacy can also cause psychological stress. The lack of suitable washing facilities increases the risks of skin disorders such as scabies, acne, louse infestation, and can cause ordinary cuts and bruises to become infected.

Home accidents and fires are major causes of death and injury. Loose bannisters, loose stairs, broken furniture, appliances in need of repair, exposed or loose electrical wires — these and other factors cause accidents and fires. In Montreal in 1971 there were far more home fires in the southern area. An indication of the quality of housing in southern Montreal is given by the following 1961 statistics: 67% of houses were built before 1920: 24% had no bathtub or shower; 33% were in immediate need of repair; 40% had no hot running water; a small number had no running water at all and no toilet! By contrast, only 13% of houses in the northern region of Montreal were built before 1920.

Nutrition

It has long been recognized that the lack of certain nutrients can cause severe illness or death. Extreme malnutrition and deficiency diseases like rickets and scurvy occur occasionally in our community and are clearly related to lack of adequate diet.

However, in Canada, less extreme forms of poor nutritional status are more common and much more insidious.

Much recent evidence suggests that the nutritional status of pregnant women has important effects on their babies' physical and mental development. The most important period of brain tissue growth is before and just after birth. If an infant doesn't get an adequate amount of nutrients during this period, his or her mental capacity is limited for life. The unborn fetus depends on its mother to share whatever nutrients she takes in. Prematurity and infant mortality are much more common occurences among ill-fed mothers. Babies that aren't fed enough are slow to grow and develop.

Studies have shown that nutritional deficiencies can reduce the resistance of people to infectious disease. Specifically, these dificiences increase the severity of TB, measles, otitis media (ear infection), pneumonia, rheumatic fever, secondary infections in children, superficial streptococcal and staphylcoccal infections, intestinal pathogens, infectious hepatitis, as well as intestinal protozoan and helminthic infections. Even the effectiveness of anti-tuberculous vaccines has been shown to be affected by nutritional status. Recovery from burns, fractures, or other injuries is impaired by poor nutrition because of the requirements of new body tissue.

Although many low-income families manage three meals a day and do not go hungry, they must rely on the least expensive foods which tend to be rich in carbohydrates and fats and poor in protein, iron, and other vitamins. There is reason to believe that these patterns of consumption have a role in the development of certain chronic diseases like arteriosclerosis and diabetes.

Diets rich in carbohydrates increase the risk of dental diseases, while lack of certain vitamins can damage the gums around the teeth.

According to findings of the Montreal Diet Dispensary, all families on welfare and many on low incomes would not be able to meet the minimum dietary requirements even if they never spent money on anything but essentials. And these problems are intensified with the rapid increase in the cost of food.

Stress

Over the past few decades there has been increasing research into psycho-somatic or psycho-genic medicine. This research attempts to discover the effect of our mental processes on our bodies. It has become clear that the conventional distinction between mind and body is unrealistic. What we usually think of as the mind can have very subtle and indirect effects on the body. It appears that mental stress can trigger a change in the body's production of hormones and this change can have serious effects upon various parts of the body.

Specifically it has been shown that mental stress can be important in the development of the following diseases: high blood pressure, heart and blood vessel diseases, kidney diseases, eclampsia, rheumatic and rheumatoid arthritis, inflammatory diseases of the skin and eyes, infections, allergic and hypersensitivity diseases, nervous and mental diseases, sexual derangements, digestive diseases, metabolic diseases, cancer, and diseases of resistance. A striking example was furnished recently in Montreal when a young woman died during a severe asthma episode. This was caused by the stress of being in a crowd of demonstrators that was brutally attacked by the police. That type of occurence is exceptional. Most often the effects are less dramatic (eg. headaches, colds) or more long-term (eg. ulcers, mental problems, heart disease).

A recent study investigated the impact of job termination on a group of workers whose plant was closing down. The health effects of this stress were dramatic. There were deleterious changes in serum uric acid and cholesterol levels, and in blood pressure levels. In addition, those men experienced more days of restricted activity due to sickness in the subsequent months than men in a control group who did not lose their jobs.

Education

Since poor children often come from homes where parents themselves have had little or no education, the schools might be expected to overcompensate in these areas. Far from providing a superior learning environment, the inner city schools have less experienced teachers, inferior materials and teaching aids, and unsuitable teaching methods. Working class children are often more physically energetic than other children, but instead of channelling this energy into creative learning activities, the schools suppress and frustrate the kids. All this contributes to high rates of emotional disturbance, absenteeism, failure, and dropping-out.

As well as providing the opportunity for personal advancement, a good

education would provide the individual with the knowledge and ability to understand the connection between his or her personal habits and health. Thus, as studies have shown, better educated people take better care of themselves and are healthier.

Air Pollution

Pollution of city air by chemicals released by industry and automobiles has been implicated in a number of disease processes. Most of these involve the respiratory system. Bronchitis and emphysema, infectious diseases (particularly upper respiratory infections), diseases of the heart, allergic disorders, and minor complaints such as eye irritations and coughs have all been shown to be related to some extent to some component of atmospheric pollution.

Pollution tends to be highest in highly industrialized urban regions where there is little parkland compared to the area of factories and roads. People who can afford it, move into the suburbs to escape the discomfort. Examination of records of the 15 air pollution stations in Montreal indicate that the three southernmost ones are among the most polluted. As well as being very industrialized and full of automobile traffic, the southern areas of Montreal are also in the path of the pollution from industries in Beauharnois across the river.

Smoking

There is convincing evidence from a few studies that cigarette smoking is more common in the low socio-economic groups than in high socio-economic groups. Why should this be so? It appears that cigarette smokers tend to be more anxious and stressed than non-smokers. And it is known that anxiety and stress are more prevalent among workers, the unemployed and low-income groups. Also, since poor people see the doctor less than wealthy people, they have less opportunity to be convinced by a doctor of the dangers of smoking, and therefore they tend to be less aware of the problem. Also, it is likely that poor patients, because of their greater reliance on impersonal hospital clinics for care, have less conversational contact with doctors than do wealthier patients with family doctors. Therefore, doctors warnings may have greater impact on wealthier people. Furthermore, it is possible that because of educational inequalities or because of fatalism, working class people have less appreciation of the warnings.

Industrial Murder

Industrial accidents and diseases are still a major source of death and disability.

In the past two decades there has been little variation in the number of industrial deaths. Every year over 700 workers will needlessly die and thousands will be injured on the job. Faulty equipment, improper lack of protective clothing, poor ventilation and safety equipment result in industrial accidents, diseases and

death. Many industries such as mining, construction and smelting have historically had a high accident and disability record. The Construction Union of Montreal has published a study summing up the tragic situation of workers who earn their living, at the risk of death, on construction sites. One worker in five is injured every year, 179 are killed on the job, 6,202 are disabled for life, while 49,556 sustain temporary injuries.

Between 1950-1971, deaths due to industrial accidents declined from 14.1 to 8.9 per 100,000 labour force. This decline is more an indication of the rapidly increasing labour force and the change in its internal composition than it is of major improvements in safety conditions.

Just as important are the chemical substances in the workers' job environment. Pollution of the job environment in its various forms (i.e., chemicals, noise, etc.) has a serious effect on the health of workers. Workers in various industries may be frequently exposed to or in contact with many agents that can have toxic or carcinogenic effects.

EVERY YEAR MORE MAN-DAYS ARE LOST DUE TO UNEMPLOYMENT, COMPENSABLE INDUSTRIAL ACCIDENTS AND ILLNESS THAN THROUGH STRIKES.

In 1969, for example, an approximate total of 148 million man-days were lost in Canada due to unemployment, illness and compensable accidents — this is 20 times as much as was lost through strikes.

Industrial accidents, related diseases and deaths can be avoided or sharply reduced. Not to take the necessary preventive safety measures, regardless of cost, and have them enforced by both Management and Unions is nothing short of industrial murder.

DEATHS DUE TO ACCIDENTS MAINLY OF INDUSTRIAL TYPE

Year	Industrial Deaths (a)	Labour Force (000)	Deaths Per 100,000 Labour Force
1950	727	5163	14.1
1955	727	5610	13.0
1960	730	6411	11.4
1965	775	7141	10.9
1971	769	8631	8.9

(a) Includes farm related deaths

Source: Calculated from data and estimates made by Vital Statistics, Health and Welfare Division.

Other Factors

Toothbrushes, toothpaste, soap, shampoo, towels, dishwashing liquid, laundry detergent, brooms, mops, garbage pails, household cleanser, etc., all these are necessary to maintain a healthful level of hygiene, but they all cost money. Aspirin, band-aids, antiseptic ointment, etc. — all these may be necessary in times of discomfort or emergency, but they all cost money. The presence or absence of a telephone can sometimes mean the difference between life or death in an emergency, or the absence of a phone can make it difficult for people to make appointments for ordinary medical care. The quality of people's clothing has been shown to be a factor in the development of respiratory infections. The dangers of food poisoning, become very real in the absence of a proper refrigerator.

It is well known that the intake of small amounts of fluorine regularly can substantially reduce the amount of tooth decay and many municipalities add fluorine to their water in order to prevent tooth decay in the population. These programs have been extremely successful and cheap. But Montreal's mayor, despite the advice of his own health department and numerous dental associations, refuses to fluoridate our water.

Many disadvantaged and oppressed people lose all hope of living decently and find their only consolation in "getting drunk and forgetting their troubles." Chronic alcoholism is a cause of numerous diseases, including kidney and heart damage.

There are certainly other mechanisms by which working-class people are subject to increased risk of disease, but we've described enough!

The health care business is part of the problem

There is considerable evidence that, in a system where personal health care costs must be borne by the consumer of the service, the poor get less and worse health care than the affluent. This, despite the fact that the poor have greater need for care. The following quotation is a conclusion of the Castonguay-Nepveu Commission of Health and Social Welfare. "Financial resources limit access to care for low-income groups. Members of people's advisory committees are unanimous: financial difficulties are the most important barrier to access to care."

Despite the fact that Canada signed the World Health Organization charter which stipulates that health care is a right of all people, we have been witnessing the cruel manifestations of free enterprise capitalism in the field of health care. The implementation of medicare has somewhat alleviated the problem of access to medical care, but a number of major objections still remain.

1) The most important objection is that Medicare can easily become a sop. Medical care simply does not assure good health. In fact, orthodox medicine has not been demonstrated to have beneficial effects on most

common non-infectious diseases. But it is easier for the authorities to provide people with ineffectual services than it would be to create the social conditions that would prevent disease.

2) Interestingly, two areas of health care which have proven to be highly efficacious in curing and correcting health problems are dentistry and optometry. But these have been excluded from most provincial Medicare schemes, partly because there would be such a great demand on the part of the poor for these services. This is an intolerable situation. Access to these services must be based on need, not income, and the supply of dentists and optometrists must be sharply increased.

3) There is no indication that the exorbitant salaries of doctors will be reduced. This means that working class people are paying for high medical care costs through taxes. The argument commonly heard from apologists for the system is that since income tax is graduated (the rate of payment is higher for higher income), then it is the high income groups who really pay for Medicare. However, income tax represents less than one-third of government tax revenue, the rest coming from sales taxes, import duties, property tax, excise tax, etc., which are passed on to the consumer. Economists who worked for the senate committee on poverty showed that in fact poor people pay a higher percent of their income in taxes than do wealthy people. Another argument that is used to justify the exorbitant medical salaries is the fact that medical students study for eight years or more with little or no income. However, it is forgotten that the greatest portion of the costs of their educations are paid for by public funds. Also, this long period of study without income works to restrict medical schools to the children of affluent parents. The solution to this problem is not to compensate doctors with fantastic salaries after they start practicing, but to give students a subsistence level stipend and a reasonable income when they begin practicing. This would save the taxpayer money in the long run and ensure that children from all economic classes can become doctors.

In the past, medical associations have been successful in restricting the number of practitioners who come into the market. This has served to protect the monetary value of doctors. We are far from the World Health Organization recommendation of one doctor for every 600 people and every effort should be made to increase the supply of doctors.

4) The costs of drugs are not covered except for welfare recipients in some provinces. The contradiction between giving free medical advise but not free medication is ridiculous. The alleged reason for this omission is that it would be too expensive for the government to afford. If it is true that the government can't afford to pay the costs that drug companies and pharmacies demand, then serious consideration should be given to the reorganization of the entire pharmaceutical industry. The pharmaceutical industry has one of the highest margins of profit of any industry and as well is highly wasteful in that about one-third of its expenses are devoted to advertising, promotions, and sales. This is about five times as much as is spent on research by the industry. Most of this research is performed not primarily to find new useful drugs, but to improve the profitability of already existing drugs and to satisfy public relations needs.

The promotions carried out by the drug industry are characterized by all-out attempts by drug company salesmen, mail advertisement and medical journal advertisements to induce doctors by any and all means possible to prescribe particular drugs as much as possible. Studies have shown that most doctors rely on these sales gimmicks for their only knowlege of new drugs. This has produced the whole new major health problem of adverse drug reactions, usually occurring because the prescribing doctor did not know all there was to know about the drug he was prescribing. Following is a note from a committee of experts on oral contraceptives. "We have reviewed a series of advertisements for oral contraceptives appearing in Canadian journals and, while many of these advertisements are characterized by eye-catching coloured photographs and exotic designs, there is often little emphasis on the provision of complete and factual information."

Of the 57 major pharmaceutical companies operating in Canada only seven are completely Canadian owned, most of the rest being subsidiaries of American companies. Thus, profits don't even stay in the country. Further, most drug patients are held by foreigners. This situation has the effect of driving drug prices up higher in Canada since Canadian subsidiaries pay royalties to their parent company and are extremely limited in the amount of foreign exporting they can do.

Because of the almost total lack of price competition, the company which markets a drug has almost carte blanche to charge whatever price it desires. They only alternative the customer has is to do without the medication. Prices for the same drug can vary widely between different parts of the country and even within he same city. On most drugs there is about a ten-fold difference between the price of a drug which is marketed simply as a chemical compound and the same drug which has a brand name and an expensive advertising campaign associated with it. (For example, tolbutamide can be bought for $6.90 per 1,000 units, while the same compound given the trade name "Orinase" costs $64.00 per 1,000 units.) This is the same as if a milk chocolate bar in a plain wrapper cost one cent while the same milk chocolate bar called Cadbury's Milk Chocolate cost $0.10. Which would you buy? But in the case of drugs you have no choice, because the doctor usually prescribes a drug by brand rather than chemical name. Doctors seldom know the prices of the drugs they prescribe.

The distribution of drugs is also a source of unnecessary expense to the consumer. The average income of pharmacists is close to that of doctors and it has been shown in a drug merchandising survey that pharmacists tend to fill a prescription with the most expensive product available, thus increasing their margin of profit.

The pharmaceutical industry has been severely criticized by a number of official agencies (Restrictive Trade Practices Commission — 1963, Special

Committee of the House of Commons on Drug Costs and Prices — 1967, Royal Commission on Health Services — 1964, U.S. Task Force on Prescription Drugs — 1968, and recently the Federal Department of Health and Welfare), but none of these has been able to propose viable alternatives. Because of the official commitment to capitalism, no official report would consider the only alternative which would transform the pharmaceutical industry from a profit-oriented system to a service-oriented system. This alternative is public ownership. Only with a state operated drug industry can we eliminate expensive and potentially dangerous marketing practices, achieve significant reductions in drug prices, and create valid objectives in drug research and advertising.

MY REPORT HAS BEEN LIMITED to those diseases and those factors which have been investigated by social class and which have been reported in the medical literature. Although there is still much to learn, certain things are clear. Class and health are intimately related. All classes of people get sick. But workers and the poor get sick more often and more seriously. Some of the factors in working people's lives that cause increased rates of disease are: food, shelter, neighbourhood environment, personal habits, education, security, safety of working conditions, self-esteem, and others. These factors are important individually but must be understood as different aspects of the same problem. Better housing by itself, or better education by itself, or better job security by itself, or improvement in any other individual factor will be very limited in its effect on health. All of these factors are interdependent and it is the whole complex of poor socio-economic conditions that must be attacked.

Medicine involves three processes: prevention, diagnosis and treatment. The most humane and effective process is prevention. But as we have seen, the prevention of disease involves the improvement of people's living conditions. The improvement of living conditions is thus a legitimate concern of health workers and health clinics. This will require a greater amount of radical political education of health personnel and of the community. A narrow view of health and medicine is obsolete, we must now be bold and imaginative.

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