1979

Medical self-care and the public sector.

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MEDICAL SELF-CARE AND THE PUBLIC SECTOR

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B.A., University of Notre Dame, 1967

Presented in partial fulfillment of the requirements

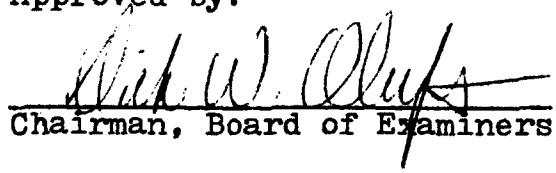
for the degree of

Master of Public Administration

UNIVERSITY OF MONTANA

1979

Approved by:



Chairman, Board of Examiners

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12-21-79

Date

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CHAPTER I

INTRODUCTION

Health care planning is based on the technique of historical trend analysis. The processes of needs analysis, policy formulation, and service design and development require a considerable period of time, the length varying according to the scope of the problem being addressed. During the planning-implementation cycle, however, the socio-economic and demographic characteristics of the target population are continually changing. All too often, by the time a new delivery system becomes operational it no longer fits the characteristics of the population, or at best, meets the needs of that population for only a short time.

Health system planning is derived from the analysis of demand for specific services, i.e., primary care, emergency care, emergency services, surgery, etc. As such, it necessarily focuses on the tail of the dog. People become ill (or perceive themselves as being ill), and this creates a patient demand for services. The health services planner intervenes only at this point, applying sophisticated data interpretation methods and mathematical modeling techniques to organize the optimal delivery mechanism to meet the needs of the patient population. In the sixteenth

century, the Cornish custom for determining insanity was to put the suspect person in a room with a running spigot, a sink, and a ladle and tell the person to empty the water out of the sink. If the person attempted to ladle the water out without turning off the spigot, he or she was proclaimed insane. If we continue to indiscriminately ladle out suppliers and services without making an attempt to turn off the demand spigot, our own sanity is justifiably suspect. The emphasis in health planning must be shifted away from supply methodologies and toward the source of demand.

A County Health Department operates within a peculiar and frustrating array of circumstances. Primary care services are restricted to the poor or to the remote and sparsely populated areas, neither of which is cherished by the private practitioner. Any intrusion by the department into the more lucrative primary care health markets invariably generates a volcano of protest from the medical community, with warnings of the evils of socialized medicine, and the unwarranted incursion of government in the free enterprise system. Given the power and prestige of this opposition, and the powerlessness of their constituency, a County Health Department can expect little sympathy or support from the elected officials controlling their budgetary purse strings. The poor do not constitute an organized voting force and consequently the funding for

their services can be reduced without fear of voter backlash. Conversely, medical professionals tend to be very influential in the community. How can these contending forces be rationalized to allow a County Health Department to provide a meaningful health service to the general public?

Surprisingly, what appears on the surface to be a wasteland turns out, in fact, to be a gold mine of opportunity. The mixture of an entrenched provider self-interest group, an aroused consumer population frightened by escalating health care costs and the increasingly frequent occurrence of chronic debilitating disease, and the growing need for the politician to demonstrate concrete results from their policies and actions creates a unique environment within which the public health agency can simultaneously and unobtrusively improve community health status and reduce health care expenditures. Through health education, a County Health Department can activate a personal awareness of the health risks associated with specific lifestyles and environments. By improving self-care health skills, the health agency can reduce the demand on, and the cost of, scarce health resources.

Community health education is a role not claimed by the private medical practitioner. On the other hand, it offers rewards to all segments of the population: to the politician, improved health is synonymous with an improved

quality of life and can be sold to constituents as a measure of the elected official's able and astute leadership; to the fiscal conservative, health education can be financed through fee-for-service programs and therefore, require no additional tax subsidies; to the socially conscious liberal, improved health and health education are a government's obligations to the citizenry; to the business man, an investment in health education can return dividends through reduced absenteeism, lower rates if employee disability and early medical retirements, and increased worker productivity; to the physician, informed patients can mean a more satisfying and challenging job and more tolerable working hours; to the consumer, health education can reduce medical bills; and finally, to the health department, health education offers the continued chance to operate in blessed obscurity, knowing all the while that health education is reducing unnecessary medical service utilization, decreasing the pressure for new public investments in expensive health care facilities, provider education, and improving the health status of the public.

The intent of this professional paper is to establish the validity of "Self-Care" health education as a cost effective instrument for improving community health, and to define a working context within which County Health Departments can execute self-care strategies. The paper was

developed, in part, as a result of the author's work with the Missoula City-County Health Department in developing health promotion and health education strategies into a model for public agency intervention.

Chapter II provides a brief overview of the problems plaguing the health care system in the United States. In Chapter III, these problems are boiled down to their essence—the inability of traditional disease-oriented medicine to improve health. The strengths and weaknesses of a number of proposed solutions to this anachronism are reviewed in Chapter IV. This section reveals the paper's central theme: corrective therapy must be applied to the cause of the disease, not to the symptoms. Up to this time, private and governmental remedies have been little more than cosmetic surgery smoothing out a physician shortage wrinkle here, or covering up an unsightly health statistic with a massive application of federal dollars. Chapter V takes the self-care concept and tests it in the real world, presenting it first at the federal level and then in a County Health Department model. In the final chapter, the evidence is summarized and handed to the jury for a decision.

CHAPTER II

SIGNS AND SYMPTOMS

There is no joy in Mudville. The mighty myths of medicine have struck out. For years, critics have suggested that the only way to improve quality and control costs in health is to remove it altogether from the private sector and establish a national health system under government supervision. In 1978, a group of consumers vented their growing frustrations by picketing the annual convention of the American Medical Association, demanding redress for a long list of grievances, including quality, access, price and success. The literature increasingly cites the inability of the provider and the system as a whole to improve health status. President Carter threw the third strike pointing an unequivocal finger of condemnation at the hospital industry with his cost containment legislation.

These accusations are a far cry from the accolades of praise showered on the medical profession after its dramatic victories over such epidemic killers as polio and smallpox. This chapter will examine the U.S. health care system and identify some of the major signs and symptoms of the degenerative illness which have provoked such widespread

calls for reform.

Cost of health services

The escalating price of health care is the most visible of the problems. Stroman highlights the frightening pace of this spiral.(1)

*From 1960-1974 health care expenditures rose 278% or at an average annual increase of 18.5%.

*During the same period, hospital costs rose 240%. A room which rented for $35 in 1960 cost $120 in 1974.

*In 1950, health care expenditures totaled 4% of the GNP; by 1950, they had climbed to 6.2% of GNP; and by 1970, they had reached 8% of GNP.

TABLE 1

NATIONAL HEALTH EXPENDITURES

Spend by	1950	1960	1970	1974(est.)
Consumers	8,425	18,831	40,981	53,000
Government	3,440	6,637	26,880	42,000
Philanthropy	797	1,428	3,748	5,000
TOTAL	12,662	26,896	71,618	100,000
Percent of GNP	4.6%	5.2%	7.1%	8.0%
Per Capita Expenditures	$75.66	$137.00	$391.70	$472.00

Source: Statistical Abstract of the United States, 1974.

*Between 1960-70, the Consumer Price Index rose 33.1%, while physicians' fees increased 54.3% and physicians' incomes rose 72%.

*In 1978, the average American family spent $2115 for health care.(2)

Table 2 shows health care expenditures as a percentage of the total federal budget. In 16 years, the federal government's total expenditure has increased 400% and health services now represent 10% of the entire federal budget.

TABLE 2

HEALTH CARE EXPENDITURES AS A PERCENT OF THE TOTAL BUDGET

	1965	1967	1969	1971
Total Federal Outlay (in billions)	118.4	158.3	184.5	211.4
Health Expenditures (in billions)	5.2	10.8	16.6	20.2
Health Expenditures as a percent of total	4.4	6.8	8.9	9.5

Source: Special Analysis, Budget of the U.S. Government, Series J, p. 135.

By 1973, Americans were spending 62.7 billion dollars on health care, or almost 8% of total personal consumption expenditures.(3)

Diminishing returns

In spite of ever-increasing expenditures, as a nation, we are not getting healthier. The U.S., was one of only four countries to experience a decrease in life expectancy for males between the years 1958-1968.(4) Men in 22 countries and women in seven countries can expect to live

longer than we do.(5) North of the border in Canada, where per capita health expenditures are 25% less than in the U.S., recognized indicators of health status such as infant mortality and life expectancy are significantly better than our own.(6)

The futility of ever-increasing expenditures is evident in the results of the Medicaid program. In 1975, the federal government spent $17 billion providing health care services to low income persons. Removing the financial barrier dramatically improved access to care. Low income people now make more per capita visits to physicians than other income groups.

TABLE 3

MEAN NUMBER OF PHYSICIAN VISITS BY AGE BY FAMILY INCOME: 1970

	Low Income	Middle Income	High Income
0-5	4.1	5.1	5.1
6-17	3.4	3.8	3.3
18-34	7.5	6.0	5.5
35-54	7.8	6.0	5.4
55-64	9.8	8.3	7.5
65 and over	8.6	7.4	7.9
Total	7.3	5.7	5.1

Source: Anderson, Ronald, Health Service Use: National Trends and Variations 1972.

But increased expenditures and improved access have not resulted in significant health status improvements for low income people.(7) Life expectancies are lower, while the incidence of acute illness, and the number of chronic patients continue to exceed national averages.

Critics contend that we long ago reached a point of diminishing returns on our health care investments.(8, 9) The marginal value of increasing health expenditures—be it one or one billion dollars—is close to zero in improving health.

> The best estimates are that the medical system (doctors, drugs and hospitals) affects about 10% of the usual indices for measuring health. . . . The remaining 90% are determined by factors over which doctors have little or no control.(10)

Death is, of course, the ultimate in poor health. But it is only the tip of the iceberg. For every middle-aged man that dies of cirrhosis of the liver, there are hundreds of alcoholics and near alcoholics. Victor Fuchs, in Who Shall Live? provides a scholarly account of the diminishing returns theory.

> The most important thing to realize about differences in health levels is that they are usually not related in any important degree to differences in medical care. The introduction of new medical technology has had a significant impact on health, but when we examine differences among populations at a given moment in time, other socioeconomic and cultural variables are now much more important than differences in quantity or quality of medical care.(11)

We will be better off, as the late Dr. John Knowles observed, when we stop equating better medical services with improved health.(12)

Inequities in the distribution of health services

The U.S. health care system is very selective in allocating its resources. The rural and ethnic minorities are the last to receive services. In New York State the average is one physician for every 242 persons; in South Dakota we find one physician for every 1100 people.(13) There are 140 rural counties with a total population in excess of 500,000 which have no physician at all.(14) The general practitioner, once the mainstay of the U.S. medical system, is being replaced by the specialist and the sub-specialist. In 1940, 62% of the physicians in the U.S., were GPs: By 1970, this percentage had dwindled to 19%.(15)

The National Health Service Corps was created in 1972 in an attempt to overcome these manpower distribution inequalities. NHSC provides medical scholarships in return for two years of service in medically under-served communities. In 1978, 60% of the NHSC physicians assigned to Region 8 (the Rocky Mountains and Northern Great Plains states) "bought out" of their scholarship obligation without completing their two-year term. In most cases, they were offered positions in urban areas with salaries that allowed

them to pay off their $15-30,000 debt in a year and still live comfortably.[1]

The care provided to the poor tends to be sporadic, fragmented and crisis-oriented. Anderson documented the inappropriate utilization by low income persons.(16) Numerous studies of hospital emergency room services have illustrated the inadequacies of the system in treating the ethnic minority.

> The "less morally worthy" client, the more likely they are to be kept waiting longer, treated authoritarianly, given hastier examinations, spoken to differently, and subjected to a delay in seeing the doctor.(17)

In 1971, the maternal death rate was 0.1/1000 for white females and 0.5/1000 for nonwhites. Similarly, infant mortality rates were 16.3/1000 for whites and 29/1000 for nonwhites.(18)

Technological mesmerization

The technical revolution has been accorded much of the credit for the rapid advance in the standard of living in the United States. At one time, we were enthralled by the launch of a manned orbital satellite. Now, we are upset if a manned lunar landing interrupts our favorite TV shows. Americans have a solid faith in technology: The same people

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[1]Personal conversation with Aubrey Hall, Director, NHSC, Denver Region, Oct. 78.

that brought us the airplane and the TV can find a cure for cancer.(19)

Our blind faith in medical technology appears to be unjustified. There is no evidence that super technology has significantly improved our chances of leading a longer and healthier life. CAT scanners, coronary bypass operations and organ transplants, however, have increased costs.

> It has been the machine which to date has increased rather than decreased medical costs, complicated our delivery system and tended to depersonalize services.(20)

Fuchs talks about the "Technological Imperative" which commands that we do everything technologically possible with the patient regardless of costs, benefits or long-term consequences.(21) Perhaps the symbol of this medical technology is the intensive care cardiac unit (ICU) so often depicted as the life saver in the TV medical dramas. Salomon reported that the cardiac machines kill 5,000 people every year!(22) In another study, 343 men with episodes of acute myocardial infarction were randomly assigned to intensive care hospital units or home treatment by their family doctor. Mortality rates were the same for both groups, and in fact, patients with hypotensive history actually fared better at home.(23)

Quality

Most efforts at the federal level to improve medical care have focused on the availability of services. A more

intractable problem which must also be considered is the quality of services being delivered. Consumers are being warned in the press about unnecessary surgeries, judgmental errors by physicians, and superflous laboratory testing. The aura of infallibility which once surrounded the medical profession is burning off under more intense public scrutiny.

The surgeon, perhaps because of the mystique of the profession, its dramatic successes and its excessive costs, has borne the brunt of this critical evaluation. The incidence of surgical procedures has been shown to correlate directly to the number of surgeons, surgical suites and hospital beds rather than any improvements in the health of a population.(24) Dr. Paul Lambecke, a profession of Public Health and Preventive Medicine at the UCLA Medical School found that 33% of the hysterectomies performed at 105 New York hospitals were unjustified.(25) Dr. J. Frederick Sparling, of Johns Hopkins, claimed that 21% of 1002 appendectomies performed in five Baltimore hospitals were unnecessary and another 28% were of doubtful necessity.(26) The Gerber Report shows tonsillectomies are performed twice as often on Medicaid children as for children covered by Blue Shield plans.(27) Further, the report estimates that if 10% of the surgeries performed are unnecessary, the cost to the nation is $1.45 billion per year.

The availability of care brings with it no guarantee of health. Medical services may be so fragmented as to actually harm the patient. Stroman reports cases where simultaneous treatment by two or more physicians caused death.(28) Illich claims that one of every five patients acquires an iatrogenic (doctor caused) illness.(29) A Blue Ribbon Commission impanelled by the Secretary of HEW in 1974 reached a more conservative—yet still frightening—estimate of 8%, but found variations of from 3-50%.(30)

A case study of 84 general practioners by Dr. William Osler of the University of North Carolina Medical School, revealed the shocking proportions of the quality crisis. 44% of the GPs were rated below average in diagnostic judgment, with 20% "unsatisfactory". 43% used improperly sterilized equipment. 45% performed physical examinations while the patients were fully or partially clothed. 75 of 84 physicians scored 30 or below on a rating scale of 107 points.(31)

Cultural disincentives

Man is constantly in search of Utopia, but never sure what it looks like or what to do with it when he finds it. Pizzaro was dazzled by the "pagan" Incas. Captain Cook was enraptured by Tahiti. In both instances the explorers questioned whether they were bringing anything of value to these societies. In hindsight it appears they did not.

Dubos suggests that Utopia cannot be an absolute state because life is an unending series of adaptations between man and his environment.(32)

In the United States man's utopian reflex is triggered by commercial advertising. Each day, he is assaulted by over 2000 commercial stimuli, each attempting to "establish a franchise in his mind" for their product. And many are successful: Fast food chains and prepackaged meals eliminate hours in the kitchen; the Marlboro Man is second only to John Wayne as a western hero; Art Linkletter allays the fear of escalating medical and hospital expenses with an insurance policy guaranteeing you $35 a day;[1] and finally, Jerry Lewis urges you to contribute to muscular distrophy by purchasing a six-pack of Olympia beer.[2]

In 1975, the top 20 cigarette brands spent $255 million dollars on advertising. During the same year, the federal government spent $3.5 million on health education.(33) The results of this Madison Avenue blitzkreig are devastating. $11.5 billion is spent annually on health care associated with smoking.(33) Cigarette smoking is responsible for an estimated 325,000 early deaths each year from cancer and

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[1]The "Buyer Beware" principle is in effect here as it would be extremely difficult to find even a cot for $35, let alone hospital care!

[2]Olympia Brewing Co., contributed five cents a six-pack if purchased at a special display.

diseases of the lung.(34)

The cost of poor nutrition in the U.S., has been estimated as high as $30 billion.(35) In 1940, only 20% of the food we ate was processed. In 1979, 80% was.(36) Ronald McDonald has made a hit with the kids and the cook. The following chart gives us an indication of the "high" standard of living our affluence affords us.

TABLE 4

CHANGE IN CONSUMPTION BY FOOD TYPE, 1940-1979

Down	Percentage	Up	Percentage
Dairy	21%	Doughnuts	300%
Vegetables	23%	Pies and Cakes	75%
Fruit	25%	Snacks	140%

Source: Donald B. Ardell, Presentation at the American Hospital Association Convention, Chicago, Ill., August 1979.

Health insurance has become for many people, particularly organized labor, the symbol of prosperity. No other nation can match the medical manpower, the sophisticated technology, or the research facilities in the U.S. If we remove the constraints (price, distance, etc.), so the theory goes, we can solve all our health problems. Just let the medical profession have at illness and disease. The erroneous assumptions underlying this theory are becoming

agonizingly clear.

Insurance rather than improving access has made it more difficult. Physicians now spend less time with patients, and are harder to schedule for appointments.(38)

Fieldstein's classic research demonstrated a net welfare loss from excess insurance.

> People spend more on health because they are insured. . . . Physicians raise fees when insurance becomes more extensive. . . . Hospitals respond to more insurance by increasing the sophistication of their equipment and then raise prices . . . the consumer buys more insurance because of the high cost of health care.(39)

Moral Hazard is the term for the loss of incentives and constraints under health insurance.(40) The first manifestation of Moral Hazard is the "Third Party Syndrome" where medical expenses are paid by some distant third party to whom the consumer feels neither loyalty nor responsibility. The "Prepayment Syndrome" describes the consumer's instinctual desire to get the most for his insurance premium, leading to inappropriate utilization of health care resources.

Americans are surrounded with material excess, and our indulgences work in opposition to our health. We expect the medical profession to salvage our body after 50 years of abuse. The medical profession cannot rid the world of the root causes of today's major health problems. Lifestyle behaviors are the contributing factor in today's killers—in

heart disease, cancer, accidents, cirrhosis of the liver and homicide.(41)

REFERENCES

1. Duane F. Stroman, The Medical Establishment and Social Responsibility, Pt. Washington, NY: Kennikat, 1976.

2. Bruce Stokes, "Self Care: A Nation's Best Health Insurance," Science, 205 (4406), August 10, 1979.

3. James F. Tucker, Current Economic Issues and Problems, Chicago: Rand McNally Publishing Co., 1976.

4. World Health Organization Statistical Report, 1972, pp. 430-431.

5. Harold Chase, "The Position of the U.S. in International Comparison of Health Statistics," American Journal of Public Health, 62 (4):581-589, 1972.

6. Gordon Hatcher, "Canadian Approaches to Health Planning Decisions," AJPH, 68 (9):881-889, 1978.

7. Ronald Anderson, "Health Status Indices and Access to Medical Care," AJPH, 68 (5), p. 462.

8. Aaron Wildavsky, Doing Better and Feeling Worse: The Political Pathology of Health Policy, Boston: Little, Brown & Co., 1977.

9. Victor R. Fuchs, Who Shall Live, NY: Basic Books, 1974.

10. Wildavsky, Doing Better and Feeling Worse, p. 284.

11. Fuchs, Who Shall Live, from Promoting Health: Consumer Education and National Policy, by Ann Somers, Germantown, Md: Aspen Systems Corp., 1976, p. 5.

12. John Knowles, from "The Nature and Implications of High Level Wellness, or Why Normal Health is a Rather Sorry State of Existence," by Donald A. Ardell, Health Values, 3 (1), 1979, p. 3.

13. Stroman, The Medical Establishment and Social Responsibility, p. 91.

14. Ibid., p. 86.

15. Spiros Andreopoulas, ed, Primary Care: Where Medicine Fails, NY: John Wiley and Sons, 1974, p. 56.

16. Ronald Anderson, "Health Service Use: National Trends and Variations," A Study for the National Center for Health Services Research, 1972.

17. David Mechanic, Public Expectations and Health Care. NY: Wiley 1972, p. 47.

18. Stroman, The Medical Establishment and Social Responsibility, p. 44.

19. J. H. U. Brown, The Health Care Dilemma, NY: Human Sciences Press, 1978.

20. Ibid., p. 8.

21. Fuchs, Who Shall Live.

22. Harvey Salomon, "Hospital Electrical Wizards," New England Journal of Medicine, 287 (3): 146-147, 1972.

23. H. G. Mather; N. G. Pearson & K. L. Read, "Acute Myocardial Infarction: Home and Hospital Treatment," British Medical Journal, 3:334-338, 1971.

24. Charles E. Lewis, "Variations in Incidence of Surgery," NEJM, 281 (16): 884.

25. Paul Lembecke, "Is This Operation Necessary?" New Republic, 149 (Nov. 9): 15-16, 1963.

26. Stroman, The Medical Establishment and Social Responsibility, p. 51.

27. Alex Gerber, The Gerber Report, NY: David McKay & Co., 1971.

28. Stroman, The Medical Establishment and Social Responsibility, p. 50.

29. Ivan Illich, "Medicine is a Major Threat to Health," Psychology Today, May, 1976, p. 71.

30. Stroman, The Medical Establishment and Social Responsibility, p. 53.

31. William O. Peterson, "Medical Care Research: Counterbalance to Opinion and Habit," in Hospital, Disease and Public Interest, John Knowles, ed., Cambridge: Harvard Press, 1965.

32. Rene Dubos, The Mirage of Health, Garden City, NY: Doubleday and Co., 1959.

33. Ann Somers, Promoting Health: Consumer Education and National Policy, p. 94.

34. The New York Times, November 12, 1974.

35. G. B. Gori, "Etiology and Prevention of Smoking Related Diseases," Presentation for the National Academy of Sciences, October 28, 1976.

36. Senator Robert Dole, Hearings before the Senate Select Committee on Nutrition and Human Needs, U.S. Government Printing Office, February, 1977.

37. Donald A. Ardell, Presentation at the Convention of the American Hospital Association, August 28, 1979.

38. Donald A. Tubersing, Wholistic Health, NY: Human Sciences Press, 1979.

39. Martin S. Feldstein, "The Welfare Loss of Excess Health Insurance," Journal of Political Economics, 81 (2): 250-280, 1973.

40. Richard C. Auger and Victor S. Goldberg, "Prepaid Health Plans and Moral Hazard, Public Policy XXII, Summer, 1974, pp. 383-390.

41. Montana Vital Statistics, 1979.

CHAPTER III

ROOTS

Symptoms are the observable presentation of a pathology. We must look deeper into the troubled health care system to discover the roots of its illness. Chapter II searches out the causative agents and begins to unfold a remedial therapy.

Dependence versus independence

Ivan Illich is one of the most severe critics of the American health care system, but his attacks are well-founded.

> In a highly individualized country health care has reached a point of intensity where it is destroying health by diminishing people's autonomous ability to cope.(1)

Illich's theme is suported by the statistics. A number of authors have cited inappropriate and unnecessary utilization of services as the main problem in health care today. 75% of the people who go to a physician will get better within a week in spite of what the doctor does to them.[1] It is estimated that 50% of all physician visits are

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[1]Personal conversation with Dr. Peter Calacini.

primarily mental health problems.[1]

Dubos traces the gradual evolution of our dependency in his book, The Mirage of Health. A long time ago, in Greek mythology, the goddess Hygeia symbolized the power of health through a life in harmony with nature. Hippocrates followed these beliefs and considered disease to be an infringement on natural law, an imbalance between man and his environment. Inscribed on Hippocrates' tomb are the words:

> Here lies Hippocrates
> Who won innumerable victories
> over disease
> with the weapons of Hygeia

Hygeia was later superceded in importance by Asclepius, the surgeon, and by the goddess Panakeia. Today, our society retains this same perspective: We have complete faith in the knife of the surgeon, and the "magic bullet" panaceas of the medical profession.(2)

We have transferred to the physician the right to determine what constitutes sickness, and what shall be done to or for such people.(3) John and Barbara Ehrenreich expand on the consumer/patient dependency theme noting its pervasive influence in society and its preemptive tendencies.

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[1]Speech by Nicholas Cummings, President, American Psychiatric Association, April, 1978.

Employee absence for health reasons must be certified by a physician. Preventive care and prophylactic controls, particularly female contraceptive measures, are matters requiring professional management and control.(4)

> The expansion of the medical system has been accomplished by a deepening dependency on that system. . . . This has led to an expansion of its jurisdiction—new types of functions, the number and kinds of services and the availability along class lines.(5)

It is becoming clear that therapeutic medicine has reached a point of diminishing returns.(6) The 12-15% increases we add to our health care expenditures each year have only marginal value. In the words of a New York Times writer just returned from the village of Vilacambra, Ecuador, noted for its centenarians, "Living a long life is essentially a do-it-yourself proposition."(7)

Illness versus wellness

It is a misnomer to call the aggregation of medical services in America a "health" care system. A more accurate phrase would be an "illness" care system. Our medical practitioners are educated, trained and paid for curing disease, not maintaining health. Dr. Richard Kunnes claims the medical care system is geared toward curing the ill rather than preventing illness because of the payment incentives. Insurance companies will pay for hospitalization but not for preventive check-ups. Hospital care is

more expensive than preventive maintenance, but because of the guaranteed reimbursement from health insurance it is more lucrative for the doctor. Therefore, there is no incentive to change.(8)

We exacerbate the consequences of system's shortcoming by what Erich Fromm has called the "pathology of normalcy"—behaviors so widespread in the culture that nearly everyone considers them normal. People think of health as a state of not being sick.(9) "Normal" weight tables, longevity charts, standards for heart rate, and countless other measures are skewed in the direction of lowered expectations and goals.

Living Longer and Better presents an alternative.(10) According to the authors we pay our doctors to find and treat our sickness, not prevent it. Life expectancy is virtually the same today as for the past generation despite the enormous sums of money solicited and spent in the hope and promise of extending lifespan. We no longer have to fear the virulent infection: Our primary worries are heart attack and stroke, which in 1975 accounted for 50% of the deaths in this country. Yet our "normal" tables are based on the high cholesterol diet and sedentary lifestyle so closely linked with heart disease. Instead of normal, we should be pursuing "optimal" health, defined as the highest levels of cardio pulmonary fitness, the lowest rates of cardio pulmonary and degenerative disease, and the longest vigorous

lifespan. The book contends that optimal health is achievable and is closely related to an improved quality of life. The following chart is an example of the differences between "normal" and "optimal" health.

TABLE 5 (11)

OPTIMAL HEALTH MEASUREMENTS

Measurement	Normal	Optimal
Cholesterol	150-300mg%	125-175mg%
% body fat	12-30	5-10
Pulse	60-100	50/min
Blood Pressure (40, 40 yrs of age)	100/70, 150/90	90/60, 120/80

The federal government perpetuates the illness orientation. 98% of all federal health expenditures are directed at manpower and facilities for the treatment of disease or research into disease pathologies. In 1975 only 1.7% was spent on the prevention and control of health problems.

TABLE 6

FEDERAL HEALTH EXPENDITURES

Program or Agency	Outlays (in millions of dollars)		
Development of Health Resources	2,784	3,345	2,615
Financing or Providing Medical Services	15,200	19,482	22,412
Prevention and Control of Health Problems	346	445	450
Proprietary Receipts from the Public	-4	-4	-5
TOTAL	18,417	23,268	26,282

Source: U.S. Office of Management and Budget, The Budget of the United States Government, Fiscal Year 1975, p. 119.

The government further compounds health problems with contradictory policies in other areas. Price supports and other subsidies in the tobacco industry, and the ineffective monitoring of potentially harmful products, such as the high fat content in school lunch programs. Other areas closely linked with health status, yet conspicuously lacking in health promotion policies include low income housing, the control of violence and public service employment.

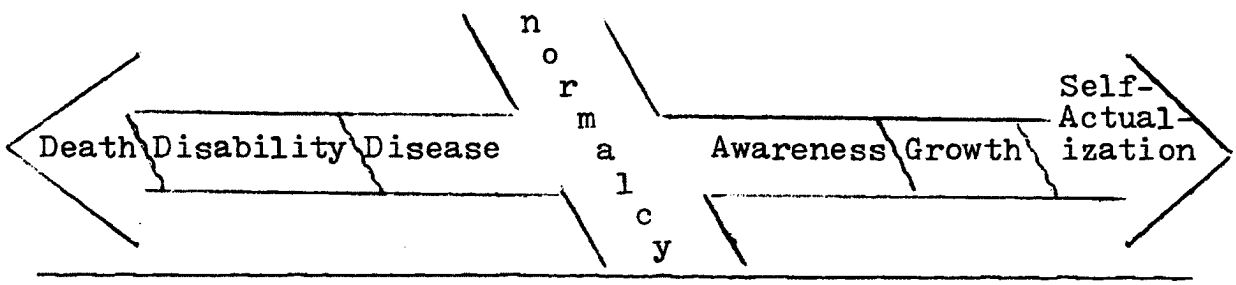
> The anomaly of spending billions of federal dollars to patch up the victims of big city violence, squalor, and frequently intolerable living conditions while refusing to face up to the root causes cannot be indefinitely sustained.(12)

Dimensions of health

"High level wellness is a lifestyle approach to realizing your best potential for well-being."(13) In the context of the previous discussion, wellness is an individual and positive jump above normalcy. The spectrum of health states can be shown graphically on a continuum.

TABLE 7

HEALTH CONTINUUM



The Canadian government and others have identified four areas where public health policy interventions may affect health status: The system of health care organization, the human biology, the environment, and lifestyle.(14) Dever's epidemiological research illustrates the potential impact of intervention in these areas.(15) A comparison of actual government health expenditures and their potential contribution to health status illustrates the gross misallocation

of funds.

TABLE 8

FEDERAL HEALTH EXPENDITURES AND THEIR IMPACT

Category	Federal Outlay	Impact on Public Health
System of Health Care Organization Training Construction Org. & Delivery Direct Services Indirect Services	88%	11%
Environment Environmental Control Consumer Protection	1.8%	19%
Human Biology Health Research	5.2%	27%
Lifestyle Disease Prevention & Control	1.9%	43%

Source: G. E. Alan, Guidelines for Health Status Measurement.

Again, we have supported the medical myth with dollars. We attempt to cure health problems by increasing the dosage of doctors and hospitals. Knowles points out the futility of this approach.

> There are multiple courses of disease involving various combinations of genetic factors, environmental factors (stress, pollutants, germs), and behavioral factors (rest, smoking, exercise, diet, alcohol, hygiene) all of which place responsibility on the individual.(16)

In a landmark study, Drs. Lester Breslow and N. B. Belloc, followed 7000 adults over five and one-half years. The researchers found that following seven simple rules

1. Three meals at regular times
2. Eat breakfast every day
3. Moderate exercise
4. 7-8 hours of sleep a night
5. No smoking
6. Moderate weight
7. Alcohol in moderation only,

can add 11 years to a person's life expectancy. Their results showed that the physical health status of those who followed all seven good health practices was the same as persons thirty years younger who followed none of the practices. This increase takes on additional significance since the miracles of modern medical science have added only three years to adult life expectancy since 1900.

Ardel has identified five dimensions in the framework of a wellness lifestyle: Self responsibility, nutritional awareness, physical fitness, stress management and environmental sensitivity.(17) The neglect of personal accountability for one's own health is a major determinant in the reported 50 million disability days lost each year in industry—at a cost of approximately $120 billion in lost productivity.(18) Nutrition is not only a major determinant in disease such as diabetes and atherosclerosis, it may also be the most effective therapy for many degenerative illnesses.(19) It is estimated that 50-75% of all visits to

family practitioners are stress-related.(20) Everything you want to go down (waistline, blood pressure, heart rate, cholesterol, triglyceride levels) goes up in the normal, sedentary lifestyle, whereas physical fitness not only keeps these down but increases strength, flexibility, oxygen consumption and vital capacity. Finally, as Dr. George Sheehan observed in Running and Being, "the intellect must surely harden as fast as the arteries. Creativity depends on action. Trust no thought arrived at while sitting down."

High level wellness is more than just a state of physical health. Dr. William Glasser studied thousands of runners and mediatators and documented increases in mental alertness, self-awareness, confidence and personal esteem.(21)

To summarize, there are three dimensions in the wellness ethic. First, there are no "magic bullets"(22), no drugs or doctors that can give you wellness. Second, high level wellness is more rewarding than normalcy, or at the other extreme of the continuum, low level wellness. Finally, you are the administrator of your well-being. Doctors and others may offer advice, provide vital services at times, and generally make things easier, but in the end, you have the responsibility for your own health and well-being.

REFERENCES

1. Ivan Illich, Medical Nemesis: The Expropriation of Health, London: Calders and Boyars, 1975, p. 167.

2. Dubos, The Mirage of Health.

3. Illich, Medical Nemesis: The Expropriation of Health, p. XIV.

4. Barbara Ehrenreich & John Ehrenreich, "Health Care and Social Control," Social Policy, 5 (1): 26-40, 1974.

5. Ibid., p. 31.

6. Somers, Promoting Health: Consumer Education and National Policy, p. 4.

7. Grace Halzell, New York Times, March 1, 1975, Op ed page.

8. Richard Kunnes, Your Money or Your Life, NY: Dodd, Mead & Co., 1971.

9. Donald B. Ardell, "The Nature and Implications of High Level Wellness, or Why 'Normal Health' is a Rather Sorry State of Existence," Health Values, 3 (1) January/February, 1979, p. 18.

10. Harold Elrick, Sam Clarke & James Crakes, Living Longer and Better, Mt. View, CA: World Publications, 1973.

11. Ibid., p. 7.

12. Somers, Promoting Health: Consumer Education and National Policy, p. 53.

13. Ardel, "The Nature and Implications of High Level Wellness," p. 17.

14. Marc LaLonde, A New Perspective on the Health of Canadians, a working document from the Canadian Government, Ottawa, 1974.

15. G. E. Alan Dever, "Guidelines for Health Status Measurement," A report to the Georgia Health Systems Agency, October, 1977.

16. John Knowles, "The Struggle to Stay Healthy," Time Magazine, August 9, 1976.

17. Donald B. Ardell, High Level Wellness: An Alternative to Doctors, Drugs and Disease, Emmaus, PA: Rodale Press, 1977.

18. National Chamber of Commerce Publication, "A National Health Care Strategy," National Chamber Foundation, Washington, D.C., 1978.

19. Nathan Pritikin, Live Longer Now, Gross and Dunlop, 1974.

20. Tubersing, Wholistic Health, p. 59.

21. Ardell, "The Nature and Implications of High Level Wellness," p. 23.

22. Ibid., p. 21.

CHAPTER IV

SELF-CARE ALTERNATIVE

The American health care system has been examined intensively over the past decade. Government, business, labor, professional medical organizations and the consumer have all contributed opinions and suggested corrective procedures based on their own perspectives. The previous chapters outline these strategies. They revolve around two principles: Efficiency maximization and technological advancement.

We discounted the efficiency approach based on the diminishing returns theory. If the marginal utility of our total health care expenditures is declining, the marginal value of improved system efficiency decreases proportionately. A good example of the ineffectiveness of this approach is the inequitable distribution of providers. Disturbed by the failure of various incentive programs, over the years to reverse the decreasing percentage of primary care physicians serving rural areas and ethnic minorities, we began developing an elaborate Emergency Medical Services (EMS) system to transport the patient to the physician. The costs of improving patient access through EMS services are enormous and the

benefits are minimal. The stroke victim is quickly transported to the emergency room thirty years too late. Neither the EMS technician or the emergency room physician can reverse the effect of 30 years of unhealthy living. The emergency care system may operate at 100% efficiency, but it cannot help the patient more than 11%.

Technology also focuses on the tail end of the problem. Coronary bypasses, organ transplants, and wonder drugs have been remarkably successful in prolonging mental and physical pain. The relative impact of billions of dollars of basic and applied research is negligible (three years increase in life expectancy since 1900). On the other hand, it can be conclusively demonstrated that technology dramatically increases costs. It is obvious that we must seek the answer in some other corner.

Nathan Pritikin's Longevity Research Institute in San Diego has had amazing results with heart disease patients and diabetics through a simple program of diet and exercise.(1) The George Washington University Hospital has had similar success with an exercise program for heart patients.(2) These are but two examples of programs aimed at developing healthy lifestyles. They focus on health rather than illness. This chapter advocates the common sense approach to improving the health status of a population after which programs are patterned.

Self-care, medical self-help, and the "Activated Patient"[1] are synonyms for an emerging phenomenon in the health care field. Rather than searching for the solution through expensive manpower adjustments and technological improvements, self-care stresses the individual's responsibility for achieving and maintaining optimal health.

> Self-care is a concept or process by which an individual assumes a significant role and shares responsibility in the maintenance and restoration of a personal sense of well-being. It involves the development of the individual as a decision-maker and participant in the diagnosis and treatment of a wide range of health problems.(3)

Self-care programs have three basic objectives:

1. Improved self-help medical skills;
2. Increased awareness of the implications of lifestyle decisions on personal health;
3. Increased dialogue between the physician and the patient.

Decreasing Demand

Economic theory states that prices are a function of the demand for resources. In the health field, per capita demand on institutional and individual medical services are rising.(4)

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[1]Dr. Keith Sehnert coined the term "Activated Patient" in his self-care research at Georgetown Medical School.

TABLE 9

HOSPITAL UTILIZATION - days/year

Family Income	0 - 17		18 - 54		55 and over	
	1963	1979	1963	1970	1963	1970
$0-1,999	5	11	20	27	21	20
2,000-4,999	6	8	15	22	14	19
5,000-9,999	7	9	19	18	19	23
10,000-14,999	7	5	12	13	15	21
15,000 and over	7	5	12	13	15	21

Source: Health Service Use: National Trends and National Center for Health Services Research 1972.

At the same time, the number of practicing physicians has not changed. Although we are training more practitioners, a larger percentage are taking jobs in research, teaching and administration.(5)

Higher utilization, unfortunately, has not been correlated with improved health. The evidence indicates that higher utilization results only in higher costs. Physicians can set target incomes irrespective of work loads.(6) Hospitals purchase expensive diagnostic equipment because it attracts physicians and the reimbursement for laboratory tests improves their return on investments.

The self-care strategy is directed at the source of the demand for services. The literature overwhelmingly demonstrates that a major portion of this increased demand is unnecessary and inappropriate utilization of health

resources. Self-care education gives the consumer the tools with which to manage minor illness and injury. It facilitates patient/provider communications to identify medical problems that require professional help.

The concept of the informed health care patient goes one step further, changing attitudes as well as behaviors. Behavior is a function of one's environment.(7) Individual responses are controlled by external environmental stimuli.(8) Self-care education increases one's awareness of the consequences of various lifestyle patterns. It conditions the consumer/patient decision-making process toward assuming more responsibility and control. Self-help skills reinforce healthful behaviors which in turn are the antecedents of more complex lifestyle patterns.(9)

A self-care education program attempts to involve the whole person, reinforcing behavioral patterns rather than isolated behaviors. It provides information on specific health problems teaching self-help techniques which will lead to reduction of inappropriate utilization, or excess demand.(10)

Increased efficiency

We invest millions of dollars and thousands of man years in the education and training of primary care physicians. Their diagnostic skills are honed and sharpened

in the laboratory and in the clinic. When they arrive in the private practice field as licensed practitioners, we present them with colds, upset stomachs and heartburn! Komaroff and others have demonstrated how the majority of patients can be efficiently handled by para-professionals using standardized disease management protocols.(12, 13, 14) The outreach para-professional health worker as a screening agent is a proven concept.(15, 16) Halfden Mahlen, Director General of the World Health Organization has said:

> With only 2-3% of conventional medical technology we can arrive at 90% of the necessary quality of care . . . standardize a tiny fraction of a given medical technology so that one can train a health assistant within a relatively short period of time to provide health care corresponding roughly to the care delivered by a specialist who has had 15-20 years of training.(17)

All these manpower experiments have a common goal. They attempt to connect the patient with the provider most appropriately trained to manage a particular problem. This system is intellectually satisfying for the physician and the physician assistant because they are presented with cases which challenge their training and education. Patients are pleased with the system because the provider takes a genuine interest in their problem.(18) The significance of this research, however, lies not in maximizing the efficiency of the system, but in streamlining and simplifying medical education so that it can be understood and practiced by the lay person.

Komaroff trained high school graduates to manage diabetics and hypertensives. On the Rosebud Indian Reservation, General Equivalency Diploma graduates are using physician designed protocols in strep throat, gastroenteritis, upper respiratory infections, hypertension and diabetes.[1] Training programs for these para-professionals range from a few weeks to several months. The same information could be restructured and incorporated as a self-care health education curriculum and inserted in our compulsory education system. Using Mahlen's 2-3% estimate, we can demonstrate:

Physician's Training—7 years @2080/hrs.	14,560 hrs.
Physician Assistant training @2.5 of Phys.	364 hrs.
Grades 6-12 @35 hrs. of school/week	8,820 hrs.
364 trg. hrs. ÷ 7 years	52 hrs./year

52 hours of health education per year, or roughly 4% of the total school program could give each student the equivalent education of the physician assistant, or the background "to provide health care corresponding roughly to . . . a specialist with 15-20 years of training." This example may appear facetious, but is it?

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[1]The author personally directed this experimental project during 1978.

Roughly 15% of the U.S., population is hypertensive.(19) Hypertension costs industry an estimated 300 dollars/person/year.(20) The National Institute of Health estimates that 52 million man days of work are lost each year due to high blood pressure related illness.(21) Hypertension, as demonstrated by Komaroff, is a disease which can be managed and controlled very effectively by lay persons with a minimum of formal training. The potential reduction in health care expenditures is enormous.

Senator Edward Kennedy, a leading advocate for reform in the health care system, strongly supports school health education.

> We can consider ourselves an educated nation only when our young people emerge from high school or college with an adequate knowledge of health and nutrition.(22)

An investment in public health education is a step in direction of 100% system efficiency because it attempts to control unnecessary utilization of medical care resources. Inserting new layers of para-professional "specialists" into the patient/provider relationship can pay only limited returns in efficiency.

Psychological need

The social turbulence of the late 60s in some ways is analagous to the birthing process. There was a period of intense pain, a period of deep introspection, and finally a

period of adjustments. We are now in the adolescence of that adjustment period and through a series of experimental probes, we are learning to live in the new environment surrounding us. Perhaps, Maslow's "self-actualization" concept best describes this search and discovery period. It is a time of skepticism—of the political system, a big business, of social institutions—and a time for personal growth and experimentation—consumer activism, cult religions, transaction analysis, halucenogenic drugs. The philosophy which is slowly emerging is one of establishing greater personal control over our circumstances.

The trend toward self-reliance becomes almost a necessity as society becomes more complex and impersonal. We are a mobile society and cannot depend on the traditional sources of support, i.e., family, neighborhood, church and community. We must develop internal support systems—self-confidence, self-esteem, etc.,—which allow us to adapt to a constantly changing environment.

The self-care movement is in complete harmony with the desire for self-actualization. It is a positive strategy which demands and rewards personal initiative and discipline, without devaluing the contribution of the professional provider. The motivational reinforcements for the "activated patient" are immediate and include lower health care expenditures, more positive relationships with professional

providers, and improved self-confidence. Self-care is a logical extension of the instinctive desire to control our personal environment.

As mentioned earlier, self-care does not cast the physician and organized medicine as the villain. Instead, it provides positive rewards for this essential component of the health picture. The physician receives years of training in the intricacies of the human machine. But in practice, he spends 80% of his time on self-limiting or minor diseases for which he can offer only placebos and verbal reassurances. Patient education in self-care principles can reduce the "nuisance" patient load(23), making his patient load more manageable, while at the same time providing the phychological gratification inherent in any teacher-student relationship.

Self-care in the hospital raises the patient's needs to primacy over organizational objectives.(24) Again, the emphasis shifts from illness to health. Hospital personnel—from the doctor to the dietician—can take an active part in helping the patient achieve and maintain health. The patient leaves the hospital mentally prepared to lead a healthy, active life (in a wholistic sense, even though physical limitations may persist).

Hospitalization can be a positive learning experience rather than a passive, nonproductive interruption of

normal activities.(25) The hospital staff can make a positive contribution to the patient's well-being even when the physical ailment cannot be cured, as with the terminal cancer patient.

REFERENCES

1. Pritikin, Live Longer Now.

2. The Missoulian, August 21, 1979, p. 23. Missoula, Montana

3. Melvin G. Aldredge, "Self-Care an Alternative Future," A working paper for MEXDICO Futures Committee of Planned Parenthood Conference, September, 1976, p. 12.

4. Anderson, "Health Status Indices and Access to Medical Care".

5. Stroman, The Medical Establishment and Social Responsibility.

6. The Nation's Health, American Journal of Public Health Newsletter, April, 1977, p. 1.

7. Michael J. Mahoney & Carl Thoresen, Self-Control: Power to the Person, Monterey, CA: Brooks/Cole Publishing Co., 1974.

8. Albert Bandura, Principles of Behavior Modification, NY: Holt, Rinehart and Winston, 1969.

9. Teodoro Ayllon & Nathan Azrin, The Token Economy: A Motivational System for Therapy and Rehabilitation, NY: Appleton-Crofts, 1968.

10. Robert Rushmer, Humanizing Health Care, Cambridge: MIT Press, 1975.

11. Charles O. Crawford, "Organization of Health Services for Rural Areas," in Rural Health Services: Organization, Delivery and Uses, E. W. Hassinger and L. R. Whiting ed., Ames: Iowa State University Press, 1976.

12. Anthony Komaroff et al, "Protocols for Physician Assistants," NEJM, 290 (6): 307-312, 1974.

13. Frank A. Finnerty, Jr., & Edward C. Mattie: Francis A. Finnerty III, "Hypertension in the Inner City I," Circulation, 47: 73-75, 1973.

14. Harold C. Sox, Jr., & Richard K. Tompins, "Training Physician Assistants: The Use of a Clinical Algorithm System for Patient Care, Audit of Performance and Education," NEJM, 288: 818-824, 1973.

15. Joy G. Cauffman et al, "Community Health Aides: How Effective Are They?" AJPH, 60: 1904, 1970.

16. Herbert R. Domke & Gladys Coffey, "The Neighborhood-based Public Health Worker," AJPH, 56 (4): 603-608.

17. Halfden Malden, Opening address to World Health Organization Conference on Medical Assistants, Bethesda, Md., 1973.

18. John D. Voltman, "Jamestown Medical Clinic System," Jour Amer Med Assoc, 234 (3): 303-304, 1975.

19. Proceedings from the National Conference on High Blood Pressure, Bethesda, MD. October 14, 1976.

20. James A. Schoenberger, The Hypertension Handbook, West Pt., PA: Merck Sharp and Dohme, Inc., 1974.

21. "A National Health Care Strategy," A publication of the National Chamber of Commerce, 1978.

22. Senator Edward Kennedy, "Preventive Medicine: What It Can Mean for You," Family Health, January, 1976, p. 40.

23. Voltman, "Jamestown Medical Clinic System," p. 304.

24. Llewellyn Gross, Elliot H. Grosoff & Constantine E. Yeracaris, "A General Theory of Labor Turnover in Hospitals," in Patients, Physicians and Illness, E. Gartley Jaco, ed. NY: The Free Press, 1958.

25. Albert F. Wesson, "Hospital Ideology and Communications Between Ward Personnel," in Patients, Physicians and Illness, E. Gartley Jaco, ed.

CHAPTER V

SURVIVAL IN THE REAL WORLD

Until very recently, self-care was viewed as an elitist phenomena characterized by Dr. John Travis' Wellness Center in which "clients" pay dearly for advice on improving and maintaining good health.(1) No curative procedures are performed or therapeutic drugs prescribed at the center. Instead, patients with acute problems are referred to other physicians. If not elitist, the wellness movement was certainly not pleasurable. It conjured up visions of physical fitness fanatics and health food zealots lumped together and ungraciously referred to as "warriors against pleasure". This image is now changing.

In 1974, the Canadian Government, through its Minister of Health and Environment, Marc LaLonde, released a document entitled, A New Perspective on the Health of Canadians. "New Perspective's" central message was that improvements in the environment and in lifestyles is now the most effective means of reducing mortality and morbidity. In Canada, as in most other industrialized countries, the major causes of illness and death are linked closely to lifestyles and the environment, and these causes are beyond the reach of the

illness system. The document shifted the government's emphasis from the treatment of illness to the prevention of illness and, more positively, to the promotion of health.

The Canadian endorsement of wellness and health promotion injected credibility into the work of the self-care pioneers, such as Dr. Lewis Robbins of the Methodist Hospital in Indianapolis, and Dr. Keith Sehnert, then in private practice in Maryland. It also sparked popular interest in the concepts of prevention, promotion and self-care. Almost overnight, magazines such as Prevention, Family Health, and Dr. Tom Ferguson's Medical Self-Care appeared on the newsstand. Simultaneously, a myriad of self-help books written by medical professionals and laymen alike reached publication. They discussed techniques and the inherent joys of self-care.

In 1976, the U.S. Congress enacted the National Consumer Health Information and Health Promotion Act. This was official recognition of an alternative to the traditional health care model. Also, in 1976, the National Chamber of Commerce produced a series of pamphlets entitled, "A National Health Care Strategy," which exhorted business to shift from "expensive treatment-oriented" programs to more "positive prevention programs". Finally, a new report by the Surgeon General, entitled "Healthy People" dramatically recasts the federal government's role in health care as one

which helps people pursue positive health lifestyles.

The massive machinery of the federal government is now in place and ready to be cranked. In the previous chapter, the psychological predisposition of the patient and provider were established, with supporting evidence provided by the popularity of medical self-care literature. The last remaining hurdle is the development of a mechanism by which to serve up the self-care platter to the American public.

At every level of government, from the federal bureaucracy to the community council, we can find an agency, a board, or a committee concerned with the health of the population. Public health is an institutionalized function of an elected government. The role of the public health agency is traditionally circumscribed by three factors: The political environment, the ability to show results, and the availability of funds. This chapter argues that self-care education is an appropriate and important role for the public health agency, and one which is not necessarily encumbered by these insurmountable bureaucratic obstacles.

The political environment

A. Constituencies:

The public health agency is supported by public revenues and therefore should provide services to the general public. More commonly, health agency services are limited to particular elements in the population, i.e., the

poor, the aged, and the "at risk" populations (for instance, children needing immunizations). Few people are aware of the work of the public health agency, because few realize they are affected by it. Environmental health programs such as air and water quality are too technical for the average person, and their importance to the health of the public is not well-understood.

Self-care programs do not discriminate by race, religion, age or gross income. They hold appeal for both liberals and conservatives. They can be adapted to the home, the work environment, the social gathering or the school. They are as effective with preschoolers(2) as they are with Senior Citizens.[1]

B. Acceptance by the Medical Community.

Public health agencies are very often dependent on the donated services of the medical community.[2] Direct services, teaching and participation on advisory boards are a few of the functions performed gratis by the medical community. The agency, therefore, cannot afford to antagonize local providers and risk the loss of their assistance. Self-care programs, because they are geared at reducing consumption,

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[1]Senior Citizen self-care classes sponsored by the Missoula City-County Health Department have been enthusiastically received.

[2]Personal conversation with Dr. Ed D'Antoni, Sec. of Health, State of South Dakota, 8/78.

would at first glance appear contrary to the best interest of the medical care provider. In actuality, this conflict does not exist.

First, the concept of self-care does not diminish the prestige or status of the physician. The physician is trained to recognize and provide therapy for illnesses which cannot be adequately managed by the lay person. Secondly, along with this status come financial rewards. The professional provider, much like his counterpart in the legal profession, dictates the fee structure: The patient/client has no choice. Attempts by the federal government to curtail this power, such as Medicaid reimbursement for "reasonable and customary charges" have been notoriously ineffective. Third, younger physicians are extremely concerned with the "burn out" phenomena so common in their older colleagues. Many years of long hours and interrupted nights of sleep eventually takes its toll. The AMA once estimated that as high as 75% of its membership suffered from stress-related alcohol or drug dependencies. In theory, the self-care strategy alleviates this pressure by elevating the patient to partnership status in the physician-patient health care relationship. Serious, even life threatening diseases can be managed on a routine basis. The physician is summoned only in major emergencies, and consulted according to a prearranged schedule of appointments. The patient is

alerted to signs and symptoms, and the physician watches the progression of the disease. The physician's (nurse, lab tech, physician assistant, etc.), work schedule can be established with relative certainty, and the case load decreased to a more manageable level without jeopardizing patients' health, or radically affecting the physician's income.

Finally, as mentioned previously, self-care offers the physician more intellectual stimulation because the self-limiting cases are screened off, or at least substantially decreased. Channeling the well and "worried well" to more appropriate forms of treatment (i.e., health educators, mental health counselors, dieticians, etc.), allows the physicians more time to spend in diagnosis and treatment of the "asymptomatic sick" and sick patients. Garfield found that the well and worried-well accounted for 68.4% of the clinic patient load in their prepaid health plan, and that major savings could be achieved by redistributing (or eliminating) the well and worried-well.(3)

In summary, self-care offers the physician a more challenging job and regular hours with no reduction in pay or prestige. There is no threat of "unemployed" physicians because of the number and flow of physicians, physician assistants, nurses, et al, is effectively regulated by the amount of federal and state subsidies poured into the medical institutions. If it becomes evident that with a

major self-care initiative fewer primary care providers are needed, subsidies can be decreased proportionately.

Demonstrated results

If not beleagured by angry taxpayers, the elected public official is badgered by a citizenry demanding concrete results for tax dollars expended. The irony is that many public services defy standard cost-benefit analysis. Is one extra patrolman on the street a deterrent against would-be criminals, or just psychologically comforting to an urban home owner? Is a traffic-congested residential area the result of poor city planning, of an uncontrollable function of real estate values and personal tastes? Further, does the current administration have the power to correct such a situation in the short run?

Self-care has all the ingredients necessary for the campaign trail. Since the late 1960s, health has been a major factor in the quality of life assessments used in formulating foreign aid programs for developing countries. Similarly, the sum of every politician's campaign promises is a longer, healthier, and more productive life, or in other words, an improved quality of life. Unfortunately, as politicians have found over the years, health is beyond their control. Any venture into health delivery must be sanctioned by the American Medical Association, the American

Hospital Association, or some other body politic representing a faction of the medical profession.

A program of self-care education circumvents the established opposition and goes directly to the public. It promises little more than self-satisfaction and fewer visits to the doctor, but it delivers. Kemper reported a 10% reduction in outpatient visits attributable to a self-care education course.(4) Sehnert recorded similar results with the "Activated Patient" model.(5) In both cases, participants reported feeling better about their relationships with physicians, more confident in their ability to handle minor health problems, and eager to learn more.

These studies noted other more significant changes. Participants' diets improved; they exercised more; many stopped smoking; many started using seat belts; and, many reported positive changes in objective physical measurements such as cholesterol levels and blood pressure readings. These lifestyle changes occurred after relatively short educational programs. Also, because of the demonstration nature of these projects, participants were denied societal reinforcements except from within the project group.

Extrapolating the impressive results of these programs into the near future, one can predict lower incidence of healt disease, less lung cancer, etc., for the "informed" health care consumer. A 1974 Blue Cross Association White

Paper on Patient Health Education presented to the Board of Governors of that organization stated:

> The available information regarding patient health education indicates that, where conducted by a coordinated mix of educational and clinical specialists and directed to individual needs and capabilities, it both increases the quality of health care and presents potential cost savings to the health care system and the public it serves.(6)

The report went on to say that Blue Cross should support such efforts financially through existing payment mechanisms. Since that time, Blue Cross has entered into several pilot health education projects.[1]

The public official can rest comfortably on his "quality of life through self-care" rhetoric if Blue Cross is willing to support such projects financially. The rewards must be immediate and unquestionable before this major health insurance carrier will risk its equity capital. The rewards to which Blue Cross responds are lower ambulatory care contacts, lower hospital utilization rates and lower incidence of premature disability. These, in political nomenclature, are quality of life issues.

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[1]These projects include EASE, a screening/education project of Cannon Mills in North Carolina, and a program for N.C., state employees. (Dr. Wm. DeMaria, Project Director).

The availability of funds

Many politicians today are riding the tide of consumer complaints over ballooning tax burdens. Health programs, with no organized vocal constituency tend to fall toward the lower end of the priority list at budget time. One cannot totally eliminate health programs, but one can trim off everything but the bones without causing concern from the public.

Self-care is immune from the rising tax syndrome. Pre-packaged programs requiring only a modest initial investment are available.[1] The business community as pointed out by the Chamber of Commerce publication, is a prime target for health education and self-care programs. Services provided to the business community can be provided on a fee-for-service basis. These fees, even in states such as Montana which have very restrictive fiscal legislation covering local governmental units, generally can be set above expenses providing revenue to fund programs offered to the general public at or below actual cost. Very seldom can a public official claim to provide new services without requiring additional tax dollars to support those services.

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[1]Dr. Sehnert's Activated Patient program is available through Health Activation Network. Health Risk Appraisals are available from many organizations.

REFERENCES

1. John Travis, "High Level Wellness: Signpost to the Future," Health Activation News. 4 (2):2, 1979.

2. Tom Ferguson, "Promoting Medical Self-Care in Children," The Mother Earth News, 59 (September/October, p. 98.

3. Sidney R. Garfield et al, "Evaluation of an Ambulatory Medical Care Delivery System," NEJM 294 (8):426-430.

4. Donald Kemper, Final report to the Health Care Financing Administration on "Healthwise" project, 1978.

5. Keith Sehnert, "Evaluation of the Activated Patient Concept," a report to DHEW, 1975.

6. Somers, Promoting Health: Consumer Education and National Policy, pp. 147, 148.

CHAPTER VI

THE PUBLIC AGENCY MODEL

The previous chapters presented a theoretical rationale for self care initiatives in the public sector. Unfortunately, this author cannot take sole credit for developing a public agency self care model. In fact, this chapter discusses two models that were formulated entirely without the author's help. The first describes a commitment at the federal level, and the second, presented in slightly more detail, involves the efforts of the Missoula City-County Health Department. The models share two striking similarities: they promote health without criticizing illness care, and they approach health as a composite of daily behaviors rather than as disease specific phenomenon.

Canada's New Perspective

Preventive health measures and the promotion of healthy lifestyles are not an alternative to health care services. The Canadian government recognized this and has developed a free and universal health service program so that every citizen has access to illness care. But, as the document "A New Perspective on the Health of Canadians" pointed out,

costs were rising and the indicators of health status were not improving. It was clear that the illness care system did not impact the environment or personal lifestyles.

Under the leadership of Marc LaLonde, the Minister of Health and Environment, the government developed Operation Lifestyle. The two basic elements in this plan are legislation and persuasion. Operation Lifestyle begins with a realistic appreciation of the practical limitations of prevention and promotion programs. To quote the New Perspective,

> The ultimate philosophical issue...is whether and to what extent, government can get into the business of modifying human behavior, even if it does so to improve health.(1)

The Canadian government was very cautious in developing Operation Lifestyle. Activities had to have clear and definitive payoffs, and be efficient in that the benefits clearly justified the expenses. For instance, preventive programs such as breast cancer screening varied in intensity according to the degree of risk of the woman, or group of women. Surveillance increased for those women with a familial history of cancer.

Preventive legislation was scrutinized even more thoroughly. The results of seatbelt legislation in other countries was well documented and public awareness of the issue heightened by extensive media coverage before a

program was started. The results of the seatbelt legislation were translated into reduced human suffering, treatment costs and lost income in order to be more meaningful to the general public. (The results of the seatbelt program were impressive: 13% decrease in the number of deaths; 16% decrease in the number of fatal accidents; 15% decrease in non-fatal injuries; and, a 6% increase in vehicle registration.) Regulatory legislation was approached with similar caution. Misleading advertisements, occupational safety, and environmental health hazards were a few of the areas covered by regulation.

Where legislation was inappropriate, the government attempted to inform, educate and persuade individuals that certain lifestyle behaviors have undeniable consequences. Several innovative approaches were used to spread health education principles. "Lifestyle Profiles" which allowed people to quickly assess the hazards of their lifestyle were inserted in paycheck and Family Allowance check envelopes. Information centers were established in pharmacies across the country. Public education programs using all forms of the media were presented to stimulate discussion and action. Taking its cue from the private sector, these programs were accompanied by a sophisticated advertising campaign. Finally, the government put particular emphasis on the workplace, working with business and industry to solve a mutual

problem.

One of the major obstacles to Operation Lifestyle was creating a consistent public image for the whole of the government. Operation Lifestyle is basically a behavior modification plan which depends on continual reinforcements from the environment. Inconsistencies between government rhetoric and action, or two different departments, can substantially negate the impact of the positive reinforcement system established by any one department. In government, compromises are inevitable between competing objectives of apparently equal legitimacy. For instance, small cars are more fuel efficient, but less safe than big cars. The tobacco industry provides jobs from the farm to the advertising suite, but is unquestionably linked with lung disease.

The ethics of governmental attempts at behavior modification was the other serious hurdle confronting the Canadian program. Minister LaLonde's position on the issue is clear and succinct.

> As for the ethics of health education and persuasion, good health is an objective desired by virtually everyone, and social marketing is thus largely helping people to help themselves achieve this objective.(2)

The common sense logic behind this argument is indisputable. Only the operational details of an individual program can be challenged. Each of us wants to live longer and better, and we expect the government, which we created

to improve our welfare, to take appropriate action to help us achieve these goals.

The Missoula City-County Health Department

Missoula County, in western Montana, has a population of approximately 60,000 people. It is the trade center for three counties with a combined total land area 20% larger than Connecticut and a population of more than 100,000 people. Nestled in the Rocky Mountains, the city of Missoula combines the pleasures of urban and rural life. It is the home of the University of Montana, and has a thriving cultural arts program. With a relatively mild year round climate, the area contains tremendous recreational opportunities.

The lifestyle afforded by the area has attracted a disproportionately large medical community. Missoula has the best physician-patient ratio of any urban area in the country. There is a regional cardiac care center, a regional mental health center, and nursing and pharmacy training through the University. Despite this wealth of providers, statistical health indices for Missoula County are no better than for other less well endowed counties in Montana.

TABLE 10

Five Year Mortality Rates, 1973-77

	Montana	Mineral	Missoula	Ravalli
5 year infant	16.3	12.0	15.3	17.0
5 year perinatal	20.4	16.6	18.3	16.9

Source: 1977 Montana Vital Statistics, Montana Department of Health and Environment Schiences.

TABLE 11

Leading Causes of Death by Percent

	Montana	Missoula
Heart	33.4	30.8
Cancer	18.5	23.8
Cerebrovascular	9.0	8.3
Accidents	9.0	10.4
Flu and Pneumonia	2.4	2.0

Source: 1977 Montana Vital Statistics

The Missoula City-County Health Department (MCCHD) is organized along traditional lines with a large Public Health Nursing component, and Environmental Health and Sanitation Division, and numerous federally funded categorical grant programs such as the Women, Infants and Children program. Administration of the heatlh department is the responsibility of the City-County Health Board which is appointed

by the County Commissioners. The Health Board selects a full-time Health Officer to conduct day-to-day business for the agency, and retains a physician on a part time basis to oversee the delivery of direct medical services.

The Health Department breaks out of the traditional mode with its health promotion and prevention programs. The first step in establishing this direction was the formation of a Health Education Working Group with representatives of provider and consumer groups from across the county. A Masters-level Health Education Specialist was hired to devote full time to promotion and prevention activities of the Department. Grant funds were obtained to sponsor an "Issues in Self Care" conference to promote community (and regional) dialogue on the promotion/prevention approach to better health.

Additional funding was requested from the County Commissioners for the Departmental expansion of health education activities. The request was predicated on the potential health improvements of community education programs and the apparent availability of non-governmental funding sources with which the effort could be continued. The Commissioners provided the necessary financial support, but indicated that the funds should be considered only as "seed money" and not a long term obligation or commitment of taxpayer subsidies.

The Missoula City-County Health Department hopes to integrate the self care philosophy at every level of community life--in the home, at school, and in the workplace. Although in some cases, programs may be disease specific and attempt to correct a particular problem, each will include the fundamental concepts of personal responsibility and healthful lifestyle behaviors. Each project necessarily includes a rigorous evaluation component to measure health benefit payoffs from different approaches.

A. Self Care in the Home:

The logical place to begin self care education is in the home. Most health care decisions are made in the home, i.e., whether to go see a doctor, whether to go to the emergency room, whether to get a flu immunization, etc. Secondly, courseware is available, tested, and proven effective in Sehnert's "activated patient" classes and Kemper's Healthwise project.

The Department has developed two programs to reach into the home with self care education.

1. High Risk Patients

The first offerings of the health department were targeted for Senior Citizens and new parents. The goals of the programs include:

1) Improving skills in the treatment of minor injuries and illnesses.

2) Improving patient communication skills in dealing with providers, and

3) Increasing consumer awareness of the relationship between health and lifestyles.

The medical community plays an integral part in the delivery of the self care education effort. Physicians, nurses, pharmacists, etc. act as instructors, or "facilitators," for many of the class sessions. The Health Department has attempted to involve as many different providers as possible in order to give the self care concept maximum exposure among area medical professionals.

The consumer response to these course offerings indicates a mounting awareness of the advantages inherent in the self care philosophy. Originally scheduled on an "as needed" basis, the Health Department has had to arrange a regular schedule of classes to meet this demand. Fees collected in the "new parents" course now cover all the department's out-of-pocket expenses.

2. General Population

Under a Title I grant from the Montana Department of Higher Education, the Health Department will offer self care education courses in five rural communities during 1979-80. The course format will be similar to the "High Risk" classes, but the discussion of specific health problems will focus on those areas identified by the respective student groups as most important to their needs.

In a prepaid health plan in Massachussets, Zapka and Averill noted reductions of up to 50% over a four year period in physician visits for common presentations such as naso-pharyngitis and pharyngitis (both variations of the common cold) attributable to a simple and inexpensive self care education program. This reduction in visits translated into a cost savings of $10/visit.(3)

TABLE 12 (4)

Cost per Visit Comparison 1976-77

Outpatient		Cold Self Care	
Direct Cost	$ 7.40	Direct Cost	$.07
Overhead	2.96	Overhead	.02
Medication	.66	Medication	.66
	$11.02		$.75

If the Title I project can achieve similar reductions in inappropriate utilization and consequent decreases in health care expenditures for the common cold the state grant funds will be returned many times over in direct benefits to the participants. The Health Department's evaluation of this project will continuously monitor participants' medical care utilization data.

B. Self Care in the School:

A recent conference of private philanthropic

organizations specializing in health care delivery projects, sponsored by the University of North Carolina School of Public Health, concluded that more financial support must be provided for research and development in school health education.[1] According to the American Academy of Pediatrics:

> Health education should be a part of every elementary and secondary teacher's training program...Planned, integrated programs of comprehensive health education should be required for students from Kindergarten through grade 12. (5)

The MCCHD, in an attempt to capitalize on the potential of the school setting, has developed a multi-pronged approach in line with the recommendations of the AAP.

1. Teacher Training

Teacher training in self care is being conducted through the University of Montana, School of Education. The course presents fundamental self care principles, and the instructional methodology for incorporating self care concepts in the classroom, business or institutional setting. The high class enrollment and complimentary student evaluations in the very first class convinced the University to make the self care course a regular curriculum offering.

2. Comprehensive Health Education

A plan for a comprehensive school health

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[1]Personal conversation with Peter Jacoby, Health Education Specialist, University of North Carolina, Chapel Hill, N.C. 9/10/79

education model program is being negotiated with the Kellogg Foundation, the recognized leader among foundations involved in health education and health promotion. The goal of the project is to provide students with information that will lead to the assumption of greater personal responsibility in preventing illness and managing disease, and lead to the adoption of healthful lifestyle behaviors.

> One missing link in current development has been the identification of the needs of the local community served by the health education curriculum. When community needs are not identified, the health education curriculum is likely 1) to contain critical gaps in its structure and 2) to neglect important opportunities to relate to the student's life experiences. (6)

The proposed model will supplement the interdisciplinary health education curriculum with school health teams, headed by nurse practitioners, who will deliver primary care services, act as resource persons for the teaching staff, and serve as catalysts for school, community and parental involvement projects. The school health teams will be supervised by the Health Department's Public Health Nursing section to insure that the program maintains a community health perspective. The evaluation component will determine changes in health outcomes (i.e., incidence of disease), behaviors (i.e., increased exercise, less smoking, use of seatbelts, etc.), attitudes about personal responsibilities in health, and finally, carryovers from the school into the

home.

3. Self Care for Teachers

The Health Department obtained the financial support of Blue Cross of Montana for a pilot self care project for teachers and their spouses in one of the Missoula city school districts. The intent of the program is to test the effectiveness of self care education in reducing health care expenditures among Blue Cross policy holders. Blue Cross believes that a successful self care education program can lead to reduced medical care utilization and improved lifestyle behaviors, lower costs to the insurance carrier, and corresponding reductions in insurance premiums for policy holders. The evaluation of this pilot project, believed to be the first self care education project sponsored by a major insurance carrier, is described in detail in Appendix A.

An additional benefit of this program is that it will serve as an orientation in self care concepts for the District teaching staff. This orientation and hands-on experience with self care will be an important ingredient in the success of the comprehensive school health program proposed to the Kellogg Foundation. Teachers will be better prepared to integrate the interdisciplinary health education curriculum in their classrooms if they have personally internalized the self care principles.

C. Self Care in the Workplace:

Health care expenditures are becoming an increasingly important cost item in business. Labor is demanding more and better medical benefits. Disabilities and early retirements from chronic illnesses are claiming an increasing percentage of gross profits. The shortened productive employee workspan decreases the company's return on investment in human resource capital.

Many corporate health programs revolve around multiphasic screening programs, or some other physical assessment system, designed to identify insipient employee health problems. In several cases, the results of these preventive measures have been very impressive. Cannon Mills screened almost 40,000 employees for cancer, diabetes, and hypertension. For those persons screened the detected cancer rates were 2/1000; the detected latent diabetes rate was 7/1000; and between 5-15% were found to be hypertensive. In all cases, the remedial costs of treatment were substantially reduced because of early detection. The average cost of the program was $9.40 for men, and $12.60 for women. Dr. Gil Collings, the Medical Director of the New York Telephone Company, claims that his company's screening and referral program takes care of approximately 80% of all employee health problems at significantly lower costs to the employees

and the company.[1]

Another approach being used more and more frequently in corporate health programs is the Robbins and Hall Health Risk Appraisal.[2] The Health Risk Appraisal quantifies the inherent risks of certain lifestyle behaviors. The health risk appraisal user receives a personal risk evaluation indicating the consequences of his or her lifestyle behaviors (i.e., exercise, smoking, seat belt usage, weight, etc.) in terms of the number of years of life which may be lost through "premature death." The actuarial tables which determine the life expectancy risk were developed by Harvey Geller of the U.S. Public Health Service using insurance industry mortality data.

Control Data Corporation and the Equitable Life Assurance Company have invested $6,000,000 in a joint venture to develop a computerized health risk appraisal and health education package. The rationale behind this investment is that corporations will soon be compelled by skyrocketing employee health costs to take an active role in promoting good health among their employees and their families. (This is precisely the argument of the National Chamber of Commerce

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[1]Personal conversation with Dr. Collings, 8/17/79.

[2]Drs. Lewis Hall and Jack Robbins of the Indiana Methodist Hospital are credited with developing the first "Health Hazard Appraisal", but there are many versions now available on the market.

in their "National Health Strategy" publication.) The health risk appraisal, according to the investing companies, acts as a stimulus for employees to make positive lifestyle changes, and gives the company aggregate employee data upon which to formulate employee health programs. The computer makes the health risk appraisal more readily available to employees and their families on an individualized basis. Furthermore, the computer can quickly and efficiently transfer health record and lifestyle information to the employee's own physician.

The Missoula City-County Health Department will soon offer its own Health Risk Appraisal package to the local business community. The Health Department's model uses a personal questionnaire and several physical measurements to assess an individual's risk. The individual receives a computerized printout of their risk data, and a counselling session with trained health educators in which a personal health improvement plan can be formulated.

In conjunction with the HRA service, the Department hopes to offer specialized health education services tailored to the employee group's particular needs. Based on the fees being paid by HRA customers, such as IBM, Toro, and the St. Paul Life Insurance Company, the Health Department predicts that it will be able to underwrite its entire health education effort through fee-for-service collections

from local businesses. The user companies, meanwhile, can expect lower absenteeism, lower early retirements due to medical disabilities, and higher productivity. (7)

Finally, research indicates that the workplace is an ideal focal point for disease specific programs. (8,9) The Health Department, therefore, developed a workplace hypertension intervention model. The model consists of periodic screenings for employees and their families, and a self care education course centered around management of hypertension by the non-professional. The Health Department estimates that by using this model employers' costs for cardiovascular disease can be reduced from the $300/employee/year reported by Schoenberger (10) to less than $100/employee/year.

REFERENCES

1. Marc LaLonde, "Beyond a New Perspective," AJPH 67 (4) 1977, p. 360.

2. Ibid., p. 360.

3. Jane Zapka and Barry W. Averill, "Self Care for Colds: A Cost Effective Alternative to Upper Respiratory Infection Management," AJPH 69 (8):818-816, 1979.

4. Ibid., p. 816.

5. Report by the Committee on School Health, American Academy of Pediatrics, Journal of School Health, 48 (8):503, 1978.

6. Frank Kunstel, "Assessing Community Needs: Implications for Curriculum and Staff Development in Health Education," Journal of School Health, 48 (4):220-224.

7. Steven D. Wood; Robert Kreitner; Glenn M. Friedman, "Productivity and Absenteeism Relative to Coronary Risk," Arizona Business, May 1978: 11-14.

8. Michael H. Alderman and Ellie E. Schoenbaum, "Detection and Treatment of Hypertension at the Work Site," NEJM 293 (2): 65-68, 1975.

9. Robert C. Charman, "Hypertension Management Program in an Industrial Community," Jour Amer Med Assoc, 227 (3): 287-291, 1974.

10. James A. Schoenberger, "Heart Disease in Industry: The Chicago Heart Association Project," from Proceedings of the National Conference on High Blood Pressure Control, October 14, 1976.

CHAPTER VII

THE VERDICT

Skeptics and other government officials might dismiss the preceding arguments for lack of hard data. It is true that statistically significant data about the impact of self care on health status are, at this time, merely suggestive. It is also true, however, that hard data is a function of the volume and intensity of the research. Self care is a concept still in its academic infancy, and the longitudinal research studies are just now beginning.[1] The scientific evaluation of current projects, such as those of the Missoula City-County Health Department, will provide additional substantiation of the merits of the self care strategy.

Self care is non-discriminatory in nature. It pays dividends to rich and poor, young and old, educated and illiterate. Not being restricted to any one class of people, we should begin to see signs of the acceptance of the self care ethic in every corner of our society. As acceptance

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[1] In July of 1979, the Federal government awarded contracts for long term studies on three separate self care projects.

becomes more widespread, we can expect to see insurance carriers offering reduced health insurance premiums to individuals who take self care courses, exercise regularly, do not smoke, or faithfully wear seat belts. We can expect to see business developing strong employee health education programs. We can expect to see professional athletes take to the jogging trails to improve their cardiovascular systems. We can expect to see stricter legislative and regulatory controls on food products, additives and advertising. And, we can expect to see school health education curriculums emphasizing informed decision making and personal responsibility rather than the shape and location of body organs.

The change is already in progress. We are seeing phenomenal increases in participative sports such as soccer and road running. Even President Carter finds time to jog and compete in an occasional road race! State and Federal legislators are expressing an increasing concern over "junk food" dispensers in public schools. Conferences are being held across the country on "Wellness in the Workplace," or what business can do to effect positive changes in employee health.

Meg Greenfield has formulated the principle of "forced experimentalism." This principle revolves around a standard decision set: A. (Let us act), B. (Let us get ready to

act), and C. (Let us do nothing). The middle course is perennially favored as it implies action and defies criticism. Greenfield challenges us to accept the responsibility of knowing the answer--before we die of "terminal social science." (1)

This paper has presented three reasons for the full scale implementation of the self care health strategy: reduced health care costs, improved health, and an improved quality of life. Any of these is sufficient justification for embracing the self care concept.

Self care education will reduce expenditures on health care by eliminating unnecessary or inappropriate utilization of medical resources. This translates into lower out-of-pocket expenses for the consumer, lower health insurance company outlays, and lower tax dollar subsidies required for the federal Medicaid and Medicare programs. The reduced demand on manpower and facilities would result in indirect cost savings for such things as medical school subsidies, expensive hospital construction and the salary premiums now paid to medical professionals.

The evidence overwhelmingly indicts the American life-style as our number one health problem. The leading causes of mortality, or, in the jargon of the trade, "premature death" are a function of lifestyle, not deficiencies in the illness care system. Hypertension can be "controlled"

by medication: it can be wiped out by diet, exercise and improved stress management. Heart disease can be "repaired" by surgical procedures: it can be prevented with routine maintenance. Self care education presents the problem and the solution in pablum form, much like commercial advertising. If you want your lifestyle right, take care of it. There is an abundance of research on populations known for their longevity, and the conclusions all point to healthful life-style behaviors.

Quality of life is a somewhat esoteric concept which is defined according to one's personal tastes and preferences. The benefits of following self care principles, however, are so fundamental they invariably add to the quality of life of any individual. First, self care reduces the incidence and even the risk of life threatening and debilitating disease. Secondly, in so doing, self care reduces personal health care expenditures. Third, self care raises one's personal self esteem and builds confidence in one's own abilities. Physically, materially and psychologically self care improves the life circumstances of an individual. Together they create an ambience within which the individual can more easily realize his or her full potential. The author Katherine Mansfield captured the essence of this idea.

> By health, I mean the power to live a full adult, living, breathing life in close contact with what I love... I want to be all that I am capable of becoming.(2)

Self care is not a wonder drug which can be easily injected to prevent illness. It is a concept that must be promoted at the federal level in order to be accepted at the community level, and at the community level in order to be accepted at the individual level. This paper has attempted to show that self care education is a viable pathway to improved health, and that it can be effectively and efficiently promoted by public health agencies.

We can no longer afford choice B. Let us act now--aggressively and immediately.

REFERENCES

1. Meg Greenfield, " Why We Don't Know Anything", Newsweek Magazine, December 18, 1978, p.112

2. Dubos, The Mirage of Health, p. 230

APPENDIX A

EVALUATION METHODOLOGY: BLUE CROSS/MISSOULA CITY-COUNTY HEALTH DEPARTMENT/MISSOULA SCHOOL DISTRICT #1 EMPLOYEE FAMILY SELF CARE EDUCATION PROJECT

Introduction

Blue Cross of Montana, the Missoula City-County Health Department and the Missoula School District #1 propose to implement a voluntary health education program for employees and their spouses. The program has as its aims, 1) the more appropriate utilization of health care services; 2) lifestyle changes conducive to improved health; and 3) the reduction in health care costs to the District and Blue Cross.

The program consists of a thirteen week course in self care health education given by local health professionals, three Health Risk Appraisals, two educational follow-up sessions and a monthly newsletter. The entire program will be delivered by the Missoula City-County Health Department in cooperation with District #1 Administration. The program will last three years.

The educational package is expected to achieve six specific objectives:

1. Decrease the risks of premature disease, disability and death among employees and their

families.

2. Reduce health care expenditures by decreasing inappropriate utilization of the health care system among employees and their families.

3. Improve health behaviors among employees and their families.

4. Improve self-help skills for management of minor illnesses and injuries among employees and their families.

5. Improve health observation and reporting skills for employees and their families.

6. Increase health issues awareness among employees and their families.

The Evaluation Program

In order to evaluate the success of the project it will be necessary to perform a longitudinal and cross sectional analysis of the experience and behavior of program participants, and compare these with a control group which has not received the educational package. The use of the control group will allow comparisons between experimentals and controls of behavioral changes and utilization experience to determine if the program goals are being met.

The experimental group will include two cohorts of four groups of twenty-five persons each. Participants will be teachers and staff members from District #1 schools and their spouses. The control group will consist of employees of Missoula High Schools with health risks similar to the experimental group. As the number of experimental subjects

is relatively small (2 x 4 x 25 = 200) and the population from which the subjects will be selected is relatively small, matching the control and experimental groups with a high degree of specificity will not be possible.

The evaluation program will be based on the results of examinations and tests given and performed before and during the life of the program. They will include the following:

A. Before the experiment

1. Medical history record
2. Mortality risk (as measured by the Health Risk Appraisal)
3. Medical care utilization patterns
4. Historical medical care costs
5. Self-administered medical care
6. Cost of self-administered medical care
7. Cholesterol level
8. Blood pressure level
9. Days absent from work preceding year
10. Health knowledge summary

B. During the experiment

All of the above (A.) except item number one (1.) will be administered at intervals throughout the project.

Evaluation Procedure

Four cohorts will be established for the purposes of program analysis. The cohorts are as follows:

Cohort 1 = The first four groups to receive the self care education (n = 100)
Cohort 2 = A control group matched to the first cohort (n = 100)
Cohort 3 = The second four groups to receive the self care education (n = 100)

Cohort 4 = A control group matched to the third cohort (n = 100)

These control cohorts will be matched to their experimental counterparts by various risk categories (age, sex, blood pressure level, etc.), each taken independently.

Each cohort will be exposed to the examinations and tests listed in the "Before the Experiment" section prior to the beginning of the self care educational program, with cohorts 1 and 2 tested together, and cohorts 3 and 4 tested together. Data reduction of the results of these tests and examinations will provide a baseline for future comparisons. The experimental cohorts (1 and 3) will then receive the education package according to the staggered schedule. Six months after the conclusion to the educational program and every six months thereafter for the life of the project the respective cohort pairs will be exposed to all of the tests listed above in "Before the Experiment." The preliminary schedule of the tests and examinations is listed below:

Test	Cohort 1 & 2	Cohort 3 & 4
Before the experiment	January 1980	March 1980
After education	March 1980	May 1980
First six-month measure	June 1980	August 1980
Second six-month measure	January 1981	March 1981
Third six-month measure	June 1981	August 1981
Fourth six-month measure	January 1982	March 1982

At each date, for each of the respective cohort pairs, program success will be measured through the use of appropriate statistical tests in order to determine conformity

to programmatic indicators of success. These indicators include the following:

Beneficial Status and Change, Experimentals Over Controls

1. Reduction in % difference between appraisal age and achievable age (as measured by the Health Risk Appraisal),
2. Reduction in % difference between appraised risk and achievable risk for the twelve categories listed in the HRA,
3. Reduction in % difference in Total Health Risk (as measured by the HRA),
4. Reduction in improper health habits (as measured by the HRA),
5. Reduction in Total Health Risk (as measured by the HRA),
6. Reduction in medical utilization with no increase in health risk,
7. Reduction in medical cost with no increase in health risk,
8. Increase in self-medical care utilization with no increase in health risk,
9. Decrease in cholesterol levels,
10. Decrease in blood pressure levels,
11. Increased perceived control over health matters with no increase in health risk,
12. Reduction in absenteeism,
13. Increased health knowledge,
14. Retention of and increases in beneficial health habits and procedures throughout the study period.

In summary, the self care education program will be considered successful in changing behavioral patterns and reducing inappropriate medical care utilization if after three years Blue Cross believes it can offer reduced group health insurance premiums where the insured group participates in a self care education program. The evaluation will not attempt to measure attitude and behavior changes of non-

participating family/household members, although the long term consequences of positive changes might significantly improve the benefit outcome of a cost/benefit analysis.

BIBLIOGRAPHY

Alderman, Michael H. and Schoenbaum, Ellie E. "Detection and Treatment of Hypertension at the Work Site," New England Journal of Medicine, 293 (2): 65-68, 1975.

Aldredge, Melvin G. "Self-Care as an Alternative Future," A working paper for MEXDICO Futures Committee of Planned Parenthood Conference, September, 1976.

Anderson, Ronald. "Health Service Use: National Trends and Variations," A study for the National Center for Health Services Research, 1972.

Anderson, Ronald. "Health Status Indices and Access to Medical Care," American Journal of Public Health, 68 (5): 458-463.

Andreopoulos, Spiros. Primary Care: Where Medicine Fails, NY: John Wiley and Sons, 1974.

Ardell, Donald A. High Level Wellness: An Alternative to Doctors, Drugs and Disease, Emmaus, PA: Rodale Press, 1977.

Ardell, Donald A. "The Nature and Implications of High Level Wellness, or Why Normal Health is a Rather Sorry State of Existence," Health Values, 3 (1): 17-24, 1979.

Auger, Richard C. and Goldberg, Victor S. "Prepaid Health Plans and Moral Hazard," Public Policy XXII, pp. 383-390, Summer, 1974.

Bandura, Albert. Principles of Behavior Modification, NY: Holt, Rinehart & Winston, 1969.

Brown, J. H. U. The Health Care Dilemma, NY: Human Sciences Press, 1978.

Cauffman, Joy G.; Wingert, Willis A.; Friedman, David B.; Warburton, E. A.; Hanes, Barbara. "Community Health Aides: How Effective Are They?" American Journal of Public Health, 60: 1904, 1970.

Crawford, Charles O. "Organization of Health Services for Rural Areas," in Rural Health Services: Organization, Delivery and Uses, E. W. Hassinger and L. R. Whiting, ed, Ames, Iowa: Iowa State University Press, 1976, pp. 121-136.

Charman, Richard C. and Schoenbaum, Ellie D. "Detection and Treatment of Hypertension at the Work Site," New England Journal of Medicine, 293 (2): 65-68, 1975.

Chase, Harol. "The Position of the U.S. in International Comparison of Health Status," American Journal of Public Health, 62 (4): 581-589, 1972.

Dever, G. E. Alan. "Guidelines for Health Status Measurement," A report to the Georgia Health Systems Agency, October, 1977.

Dole, Robert L. Hearings before the Senate Select Committee on Nutrition and Human Needs, U.S. Government Printing Office, February, 1977.

Domke, Herbert R. and Coffey, Gladys. "The Neighborhood-based Public Health Worker," American Journal of Public Health, 56 (4): 603-608, 1966.

Dubos, Rene. The Mirage of Health, Garden City, NY: Doubleday and Co., 1959.

Ehrenreich, Barbara and Ehrenreich, John. "Health Care and Social Control," Social Policy, 5 (1): 26-40, 1974.

Ehrenreich, Barbara and Ehrenreich, John. The American Health Empire: Power, Profits and Politics, NY: Vantage Books, 1970.

Elrick, Harold; Clarke, Sam; Crakes, James. Living Longer and Better, Mountain View, CA: World Publications, 1973.

Feldstein, Martin S. "The Welfare Loss of Excess Health Insurance," Journal of Political Economics, 81 (2) 251-280, 1973.

Ferguson, Tom. "Promoting Medical Self-Care in Children," Mother Earth News, 59: 98, 1979.

Finnerty, Frank A. Jr.; Mattie, Edward C.; Finnerty, Francis A., III. "Hypertension in the Inner City I," Circulation, 47: 73-75, 1973.

Fuchs, Victor. Who Shall Live, NY: Basic Books, 1974.

Garfield, Sidney R.; Collen, Morris, F.; Feldman, Robert; Soghikian, Krikor; Richart, Robert M; Duncan, James H. Evaluation of an Ambulatory Medical Care System," New England Journal of Medicine, 294 (8): 426-430, 1976.

Gerber, Alex. The Gerber Report, NY: David McKay & Co., 1971.

Gori, G. B. "Etiology and Prevention of Smoking Related Diseases," Presentation for the National Academy of Sciences, October 28, 1976.

Greenfield, Meg. "Why We Don't Know Anything," Newsweek editorial, December 18, 1978, p. 112.

Hatcher, Gordon H. "Canadial Approaches to Health Planning," American Journal of Public Health, 68 (9): 881-889, 1978.

Halzell, Grace. New York Times, Op ed page, March 1, 1975.

Gross, Llewellyn; Grosof, Elliot H.; and Yeracaris, Constantine E. "A General Theory of Labor Turnover in Hospitals," in Patients, Physicians and Illness, E. Gartley Jaco, ed., NY: Free Press, 1958, pp. 343-352.

Illich, Ivan. Medical Nemesis: The Expropriation of Health, London: Boyars & Calder, 1975.

Illich, Ivan. "Medicine is a Major Threat to Health," Psychology Today, May, 1976, pp. 66-77.

Illich, Ivan. "Medical Nemesis: The Destructive Force of Professional Health Care," Social Policy, 5 (2): 3-9, 1974.

Kemper, Donald. Final Report to the Health Care Financing Administration on Project "Healthwise", 1978.

Kennedy, Edward. "Preventive Medicine: What it Can Mean for You," Family Health, January, 1976, p. 40.

Knowles, John. Hospital, Disease and Public Interest, Cambridge: Harvard Press, 1965.

Knowles, John. "The Struggle to Stay Healthy," Time, August 9, 1976.

Komaroff, Anthony L.; Black, W. L.; Flatley, Margaret; Knopp, Robert H.; Reiffen, Barney; and Sherman, Herbert. "Protocols for Physician Assistants," New England Journal of Medicine, 290 (6): 307-312, 1974.

Kunstel, Frank. "Assessing Community Needs: Implications for Curriculum and Staff Development in Health Education," Journal of School Health, 48 (4): 220-224, 1978.

Kunnes, Richard. Your Money or Your Life. NY: Dodd, Mead & Co., 1971.

LaLonde, Marc. "A New Federal Financial Formula," Canadian Hospital, February, 1973, pp. 52-54.

LaLonde, Marc. "Beyond a New Perspective," American Journal of Public Health, 67 (4): 357-360, 1977.

LaLonde, Marc. A New Perspective on the Health of Canadians, A working document of the Canadian Government, Ottawa, 1974.

Lembecke, Paul A. "Is This Operation Necessary," New Republic, 149 (November, 9): 15-16, 1963.

Lewis, Charles E. "Variations in the Incidence of Surgery," New England Journal of Medicine, 281 (16): 880-884.

Mahlen, Halfdan. Opening address at World Health Organization Conference on Medical Assistants, Bethesda, MD., October, 1973.

Mahoney, Michael J., and Thoreson, Carl E. Self Control: Power to the Person, Monterey, CA: Brooks/Cole Publishing Co., 1974.

Mather, H. G.; Pearson, N. G.; and Read, K. L. "Acute Myocardial Infarction: Home and Hospital Treatment," British Medical Journal, 3: 334-338, 1971.

Mechanic, David. Politics, Medicine and Social Science, NY: John Wiley & Sons, 1974.

The Missoulian, August 21, 1979. Missoula, Montana

Montana Vital Statistics, Montana Department of Health and Environmental Sciences, 1979.

The Nation's Health, American Journal of Public Health, Newsletter, April, 1977, p. 1.

The National Chamber of Commerce, "A National Health Care Strategy," 1978.

Peterson, William O. Medical Care Research: Counterbalance to Opinion and Habit," in Hospital, Disease and Public Interest, John Knowles, ed., Cambridge: Harvard Press, 1965.

Pritikin, Nathan. Live Longer Now, Gross & Dunlop, 1974.

Proceedings from the "National Institutes of Health," National Conference on High Blood Pressure Control, Bethesda, MD., 1976.

Report by the Committee on School Health, American Academy of Pediatrics, Journal of School Health , 48 (8): 503.

Rushmer, Robert F. Humanizing Health Care, Cambridge: MIT Press, 1975.

Salomon. "Hospital Electrical Wizards," New England Journal of Medicine, 287 (3): 146-147, 1972.

Schoenberger, James A. The Hypertension Handbook, West Point, PA: Merck Sharp & Dohme, Inc., 1974.

Sehnert, Keith. "Evaluation of the Activated Patient Concept," DHEW, 1975.

Somers, Ann. Promoting Health: Consumer Education and National Policy, Germantown, MD: Aspen Systems Corp., 1976.

Sox, Harold Jr.; Sox, Carol H.; and Tompkins, Richard K. "Training Physicians Assistants: The Use of a Clinical Algorithm System for Patient Care, Audit of Performance and Education," New England Journal of Medicine, 288: 818-824, 1973.

Stokes, Bruce. "Self-Care: A Nation's Best Health Insurance," Science, 205 (4406 August 10, 1979.

Stroman, Duane F. The Medical Establishment and Social Responsibility, Pt. Washington, NY: Kennikat, 1976.

Travis, John. "High Level Wellness: Signpost to the Future," Health Activation News, 4 (2):2, 1979.

Tubersing, Donald A. Wholistic Health, N.Y.: Human Sciences Press, 1979.

Tucker, James F. Current Economic Issues and Problems, Chicago: Rand McNally Publishing Co., 1976.

Voltman, John D. "Jamestown Medical Clinic System", Journal of the American Medical Association, 234 (3): 303-304.

Wesson, Albert F. "Hospital Ideology and Communications Between Ward Personnel," in Patients, Physicians and Illness, E. Gartley Jaco, ed., N.Y.: The Free Press, 1958.

Wildavsky, Aaron. Doing Better and Feeling Worse: The Political Pathology of Health Policy, Boston: Little, Brown and Co., 1977.

Wood, Steven D.; Kreitner, Robert; Friedman, Glenn M. Productivity and Absenteeism Relative to Coronary Risk," Arizona Business, May 1978: 11-14.

Zapka, Jane and Averill, Barry W. "Self Care for Colds: A Cost Effective Alternative to Upper Respiratory Infection Management," American Journal of Public Health, 69 (8): 814-816, 1979.