CONSUMER HEALTH PERSPECTIVES

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Conference II: The Impact of Medical Technology on Sickness & Death

On September 16, 1978, the Consumer Commission, sponsored by the National Science Foundation, presented the second of a series of four conferences on the subject of Medical Technology and the Health Care Consumer. This issue of Consumer Health Perspectives presents excerpts from the papers presented at the general session of that conference and a brief report on each of four workshops held during the afternoon.

Major Diseases of Modern America: What Difference Has Technology Really Made?

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I will present my argument from an historical perspective. The tuberculosis death rate in 1850 (when tuberculosis was the greatest cause of death in the U.S. population) was about 450 per 100,000. It then fell progressively to 36 per 100,000 by 1938. Yet there was no specific therapy for tuberculosis until after 1938.

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McKeown, working in England, examined this question by examining general death rates over a period of 140 years. He observed that death rates began falling in England about 1840. However, the public health revolution did not begin until about 1870, and had its greatest effect after 1890. McKeown concluded that it was the improved nutrition which came along with the industrial revolution that had the greatest single influence.

The contribution of clinical medicine to these falling death rates seems to be small. Antibiotics certainly made a difference, as did modern surgery. Birth planning, with prenatal care, baby spacing, and maternal nutrition, has certainly made a difference. But the examples that can be cited are not many. The change in death rates, and increased life expectancy, has been largely because of a reduction in the death rate from infectious disease in infants and young children.

So my interpretation of these facts is that there have been three historical periods:

1) Dramatically falling death rates from improvements in the general environment, especially from increasing standards of living;
2) Further improvements from modern public health, which had considerable impact through such measures as safe water supplies and immunization; and
3) Finally, clinical medicine, which has had some impact, but a much smaller one than the first two factors. This is not to minimize the importance of medical technology, but to put it in perspective.

This points out that environmental changes and public health measures are likely to have had the greatest effect on health. And I believe that that will continue to be true in the future.

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I want now to talk more specifically about heart disease, cancer, and stroke. First heart disease. In 1950, the age-adjusted death rate was about 425 per 100,000, and it had fallen to about 285 per 100,000 by 1976. Stroke, likewise, had an age-adjusted death rate that fell about 32 percent over the same interval. Cancer, on the other hand, has had a rising death rate: 125.5 per 100,000 in 1950, to 132 per 100,000 in 1976. The sex breakdown of those rates indicates that cancer in males has increased considerably over the last 25 years, while the death rate from cancer in females has stayed about the same. The most dramatic change is the striking increase in deaths from lung cancer in males, due almost entirely to smoking. Stomach cancer deaths have decreased markedly in both sexes, as have uterine cancer deaths in women.

First, why have the heart disease death rate and the stroke death rate fallen? Basically, we don't know. We have the knowledge to prevent much of the burden of these diseases. We know that if people stop smoking, exercise, watch their diet, and have effective treatment for hypertension, heart disease deaths can be prevented. But with the exception of hypertension, none of these factors has changed enough over the past 25 years to explain a falling death rate. Treatment for hypertension began in the 1950's, so it probably has made a contribution. The same could be said for stroke. As for treatment technology, the evidence for any impact from emergency care, coronary care units, and so forth is not convincing. But there probably has been some impact.

As for the cancer death rates, as I mentioned we know that smoking in males explains the bulk of the rising death rate. We will soon begin to see a rise in death rates in lung cancer in women because of changing smoking habits.

Otherwise, we know from epidemiological studies that environment, broadly defined, causes 85 to 90 percent of cancers. We could perhaps prevent 40 percent or so of cancers and cancer deaths now with available knowledge, but the fact that half or more of those would be cancers due to smoking indicates how limited our knowledge is. This points out the need for more research on the causes of disease.

What about the usefulness of the technologies used in these three major diseases? It's difficult to generalize —there are too many specific disease conditions, and too many technologies in use. I can say that except for the clear-cut example of the treatment for hypertension, we can't point to too many successes.

Let me show some of the complexities by discussing some aspects of one disease and its treatment. I will use breast cancer, the most common cause of cancer death in women. The incidence of breast cancer has increased slightly during the past 25 years, but the survival has improved slightly, so that the death rate has stayed about the same. Most women with breast cancer—62 percent—are treated with surgery.

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Mammography, a special x-ray of the breast, has been used [in screening] in conjunction with physician examination and self-examination. It was first shown to be an effective tool for the diagnosis of breast cancer. Then the idea developed to use it as part of periodic screening programs. This idea was tested in a controlled clinical trial carried out in the Health Insurance Plan of Greater New York (HIP) during the mid-1960's. In the study, 60,000 women were randomly allocated either to a study or to a control group. The study group was screened periodically for breast cancer. At the end of 7 years, there were 70 deaths in the study group and 108 in the control group, a significant difference. This led the American Cancer Society and the National Institutes of Health to start a breast cancer demonstration project. However, by 1975, questions were being raised about the x-ray exposure women had from mammography. Studies had come out showing that x-ray to the breast caused cancer. So the question then became how to balance the risks and benefits. The HIP study was analyzed again, and it was recognized that there was no benefit for women under the age of 50. N.I.H. therefore recommended screening by mammography only for women over the age of 50 or with particular risk factors. Many radiologists disagreed with this decision, arguing that the technology of mammography has improved greatly in the previous 10 years, that the radiation dose is lower, and that many cases of women with early breast cancer under the age of 50 have been found with mammography. This controversy continues. The HIP study is the only scientific study of this subject, and despite its findings, widespread screening of women under the age of 50 continues.

Turning to therapy, radical mastectomy is often considered the standard treatment for breast cancer. There have been questions about its benefits for years, but in recent years almost 100,000 operations have been done every year. In 1971, the National Institutes of Health started a controlled clinical trial of breast cancer treatment, including radical mastectomy. The preliminary results show radical mastectomy no better than simple mastectomy.

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In summary, I can't make a simple statement about technology in heart disease, cancer, and stroke. Each problem and each patient have to be thought of individually. But it is clear to me that our society is being short-sighted. We are investing in a technological fix rather than in long-term research or prevention. We are not assuring good social conditions for all our citizens. We are not assuring good nutrition. We are not seeing that everyone has the best chance to live a fulfilled life. We are not encouraging people to live healthy lives—for, to a large extent, an individual's health rests in his or her own hands. And we are not training M.D.'s to value prevention and to help their patients adopt healthy behavior.

Health Planning: Can It Affect Sickness and Health?

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The goal of health planning should be that of improving health status in such a way as to minimize sickness and prolong life. To meet this goal will require creativity, competence and a lot of determination.

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At the end of World War II, government funding of research stimulated medical discoveries, many of which require elaborate equipment and highly specialized personnel to operate. Hill-Burton monies helped finance the construction of hospitals to house the new equipment, and eventually Medicare reimbursement of hospitals for depreciation enabled these institutions to add ever more sophisticated services. Government research grants accelerated the growth in the prestige and influence of medical schools and their affiliated teaching hospitals, and these institutions in turn inspired increasing specialization among doctors and intensified interest in care requiring expensive technology.

The expansion of health insurance and the inauguration of Medicare reinforced these trends in three ways: Since coverage was better for inpatient care than for ambulatory care, an incentive was created to get needed care in a hospital whenever possible. Physicians and their patients felt little constraint to economize on the type of hospital care used since private insurance or Medicare paid most hospital bills. With third parties reimbursing hospitals for almost all costs, no matter how rapidly those costs rose, administrators had little incentive to economize and acceded to doctors' requests for the installation of new facilities and services. Health insurance and Medicare, in effect, removed the restraint of price competition from our health care system.

At the same time the growing complexity of medicine fostered specialization among doctors, and the specialists increasingly staffing our community hospitals pressured "their" hospitals to add the equipment required by their diverse specialties.

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Eventually our emphasis on top quality secondary and tertiary care pushed health care costs so high that government, health insurers, and the public grew alarmed. Government at vairous levels instituted rate regulation, regulations to curb capital expenditures, comprehensive health planning, and Professional Standards Review Organizations to review hospital utilization. Health Maintenance Organizations, which provide comprehensive health care for a fixed monthly fee, were promoted. Health insurance was expanded to provide better coverage of outpatient care and thus to reduce the incentive to use expensive inpatient care unnecessarily.

Responding to consumer complaints about inadequate primary care (and concerned that this inadequacy was stimulating the inflation in health care costs), government has sought to put more emphasis on primary care. Federal research grants have been cut back, and this may in time lead to a slower rate of technological change in medicine. Hill-Burton funds have been reduced, and those that remain are increasingly used for outpatient rather than inpatient facilities. Neighborhood health centers have been built with the aid of government funds. The National Health Service Corps was created in an effort to get doctors to underserved areas....Partly because of government encouragement, medical schools and teaching hospitals began to expand their training in "family medicine."

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Our complex health care structure is changing. The center of influence in the system appears to be moving toward hospital administrators and government regulators. Hospitals are making some effort to coordinate their work with other institutions, and in some instances to share services or even to merge. Consumers, better educated and more affluent, are finding ways to make their voices heard—through malpractice suits, pressure on legislators and regulators, and representation on hospital boards and Health Systems Agencies.

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Much of the data needed for good health planning is not readily available to health planning agencies or, if available, is not subjected to rigorous study and analysis. The list of problems seems endless. But in spite of these problems progress is occurring. From my biased point of view, at least some of this progress is a direct result of the more detailed law, regulations and guidance provided by the Federal Government. Public Law 93-641 and the financial resources for health planning which it provides are strong evidence of increased Federal commitment to the identification of health needs and to the development of appropriate resources to meet them. I consider it a major step forward.

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The United States has lagged noticeably behind its closest social and cultural counterparts, Western Europe and Canada. Some attribute this lag to our national tendency toward free enterprise, laissez-faire development and antipathy toward government intervention....

Efforts to solve health problems have generally been initiated at the local level but as problems grew in scope and intensity, the states and federal government became involved.

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Federal government involvement with the broad spectrum of health issues did not emerge as a serious focus for action in the United States until the 1930's. Incremental efforts to develop a more coherent national health policy and protections for the citizenry were stimulated by both the private and public sectors.

The passage of the Social Security Act of 1935 was surrounded by efforts to address related health issues...The report of the Interdepartmental Committee to Coordinate Health and Welfare; "A National Health Program," recommended greatly increased government participation in the field of public health including federal health insurance.

Over the next 30 years, repeated attempts to implement these proposals failed in the Congress and it was not until the passage of the Social Security amendments of 1965 (Medicare and Medicaid) that the federal government began to assume major responsibility for payment of health services.

Passage of the Medicare and Medicaid legislation and the resulting rapid increase in federal expenditures for health reestablished a related federal concern for health planning. Initial federal involvement in health planning had begun with the Hill Burton Act in 1946. This Act was designed to increase the availability of hospitals through new construction in areas of need...In the late 1950's and early 1960's local areawide facilities planning councils were established in various parts of the country and community (including consumer) representation on these councils was developed.

In the early 1960's, under Mental Health Legislation a nationwide effort to institutionalize community-based planning for the development of mental health programs also was begun.

The passage of the Regional Medical Program legislation in 1965 created state and local organizations which were expected to work toward the regionalization of health services for victims of heart disease, cancer and stroke. Community involvement and support came predominantly from the fields of medicine and hospital administration although eventually consumer participation was sought.

In 1966, the Partnership for Health Act provided the basis for establishment of state and areawide comprehensive health planning agencies. These agencies were to concern themselves with long-range planning for mental, physical and environmental health purposes and to function with consumer-dominated boards and advisory councils. Questions related to the cost of health care were expected to be addressed.

The National Health Planning and Resource Development Act of 1974 combined elements of the Hill Burton, Regional Medical Program and Comprehensive Health Planning legislation. Programs funded under old legislation were terminated. A new system of state and local health planning agencies was created. These agencies were required to provide for broadly representative governing bodies with consumers in the majority and with appropriate representation from major providers of health services. Increased emphasis was placed upon cost containment and health services delivery.

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For consumers, who are expected to introduce a broader perspective of community health needs and resources and who are generally less well versed than providers in issues, this [health planning] has presented a series of increasingly difficult and sometimes frustrating tasks. These problems are often compounded by: the lack of clarification of the consumer's role in the work of the agency; the absence of adequate consumer orientation and training; the limitations of health planning agency staff support for consumer activities; the timing and location of agency activities which are unsuited to the full involvement of consumer members.

Note: Also making a presentation at the second conference was H. Jack Geiger, M.D., Arthur C. Logan Professor of Community Medicine at the Center of Biomedical Education of the City University of New York. He spoke on the ability of health planning to affect sickness and death. Unfortunately, the text of his speech was not made available to us.

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LEAD POISONING: TECHNICAL FIX FOR A HUMAN PROBLEM

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In March of 1969, Rene Dubos chaired an international symposium on childhood lead poisoning which was held in New York City. In summarizing the content of the two-day meeting, he closed by exclaiming:

> The problem [lead poisoning] is so well defined, so neatly packaged with the causes and cures known, that if we don't eliminate this social crime our society deserves all the disasters that have been forecast for it.

The health effects of lead were well known at this time. Fatal outcomes were unusual, but seizures and other central nervous system disorders, anemia and kidney disease had been documented in both children and occupationally exposed adults for many years. The association between the symptoms of lead poisoning and the ingestion of lead-containing paint by children...had been documented for forty years.

Much scattered data suggested that lead poisoning was a major disease of New York City children. In the absence of a systematic detection program, some 143 cases of childhood lead poisoning had been noted in the City from 1950 to 1955; 27% of those children died. 338 cases were diagnosed by the New York City Health Department in 1963. These patients were discovered only because of increased awareness of the problem among health professionals. No attempt had been made to find these children before they became ill....In 1967 and 1968, only 4000-5000 blood lead determinations were performed by the N.Y.C. Health Department laboratory. Approximately 10% of these values were elevated and 1% of the cases had a fatal outcome.

A number of small screening studies carried out in various central city communities suggested that the true incidence of increased lead exposure, as determined by elevated blood levels, ranged between 6 and 40% of the children examined. The factors that appeared to be responsible were old housing, previously painted with paints having a high lead content, deterioration of that housing usually related to poor maintenance, and children who had swallowed non-food objects. It was estimated that there were 450,000 such dwelling units in New York City and these could have been housing 120,000 children between the ages of 1 and 6.

Clearly, it was a question of separating the child from the menace. What were the public health options? The substandard housing could not be demolished because there was already a shortage of low and middle income housing in the City. Since the total environment could not be deleaded, only those dwellings representing a clear and present danger could be attacked. The technology of environmental lead detection rquired extensive paint and plaster sampling, a procedure which the Health Department had abandoned 5 years earlier as not being cost-effective. In addition, the Health Code of New York City did not support random screening of apartments as a preventive measure prior to detection of a child with lead poisoning. The third alternative represented the application of an "after the fact" technology. Children already exposed to excessive lead would be detected by systematic screening prior to the time they became ill. The last approach was deemed most applicable in New York City.

What were the technologic tools necessary to achieve the goals stated by Dr. Dubos?

1) A reliable, acceptable method of determining excess body burden of lead.
2) A mechanism whereby the majority, if not all, of the children at risk could be tested.
3) A simple, rapid method of assaying the lead content of paint and plaster.
4) An effective way of environmental abatement.

All of these appeared to be available in 1969. But were they?

The standard (dithizone) method of blood lead determination had been available for many years; however, it required 5 ml of whole blood. Because of their small veins, such a sample was difficult to obtain from small children...For mass screening, two alternative strategies were available. Both required the development of an analytical technique which could be reliably performed with small samples of blood, preferably a samply which could be obtained from a finger puncture.

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The laboratories of the Health Department of the City of New York, under the perceptive leadership of Dr. Bernard Davidow, developed a method for processing small samples of blood so that they could be subjected to atomic absorption analysis.

Simultaneously, investigators working in departments of pediatrics in various parts of the country attempted to develop a technology...to apply urine tests to pediatric screening. Although most of these proved satisfactory for adults, they proved to be unreliable when applied to 1- to 6-year-olds.

Working in the Department of Pediatric Hematology at Bellevue Hospital, Dr. Sergio Piomelli established that one of the substances which accumulated in red blood cells in the presence of lead could be measured readily in a small amount of blood. He noted that a drop of blood could be collected on a piece of filter paper and transported to a central laboratory which could then process large numbers of samples rapidly. This was a major technical breakthrough.

The development of micro-screening techniques clearly facilitated large-scale screening...Television advertising, the use of indigenous community action groups cooperating with mobile testing laboratories, and increasing the awareness of Health Department personnel working in well baby clinics and professional education resulted in a rapid increase in the number of blood lead determinations performed by the central Health Department laboratory. From the 500-1000 tests performed in 1968, the number leaped to 124,000 in 1974.

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What happened when the children were found? Those with high levels were hospitalized and treated. The technical advances requiste for therapy had already been defined at a number of institutions.

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But what about the environment? The approach was both administrative and technical. The previously cancelled sampling procedure was reinstituted, with multiple samples being taken from the apartments of stricken children. The assays of these samples were also facilitated by the availability of atomic absorption. The more rigorous sampling techniques increased the yield of positive samples from the dwellings of afflicted children from 20% in 1969 to 80% in 1971. A number of attempts were made to develop instruments which could rapidly scan an entire apartment including the intact walls. Although an instrument with such a capability was developed in the Department of Environmental Medicine at New York University Medical Center, it proved unsuitable for field work.

After an apartment had been noted to be heavily leaded, new approaches were necessary to insure that a poisoned

child would not become re-poisoned on return home. A formal procedure was established which allowed the City's emergency repair program to provide abatement if the landlord failed to do so within a specified time. The landlord would then be billed for the costs. The most protective appeared to be the installation of wall board to a height of 4 feet. Even after 10 years of experience, it is still not clear what method of repair is most effective in preventing re-poisoning.

In 1970 and 1971, when it was very evident that 20% of the children with elevated blood levels were neither living nor playing in homes with lead-bearing walls, a search began for other sources...it seemed reasonable to attempt to further lower the total environmental lead burden of these children by reducing or removing the lead in gasoline. City ordinances mandating the gradual removal of lead from gasoline were instituted. These ordinances would have been totally ineffective had the major automobile manufacturers not decided to build automobile engines which could run efficiently on low-lead gasoline and to comply with the standards set by the Federal Clean Air Act of 1967. Hence, a developing automotive technology allowed an administrative action to be effective and enforceable.

These are the positive aspects of the application of technology to a difficult public health problem. Are they the effect of the implementation of a technological fix? Perhaps, but innovations in data acquisition during the 1970's have allowed us to learn new facts from the old principles. It now seems clear that we can no longer be sanguine about what were formerly considered to be safe levels of lead in the blood. It can be demonstrated in the test tube that any amount of lead will inhibit certain sensitive metabolic pathways, at least one of which is readily found in brain cells... The problem of lead poisoning today demands more, not less, technology, more, not less, innovation and certainly more, not less, effort.

Workshop I:

A Simulation: The New York City HSA Reviews a Cat Scanner Proposal. **Panelists: Oscar Rosenfeld, C.S.W., Assistant Dean for Administration, School of Social Work, New York University. Major Karl Nelson, Associate Director, Booth Memorial Medical Center; Neil Heyman, Assistant Director Queens HSA; Lois Nadler, Health Planner, Project Review, New York HSA and Catherine Wynkoop, Assistant Director, New York HSA.**

This workshop simulated an HSA project review of Booth Memorial's 1976 application for a CT (computed tomography) scanner. The Booth Memorial-HSA experience was chosen for presentation because it was felt to be a model of project reviews, particularly for scanners. The presentation provoked the kinds of questions which should be asked by consumers at project reviews and considered by hospital staff before submission of applications.

Mr. Rosenfeld, who chaired the CHP task force which wrote the scanner guidelines, described their criteria. The actual staff summary of the Booth application was discussed by Ms. Nadler.

The reënactment began with Major Nelson's defense of Booth's application before the HSA subcommittee. Major Nelson then left the workshop and the actual minutes of the HSA's executive session were read. Workshop participants questioned the mock subcommittee on both the Booth application and the certificate of need process. How would the public learn of application hearings? How can consumer participation in prospective planning for such costly technology be achieved? And how can the medically indigent be assured of access to sophisticated diagnostic equipment like the CT?

Questions directed to the Booth application revealed concern with opportunities for regional planning. How frequently does Booth submit utilization figures to HSA scrutiny? Is the scanner safe from planning regulations once it is in place?

Major Nelson acknowledged that there has been no re-evaluation of the scanner; and that while the HSA could not withdraw the approval of need, it could block future applications.

Participants asked the panel why Sweden and England together had as many scanners as New York City. The panel replied that New York City is a world center for medical activity. The panel believed that the CT would eventually become a routine diagnostic tool. A major concern of the workship audience was whether the CT—and technology similar to it—was medically and economically efficacious or merely impressive to doctors, administrators and hospital trustees.

Workshop II:

Health Planning, Medicaid and Who's at Risk for What: The New York City HSA Considers an Out of Hospital Child-bearing Center **(A simulation of an actual project review). Moderator: Sarah Frierson, member, Board of Directors, NYC HSA Panelists: Ruth Watson Lubic, C.N.M., General Director, Maternity Center Association; John Steen, Acting Assistant Director, Staten Island HSA; Shirley Mayer, M.D., First Deputy Commissioner of Health, New York City; Marsha Hurst, Ph.D., Board of Directors, Maternity Center Association; Michelle Kahmi, Board of Directors, Maternity Center Association and Doris Haire, President, American Foundation for Maternal and Child Health, Inc.**

A simulation of the Maternity Center Association's (MCA's) 1977 project review lead this workshop into a lively discussion about the need for primary care institutions and the HSA role in fostering the development of innovative services.

Mrs. Lubic read the MCA staff summary presented to the HSA which requested an extension of the Center's designation as an independent diagnostic and treatment center for maternity care. Mr. Steen, Dr. Mayer (representing the New York City Department of Health position) and Ms. Frierson (representing the HSA) played out their respective roles as indicated in the minutes of the project review subcommittee. The re-enactment revealed as much about the politics of alternative versus traditional health care interests as the actual mechanics of the review process.

At issue were the extent to which the Center's approach could be regarded as "experimental" and its failure, in the Health Department's eyes, to guarantee sufficient hospital back-up services. Mrs. Haire, arguing on behalf of MCA, refuted the notion that the MCA was any more "risky" than traditional hospitals, and cited evidence that hospitals' routine interventions and use of technology in the birth process often do more harm than good. The difficulty in providing back-up was presented by MCA as being related to lack of support for the Center by the City Health Department.

The audience brought up questions on birthing practices, composition of staff, payment methods and data collection

at the Center. Mrs. Lubic responded, speaking to the active role of the client in her own care, and the tie-ins with other facilities and practitioners. She emphasized that the MCA's approach was not "a-technological."

The HSA's role in encouraging alternatives in health care was discussed. HSA panel members pointed to the problems they faced in reviewing alternative programs: the absence of professional unanimity on critical questions; the defensiveness of both professionals and institutions when faced with consumer defection; and the needs of consumers for low-cost, primary care.

One audience member noted an inconsistency between the HSA's support of the MCA application and its official endorsement of the federal obstetrical guidelines which regard childbirth as a medical event, appropriate to tertiary care institutions. There was no response to this observation.

Workshop III:

Breast Cancer: Prevention, Detection and Treatment

Moderator: Henry Patrick Leis, Jr., M.D., Clinical Professor of Surgery and Chief, Breast Service, New York Medical College. Panelists: John Boland, M.D., Department of Radiotherapy, Mt. Sinai School of Medicine; Andrea Eagan, writer and member of HealthRight, a women's health education and advocacy organization; Guy Robbins, M.D., Department of Surgery, Director of Cancer Control, Memorial Sloan Kettering Institute and Philip Strax, M.D., Medical Director, Guttman Institute and Associate Clinical Professor, Department of Community and Preventive Medicine, New York Medical College.

Dr. Leis opened the workshop with a lecture/slide show on the patterns of occurrence of breast cancer in the U.S. Statistically, the white, more affluent, nulliparous, older (55-plus) female groups have the highest incidence; however, breast cancer in blacks and women under 55 is increasing. He attributed the overall increase in cases partly to greater female longevity. Early diagnosis and other factors have improved post-treatment survival rates.

Dr. Strax stressed his concern with detection rather than therapy. The landmark HIP study of 20 years ago proved the positive results of early detection.

He remarked that women are not effectively detecting early outweigh the risks, especially since radiation doses are then, are important for women of all ages. Mammography is indicated for women under 50 when symptomatic; others should have the test yearly. The recent "commotion" over radiation risks was based on highly speculative evidence, he claimed. Strax believes the benefits of mammography greatly outwiegh the risks, especially since radiation doses are now extremely small. Mammography, he said, could save the lives of 12,000—versus the six cases of radiation-induced cancer that might emerge in 10 to 15 years. Most cancers in the Guttman Institute's Screening Program were discovered in asymptomatic women under 50. Dr. Strax believes this finding makes the best case for routine mammography.

Dr. Robbins spoke on the success of control and cure of breast cancers at different stages. He conceded that the issue of surgery remains confusing and outlined the uncertainty of cancer growth rates and the variables of lesion size and location.

Dr. Leis deplored the idea "sold" to women that radical mastectomy is unnecessary, calling it a concern for cosmetics.

Briefly tracing the history of surgery and radiation in breast cancer treatment, Dr. Boland demonstrated that the choice and results of either therapy are closely correlated with tumor size and involvement of the surrounding lymph nodes.

Ms. Eagan credited the women's movement with influencing present surgical patterns and behavior of providers in presenting options in treatment. She challenged Dr. Strax's position on the safety and effectiveness of routine mammography: It does not necessarily distinguish tumors which present dangers and women cannot be sure that all diagnostic centers have safe levels of radiation. Dr. Leis commented that it is very rare to get more than one rad exposure anywhere today; he also briefly discussed the value of chemotherapy.

Workshop IV:

How Much Technology Is Needed for an Effective Emergency Medical Services System—Is It Worth It?

Moderator: Norma Goodwin, M.D., President, Amron Management Consultants, Inc. Panelists: Kathleen Hunt, Research and Evaluation specialist of the New York City Emergency Services System; Emil Pascarelli, M.D., Chief of Ambulatory Care, Beekman Downtown Hospital and Judith Wessler, Consumer Health Advocate, MFY Legal Services.

Moderator Norma Goodwin introduced the three panelists. She then posed the question: Is an EMS—with its data systems, new ambulances and trained personnel—cost-effective?

Dr. Pascarelli traced the history of emergency medical services from mere transportation to a hospital, through the training of ambulance drivers in first aid to the current philosophy of "bring the hospital to the patient" which sprang from advances in cardiology. It is difficult to evaluate the benefits of a sophisticated EMS because of the rapid development of emergency technology within the past decade, the rising cost of that equipment and the use of trained paraprofessionals.

The Federal EMS Act of 1973 inspired a boom in emergency services; now, money is running out. The EMS must be justified. Costs could be cut by marketing the system, but ultimately consumers will bear the costs. Self-care education for consumers could reduce unnecessary utilization.

Dr. Pascarelli enumerated the costs involved in a typical, new ambulance: hardware plus the cost of ambulance and base station personnel comes close to a quarter-million dollars.

Dr. Pascarelli answered audience questions. Does an EMS save lives? One statistical study shows positive immediate effects; however, survival rates three months following emergency treatment are the real indicators of cost-effectiveness.

Are EMS costs high because of profits anticipated by equipment manufacturers? Dr. Pascarelli replied that hardware cost is outweighed by the cost of health professionals. He suggested that profit motives by manufacturers would be scrutinized under a national health service.

Can consumers be educated to determine a real emergency? Yes, but a study of that aspect of EMS efficacy is considered a low priority.

Ms. Hunt shared knowledge gained as an evaluator of New York City's EMS. The absence of hard data as well as

the variables of mortality and morbidity make it very difficult to establish evaluation criteria. Existing studies are equivocal. Paramedics may inhibit or enhance outcome. An EMS may or may not improve survival rates. Finally, there should be other indicators of cost-effectiveness besides mortality.

Ms. Wessler, one of the few consumers involved in the Manhattan Plan to coordinate ambulance and emergency rooms in Lower Manhattan, suggested a more rational approach to ambulance deployment and an end to competitiveness between ambulance services. A small percentage of the population is being targeted as potential EMS users; extend the service to burn cases, to cases of poisoning, to infants in distress. Ms. Wessler concluded that while fancy equipment was helpful, a patient's living conditions may well undo the positive effects of EMS treatment.

The workshop ended with a brief discussion on the "worried well." If providers and consumers each define pain and illness in different ways, who will determine the true emergency?

Consumer Health Perspectives

BOOK REVIEW

by

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Louise Lander, *Defective Medicine* (Farrar, Straus and Giroux, New York, 1978);
Sylvia Law & Steven Polan, *Pain and Profit, the Politics of Malpractice* (Harper & Row, New York, 1978).

The so-called medical malpractice crisis of the mid-seventies has come and gone. Its passing left the problems unresolved, but it contributed greatly to the medical malpractice literature.

In *Defective Medicine,* Louise Lander ascribes much of the current increase in medical malpractice litigation to patient anger. Her insightful book shows that patients have a lot to be angry about, not only in their relationship to physicians but also in their contacts with the health care delivery system. Her book deals as much with the faults of the system as it does with medical malpractice. This, perhaps, is not a weakness but a strength of a work which reflects her commitment and compassion.

Her analysis scores medical practice for its over-specialization, over-commitment to an expensive and not always benign technology, its over-reliance on such "activist" interventions as surgery and aggressive drug therapies, as well as on hospitalization. The much vaunted team approach is shown to be a device that dilutes individual physician responsibility while making it more difficult for a patient to get sympathetic treatment of his person, rather than his disease, in an increasingly impenetrable status hierarchy within the hospital. The patient gets angry because he is no longer regarded as a person seeking healing and health. Instead, he becomes a faceless "health consumer" whose pathology is the target of a variety of "health providers" who perform discrete acts of treatment on a fee-for-service basis. Our system sells health services much as other commodities are sold, and the patient—who, as a result of third-party payment mechanisms has lost all direct control of his own treatment—is depersonalized, loses all human contact with the physician, and becomes an object of treatment rather than its end.

In Lander's view, highly specialized physicians who ignore the patient as a person ignore social and environmental factors of disease and fail as healers. They also make themselves more likely targets of malpractice litigation.

Although there is a good deal of incompetent medical care, the author points out that many malpractice claims are not related to inadequate medical performance. Adverse medical outcomes, too, do not always result in claims. Generally, it is an adverse outcome coupled with patient anger over their treatment at the hands of physicians and the system that leads to the drastic step of bringing a lawsuit.

In discussing the purported "medical malpractice crisis," the author documents that it was a crisis created not by physicians, patients or lawyers but by insurance companies. The insurers got out of the business of medical malpractice liability insurance because they found that they were suffering underwriting losses, which, because of the depressed state of the stock market, could not be made up by gains on the investment of their premium reserves for future claims.

Louise Lander's work agrees, too, with Sylvia Law and Steven Polan (*infra*) that the so-called legislative reforms which emerged from the crisis, designed to cut back claimants' rights, will not solve the malpractice problem. In her reasonable view, the crisis is likely to re-emerge.

Pain and Profit: The Politics of Malpractice, by Sylvia Law and Steven Polan, is a more multifaceted work. While it does not reject the element of patient anger as a cause of medical malpractice litigation, it is detailed and analytical in attributing medical malpractice and medical malpractice claims to a variety of aspects of the health care system.

The authors note that under our current reimbursement and fee-for-service system, the so-called market controls are not operant. Increases in the number of physicians result in more malpractice suits, and in higher insurance rates. More surgeons don't bring down the cost of surgery, but increase the number of surgical operations performed. Greater specialization and increases in the number of specialists has led to the demise of the general practitioner and his close relation to patients, while affluence and economic uncertainties contribute to maldistribution of medical services and the defeat of legislation to counteract this maldistribution.

The authors find that controls over physician performance and conduct exercised by state medical boards, medical societies, and by hospital peer-review committees, are ineffective. This reviewer agrees, having recently completed a detailed study of medical disciplinary mechanisms sponsored by HEW. Largely based on similar sources, the authors note that the system has not been effective in removing irresponsible and incompetent practitioners from the practice of medicine, though some improvements are underway. The authors are right, too, in noting the inadequacies of PSRO's. They are too limited in their review functions and not author-

ized by law to bring inadequate physician performance to the attention of state medical boards.

Hospital discipline and hospital supervision of physicians is also found ineffective. In part their failure to protect patients is attributable to the inadequacies of hospitals themselves. Largely run by self-perpetuating voluntary organizations, the hospitals have been inadequately regulated by HEW, by the states and by the Joint Commission on Accreditation of Hospitals. In turn, the hospitals have failed to exercise adequate control over the physicians practicing within the institution, in spite of the hospitals' enlarged responsibility and liability for patient care. Many changes in hospital review processes and in the governance of hospitals are called for, including greater opportunities for knowledgeable community control, so as to put the physical health of the patients ahead of the financial welfare of the institution. This, too, would require changes in the system of fee-for-service reimbursement.

In dealing with legal aspects of malpractice litigation, Law and Polan, like Lander, decry amendments of state law that followed the medical malpractice "crisis" of 1975. The post-1975 amendments, intended to enhance insurance availability, reduced statutes of limitation, limited recoveries and sought to place more of the financial burden of medical malpractice on the victim. Much of that legislation is constitutionally doubtful and doubly unfair—it places the victim at a disadvantage and perpetrates a fraud on the public. It does not reduce the cost of medical malpractice. Inevitably, the authors also discuss the contingency fee, that great issue between the professions of law and medicine. Like the trial bar, they regard the contingency fee as a way to help indigent plaintiffs to get expert malpractice lawyers. This "key to the courthouse door" theory is dubious—in New York, for instance, the key is gold plated—no seasoned malpractice lawyer will accept a case unless, in his judgment, it is "worth" at least a $45,000 recovery. Perhaps the argument relating to excessive lawyers' incomes could be put to rest if trial lawyers and surgeons were to agree to accept a like limitation on their incomes!

The Law and Polan book is at its best in the two chapters on medical malpractice insurance. The chapter on the pre-1975 activities of the insurance industry and on its responsibility for the medical malpractice crisis is entitled "Malpractice Insurance: The Blood-Money Industry." It is so good that it could stand a less inflammatory title. It shows how rates were manipulated and how the industry left the medical malpractice field *not* when it became unprofitable but only less profitable, largely because a falling stock market caused a significant reduction in earnings from the investment of reserves.

In the light of their keen analysis of medical malpractice insurance, it is all the more disappointing that Law and Polan give such short and superficial treatment to the compensation-no fault remedy which would compensate all adverse medical outcomes regardless of physician negligence. This approach, which has the endorsement of the APHA and of the New York Panel on Medical Malpractice, as well as substantial academic support, is polished off in 7½ pages, though the authors find 30 pages for a lengthy appendix of excerpts from the case of *Gonzales* v. *Nork.*

The authors of both books conclude that medical malpractice problems are built into our way of delivering health care, though Law and Polan place greater blame on actual physician negligence. Both works blame the system—but neither shows us any very promising way out of it. The fee-for-service system is heavily entrenched and it is not likely that medical malpractice reform will be the opening wedge for drastic changes in our social and economic system. Changes in medical licensure and in hospital governance are difficult to bring about, too, as years of experience have shown—and there is no assurance that such changes will result in less malpractice. Law and Polan call for insurance reform and for greater federal controls over the insurance business. This, too, is a desirable recommendation which calls for a bloody fight—and there's no real assurance that it will lessen the medical malpractice problem, except perhaps by reducing the cost of insurance somewhat.

With all their clear analysis of the faults of the system, both sets of authors fail to emphasize in their otherwise splendid contributions to the literature that the system is absurdly expensive and uses millions of public health dollars to provide a relatively small number of victims with an uncertain and frequently inadequate remedy. All of us pay the excessive cost of the medical malpractice-insurance-tort liability system through taxes for Medicaid and Medicare, and through higher health insurance and Blue Cross and Blue Shield premiums. The cost of medical malpractice insurance is passed along and charged off to all of these systems as an ordinary cost of conducting a hospital or a medical practice. Thus, while it is understandable that all of the authors, as experienced trial lawyers, love the tort law and negligence liability and see little need to reform *that* part of the system, the argument they make that that negligence law is desirable because it exercises some deterrent effect on physician misconduct is hardly convincing. It has not been all that effective in the last hundred years.

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