

SUMMARY SPEECH

Leeds Castle International Seminar on the Prevention of Disability 3 September 1991

It is a challenge indeed for anyone, and at this late hour, to endeavor to summarize succinctly the very rich array of activities and initiatives which have been so well portrayed for us over the past two days. Rather than to endeavor to recapitulate and summarize so many exciting accomplishments and initiatives which themselves have been summarized for us, I should like to endeavor to place these events in context, at least as I see them.

Enormous progress has been made since the first seminar a decade ago and yet this is been a decade which has been characterized by stagnant economies and extraordinary pessimism about the development process. Yet, in the field of health, progress over the past decade has been substantial, indeed, perhaps more progress has been made in the past decade than in any prior decade in history. Let me remind you of certain of the events.

Ten years ago, less than 20 percent of the children in the world were being vaccinated against the diseases of diphtheria, whooping cough, tetanus, measles, poliomyelitis, and tuberculosis. Today, the figure exceeds 80 percent. Indeed, a delivery system of unprecedented extent has been set in place, a social

service which extends further into the community than any other similar service, including the postal service. Poliomyelitis has virtually disappeared in the Western Hemisphere. Only 4 cases have been confirmed this year, the last in March. Immunization is proceeding apace in other parts of the world, preventing each year literally hundreds of thousands of cases of paralytic disease and lifetime disability. During this present decade a new vaccine has been developed to prevent hepatitis B, the leading cause of liver cancer in most countries of East Asia and this vaccine is now beginning to be introduced for use in routine programs. More recently, a new vaccine to prevent Hemophilus infection has been perfected and one can foresee this vaccine being given with the conventional DPT vaccine to young children. Hemophilus infections, at least in the industrialized countries, represent the most important cause of middle ear disease and of deafness. It is quite possible that this also pertains in developing countries as well, although more data are needed. Introduction of this vaccine, would serve to prevent yet further hundreds of thousands of cases of avoidable deafness. A major concern to us all at this time is the disease AIDS, but here again there is now hope that a vaccine will be available perhaps by the end of the decade.

It was less than 10 years ago that Dr. Al Sommer and his colleagues in Indonesia made the astonishing discovery that children with even marginal vitamin A deficiency were much more susceptible to death due to both respiratory and enteric infections. They showed quite conclusively that a single capsule of vitamin A given once in six months could result in decreased death rates of 35 percent or more among children between 1 and 5 years of age. Now, programs to prevent vitamin A deficiency are being widely applied in many countries throughout the world.

A third important development was the introduction of simple oral rehydration therapy for children suffering from diarrhea. As I recall the figures, UNICEF purchased its first million packets of oral rehydration fluid in 1976, a supply which lasted nearly three years. Today, more than a million packets of rehydration fluid are being used daily, in consequence, hundreds of thousands of children are surviving previously fatal diarrheal infections.

But these are not the only developments. Eye camps for cataract operations have been greatly extended and improved. Now there are similar surgical camps being developed to deal with mastoid infections, hernia and limb deformities. Throughout Western Africa, a magnificent program to combat river blindness is succeeding in some of the poorest countries of the world. A worldwide guinea worm eradication program is making extraordinary progress. Programs for iodine administration are now beginning. A few weeks ago, several of us participated in a conference which explored the possibility of a school-based program to administer anti-parasitic drugs (albendazole and praziquantal) along with vitamin A, iodine and iron. Studies in India and Kenya show that with treatment given once in every six or twelve months, children grow more rapidly, have greater strength and better appetite. It is believed that their ability to learn will also be heightened, but this remains to be proven.

We have learned also in the past decade that programs to monitor progress of these interventions can be developed and can be used effectively. Today in the Americas, more than 8,000 different sites are reporting weekly with

regard to cases seen of poliomyelitis, tetanus and measles. Today in the Western Hemisphere, more than 80 percent of all cases of poliomyelitis are reported within a period of two weeks and specimens are obtained from some 80 percent of the children.

The efforts which I have described are not solely those of health departments. Rather, a large number of organizations are themselves taking the initiative to involve people in the communities. IMPACT, itself, is less than a decade old. Rotary International has raised more than \$200 million and contributed countless hours of time to the polio campaigns. At this meeting, we have heard that Lions' Clubs have now pledged to raise more than \$100 million in the support of the prevention of blindness. There are far many other organizations as well and Tim Rothermil has enumerated many of these. Now, as never before, UNICEF, WHO, UNDP, the World Bank and others are working together as never before in history.

We have learned also to communicate better to populations the various interventions which are available and have learned to work better with them in creating a better society. Only a decade ago, health education initiatives were best characterized in terms of flip charts, flannel boards and posters. Today, innovative television, radio and educational systems are beginning to be used in ways never before envisaged.

Most important of all, we have begun to examine the health problems of communities, to define the problems in terms of need and to implement plans to

deal with these various problems in the most appropriate manner. Each of the interventions which I have described have involved different types of strategies than have been used before. In the past, we have relied almost solely on the traditional methods of individual patient and physician encounters. Such encounters have been far less effective than we would like. Indeed, it was Professor Allwyn Smith, a recent President of the Faculty of Community Medicine here in the United Kingdom, who observed that curative care inevitably drives out preventive care. Physicians, traditionally trained, tend to emphasize that which they themselves have been trained to do, i.e., curative care. Now, with community based interventions we are beginning to provide a better balance toward prevention of illness rather than its treatment. An illustration of the problems which we have been having became evident this past year in the United States where cases of measles steadily increased over this past year. I had the privilege of chairing a National Vaccine Advisory Committee which undertook to study this problem. The initial presumption was that there was simply not enough funds but, as we began to review the data, we discovered that this was not the principal cause of the problem. In outbreaks it was found that more than three-fourths of the cases among unvaccinated children occurred among those who had visited a health care provider within the preceding year, at a time when immunization could have been given. A third or more of all cases were actually infected in the waiting rooms of large city hospitals. The problem, in fact, resulted from a health system which had erected numerous barriers to prevent children from being vaccinated! Instead of vaccination in walk-in clinics, parents were being obligated to schedule the children far in advance; many were not being vaccinated unless being given a full physical examination; hours of

clinics were most inconvenient to parents; many clinics would administer only one vaccination at a time when, in fact, several could have been given. In brief, the problem was a system which was anything but user friendly. Additional resources alone would not correct the problem but rather, a specifically targeted program has been required to recuperate earlier successes.

We have learned during the past decade that targeted programs with specific objectives and specific achievements are far easier to sell to authorities, to legislators and to communities than vaguely defined programs. Better definition of problems with more specifically defined objectives are attractive.

One area which we have neglected in comparative terms is the area of research. Many continue to argue that all of the tools are at hand and that it is simply a matter of delivering the preventive measures. Those who are most knowledgeable about the smallpox program have pointed out to me that that program required no research, that the vaccine was available and the only challenge was one of designing a proper administrative mechanism. In fact, a program of research was launched at the time the program began and in the course of the program, numerous things changed. A new method of inoculating the vaccine was devised with a new instrument for administration; nearly half of all the production laboratories changed the strain of the vaccine; we learned that the duration of protection was far longer than the textbooks suggested and that it was possible to focus on primary vaccination at the expense of revaccination; and we learned that the propensity for smallpox to spread was far less than what

was conventionally believed permitting us to focus on a different strategy for the program, one of surveillance and containment.

Today, there is regrettably a disconnect between needs of developing countries and the centers where basic research is being done. There are few centers, indeed, in the developing countries where cutting edge research can be done. Those who have to deal with the problems, i.e., those in the developing countries, have all too little contact with those centers where most of the basic research is being done, basic research which could make their tasks far simpler than now. Illustrative of the problem is the fact that none of the vaccines in use in the expanded program on immunization are considered to be fully satisfactory and yet none have been fundamentally changed for nearly twenty-five years. Last year, these problems were addressed in a series of meetings and now, at last, a children's vaccine initiative has begun to develop more effective, more heat-stable and more easily administered vaccines against a whole host of diseases.

There are today many challenges before us and we must pursue research to develop ultimate answers, not the so-called halfway technologies which Dr. Lewis Thomas has so well characterized. I would note two diseases specifically because they have been discussed here at the meeting. First is otitis media, about which there has been considerable discussion with respect to prevention of deafness due to otitis media through the use of chemotherapy and/or its treatment after occurrence by the use of surgery. Vaccines would be a far better choice than either of these methods and I would note that the *Hemophilus*

influenza vaccine could go a long way to alleviate this problem. We have talked a lot about cataract operations in order to restore blindness (?) and yet, would it not be far better to prevent cataract in the first place. Of special note is the fact that cataract in the developing countries occurs on average ten years sooner than it does in industrialized countries. Were it possible to identify the cause for this, much could be done perhaps in preventing or at least delaying the onset of cataract until a much later time.

Although many new, community-based interventions have been introduced in the past year, many have expressed concerns about the costs of these measures and the ability of governments to sustain such programs. I think this concern is totally misplaced. If we examine government health budgets, we find that 80 percent, 90 percent, or even more is regularly assigned for curative care. Few governments expend more than 10 percent on preventive measures, and yet any cost-benefit analysis shows infinitely greater utility for preventive measures. Most countries could today readily double the amount of money being expended for preventive measures with consequent greater health for their populations. As far as international assistance is concerned, there is every reason to believe that you can expect substantial peace dividends, both in the industrialized countries and in the developing countries which themselves spend unconscionable amounts of money on weapons.

What we have heard in these past two days have been a wonderful barrage of new and innovative initiatives which are causing all of us and all health systems to rethink traditional methods of providing health care. They are

demonstrating all too well what can be done when resources of the community are fully mobilized in a strategic manner to attack community-based problems. Through this process I sense the potential for a renaissance in health which the health profession alone could not accomplish. IMPACT is playing a most important role in this renaissance and I would foresee greater change during the next decade of the 90s than we observed during the decade of the 80s and, as I have noted, that decade achieved more in health improvement than any decade in history.