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United Nations Children's Fund (UNICEF)
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"The New Economics of Child Health and Survival"

New Delhi, India
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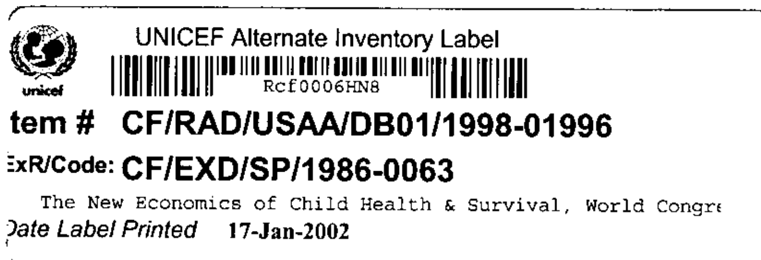
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Eighth World Congress of the International Economic Association

"The New Economics of Child Health and Survival"

James P. Grant and Richard Jolly

New Delhi - 2 December 1986

To make clear what is new, one must first summarise the old - in this case, what one takes to be the "old economics" of Child Health and Survival. Essentially, the old view rested on three propositions:

First, that child health and survival was closely related with household income, especially family poverty;

Second, that improvements in health depended on increases in health services and thus on expenditure on health services.

The above propositions gave rise to a third: that improvements in health for a country depended on increases in income per capita in that country, which in turn would lead to both increases in family incomes and increases in government expenditure. To ensure that some "trickle-down" took place, one would need to add the condition that increases in income would have to be accompanied by favourable movements in income distribution to ensure that at least some of the benefits accrued to the groups in need, especially to children and other vulnerable groups.

These propositions formed the basis of much of the health and development planning of the 1950s and 1960s, a period when economic growth was relatively rapid and when important advances took place in health - as indicated, for example, in the reduction of infant mortality rates from 163 deaths per thousand in 1950 to 98 in 1970, and similarly, in the reduction of under-5 mortality rates from 251 per thousand in 1950 to 151 in 1970.

In short, the "old economics" treated economic growth as a sine qua non for improvements in health, while recognising an additional need for attention to how the additional resources were used.

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There is, of course, much truth in the above propositions. Ill-health is linked to poverty; infant and child mortality rates are significantly higher in poorer families than in families that are better off. Broad long-term improvements in child health, survival and welfare will require reductions in poverty and increases in the incomes of the poor. And, for most developing countries, sustained economic growth is still a condition for achieving lasting increases in the incomes of the majority of the population.

Nevertheless, these propositions obscure many possibilities for improved child health and survival in the short and medium run which do not depend on increases in income. They also are apt to encourage a complacent expectation that improvements in health will follow automatically from improvements in income, when what is needed is active policies to ensure that they do - and active policies to guard against deterioration in health which, as with environmental pollution or obesity, often accompany rises in income.

For example, in the United States, the Center for Disease Control in Atlanta has estimated that it would require additional expenditures of tens of billions of dollars to increase by just one year the life expectancy of adult American males by relying on improvements in existing hospital approaches. In contrast, 10 years could be added to the life expectancy of the U.S. male by four changes in individual behaviour:

- by stopping smoking;
- by reducing alcohol consumption from excess to moderation;
- by changing food habits to reduce quantity and to improve the quality of food intake to achieve a better diet (especially with less fat and sugar consumption);
- by reasonable exercise.

These four changes would, in most respects, involve less consumption rather than more, and certainly require changes in consumption and consumer behaviour. None is obviously related to increases in income per capita or hospital expenditures, though a major expansion of public health information and major modifications of other information given would no doubt be needed.

Smoking is perhaps the clearest example. Encouraged by heavy advertising and promotion, at a cost of nearly US$2 billion per year in the United States alone[1], smoking is estimated to account for much sickness, absence from work, and some 320,000 premature adult deaths a year. More recently discovered are the effects of smoking on child health. A recent Harvard study documents the serious effects of prenatal smoking on both the unborn and the young child. It appears that smoking one cigarette a day reduces 11 grams of the bodyweight of the newborn baby in the last trimester, and this has become a major cause of low birth weights. The study shows that 14 per cent of all low birthweight infants in the United States are due to maternal smoking during pregnancy (19 per cent of pregnant women smoke). The medical cost of treating this problem entails an extra US$175 million to the U.S.

The growth deficit due to smoking is apparently carried over to early adolescence. A study shows that 11-year old children born to mothers who smoked while pregnant were at least 1 cm shorter than control children and lagged three to four months behind in learning and mathematical ability at school.

This particular effect of prenatal smoking is, of course, only one among many well-documented results of smoking that can be quantified not only in terms of immediate harmful effect to the health of the individual, but in national expenditures on treatment and care as well.

With regard to alcohol consumption, we are all aware of the deleterious effects of excessive consumption to the health of the individual. It is also interesting to note the effect to society. Irving Fisher, one of the early economic pioneers in human capital theory, devoted at least one of his books to the costs of alcohol consumption in terms of lost production and human deterioration.

In the case of food consumption, although it is true that the diet of low income households is generally worse than for those with higher incomes, the correlation is far from simple and reflects a complex mixture of consumer preferences, education, and heavy advertising rather than the higher cost of all better diets. In many cases of obesity, for instance, a healthier diet could clearly cost less.

In short, major improvements of health in the industrial countries are today less a function of income growth than of changes in attitudes and consumption behaviour. Economics still, too often - in the name of consumer sovereignity - takes consumer behaviour as given, even when, as in this case, the scientific evidence linking over-consumption with ill health or worse health is overwhelming and when advertising is specifically designed to encourage this consumption.

New economics for the developing countries

The basis for the "new economics" for health and survival, which is particularly relevant for children, was officially articulated in 1978 at the Alma Ata Conference of the world's health professionals, sponsored by the World Health Organization and UNICEF with the active participation of NGOs. The Alma Ata Conference articulated the concept of primary health care. There were several basic principles which have since gained increasing acceptance even though most countries have still not yet fully applied them.

The first principle is that the use made of medical knowledge and the efficiency of health protection depends on social organization. The immediate social problem is to overtake the lag between modern knowledge and its use in the setting of a community.

A second basic principle is that, important as is the introduction of an effective health system, a vertical medical system cannot be truly effective

or even stand by itself, unless it is integrated in other activities in society in a joint attack on the problems of development and social reconstruction. Health is not simply "a sector", a responsibility of the Health Ministry alone; it must be an explicit goal to be achieved through all sectors with mass citizen participation - through education, through better nutrition and through national and local leadership. Thus, the medical system alone cannot change the smoking habit, nor can it educate hundreds of millions of children to wash their hands and use latrines to prevent diarrhoea, or to educate hundreds of millions of parents to use at home the oral rehydration therapy which could prevent several million child deaths each year.

A third principle is that successful organization implies reliance upon economically practical strategies for serving the entire population rather than just the relatively well off. It is not difficult to find developing country examples of the establishment or expansion of major hospitals whose operational costs led to the curtailment of far more cost effective health clinics and preventive services. Similarly, we often read of the needless competition of hospitals in industrial countries to each have tremendously expensive diagnostic equipment.

The fourth principle is one of self-reliance. Resources necessary for health at each level must rest within the control of that level - the household, the village, the district and the nation. Of course, there is a role for some outside support in each of these areas - but as a supplement, not as the main effort. This means, of course, that the approach, technology and resources required will at each stage match those of the community involved.

While many countries have since paid more than lip service to promoting Primary Health Care (e.g. millions of village health workers have been trained) the majority of health <u>resources</u> still are not applied to achieving it. The health sector has been reluctant to seek aggressively the involvement of other sectors in health promotion, or to shift health knowledge from the traditionally conservative health professional to the general public.

Yet the evidence of what can be achieved in developing countries in terms of relatively high levels of child health and welfare with proportionately low levels of per capita income are clear and impressive. Sri Lanka, for example, has made progress in child survival and health that is disproportionate to its relative low income. In 1984, with a per capita GNP of US$330, the infant mortality rate (IMR) was only 38 deaths per thousand and the under-5 mortality rate (U-5MR) was 50. Another example is China, which in 1984, had a GNP of US$300, an IMR of 36, and an U-5MR of 50.[2] The state of Kerala in India is a further example. Its IMR of 31 in 1982,[3] which is the most recent year for which figures are available, was approximately one third the IMR for the rest of India, while the state per capita income is no more than the average. These mortality figures are roughly equal to, for instance, the United Arab Emirates (IMR = 36 and U-5MR = 45 for 1984), which in 1984 had a per capita GNP of US$22,870. All three of these countries have infant and child mortality rates well under half of Turkey's rates which had a GNP in 1984 of US$1,240, almost four times that of the other three countries.[4]

These examples make clear that there is no necessary correlation between levels of national income and child health and welfare. But the recent evidence of trends is both clearer and more dramatic. In spite of sharp deteriorations in per capita income in many countries of Africa and Latin America, it has proved possible to achieve major increases in several of the basic and most cost effective areas of child health.

Economic stagnation and decline

In most developing countries the economic context of the last five years is one of recession and severe retrenchment, especially in Africa and Latin America. Clearly stagnation or decline in per capita income has been the dominating pattern. The number of countries registering negative or negligible growth in per capita income has increased from 25 in 1979 to 55 in 1982 and remained at 49 in 1985. In Africa, the average over the years 1980-86 has been a decline of 15 per cent in per capita income, in Latin America a decline of 9 per cent. In Asia, the situation for some countries has been much more positive, with India and China experiencing positive growth and several of the East Asian newly industrialised countries growing rapidly. Even in Asia however, average incomes have declined or stagnated in one third of the countries.

Stagnation and decline of average per capita income has usually been accompanied by severe deterioration in the incomes and living standards of the population, especially the poorer sections. This has now been documented in a number of studies.[5,6,7] In terms of child health and survival, the effects of the income decline have been particularly serious for several reasons:

- With the decline in average income, government expenditure has also declined. As part of this, health budgets have almost invariably been cut significantly in real terms. In about half the countries of Africa and Latin America, the reduction in health budgets has been greater than that of government budgets as a whole.

- In general, children have been more affected than other groups - in part because poorer families have been proportionately more affected than better-off families and in part because poorer families tend to have greater numbers of children.

In addition to these direct effects on income, there have been shifts in the locus of policy-making, often reinforcing the negative effects on children and other vulnerable groups. As balance of payments and adjustment issues have become more severe, so government power and attention has shifted to those directly involved with financial/economic policy, often leading to a relative neglect of longer-term development issues in general and social policy in particular.

Positive movements in health despite economic trends

Against this background, it would not be surprising if severe declines in child health and deterioration in infant and child mortality were the

universal norm. The "old economics" of child health and survival would lead one to expect nothing less. In fact, the position appears to be much more mixed, with an increasing number of countries showing a different pattern. After a long decline of infant and child mortality until 1970 followed by some slowing for another 10 years, action in many countries now appears to be resulting in improving infant and child mortality rates and some aspects of child health, in spite of constraints. What explains these dramatic movements against the economic tide? Essentially, positive forces are at work, each demonstrating the economic potential of new approaches to child survival and development when widely applied.

First of all, the application of a number of new or improved technologies to tackle directly some of the major causes of child illness and mortality have had noteworthy impact. Nearly 5 million children under five were dying each year around 1980 from vaccine preventible diseases: measles in particular, which counted for some one half of these deaths; tetanus, which took another million lives; and pertussis, polio, diptheria, and tuberculosis. The expansion of immunisation over the 1980s - and a threefold increase in world vaccine use between 1983 and 1985 - was by 1985 preventing the deaths of an estimated 800,000 children under five.

Diarrhoea in 1980 accounted for a further 5 million deaths, primarily from the dehydration associated with it. The application of oral rehydration therapy rehydration by giving a young child a simple salt/sugar drink - has made possible widespread action to prevent severe dehydration and death. This simple method replaces costly intravenous feeding which was formerly available only in hospitals or clinics. Again there was a 330 per cent increase in the worldwide use of oral rehydration salt (ORS) packets between 1983 and 1985. The growing application of ORT prevented an additional 500,000 child deaths in 1985.

With the further expansion of these actions since 1985, UNICEF now estimates that some 1.5 million child deaths have been prevented in 1986.

A second theme that emerges in the context of improved child health despite a harsh economic environment is that existing resources with important potentials for health are often under-used, even in the context of a recession. There is considerable scope for better use of:

— human resources and human potential;
— communications, especially radio and television;
— the organisations, public and private, which can play a critical part in social mobilisation.

A third force that appears to have been vital to this process is closely related to better utilization of resources. By social mobilization approaches, changes in consumer behaviour can be achieved, including awareness of available health measures - plus the motivation to use them, in general. This shifts more responsibility and intitiative for health from the health services to the family, the mother, the individual. UNICEF refers to this as

the "demand" approach, as opposed to a "supply" approach. It has many parallels with an old argument of Hirschman in The Strategy of Economic Development - this very creation of bottlenecks often stimulates the initiative and motivation to solve the problems they present. In the context of recessions, despair and disillusion over cutbacks can often be remedied by a conscious challenge to do more with less.

To interpret what is happening in many countries, one needs an activist's view of government and non-governmental social leadership. It is from this vantage that one can stimulate and make aware millions of families as to action they are capable of and ought to take in order to protect the health of their children. In part this is a matter of political leadership; in part of improved management, and it is true in the public health sector as well as outside. In total, it adds up to a process of national mobilisation.

How should one interpret these developments in economic terms? Overall, they provide clear examples of action which is possible, even in the context of declining average incomes and increasing poverty. Such action is clearly not sufficient - poverty itself must be more generally tackled. To this end a resumption of economic growth and an increase of incomes is needed. But this remarkable advance in child health and survival against the downward trend of economics focuses attention on other critical features which are also significant for improved child health.

Examples of countries that are beginning to take advantage of these newly evolving possibilities are emerging. Colombia, for instance, has been a forerunner in demonstrating the viability of these approaches and their combined effect in support of primary health care. The then-President Betancur in 1984 began a major initiative to raise the proportion of the country's immunized children from about half to near universal coverage, with considerable success. Through three national immunization days, the nation mobilized to immunize the great majority of its children against five major diseases then killing and crippling tens of thousands of Colombian children each year. There were more than 10,000 TV spots; virtually every parish priest devoted sermons to the importance of families immunizing their children, and every school teacher was involved. President Bentancur and other leaders personally immunized children.

The Campaign began in June 1984. By the end of that August, more than three-quarters of the under-5s had been fully immunized. Repeated again last fall with particular emphasis on the most vulnerable under-2s, the total rose to over 80 per cent, which is approaching the levels required to provide "herd" immunization against the biggest killer, measles. The accelerated effort was able to significantly bolster the on-going Primary Health Care infrastructures. This commitment to improved health care has been maintained since President Betancur was succeeded this August by President Barco, of another party. The new government has embraced the National Child Survival and Development Plan, and is now engaged in further broadening and strengthening it.

Similar techniques are beginning to evolve in many other countries, with each nation tailoring the approach to fit the particular structures and cultures of its people.

Turkey is such an example, consciously using these new approaches to reduce its relatively high infant and child mortality rates. Turkey launched its "Child Survival Revolution" just over a year ago with a national immunization week for 5 million children under 5 years old. The campaign focused on the six diseases which in 1984 took the lives of more than 30,000 Turkish children, and crippled tens of thousands more. With more than 50,000 Moslem imams taking the lead from their mosques (just as Colombian priests had in their churches), and with the active participation of 95,000 village teachers (who returned from summer vacation two weeks early for the purpose), some 85 per cent of all young Turks were fully immunized against these dread diseases. This spring, this social mobilization approach was extended to encompass oral rehydration therapy, means for coping with acute respiratory infections, and family planning.

A similar acceleration of primary health care activities has taken place in Burkina Faso, one of the poorest countries of the world with a per capita income of about US$200 per year, high infant mortality, and a health system which, like other public services, was weak and chronically underfunded. A major immunization effort was undertaken in late 1984, with broad popular participation and the involvement of nearly all branches of government and the private sector. Immunization coverage levels were raised from under 20 per cent to over 75 per cent for the three diseases included, preventing thousands of cases and deaths and averting the impact of a measles epidemic. More important, the expansion of immunization was instrumental to the subsequent development of a community-based primary health care network, in which local workers and health posts have been placed in over 7,000 of the country's 7,500 villages during the past year.

These examples, and others of countries in vastly different economic circumstances, demonstrate the viability of a primary health strategy based on low-cost interventions and social mobilization. By the latest count, some 70 developing countries have serious plans towards universal child immunization by 1990; nearly as many have embarked on rapid expansion of Oral Rehydration Therapy. In many countries massive new efforts are beginning. In our host country, where more than 1 million children died last year as a consequence of not being immunized, a programme is now underway to achieve universal immunization of Indian children by 1990 as a "living memorial" to the late Prime Minister Indira Gandhi.

Conclusions

What are the lessons for economics - and for economists? There are many, especially for those who follow that school of economics that is concerned to influence events and not merely to contribute to higher mathematics!

First, there is need for a clearer focus on the human objectives of development. This will require more attention to human and social indicators in addition to purely economic indicators. For policy making, it will require a clear focus on human progress as a direct objective, not as a by-product of economic growth. These points have long been made in the development literature but too often are forgotten when formulating national or international economic policies.

Second, the experiences presented in this paper make it clear that policy making must relate more specifically to the technologies and approaches available. Unless one focuses on these, many opportunities will be missed. Yet again, experience shows that the technologies available are often unknown or inadequately known, even by those responsible for health policy, let alone by those responsible for economic planning. In my own experience in the last three years, I have met at least one Minister of Health who had never heard of Oral Rehydration Therapy. This technology in his country would have made possible the treatment of the single most important cause of child death at 1/500th of the cost of intravenous hospital based technology, and at the same time make possible the use of unskilled instead of skilled personnel. One wonders how much the heavy expenditures on hospitals by governments and aid institutions reflects gross ignorance rather than vested interests. I suspect that if the relative cost-effectiveness of treating basic diseases in different ways were better known, many politicians who currently support a hospital approach would find it in their political interest to switch their attention to low-cost techniques of mass application.

Third, the need for better information about the cost-effectiveness of different health approaches underlines directly the need for more relevant economic research on health related issues. When one glances at the American Economic Review, one must wonder how much human progress could be enhanced if 1/10th of existing economic effort were turned from blackboard abstractions to these practical empirical problems of child health and survival in developing countries. How many graduate students, many from developing countries writing their theses in the United States or Europe, spend their time refining abstract algebraic models with barely a glimpse at reality? Yet one knows from experience in UNICEF how difficult it is to find basic empirical studies on the costs or cost-effectiveness of different approaches to health, education, water or other projects directed to basic child survival and development in almost any country. If economics is the study of the better allocation of resources, economics itself is in danger of becoming the most monumental example of misplaced effort.

Fourth, concentrated attention on the supply side needs to be supplemented by much more attention to the demand side, especially in relation to health and child survival and development. No doubt this will take economists into more complex multi-disciplinary areas of individual behaviour and public decision-making. As explained earlier, it will also take them into cost-effective approaches from which to influence behaviour and decision-making in ways that enhance human welfare. But those of us interested in affecting policy are already concerned with these issues. What we need is the

professional support and analysis of economists and other social scientists to improve the process.

Fifth, and of the utmost importance in many developing countries at the moment, these broader perspectives of child survival and development need to be brought home to everyone concerned with the making of economic adjustment policy. As UNICEF has argued elsewhere, for most countries in Africa and Latin America today, the making of adjustment policy has virtually replaced development planning, as the short-term imperatives of economic survival squeeze out resources and concern for longer-term economic and social goals. The result, as described earlier, is too often a tragic deterioration in nutrition and human welfare, which in the long run will prove an economic folly as well as a human tragedy. Yet the examples given in this paper make clear that policy alternatives exist. As an increasing number of countries are showing, it is possible to support and accelerate basic child health and survival actions, even in the context of severe economic constraint. The challenge is to make these possibilities more widely known and to extend their application from these initial measures of primary health care to the full range of actions required to protect basic human needs. This should become second nature to all concerned with making adjustment policy. They should be part of economic orthodoxy. In the last few months, we have seen the acceptance of these ideas by the Managing Director of the IMF, by the World Bank and by a number of key governments, in both developing and developed countries. This beginning of a new approach needs further to be carried through into the every-day actions of those agencies and of all countries concerned. And economists need to be in the lead in explaining how this could be done and the rationale for making this part of economic orthodoxy.

Sixth and finally, economists need to support in all countries the development of a more appropriate monitoring and statistical system, to direct attention to these realities, not divert attention from them. In the early 1970's, there was increasing recognition that economic growth alone was insufficient and that specific efforts were needed to direct attention to increasing human welfare, reducing poverty and ensuring a better distribution of income. One reason why attention slipped is that statistical systems never fully caught up with the shift in development thinking. The world was left relying on data focussed on GNP when routines should have been established which regularly provided a more rounded set of economic and social indicators with which to plan development and to assess its progress. In fact, the final resolution of the World Employment Programme in 1976 called for precisely this - but somehow its implementation got lost in the subsequent months. The economic crisis in many parts of the developing world now gives us a new opportunity to return to basics - and to establish these concerns as part of essential data collection and monitoring in every country. The opportunities for making human progress in spite of economic difficulties reinforce the case. May we hope that this International Economic Congress uses the opportunity, either collectively or individually, to press this case home. If the opportunities are seized, there is still time for the 1980s to become the decade which out of economic crisis laid the foundation for the next wave of social progress, just as the 1930s laid the foundation for the long period of post-war reform.

Footnotes

[1] United States Office on Smoking and Health

[2] "Statistics on Children in UNICEF Assisted Countries," UNICEF, United Nations, New York, 1986.

[3] Bose, A.B. "Monitoring Survival and Development of the Young Child," National Institute of Public Cooperation and Child Development, Hauz Khas, New Delhi, 1986.

[4] "Statistics on Children...," UNICEF.

[5] Jolly, R. and Cornia, G. "The Impact of World Recession on Children," Pergammon Press, Oxford, New York, Toronto, Sydney, Paris, Frankfurt, 1984.

[6] Cornia, G.; Jolly, R. and Stewart, F. "Adjustment with a Human Face: Protecting the Vulnerable and Promoting Growth," Oxford University Press, Oxford, England (in press).

[7] Pfeffermann, G. "Poverty in Latin America: The Impact of Depression," World Bank, Washington, D.C. 1986.