COUNTRY AND REGIONAL PROGRAMMES

Supplementary assistance for a global project

Diarrhoeal Diseases Control Programme: Biomedical and Epidemiological Research (Phase III) (GLO/86/006)

Recommendation of the Administrator

Estimated contribution of UNDP: $2,550,000

Duration: Two years

Executing Agency: World Health Organization (WHO)

I. BACKGROUND

1. National health administrations around the world have recognized that diarrhoeal diseases are a public health problem demanding priority attention. In most developing countries, these diseases are among the leading causes of death and morbidity in children under five years of age. It is estimated globally that every year there are up to 1 billion episodes of acute diarrhoea in these children, resulting in 4 to 5 million deaths. These diseases are also one of the major contributors to malnutrition. Mortality and morbidity among adults is also high, exacting a tragic toll in human suffering, family disruption and economic productivity. The prevalence of acute diarrhoeal diseases also places a serious burden on health facilities in developing countries, often accounting for 30 per cent or more of admissions to children’s hospitals as well as a high proportion of visits to out-patient facilities. This represents a serious financial burden on already strained government health budgets.
2. Against this background WHO, in collaboration with the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the World Bank and bilateral organisations established a global Diarrhoeal Diseases Control (CDD) Programme in 1978. The broad objective of the programme is to reduce mortality and morbidity caused by diarrhoeal diseases, while simultaneously strengthening the capacities of the countries themselves for controlling these diseases. The programme aims to improve the delivery of available strategies for treatment and prevention of diarrhoea through health care services and at present supports training, communications and other activities in national CDD programmes now under way or planned in 110 developing countries, comprising 99 per cent of the developing world population below the age of five years. At its meeting in Tailloires, France, from 10 to 12 March 1988, the Task Force on Child Survival issued the Declaration of Tailloires of 12 March 1988, which underscored the importance of the CDD programme. The diarrhoeal diseases control programmes make available to 60 per cent of the developing world population life-saving fluids (particularly oral rehydration salts (ORS)), the use of which may be preventing as many as a million deaths annually from diarrhoea. The Declaration went on to suggest a target of a 70 per cent reduction in the estimated 7.4 million annual deaths due to diarrhoea in children under the age of five that would occur by the year 2000 in the absence of oral rehydration therapy (ORT), and a 25 per cent reduction in the diarrhoea incidence rate.

3. At the twenty-sixth session of the Governing Council, held from 6 to 16 June 1979, the Council approved a UNDP contribution of $5,200,400 from the global indicative planning figure (IPF) in support of the research component of the programme. In 1982, the Council approved a second UNDP contribution of $4,260,000 from the global IPF. The specific objective of these contributions was to support immunological and other types of research needed for the development of new and improved vaccines and drugs for the treatment and prevention of diarrhoea. UNDP assistance has not only made possible the establishment of a major research programme in this area but has also contributed to the programme as a whole which supports training in programme management, supervisory skills and clinical management of diarrhoea in support of self-reliance in the delivery of health and other social services for the control of diarrhoeal diseases.

4. Following an extensive review of available knowledge, carried out through the convening of nine ad hoc groups involving the participation of 64 scientists from 27 countries, three global scientific working groups (SWGs) were established in 1980 to manage biomedical research in the following areas: bacterial enteric infections; viral diarrhoea; and drug development and management of acute diarrhoea. Each group has developed a five-year research plan and set research priorities within its plan. Within the management framework provided by these SWGs, research proposals submitted by scientists around the world are assessed and selected for support. As a parallel activity, regional SWGs have been established to manage health services research, closely linked to national CDD programmes. By mid-1988, the programme had received financial support from 29 contributors, including many multilateral, bilateral and non-governmental agencies.

5. During the 1984-1985 biennium, over $15.5 million was made available to the CDD programme, comprised of approximately $6.5 million from international
organizations (UNICEF, UNDP and WHO); $6.5 million from donor and recipient Governments; and the remainder from foundations and other donors. By the end of 1985, a total of 246 biomedical research projects in 56 countries had received support under the global project. Half of these were in developing countries. Beginning in July 1986, the programme reorganized its management scheme to give greater emphasis to epidemiological and intervention-oriented research, while at the same time continuing its support of research to develop new and improved vaccines and more effective modes of treatment. This reorganization also called for increased emphasis on strengthening developing country institutions.

6. At the special session of the Governing Council, held in New York from 17 to 20 February 1987, the Council approved a total increase of the UNDP contribution of $6 million over the cycle. In its decision 87/4, of 20 February 1987, the Council authorized $3,450,000 over a three-year period (DP/PROJECTS/REC/21) with the remaining amount of $2,550,000 to be authorized in 1989 pending the results of the external evaluation scheduled for 1987-1988.

II. THE PROGRAMME

7. During 1988, the CDD programme continued to focus on the development of vaccines for rotavirus diarrhoea, cholera, typhoid fever, shigellosis and diarrhea caused by enterotoxigenic escherichioti. The greatest efforts were devoted to the first three, for which candidate vaccines were available for field testing. Research to develop improved diagnostic tests focused on those required for vaccine evaluation and related epidemiological studies. The programme also continued work on the development of more effective ORS solutions; optimal delivery approaches for feeding during and after diarrhoea and establishment of guidelines for their use; determination of the cost and impact of different interventions to diminish diarrhoeal disease mortality, especially morbidity (other than vaccines or treatment); and a better understanding of the epidemiology of persistent diarrhoea, its prevention and treatment.

8. The programme maintained its support to countries in all areas of activity, with continued emphasis on training. At the same time, through its research component, the programme supported the research required to develop more effective control tools. In fact, it had been realized from the outset that such research was an essential complement to field-oriented activities if new solutions were to be found.

9. In 1988, the programme continued to support biomedical and epidemiological research into priority topics. Increasing emphasis was also given to behavioural research, particularly efforts to identify risk factors for diarrhoeal disease and to develop interventions to reduce its incidence. Since 1986, this research has been guided by three SWGs which focus on developing improved treatment methods (case management); vaccine development and evaluation (immunology, microbiology and vaccine development); and the identification of interventions, other than vaccines (epidemiology and disease prevention). Based on a recommendation made in 1987 by the programme's Technical Advisory Group (TAG), operational research was reoriented to focus entirely on solving problems encountered in the establishment or operation
of national CDD programmes and was placed within the services component. In accordance with another TAG recommendation, initial steps were taken to develop studies to determine how interventions of proven efficacy for treating or preventing diarrhoea could be most efficiently implemented within control programmes. The fortieth World Health Assembly, by its resolution WHA/40.34 of 15 May 1987, requested WHO to continue to support biomedical, socio-cultural and health services research relevant to diarrhoeal diseases control, with a view to developing and applying simplified and effective methods of prevention, diagnosis and treatment, with due attention to persistent diarrhoea and dysentery.

10. The activities and results achieved so far have built a world-wide research programme, which has already had a major impact on estimates of future mortality rates from diarrhoea. Fundamental research of the type under way is, by its nature, a long and costly effort. There are already promising indicators for the successful development of effective vaccines, simplified laboratory tests, improved rehydration solutions, more appropriate diets during diarrhoeal attacks, new pharmacological agents and more effective means for implementing interventions to prevent diarrhoeal diseases.

Report of the External Review Group

11. At the request of the seventh Meeting of Interested Parties, an External Review Group (ERG) was constituted in June 1987 to review the activities and achievements of the CDD programme and to consider immediate and longer-term prospects. The evaluation included on-site observations of national programmes and research activities, interviews with staff within the programme and other divisions at WHO headquarters and regional offices, and discussions with selected donor agencies both international and bilateral, including UNDP, as well as a wide range of researchers and policy makers in the developed and developing world. Following is a brief summary of the report of ERG.

(a) The allocation of resources to the two key components of the CDD programme, namely research and services, is balanced. Nearly 40 per cent of the total available resources of the CDD programme are devoted to the support of research. The research component is distributed among laboratory, clinical and field research. The programme's intensive use of SWGs enables it to maintain contact with investigators in relevant fields so that findings of potential practical application can be rapidly tested in the field. The value of the programme's support of research has been maximized by its ability to shift the direction of the research as new needs and priorities appear. For example, following the development of a standardized formulation of ORS, increased emphasis is now being placed on research into the use of home-based fluids to prevent dehydration. Similarly, now that rotavirus vaccines are at the field-testing stage, research is being directed towards possible problems arising from their application, such as potential intra-intestinal competition with poliovirus vaccines. Behavioural studies will assume greater importance as simple preventive measures become the cornerstone of diarrhoeal disease control along with case management and future vaccines.
(b) The remaining 60 per cent of the programme's budget is primarily for services activities. While research will still be required, it is to be expected that the future will see a shift of more resources towards services and particularly towards solving the problems that arise in implementing national programmes. In providing assistance to countries, the CDD programme has been scrupulous in ensuring that activities for the control of diarrhoeal diseases are firmly embedded in the basic health services. Instead of leading to dislocation of resources, as the zeal of vertical programmes so often does, the programme, as implemented today is acting as a cohesive force for primary health care and is contributing to the development of the infrastructure of health services. Its aim is to exert a beneficial influence on health care in general by introducing sound principles of management into health services. The case management approach, particularly as the use of home-based fluids becomes an integral part of country programmes, can provide a model for other child survival programmes concerned with ailments that are amenable to intervention in the home or at the most basic primary health care level. The programme's efforts to develop a simple, rapid and valid method of determining child mortality will, it is hoped, provide countries with a new and important tool to evaluate and guide programme direction.

(c) For the development of national CDD programmes, certain policy issues have to be addressed in the light of each country's particular circumstances. The CDD programme has developed guidelines and training modules for dealing with many such essential issues. These include the selection of a home-based fluid, whether to classify ORS as a drug or a food, target-setting, training, supervision and evaluation.

(d) In August 1987, the acute respiratory infections (ARI) programme was placed administratively under the responsibility of the Director of the CDD programme. The ARI programme has two major components: health services concerned with the implementations of available strategies for the control of ARI in children; and research directed at developing new or improved methods and approaches for control of the estimated 15 million deaths occurring each year in children under five years of age. Twenty-five to 30 per cent of these deaths are due to respiratory infections, the vast majority caused by pneumonia. Thus, in absolute numbers, pneumonia accounts for about 4 million childhood deaths annually. The external evaluation team was requested to focus on optimal means of integrating activities for the control of diarrhoeal diseases and respiratory infections. The implications of fully integrating WHO and national programmes for the control of acute respiratory infections (ARI) and of diarrhoeal diseases (CDD) have been closely examined. Such integration is feasible and desirable, but it should be conducted in a phased manner. The scientific basis for the ARI programme is well established, and methods of applying the knowledge in the field are being developed. Intensive efforts should be continued to develop recommendations for the planning, implementation and evaluation of national ARI programmes. UNDP is assisting in this effort through its support of the ARI programme.

(e) Since its inception, the CDD programme has been able to rely on external mechanisms to ensure its monitoring and evaluation on an annual basis. These include a Technical Advisory Group (TAG), which reviews the scientific and technical content of the programme, a Management Review Committee, which reviews
the management of the programme and a Meeting of Interested Parties, which convenes annually to review the overall policies and direction of the programme and pledge financial support.

(f) Ninety-six countries now have an operational national CDD programme with realistic and achievable targets. Governments and the public health community view the programme as overwhelmingly cost effective. It has financed studies that demonstrate the cost effectiveness of the case management approach, and this information should be widely disseminated so that countries can use it in obtaining backing and funds for their national programmes. The programme is well managed, combining an appropriate degree of decentralization and devolution of responsibility with accountability.

12. The eighth Meeting of Interested Parties considered the report of the External Review Group in June 1988 and endorsed its overall conclusions. The full report is available upon request.

III. THE PROGRAMME AND THE FUTURE

13. According to the External Review Group, the CDD programme has made demonstrable progress since its inception and is now at a critical phase in its evolution. Two major areas are considered to be crucial to the continued success of the programme: case management, both in the home and in health facilities, needs to be more effectively applied; and prevention must be stressed more strongly than ever. The programme will therefore continue to focus its efforts on assuring correct case management while gradually giving more priority in the future to prevention-related activities. Prevention-related activities will need to support more interdisciplinary research requiring investigators trained in epidemiology, data handling and the social and behavioural sciences. Training efforts will be intensified. While mechanisms exist for collaboration among external support agencies, both international and bilateral, increased attention will be focused on more effective collaboration at the country level. Increased attention will also be given to the role of non-governmental organizations and the private sector in the delivery of health services at the country level. The clinical management of diarrhoeal disease is an obvious case in point. Furthermore, the linkage will be strengthened with other national and international programmes such as those concerned with clean drinking water, sanitation, nutrition, breast-feeding and weaning practices. These interventions will receive increased attention within the CDD programme.

14. It is considered that UNDP assistance has been invaluable and is in great part responsible for the success achieved to date. The UNDP will continue to support research into the development of vaccines and drugs, as well as training, and will extend this support to planned epidemiological and intervention-oriented activities and associated institutional-strengthening activities. It is likely that additional UNDP assistance and voluntary contributions from multilateral and bilateral sources may be needed as the programme progresses. The Administrator attaches great importance to the attainment of the goals of the Diarrhoeal Diseases Control (CDD) programme and considers that UNDP should continue to support the
programme during the fourth programming cycle. UNDP will continue to give support to the programme as a whole, without earmarking any particular component.

15. The proposed UNDP contribution would be $2,550,000 for sub-contracts.

IV. RECOMMENDATIONS

16. The Administrator recommends that the Governing Council:

(a) **Approve** UNDP supplementary assistance to this project; and

(b) **Authorize** the Administrator to make the appropriate arrangements with the executing agency for the execution of this project.