EUROPEAN COMMISSION

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General information

HEALTH RESEARCH WITH DEVELOPING COUNTRIES

Volume 1
HEALTH SYSTEM RESEARCH

OVERVIEW OF EC SUPPORTED JOINT RESEARCH PROJECTS

RTD INTERNATIONAL COOPERATION

EUROPEAN COMMISSION

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The front cover photograph has been kindly
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HEALTH RESEARCH WITH DEVELOPING COUNTRIES

Volume 1

Health System Research

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Foreword

Health research with developing countries has been part of the European Commission's research agenda under its regular research budget for almost 15 years.

It is currently part of the specific RTD Programme in the field of Cooperation with Third Countries and International Organizations (INCO): activity II of the Framework Programme IV (1994-1998) (see annex).

The selection of research areas is based on existing and newly identified health needs in developing countries and on the capacity to cope with these needs through research.

This document presents the "health systems research" component of the health sector under the INCO-developing countries (INCO-DC) programme and its predecessor STD-3 (1991-1994). It combines summaries of completed contracts for STD3 and a catalogue of ongoing and new contracts of STD3 and INCO-DC, 1st and 2nd call. Other health research areas on the tools for prevention and control of diseases (e.g. vaccines, drugs and diagnostic products) are presented in other volumes.

Science has offered the technical ability to have a major input to a wider variety of health needs in developing countries. This, however, has not been sufficiently translated into health benefits for the population at large. Historically there has been a lack of emphasis on properly questioning the health system particularly in the way scientific questions and results are effectively delivered in a cultural and socio-economic framework. Hence, the aim of this section in the INCO-DC programme is to strengthen the scientific basis of the delivery of healthcare in order to optimise the impact of the application of available resources.

Particular emphasis is given to the process of partnership-building in science. Capacity and capability development for all teams involved (in developing countries as well as in the EU) is the key to this process.

Scientific cooperation being an integral part of the EU research policy is therefore also an essential instrument in support of the development policy of the EU.

The specific objectives and the operational modalities are dealt with in annex 1 and in the information packages which are produced to accompany each 'call for proposals'.

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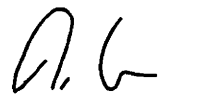


R. Gerold
Director

The INCO-DC Workprogramme :
Field of Health Systems Research (HSR) : part of health related research

Research on health systems in the context of health sector reform

Developing Countries (DCs) are currently engaged in reforms of their health sector, involving aspects such as cost recovery, decentralisation and privatisation, which will have profound implications on the effectiveness, efficiency and the equity of health care delivery. Others have to build or rebuild health care systems after long periods of neglect often due to political and economic disorder. The beneficial development of this process requires research based on a systems approach which may use a variety of tools and approaches, such as epidemiological methods, social science approaches, operational and action research. Consequently, research should use the various techniques to study the process of change occurring in health systems. In order to be relevant, such research has to take account of the historical and demographically background and of the social and economic processes taking place. and should describe how these changes occur, while guarding against the trend to seek only simple technological solutions for complex social and economic problems. Attention will be paid to the following fields: evaluation of health policy and of the operational strategies of health care, management and financing of the health services, development and validation of decentralised health care delivery models, optimisation of the development of human resources, the prerequisites and conditions for the transfer and the introduction of technologies, coverage and utilization of health services, ways to promote equity and cost effectiveness, quality of care, gender issues, better case management and follow up, and ways to increase the participation and autonomy of the population served. Research on nutrition will be eligible if proposed in the context of the above mentioned guidelines, or when it relates to the study of methods and relevance of health interventions.

Complementary areas bridging science and application

The programme will contribute to improved coordination and to better research methodology in fields of growing interest and for which only a limited number of international links are currently established, linking EU scientists to their colleagues in DC's. Opportunities to combine research with existing initiatives or future development initiatives of the EU and of Member States in these fields will be exploited. These topics are:

Relevance and methodology of health interventions
A large number of problems and of important bottlenecks have been identified for the evaluation of specific tools and of methods for the interventions in health in the field.

Apart from technical aspects such as unequivocal contribution of morbidity and mortality of the health problem under study, there are issues of strategy, of ethics and relevance to be covered. Studies and tests of interventions have to he integrated into the existing health systems and the process of this integration can consequently form part of the research.

The research workers responsibility for the results of their intervention research and for the continuation of the health services depending on these studies should be adequately addressed. In order to be eligible for support under this heading, the health problem for which an intervention is planned should be relevant in epidemiological terms as well as in terms of the needs expressed by the community in which it is studied. Innovative methods on the interventions on health problems will be supported for evaluation in the field. The planning of interventions should take account of ongoing activities in appropriate geographical areas and concentrate preferably on those fields where significant investments have already been made, or are planned, so that optimum use is made of existing capacities.

Reproductive health
The accent will be put on the identification and the coordination of research aiming to promote safe, effective, affordable and acceptable methods for people to realise their choices and decisions regarding fertility and sexuality in order to achieve a transition from a pattern of uncontrolled reproduction, high mortality and morbidity towards a pattern of desired reproduction, combined with low mortality and morbidity. The aim is also to arrive at the integration of the various aspects of mother and child health in a comprehensive way.

Environmental health
The accent will be put on the identification and the coordination of research on the changes of the epidemiological patterns induced by man-made ecological modifications (e.g.. waterworks of hydrology, land use and demographic transitions). This research should have direct operational implications for the design of local and/or regional development plans and contain realistic possibilities of maintaining or of improving the health status of the population.

Health and human settlements
The changing and the increasing health problems arising from the growth of population and the rapid and uncontrolled urbanisation in DC's can be dealt with under this heading. Such research activities should be identified and coordinated in order to develop new specific methods and strategies for interventions leading to the improvement of the health status of urban populations.

The European Commission and support for Health System Research

* Geographical distribution

* Context

STD-3 (1991-1994)

Under the 3rd Framework Programme, the predecessor of the INCO-DC programme, the STD-3 programme (Life Sciences and Technologies for Developing Countries: 1991-1994, area Health), resulted in the participation of 223 scientific teams, spread over 168 institutions in 78 different countries. Of the 140 health related STD-3 contracts, 26 were on *Health System Research* (including Nutrition). Over 115 scientific teams involving 37 countries (Figure 1) received European Commission support for this specific subtopic totaling 7.4 Million ECU. This represented about 19% of the total health research related budget of this EC RTD programme (Figure 2).

INCO-DC (1994-1998)

Under the 4th Framework Programme, the INCO-DC programme (sector health) has, as a result of the first and second call in 1995 and in 1996, selected 29 projects related to *Health System Research* involving 59 countries (Figure 1). Therefore, a budget of 11 Million ECU (so far 28% of the contribution to the health sector of INCO-DC) has been in support of 192 teams dealing with this component of health research (Figure 2).

The evaluation process related to the 3rd Call for Proposals of 1997 will select another group of projects to be operational in 1998.

Positive trend

Since the beginning of the European Commission's RTD programmes with Developing Countries a positive trend towards a wider interest in *Health System Research* could be noted. From STD-3 to INCO-DC, more high quality proposals have been selected with a broader geographical distribution. New equitable partnerships have been initiated and ongoing collaboration has been reinforced.

Figure 1

Partnership in Health System Research

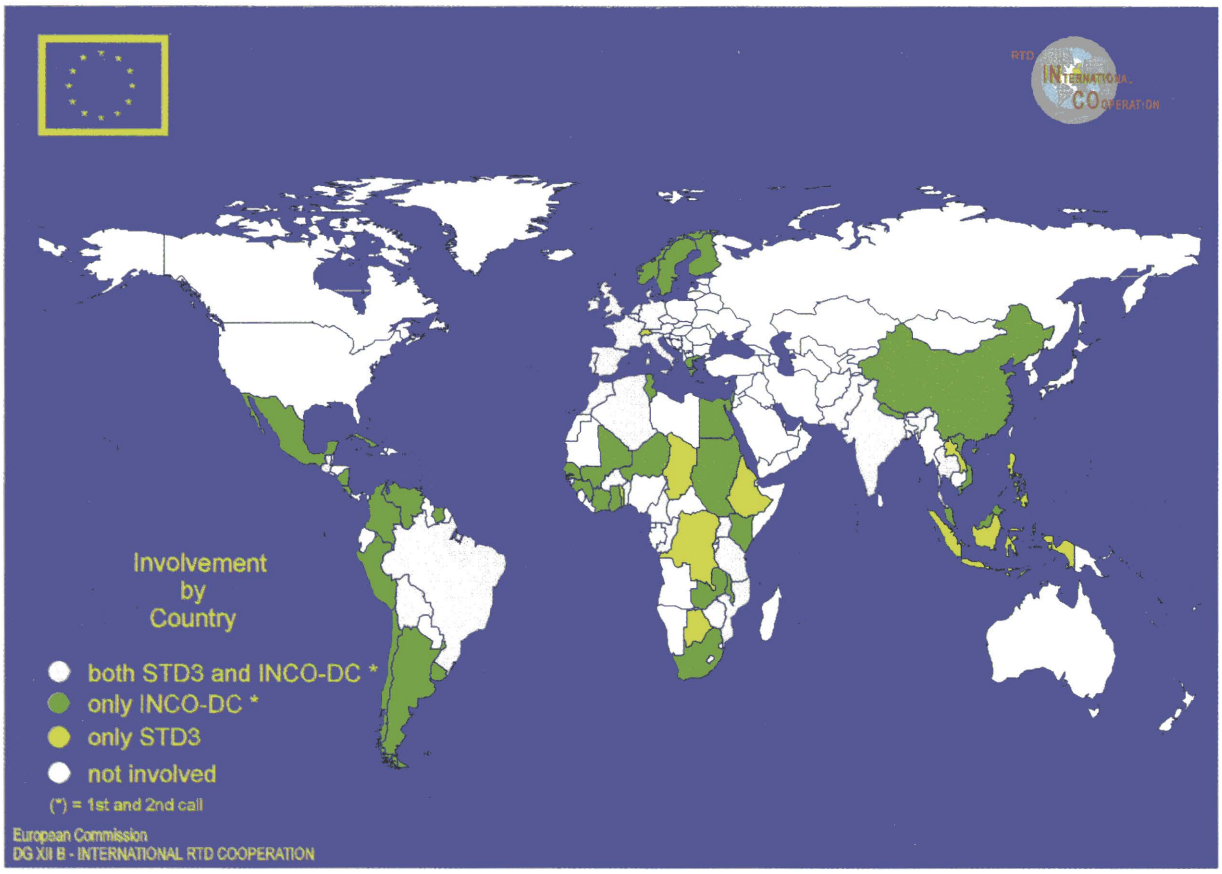
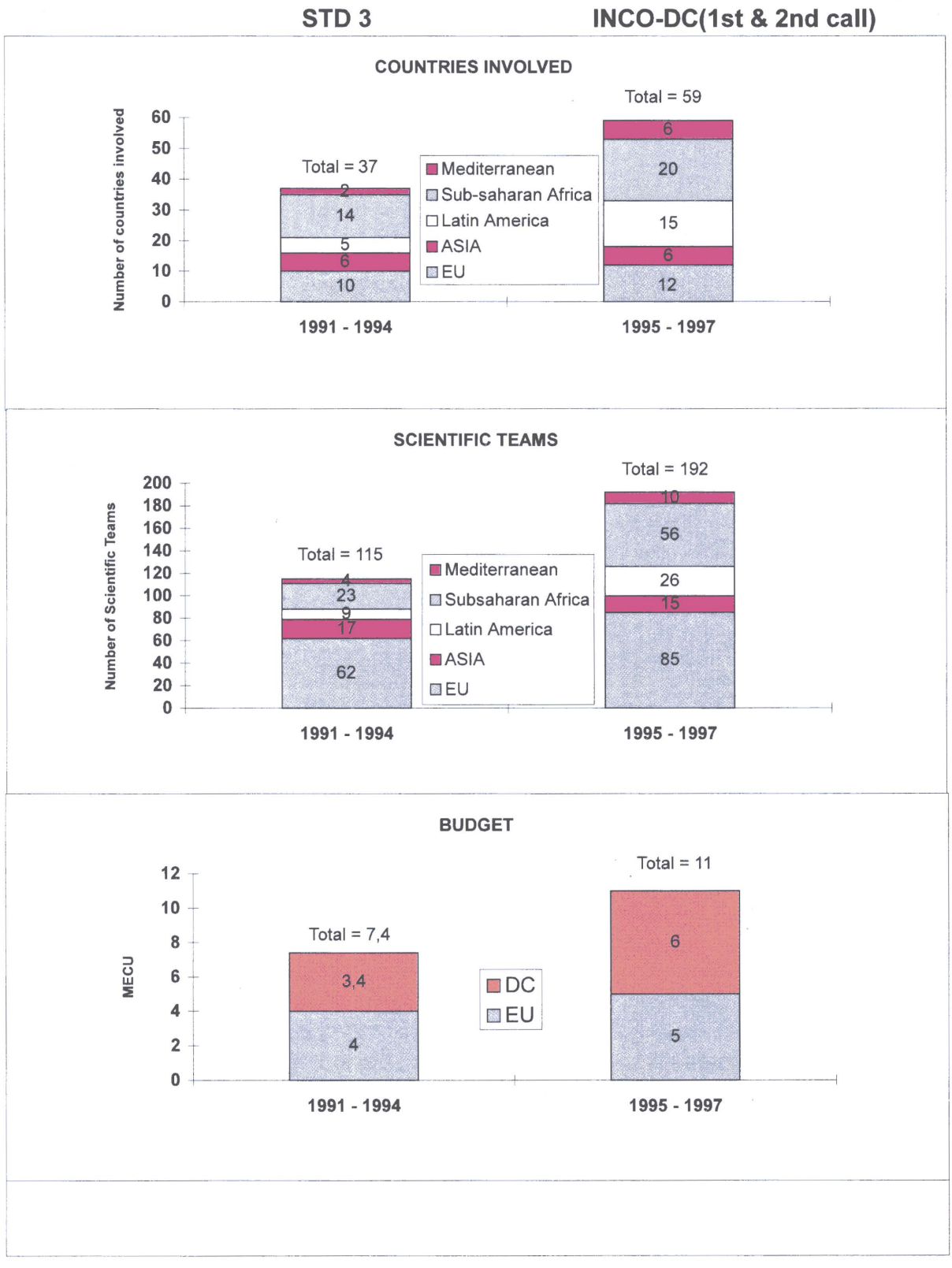


Figure 2

HEALTH SYSTEM RESEARCH

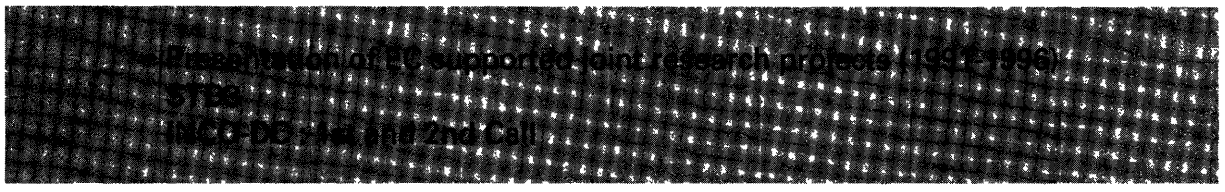
COUNTRIES, PARTNERSHIPS, BUDGET



EC supported joint research projects (1991 - 1996)

S T D 3 / I N C O - D C (1st & 2nd call)

1. Clinical intervention studies for specific health problems



Areas of interest :

1. Clinical studies for specific health problems

Contract number IC18*CT960033

CONCERTED ACTION : MAGNESIUM SULPHATE ADMINISTRATION FOR PREVENTION OF ECLAMPSIA: REDUCING THE HUMAN AND HEALTH SERVICE BURDEN ASSOCIATED WITH HYPERTENSIVE DISORDERS OF PREGNANCY

Period: October 1, 1996 - September 30, 1999

Co-ordinator: CENTRE FOR STATISTICS IN MEDICINE,
INST. OF HEALTH SCIENCES, UNIVERSITY OF OXFORD,
Oxford, United Kingdom (L. DULEY)

Objectives

- To estimate the overall effectiveness and safety (for women and their babies) of magnesium sulphate when administered, within the existing health services, to women with pre-eclampsia.

- To contribute to *The Cochrane Library* by preparing and maintaining systematic reviews of the care of women with severe pre-eclampsia, and by ensuring that the implications for practice within developing countries are discussed in Cochrane reviews relevant to the care of women with hypertension during pregnancy.

- To enhance and strengthen existing collaborative networks within developing countries, and to increase the capacity to conduct high quality primary and secondary research and to implement appropriate evidence into practice.

Activities

* Develop a common core protocol for a trial to evaluate the administration of magnesium sulphate to women with pre-eclampsia.

* Conduct a collaborative randomised trial evaluating magnesium sulphate. Women with pre-eclampsia will be randomised to receive either magnesium sulphate or placebo.

* Trial co-ordination and management. The international co-ordinating centre will be in the UK; regional co-ordinating centres will be in Argentina, South Africa and Thailand. An international steering group will supervise overall management of the trial.

* Training. Workshops will be conducted by each of the co-ordinating centres, and there will be regular meetings of collaborators.

* Recruitment. The estimated sample size is 14,000 women, and recruitment will take place over two years in Africa, South America, Asia, Europe and Australasia.

* Data collection. Primary outcomes will be eclampsia and perinatal mortality. Secondary outcomes will include measures of serious maternal and perinatal morbidity, and the use of health service resources. Data will also be collected on compliance with the allocated treatment.

* Long-term follow-up of the children. Although not part of this proposal, follow-up will be facilitated by generating randomised cohorts of children exposed and not exposed to magnesium sulphate *in utero*, and where possible collecting contact details for the children.

* Systematic reviews. Prepare and maintain reviews of the care of women with severe pre-eclampsia for the publication in *The Cochrane Library.*

* Implementation. Develop and pilot strategies for local dissemination and implementation of research evidence.

Expected outcomes

⇒ This trial will provide reliable evidence, of direct clinical and policy relevance, about the effectiveness and safety of magnesium sulphate for women with pre-eclampsia and their children.

⇒ If magnesium sulphate is effective, this study will allow economic evaluation to determine cost-effectiveness in a variety of settings.

⇒ The results of this trial are likely to suggest hypotheses for the pathophysiology of eclampsia, and the mode of action of magnesium sulphate.

⇒ This project will contribute to the mission of the Cochrane Collaboration by making available Cochrane reviews relevant to the care of women with hypertension during pregnancy.

⇒ This project will strengthen the capacity within developing countries to design and conduct high-quality multicentre randomised trials.

Contract number IC18*CT960033

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Contract number IC18*CT960045

EFFECT OF ZINC AND VITAMIN A SUPPLEMENTATION ON DIARRHOEA AND PHYSICAL GROWTH IN CHILDREN

Period: December 1, 1996 - May 31, 2000

Co-ordinator: UNIVERSITY OF BERGEN, CENTRE FOR INTERNATIONAL HEALTH, Bergen, Norway (H. SOMMERFELT)

Objectives

To measure the impact of supplementation with zinc alone and a combination of zinc and vitamin A on:

- the outcome of acute diarrhoea, particularly the risk of persistence.
- moderately malnourished children of 6-23 months of age.

Activities

The efficacy of micronutrient supplementation will be assessed in a two-centre placebo-controlled community-based trial where project staff will administer a single large dose of vitamin A upon enrolment and zinc 5 days per week until 12 weeks following recovery.

The study will enrol a total of 1,600 children who will be followed up twice weekly to measure the impact on:

* enrolment diarrhoeal episode (duration of diarrhoea, number of diarrhoeal stools during the episode, proportion of episodes that become persistent, and change in weight during the episode)
* subsequent diarrhoeal morbidity over 12 weeks (incidence of acute diarrhoea and persistent diarrhoea, and daily diarrhoea prevalence)
* growth over 12 weeks after recovery (change in weight and length/height and risk of developing severe malnutrition)

Furthermore, the effect of zinc supplementation on serum and hair zinc levels and on the severity of the enrolment episode will be measured after a programmatically relevant delivery approach, namely administration of zinc by mothers.

Comparison of baseline features including hair- and serum-zinc levels will be made to confirm comparability across intervention groups. Outcome measures will be compared across the intervention groups initially on an "intent-to-treat-basis". Further analyses using generalised linear models will be performed to adjust for any imbalance at baseline and to take into account intervention compliance.

Contract number IC18*CT960045

Expected outcome

The study will assess whether daily supplementation with zinc alone or zinc combined with vitamin A substantially reduces the severity and duration of acute diarrhoea and the nutritional insult of, particularly prolonged, diarrhoeal illness. If so, it is desirable and feasible to implement this reasonable intervention in national programmes, an intervention which will be particularly relevant to the 20% of children who experience recurrent diarrhoea and impaired physical growth.

Demonstrating the postulated benefits of micronutrient supplementation has other important programmatic implications, for example in influencing which foods should be promoted during nutritional counselling, the choice of diets to be offered in supplementation schemes and strategies for micronutrient food fortification, e.g. of domestic salt, wheat flour and animal milk.

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Contract number TS3*CT940311

PERSISTENT DIARRHOEA IN EARLY CHILDHOOD - A PROSPECTIVE COMMUNITY STUDY

Period: January 1, 1995 - December 31, 1997

Co-ordinator: STATENS SERUM INSTITUT, EPIDEMIOLOGY RESEARCH UNIT, Copenhagen, Denmark (K. MØLBAK)

Objectives

The aim of the study is to improve community - and health-center based management of acute and persistent diarrhoea in early childhood. Furthermore, we wish to suggest vaccine-based or other targeted interventions against acute and persistent diarrhoea, and explore the long term impact of infections with specific enteropathogens on child survival and growth faltering.

Finally, the study will provide a substantial technology transfer to the National Public Health Laboratory in Bissau, and exchange and training of scientists, health workers and technicians.

Activities

The core of the study is an ongoing prospective community based surveillance for diarrhoeal disease, which is carried out in a semi-urban area of Bissau, the capital of Guinea-Bissau. All children below three years of age, residing in 600 randomly selected houses, are followed by weekly visits. At these household interviews, we obtain information on diarrhoeal diseases, other morbidity, and feeding patterns. All children have their height and weight measured at three-monthly intervals. In addition, more detailed anthropometric follow-up and microbiological examination of weekly collected stool samples are carried out in cases of persistent diarrhoea and in the intensive cohort (see below).

Within this frame, the study contains three work packages:

* A community-based, randomized controlled trial (RCT), comparing standard oral rehydration salt (ORS) with reduced osmolarity ORS.
* The development and controlled evaluation of an algorithm for the appropriate management of persistent diarrhoea.
* An intensive cohort study with weekly collection of stool specimens from birth to the age of two years.

The aim with this third package is to determine the microbial etiology of acute and persistent diarrhoea and to characterize in detail persistent, sequential and repeated infections by, as well as disease-to-infection ratios, for major enteropathogens. These data will be used for the investigation of the long term impact of infection with specific enteropathogens.

Results

Data collection for the RCT of reduced osmolarity ORS will be completed by the end of 1996, with a total of 600 episodes of acute diarrhoeal episodes included. If low-osmolarity ORS proves to be more efficacious and/or acceptable than standard ORS, a strong case has been made for changing the official recommendations for the composition of ORS.

Contract number TS3*CT940311

For the management of persistent diarrhoea (PD), an algorithm was adapted during 1995. The algorithm is primarily based on dietary therapy with a frequently offered modified traditional diet, a millet gruel with an energy density of 96 kcal/100 g, and a protein content of 2.3%. In addition, children with PD are examined at a health center, and treated with antibiotics or antimalarials upon scientific indications. Follow-up includes detailed anthropometry, including knee-heel measurements, in order to evaluate catch-up growth. Children with PD from a carefully selected control group receive the same clinical examination, treatment of severe infections, and anthropometric follow-up as the algorithm group.

The intensive cohort, with approximately 150 children, will be assembled during 1996. The sampling scheme, with weekly collection of stool specimens was implemented from early 1996, during the assembly of the cohort. In 1995- 1996, the diagnostic setup was established at the National Public Health Laboratory in Bissau. The diagnosis of enteropathogens is undertaken by a combination of conventional and probe-based microbiological techniques. For the detection of pathogenic *E. coli,* bacterial lysates are screened by a panel of DNA probes. For this purpose, a number of different probes identifying the virulence factors of the most important diarrhoeagenic types of *E. coli* as well as *Shigella* spp. have been modified and cloned into the same vector plasmid, PBS, thereby enabling an effective labelling with the non-radioactive marker digoxigenin by the polymerase chain reaction using the same set of primers for all the different probes. Because of the substantial sample load, a system of pooling the individual probes has been developed as well as systems for the handling and transportation of the large number of probe-positive strains.

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Contract number TS3*CT920137

CLINICAL BENEFIT OF SELENIUM SUPPLEMENTATION AFTER THE CORRECTION OF IODINE DEFICIENCY: COMMUNITY BASED STRATEGIES FOR PREVENTION OF BOTH TRACE ELEMENT DEFICIENCIES

Period: December 1, 1992 - November 30, 1994

Co-ordinator: UNIVERSITE LIBRE DE BRUXELLES, FAC. DE MEDECINE, CAMPUS ERASMUS, Mons, Belgium (J. VANDERPAS)

Objectives

A previous contract (TS20286.B TT) has documented combined severe iodine (I) and Selenium (Se) deficiency in Northern Zaire. Also a detrimental effect of the Se supplementation in I- and Se-deficient subjects on thyroid hormone metabolism (aggravation of hypothyroidism), in schoolchildren and in cretins has been reported.

The aim of this contract was to assess the safety and the efficiency of correcting first I deficiency, and thereafter the Se deficiency.

Activities

9 - 18-year old schoolchildren (n = 100) were supplemented first with I (0.1 ml oral iodised oil given once Lipiodol®). After 2 weeks (I Day +15/SeDay 0), Se (200 µg/day as Selenomethionine) (n = 78) or placebo (n = 22) was administered for 120 days. Blood samples and urine were collected at Day O (n = 100); at (I Day +15/SeDay 0) (n = 90); and at I Day+135/Se Day +120 (n = 81) to determine the Se status (plasma glutathione peroxidase activity (GPX) and Se concentration) and the thyroid function (serum TSH, T4, T3, urinary iodine); blood samples were also collected sequentially at intermediate intervals in subsamples of 10 to 13 subjects.

Results

⇒ Hypothyroidism (TSH>10mU/l) was frequent at entry in the study (58/100 cases, with 41 cases of TSH>50 mU/ssa. It was corrected within two weeks after I supplement (I Day+15: 3/93 TSH>10 mU/1; 0/93 TSH>50 mU/1). Hypothyroiodism was no longer observed up to I Day + 46. Nevertheless, at I Day +75 and at I Day +135, respectively, 2/10 cases and 9/77 cases were again hyperthyroid. 1 absorption was sufficient: urinary I was very low at entry in the study (geom. mean ±1sd: 25(9.6-65) µg/l) (Normal: >50); it increased to elevated values within one month in all cases (I Day +15: 148(57-382) µg/l; I Day + 30: 221 (70-698) µg/l). Ten weeks after I supplementation (I Day +75), it was again in a deficiency range (39(26-59) µg/l).

Contract number TS3*CT920137

Conclusion I

The low dose of oraliodised oil administered is not adequate for some young schoolchildren of Ubangi, Northern Zaire.

Of the 81 schoolchildren seen at I Day +75 or at I Day +135, 12 cases of recurrent hypothyroidism (TSH >10 mU/l) occurred in subjects initially hyperthyroid (TSH > 10 mU/A at Day O), suggesting a decreased functional capacity of the thyroid in an I deficiency stress.

Conclusion II

By analogy to the marked involution of thyroid in cretins, short lasting response to I supplementation in some schoolchildren could represent a less severe form of the same defect.

Serum thyroglobulin is a marker of thyroid functional state. In various clinical states where thyroid volume is increased (goitre; adenoma; neoplasia) and/or the thyroid is stimulated (toxic adenoma; Graves-Basedow disease), serum thyroglobulin is markedly increased, and reflects the thyroid functional capacity. This biochemical marker was used to assess the thyroid functional capacity in schoolchildren, in relation to the responsiveness to iodine supplementation. In the schoolchildren poorly responsive to iodine supplement, initial serum thyroglobulin (Day 0) was less elevated than in those who adequately responded. By comparison, serum thyroglobulin was still significantly lower in young myxedematous cretins, with paradoxically low serum thyroglobulin levels in presence of elevated serum TSH values. These data show that, besides endemic myxedematous cretins, a significant proportion of schoolchildren (12 out of 81 in our series, 15%) present a degree of decreased functional capacity of the thyroid gland. In other words, a low serum thyroglobulin concentration in a subject with elevated serum TSH concentration (>10 mU/1) is predictive of a low response to iodine supplement. It remains to be established whether, in some cases, this decreased functional thyroid capacity is already present in neonates. A biochemical spectrum covers the various degrees of decreased functional thyroid capacity in cretins and in phenotypically normal schoolchildren. By taking the ratio of serum thyroglobulin/serum thyrotropin, it was possible to discriminate with a 100 per cent sensitivity and a 100 per cent specificity myxedematous cretins with non-palpable goitre and hyperthyroid schoolchildren adequately responsive to iodine supplement.

Conclusion III

This is the definitive confirmation that cretins and hyperthyroid schoolchildren adequately responsive to iodine supplementation belong to two different clinical entities, with a blurred and less well-defined border (hyperthyroid schoolchildren inadequately responsive to iodine).

	Euthyroid **TSH <10mU/l** **n = 33**	**Hyperthyroid (Euthyroid on completion)** **TSH Day 0 >0mU/l** **TSH 4 months >10mU/l** **n = 36**	**Hyperthyroid (Hyperthyroid on completion)** **TSH Day 0 >10mU/l** **TSH 4 months >10mU/l** **n = 12**
Day 0 Serum Thyrotropin Serum Thyroglobulin	 2.9(2.1-3.9) 346±46	 93(65-141) 1109±130	 104(52-213) 457±105
1 Day +15/Se Day 0 Serum Thyrotropin Serum Thyroglobulin	 1.3(1.0-1.7) 151±52	 3.5(2.8-4.1) 262±44	 8.6(5.6-13.2) 204±61
1 Day + 135/Se Day +120 Serum Thyrotropin Serum Thyroglobulin	 1.5(1.2-1.9) 124±18	 3.1(2.5-3.8) 175±24	 32(16-63) 252±50

Selenium status (plasma GPX) was very low at entry in the study; it increased progressively in a log-linear pattern with time (normal: >630 U/l):

Day+0	Day+7	Day+14	Day+21	Day+31	Day+60	Day+120
189±93	277±62	431±141	507±111	631±133	763±77	902±188

At the end of the study, serum T4 was lower (5.7±1.6 µg/dl vs 7.0±2.2 µg/dl) and serum TSH and T3 were similar in +I+Se group vs +I-Se group (TSH: geom. mean ±1sd: 2.9(0.9-8.7) mU/l vs 3.8(1.2-12.6) mU/l; T3: arithm mean ±1sd 134±26 ng/dl vs 136±38ng/dl).

Conclusion IV

When I deficiency is first corrected, the correction of Se deficiency involves a small decrease of serum T4, remaining within a normal range, without aggravating hypothyroidism. Nevertheless, the short duration of effectiveness of small doses of iodised oil in some schoolchildren requires new strategies for covering an adequate iodine supply in all subjects over the long term (intramuscular iodised oil; iodised salt).

Contract number TS3*CT920137

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Contract number TS3*CT940282

EFFET DE L'INGESTION DES PRODUITS LAITIERS FERMENTES SUR LA CAPACITE IMMUNE DES SUJETS BIEN NOURRIS ET MALNOURRIS

Period: January 1, 1994 - December 31, 1996

Co-ordinator: UNIVERSIDAD AUTONOMA DE MADRID,
INSTITUTO DE NUTRICION Y BROMATOLOGIA,
Madrid, Spain (A. MARCOS)

Objectives

- Comparative effects of yoghurt (enriched with non-pathogenic lactic bacterial) and milk consumption on immunocompetence in a healthy population.

- Comparative effects of yoghurt (enriched with non-pathogenic lactic bacteria) and milk consumption on immunocompetence and on nutritional recovery on two malnourished groups:

    1. Young patients (12-18 years of age) suffering from anorexia nervosa (eating disorder increasingly seen in developing countries).
    2. Malnourished African children (4-24 months of age).

- According to STD programme, within general objectives, we will try to establish the role played by fermented dairy products on immune capacity and thereby on nutritional status and recovery.

Summary

One of the causes of the increased susceptibility to infectious disease of malnourished individuals is an impaired immune function. In addition, immunocompetence has been shown to be depleted by infection and to be a sensitive and functional measure of the nutritional status. This work is aimed at assessing the effect of yoghurt (enriched with non-pathogenic lactic bacteria) consumption on immune capacity and thereby on nutritional status and recovery in three groups:

⇒ Control, consisting of 50 healthy subjects (12-18 years of age).
⇒ 20 patients (12-18 years of age) suffering from anorexia nervosa (eating disorder seen increasingly in developing countries).
⇒ 20 malnourished African children (4-24 months of age).

Each group will be divided into two subgroups: a) 300 ml/day yoghurt consumption during 2 months and b) 300 ml/day milk consumption during 2 months. Dietary intake and anthropometric parameters (weight, height, body mass index, ideal body weight percentage, skin folds) will be measured. The following immunological parameters: lymphocyte proliferation B lymphocytes (CD19), T lymphocyte subsets (CD2, CD3, CD4, CD8), NK lymphocytes (CD57), serum C3 and C4 complement factors and -interferon production will be evaluated.

Contract number TS3*CT940282

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Contract number TS3*CT940331

THE EFFECTIVENESS OF DIFFERENT STRATEGIES OF CASE DETECTION AND MANAGEMENT OF SEXUALLY TRANSMITTED DISEASES IN MWANZA, TANZANIA

Period: January 1, 1995 - December 31, 1997

Co-ordinator: INSTITUTE OF TROPICAL MEDICINE,
Antwerpen, Belgium (A. BUVE)

Objectives

General and long term objectives

- To assess the effectiveness of public health services in case detection and management of sexually transmitted diseases (STDs) occurring in the general rural population. Effectiveness is defined as the proportion of cases of STD occurring in the population, that are cured by the public health services.

Specific objectives to be achieved by this project

- To assess the losses of patients occurring at each of the following steps between infection and cure: perception of STD-related symptoms by infected persons; care-seeking behaviour; performance of the diagnostic procedure; reception by the patient of an efficacious treatment; patient compliance. Assessment of these losses will allow estimation of the cure rate, i.e. the proportion of cases of STD occurring in the population that are cured by health services.

- To assess the effectiveness and the feasibility of improved case detection and management of STDs through contact tracing.

Activities

The effectiveness of case detection and management will be assessed by quantifying the losses of patients through each of the steps described under the specific objectives. Assessment of the losses is done by:

* Analysis of data already collected, including: the proportion of patients with STDs occurring in the population who contact the public health services; the factual knowledge about STD diagnosis and management of health care workers; prescription patterns for STDs.

* A series of focus group discussions on health care behaviour for STDs in the general community; among patients attending the outpatient department of a district hospital; and among health care workers.

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* Interview and examination of a random sample of 1,000 men in the general population, in order to assess the prevalence of asymptomatic urethritis in men and the extent to which symptoms of urethritis are perceived as worrisome.

* Interview and examination of 500 men and 500 women presenting at the general outpatient department of a rural district hospital. Patients found with an STD will be followed up to assess compliance and will be requested to bring their partners. This study will enable assessment of the following losses: losses through non-recognition of symptoms by health care workers, losses through lack of sensitivity of the diagnostic procedure, losses through ineffective treatment and non-compliance. By assessing the prevalence of true infections among partners of patients diagnosed as suffering from an STD, the effectiveness of contact tracing, in terms of additional cases of STD detected, will be assured.

* An observational study on the performance of health centre staff in case detection and management of STDs.

Expected outcome

The study will provide crucial information to guide the planning and implementation of improved case detection and management of STDs at the primary health care level in Tanzania.

Results (so far)

Analysis of existing data on prescription patterns

In 1993 a survey was conducted on the number of patients with STD syndromes seen, and treatments prescribed, in 6 health centres and 12 dispensaries in Mwanza Region. There were 26 different prescriptions recorded for genital discharge and 15 different prescriptions for genital ulceration. All prescriptions had, as their main component, procaine, penicillin or tetracyclic. A panel of STD specialists estimate that of the gonorrhoea cases that presented themselves to the health centres 15 - 25% received a prescription that would cure their infection; for chlamydia infections this percentage was 20 - 30%. Of the patients with GUD an estimated 80% received a prescription that was efficacious in interruption transmission of *T. pallidum* but not necessarily in preventing tertiary syphilis. None of the prescriptions given had any efficacy against chancroid. In contrast, the new treatment regimens that were introduced as part of an intervention to improve STD case management have an estimated efficacy of over 90% against gonorrhoea, chlamydia infection, syphilis and chancroid.

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Key findings of the qualitative research into health care seeking behaviour

⇒ The most critical characteristic about having an STD is that it is shameful. Having an STD is associated with promiscuity and low moral status. The Swahili term for STD can be translated as "diseases of sinfulness/promiscuity".

⇒ Shame and the lack of privacy/confidentiality at government health centres constitutes the most important reason why people do not seek early, sufficient or consistent treatment for STDs. Long waiting time is also significant in putting people off accessing government health centres.

⇒ As a result, the majority of people prefer other avenues for seeking treatments (that offer greater privacy and less waiting time, including self-medication), and will usually only go to a health centre as a last resort.

⇒ People perceive that symptoms = disease; therefore the lack or reduction of symptoms = lack of disease. Pain is the primary marker for the seriousness of a disease; pain that is not particularly bothersome will often not be acted upon. For these reasons delayed treatment and incomplete treatment are common.

A population-based study on the prevalence of asymptomatic urethritis in men

This cross-sectional study was carried out in a rural community living near a health centre. One thousand men (78%) aged 15 to 54 years out of 1286 eligible study subjects agreed to participate. All men were first interviewed on symptoms suggestive of STD, then examined for urethritis including the taking of laboratory specimens. 30 men (3.1%) were infected with *N gonorrhoea*, 15 (1.5%) had a chlamydia infection, 105 men (10.9%) had Trichomonas and 61 men (6.3%) were found with non-specific urethritis. A large proportion of the men with gonococcal and/or chlamydia infection were unlikely to receive effective treatment.

First of all, 50 to 60% were asymptomatic, or were not aware of symptoms. Of the ones who were symptomatic less than 40% sought care from services that could provide effective treatment, i.e. a health centre, hospital or private dispenser. Most men with symptoms had bought drugs or taken herbal treatments or had consulted a traditional healer.

Contract number TS3*CT940331

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Contract number TS3*CT930231

APPROPRIATENESS OF DIAGNOSTIC ULTRASOUND AT DISTRICT HOSPITAL LEVEL

Period: January 1, 1994 - December 31, 1995

Co-ordinator: UNIVERSITY CHILDREN HOSPITAL HEIDELBERG, Heidelberg, Germany (H. BUSSMANN)

Objectives

To assess the appropriateness of a comprehensive ultrasound service for district hospitals. The diagnostic value, the economic impact and the acceptance by patients and staff were studied.

Activities

In a representative district hospital diagnostic ultrasound was introduced for indicated medical problems. An observational study was performed using questionnaires on diagnosis and patient management before and after ultrasound examination and for follow-up. A detailed costing study was performed simultaneously. The effect of ultrasound on diagnosis, accuracy of diagnosis and patient management were measured. The opportunity costs and marginal costs were estimated. In a control hospital the conventional diagnostic work-up and the management of similar medical problems were recorded.

The understanding and reactions of patients and staff to the new technology and obtained information were studied. Information was collected through semi-structured interviews not later than 2 weeks after the ultrasound examination.

Results

The use of ultrasound as an additional diagnostic tool improved the diagnosis in 30.1% of indicated cases. In 47.4% of these cases an ultrasound diagnosis was made that was different from the clinical diagnosis. In the cases of improved diagnosis an uncertain clinical diagnosis could be confirmed by ultrasound with a high degree of certainty.

Of particular value was the use of ultrasound in pregnancy-related problems for which the study found an overall improvement of diagnosis in 44.3% of examined cases. Especially in cases of bleeding and amenorrhoea the ultrasound-assisted diagnosis was often different from the clinical diagnosis and required a change in management. Other useful obstetric indications included the confirmation of intrauterine death, of multiple pregnancy and the determination of gestational age in doubtful cases.

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Notably in non-pregnant cases the sensitivity and prediction of diagnosing pelvic masses in female patients was enhanced with important consequences for their management. Other useful indications included the screening in blunt abdominal trauma and the confirmation of pleural or pericardial effusions. The use of ultrasound in palpated masses (abdomen, liver, thyroid, scrotum) revealed a variety of pathological findings leading to a more focused management while the diagnostic yield in conditions like haematuria, jaundice or abdominal pain was scarce. These findings emphasise that for a rational use of ultrasound it is mandatory that the indication is based on a careful examination of the patient by the requesting health care worker prior to the ultrasound examination.

The new technology was well accepted by patients and health care workers, though unrealistic expectations were generally encountered. To prevent over-use and avert mystification of ultrasound it will be important to convey the indications and limits of ultrasound to the medical staff and clients alike. The service appears to be economically affordable for the Botswana Health Care System. The initial capital investment based on 1994 prices (1 Pula = 0.295 ECU) were Pula 92,271 and the recurrent cost of the ultrasound service Pula 60,468. They could have been funded by the unspent balance of the study hospital budget in 1994/95 financial year. The marginal cost of ultrasound investigation (Pula 0.50) was less than a quarter of that of carrying out at radiological examination. The average and marginal cost obtaining an improved diagnosis by ultrasound also appeared affordable; Pula 156.30 and Pula 1.76 respectively. Similarly the average and marginal cost of obtaining an opportunity to change therapy in order to improve health outcome appeared affordable; Pula 720.41 and Pula 8.10 respectively. Resource savings could be demonstrated for one group of patients which was clinically diagnosed as threatened abortion when the true diagnosis obtained by ultrasound was an incomplete abortion. The option to train a nurse to provide an ultrasound service for indicated common medical problems seems to be realistic and cost-saving.

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Contract number TS3*CT910026

COMPARATIVE ADVANTAGES OF CONTRASTING BIOLOGICAL RESPONSES TO ENERGY DEPRIVATION OF THIRD WORLD RURAL POPULATIONS

Period: June 1, 1992 - Dec 31, 1995

Co-ordinator: ISTITUTO NAZIONALE DELLA NUTRIZIONE,
UNIT OF HUMAN NUTRITION, Roma, Italy
(A. FERRO-LUZZI)

Objectives

The specific objectives of the study were to define the biological and functional response of chronic energy deprivation in Third World populations, and more particularly to establish whether the preservation of residual body energy reserves overrides the need to maintain normal physical activity and work capacity. Interest in this issue stems from the need to define the limits of costless adaptation and to assess, when these limits are exceeded, the extent to which the damage is reversible.

Activities

Two diverse naturally occurring models of energy shortage were studied and compared: exposure to life-long energy deficiency in South Indian peasants, and exposure to an appreciable seasonal cycling in food security and energy balance in a nutritionally borderline rural community in Benin. In both localities the entire village population was recruited in the study and longitudinally monitored for the anthropometric indicators of food sufficiency over a whole agricultural year. These data served to provide the background picture. In each community, a subgroup of individuals was recruited for the in-depth investigation of their biological and functional status at contrasting energy balance stages. Subjects were selected on the basis of their energy status as defined by their body mass index (BMI, kg/m2). Only adults, both men and women, entered the study.

In Benin, the study was conducted on subsistence farmers living in two areas characterised by unimodal climatic seasonality located in the south and the centre of the country. An overall sample of 214 women and 198 men was selected on the basis of age (between 18 and 45 years), and having at least one child. The group was followed over almost three years, their weight being measured at close and regular intervals throughout. A data set covering the whole period of measurement was obtained on 139 men and 114 women. A subgroup of women was recruited for the in-depth study of their work capacity and energy turnover at different times of the year. Food consumption and time allocation was measured on a subset of 34 women.

In India the study was conducted in the south of the country, in an subsistence farming area where previous studies had demonstrated only a very moderate climatic and food availability seasonality. The growth of the children and the body weight of the population of the village, consisting of 212 households for a total of over 1.000 individuals of all ages. A sub-sample of 150 adult women and men was recruited on the basis of their BMI for the in-depth study, other 180 were recruited from the poor neighbourhood of the nearby city of Bangalore. The two groups were perfectly comparable from the biological, functional, health and nutrition point of view and the data have been pooled, totalling 330 subjects.

These have been divided into three groups, the well nourished one (BMI<18.5), the first grade chronic energy deficiency (CED) (BMI 17.0 - 18.5), and the moderate and severe CED (BMI <17.0). Food consumption, work capacity, energy turnover (basal metabolic rate, BMR), time allocation and body composition were measured.

Results

In Benin, the population was on the whole relatively well nourished, with only 2 to 5% of the study population classifiable as 2nd grade CED (BMI 16-17), and no more than 6 to 10% of the entire study group having a BMI below 18.5. This contrasts profoundly with the Indian study population where up to 34% subjects had a BMI below 18.5 and more than 15% were below 17, denoting a very severe and widely spread condition of chronic energy deficiency. In India, as anticipated, there was no seasonal cycling of the body weight. In Benin, both men and women lost an appreciable amount of body weight (4.8 to 6.4%) in association with seasonal energy stress (food shortage compounded by high demand for physical work) in the pre-harvest period. The post-harvest gain of weight of the Benin's subjects was weakly but significantly associated with the pre-harvest loss of weight and also over successive years.

The energy intake of the Benin subjects showed some seasonal fluctuations, with lowest value (9.8 MJ/day) being recorded during the pre-harvest season. Households with insufficient cereal stocks during the pre-harvest period (taken as an indicator of household food security) differed in their coping behaviour from households with sufficient stocks, such as gathering wild foods, selling livestock, seasonal migration, reduction of number of daily meals and actual fasting. However, these differences were not reflected in differences in seasonal body weight loss and there was no relation between weight loss of individual household members and their household food stocks.

In India, the energy intake was remarkably lower than in Benin throughout the year, with average intakes ranging around 7.1 MJ/day (about 1700 kcal, or about 1.5 x BMR) for women and 9.2 MJ/day (2200 kcal) for men. Expressing the results as energy/kg body weight, a value of about 155 kj/kg is obtained for women. There was little or no indication of a seasonal influence on energy intake.

The energy turnover rate, measured under the standard conditions of basal metabolic rate, did not show any seasonal change in Benin, while there was a 10% increase in the level of physical activity (PAL) and longer time dedicated to field work and less to domestic and resting activities during the pre-harvest period.

In India there was no difference in energy turnover, once the differences in body mass were adjusted by covariance analysis. Furthermore, the BMR values of these subjects was accurately predicted by internationally accepted equations, contrary to widespread belief of an ethnic-specificity of BMR in Asian populations. There were acceptable differences in the proportion of time used by the various categories of BMI in activities classified as being low, medium or high energy cost. The differences were gender specific and consisted in longer hours in gainful work, in domestic work, with lesser discretionary activity and rest for low BMI women, while in men the major differences were in longer hours in agricultural work, less gainful employment and somewhat less discretionary activity for the low BMI men as compared to the high BMI men.

There were only minor differences in the work capacity during the pre-harvest period in Benin; with a slight decrease of their work capacity, defined as the ability to perform muscular work under standard conditions, only in the high BMI women. In India the work capacity of low BMI women, but not of low BMI men, was inferior to that of the high BMI subjects. On the other hand, low BMI men - but not women - had a somewhat lower hand-grip strength.

The body composition was studied only in India, measured by the multiple compartment method, in order to establish whether they had suffered important losses of protein and muscles from their body. It was found that there were indeed "significant compositional differences" as compared to normal BMI controls, with noticeable reduction of the mass of muscle as well as of internal viscera. The losses were present already at the intermediate BMI category, and reached a maximum in the severely depleted low BMI subjects.

Discussion and conclusions

It is obvious that "adaptation" to cyclic periods of varying food availability might involve a set of functional variables - capacity to do physical work, resistance to infectious diseases, reproductive competence, learning capacity and mental ability, and avoidance strategies of a social nature. The survival value of the various coping strategies depends on a complicated balance of concurring conditions, and it is impossible to anticipate a set response. It seems nevertheless self-evident that a reduction in the food accessible to an individual or a household will result in less food being eaten and in the syndrome now called "energy stress". This does not necessarily translate into a negative energy balance of the individual, since reciprocal and equivalent compensatory adjustments may reduce the requirement for energy, e.g. by reducing physical activity and therefore energy expenditure. This reduction has however an associated cost, i.e. the drop of work production, just at the time when more is required. On the other hand, physical activity and work productivity can only be maintained if body energy stores are used. It has been demonstrated that at low levels of body fat, increasing amounts of lean tissue are used as substrate to meet the energy demands of the body. Muscle is the main reservoir, but also internal organs will be eventually depleted. This strategy will result, if sustained over a sufficiently long period of time, in multiple functional deteriorations, affecting work capacity and immunocompetence. It is reasonable to think that under conditions of short-lived shortage of food, especially if these are anticipated as in regular recurring pre-harvest food shortage, the community might have to choose to use their body energy stores.

This appears to be a convenient option when - as in the case of the Benin peasants - they enter the food crisis with normal or near normal body fat stores. They lose weight, which is promptly regained when food becomes available again after the harvest. It will be a much less desirable option if - as in the case of the Indian peasants - the amount of fat in their body is such that any recourse it will inevitable cause important losses of lean tissues. In such cases, the only feasible option would be a reduction in the energy expenditure, by cutting down on physical activity. In the long term, this condition will result in a community of low weight, stunted individuals, whose physical activity is reduced and whose body composition is deeply modified. This is often the only choice available to nutritionally marginal poor communities. Our results clearly suggest that a low weight adult should be regarded as a priority target for support measures, and indicate also that even minor weight losses in these conditions should be avoided at all costs, as they risk precipitating major and permanent functional and compositional damage.

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Contract number TS3*CT930218

HEALTH SYSTEMS RESEARCH FOR THE IMPROVEMENT OF TUBERCULOSIS CONTROL IN ACEH PROVINCE, INDONESIA

Period: January 1, 1994 - March 30, 1997

Co-ordinator: KONINKLIJK INSTITUUT VOOR DE TROPEN, Amsterdam, The Netherlands (P.R. LEVER)

General objectives

- To contribute to the reduction of the incidence of tuberculosis in Aceh Province, to such a level that it is no longer a public health problem.
- To contribute to the reduction to a minimum of physical and psychological suffering due to tuberculosis.
- To contribute to the development of research and management capacities of the health staff of Aceh.

Specific objectives

- To determine the present tuberculosis problem and performance level of the tuberculosis control programme.
- To determine factors influencing perceptions, health seeking behaviour and compliance to tuberculosis among Aceh ethnic communities.
- To determine the factors influencing health services performance in detection and management of tuberculosis cases.
- To identify commonly agreed actions for the improvement of the tuberculosis control programme through the presentation and discussion of findings and conclusions of the study with the central and provincial health policy makers, the community leaders and the health services staff.
- To implement, monitor and evaluate the actions described in the objective above.
- To disseminate information on the research at national and international level.

Activities

The research is action-oriented and multidisciplinary, combining the expertise of the three partners in tuberculosis control, epidemiology, medical anthropology and health services management. Activities to address the above-mentioned objectives include:

* A description and analysis of the present tuberculosis problem in Aceh, making use of available data from reports and past surveys, and additional studies in a sample of health facilities.

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* Focus group discussions, interviews and observations of staff in a sample of district health facilities to identify the factors that facilitate and constrain an effective functioning of the health service.

* Based on the research results to generate recommendations for the improvement of tuberculosis control, implement these, and build a structure with the local management to maintain a sustainable managerial cycle of implementation, evaluation and reprogramming.

Training

In the second year, two suitable health services managers are given the opportunity to attend international courses in health development and PHC management in the Netherlands and in Italy. On return they will support the provincial and district health services staff in ongoing research and improvement of health services.

Results

In July 1995, the data collection phase was completed, and a research report was prepared. Owing to the postponed implementation of the Indonesian National Tuberculosis Control Programme, it proved to be impossible to implement the recommendations based on these findings, and an extension of 9 months has been granted to the project. At present, the main activities are focused on improving health education, whereby the findings of the research serve as the basis for health education messages. One health service manager has attended the International Course in Primary Health Care Management at the Istituto Superiore di Sanita in Italy in 1995, and one is presently attending the International Course in Biomedical Research Development at the Royal Tropical Institute in the Netherlands.

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Contract number TS3*CT940320

INTERVENTION TRIAL TO REDUCE MORTALITY AND IMPROVE OUTCOME OF HOSPITALIZATION OF THE MOST COMMON SERIOUS CHILDHOOD INFECTIONS IN MAPUTO, MOZAMBIQUE

Period: October 1, 1994 - September 30, 1996

Co-ordinator: UNIVERSIDADE NOVA DE LISBOA
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Lisbon, Portugal (P. FERRINHO)

Objectives

This project has the following specific objectives:

- Determine the contribution of subclinical vitamin A deficiency to immediate and delayed case-fatality for diarrhoeal diseases (DD), cerebral malaria (CM) and acute respiratory infections (ARI) among hospitalised children suffering from these diseases.

- Test the potential of routine Vit A supplementation at hospital admission with regard to survival complications and recovery during hospitalisation for DD, ARI and CM.

- Determine the outcome of children admitted with DD, ARI, and CM in the 6 weeks after discharge to test the hypothesis that Vit A supplements given at the time of admission to hospital improve recovery and diminish morbidity and mortality.

- Compare different methods of assessing subclinical deficiency of Vit A.

Activities

Three groups of children with either DD or CM, admitted to the paediatric wards of the Central Hospital of Maputo with the appropriate criteria will be assigned randomly to a control (placebo) or a supplementation (receiving Vit A) group and will be visited 6 weeks after discharge. All efforts will be made to adhere to current practices regarding criteria for admission or discharge. A fourth group of children will be studied separately to compare different methods of measuring subclinical deficiency of Vit A. All efforts will be made to adhere to current practices regarding criteria for admission and discharge. The different tasks associated with this research project can be grouped in five main activities:

* Administrative co-ordination of the project - will be the responsibility of Portugal.

* Scientific co-ordination - will be the responsibility of Maputo.

* Clinical aspects of the trial - responsibility will be shared between Mozambique and Portugal.

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* Public health aspects of the trial - responsibility will be shared between Antwerp and Portugal

* Nutritional aspects of the trial - responsibility will be shared between Mozambique and Belgium.

Expected outcome

We expect that this research project can contribute to new knowledge in the following areas:

⇒ Methodological: it will add the limited literature comparing different methods of assessing subclinical Vit A deficiency.

⇒ Nutritional: it will contribute to further clarify the relevance of Vit A supplementation to reduce morbidity and mortality in hospitalised small children with severe infections.

⇒ Health system effectiveness: it will contribute to clarify the role of Vit A supplementation as a means to increase the effectiveness of hospital care in the overcrowded hospitals of Mozambique.

⇒ Health policy: it will guide policy development and implementation on an issue on which there has been debate in the Ministry of Health, with attempts at policy formulation but only limited implementation.

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Contract number TS3*CT940332

COMPREHENSIVE PREVENTION AND CONTROL OF STI/HIV IN HIGH-RISK GROUPS. COMMUNITY INTERVENTION STUDY ON CSWS IN SURABAYA, INDONESIA

Period: December 1, 1994 - November 30, 1996

Co-ordinator: VRIJE UNIVERSITEIT AMSTERDAM, FACULTY OF MEDICINE, Amsterdam, The Netherlands (W. DEVILLE)

Objectives

- To study the feasibility of setting up a participatory health education programme for commercial sex workers in Indonesia.
- To change practices and attitudes towards risk behaviour in female and male commercial sex workers in Indonesia.
- To limit transmission of sexual infections including HIV in commercial sex work in Indonesia.
- To set up a surveillance system for sexually transmitted infections in commercial sex workers in Indonesia.
- To study the possibility of measuring qualitative changes by quantitative surveillance data.

Activities

* A Sexually Transmitted Infection (STI)/HIV bimonthly screening and control programme is set up and evaluated with active participation of female CSW and the NGO active in these communities through participation in workshops.
* Health seeking, sexual and risk behaviour and socio-cultural determinants of male and a category of female commercial sex workers and if possible their clients, are studied by KABP-questionnaires, condom-diaries, focus group discussions and in-depth interviews.
* An appropriate health education programme targeted at a specific group of female commercial sex workers through training and active participation of peers belonging to the target population and NGOs working with this study population is organised by the participating NGO and the impact will be evaluated by comparing exposed and non-exposed CSWs.
* Surveillance of STI/HIV and changed sexual behaviour in the target group by the local health system within the study area is set up in collaboration with the public health authorities and their prevention and control programme for STI/HIV.

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* Training of microbiologist in new techniques; training of social scientists in qualitative data collection techniques.

* Final regional workshop to discuss research findings.

Results

⇒ While about 750 women were interviewed by a KABP-questionnaire, 651 are registered at the clinics: about 170 pertain to the comfort exposed to the Peer Health Education programme by the NGO. 81% came back for the first treatment and maximal 60% of women taken in visited the clinics again for the first screening visit after two months. The treatment visit after the first screening was attended by 34%. Percentages follow-up of treatment 1, screening 1 and treatment 2 are respectively 90, 89 and 23% in Bangunsari and 73, 66 and 60% in Tambakasri (treatment percentages are calculated on the number attending the visit).

⇒ Microbiology: *N. Gonorrhoea* V1 14.7%, V2 5.2%; *C. trachomatis*; V1 18.5%, V2 21.2%

⇒ Condom diaries are collected by 90 sex workers and 4 focus group discussions with sex workers and pimps were organised.

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Contract number IC18*CT960053

ENSURING CLINICAL EFFECTIVENESS BY CLOSING THE GAP BETWEEN SCIENCE AND PRACTICE : A EUROPEAN/SOUTHERN AFRICAN COLLABORATION (PHASE I)

Period: August 1, 1996 - July 31, 1997

Co-ordinator: UNIVERSITY OF ABERDEEN, HEALTH SERVICES RES. UNIT, Aberdeen, United Kingdom, (J.M. GRIMSHAW)

Objectives

- To establish whether common research models and implementation strategies are applicable to both EC countries and Southern Africa.
- To link synergistically with a CA study funded by the BIOMED 2 programme entitled "*Bridging the gap between science and practice: How to change health care provider behaviour through implementing clinical practice guidelines*" (short title: Changing Professional Practice) and any other relevant INCO funded projects in the Southern African region.
- To build a network of mutually supportive researchers in Southern Africa and Europe (involving partners from at least three countries in the EC and three in Southern Africa).
- To train researchers in Southern Africa in the methodology of systematic reviews, guideline development, guideline implementation, rigorous evaluations of guideline implementation and dissemination of findings of implementation research.
- To publish the results of this process in peer reviewed journals and develop resource materials for training researchers (monographs, databases, E-mail discussion groups).
- To work with the HealthLink and HealthNet networks - with the intention of thereby supporting their further development.

Activities

* Develop a network of mutually supporting researchers in Southern Africa and Europe.
* Organise three education and training workshops to bring together European and Southern African participants in a collaborative network to support the development of research protocols for implementation studies.
* Publish four newsletters in paper and electronic (via the World Wide Web) formats.
* Develop training materials for future implementation research.

Expected outcome

⇒ The establishment of an implementation research network.

⇒ The submission of a further application to the EC for continued funding to support the conduct of individual projects.

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⇒ The publication of a project newsletters (in paper and electronic formats), a monograph, articles on implementation research in developing countries.

⇒ Presentation of study findings at national and international meetings.

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Contract number IC18*CT960086

TROPICAL MEDICINE ON TRIAL : PRODUCING RELIABLE REVIEWS, DESIGNING BETTER INTERVENTION STUDIES, AND USING SYSTEMATIC REVIEWS TO INFORM PRACTICE

Period: October 1, 1996 - September 30, 1999

Co-ordinator: LIVERPOOL SCHOOL OF TROPICAL MEDICINE,
Liverpool, United Kingdom (P. GARNER)

Objectives

- To produce and update reliable systematic reviews of randomised controlled trials in parasitic and tropical diseases, and other conditions relevant to the tropics.
- To develop relevant research questions and trial protocols in parasitic and tropical diseases.
- To develop and evaluate approaches using systematic reviews to improve clinical and public health practice in various professional specialities and regions.

Activities

* Encourage, support and produce protocols to conduct systematic reviews of randomised controlled trials in conditions relevant to the topics.

* Encourage, support and produce completed systematic reviews from these protocols.

* Encourage, support and ensure publication of these reviews on *The Cochrane Library* and in relevant specialist journals.

* Assist individuals to produce good research questions and trial protocols to answer these questions.

* Set up nodal points for networks stimulating the use of evidence to improve clinical and public health practice.

Expected outcome

⇒ Completed systematic review protocols produced within the network and published on *The Cochrane Library.*

⇒ Completed systematic reviews produced within the network and published on *The Cochrane Library* and in journals.

⇒ Full research trial protocols submitted for funding.

⇒ Units will be established within developing countries with a range of dissemination, research and development activities promoting evidence-based health care.

Contract number IC18*CT960086

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2. Rational organisation of health services

Presentation of EC supported joint research projects (1991-1996) continued
STD3
INCO-DC : 1st and 2nd Call

Areas of interest :

Contract number TS3*CT910025

HEALTH SYSTEMS RESEARCH IN URBANIZING AND RURAL SETTINGS IN THAILAND

Period: July 1, 1992 - June 30, 1995

Co-ordinator: INSTITUTE OF TROPICAL MEDICINE, PUBLIC HEALTH RESEARCH & TRAINING UNIT, Antwerpen, Belgium (H. VAN BALEN)

Objectives

- To develop a health care service model that is more effective and efficient.

More specifically the project sets out:

- To find appropriate methods to support the development of a primary care model, by strengthening the general practitioner or family practice.
- To find ways to develop an integrated health system.
- To develop the research and management capacity of the health personnel.

The project is designed as an action-research project with a pre-operational phase (situation analysis) and an operational phase (implementing decisions treated as hypotheses to be tested). Actors are involved at central level (planning unit), at academic level (Mahidol University) at Provincial Health Office level and at district level. External actors are situated in the field of Public Health (Antwerp) and General Practice (Edinburgh University and Lothian Health Board).

Activities

* In the urban area of Ayutthaya, plan the coverage with Primary Care facilities (Health Centres headed by a medical doctor); set up a pilot Health Centre and expand to a second one before the end of the project period. Establish the necessary operational links with the town's Provincial Hospital in order to move towards an integrated system of health care delivery.
* In peri-urban areas, upgrade the existing nurse-led Health Centres through regular and sustained supervision (conceived as continuing education) by hospital doctors. Identify training needs and establish referral and counter-referral instructions.
* In the rural district of Nakornluang, redraw a rational coverage plan for first line health services and strengthen selected nurse-led Health Centres for higher curative care effectiveness through training and regular supervision.

Results

In Ayutthayatown, two Health Centres are operating now. They are functioning as pilot demonstration structures, used for developing the necessary management tools and for practical training purposes. General practice concepts are incorporated in the basic management concepts of these health centres. A revised financing and fee system is implemented, which appears to be sustainable. The Ayutthaya experience serves as the basis for a national health care reform project.

Contract number TS3*CT910025

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Contract number TS3*CT910028

FORMULATION OF A PARTICIPATORY METHOD FOR PLANNING SUSTAINABLE NUTRITION AND NUTRITION-RELATED COMPONENTS OF PROGRAMMES, PROJECTS AND EXISTING SERVICE DELIVERY SYSTEMS: URBAN AND RURAL SETTINGS CONTRASTED

Period: February 1, 1992 - July 31, 1994

Co-ordinator: INSTITUTE OF TROPICAL MEDICINE, DEPT. OF PUBLIC HEALTH, Antwerpen, Belgium (P. KOLSTEREN)

Objectives

The general objective of the study was the improvement of nutrition among deprived populations with emphasis on effective and sustainable development processes rather than on nutrition interventions. The study aimed, in particular, at the development, testing and final formulation of a simple, comprehensive, participatory and sustainable nutritional planning methodology for urban and rural settings. The research puts a strong emphasis on the development of methods to ensure genuine participation and on the adaptation of tools developed for programmes and projects to permanent service delivery systems.

Activities

The project built on earlier research conducted essentially by the same teams, on methods and tools for evaluating complex nutrition interventions. It explored to what extent the approaches and tools used in evaluation can be applied in planning. A theoretical component included a review of literature, the analysis of past nutrition planning experiences and the building of an updated basis for nutrition planning. The field component was sub-divided into three sub-projects - two in the Philippines and one in Indonesia. The field projects tested the provisional approach in widely diversified settings. When needed, new tools were developed. The approach was, for the first time, applied to an urban setting. Development of training components was specifically included in the workplan of each of the field projects - as necessary steps in the development of the planning method. Systematic use of lessons from consultancies and from teaching were explicitly referred to as one of the research methods to be used.

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Results

The main outcome of the research is a comprehensive and participatory planning methodology, applicable in both urban and rural settings, with the following characteristics:

⇒ emphasis on effective and sustainable development;
⇒ systematic use of models;
⇒ the use of both qualitative and quantitative information;
⇒ flexibility;
⇒ a strong learning component;
⇒ highly participatory.

A proven advantage is both the usefulness and the feasibility (under certain conditions) of getting genuine participation in planning. Another important observation is the importance of a "pre-planning stage" for which principles and general rules have been developed. Underlying theoretical assumptions were also developed.

The feasibility and readiness of the approach led to its high acceptance and three field sites. The research proved to be particularly relevant in the context of decentralisation.

Substantial insights were gained in the use of RAP in planning. PARCA, an adapted version of PRA, was developed by DAERS. An existing tool for selecting interventions on the basis of criteria, but never genuinely employed on the field, was applied with success. A guide for the elaboration of technical documents as well as a set of prototype technical documents were also prepared.

The project has resulted in the production of an important degree of Know How on implementing participatory planning, organisation of workshops and training of local governments both in the Philippines and in Indonesia. One of the outputs of the research was the production of training materials. The active educational procedures that were adopted went well beyond their initial purpose of training for planning. They became, through the stimulation of self-reliance, an educational approach to local development and empowerment.

As a result of the field work, three municipalities (2 in the Philippines, one district in Jakarta) have developed a municipal development plan with the support of the research teams. These plans were eventually implemented.

In the context of the urban planning exercise in Jakarta, in-depth studies on determinants of urban undernutrition have been conducted. In addition, two annotated bibliographies on urban nutrition (one in English, one in Indonesian) were prepared.

A number of outputs, not initially planned within the research, took place. The approach is now adopted by the BSF/IFAD programme as its official planning approach (Belgian Survival Fund. Programme Support Unit. BSF Joint Programme. Annual Report 1995. Rome: International Fund for Agricultural Development).

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This adoption of the approach is the result of a number of consultancy missions which were occasions to test the approach in genuine field situations for IFAD (Kenya; Seychelles; Chad; Uganda) and other international organisations and NGOs (MEMISA, SCF, UNICEF). A nutritional assessment for UNICEF supported Area Based Child Survival and Development Projects) in the SUBASTA provinces in the Philippines was conducted by IHNF with support of NU-ITM. The DAERS research team has been invited by a large NGO (MADICOR), to train municipal and local government officials from different regions of the Philippines. IHNF actively participated in these courses. This permitted further refinement of the methodology, manuals, and teaching aids. In Indonesia, the research has led to the design of an intervention on "street foods" with a UNICEF/NGO "forum" and the NGO "Save the Children Fund".

South South collaboration has been strengthened, mainly through a joint partners meeting which included visits to field realisations and, by invitations from other teams, to planning workshops as resource persons. Training opportunities for the junior researchers through active interchange (both ways between North and South) have been offered and fully taken advantage of. Teaching also benefited from the research: the various participants in the research teach the method and/or parts of it (steps, tools) at the international postgraduate courses of Amsterdam (ICHD), Antwerp (ICHD), Ghent (ICFSN), Los Banos (FNˇP) and Wagennigen (ICFSN). It is envisaged that the developed planning approach could be taught within a European Masters course in global nutrition with an emphasis on North-South collaboration.

Finally, the approach is now being developed and adapted to specific country situations. In Uganda and Kenya, for instance, the approach is being adapted for use in intersectoral nutrition planning at district level.

Dissemination of research results

Research results have been, and are still in the process of being, largely disseminated through teaching and training and various formal presentations. Although dissemination through more classical channels, i.e. publications, is on-going, it is far from being achieved. In terms of scientific publications, two books (one on evaluation and one on planning) and about 25 interrelated working papers or journal articles are still planned on participatory planning and associated fields, in addition to material already produced (see references). Drafted or advanced outlines have been prepared. Scientific production has been delayed by funding problems, communication delays, the unanticipated retirement of the project co-ordinator and the sudden death of a senior research collaborator. Additional funds for achieving publication work have by now been secured (outside CE funding) in 1997 and 1998.

Conclusions

⇒ The central hypothesis of the research, i.e. that the approach initially developed for evaluation would apply equally well to planning, has been confirmed.
⇒ Most of the tools produced earlier have been adapted for planning purposes.
⇒ Some local governments and organisations have adopted the approach.
⇒ The approach proved to be workable in urban areas.

Contract number TS3*CT910028

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Contract number TS3*CT920078

ACTION RESEARCH ON THE UTILIZATION OF HEALTH SERVICES IN BURKINA FASO

Period: January 1, 1993 - February 28, 1997

Co-ordinator: UNIVERSITÄT HEIDELBERG, INST. FÜR TROPENHYGIENE & OEFF. GESUNDHEITSWESEN, Heidelberg, Germany (H.J. DIESFELD)

Objectives

The study focuses on four research questions related to the utilisation of health services in Burkina Faso.

- Which level of comprehensive care will influence which level of the state of health of the community?
- Does low cost and high quality of care, along with availability of medicines, encourage the population to make further use of the health services?
- Does the participation of the community in decision-making and resource allocation increase the utilisation and improve the effect of the health care service?
- Can health personnel be motivated by focused and appropriate training, close supervision and/or quality assurance and availability?

Activities

This is an action research project. A number of interventions will be implemented and their impact evaluated. Community level interventions are:

* Organising community groups to develop and manage a pharmaceutical stock.
* Establishment of mechanisms for a functional communication between these groups and the health service system.
* Creation of mothers' groups to take charge of the home management of six target health problems of children (diarrhoea, ARI, malnutrition, malaria, measles, neonatal tetanus) in collaboration with health services.
* Training of a community health agent as an informant and communicator to follow-up the population in their charge.

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Interventions in the health system are:

* Standardisation and rationalisation of the diagnostic methods in health care training programmes.
* Improvement of the relations between the users and the service personnel to integrate as much as possible the entire spectrum of preventive and curative care during their daily consultation.
* Reduction of the cost of health care.

The analytical procedures examine the impact of these interventions by longitudinal household studies in 3000 households in terms of change in age-, sex- and season-dependent morbidity, mortality, cost of ill-health and service utilisation, completed by quality interview-techniques and by participatory observation of health services performances and utilisation.

Expected outcome

The project is expected to result in an improved quality of care in the study sites, in a more cost-effective health care, and in increased community participation.

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Contract number TS3*CT920080

AUDIT BY ISSUE FOR HEALTH MANAGEMENT (AIHM): DEVELOPMENT OF A METHOD TO INTEGRATE HEALTH INFORMATION SYSTEMS, DISTRICT LEVEL MANAGEMENT AND IN-SERVICE TRAINING IN TANZANIA

Period: February 1, 1993 - December 31, 1995

Co-ordinator: LIVERPOOL SCHOOL OF TROPICAL MEDICINE, Liverpool, United Kingdom (P. SANDIFORD)

This project included three sub-projects:

1. Audit by issue for Health Management
2. Monitoring Equity during the Health Reform Process
3. The Public/Private Health Care Mix

Audit by issue for health management

Objectives

To test the hypothesis that "health care delivery can be improved by identifying existing problems through the analysis of available data".

Activities

* An issue of importance to health care delivery is selected and an *a priori* appraisal prepared of the scope for management intervention.

* An audit protocol is developed, tested and applied to generate information relevant to the issue identifying performance failings and guiding managers in their search for solutions.

* The results are presented to a meeting of the District Health Management Team (DHMT), decisions are taken and a detailed plan of action is agreed upon.

* The method is a planning and evaluation procedure, based on the District Action Research and Evaluation process, but in contrast employs strict criteria for issue selection, and bases decision-making on the information generated through prior analyses of relevant data. This data may come from the routine health information system or from *ad hoc* enquiries. Participants at AIHM meetings are carefully selected to guarantee involvement of key individuals with the power to make or influence policy decisions on the particular issue under audit.

* Four issues were tackled in a series of overlapping four-monthly cycles: the distribution of trained staff among the district's dispensaries; immunisation coverage; the allocation of essential drug kits; and the availability in health units of non-pharmaceutical supplies and equipment. Detailed description of findings from these audits have been published. When the second phase of the project started in September 1992, two audit issues from the first phase were ongoing.

Contract number TS3*CT920080

Findings

⇒ Poor management of health services is not primarily the consequence of insufficient or inadequate data.

⇒ When presented with information demonstrating inefficiency, ineffectiveness or inequity in health care delivery, managers may not always take measures to rectify the faults, even if these lie within their power, and especially if the decisions might involve some risk.

⇒ Managers will sometimes take decisions to improve health care delivery on the basis of information, but are more likely to do so where their actions are unlikely to lead to any discontent.

⇒ Plans made are often not implemented, even if feasible.

⇒ Within the existing system there are virtually no incentives for managers to make improvements nor sanctions for poor performance.

⇒ Inaction is considered less open to reproach than failed action.

⇒ Though AIHM can lead to decisions and actions which improve health care, it is doubtful whether this or any other planning and evaluation method would continue to be used without ongoing encouragement and funding from external parties.

Monitoring equity during the reform process

Objectives

- To develop a new socio-economic status indicator based on the Wealth Ranking technique.
- To establish the relevant
- To compare the performance of the new index against traditional methods.

Activities

* Undertake wealth ranking exercises in 14 sites in Tanzania.
* Use the 5,900 rankings acquired to develop alternative indices.
* Undertake reliability checks of the eight indices employed.
* Check for validity using the convergent/divergent technique.

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Findings

⇒ The wealth-ranking technique provides an alternative means of developing indicators of socio-economic status.

⇒ To identify the range and quality of activities/services provided by public, voluntary and private dispensaries.

⇒ To perform cost-analysis of activities/services performed by public, voluntary and private dispensaries.

⇒ To assess perceptions of health providers (in-charges and health workers) on quality of their health services at dispensaries.

⇒ To assess patients' satisfaction with health services delivered by public, voluntary and private dispensaries.

⇒ To identify existing information systems in public, voluntary and private dispensaries.

⇒ To formulate recommendations on public/private mix policies regarding services provided at dispensary level.

The Public/Private Health Care Mix

Findings

⇒ The public dispensaries have the highest capacity in providing curative and preventative services according to national guidelines.

⇒ Public dispensary output and unit costs are the best among all sectors.

⇒ Strengthening the public dispensaries and renewing their mandate to continue providing these services is advised.

⇒ The voluntary sector provides about one third of all health services in the country and has a high capability in providing outpatient services in terms of infrastructure, equipment and instruments.

⇒ It is hampered by shortages of trained clinical staff as is partly evidenced by over-prescription observed in voluntary dispensaries.

⇒ Voluntary dispensaries performed well with EPI services which mainly dealt with the immunisation of children.

⇒ The private sector is an emerging sector in the provision of health care at the peripheral level in Tanzania.

Contract number TS3*CT920080

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Contract number TS3*CT940326

THERAPY CHOICE, UTILIZATION AND SATISFACTION IN KINSHASA

Period: December 1, 1994 - November 30, 1997

Co-ordinator: KATHOLIEKE UNIVERSITEIT LEUVEN, DEPT. FOR SOCIAL AND CULTURAL ANTHROPOLOGY, Leuven, Belgium
(R. DEVISCH)

Objectives

This action-research concerns the identification of the local health needs as they are expressed and lived by the help-seekers in the different healthcare settings. Furthermore, for a limited number of common psycho-social health problems, the research aims at discovering the etiological rationale underlying the networks of illness categorisations and recourse: on which grounds do patients prefer medical treatment and/or "traditional" treatment (for two types of culture-bound idioms of distress)? Wherein does the specific treatment in different healthcare settings differ? Which answers do they provide? What is the proper and particular role of the public psychiatric hospital and of the private medical clinic with regard to different psychosocial and psychosomatic complaints? How do patients value the (success of the) treatment provided?

The major aim of the action-research is to improve medical (-psychiatric) healthcare by redefining its focus, etiological and therapeutic means, as well as the quality of care, in line with the local culture. Also to be improved is its accessibility according to principles of cultural rationale, equity and social justice.

Activities

* Selection of key informants, namely professionals from among traditional healers, healing churches, and medical-psychiatric health-care, in Koongo-Yaka communities in neighbouring townships of Kinshasa.
* Identification of the ecological situation in the respective communities in relation to a limited number of common psycho-social health problems.
* Setting up a culturally and locally adapted methodology of questionnaires, interviews and rating instruments.
* Investigating the symptoms, the expression of distress, the family psychodynamics, the explanatory models used, the different forms of treatment and coping mechanisms, the etiological and therapeutic rationale.
* Developing a new set of integrated interventions.
* Setting up a workshop for training with a view to the implementation of the research and the intervention.

Introducing the integrated pilot intervention model in the selected community.

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* Identifying 50 patients and 50 healthy persons in the communities. Investigation with psychiatric and psychodynamic questionnaires, as well as through anthropological methods, both before, during and after the therapy.
* All partners evaluation of the results.
* Adapting the original psychosocial intervention programme.
* In-depth follow-up of 10 patients.
* Data-processing, diffusion of scientific results. Research activities with doctors, traditional and spiritual healers and their patients in two health zones.

Context and method

The general ecological and social situation in Kinshasa is characterised by the different effects of the continuing economic crisis in Zaire. The health situation is extremely difficult to investigate because the official services are unable to provide reliable information. On the one hand, patients seek less and less help in hospitals and "centres de santé" or stop their treatment and follow-up owing to lack of financial means. On the other hand, there is an increase of small private clinics and dispensaries. Pharmaceutical shops, often kept by untrained personnel, can be found in every street, and auto-medication with all kinds of drugs is high. There is a tendency to take early medication for minor diseases with ampicillines, cibalgine, indocid, etc.. The use of traditional types of health care through professional or non-professional healing or through spiritual healing is expanding.

One has the impression that each family finds its own way in this chaotic and fragmented offer of care. In the general exploration of this situation no clear patterns could be described by the key or lay informants. Lay people could inform us only on the functioning of the health system on the basis of their individual experience, key informants (doctors, centres de santé, healers) had no grasp of the patterns in the whole system. It means that the solution to health problems is highly individualised and is found by trial and error.

The global investigation made also visible that three fields of healthcare are existing and are used in all the zones of Kinshasa: medical field, traditional recognised/not recognised field, field of healing churches. Patients easily move from one field to another. Traditional and spiritual healers may from time to time send their patients to a hospital for investigation or for specific medical care.

It became clear during the first phase that patients and families do not search for care only in their own health area, but often travel to a doctor, hospital, centre, healer or church rumoured to provide successful treatments. We have therefore not limited the research to healthcare providers to Ndjili and Mont Amba. A questionnaire had been designed in January-April 1995 that could be used for interview with healers and doctors. This questionnaire, in Lingala and French, uses the same structure as the questionnaire designed for the random sample of patients and families.

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It contains questions about (i) types of illness: description of symptoms, symptomatic behaviour, body sensations and metaphors; development and prognosis of illness; explanatory model of cause; cultural and social factors; diagnostic classification system; explanatory model of different treatment procedures, rituals and interventions; results, model of evaluation of satisfaction; (ii) diagnostic procedures, conditions and price of treatment, contact and attitudes towards previous or new health-care providers; possibilities of collaboration; (iii) therapeutic training and personal history of the healer.

Focus

This exploratory work with patients and healers/doctors focused on three particular clusters of illness-states: (i) somatisation, depression and anxiety states; (ii) psychotic and dissociate states; (iii) epileptic and paroxystic states.

They were selected because they may be cured in the three care-systems (traditional, spiritual and medical healers). These patients usually travel through these systems in their health-seeking career. All the patients with these illnesses that we met in the therapeutic context of the healer, the healing church or the clinic as well as in the random sample of Ndjili and Mbanza Lemba, had different therapies and complex therapy histories.

The category of somatisation, depression and anxiety has been treated first in a somatic medical setting because multiple somatic complaints are always part of the illness experience. Treatment consists of large prescriptions of symptom-focused medication after expensive investigation. Patients in these categories have to spend lots of money for their different treatments and often, when not cured, they become chronically ill and excluded from social life.

The treatment of these illnesses by traditional healers of healing churches is based on the explanation that an invading element (ancestral spirit, diabolic spirit) with a bad quality produced the illness and has to be removed. The patient is a repository of disturbed relations or transgressions in the family group. The treatment will consist of removing the bad element, recreating the boundaries of the person and restoring the disturbed relationships. Herbal therapy is often used and is specific for each illness. Group treatment is offered in the healing churches, providing support, containment and interpretation.

In the medical - psychiatric setting the patients are treated according to classical psychiatric standards of diagnosis and treatment. Psychiatrists or doctors who are psychodynamically oriented use concepts like repression and projection of guilt, sexual and aggressive drives. They help patients to have individual insight in their problems and become more individuated and autonomous. But most of the patients who come to them ask for treatment of the symptoms and consider that healers can treat the causes better. Doctors who reflect on the underlying culturally-based family dynamics, try to find ways to intervene at this level in their therapies.

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Action-research

In two settings, a committee has been formed from seniors and healers, who proceed to a detailed collection of information about the practices of traditional healers in the district. They transmit this information to people in need through formal and informal channels, and organise meetings of the committee with traditional healers. With patients, they increasingly handle questions about control of therapeutic quality, diagnostic procedures, fees, collaboration with health centres and healing churches, network formation, and needs of the community. We are trying to bring a medical doctor into these committees.

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Contract number IC18*CT970215

INTERACTIONS ENTRE LES SYSTEMES DE SANTE PUBLIQUE ET LES CONCEPTIONS ET PRATIQUES POPULAIRES RELATIVE A LA MALADIE

Period: December 1, 1997 - November 30, 2001

Co-ordinator: ORSTOM, DEPARTEMENT SANTE, Paris, France
(J.P. OLIVIER DE SARDAN)

Objectives

- To describe and interpret the practices and popular representations in connection with health and the illness in West Africa, and their interactions with the practices and representations of the health workers.

- To use thus collected socio-anthropological knowledge to improve the quality of the care.

Activities

Activities will proceed in several languages of major extension, in particular bambara-dioula, songhay-zarma, peul, hausa ....
In each one of these cultural surfaces, six topics will be investigated.

* Complaint and language of the symptoms. One will give priority to an analysis of the dynamic of transformation of the semiology popular of the symptoms and of the "language of evils".

* Topic 2. Contagion, contamination, transmission. One will be attached to a systematic inventory of the local definitions of contagion, of contamination, of the epidemic, or of the other "methods of acquisition" of the illnesses, as well as of the popular practices of prevention and of hygiene which are dependent to them.

* Topic 3. The popular nosological entities. One will analyse in each culture the principal popular nosological entities, which appear like "hold-all" from a biomedical point of view, but which are endowed for the unit and coherence people.

* Topic 4. The management of fruitfulness and of sexuality. One will carry out a comparative analysis of the representations and popular practices associated with the sexual act, with the pregnancy, with the failure and with the labour.

* Topic 5. Health and logical structures of those involved. One will carry out an evaluation of programmes, projects and health actions and of their social registrations. Each health site will be regarded as sand where groups of those involved confront themselves endowed with logics, with resources and with different interests.

* Topic 6. The health interactions of the countryside to the city. One will be attached to the analysis of the effects on the popular practices and representations of a series of variables connected with the urban way of life and of sociability.

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Expected outcome

⇒ course of "anthropology of health applies to public health" (from West African materials), bound for the health personnel (doctors, male nurses, midwives).

⇒ teaching materials concerning the popular practices and designs in connection with certain priority pathologies.

⇒ implementation, collaboration with members of the health professions, of inspired experimental preventive or curative actions of the identified conclusions; improvement of the look after-looked after reports and of the education messages for health.

⇒ production of articles and of scientific works.

⇒ development of socio-anthropological evaluation methodology of the public health actions and of the projects in the health field.

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Contract number TS3*CT920144

AN APPLIED INTERDISCIPLINARY RESEARCH PROJECT TO INVESTIGATE THE UTILISATION AND PERCEPTION OF HEALTH CARE SYSTEMS BY INFANTS AND THEIR FAMILIES

Period: October 1, 1992 - March 31, 1996

Co-ordinator: CENTRE INTERNATIONAL DE L'ENFANCE ET DE LA FAMILLE (CIDEF), Paris, France (A. TURSZ)

Objectives

This research carried out in four developing countries (Algeria, Morocco, Congo, Togo) by multidisciplinary teams combining the fields of epidemiology, anthropology or sociology, and economics, had the following objectives:

- To analyse the utilisation of diverse components of the health system by children under five.
- To analyse the users' and health professionals' views of illness and health care.
- Using the results from the above analysis, to promote sustainable and appropriate action and improve child care.

Expected outcome

The project aimed at strengthening the capacity of researchers to conduct multi-disciplinary research projects in the field of child-health. Based on the study results, reforms in health care were to be suggested, taking into consideration the economic, social and cultural dimensions of health care.

Activities

Data from a descriptive first phase had been gathered in the four countries during the STD2 programme. This phase included an epidemiological study of the use of the different types of health facilities caring for children, and an anthropological study in families both using and not using these facilities, as well as among health personnel (physicians and allied health personnel in the public sector, private physicians and nurses, and tradipractitioners). The research began later in the Congo than in the other countries. It was carried out with considerable difficulty because of serious social and political problems in three of the countries beginning in late 1992 (Algeria, Congo, Togo). The work in this project was as follows:

* The completion of data collection of the first phase for the Congo.
* The continuation of analysis of epidemiological data and anthropological information collected during the first phase.
* The development of specific research projects on topics identified during the first phase of the research (the utilisation of medicinal drugs by children in Togo, emergencies, therapeutic interventions, and behaviour of health personnel in Morocco).
* The development of training activities and applied research.
* The organisation of meetings on research progress.

Teaching activities have been carried out primarily in Algeria, and have consisted of the development of innovative teaching methods using results from the anthropological study (the contents of interviews with families on health-seeking behaviour for sick children). These activities have targeted health professionals in initial training programmes (nurses) or in the context of continuing education (interns and residents in hospital departments). In Morocco, activities were carried out at the level of health centres and "diagnostic centres" with the object of improving the rate of utilisation of curative facilities and of reducing the percentage of "unjustified" emergencies and self-referrals.

Results

In all the countries, results converged and demonstrate the association between problems of health-seeking behaviour encountered by families on the one hand, and problems of the functioning of health services on the other. At the family level, one is particularly struck by the length of the delay between first symptoms and consultation, and by the high frequency of self-medication at home. Recourse to traditional practitioners appears to be of modest importance. It appears that, rather than there being a problem of incorrect use of health services by patients, there is a problem of delayed recourse to these services. Patients often arrive at hospitals late, after complex therapeutic itineraries, with the consultation taking place under emergency conditions and with sometimes high mortality among hospitalised children. Families have a good understanding of how the health system functions. It appears however that they are discouraged by the considerable problems posed by social relations and communication with health care personnel. A teaching programme such as the one developed in Algeria thus appears justified since it would allow professionals to understand the complexity of health-seeking behaviour and their own role in problems of health-system functioning. In Morocco, a relative failure of activities undertaken by the Moroccan team was attributed primarily to the lack of sociological input on the role of families and on interaction between them and health care personnel.

A final seminar brought together all the participants in March of 1996. Future collaboration is planned: an extension of training activities in the Congo and in Togo; development of a project on the use of drugs in Congo and Togo; activities at the level of health care centres in all the countries, with integration of results of this research into existing programmes, as is already the case with the National Plan for Health Development in Congo.

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Contract number TS3*CT920112

IDENTIFICATION DES CONDITIONS D'AMELIORATIONS DE LA REFERENCE/CONTRE REFERENCE DANS LES DISTRICTS DE SANTE

Period: January 1, 1993 - December 31, 1996

Co-ordinator: INSTITUT NATIONAL D'ADMINISTRATION SANITAIRE, COLLEGE DE SANTE, Rabat, Morocco (A. LAABID)

Objectives

- To test the impact of the introduction of recognised technical tools (partogramme, reference/cross-reference cards)
  - the emergence of a real dialogue between the two levels of district health professionals
  - the quality of patient care
- To exchange experiences between the various partner countries and strengthen the institutions directly involved in the research.

Activities

1. Morocco

Study of the system of reference and cross reference (RCR) between health centres and reference hospitals (Sefrou and Khemisset provinces).

Accompanying measures: staff training, revision of information system, strengthening of supervision activities, direct dialogue between the two levels of district doctors.

Study of the behaviour of the professionals and the population as regards the reference/ cross reference.

2. Congo

* Study of the reference system between the integrated health centres and reference services (Makelekele and Dolisie districts)
* Accompanying measures: motivation of the personnel and the user population, exemption from fees of consultations and paraclinical examinations for the referred patients, staff training, outline of algorithm.

3. Chad

* Study the system of reference and cross-reference between nurses and doctors in the district of Bousso

* Accompanying measures: introduction of curative strategies at the first level, introduction of schedules for follow-up of first results ?, staff training, team meetings, follow-up of referred cases.

4. Switzerland

* Study concerning the practitioners of the communication problems with the hospital (Jura Canton)

* Study of the clinics in two hospitals (Delément and Porrentry) on the decision making process leading to hospitalisation and the communication between doctor and patient

* Analysis of the literature on reference and cross-reference.

Results

1. Congo

Despite the difficulties encountered in the implementation of the research (socio-political problems), the results recorded are encouraging. The health system is better known by the personnel and by the users. The references are increasingly accepted thanks to the effort made to explain them, the cross references are being progressively installed, the quality of reception and the maintenance of an information support system are significantly improving. False pros and cons which characterise the curative consultation in the health centres tends to regress, notably with the introduction of the suitable management tools. Enthusiasm for research has been maintained and extended to other health structures. The school for public health distributes a model for the system of referencing and cross-referencing.

2. Morocco

In the two site districts of the project, the system of reference and cross-reference (RCR) has shown its relevance and its efficacy as a strategy to make management of the district group more dynamic. Thus the objective of starting a dialogue between the doctors from the health centres and those from the reference hospitals has been relatively achieved. This has since resulted in a series of chain reactions concerning the problems of RCR and relating to all the aspects which concern the managers: organisation of care, information system, management of human resources, management of technology, continued training, research, etc.

Among the problems identified with the aid of this new approach, a good number of them have been resolved, such as:

- the workload of the general practitioner has been lessened due to a the delegation of tasks to the nursing personnel

- the lack of cooperation from referred patients has been improved due to appropriate reference criteria being established

- the non-adaptation of the existing information system concerning management of curative care has been corrected due to the introduction of a new system adapted to local needs

- the lack of involvement of the hospital doctors in the supervision of the health centres has been partly overtaken

Contract number TS3*CT920112

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Contract number TS3*CT930234

REDUCING MATERNAL MORTALITY AND MORBIDITY IN BOLIVIA: APPROPRIATE BIRTH PRACTICES IN THE FORMAL AND INFORMAL SYSTEMS OF PERINATAL CARE

Period: December 1, 1993 - December 31, 1995

Co-ordinator: TRINITY COLLEGE, DUBLIN UNIVERSITY,
DEPT. OF SOCIOLOGY, Dublin, Ireland (B. BRADBY)

Objectives

- To identify culturally appropriate practices and technologies of birth for women in highly traditional rural (Quechua-speaking), modernising rural (Aymara-speaking) and urban marginal (rural migrants).
- To study the range of factors which prevent childbearing women from participating in formal health care services.
- To produce baseline data on knowledge and practices in relation to pregnancy and birth, which can then be monitored and updated.

Activities

The project will carry out data collection on childbirth practices, and on complications of pregnancy and birth, that will lay the basis for identifying the factors and circumstances that have such an adverse effect on the reproductive health of women. Existing knowledge is based almost entirely on statistics from the formal health care system. However, in rural Bolivia, 80% of births take place outside this system, and the project has elaborated methodologies that will allow data to be collected from the informal sector of birth care, and collated with similar data from the official care sector. Three case study localities have been identified, with differing socio-economic characteristics:

* highly traditional rural (Quechua-speaking)
* modernising rural (Aymara-speaking)
* urban marginal (rural migrants)

In each area, the project will work through local health personnel and through local research organisations which have themselves built up good networks in urban and rural communities.

The baseline data collected will enable women and health care personnel to initiate concrete actions at the local level to improve service delivery in ways that are appropriate to the social and cultural circumstances of women and their caregivers.

The project involves six partner institutions, three from Bolivia, and three from Europe, in a complex pattern of co-operation, using specific professions and skills developed in the different contexts, which must be used together if such a project is to be successful. These include anthropology, linguistics, medicine, and midwifery, as well as popular-educational and communications skills, necessary for adequate dissemination in non-literate cultures. The project includes a training element, both for local fieldworkers, in methods of qualitative and quantitative data collection and analysis, and for community promoters, who will attend short orientation courses on the aims of the project and in communication skills.

Expected outcome

It is hoped that in relation to the problem of maternal mortality, the qualitative study will lead to greater understanding of the reasons for under-utilisation of existing maternity services in Bolivia, and to recommendations for ways of decreasing cultural barriers to service delivery. It is also hoped that the findings will help programmes for training traditional birth attendants to develop in ways that are culturally appropriate, and which can ultimately empower, rather than deskill, local people.

The baseline data collected during the quantitative phase of the fieldwork should enable women and health care personnel to initiate concrete actions at the local level to improve service delivery in ways that are appropriate to the social and cultural circumstances of women and their caregivers. The baseline study will also enable local networks of statistical collection to be put in place so as to enable to monitoring and updating of the practices and problems encountered in the study.

Results obtained

The project's objectives were to identify appropriate birth practices for rural and migrant women in Bolivia, and to look at the factors leading to under-use of existing health services, in the light of concerns about rates of maternal mortality which are high by international standards. The team of three Bolivian non-governmental organisations and two European institutions carried out studies in rural and peri-urban areas, using a combination of qualitative methods and a questionnaire survey.

Part II of the report documents traditional understandings of birth and of birth care, setting fertility and birth within the complex cosmic vision of the relationships between earth and sky. Principles such as upright positions in birth and the clothing and warmth of the mother relate to these understandings of rain, earth, sun and regeneration. The metaphors are particularly elaborated around the placenta, and birth is seen as a dual process, involving the birth of both baby and the placenta, its "soul". Hospital birth is then approached through the eyes of these traditional understandings. Fear of the Caesarean structures and migrant women's approach to hospital birth, leads to both passive resistance to hospital procedures by giving birth alone, and to active negotiation with hospital staff for other kinds of "help". The traditional prioritising of care in the birth of the placenta carries through into women's expectations of attention in hospital.

Part III of the report examines quantitative data from the project in relation to international health planners' agendas. It looks at the emergence of maternal mortality as a global problem in the last decade, and presents the current situation in Bolivia. It reviews the biomedical arguments on risk factors, and discusses four principal causes of illness and death in childbirth. The view of traditional birth attendants in international programmes is examined in the light of the Bolivian government's training programmes. The results of a questionnaire administered to 298 women are assessed in terms of the effectiveness of reported practices from the points of view of women themselves and of current international recommendations.

Finally, there is an assessment of data on obstetric practices collected from institutional medical personnel, which are evaluated for their effectiveness in preventing complications and in addressing women's needs.

The project's recommendations fall into five areas: furthering dialogue between traditional and biomedical services; arresting the decline of traditional midwives; allaying cultural fears of hospital birth; systemic response to emergency care; and further research, including a large-scale study of different systems of placental management.

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Contract number IC18*CT970248

MATERNAL MORTALITY AND EMERGENCY OBSTETRIC CARE IN LONGITUDINAL POPULATION BASED STUDIES IN WEST-AFRICA

Period: December 1, 1997 - May 31, 1999
Co-ordinator: ORSTOM, Dakar, Senegal (J-F ETARD)

Objectives

The general objective of this proposal is to promote interventions to reduce maternal mortality and serious maternal morbidity in different West African settings. Based on a situation analysis using a multidisciplinary approach, possible interventions will be designed in concertation with health authorities and specialists.
Four West African countries where vital registration system of well-defined sub-groups of population have been under way for several years will participate. These sites are located in Senegal, Mali, The Gambia, Bissau-Guinea.

Situation analysis

- to assess the quality of care by performing a maternal audit of each maternal death and make technical recommendations for personnel, equipment and procedures for the management of obstetrical emergencies;
- to assess the magnitude of maternal mortality and its consequences on the newborns, and to identify risk factors associated with maternal death;
- to analyse the relationship between pregnant/parturient women and the personnel in the health centers in charge of them;
- to improve the policy environment for maternal health through a better understanding of the supply of and the demand for maternal health services and obstetrical care.

Design possible interventions to reduce maternal mortality

Activities

Situation analysis

Clinical activities

Verbal autopsy of all deaths of women, aged 12-49, which occurred in past years and which will occur within one year after beginning of the project will be completed by interviewing relatives. Additional information in health services will be searched.
An auditing committee will review all female deaths, classify deaths as maternal or not and attribute the most likely cause of death; on this basis, unmet obstetrical needs will be assessed.
Obstetricians will visit references centers to issue technical recommendations on staffing/training, equipment and on procedures for the management of obstetrical emergencies.

Epidemiological activities

Epidemiologists will estimate maternal and perinatal mortality indicators, measure the proportion of life-threatening obstetrical complications, assess the survival of children of deceased women and a case-control study on risk factors for female/maternal deaths in certain sites will be carried out.

Anthropological activities

A sample of women and local specialists will be interviewed to describe popular opinion and representations of pregnancy and delivery. A quantitative and qualitative survey among the midwifery students will analyse their social identities and relationships.

Health economics activities

The supply and the demand of maternal health and obstetric services will be investigated through structured questionnaires passed respectively to providers and pregnant women recorded by the vital registration. Questions will be designed for a contingency-based assessment of willingness to pay and to participate in alternative service delivery and financing schemes.

Design of possible interventions to reduce maternal mortality

Possible interventions will be discussed during workshop(s) to be held in each participating country involving researchers of the present initiative, regional and national health authorities and obstetricians.

Expected outcome

⇒ Site-specific and global situation analysis on maternal mortality
⇒ Possible intervention protocols

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Contract number TS3*CT940260

GENDER AND REPRODUCTIVE HEALTH IN ZIMBABWE: USER-PERSPECTIVE OF FERTILITY-REGULATING TECHNOLOGIES AND SERVICES

Period: January 1, 1994 - December 31, 1996

Co-ordinator: UNIVERSITY OF AMSTERDAM,
MEDICAL ANTHROPOLOGY UNIT,
Amsterdam, The Netherlands (A. HARDON)

Objectives

The long-term objective:

- To set parameters for a gender-aware and need-oriented reproductive health and family-planning programme in Zimbabwe in consultation with various actors (including women's organisations, the Zimbabwe National Family Planning Council, and traditional healers' associations) involved in the field of reproductive health, based on an understanding of user-perspectives on fertility regulation and insight into socio-cultural factors affecting people's actual fertility regulation practices.

Specific objectives:

- To investigate what user-views are on family planning services and contraceptive technologies; and how these services and technologies affect their day to day life and well-being.

- To study how user-views of safety, efficacy and acceptability of contraceptives differ from conventional biomedical definitions.

- To investigate how family planning services can be improved with respect to meeting reproductive health needs of women and men at various times in their lives, and upholding their reproductive rights.

Summary

⇒ The research action envisaged under this project will combine quantitative and qualitative research methods (used in demography, community medicine and in anthropology) to obtain understanding of user-perspectives on fertility regulation technologies and services; and to gain insight of complex interrelations between socio-cultural determinants of fertility (such as age at marriage, education and status of women) and people's actually fertility regulation practices.

⇒ Where studies on user-views of family planning have been done, these tend to focus on modern contraceptive methods. The current study will investigate all (including indigenous methods such as child-spacing by means of breast-feeding, and the use of herbs as abortifacients), in their socio-cultural context.

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⇒ The study will follow a bottom-up approach, starting at the community level. The evaluation of the quality of services will focus on those aspects of the services that are considered important by users (for example the respect that providers have for their clients, the privacy observed), thus complementing earlier operational research on the quality of care that is generally medical in nature (looking into issues such as knowledge of service providers, and the supply of contraceptive methods).

⇒ The study will involve various actors involved in family planning and reproductive health care in Zimbabwe, including women's organisations, traditional healers, and the Zimbabwe National Family Planning Council.

⇒ The research will greatly increase the understanding of and promote reform in the structure of the family planning programmes of Zimbabwe. It evaluates existing family planning interventions (such as the information, education and communication component of the programme, and the community-based distribution system) from a user-perspective, using an interdisciplinary approach.

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Contract number TS3*CT940321

DEVELOPMENT OF SILOS MANAGERIAL SKILLS IN BRAZIL: RESEARCH AND IMPLEMENTATION OF SUITABLE TOOLS FOR INTER-SECTORAL AND PARTICIPATIVE ACTIONS IN DEALING WITH MAIN LOCAL HEALTH PROBLEMS

Period: November 1, 1994 - October 31, 1997

Co-ordinator: UNIVERSITA COMMERCIALE L. BOCCONI, CTRO DI RIC. GESTIONE ASS. SANITARIA, Milano, Italy (M. MENEGUZZO)

Objectives

The project has the following aims:

- To develop an innovative model for managing local health units to support strategies directed at decentralising health services in developing countries.

  Specific attention will be given to:
  - developing the institutional framework for local health units;
  - planning and programming processes at local level;
  - resource allocation;
  - relationship between decentralisation strategies and utilisation of health care.

- To evaluate the role of decentralisation and institutional strengthening as a tool for solving the general crisis in public welfare in Brazil and in the two European countries involved in the project, Italy and Spain.

- To set out training programs for public managers.

Activities

* Analysis, comparison and systematisation of SILOS (Local Health Systems) managerial skills development, methodologies and tools in each specific national context; identification of a methodological approach for the three countries.

* Analysis and comparison between the different decentralisation experiences in the National Health Systems of Brazil, Italy and Spain, in particularly selection of planning, management and controls tools on which experimentation must be concentrated; choice of SILOS for research activity; introduction of research in local process, and definition of project task forces and working laboratories in SILOS selected by the participating centres. Three different interventions will be implemented:

  - Training and education of human resources directly charged with management responsibility on a SILOS level.
  - Consulting, aimed at accompanying, analysing and systematising the decision-making responsibility on a SILOS level.
  - Evaluation of the research projects in their specific context.

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* Evaluation of the research project in the context of the National Public Health Care Systems in transition decentralisation processes, and settlement of a proposal regarding the reproduction of the experience on a large scale, in different contexts, particularly in Latin American Countries.

Expected outcome

Improvement of managerial effectiveness for the SILOS which are involved in the research in terms of capacity of intersectoral response to community health problems and quality of health and social well-being. Strengthening of managerial methodologies and tools and requirements to their effective implementation at a local level.

Preparation of a guideline regarding the evaluation of managerial skills on a SILOS level in order to allow for comparison between the different national contexts.

Definition of methodological options which allow for transformation of local experiences in health policy for National or Mixed Health Systems.

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Contract number IC18*CT960131

COMMUNITY BASED PREPAYMENT AND HEALTH INSURANCE SCHEMES IN RURAL BURKINA FASO AND GHANA: AN INTERVENTION STUDY

Period: March 2, 1997 - March 1, 2000

Co-ordinator: UNIVERSITY OF HEIDELBERG, DEPT. OF TROP. HYGIENE & PUBLIC HEALTH, Heidelberg, Germany (R. SAUERBORN)

General objectives

To improve the health status of the general population in rural areas of Burkina Faso and Ghana by improving the quality of the health care system and ensuring equitable access to it through sustainable community-based prepayment and health insurance schemes.

Specific objectives

- Improve financial access to essential health services while reducing access differentials between rich and poor as well as children and adults.
- Design two alternative prepayment schemes (with and without risk sharing: health insurance vs. prepayment), based on the costs of services provision and the schemes' projected revenues (depending on the amount of contribution to the schemes and their coverage).
- Recover all recurrent non-salary costs of providing the essential care package.
- Improve the quality of care: 75% (up from 40%) of users are satisfied and 60% (up from 20%) of providers follow locally accepted diagnostic and therapeutic algorithms.
- Assess the effect of quality on participation in prepayment/insurance schemes.
- Measure the impact of the intervention on the economic burden of illness.
- Measure the impact of the intervention on morbidity and mortality.
- Evaluate the process and outcome of partnership between the Ministry of Health and autonomous church affiliated providers in the implementation of a rural health insurance scheme (Ghana).

Summary

User fees have been strongly advocated in sub-Saharan Africa as a means to mobilise additional financial resources badly needed for the recovery of the recurrent costs of health services. Although the fees are an effective tool for resource mobilisation, research carried out under the ongoing STD programme has corroborated evidence from the literature that user fee schemes suffer from three weaknesses:

⇒ equity: they generally lead to a drop in health care utilisation, and worsen already existing inequities in access to health care.

⇒ no risk-sharing: user fees put the entire burden of payment for health services on the sick.

⇒ link between the time of payment and use makes it difficult for the population to seek health services in the rainy season when the household is in a negative cash balance.

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Prepayment/health insurance schemes should offer remedies to all three weaknesses.

The project will consist of three phases:

⇒ Phase 1: Preparatory research (12 months), to a) design the modalities of insurance and/or prepayment scheme and b) establish the quality and the distribution of health care to be provided under the schemes. Essential care packages have to be defined, the innovative financing options (prepayment/health insurance) will be elaborated. Willingness and ability to pay studies, using contingent valuation method, will be realised, and a comprehensive tool for assessing quality of care (as perceived by the clients as well as defined by professionals) will be developed.

⇒ Phase 2: Study of the effect of prepayment and community health insurance (30 months). The following questions will be addressed: How many and which households to enrol to prepayment/insurance scheme? How does the quality of services influence households' choice to enrol? How do rate and patterns of utilisation of health services change? Does community involvement and resource generation for health services improve the quality of health care? To what extent do revenues from those enrolled cover the non-salary costs of providing the essential care package to them? Does prepayment/health insurance reduce illness-related costs of households? Does the anticipated increase in access to quality health services - especially among children - have an impact on age-specific death rates? The research tools addressing these questions are: health census, vital events registration, sequential household-surveys, analysis of routine health services information, financial analysis of providers' costs and the revenue of the prepayment/insurance scheme, comprehensive assessment of quality of care (defined by clients and professionals) through observation and exit polls, focus group discussions.

⇒ Phase 3: Finalisation of data analysis, preparing of publications.

Continuous feed-back of concerned audiences (research community, policy makers, public health staff, local communities) will be given.

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Contract number IC18*CT960085

PUBLIC PARTICIPATION IN URBAN ENVIRONMENTAL HEALTH SERVICES: A CONCERTED ACTION FOR SUB-SAHARAN AFRICA

Period: October 1, 1996 - September 30, 1998

Co-ordinator: IRC INTERNATIONAL WATER AND SANITATION CENTRE,
The Hague, The Netherlands (H. WIHURI/M. VEZINA)

Objectives

- Improve the effectiveness of research methods and techniques to collect and analyse indicators that correlate i) people's state of physical health, ii) the conditions in their living environment that are risks to their health and iii) the operational status of existing environmental health services in the community.
- Enable resource centres working in sub-Saharan Africa to advise Local Authorities in the planning and monitoring of environmental health services in consultation with local residents.

Activities

* Conduct three workshops, all of them hosted in Africa, two of which will convene researchers from European and African centres, and the third involves researchers from African centres.
* Partner institutions will host visiting-researcher(s) from research centres in Africa for a two week internships.
* Compile a compendium paper comprised of:
  - a comparative analysis of six case studies indicating a set of site specific indicators and profiling the process to monitor and plan urban environmental services;
  - a short monograph on community managed urban services;
  - a catalogue of urban project profiles.
* Publish a procedural manual describing the steps and methods in conducting public consultations and possible applications to monitoring and planning of environmental health services.
* Produce and distribute a series of newsletters or briefs to inform local authorities in Africa of research findings and in view of organising a round table advocating the development of urban environmental health services and advising on how to do so.

Expected outcome

⇒ A better assessment of urban environmental health risks across social strata and African cities through health risk assessments conducted in six different cities.

⇒ The transfer of knowledge between partners (on monitoring environmental health risks and facilitating community involvement to plan environmental health services) by defining a set of methodological recommendations such as:
  - the relevant indicators, to be validated or refined in each location;
  - sampling procedures;
  - the structure of a questionnaire survey;
  - the us of a simple structured observations (such as spot checks);
  - the use of participatory communication techniques;
  - relevant physical tests;
  - what grassroots environmental concerns are to be discussed in focus groups.

⇒ One set of procedural guidelines to operationalise community based information centre focusing on urban environmental health and implement site-specific information and communication strategies.

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⇒ Demonstrated ability of European and African institutions to advise LAs on the practicalities of establishing community based data collection centres and implementing information and communication strategies.

⇒ Increased awareness of LAs and international organisations about community-based approaches to monitoring and plan environmental health service.

⇒ A project proposal involving European and African resource centres to conduct research-action activities in the field of urban environmental health.

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Contract number IC18*CT970224

CONCERTED ACTION : HEALTH AND HUMAN SETTLEMENTS IN LATIN-AMERICA

Period: October 1, 1997 - November 30, 2000

Co-ordinator: SOUTH BANK UNIVERSITY, SCHOOL OF URBAN DEVELOPMENT AND POLICY, London, United Kingdom (T. HARPHAM)

Objectives

To use the combined, existing knowledge of partners in a more concerted manner to develop proposals to design and evaluate interventions to improve the health of disadvantaged urban populations. Specifically, the concerted action aims to:

- consolidate knowledge
- build capacity
- develop proposals
- enhance the impact of research on policy

Activities

The preferred approach is multisectoral with the aim of putting urban health issues on agendas that fall outside the health sector. Health is defined as physical, mental and social well-being in line with WHO's definition. The environment is equally broadly defined as incorporating physical and social aspects. The project brings together, for the first time, a wide range of urban health researchers in the North and South in order that they can co-ordinate their efforts over a three year period to maximise the effectiveness and impact of research. It focuses on urban environmental health and urban health services issues. Specific activities will involve:

* Holding two workshops
* Expanding the "Urbanisation and health" newletter (published by MRC, South Africa)
* Producing a "State of the art of urban health in Latin America"
* Carrying out exchange visits
* Carrying out project leader missions
* Producing three short reports on the activities of partner
* Mounting an urban health course in Latin America
* Producing research proposals
* Disseminating the activities of the concerted action

Expected outcome

⇒ Increased reference to urban health in strategic international public health policy documents

⇒ Increased understandig of urban health in Latin America and South Africa

⇒ Increased training opportunities in urban health in Latin America

Contract number IC18*CT970224

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Contract number IC18*CT970250

EVALUATION OF A STRATEGY TO CONTROL THE EPIDEMIC OF CAESAREAN SECTIONS IN LATIN-AMERICA

Period: October 1, 1997 - March 31, 2001

Co-ordinator: UNIVERSITE LIBRE DE BRUXELLES, ECOLE DE SANTE PUBLIQUE, Brussels, Belgium (S. ALEXANDER)

Objectives

Main project:

To evaluate, within the framework of a randomized trial, the effect of an intervention aimed at reducing Caesarean section (CS) rates in Latin America. The intervention consists of the two following: (i) systematic second opinion before surgery (ii) practitioner education about decreasing CS rates through alternative guidelines for effective and safe management of childbirth.

Furthermore:
- Exploratory assessment of rates and needs of CS in Africa and Asia
- Dissemination of results of a study of maternal needs and demands concerning childbirth

Activities

Main project:
The efficacy of the intervention will be assessed in a multicenter cluster randomized controlled trial with two (three) further nested studies: (i) assessment of women's opinions (ii) care-giver's opinions (this survey is optional) and (iii) organisational and cost survey.
In maternity units randomized to the intervention arm, practitioners will systematically discuss the indication for caesarean section with a colleague before resorting to surgery (see a second opinion) and fill in a special form. Educational seminars on ways of decreasing CS will also be organised for the care-givers in the intervention arm maternity units. The trial will be conducted in six Latin American countries: Argentina, Brazil, Chile, Cuba, Guatemala and Mexico contributing a minimum of 17 pairs of maternity units.
The main outcome is CS rate, secondary outcomes include measures of maternal and perinatal morbidity. Satisfaction, acceptability and economic aspects will be assessed in the nested studies. Because of the risk of contamination between intervention and non-intervention units, CS levels will be assessed in all participating units prior to the study.

Furthermore:
* Prevalence and needs of CS in Africa and Asia will be assessed.
* Translation and dissemination of a related previous study will be performed.

Expected outcome

The main project & appended proposals:
The main project will assess the effectiveness of a package of co-interventions aimed at curbing the excess rate of CS in Latin America. Should this prove effective, replicating the interventions should not be an issue, as they are mainly behavioural, and therefore their extension to routine care should be neither costly nor complicated. Should the interventions not be effective within the framework of this trial, further assessment of the determinants of the failure will be essential and further in-depth work along the Bradby study would be recommended.

Contract number IC18*CT970250

Finally it must be remembered that the Latin American CS epidemic is but one end of the spectrum. In other regions there is a dearth of necessary caesarean section. This aspect will have been explored by the Ghent partners and we hope to be able to make sensible recommendations as to an approved bracket of CS rates, and as to measures to achieve this.

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Contract number IC18*CT970251

MEDICAL AND SOCIAL RISK FACTORS AND MAGNITUDE OF FIRST AND SECOND TRIMESTER, OBSTETRICAL COMPLICATIONS (ABORTION, MISCARRIAGES, ECTOPIC PREGNANCY) IN SIX DEVELOPING WEST AFRICAN COUNTRIES

Period: December 1, 1997 - November 30, 1999

Co-ordinator: INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE, Le Kremlin Bicêtre, France (P. THONNEAU)

Objectives

The general objective is to deploy an African network for research and analysis of human reproduction and maternal health in six West African countries.

The specific objectives are to:

- Assess the magnitude of abortion complications in several maternities of the following six West African countries: Benin, Burkina Faso, Cameroon, Ivory Coast, Guinea and Senegal.
- Describe the type of abortion complications and the health consequences in terms of maternal morbidity and mortality.
- Identify specific determinants of women seeking care for abortion complications.

Project methodology

The methodology will include a descriptive (demo-epidemiological) survey with a complementary qualitative (sociological) approach.

Activities

Point 1:
- reception of the administrative and scientist agreement to participate
- reception of the names of the coordinators and of the field workers
- obtention of a first version of the register

Point 2:
- results of the pre-test; obtention and print of the final version of the register
- obtention of a brief description of each site (medical and para medical personnel, number of admissions, number of births per year, etc.)

Point 3:
- obtention of a first data set after two months of data collection

Point 4:
- results of the qualitative study

Point 5:
- obtention of the complete data sets (from the registers)

Expected outcome

At the end of this project we expect to know the incidence of first trimester obstetrical complications (abortion, miscarriage, ectopic pregnancy), and be able to describe the main causes of abortion complications for women admitted to maternities in different sites in the six African countries. The project will give a better understanding of the reproductive knowledge, attitudes and behaviour of women in several sites (urban and rural) of West and Central Africa. EU-African networking will be further developed and will be made available in the field.

Contract number IC18*CT970251

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3. Policies for improvement practices

Presentation of EC supported joint research projects (1991-1996) continued
STD3
INCO-DC : 1st and 2nd Call

Areas of interest :

3. Policies for improved practicies

Contract number TS3*CT920088

HEALTH AND THE CURRENT ECONOMIC CRISIS IN BRAZIL: THE IMPACT ON THE HEALTH AND CARE OF MOTHERS AND CHILDREN

Period: January 1, 1993 - December 31, 1995

Co-ordinator: ESCUELA ANDALUZA DE SALUD PUBLICA, Granada, Spain (M.GARCIA CALVENTE)

Objectives

The objectives of the study are:
- To describe and document the political, economic and health policy changes in Pelotas, Brazil, in the past decade.
- To document levels and trends in maternal and child health status and health care
- provision and utilisation between 1982 and 1992.
- To make policy recommendations based on the research conclusions.

Activities

Phase 1 will include three studies:
* A study of changes in health policies and health care provision with emphasis on maternal and child care. This study will provide data on recent trends in these areas to document historical changes in the city.

* Anthropological studies based on interviews with members of different groups involved in health care. The aim here will be to investigate the perception of the population and of the health providers regarding changes in health services.

* A study on socio-economic trends that is intended to document the political and economic changes which took place during the decade and how these have affected the quality of life.

These Phase 1 studies will result in a detailed description of changes in the health sector and in the perception of the population and providers relative to these changes.

Phase 2 of the study involves six separate studies focusing on maternal and child health indicators. The studies in this phase will include:
* a perinatal study in three maternity hospitals during twelve months.

* a descriptive infant mortality and nested infant mortality case-control study, to identify all deaths among cohort children and to ascertain causes and compare their characteristics with those of control children from the same birth cohort.

* a hospital morbidity study to provide data on the causes of all hospital admissions.

* a follow-up study to trace a 20 per-cent sub-sample of approximately 2000 children at 6-12 months of age and 400 pre-term and/or low birth-weight children.

* Finally, a maternal study on health, fertility and family planning utilisation will provide data on past reproductive history.

The data from these studies will be compared to data collected in a similar way in 1982 to assess changes during the decade which will be analysed in the light of the overall scenario of economic and health sector changes.

Contract number TS3*CT920088

Expected outcome

The project will result in an increased understanding of changes in health care in the city of Pelotas in Brazil, and the effects of these changes on the health and care of mothers and children.

Results

⇒ There was a reduction in the number of births in this period (6.011% in 1982 and 5.04% in 1993), suggesting an increased utilisation of contraceptives or abortions since there was a increase in the number of women of fertile age. A breakdown by socio-economic status shows that the reduction of 707 births in 1993 was not evenly distributed as there were about 1,000 fewer births in the poorest groups and 300 more in the high-income strata.

⇒ There were also important variations in the nutritional status of the mother in the decade the mean height increased from 156.4cm in 1982 to 159.9cm in 1993, and weight in the beginning of pregnancy was also substantially higher in 1993, 62.1kg compared to 58kg in 1982. Antenatal care attendances also increased in 1993, with a mean of 7.6 attendances compared to 6.6 in 1982 and medical assistance during delivery increased from 61 per cent in 1982 to 88.3 per cent in 1993. Despite these improvements the proportion of low birthweight (<2,500 g) showed a slight increase in the proportion of pre-term births (5.6 and 7.5 per cent, respectively) and intra-uterine growth retardation (15.0 per cent in 1982 and 17.5 per cent in 1993) The reason for these unexpected findings is still being analysed.

⇒ There was an important reduction in perinatal mortality, from 32.2/1000 births in 1982 to 22.1/1000 births in 1993, and the reduction of perinatal deaths was equally observed both in the foetal and in the early neonatal period. Regarding breastfeeding, there was an increase in the proportion of babies being breastfed in the first months of life. At three months of age, for example, the prevalence of full breastfeeding was 53 per cent in 1993 compared with about 33 per cent in the previous decade. As far as nutritional status at 12 months of age is concerned, there were changes according to the indicator. Thus, there was a slight increase in the proportion of children with low height for age, 6.1 per cent compared to 5.3 per cent in 1982. On the other hand, a reduction was observed in the prevalence of low weight for age, 5.4 per cent in 1982 and 3.8 per cent in 1993, and of weight for height. Finally, an important progress was detected in the infant mortality rates, with a drop from 36.4/1,000 live births in 1982 to 21.1/1,000 in 1993. The results of this study will certainly contribute to the understanding of the evolution of the health status of mothers and children during the last decade and in planning new preventive actions.

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Contract number TS3*CT940325

PAYMENT MECHANISMS, EFFICIENCY AND QUALITY OF CARE IN PUBLIC AND PRIVATE HOSPITALS IN THAILAND

Period: January 1, 1995 - December 31, 1997

Co-ordinator: LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, London, United Kingdom (A. MILLS)

Phase I of data collection has been completed, including detailed sub-studies on the cost, activity and outputs of nine hospitals, three public, three not-for-profit, and three for-profit. Data collection instruments included a bed census survey and survey of patient satisfaction. Results can be summarised under the headings of hospital characteristics, hospital clientele, and influences affecting hospital behaviour.

Hospital characteristics

In terms of staff, private for-profit hospitals made more use of staff with less training, particularly nurse aides, as compared with not-for-profit and public hospitals. Both types of private hospital paid doctors largely on a fee-for-service basis, not as in the public sector where they were salaried. In terms of productivity of resource use, staff had a higher workload in the public sector and the private sector was not always more efficient in the use of capital, such as on operating theatres. Also the private sector had quite a low bed occupancy rate. Levels of unit cost were consistent with international experience in ranking by ownership, with for-profit hospitals having the highest levels of unit cost, followed by not-for-profit, and then public. For-profit hospitals had particularly high drug mark-ups. All hospitals had lengths of stay that were very short in comparison to international experience, though ranking by ownership; for-profit hospitals had the highest levels of unit cost, followed by not-for-profit, and then public. Public hospitals had longer lengths of stay and private-for-profit the shortest. Management systems tended to be stronger in the private sector, in particular being entrepreneurial, flexible and with better stock control, though in comparison to other developing countries public sector management appeared notably strong, if bureaucratic. In private-for-profit hospitals there was less specialisation than there might be in maternity or acute surgery than is found in many other countries. There were suggestions that technical quality was quite varied in the private sector, ranging from very good to not so good. One strength of the public sector was the existence of explicit technical standards, for example hospital formularies and standards for generic prescribing, which the private sector tended not to have. Patient-perceived quality was judged poorer in the public sector for the interpersonal skills of staff, but otherwise the ratings of public and private hospitals were remarkably close.

Hospital clientele

As would be expected, the private sector tended to serve more educated and higher-income clients than the public sector. However, civil servants were a major user of public hospitals. Very few patients classified as local used any of the hospitals.

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Influences affecting hospital behaviour

Although the purpose of phase I was not to focus directly on the influence of payment systems, a fair amount of relevant information was collected. For example, all hospitals had a remarkably high share of patients paying fees out of pocket, and this imposed some measure of cost control on hospitals, particularly in the private sector, since if their fees became unaffordable they would lose part of their market. Hospitals were making a deliberate decision to focus on particular segments of the market - for example social security patients, or the privately insured, or those covered by employer schemes. Ownership seemed to have some less strong influences on hospital behaviour than might be expected from experience elsewhere, partly because the dependence of public hospitals on fee income meant that all hospitals were influenced by the need to generate income from patients. Nonetheless, there were aspects of hospital behaviour that were clearly influenced by ownership. While there was evidence that payment practices were influencing hospital management practices (for example the bed fee was kept down because reimbursement of this fee item was limited) insurers did not appear to be, as yet, as active in seeking to influence hospital behaviour as in some developed countries.

Some tentative policy issues arising from phase I include

⇒ The danger of increasing inflationary pressures with the rising share of the elderly in the population, expansion of health insurance, and fee-per-service payment of doctors.

⇒ A strong client preference for the private sector which will increasingly affect the use of public hospitals unless public hospitals can be made more attractive.

⇒ The vital importance of payment mechanisms in ensuring cost containment. There was some evidence that the capitation payment system adopted by the social security scheme was having an effect on cost containment without necessarily affecting quality adversely. For example there were some suggestions that drug prescribing for social security patients was more cost-effective than for other types of patients.

Phase II will explore in much greater depth the influence of payment mechanisms on patient treatment patterns.

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Contract number TS3*CT940289

INFORMAL HEALTH MARKETS AND FORMAL HEALTH-FINANCING POLICY

Period: September 1, 1994 - August, 31 1996

Co-ordinator: LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, DEPARTMENT OF PUBLIC HEALTH & POLICY
London, United Kingdom (B. MC PAKE)

Objectives

- To identify and describe health workers' socio-economic survival strategies in Uganda's public health sector.
- To examine the implications of different socio-economic survival strategies on the public health systems in terms of accessibility and quality of care and health workers' motivation and standards of living.
- To explain health workers' choice of socio-economic survival strategy in terms of environmental, health worker-related and policy variables.
- To model the implications of alternative health-financing policy options and other policy options on accessibility and quality of care in public health facilities.
- To make recommendations on health-financing policy and other health policy based on the above findings.

Activities

Phase 1 of this research has focused at public health facility level. Researchers spent one month in each of 12 facilities observing activities, completing checklists of facility records and talking at various depth-levels with those employed there, and with community members of the locality.

Phase 2 is underway. It is focusing on individual health workers, sampled on the basis of information gleaned in Phase 1. The focus of attention is on the activities of health workers outside the public health facilities.

Results

Real incomes of health workers are, on average, 4 to 7 times the value of their salaries and allowances. This average hides a wide variability between health workers. While informal activities are carried out by all health workers, more junior workers are constrained to use less lucrative ones and barely survive, on inadequate incomes and other benefits. Informal incomes are largely monopolised by more senior health workers in each facility and are shared with district level workers. The two major sources of informal income are resale of drugs supplied to health facilities for free distribution to patients, and informal charges levied on patients over and above formal user-charge levels. Unaccounted formal user-charge revenues are also significant sources of income in some facilities.

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Formal user charge policy has not been able to achieve benefits for patients in the form of improved quality and accessibility. The main reason for this is that the policy creates new interest groups within the health service (health unit management committee members) who also hope to earn an income on the basis of the resources of patients. It also enables senior staff (both within the facility and the district) to exert more leverage on junior staff to skew the total income generation in their favour.

The quality and accessibility of services in public health facilities is very poor. The "informal" activities of health workers are far more important in determining this result than the inadequacy of supplies to health facilities or the maintenance of health facilities, which have both been major focuses of donors is this country.

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Contract number TS3*CT940305

HEALTHY PEACE? REHABILITATION & DEVELOPMENT OF THE HEALTH SECTOR IN POST-CONFLICT SITUATIONS

Period: November 1, 1994 - October 31, 1995

Co-ordinator: LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, DEPARTMENT OF PUBLIC HEALTH AND POLICY
London, United Kingdom (A. ZWI)

Objectives

To analyse the long-term impact of conflict on health with particular reference to disability and childhood diseases in two post-conflict societies (Ethiopia and El Salvador) and using these conditions as tracers to:

- Analyse the development of health-related policies, plans and programmes aimed at rehabilitating the health system in the post-conflict period, and to identify the key factors determining policy choice and influencing implementation.

- Analyse the financing of health sector rehabilitation and development in the post-conflict period and assess existing strategies with respect to their sustainability and equity.

- Analyse the role of international aid in post-conflict rehabilitation and development of the health sector, and to assess the long-term implications of alternative patterns of international assistance.

Activities

This project represents the first phase of a planned 3-year project, and lasts for a period of 1 year. During this period a situation analysis will be prepared in both countries comprising three components:

* Health needs in post-conflict situations:
  This component of the study will assess the impact of conflict on health status with particular reference to disability and immunisable diseases, and will analyse trends in patterns of morbidity. The emphasis will be on collection and comparative analysis of existing secondary data. In addition, rapid and participatory methods of health needs assessment will be used to build health profiles in at least two districts, which have been differently affected by war.

* Health policy analysis:
  This component of the study will provide an historical analysis of the development of the health system in the two countries. Particular attention will be focused on the impact of conflict on the health policy environment during the periods of conflict, and its implications for the functioning of the health system. The focus for this aspect of the study will be on events since peace has been secured, and on the role of international agencies in the design and implementation of rehabilitation programmes.

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* Health financing components:
  This component of the study will provide a comprehensive review of changes in the health financing system during and immediately after the wars. It will provide the basis for an assessment of the key financing issues facing the health sector in both countries, with particular respect to the future role of international aid.

The two country studies will be analysed comparatively.

Expected outcomes

Reports and publications documenting the research findings will be drafted and circulated widely as a contribution to current international debates concerning post-conflict recovery.

It is anticipated that more detailed research proposals will be prepared to follow up on specific issues in the future.

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DEMOGRAPHIC AND EPIDEMIOLOGIC TRANSITION IN INDIA: PREDICTION AND VARIATION IN HEALTH CARE COSTS 1951-2001

Period: May 1, 1995 - May 31, 1996

Co-ordinator: OXFORD CENTRE FOR ENVIRONMENT, ETHICS AND SOCIETY
MANSFIELD COLLEGE, Oxford, United Kingdom (K.SEN)

Objectives

- To undertake a situation analysis of the demographic and health transition in India.
- To ascertain variation in health care utilisation among older people by sex and by gender.
- To make projections of the economic costs of ageing and its impact upon the household.

Activities

Research undertaken during 1995-1996 consisted of four phases:

The first phase involved an extensive review of secondary data and literature on demographic and epidemiologic transition. It also involved consultation with medical and social scientists undertaking similar research in different regions of India.

A pilot study of adult morbidity,and an assessment of the sectoral distribution and patterns of utilisation of health care was undertaken in phase 2. This was in order to predict variations in patterns of utilisation by sector, and to make projections of future health care costs for households in two districts of West Bengal. The third phase involved data analysis in situ working closely with Indian partners to compare local findings with national trends in demographic and epidemiologic transition, noting similarities and differences in trends over the specified time period. The fourth and final phase has consisted of liaising with the various partners to produce the final report, and to make arrangements for dissemination in Europe and in India.

Results

By the year 2001 there will be over 76 million Indians over the age of 60 years. While their proportion will remain at about 7 per cent of the total population, in absolute numbers they will equal nearly the entire population of Germany and twice the ageing population (60 years and above) in most European countries.

⇒ Demographic and Health Transition and patterns of adult morbidity:
Historically DT and ET are associated with economic development. In theory, the higher the proportion of aged persons in a country, the higher the level of development. The main finding of this study is that the traditional analogy between development and demographic change may not be entirely accurate. If they are measured either by the traditional indices of "per capita incomes" or by the distribution of incomes and resources such as education and health care, many countries such as India may remain "underdeveloped" yet still experience DT and ET.

This context appears very relevant for India where low per capita incomes coupled with a highly unequal distribution of education, health care and technology resources between different segments of the population, has not prevented an accelerated process of DT and ET over the past 3-4 decades. There non-communicable diseases increase in their prevalence but do not replace communicable disease, so reflecting a process of very uneven development, as progress is made towards industrialisation.

The pilot study confirms this hypothesis and despite its exploratory nature has implications for the allocation of resources in the health sector.

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⇒ Health care utilisation and projections of costs:
Health services in India are composed of a variety of different providers practising a wide variety of traditional and modern medicines. Each of these has its own specific organisation and modes of delivery. Despite the predominance of private sector provision the public sector has until recently played an important role in basic health services, and particularly in the treatment of acute and long term care, for the more vulnerable groups. A review of existing data shows that there has been a rapid expansion in private provision of health care during the past decade, paralleled by declining investment in the public sector.

The two main observed effects of this are first a continuous decline in the quality of public health care provision, especially in the established infrastructure of primary health care centres, which act as an important health resource for the majority of the rural population. Secondly, such a decline ensures that the fee-paying private sector remains the most easily accessible and that the economic burden of chronicity falls directly upon families. Projections of population ageing hand in hand with the emergence of non communicable-disease in this context, suggest that the experience of transition is likely to be a serious economic and social crisis for individual families looking after economically dependent adults and older people.

The experience of most countries of the world has shown that health care costs rise exponentially with age. Our projections showed that the per capita costs are likely to rise from the current 6.9 per cent of total household expenditure in 1995, by at least 4 - 6 per cent per household per annum, over the next five years. This estimate is based on current inflation and assuming a fixed prevalence of chronic disease, with 1995 as the base line for measurement. We are aware however that in the absence of programmes of prevention and an expanding ageing population, these rates are not likely to remain constant.

Methodology and Health Policy

The evidence also suggests that in order to comprehend the magnitude of the potential health burden upon households in the coming decades, allocations for health services, need to be based on a sound national database of morbidity patterns by age-specific ratios. With the exception of a handful of ad hoc local level studies, a national disease profile or record of morbidity in the country is yet to exist. It is only when it does that exploratory studies such as this will be objects of real concern (as they should be) to national and international policy-makers. The study emphasises the need in health system research to focus on the impact that old people have, not simply on providers, but more significantly on users in particular among households and on vulnerable individuals within them.

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Contract number IC18*CT960109

A CONCERTED ACTION FOR THE DEVELOPMENT OF ESSENTIAL DRUGS (ED) PURCHASING OFFICES IN DEVELOPING COUNTRIES

Period: December 1, 1996 - November 30, 1998

Co-ordinator: INSTITUTE OF TROPICAL MEDICINE, PUBLIC HEALTH DEPT., Antwerp, Belgium (W. VAN LERBERGHE/B. DUJARDIN)

Objectives

1.1 General Objective

The general objective of this concerted action is twofold, namely:

- to facilitate and consolidate the setting up and the operation of ED purchasing offices in developing countries and
- to improve the general working of the essential drugs strategy

1.2 Specific Objective

The specific objective of this concerted action is to identify the positive and negative political, administrative, economic, legal and technical factors affecting the success of the creation of ED purchasing offices, checking their frequency and importance, proposing possible alternatives, and, if possible, identifying the solutions that have given the best results.

Activities

The first phase of this concerted action will cover a one to two-year period and consists of the following two main stages:

First stage:

* Assessment of experiences with purchasing offices to date, and a search for a consensus on the priority issues.
* Drafting of the two reports collectively (see par 1.2)
* Identification of research priorities for the second phase of this concerted action.

This first stage will revolve around preparing for and holding a seminar for the concerted action's participants. Resource persons will be invited, as needed, according to their experience in specific areas. The topics that will be covered during this first seminar are given under par. 2 Objectives. Analytical grids will be drawn and sent out to the participants and resource people. The results of the search for consensus will be published in the two documents, while the specific threads of the seminar (the topics) will be published in the form of "questions asked - possible alternatives raised - evaluation of achievements".

Second stage:

Publication of the results of the discussions and searches for a consensus conducted during the first year. Setting up the specific programme of work for the second phase. This second stage will be devoted to different activities conducted in parallel.

* The first is the publication of the results of the search for consensus. Each of the participating countries will be responsible for co-ordinating the publication of one of the strands defined under Specific Objective 1, according to its experience and interest.

* To mark the end of the first phase of this concerted action, a seminar will be held to complete the publication and to assess the results of the first phase of concerted action.

* Finally, the priority will be for the specific work to be done to follow up this concerted action.

Expected outcome

Two reports will come out of this work:

1.2.1 Evaluation of the purchasing office problem

This document will consist of two sections:

⇒ the history of central pharmacies and the analysis of the difficulties that are encountered.

⇒ an analysis of interventions to date and proposed alternatives (revitalising central pharmacies, setting up autonomous medical store offices) and the identification of factors of success or failure in each alternative.

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1.2.2 How to improve the operation of a medical store office

This document will be designed as a guide covering the following subjects:

⇒ the legal status of purchasing offices : analysis of the pros and cons of varieties of status.

⇒ relations between purchasing offices and government bodies (health ministries, finance ministries, ministries of trade, drug administration, etc.). Review of the difficulties that are encountered. What are the alternatives? What are the solutions of consensus?

⇒ relations with private pharmacies : history of relations in each country, summary of conflicts, proposals of strategies for reaching a consensus

⇒ purchasing offices' financing policies : comparison of methods used for calculating magnitude of one's working capital fund, etc. Discussion of the pros and cons

⇒ must the ED purchasing office be responsible for distributing drugs and imported medical equipment ? Pros and cons, analysis of alternatives.

Depending on each partner's requests and needs, exchanges concerning administrative, bookkeeping, and financial management procedures, stock management, computer programme exchanges, etc., will take place.

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Contract number TS3*CT910023

COLLABORATIVE PROJECT ON COMMUNITY DRUG USE: ENHANCING THE IMPACT OF ESSENTIAL DRUGS PROGRAMMES

Period: February 1, 1992 - July 1, 1994

Co-ordinator: UNIVERSITY OF AMSTERDAM, MEDICAL ANTHROPOLOGY UNIT, Amsterdam, The Netherlands (A. HARDON)

Objectives

The main objectives of the study are:

- To enhance rational drug use by consumers, by introducing more appropriate rational drug use interventions in Primary Health Care programmes in the Philippines and Pakistan.
- To make recommendations for the inclusion of rational drug use interventions directed towards consumers in primary health care.

The specific research questions the study seeks to address are:

- What is done in Primary Health Care and Essential Drugs programmes to enhance the rational use of drugs by consumers?
- What are the factors that affect activities intended to enhance rational drug use?
- What is the impact of rational drug use interventions conducted in primary health care programmes, in terms of more appropriate use of drugs.

Activities

The project will be carried out through the following steps:

* Research sites are purposefully selected in areas where relatively intensive rational drug use take place.
* The research teams in each country are trained in basic research methods.
* Exploratory research on existing rational drug use interventions is carried out by reviews of policy documents and educational materials, and interviews with key informants.
* The preliminary analysis of what is done to enhance rational drug use and on the factors that affect these intervention is undertaken and forms the basis for the methodology for the second evaluation phase.

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* The evaluation phase is conducted, including:

    - a comparison of actual self-medication patterns in programme areas and control areas;
    - an assessment of the appropriateness of the health worker prescription;
    - feed-back sessions (to consumers and to health workers) to validate findings and formulate recommendations for action.

* On the basis of the results of the analysis more appropriate interventions will be developed to enhance rational drug use, and will be presented to policy makers.

Expected outcome

⇒ The main outcome of the project will be: improved methods for the enhancement of rational drug use by consumers in the primary health care programmes in which the research is conducted.

⇒ More general recommendations for the inclusion of rational drug use intervention will be directed towards consumers in primary health care and essential drugs programmes.

⇒ These outcomes will be reported in country reports in Pakistan and The Philippines and in a synthesis report.

Results

In the first phase of the Pakistan study a comparison of drug use patterns was made, comparing areas with PHC programme and areas without PHC programme, using the drug use indicators developed in this research project. The results show that in the Pakistan research areas, self-medication is not a dominant practice. Usually illness episodes are treated with health worker advice. The health workers nearly always prescribe modern pharmaceuticals. The health workers prescribe antibiotics relatively often (around one-third of the cases) but they rarely prescribe injections. The most important difference between the PHC areas and the non-PHC areas is the use of ORS. This is significantly higher in both prescribed medication and in self-medication in the PHC areas. Health education in the PHC areas has focused on the use of ORS in diarrhoea.

In Pakistan the following specific rational drug use activities were evaluated: (1) health education sessions (2) the training of community health workers and lady health visitors (3) the information provided by lady health visitors and CHWs during patient-clients consultations.

As in Pakistan, the Philippine study was carried out in four communities. However, contrary to findings in Pakistan, the researchers noted no substantial difference in drug use between the communities covered by the community-based health programme and the communities not covered by the programme. In all communities, self-medication was found to be the predominant form of first treatment of illness-episodes (59% of episodes). Use of ORS was very low (11% of episodes). And antibiotics and injections were also found to be used very little (6% and 0.4% of episodes respectively).

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To gain more understanding of the effects of rational drug use activities, the Philippine team evaluated seven different interventions. These were: (1) Community Pharmacies (an initiative of the Munoz Community Based Health Care Project; Community Health Workers sell a limited range of generic and herbal drugs at a mark-up of 10% (2) Mothers' classes: health education for mothers (3) Training of CHWs (4) The promotion of herbal medicine (5) the Radio programme "Kalingan Buhay" (6) The supply and dispensing of drugs for predominant diseases (diarrhoea and respiratory infections) by the Rural Health Units (7) The use of generic drugs (in 1988 the Philippine government adopted the Generics Law, which required the prescribing, and dispensing of drugs by generic names).

The Philippine team also evaluated the supply and dispensing of drugs for predominant diseases (diarrhoea and respiratory infections) by the Rural Health Units. The evaluation revealed that the RHU personnel have no clear orientation on RDU concepts. They are mainly aware of the adoption of the generics law, and the subsequent changes in generic labelling, and the requirement to prescribe generics. They do not use the national drug formulae as a guide in prescribing. As a results the effect of the programme in promoting the rational treatment of diarrhoea and respiratory infections is very limited, is also reflected in the fact that only 11% of the diarrhoea episodes in the research areas were treated with ORS.

Proposed interventions for action

During workshops on the provision and use of drugs in communities there was extensive discussion of the development of more appropriate interventions in the research areas, of more general recommendations for the inclusion of rational drug use interventions directed towards consumers in primary health care, and essential drugs programmes. It became clear that the participating country teams (Philippines, and Pakistan) intend to follow the principle of informed decision-making by the community, with interventions to be developed and implemented in a participatory approach. It is noted that health-education sessions were found to be a relatively successful intervention in terms of promoting the use of ORS (Pakistan) and the use of herbal medicines (The Philippines). Self-medication is the predominant form of treatment in The Philippines, and people express great interest in information on treatment options. The teams also recognise the importance of prescribers of drugs as determinants of consumer behaviour. Drug use by consumers often mirrors drug prescribing by health workers. And drug prescribers are rarely aware of rational drug use principles.

Proposed interventions fall into three main groups, the first consumer-oriented (e.g. strengthening mothers' classes in The Philippines and improved health education for women and men in Pakistan.). Secondly they may be drug-seller-oriented (e.g. providing drug-sellers in Pakistan with up-to-date information on the drugs they sell and training drug-sellers in the local sari-sari stores in The Philippines). Thirdly they may be health worker-oriented (e.g. improving the knowledge of CHWs and lady health visitors in respectively the Philippines and Pakistan).

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Contract number TS3*CT920146

PATTERNS AND DETERMINANTS OF PHARMACEUTICAL DRUG USE: A STUDY OF URBAN COMMUNITIES IN INDIA

Period: January 1, 1993 - December 31, 1995

Co-ordinator: UNIVERSITE CATHOLIQUE DE LOUVAIN, DEPT. OF EPIDEMIOLOGY AND PREVENTIVE MEDICINE, Brussels, Belgium (D. GUHA-SAPIR)

Objectives

For decades, single-minded researchers and activists have been trying to improve prescribing practices and to promote rational drug therapy in India. That this has been an up-hill task probably goes without saying, but since perseverance is a quality that generally wins in the end, this research study has been undertaken to stimulate the decision-making process by, taking the issue one small step further.

The medicine market is composed of several elements: the pharmaceutical production sector, the governmental regulatory and policy-making machinery, the physician prescribers who choose what medicines are consumed, and last and usually the least, the patients or consumers. At least one of these elements has to be modified in order to introduce changes or improvements in the system. The objective of this study was to understand better the prescribing behaviour of physicians in urban settings of Calcutta and Delhi with the aim of identifying an intervention that would effectively change irrational or undesirable behaviour (from the patients perspective). The underlying assumption was that although economic interests may be expected to dominate behaviour, some irrational prescribing is also due to a lack of non-commercial information and professional training. However, a basic understanding of the scale of irrational prescribing among urban doctors in India was fundamental and this study aimed to address this need.

Specifically, it aimed to:

- describe prescribing practices of public and private physicians in the urbanised areas of Calcutta and Delhi;
- compare these practices with national "guidelines" and with WHO "recommended" rational therapeutic practices;
- estimate the cost of prescriptions by disease category;
- explore policy implications for over or sub-optimal drug use.

Methods and materials

The study was undertaken within the metropolitan areas of Delhi and Calcutta. A total of 8901 prescriptions were collected and analysed from 209 randomly selected pharmacies stratified by administrative zones in each city to address the intra-zone socio-economic variation. The data was collected by a team of doctors specialising in community medicine at the All India Institute of Public Health and in pharmacology at the Maulana Azad Medical College. Most of these researchers used the material in their graduate work. Three separate training sessions were held in Calcutta and Delhi where the use of questionnaires, coding procedures and study objectives were discussed along with broader issues relating to drug use and physician behaviour.

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Meetings of the Joint Advisory Committee of the four institutions involved in the study together invited experts have been held periodically over the past two years to agree on methodology, sampling and analyses.

The questionnaire was prepared by physician/pharmacologists, social scientists and programmers, and pre-tested in ten pharmacies in South Delhi and Calcutta in December. In Delhi there was a commercially published list of pharmacies, of which the last issue was dated 1990. It included geographic zones. Calcutta did not have such a published list and therefore one had to be constructed from registration forms in the Drug Controller's office. A systematic random sample was drawn by taking every tenth pharmacy listed. If the pharmacy did not exist or the owner was not available, the researcher selected the nearest pharmacy to it instead.

Fieldwork was completed in four months, using a letter of introduction from the Drug Controller's Office. The investigator filled in the form for each customer entering the pharmacy using both his/her prescription and questioning. The generic data collected socio-economic and demographic characteristics of the patient, diagnosis or symptoms as indicated on the prescription, and the same as reported by the interviewee, the qualifications and the affiliation of the prescribing doctor (e.g. specialist, public sector hospital etc.), the contents of prescription including brand names, dosage, form and quantity, and the investigations advised. Diseases were coded using the ICD (10 Rev. 1992) at the five digit level. Prescription drugs were coded using the Anatomical Therapeutic Chemical (ATC) Coding System (4th edition published by WHO Collaborating Centre for Drug Statistics Methodology, Oslo, Norway) recommended for international drug utilisation studies. Drugs were classified according to their main therapeutic use, with only one ATC code for each pharmaceutical preparation, but were given more than one ATC code if it they were available in two or more strengths or formulations with clearly different therapeutic use. Different formulations for topical and systemic use were also given separate ATC codes. Combined preparations were classified according to two main principles - (1) two or more active components not belonging to the same therapeutic group were classified by using the 50 series and (2) combined preparations containing two or more active components not belonging to the same therapeutic 4th level were classified using the 5th level code. In the present study, coding for combined preparations has been slightly modified to accommodate the large number of fixed-dose combinations encountered.

Certain fixed-dose combination were difficult to code e.g. Respimox (Bromhexine & Amoxycillin) and Gramogyl (Nalidixic acid & Metronidazole) in a 7 digit code. These were therefore separately coded. Investigations advised on the prescription were included in the study to provide an aid in diagnosis, as well as to judge the rationality of the prescription. An approximate estimate for investigations cost was prepared after averaging the rates of 4 different facilities in Delhi, which included two nursing homes, one private hospital and one private practitioners' laboratory. The rationality of prescriptions was assessed by a team of qualified medical doctors specialising in pharmacology, they used WHO guidelines and cross-checked results between themselves. About 39% of the prescriptions were not included in this analysis owing to inadequate information or the use of non-allopathic drugs.

The total cost of the drugs was estimated with the aid of the Indian pharmaceutical guide (1994), Drugs Today (June 1994), Monthly Index of Medical Specialist and Current Index of Medical Specialists. The retailer's price of the drugs as applicable during the survey period from April 1994 to July 1994 was estimated for the individual drug from these guides. The cost of the prescribed drug according to its frequency of administration and duration was calculated.

The total cost was estimated by summing up the individual prices of the drug prescribed. Consultation fees were not included and neither was the cost of working hours lost due to illness. The basis of the assessment was to define a rational prescription as "the smallest possible number of drugs prescribed for an adequate duration of time so as to treat/cure the illness effectively.". This implied that the drugs prescribed did not have any pharmaco-kinetic or pharmaco-dynamic interactions amongst each other; were not prescribed in cumbersome schedules and painful or unacceptable routes of administration and not unduly expensive for the patient. In this study a set of instructions was developed based on the above, on the experience of the pharmacology team (8 practising physicians from teaching hospitals) and on WHO guidelines. A decreasing score was given according to the following conditions:

- whether the drugs prescribed conformed to the definition of rational prescription given above;
- whether the drugs prescribed were deemed effective in treating the underlying condition but were not drugs of first choice for that condition, or might not be the most cost-effective alternatives;
- whether the drugs prescribed were in no way beneficial to the patient's management or whether there were are some negative interactions amongst the various agents prescribed or over-prescribed, under-prescribed or prescribed in the wrong dosage schedule;
- whether the prescribing information in terms of diagnosis/symptoms complex was incomplete or unconventional forms of therapy (e.g. Ayurvedic or others) have been prescribed.

Limitations of the study are briefly described here. Firstly, prescriptions could give confused and incomplete information with regard to diagnosis, although specialist physicians tended to note diagnosis. This factor reduced by a third the prescriptions that could be included for rational analysis. Secondly the design of the study would have been much stronger if data could have been gathered at source, that is at the consultation. However, a pre-examination indicated that the collaboration of doctors would be excessively biased with only a certain group participating, and precisely those most likely to mis-prescribe opting out.

Prescriptions could also have been collected at home but it was thought that catching them at the pharmacy ensured better recall and was closer to the time of illness, very often catching the patients or their guardians as they left the doctor's consultation. Methodological choices for prescribing studies that require full co-operation of doctors and whose object is to evaluate effectiveness of their performance are not numerous and this was retained as a best compromise between quality of data and cost. Finally, since the data collection was pharmacy-based the study population excluded the poor who generally cannot afford to consult a doctor. In addition, the study also left aside the whole issue of self-medication, traditional medicines or those who obtain medicines from non-pharmaceutical sources.

Results

About 60% of the total sample was from the 18-45 years age group and only 11% belonged to paediatric age groups (1-12 years). Since most paediatricians and child clinics dispense their own medicines, relatively few juvenile cases come to pharmacies with prescriptions.

Priority related to sex with regard to patients for whom these prescriptions were written was clear with nearly 60% of the prescriptions for males. The average cost of a prescription was Rs. 58 while the average rational cost would have been Rs 37. Investigations were advised in relatively few cases (7.9%). The calculated cost was Rs. 275 + 1066. Antibiotics were present in a third of the prescriptions, the commonest being beta-lactum penicillin's (27.2%) followed by quinolones (22.4%). About two-thirds of systemic antibiotics prescribed in the present study were found to be irrational. Very few (8%) prescriptions cited drugs by their generic name. Diarrhoeal disease was a particularly worrisome category where treatment was considered rational in only 11% of the cases. ORS was rarely prescribed and more than a third of the diarrhoea prescriptions recommended unacceptable treatment.

Only 10% of the total prescriptions were classified as rational, not only pharmacologically but also with regard to the use of cheaper alternatives or generic drugs. A third of the prescriptions contained one or more drugs judged unnecessary or dangerous. Most of the irrational prescriptions were those in which a clear diagnosis had not been reached and it was those that also had the highest numbers of drugs per prescription (mean 2.73 drugs) and probably symptomatic therapy had been instituted. Nearly two-thirds of the prescriptions came from specialists, indicating a trend towards specialised health care, and they also prescribed on an average, significantly more drugs for a specific condition than general practitioners. More importantly, prescriptions from specialists also accounted for a significantly higher proportion of irrational prescriptions. Over 35% of specialist prescriptions contained at least one superfluous drug. For a best case scenario, this may simply reflect the over-cautious approach of more qualified practitioners in taking care of every symptom reported by the patient. With regard to diarrhoeal diseases, the bulk of the prescriptions termed irrational had a co-prescription of anti-bacillary and anti-amoebic agents. While there may be some proponents of this therapy in paediatric practice, in adult patients this is unwarranted. By history and clinical examination or at most by stool microscopy, distinction between the two categories can be easily made. Only 69 patients (23.5%) were prescribed rehydration formulae for their complaints (which would be valid and rational for cholera though not for all cases of acute gastro-enteritis).

Also 71 patients (24.2%) were advised only antipropulsives. While these can bring quick relief, they could be dangerous at times, especially in infective diarrhoeas and immuno-compromised hosts. Therefore, in the absence of specific host and disease factors, many of these prescriptions were included in the category "difficult to rationalise". Pulmonary tuberculosis, mainly treated by specialists, had a significant proportion of irrational prescriptions, mainly due to wrong dosage or schedule. For India, where pulmonary-TB is endemic, WHO recommendations are of 4-drug regimen to avoid resistant strains from appearing. Since the study included prescriptions only from first visits, regimes other than 3-4 drug (e.g. 1-2 drug regimes for maintenance) were considered irrational. Prescriptions of other multivitamins preparations, appetite stimulants and cough mixtures (other than cough suppressants for hemoptysis) were also regarded as irrational.

None of the bronchial asthma cases was advised pulmonary function tests. While diagnosis of this disease is more confidently made in children and young adults, it becomes difficult (without investigations) in the older patient population, especially among smokers. Of the total number of patients studied, very few were prescribed inhalational agents, the most rational form of therapy for this disease. Routine use of antimicrobial in acute exacerbations of asthma was frequently encountered.

Cough suppressant or expectorants were also seen to be prescribed in quite a few patients, without any specific indication. Disorders affecting the oesophagus, stomach and duodenum, related to a high acid/pepsin state, were clubbed together.

A number of prescriptions bore a diagnosis of gastritis or duodemitis even though as a histological diagnosis they required at least endoscopic examination for their evaluation. Most patients with the diagnosis of acid peptic disease received non-specific therapy such as pain-killers (for heart-burn), anti-emetic agents or unconventional forms of therapy. Prescribed antacids were frequently in insufficient doses (>70 ml/day) and one or more agent was co-prescribed in most of them.

In addition symptomatic therapy for the pain of acid peptic disease was used in a significant number of patients even though it is counter-productive. Quite a few patients were prescribed antacids with proton pump inhibitors - which is again quite irrational since an alkaline milieu prevents these drugs from inhibiting the desired enzyme in parietal cells. Agents which increase the tone of lower oesophageal splinter are useful in management of diseases of the oesophagus but not in peptic ulcers or other related diseases. Their empirical use in all such conditions is clearly unwarranted.

Conclusions

The study indicates a serious extent of irrational prescribing especially among specialists and in particular for common illnesses such as diarrhoea and those affecting the upper gastro-intestinal tract. The problem is clearly due to both a tendency of patients to consult specialists by passing G.P.s, and also of a clear under-use of modern therapeutic regimes such as those developed by WHO but clearly not sufficiently promoted even at major urban city levels. The prescribing conditions of towns or villages further away from peer information can only be worse. The average cost of prescriptions was also clearly substantially higher than it needed to be, even in existing conditions.

This can only be attributed to commercial pressures from the pharmaceutical sector without any public sector counter measures for balance. Lengthy discussion around these prescriptions by the large medical team also indicated that the undergraduate medical curriculum did not prepare even the young professional in prescribing practices, and still less those who had left the University many years ago. It may be concluded from the results of the present study that the most important and cost-effective areas of intervention would be an active nation-wide promotion of generic names for essential drugs, the popularisation of essential drug concepts and the preparation of therapeutic guidelines. In addition, the rational use of drugs and essential drug concepts should be included in the undergraduate medical curriculum. At the policy level, the Government should ensure increased availability of good quality essential drugs and therapeutic guidelines for common disorders; it should also regulate drug advertising by enforcing guidelines strictly, to provide unbiased information on drugs.

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Contract number TS3*CT920089

A STUDY OF POLITICS, HEALTH AND PHARMACEUTICAL IN THE PEOPLE'S DEMOCRATIC REPUBLIC OF LAOS IN THE CONTEXT OF THE DECENTRALISATION AND ECONOMIC CHANGE AFFECTING THE WHOLE HEALTH SYSTEM OF LAOS

Period: October 1, 1992 - September 30, 1996

Co-ordinator: ORSTOM, DEPARTEMENT SANTE, Paris, France
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Objectives

The main objectives of the study are:

- To identify and analyse the Laotian health system within the context of its economic, political and historical constraints, and to define the background and prospects for health sector reform.
- To analyse the process of decision-making and management of the health system at the centre and the periphery.
- To articulate relations between the State, the health system and the population.

Activities

Four main research areas are identified:

* The administration and management of the health service system

  Special emphasis will be paid to the effects of administrative decision-making and decentralised financing on the operations of the health programmes. Quantitative data will be complemented with qualitative data from interviews with key health policy-makers and administrators at the central and local levels of health care systems.

* The economy of the health system and production of medical drugs

  This includes a macro-economic research project on the financing of imports and the marketing of drugs by central and provincial institutions. In addition, an anthropological study of two public sector pharmaceutical factories under autonomous management is undertaken.

* The health service structures

  This is studied in two district hospitals in the provinces of Vientiane and Pakkading. This part of the study focuses on a project which has been launched for the recovery of costs. The study attempts to identify the views of the health personnel on the cost-recovery initiative, their professional constraints and motivations.

* The Population's views on health and health care

  The anthropological qualitative study is focused on the social actors of the system: health personnel and patients. Each category is investigated through its social logic, practices, expectations, and dissatisfaction. The relationship between health care providers and users is evaluated in depth.

Expected outcome

The research is expected to contribute to the strategic decisions that have to be taken in the health sector reform in Laos, concerning human resources, cost recovery, the development of a private health care sector, and the production and sales of essential drugs.

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Results

Three kinds of results have been obtained:

⇒ In terms of management, scarce resources are spent and controlled without a clear rationality. A general lack of global health policy is observable. Bureaucracy and heavy political constraints have a negative impact on performances. Sectorial activities are not properly co-ordinated. The management capacity is poor. Central and provincial co-ordination is not yet satisfactory.

Investments are largely from foreign aid sources. The MoH does not control this aid to a sufficient extent. Planning methods are too bureaucratic and vertical to constitute an efficient tool for the health sector reform. This is implemented piece by piece, with a certain lack of capitalisation. The decision-making process is particularly inefficient because making a decision is a political risk, which is avoided as far as possible. Local situations, political and family links play a great role. When a decision is taken, after a long delay, a number of social devices may be used to turn around the decision taken.

⇒ As a social system, the Lao health system appears empty of patients. The two district hospitals studied, with 25 personnel, are receiving 6 patients a day. A similar disequilibrium is common in the study area, personnel are unproductive for 78% of their time. The health system crisis is therefore characterised by very low attendance rates and widespread over-staffing, where motivation suffers in consequence. Attendance is particularly low since private pharmacies are multiplying. Many private pharmacists are ex-health personnel. Health care delivery is poorly appreciated by the patients, especially since cost-recovery mechanisms are implemented in public hospitals. For the same cost they prefer to consult a private doctor or go to nearby Thailand.

⇒ An investigation into two state owned drugs factories was carried out showing the contrast between factory n°2 which is developing in the context of economic liberalisation, and factory n°3, which appears unable to adjust to the new constraints of the open market. Management-profiles have been analysed in detail explaining such a contrast, with reference to the previous politico-economical context of bureaucratic socialist central planning. Economic changes have been observed concerning the drug market. A drug policy was recently established but controls are inefficient and the quality of drugs variable. Non-pharmacists are free to open a pharmacy, prices are free. The state does not seem able to implement the drug policy to any large extent. Market regulation is not efficient.

Health and pharmaceutical policies do not seem to be sufficiently implemented in Lao LDR. The health system is socially, economically, and politically in crisis. Resources and better management will not be enough, without global reforms changing the image of the State, and the perception of public health services with a corresponding increase in the confidence of the citizens.

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Contract number IC18*CT960075

TOWARDS GOOD PHARMACY PRACTICE (GPP) IN THAILAND AND VIETNAM - A MULTI-INTERVENTION APPROACH TO RATIONALISE DRUG USE THROUGH PRIVATE PHARMACIES

Period: January 1, 1997 - December 31, 1999

Co-ordinator: KAROLINSKA INSTITUTE, DIVISION OF INTERNATIONAL HEALTH CARE RESEARCH, Stockholm, Sweden
(G. TOMSON/T. FALKENBERG)

Measurable, specific objectives

- To analyse and compare the historical development of the regulatory system for private pharmacies and its implementation in Thailand and Vietnam.
- To develop evaluation tools to describe the situation of drug distribution practices (dispensing, prescribing, informing, advising and storage in private pharmacies).
- To analyse factors which may influence drug distribution practice such as government regulation and provider knowledge.
- To develop a conceptual framework on the basis of findings describing the inter-relationships between drug distribution practices and influencing factors in Thailand and Vietnam.
- To develop a context-specific multi-component intervention package including enforcement of regulation, education and peer-influence strategies.
- To evaluate the effectiveness of each intervention on drug distribution practice in private pharmacies through a randomised control trial (modified time-series design).
- To develop a comprehensive package of evaluation tools and context-specific interventions to be proposed to policy-makers in order to improve drug use in private pharmacies.

Activities

* Analysis of regulatory processes (objective 1). Conducting an historical policy analysis of the contextual factors which have affected the development of the regulatory system for private pharmacies as well as of actors taking part in the process, whether as stakeholders or in opposition to policies. The focus will be on the process of translating policy into successful implementation in Vietnam and Thailand.

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* Provider drug-distribution knowledge (objectives 2 & 3). Provider knowledge in relation to Good Pharmacy Practice (GPP) including case management will be studied from a formal point of view through official visits to pharmacies using a pre-tested questionnaire and through interviews assessing pharmacy staffs' knowledge and conceptions. These questions will focus on the pharmacists' own practice and their knowledge and attitudes towards case management and GPP, including the essential drug (ED)-concept and adverse drug reaction (ADR). Knowledge of the use of oral steroids for lower back pain treatment and of the use of short courses of antibiotics for viral infections will be assessed.

* Provider drug-distribution practice (objectives 2 &3). Trained research assistants will present histories of e.g. ARI, STD, and infant diarrhoea at the pharmacy, posing as patients or parents asking the drug outlet staff for advice on treatment, i.e. surrogate patient survey methodology. Low back pain case management and the use of short term courses of antibiotics will also be assessed. The drugs sold will be noted, including their quantity, formulation, strength, price to client, presence of generic name and information given.

* Provider system for stocking, etc. (objectives 2 & 3). A stock inventory will be conducted using a pre-tested protocol, monitoring essential drug selection and drug registration, labelling (presence of generic name), proportion of banned and combination drugs, number of drugs beyond expiry date, unit cost from wholesalers, price to buyer, availability, quality, etc.

* Conceptual framework and interventions (objectives 4, 5 & 6). The results of these investigations will provide the basis for the development of a conceptual framework describing the interrelationship between drug-distribution practices and influencing factors. A context-specific multi-intervention package including enforcement of regulation, education/persuasive information and peer-influence strategies will be developed. The feasibility and effectiveness of the interventions on drug distribution practice in private pharmacies will be assessed through a randomised control trial with 40 pharmacies in each country. The interventions will be applied sequentially in a modified time-series design with a parallel control group.

* Exploitation and dissemination (objective 7). The results will be disseminated through publications in national and international scientific journals, mass media, and relevant professional organisations. The conclusions will be disseminated to key actors and organisations involved in health system research, drug policy-making and health sector reforms. The project will seek ways to improve the feasibility of implementing the project innovations within a specific political context.

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Expected outcome

⇒ The study will provide an analysis of drug distribution practices in private pharmacies in Thailand and Vietnam.

⇒ The study will evaluate the feasibility and effectiveness of a multi-component intervention on drug-distribution practices.

⇒ The intervention and monitoring instruments of GPP developed in this study will be adapted to the health services.

⇒ The results will provide policy-makers with a scientific basis for decisions relating to national drug-policy reform including privatisation of the drug-distribution system as part of the health sector reform.

⇒ The project will result in capacity building and research training which, will be useful for the development of GPP in the Asian region.

Contract number IC18*CT960075

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Contract number IC18*CT960036

A PROPOSAL TO ASSESS THE IMPACT ON FAMILIES AND STATE OF TRAUMATIC INJURY RELATED DISABILITY AMONG ADULTS IN LEBANON AND THE OCCUPIED TERRITORIES.

Period: September 1, 1996 - June 30, 1999

Co-ordinator: UNIVERSITY OF CAMBRIDGE, DEPT. OF COMMUNITY MEDICINE, Cambridge, United Kingdom (K. SEN)

General objectives

This study seeks to identify the psycho-social, economic and epidemiologic burden of injury morbidity in the aftermath of conflict in support of the EC's policies in the Mediterranean region.

Both Lebanon and the Occupied Territories are coping with health systems that are being reorganised following a period of prolonged conflict. The main focus of this study is on the evaluation of specific services being provided to vulnerable populations among disabled adults (in Lebanon) and elderly people (in the Occupied Territories). Multi-disciplinary and multi-sectoral collaboration will ascertain the prevalence of disability and of population-based needs, in specific services. The study hopes, through scientific collaboration, to provide insights into the overall costs of disability in terms of quality of life and foregone incomes for disabled adults, older people and their carers, in the aftermath of conflict.

Specific objectives

- To assess the nature and prevalence of disability (of mental and physical health) leading to loss of functional autonomy amongst adults (in Lebanon) and elderly people (in the OTs)

- To examine the causes of disability and to estimate the impact of war (in Lebanon) on the prevalence of disability.

- To examine current social care arrangements and available support focusing on the interface between private and public sector health and social care provision, and their efficacy in meeting the needs of disabled adults and elderly people in the aftermath of conflict.

- To explore where feasible the economic and social burden of disability by estimating the costs of maintaining adults with impaired functions by the household in terms of lost earnings and quality of life factors.

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- To evaluate and contrast current approaches to health and social support (i.e. rehabilitation centres, family aid, extension workers, one to one support) in terms of family preferences, costs equity and effectiveness.

- To disseminate findings as widely as possible in the region and internationally on the needs of vulnerable adults, older people and their carers in the aftermath of conflict, making recommendations for specific interventions.

Activities

In the Occupied Territories we are in the process of devising an instrument to ascertain physical and mental well-being among a cross-sectional population sample of adults over 55 years of age in selected rural and urban areas. We are planning to use the SF36 which is a well-validated health status measure currently undergoing international testing to ascertain its appropriateness for use with elderly people. Following translation and adaptation, this instrument will be validated for use among Palestinian elderly people.

In-depth interviews will follow, among a sub-strata of this population, to determine linkages if any between service provision and quality of life for both carers and those with functional disability (Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) in the main). Socio demographic and economic variables that may have an impact upon quality of life according to perceived effect will also be explored. The in-depth research will run concurrently with an audit of service provision, current and for the past 5 years (1991-1996), to assess the inter-face between public and private sector provision with an historical perspective (reconstruction in the aftermath of conflict), followed by an evaluation of access, equity and effectiveness *vis a vis* the population with disabilities and their families. Recommendations for service provision for older adults with disabilities will be made on the basis of our findings on the appropriateness and accessibility of current services

In Lebanon, the study plans to ascertain the prevalence of war-related injury morbidity for both physical and mental health. A cross-sectional study of adults is proposed among a sample of the population, with the use of the General Health Questionnaire (GHQ) to ascertain physical and in particular emotional well-being. A sub-stratum of those identified with disabilities will be involved in in-depth interviewing and screening with instruments (Composite International Diagnostics Instrument (CIDI-10)) to detect post-trauma stress disorder (PTSD) to determine linkages if any, between emotional state and the ability to perform IADL, and the impact upon quality of life where PTSD exists, by socio-demographic and economic variables. The prevalence studies will be followed by an audit and evaluation of current service provision in public, private and voluntary sectors, especially with regard to the efficacy of impact, upon measures of perceived quality of life of disabled persons and their carers.

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Recommendations will be made on the expansion (or contraction) of current services on the basis of our findings. These findings will reinforce the major common thread of both studies which is to examine the impact of services for adults and older people with disabilities. Integral to both parts of this study is training for all partners involved, not only in terms of refining and developing cross-national research tools, but also for improved mutual understanding of the service needs of people with disabilities in the aftermath of conflict and on the impact of injury-related disability on the quality of life - training which is of global interest. Regional and international dissemination is planned during the final phases of the project.

Expected outcome

Given the nature of the region, and in particular its isolation due to conflict, many challenging methodological issues will be raised in the process of undertaking this research. It is essential to bring researchers and health practitioners into the debate on issues of disability and rehabilitation through mutual learning. A carefully selected multi-disciplinary team of local and European expertise has been brought together to deal with the task of linking the findings of research with service provision and service usage, with a focus on the needs of users and their families, where appropriate. This has been done in order to highlight linkages between the psycho-social and economic benefits of providing appropriate support to vulnerable populations in the aftermath of conflict.

The expected outcomes are as follows:

⇒ Provide an estimate of the nature, type and economic consequences of disability.

⇒ Provide an evaluation of current services in terms of equity, effectiveness and cost.

⇒ Provide an indication of population need and demand.

⇒ Support long-term networking among researchers in the region and European partners through publications and one regional meeting between providers and user groups, to discuss issues raised by the study.

Contract number IC18*CT960036

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Contract number IC18*CT960058

DEVELOPMENTS REACHED BY THE HEALTH SYSTEM IN EL SALVADOR AND NICARAGUA IN THE POST-WAR PERIOD (1990-1995), FOCUSING ON THE EFFORTS OF CIVIL SOCIETY

Period: February 1, 1997 - January 31, 2000

Co-ordinator: UNIVERSIDAD NACIONAL AUTONOMA DE NICARAGUA, CENTRO DE INVESTIGACIONES Y ESTUDIOS DE LA SALUD, Managua, Nicaragua (G. RICARTE GUTIERREZ)

In Nicaragua and El Salvador the period 1990-1995 can be characterised as a post-war period in which structural adjustment programs were implemented. State reform and health sector reform were central elements of these programmes, but their impact on the health status of the population and the health service organisation has not been analysed. Furthermore the health sector reform of the state was complemented by a series of local initiatives in civil society, to respond to the growing needs of the population.

Objectives

The general objective of this research project is to analyse the stage of development reached by the health systems in El Salvador and Nicaragua in the post-war period (1990-1995), focusing on the efforts of civil society.

Activities

* An inventory of these local health initiatives will be made and systematised.

* These initiatives will be placed in an overall analysis of the specificity of health sector development in these two countries.

* The possibilities of a multiplication of the best experiences will be examined on the basis of a detailed evaluation of these experiences.

This evaluation of local experiences in health sector development by different actors of civil society will focus on their effectiveness, their sustainability, the degree of participation by the population, and their capacity to enhance the autonomy and equity in health services delivery. Special emphasis will be put on the relationship between the public service and the non-profit private sector, their complementarity and conflicts during this complex period of post-war reorientation and structural adjustment.

Expected outcome

This research project is expected to develop guidelines to improve the impact of local initiatives in the health sector. An exchange of successful experiences will be organised within civil society and between civil society and the public sector. At the health policy level, elements for the incorporation of local initiatives in the national health policy will be identified.

Contract number IC18*CT960058

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Contract number IC18*CT960108

HEALTH SECTOR REFORM: COPING STRATEGIES AND PROFESSIONAL IDENTITY OF PRIMARY HEALTH CARE CLINICIANS IN MOZAMBIQUE AND SOUTH AFRICA

Period: December 1, 1996 - November 30, 1998

Co-ordinator: MEDICAL UNIVERSITY OF SOUTHERN AFRICA, DEPT OF FAMILY MEDICINE, Medunsa, South Africa (S. FEHRSEN)

Objectives

The present research proposal aims at a deeper understanding of the coping strategies of health professionals, their consequences and determinants, including structural determinants. Based on this understanding it further aims to influence the strategies of development and implementation of health personnel norms and policies. The fields for this research are Mozambique and South Africa. The purpose is however to develop a framework of analysis allowing to address these questions to be addressed in other societies.

The underlying hypotheses are:

- That the coping strategies of health professionals are among the key elements for attempts at health sector reform.

- That the structural conditions that affect these coping strategies include the characteristics of the organisation of the health care system as well as the social, cultural and economic environment of the society, and the way history and politics have shaped the development process and its impact in the process of socialisation of students and young professionals.

- That in order to make coping strategies of individual health personnel compatible with the objectives of the health care system it is essential to promote the existence, acceptance and interiorisation of a role model of a generalist practitioner (patient-centred, community-oriented and guided by the universal principles of family medicine) as a cornerstone of health sector reform.

- That even in an adverse social environment it is possible and feasible to create favourable conditions that allow health personnel to adopt coping strategies compatible with equity and quality health care delivery, while responding to their aspirations for survival, social status and professional satisfaction.

Measurable objectives

- To identify historical factors of relevance to the transformation of the health sector over the past 20 years in Mozambique and South Africa;

- To identify present coping strategies, role-images and profession-identity patterns of medical practitioners medical assistance and nurse practitioners in Mozambique and South Africa;

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- To identify the extent to which Primary Health Care clinicians are aware of, interpret and adhere to the principles of family medicine in their day to day practice;

- To identify the positive and negative associations of these coping strategies with indicators of quality of care;

- To identify positive and negative consequences of these coping strategies as perceived by the users and as contrasted between the different sectors of health care (public, private);

- To identify alternative coping strategies that limit the negative consequences and favour the positive consequences of health care delivery, and the structural conditions under which these alternative strategies can thrive;

- To test and demonstrate the feasibility of these alternative coping strategies in select settings;

- To develop a conceptual framework for analysing and influencing such coping strategies that takes into account the structural conditions related to health care organisation issues, and to the social context and the process of development;

- To formulate recommendations for health authorities and development agencies, that allow them to deal with health personnel issues in ways compatible with the development and reform of the health sector, resulting in greater efficiency, rather than in ways that favour the dysfunctioning of the health personnel.

Activities

* To identify historical factors of relevance to the transformation of the health sector over the past 20 years, in Mozambique and South Africa

* Analysis of available documents and literature related to:

  - the overall process of development
  - the history of the modern health sector
  - health policy issues
  - health personnel demographic data
  - health services organisation
  - health services utilisation
  - social position of different health professionals in society
  - training curricula of medical and nursing practitioners and medical assistants
  - role of professional associations
  - past and present characteristics of traditional healers

This will be complemented by structured interviews of key informers (e.g. ex-ministers of health).

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* To identify present coping strategies, role-images and professional identity-patterns of medical practitioners, medical assistants and nurse practitioners and students in Mozambique and South Africa.

  A sample of medical practitioners, medical assistants and nurse practitioners and students in Mozambique and South Africa is to be selected from existing registers. Selection criteria will be considered according to sex, urban/rural residence, ambulatory/hospital care, private/public sector, years in practice, social visibility. Data to be collected according to standard interview schedules adapted to each country and professional category. Questions will include open and closed answer options.

  The above information will be complemented by an analysis of the schedules of complaints of the Medical and Nursing Councils in South Africa and the Ministry of Health in Mozambique. In Mozambique there has been an intense debate in the written press, on the issue of professional coping strategies. This will be reviewed. Some health facilities have a box for complaints and suggestions, and these will be analysed.

  This information will be used at the selected sites to develop an in-depth understanding by a participatory action-research approach.

* To identify the extent to which PHC clinicians are aware of, interpret and adhere to the principles of family medicine in their day to day practice.

  Participant observation will take place at a number of selected PHC settings to identify structural, organisational and relational factors in the care process.

  Clinical records will be reviewed according to a standard check list to evaluate completeness and comprehensibility of clinical record, comprehensiveness of care provided (curative, preventive, promotive, rehabilitative) adherence to protocol, use of essential drug list/drug formulary, continuity of care. Taped consultations will be analysed to measure patient-centredness.

* To identify positive and negative associations of these coping strategies with indicators of quality of care:

  Monitoring of tracer diseases and sentinel events (identified in a participatory way), measurement of Patient-centredeness through scoring of tapes and patient satisfaction interviews, measurement of waiting times, measurement of ratios of new to repeat patients, case studies of wards and clinics or health centres. This information will be compared for private and public sector activities and for practitioners grouped according to the most important coping strategies identified.

* To identify the positive and negative consequences of these coping strategies as perceived by the users and funders (M0H health insurers) and as contrasted between the different sectors of health care (public, private and traditional).

  Focus group discussions will make use of projective techniques, stakeholders and key informer structured interviews. If necessary use will be made of consensus promoting techniques that guarantee anonymity (Delphi technique), on the basis of the above.

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* To identify alternative coping strategies that limit the negative consequences and favour the positive consequences of health care delivery, and the structural conditions under which these alternative strategies can thrive; to generate hypotheses of change; the negotiation of change with field actors and authorities.

  This will be done at a series of workshops for the researchers, and for the researchers together with key people in policy-making institutions and on sites selected as potential field stations for the action-research phase. If necessary, use will be made of consensus-promoting techniques that guarantee anonymity.

Expected outcome

⇒ development of the framework referred to in objective 8;
⇒ local action for change through the participatory action-research approach;
⇒ policy recommendations for local, national and international health
⇒ authorities;
⇒ publications;
⇒ capacity building and training in research methods, management and in the
⇒ principles of family medicine.

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Contract number IC18*CT960113

RESEARCH ON POLICY ISSUES IN REFUGEE HEALTH CARE IN SUB-SAHARAN AFRICA

Period: October 1, 1996 - September 30, 1999

Co-ordinator: MAKERE UNIVERSITY, FACULTY OF MEDICINE,
Kampala, Uganda (G. BUKENYA)

Objectives

The main objectives of the project are :

- to study the health effects on refugees of different approaches to refugee reception, ranging from integration in the host population to encampment and separation from the host population.

- to make policy recommendations to host governments, donors and relief organisations on how to improve the reception of refugees and the organisation of health services for refugees in Africa.

- to identify means to empower local actors in a field now largely dominated by international actors.

- to strengthen the research and training capabilities of the institutions involved.

1.2. The underlying hypotheses are :

- Hypothesis A : When refugees are integrated in the host population they fare better than if they are separated from the host population and confined to camps.

- Hypothesis B : The health services of the host country can play an important role in the reception of refugees; in the process of doing so, these services are strengthened.

- Hypothesis C : An integrated approach to health service delivery for refugees is more cost-effective than organising parallel refugee health services.

1.3. The research work will be organised around 3 research questions :

- Question 1 : What are the effects of different approaches to refugee reception on the health status of the refugees? What is the role of the health services of the host countries? What are their costs? Under which conditions are they adequate or inadequate?

- Question 2 : Why are refugees now most often concentrated in camps, with parallel health services organised for them? and why they are sometimes allowed to settle freely and use the health services of the host country?

- Question 3 : Is it possible to influence the process which leads to the separation of refugees from the host population and the organisation of parallel health services of refugees?

Contract number IC18*CT960113

Activities

* Intensive training period at the Refugee Studies Programme in Oxford for the researchers involved

* Extensive literature study on Refugee Health Care

* Resource mapping : gathering of existing data on the different refugee-affected areas in Kenya (Kakuma, Dadaab,...) and Uganda (Arua, Moyo, Kitgum, Masidi,...)

* Workshops and field conferences involving all academic and operational partners (Government institutions, UN agencies, NGOs, etc.)

* Specific data-collections on health status of refugees in different settings; including surveys to determine welfare-status and level of uprootedness

* Examine if policy changes are possible through in-depth discussions, interviews, focus group discussions

Expected outcome

⇒ A better understanding of effects of different settlement patterns on refugees, of determinants and actors in refugee situations
⇒ Empowerment of local actors (government, national academic institutions)
⇒ Strengthened research and training capability in the field of refugee health care for the partners involved
⇒ More diverse and locally appropriate settlement and assistance policies

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Contract number IC18*CT960115

MEASURING AND MONITORING THE PERFORMANCE OF REFORMING HEALTH SYSTEMS

Period: November 1, 1996 - October 30, 1999

Co-ordinator: INSTITUTE FOR HEALTH SECTOR DEVELOPMENT, London, United Kingdom (P. SANDIFORD)

Objectives

- To identify the various forms of utility that are being provided, or that could be offered by health systems.
- To identify the types of utility and social benefits that are not currently being obtained from health systems.
- To document the stated and unstated objectives of health sector reform programmes.
- To contrast the goals (stated and unstated) of health sector reform programmes with the desires and expectations of tax-payers and users of health services.
- To develop quantifiable indicators of each form of health system-derived utility.
- To develop a technique for weighing the indicators of each source of utility such that their sum measures total health system derived utility or benefit.
- To test the value of the techniques as tools for policy formulation, taking as the concrete example options for rationing and prioritising health services, including the establishment of 'basic packages'.
- To develop tools that allow funders, purchasers and users to monitor performance of decentralised health district or regions in terms of their full range of social benefits.

Activities

* Ten focus group discussions, two in each of the countries (Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica) interviewing extremely diverse socio-economic groups of different age and sex composition as to the different forms of utility that they currently obtain from the health system in their country, and other forms of utility that they are not currently obtaining, or would like to gain to a greater extent.

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* Quantitative surveys in each of the five developing countries to determine the relative importance given to the different forms of health service-derived utility identified through activity 1.

* Document review and semi-structured interview with key informants to determine the stated and unstated aims of health sector reform programmes and their relative priorities.

* Analytical desk-work contrasting the implications of results from activities 2 and 3 in terms of the congruence or incompatibility of government and donor policy objectives for the health sector with the desires of the population as a whole and certain key subgroups within it (the poor, women, ethnic minorities etc.).

* Series of pre-tests and pilot studies to identify a set of objective and subjective indicators which can be used to obtain quantitative measurements of the extent to which the major forms of health system-derived utility are being produced by the health sector. Analysis to assess the consistency and validity of these various indicators.

* Experimentation with trade-off, willingness to pay, standard gamble and other methods for measuring utility, in order to develop a technique which would enable the indicators developed in activity 5 to be weighted so that their sum provides a valid composite index of total health system-derived utility.

* Application of the utility measurement and weighing techniques developed in activities 5 and 6 to the definition of a 'basic package' of health services which when provided by the public sector would maximise total health system-derived utility. This will be done by in-depth interviews with the 10 different social groups identified in activity 1. The composition of such a package will be compared and contrasted with other existing or proposed packages defined by policy-makers or technicians seeking to maximise health gain.

* Application of the utility measurement and weighing techniques developed in activities 5 and 6 to a quantitative assessment of the aggregate health system-derived utility for a defined population within each of the five developing countries participating in the study. This would entail a population-based survey using a structured questionnaire.

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Expected outcome

⇒ A greater understanding of the full range of benefits that health systems can and do produce, the relative importance given to each, and how much peoples' assessment of what is important for a health system to produce varies between different population subgroups.

⇒ An indication of the areas where health systems in developing countries are failing to produce the benefits expected of them by the population, and whether governments' or donors' objectives in health sector reform programmes accurately reflect the expressed desires of the population.

⇒ Development of techniques for measuring the full range of benefits produced by health systems including methods to enable different forms of utility to be weighed against one another.

⇒ A test of the applicability of these new techniques as means to measure and monitor the health system performance of different countries, health systems or regions within countries in terms of the utility they generate.

⇒ A test of the applicability of these new techniques to the development of policies which will maximise aggregate health system utility.

Contract number IC18*CT960115

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Contract number IC18*CT960062

CONCERTED ACTION : SCIENTISTS FOR HEALTH AND RESEARCH FOR DEVELOPMENT: SHARED

Period: August 1, 1996 - July 31, 1998

Co-ordinator: DEUTSCHE GESELLSCHAFT FUR TECHNISCHE ZUSAMMENARBEIT GTZ GMBH, Eschborn, Germany (R. KORTE)

General objectives

- To enhance availability and exchange of information on health research with and in Developing Countries.
- To promote partnerships in research through international equitable networking.
- To improve the relevance of health research for development through enhanced co-ordination with the health sector.

Specific objectives

- To co-ordinate the establishment of a database networking system.
- To maintain and operate databases with relevant information for rational decision-making on health research and health care amongst European Countries and their partner-Developing Countries.
- To improve access to European data on health research and International Co-operation on health issues, in order to promote optimal use of existing resources.
- To harmonise and rationalise reporting on health research and development co-operation activities.
- To conduct case studies on research issues and on country research programmes.
- To convene meetings of the core group network participants in order to discuss strategic issues emerging from the SHARED activities.
- Actively to promote the contribution and participation in SHARED of all actors involved in health for development.

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Activities

To achieve the goals, first and foremost a structural and updated knowledge is needed of "what everybody is doing, where and how". A reciprocal and gradual process of information exchange is promoted by SHARED.

The initial partners of SHARED will start by putting together information available on projects of their own national research and development authorities and of the European Commission. Because of the vast differences between the different data sets, a minimal set of "core" information will be standardised, while other information will be optimal and/or not standardised. Information will be published via Internet in searchable databases.

At the same time SHARED will actively search for additional partners and attempt to convince them of the mutual benefits of collaboration.

Several meetings are planned for enhancement of and reflection on the network.

SHARED will also perform several in-depth case studies; on the basis of the general information available in SHARED about a specific topic, country or region, a team of experts can make an analysis, draw conclusions and make recommendations.

Expected outcome

⇒ To bring together a critical mass of resources and capabilities of Member Countries (MCs) in the European Union (EU) and in Developing Countries (DCs) for health-related research and interventions.

⇒ To provide a structural basis to enhance collaboration among the countries involved in international research and development co-operation entities.

⇒ To provide the scientific community with better access to the various supporting mechanisms available for health research and practical applications of scientific findings, both in the EU and in the respective countries concerned.

⇒ To promote a European approach in health research for development, based on mutually beneficial partnership with developing countries.

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Contract number IC18*CT970214

THE CONSEQUENCES OF THE MARRAKECH AGREEMENTS (1994) ON THE PHARMACEUTICAL SECTOR OF NORTH AFRICAN COUNTRIES

Period: October 1, 1997 - September 30, 2000

Co-ordinator: CLUB DU MEDICAMENT, Rabat, Morocco (L. JAIDI)

Objectives

The general objective of the research is to analyse how the application of the Marrakech agreements (conclusion of the GATT/TRIPS and creation of the WTO in 1994) can reconcile respecting the terms of these agreements on the one hand and developing local pharmaceutical production on the other, while at the same time, satisfying the needs of the population.

Specific objectives consists mainly for each country in:

- measuring the potential impact of the GATT/TRIPS agreements on the local pharmaceutical industrial sector and drugs availability, prices and affordability,
- observing the dynamics induced by these international agreements and the project of creating a free trade zone in the Mediterranean countries,
- outlining different scenarios of the possible evolution of the pharmaceutical sector after complete implementation of these agreements,
- proposing measures to develop new partnerships in the pharmaceutical field between the European Union and North African countries (Egypt, Algeria, Morocco, Tunisia).

Activities. Research phases

After completion of the preliminary phase (definition of research tools and methods, inventory of regional and international experiences and analysis of the international literature), the research will consist of 3 main phases, followed by a final phase (writing of the final report) :

1st phase (September, 1997 - June, 1998) : Assessment of the situation concerning pharmaceutical channels in each country. How does the pharmaceutical sector organize itself and how does it answer to needs? To what degree does it fit into the regional and international context?

2nd phase (July, 1998 - April, 1999) : what is the impact of the Marrakech agreements? What perceptions do the different actors have of the strategies elaborated and current policies?

3rd phase (April, 1999 - May, 2000) : hypotheses, change scenarios, and proposals towards a new partnership between Southern and Northern Mediterranean countries.

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Four coordination seminars will be held. The research problems will be elaborated in common, the research tools and methods will be defined and the work carried out, presented and discussed. Each Southern Team will be responsible for the research in its own country; the Northern Teams will study the factors originating in their countries that influence the countries in the South. In each country in the South, a steering committee bringing together managers, industrialists and researchers, will facilitate and support the research.

Expected outcome

The project aims, in general, at :

⇒ strengthening the capacity of researchers and decision-makers to conduct multi-disciplinary research on an issue at the cross-roads of public health, pharmaceutical industry and financial policy.

⇒ proposing possible alternatives and, if possible, selecting out the solutions that have given the best results.

Three sets of reports will come out of this research :

First phase: reports by country to assess the performances of the pharmaceutical sector.

⇒ Reports of countries of the South : the reports will make it possible to measure in each country of the South, the capacity of the pharmaceutical sector to meet the population's basic needs in drugs on the one hand, and, on the other hand, to take up challenges brought about by an altered international and regional context.

⇒ Reports of countries of the North (France, Italy, Spain) are aimed at assessing the ongoing dynamics concerning relations between Italy, France and Spain (the major European trade partners of North Africa) and countries of the South selected by the survey : what is the situation in the following areas : government and trade accords, exports, cooperation, technology transfer, trade and industrial strategies, financial flows ...

Second phase: the impact of GATT/TRIPS on the pharmaceutical sector and of accords with the European Union

Reports on each country will have to answer the following questions :

⇒ What are the efforts already recorded of the Marrakech agreements or of the negotiations with the European Union on the production, trade, prices, range and technology related issues?

⇒ What are the expected effects or effects felt by the various actors of South and North Mediterranean countries, possible repercussions of GATT/TRIPS and of accords with EU?

⇒ What are the desired or possible response strategies and what are the measures now under drafting (alteration of pharmaceutical regulations or laws on patents, pricing policy, ...?

On the various items, reports will have to assess divergences and consensus at both national and international levels to understand the dynamics of decisions already made or being made.

Third phase on possible subsequent development scenarios and alternative recommendations :

Country reports will deal with the following questions :

⇒ identifying in each country of the South, the likely situation at the end of TRIPs agreements, resulting from the other GATT/TRIPS agreement (example of import monopoly in Tunisia, protection of local production in Egypt and Morocco, ...) and resulting from accords with the European Union (measures for the creation of a free trade zone, ...)

⇒ analyzing measures accompanying decisions to liberalize exchanges and steps to level local industries,

⇒ identifying possible manoeuvring room and uncertainties looming on the future of pharmaceutical sectors in countries of the South,

⇒ drafting scenarios and validation of hypotheses

⇒ drafting proposals for a new partnership.

A final report will propose a summary of statements, analyses and proposals made by research teams and will come out, if possible, with action lines to be proposed to the various partners involved in the implementation of GATT/TRIPs accords and association of South Mediterranean countries with the European Union.

Contract number IC18*CT970214

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Contract number IC18*CT970218

ANALYSING THE IMPLEMENTATION OF HEALTH FINANCING REFORM IN SOUTH-AFRICA AND ZAMBIA

Period: November 1, 1997 - October 31, 2000

Co-ordinator: UNIVERSITY OF THE WITWATERSRAND, CENTRE FOR HEALTH POLICY, DEPT. OF COMMUNITY HEALTH, Johannesburg, South Africa (J. DOHERTY)

Background

This project will analyse the impact of the key health care financing reforms in South Africa and Zambia on critical health system goals, and the factors mediating that impact. The health care financing reforms chosen as the initial foci of the project are: (a) reforms which mobilise new resources, namely, user fees, pre-payment schemes (Zambia) and social health insurance (South Africa) and (b) reforms which re-allocate resources, namely, processes for re-distributing resources between geographical areas and levels of care.

Objectives

- Strengthen the implementation of critical financing reforms in South Africa and Zambia, through analysis of these countries' experience.
- Through comparative analyses of the two countries, deepen international understanding of the factors mediating the effective implementation of just and rational financing reforms, and so generate appropriate policy recommendations.
- Develop generalisable approaches to monitoring the implementation of health financing reforms.
- Develop capacity in South African and Zambian Departments/Ministries of Health and university-based research units to evaluate health financing reform.
- Foster close long-term collaboration between South African, Zambian and European health research institutions.

Activities

Phase 1 will last one year and will be a retrospective evaluation of the evolution of the reforms of focus and of the factors influencing policy development and implementation. It will also develop a framework for the prospective monitoring and evaluation of reform in Phase II, which will: facilitate understanding the linkages between reforms; specify the explicit, societal goals of reform (such as equity, access, efficiency and sustainability) and identify indications with which to measure the extent to which reforms achieve these goals; identify the critical factors that affect reforms through their influence on the processes of policy development and implementation; and identify mechanisms to maximise the objectivity of the research despite the involvement of the researchers in the process of policy development and of government planners in the evaluation process.

The methods used in Phase I will include: analysis of international literature, analysis of existing country-specific documentation; key informant interviews; focus group discussions; and facility-based record reviews.

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Phase II will be a prospective evaluation over two years of the processes of implementation and the effectiveness of the reforms in achieving their goals, using the framework developed in Phase I. The methods used will include: utilisation of ongoing data efforts undertaken outside the study; sample facility studies/surveys; action research studies; and qualitative surveys.

Expected outcome

⇒ The publication of detailed, country-specific and comparative data, analyses and recommendations.
⇒ The publication of the framework used in monitoring the development and implementation of the reforms in focus, with the aim of drawing out appropriate lessons for other low and middle income countries and demonstrating the value of a comprehensive research approach.
⇒ The involvement of Departments/Ministries of Health in the research process and in workshops which analyse findings and develop recommendations, and the integration of the activities of the research partners in a balanced way to create a cohesive research team.
⇒ The development of new research proposals which include the collaborating partners and researchers from an historically black university in South Africa.

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Contract number IC18*CT970230

CONCERTED ACTION : METHODS FOR INTERVENTIONS ON MENTAL HEALTH IN SUB-SAHARAN AFRICA

Period: November 1, 1997 - December 31, 2000

Co-ordinator: SOUTH BANK UNIVERSITY, SCHOOL OF URBAN DEVELOPMENT AND POLICY, London, United Kingdom (T. HARPHAM)

Objectives

To establish a network to facilitate the development of methods for interventions on mental ill-health in Sub-Saharan Africa. Specifically:

- to measure the burden of mental ill-health in developing countries
- to identify, develop and disseminate effective methods of detecting and managing common mental disorders
- to co-ordinate the development of proposals
- to advocate further action and research to address mental ill-health in Sub-Saharan Africa
- to enhance the links between research outputs and policy decisions and programme design
- to provide information on the context and constraint related to public health in the participating developing countries

Activities

The approach will involve facilitating a network of currently dispersed researchers who are at the forefront of the fields of mental health in developing countries . All partners are applied researchers and have close links with implementing agencies. Particular care will be taken to develop methods which are sensitive to the specific health seeking behaviour associated with mental ill-health in different settings. The fact that the partners include both social scientists and medical/psychiatric researchers will ensure that different patterns of health seeking behaviour are considered when designing interventions and methods to evaluate their effectiveness. Specific activities will involve:

* Holding two workshops
* Carrying out exchange visits
* Carrying out project leader missions
* Producing three short reports on the activities of partner
* Producing research proposals
* Disseminating the activities of the concerted action

Expected outcome

⇒ Increased reference to mental health in strategic international public health policy documents
⇒ Increased knowledge of the burden of mental ill-health and identification of vulnerable groups
⇒ Appropriate research methods made available to those interested

Contract number IC18*CT970230

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Contract number IC18*CT970232

THE ADOLESCENT REPRODUCTIVE HEALTH NETWORK: HEALTH SYSTEM AND HEALTH PROMOTION RESEARCH IN EASTERN AND SOUTHERN AFRICA (ARHNe)

Period: October 1, 1997 - March 31, 2001

Co-ordinator: UNIVERSITY OF OSLO, INSTITUTE FOR NUTRITION RESEARCH, Oslo, Norway (K-I KLEPP)

Objectives

The following specific objectives have been identified:

- To provide a setting for exchange of expertise and collaboration between participating research groups through annual meetings & workshops.
- To provide information regarding appropriate graduate and post-graduate research training in Africa or in Europe for African candidates.
- To focus on a number of research issues of relevance to all participants, including:
  - Examine and analyze the cultural relevance of existing theories on adolescent health behaviours and practices, as well as the social and cultural context of such practices;
  - Examine and analyze qualitative research methods relevant and appropriate when studying adolescent health services, adolescent health and behaviours;
  - Examine and analyze research instruments employed in quantitative studies of adolescent health seeking behaviours, adolescent health and sexual and reproductive health-related behaviours;
  - Examine and analyze various settings for health promotion among adolescents;
- Based on experiences and findings from ongoing projects included in the network, develop guidelines for culturally relevant and appropriate health promotion programmes.
- Based on experiences and findings from ongoing projects included in the network, develop guidelines for culturally relevant and appropriate evaluation strategies for health promotion programmes.

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Activities

The main activities are organized around annual meetings and workshops. The first such meeting was conducted October 5-10, 1997 in conjunction with the 8th International Congress of the World Federation of Public Health Associations in Arusha, Tanzania.

Topics to be addressed during the annual meetings/workshops include:

⇒ Behavioural and social science theory with special emphasis on reproductive health and problem behaviours

⇒ Qualitative and quantitative methods for research on health related behaviours

⇒ Health promotion strategies in developing countries

⇒ Practical network activities (including electronic communication/World-Wide-Web)

Expected outcome

Improved coordination, as well as theoretical and methodological qualities of the involved projects. The project will create an arena for critical discussion and dissemination of information regarding effective intervention strategies in the area of adolescent reproductive health. A number of collaborative scientific publications and a joint book presenting results and experiences from the included projects in a format accessible to health workers, educators, youth workers and activists, as well as community leaders throughout the region.

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Contract number IC18*CT970233

HEALTH SECTOR REFORMS: AN EVALUATION OF IMPACT UPON PATTERNS OF UTILISATION AMONG VULNERABLE GROUPS IN THREE INDIAN STATES

Period: December 1, 1997 - March 31, 2001

Co-ordinator: INDIAN STATISTICAL INSTITUTE, POPULATION STUDIES DIVISION, Calcutta, India (S. GUHA ROY)

Objectives

In India the role of the state has historically been essential to public health and disease eradication programmes. Recent evidence suggests that this function is changing in the face of multiple social and economic pressures which have led to structural adjustment and changes in the financing of health and social sectors. However evaluation of the impact of the reforms upon access to public health services and the quality of care, in both public and private health services have been few and far between. Those which exist in other regions, have tended to focus either on single outcome measures or on technical economistic criteria related to organisational changes.

Activities

This study proposes to assess the extent to which a "safety net" constituting an integral element of the reforms is working as an effective means of promoting allocative efficiency as part of the changes that have taken place in India. Such an evaluation in a major developing country will enable better global understanding of some of the effects of the current reforms, so little known and gauge its gains and losses to enable policy interventions.

Expected outcome

⇒ Provide estimates of the prevalence of morbidity and explore the relationship if any to patterns of health care utilisation.

⇒ Provide an evaluation of current service provision and the nature of changes accompanying health sector reorganisation, over a period in time.

⇒ Establish to what extent a safety net has been operative in the context of changes introduced to assess equity and effectiveness.

⇒ Provide some indication of population need and demand for a range of health services: preventive care, and care of communicable and non communicable disease.

⇒ Publication and dissemination to document and discuss the experiences of health sector reform in a major developing country.

Contract number IC18*CT970233

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Contract number IC18*CT970235

CONCERTED ACTION : SUPPORTING COLLABORATIVE RESEARCH ON PUBLIC-PRIVATE RELATIONSHIPS IN HEALTH CARE : AN INTERNATIONAL NETWORK

Period: September 1, 1997 - August 31, 2000

Co-ordinator: CENTRE FOR HEALTH POLICY, UNIVERSITY OF THE WITWATERSRAND, Johannesburg, South Africa
(N. SÖDERLUND)

Objectives

To link researchers and policy makers in 14 countries for the purposes of initiating and supporting research on the public-private mix in health care in developing countries.

Specifically, the network will concentrate on support for research in two areas :

- Regulation and incentive setting for private health sector players
- The selective involvement of private sector players to achieve public policy goals through contracting arrangements, allowing private practice by public sector doctors, and expanding the role of private practitioners in the delivery of public health services.

Activities

The following activities will be undertaken by the network to meet its research support goals.

* The development of internet connections to facilitate exchange of ideas, circulation of research methods and results, and the dissemination of key findings in this field. This will be done using text-based automatic mailing systems (known as 'mailbases') and an interactive World Wide Web site.

* Structured meetings between all participants to share research ideas, work in progress or results, facilitate support for new research, provide access to technical experts, and inform dissemination strategies and approaches to improve the impact of work on policy.

* Staff exchange visits to provide support to researchers in the field.

* Preparation of methodological reviews to guide current and future work in this area internationally.

Expected outcome

Firstly, the network will increase the volume and quality of research into public-private mix issues in developing countries. It will also provide a streamlined route for new entrants to this field to access available literature and human resources, and, by means of a project register, reduce duplication of existing work. Finally, the network should increase the profile of research results around public private mix issues for both national and international policy makers, and thus improve health care organisation, financing and provision practice in developing countries.

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Contract number IC18*CT970239

MEASURING AND MONITORING STAFF PERFORMANCE IN REFORMING HEALTH SYSTEMS

Period: October 1, 1997 - September 30, 2000

Co-ordinator: LIVERPOOL RESEARCH CONSORITUM, LIVERPOOL SCHOOL OF TROPICAL MEDICINE, London, United Kingdom (J. MARTINEZ)

Objectives

The management of human resources is an essential component of an effective health system and can be the most important factor influencing success or failure of health sector reform. Traditionally much emphasis has been attached to the areas of work force planning, management training and design of supervision systems as a means to improve overall health systems performance. While competency in these areas is necessary it is not sufficient to meet the challenge of reprofiling human resources in the context of broad-based developments and reforms, such as demographic change, decentralisation, new partnerships with the private sector and changes in the financing of health services.

General and specific objectives

The general objective of this research is to identify, document and adapt systems to measure, monitor and enhance the performance of health staff working in the public sector of developing countries which are undergoing health care reforms. The sources for the performance enhancement systems to be developed will be models and experiences being currently used in developing and European health systems, as well as any innovative approaches that can be identified from a sample of private sector health and service organisations.

Specific objectives of the research are:

I. To identify methods used to monitor and enhance performance in a sample of health systems from developing countries and European countries;
II. To compare methods being used within public and private (for profit and not for profit) sector health and service-oriented organisations in developing and European countries:
III. To categorise and disseminate the variety of methods identified and put this knowledge at the disposal of policy makers and practitioners with responsibilities for human resource management in health systems;
To assess the potential applicability and utility of identified performance enhancement and monitoring systems by pilot testing a sample of them in a developing country situation;

Activities (including methods of research)

The investigation will consist of five phases with a total elapsed time of 36 months. Phases 1 and 2 can be seen as Step 1 : gathering information to develop models of Performance Management Systems; and phases 3-5 as Step 2 : developing and testing PMS models. Phase 1, the Preliminary phase will last for 3 months. This phase will attempt to identify and map out the options in the use of staff performance management in health systems, and will provide the context for detailed case studies in phase 2.

Phase 2 will last for 9 months and will examine the current practice of monitoring and managing staff performance in health and other service industries in both developed and developing countries, and in the public and private (for profit and not-for-profit) sectors. This phase will address Research Objectives I and II.

Phase 3 will be the development of appropriate modes for testing in four African public health systems. This phase will address Research Objective III and will last for 2 months.

Phase 4 will be the testing of the models. This part of the investigation has a clear regional focus with studies carried out in Zambia, Ghana, South Africa and Mozambique.

Expected outcome

The overall aim of the project is to identify methods of managing and monitoring staff performance which have greater applicability and utility to health systems in developing countries. It is anticipated that there will be considerable demand from ministries of health, managers and researchers both for the output from the review and categorisation of approaches, and for the results of the pilot testing of approaches in the four developing countries. To meet this demand, and ensure that dissemination is comprehensive, it is planned to publish the output of the literature review and results of the first workshops complemented by the publication of articles in relevant international and country journals.

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Contract number IC18*CT970247

HEALTH CARE SYSTEM REFORM : POLICY CONTENT AND PROCESS IN THE CARIBBEAN

Period: January 1, 1998 - June 30, 2001

Co-ordinator: THE UNIVERSITY OF THE WEST INDIES,
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Champs Fleurs, Trinidad and Tobago (E. HAQQ)

Background

Many developing countries are engaged in considering health reform options and are attracted to some of the policies in place in developing countries, such as universal health insurance and the separation of purchaser from provider of health services. However, there has been little evaluation of the relevance of these policies to less wealthy countries, and there is the possibility that policies may be transferred inappropriately. Moreover, there is little understanding of the process by which policies are formulated and implemented and of the role and influence of the various actors involved. In particular, it is unclear who ultimately benefit (and who loses) as a result of these reforms. Policies may be so altered in the process of implementation that the initial objectives may not be met.

The Caribbean presents unique opportunities for research in health care system reform. Caribbean countries are embarking on health sector reform programmes which include the decentralization of management, strengthening of primary health care, greater private sector involvement in health care delivery, and the introduction of health insurance and user fees; although many similarities exist among countries, health systems have distinct differences depending on their political and colonial history. There is considerable desire to learn from each other and regional mechanisms exist which could support collaboration. Little research has been carried out on health care systems to date and exchange of experiences has been limited.

This research is innovative in combining study of both policy content and process focusing on a package of reforms and not single isolated policy changes, and also in its multidisciplinary nature drawing on sociology, economics, epidemiology and policy analysis. The study focuses on evaluating crucial policies such as decentralisation, social insurance, and regulation of the private sector.

Contract number IC18*CT970247

Objectives

The overall objectives are as follows:

- To increase understanding of the impact on efficiency and equity of reform of selected policies relating to the financing, organization and structure of health care systems.
- To produce information that will support the process of reform of health care systems in the Caribbean .
- To strengthen the capacity of the Faculty of Medical Sciences, St. Augustine, Trinidad and the Faculty of Medical Sciences, Anton de Kom University of Suriname, to do research relevant to health care systems.
- To foster closer long-term collaboration in health care system operational research between European health research institutions and the Faculties of Medical Sciences in Trinidad and Suriname.

Activities

The project is divided into two phases:

Phase 1:

This phase involves study of influences on the historical development of health services in order to understand the nature of the health care system inherited at independence (or similar period), subsequent changes, and the current situation. Investigation will focus on demographic, epidemiological, political, social, economic and legislative influences, and trends will be determined. Selected aspects of the health systems will be reviewed covering areas including sources of finance, organization of public sector health services, structure of health services in relation to levels of care, and the public/private provider balance. Two main conceptual frameworks will be drawn on:

i) categories of health system

ii) process of policy formulation and analysis

Where documentation of crucial decision-making and influences is not available, interviews will be held with those who were part of the decision-making process of that period.

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Phase 2:

Three policy areas will be evaluated in depth in this phase as follows:

a) the new approach to public sector management (Trinidad & Tobago)

b) the adoption of principles of social insurance as the basis for funding the health care system (Suriname & Martinique)

c) government's approach to the private sector (The Bahamas)

The results of these studies will be compared with the results of Phase 1 for each country/island. Policies will be evaluated according to the criteria including allocative efficiency, technical efficiency, equity, accountability, acceptability, and affordability.

Expected outcome

Increased understanding of the impact on efficiency and equity of those policies relating to the financing, organisation and structure of health care systems relative to the contextual development of the system. It is expected that information will be produced to support the process of reform of health care systems in the Caribbean.

The capacity of the Faculties of Medical Sciences, St. Augustine, Trinidad and Anton de Kom University of Suriname will be strengthened to do research relevant to health care systems, and long term collaboration in health care operational research between the European research institutions and the Caribbean/South American partners will be established.

Contract number IC18*CT970247

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HEALTH SECTOR REFORM : TOWARDS A MORE GLOBAL APPROACH OF CHILD HEALTH

Period: December 1, 1997 - May 31, 2001

Co-ordinator: UNIVERSIDAD PERUANA CAYETANO HEREDIA, UNIDAD DE NUTRICION, CENTRO DE SALUD PUBLICA, Lima, Peru
(L. BENAVENTE)

General objective

The research proposal aims to develop and apply an holistic approach by which the health services would rationalise health care delivery towards the health problems children face in a community.

Specific objectives

- To identify health risks children face during their growth and development in general and in the particular study areas (Peru, Bolivia), with the participation of the parents and the community.
- To identify prevailing representations of child development and health of both the health professionals and the community.
- To identify activities which can be implemented in the given contexts of health delivery.
- To define criteria for the selection and the modification of existing activities directed at the safeguard of child health.
- To develop support mechanisms to increase parental participation.
- To increase the competence and the attitude of the health staff.
- To identify obstacles in the implementation of these activities in the health system and for the participation of the parents.
- To measure the improvement in quality of care and coverage, after rationalisation of the various specific activities.
- To evaluate the changes in autonomy and caring practices of the parents with regard to the health and development of their children.

Activities

Two major phases can be distinguished in the overall research : a descriptive phase and a participatory phase. The descriptive phase will consist first in the identification of the risks children face during their growth and development. The identification of the risks specific for a given geographical area will be done in the study areas, using sociological and anthropological tools to ensure participation of the parents.

Contract number IC18*CT970249

This will result in an operational plan describing the necessary changes in the existing health system and identifying the role of the parents and the community.
The participatory action research phase is a collaborative research between the health providers, the population and the supporting institutions. It implies the implementation and evaluation of the operational plan. The evaluation will be based on quantitative aspects of health provision and on the quality of the service offered. Rapid sociological-anthropological tools will also be used.

Expected outcome

The expected outcomes are in relation to the specific objectives formulated, and implies the implementation of the results at the research setting : a holistic approach by the health services towards the health problems of the children. An attempt will be made to translate the methodology and results beyond the local research level.
The results will be published in regional and international journals, presented at international workshops and integrated in national and international public health courses.

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Presentation of EC supported joint research projects (1991-1996) continued
STD3
INCO-DC : 1st and 2nd Call

Areas of interest :

Contract number IC18*CT970221

BIOMONITORING OF NITROARENES IN CHINESE WORKERS

Period: October 1, 1997 - September 30, 2000

Co-ordinator: LUDWIG-MAXIMILIANS-UNIVERSITAT, WALTHER-STRAUSS-INSTITUT FUER PHARMAKOLOGIE UND TOXIKOLOGIE, Munchen, Germany (G. SABBIONI)

Objectives

Research in the field of molecular toxicology has been exponentially growing in the last few years. Several studies have been undertaken to associate disease to chemical exposure. The association has been found only for a few compounds. Therefore, investigations of highly exposed workers are needed, which include the state of the art techniques in the field of molecular toxicology. This will improve the predictive value of the measured parameters.

Activities

Workers in Chinese chemical industries are exposed to high concentrations of arylamines and nitroarenes. These compounds cause major occupational health problems. The aim of the present study is to investigate a large cohort of exposed workers to 2-nitrotoluene, 4-nitrotoluene and 4-chloronitrobenzene in a dye factory in Dalian (Province of Liaoning, China). The major adverse health effects among 600 workers are hepatomegaly (40-60 cases), neurasthenia, and splenomegaly. In addition, a cohort of TNT workers in Fuxin City in the Province of Liaoning, will be studied. High incidences of cataract have been registered among these workers. The workers will be identified as high, intermediate and low exposure groups, and a group of matched referents will also be included. Thirty workers per group and compound will be studied. Air levels, urine metabolites, albumin and hemoglobin adducts, DNA adducts from exfoliated urothelial bladder cells and chromosome aberrations in lymphocytes will be determined. The obtained values will be correlated to the health status of the workers and to the epidemiological data at the work site. In addition, individual susceptibility of the workers will be studied by genotyping the known polymorphic enzymes involved in the detoxification of the nitroarenes.
The levels of biomarkers found in the workers will be compared with levels measured in non-exposed groups. To establish an acceptable level of exposure to the above mentioned chemicals the following parameters will be measured:

External dose (air measurements); internal dose (urine metabolites); biological effective dose (blood proteins, DNA adducts in exfoliated urothelial bladder cells); biological effects (chromosomal aberrations); and individual susceptibility genotypes (glutathione S-transferase M1, glutathione S-transferase T1, N-acetyltransferase 2 and N-acetyltransferase 1).

Health monitoring of the exposed people will be carried out by occupational physicians. They will assess, a) disease related to the exposures such as aplastic anemia, toxic hepatitis, and cataracts, and b) frequency of non-specific symptoms such as fatigue, headache etc. Finally, individuals from China will be trained to assess the work environment, and to analyze exposure enabling them to implement an occupational hygiene regime.

Contract number IC18*CT970221

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Contract number IC18*CT970222

ENVIRONMENTAL AND OCCUPATIONAL CANCER IN MERCOSUL COUNTRIES

Period: December 1, 1997 - November 30, 2000

Co-ordinator: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, UNIT OF ENVIRONMENTAL CANCER EPIDEMIOLOGY, Lyon, France (P. BOFFETTA)

Objectives

- To carry out an international multicentric population-based study of occupational factors of laryngeal cancer.
- To organize an international conference on occupational and environmental cancer in developing countries, with emphasis on Latin America.

Activities

The proposed approach is a multicentric case-control study of exposure to occupational and other environmental risk factors, taking into account also HPV infection, genetic susceptibility and mutations in critical genes. The study will be conducted in Rio de Janeiro, Sao Paulo, Pelotas and Porto Alegre (Brazil), Montevideo (Uruguay) and Buenos Aires (Argentina). It will include approximately 1200 cases of laryngeal cancer and a similar number of controls. A detailed occupational questionnaire will be used to interview cases and controls, and will then be interpreted on an individual basis by a team of local experts, which will assess exposure to a list of known or suspected occupational laryngeal carcinogens in terms of probability, frequency and level. The preliminary list of exposures to be assessed includes asbestos, man-made mineral fibres, wood dust, strong inorganic acid mists, diesel engine exhaust, environmental tobacco smoke, other sources of PAHs, chromium, nickel, arsenic, formaldehyde, infection with HPV, infection with animal viruses. A blood sample will be collected, whenever feasible, from cases and controls. Laryngeal tumour samples will be collected, whenever feasible, from cases. The analysis of genetic polymorphism to GST M and NAT2 enzymes will be performed on DNA extracted from lymphocytes. Tumour samples of a subgroup of cases selected according to relevant exposures (e.g., exposed and unexposed to occupational carcinogens) will be analysed for mutations in the p53 and *ras* genes using denaturing gradient gel electrophoresis.

The target audience of the Conference are researchers in the field of occupation and environmental health and professionals involved in occupational health. Among the topics to be covered are: state of the art in occupational and environmental cancer research; industrialization and health; burden of occupational and environmental cancer in developing countries; transfer of hazardous technology and patterns of exposure to occupational and environmental carcinogens in developing countries. The Conference will be held in Rio de Janeiro on 30 July - 1 August 1998.

Expected outcome

The study will assess the contribution of occupational exposure to an important neoplasm in the study areas. It will contribute original information on the interaction between genetic factors, known risk factors, such as tobacco and alcohol, and occupational exposures in laryngeal cancer formation.

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These data will be useful in the prevention of cancers of the larynx and other organs sharing some of the risk factors, such as the lung, oral cavity, oesophagus and bladder.

The conference will provide first systematic review of current knowledge and research needs in occupational and environmental cancer in developing countries. It will offer a major opportunity for establishing collaboration between researchers and health professionals from developing and developed countries. Its proceedings will be published in the medical literature.

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Contract number IC18*CT970226

ENVIRONMENTAL EPIDEMIOLOGY - HEALTH EFFECTS OF CADMIUM POLLUTION FROM SMELTING IN CHINA

Period: October 1, 1997 - September 30, 2000

Co-ordinator: UMEÅ UNIVERSITY, DEPT. OF OCCUP. & ENVIRON. MEDICINE
Umeå, Sweden (G. NORDBERG)

Objectives

To obtain increased knowledge in humans about:

- Dose-response relationship between cadmium exposure and kidney dysfunction
- Bone effects of cadmium (Cd) and its relationship to kidney dysfunction
- Adverse effects of Cd on male reproduction
- Preventive measures against the adverse human health effects of cadmium

Activities

Population groups with high and medium Cd exposure via rice will be compared with controls concerning: measured Cd concentration in urine (indicator of cumulative exposure), indices of kidney dysfunction (urinary beta-2-microglobulin, albumin and other protein). Bone density will be measured in selected population groups by external measurements and biomarker of bone effects will be analysed in blood samples from the same groups. Male persons will be invited to join a sex function test (assessment of semen quality and sexual hormones in serum). The same measurements will be performed also on a group of persons from the selected areas, who have or have had occupational Cd exposure at the smelter.

Expected outcome

The studies will generate new and important knowledge about the dose-response relationships for kidney dysfunction using both well established and newly developed bioindicators. It will demonstrate effects of Cd exposure on bone density in an area outside of Japan. Such information will be of crucial importance in risk assessments for cadmium since the occurrence of bone effects outside of the original Japanese areas where itai-itai diseases occurred is much debated. Since effects of Cd on male reproductive function has been extensively documented in animals , it will be of great value to obtain information in humans concerning the absence or occurrence of such effects in a Cd exposed group of male persons. Data obtained can be directly used for preventive action by Chinese Health Authorities participating in studies.

Contract number IC18*CT970226

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Annexes :

ANNEX 1:

PARTNERSHIP BETWEEN EUROPE AND DEVELOPING COUNTRIES IN HEALTH RESEARCH[1]

The European Commission has been supporting joint research activities relevant to development, including health related research, since 1983, and has recently issued the second call for scientific proposals within the programme of International Cooperation with Developing Countries (INCO-DC) which has become a broader programme than its predecessor. Health research remains a priority area, together with research on agriculture and the sustainable use of natural resources. The Commission's International Scientific Cooperation Programme is an integral part of the European Union's Fourth Framework Programme on Research. It serves Europe's research policy but it does even more. It is also an instrument to support other European policies, such as development cooperation, external relations or economic cooperation with third countries.

A guiding principle of the European Union is a desire to contribute to worldwide sustainable development. A desire which stems from a sense of co-responsibility for the problems faced by third countries. This responsibility must be shared by every citizen but a special role, undervalued in the past, must be reserved for the scientists who have chosen to address problems of developing countries.

The most important commodity for sustainable development is knowledge and knowledge will be the number one production factor in the 21st century. Its importance will far outweigh that of capital and labour in the present century, and if one wishes to safeguard the future and to increase knowledge, more needs to be invested in research now. Research is increasingly perceived as a basis for welfare within the EU. Research must therefore be just as important for the welfare of third countries. This assumption has received too little attention. Knowledge is an invaluable commodity and to acquire knowledge one has to help develop a culture of questioning.

Responsibility and Mandates

The development of a culture of science and research is the responsibility of everyone. Scientists within the individual member states of the European Union are already involved at personal, institutional, regional, or national level in a variety of programmes with a variety of goals related to Health in tropical areas or developing countries. A wealth of research activities are, or can also be, performed or developed on a bilateral basis by each of the European Member States. The Commission strongly encourages all these efforts.

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[1] Reprinted with permission from : *Tropical Medicine and International Health* 1996 5 553-557

Moreover, the Commission has a mandate to keep informed of any such initiatives and whenever possible to be in synergy with them, but the Commission's strength lies in its ability to harness expertise at a supra-national level within Europe, in the context of its relations with third countries. Adding a European dimension, complementing the existing bilateral regional and national interactions.

The European Commission will not replace any of the inputs from others. The more support scientists in Europe or Developing Countries receive or acquire from national or other sources, the more European programmes will be meaningful and give room for substantial cost efficient added value. The Commission functions on the basis of subsidiarity, a concept which has been a matter of debate in the EU. At the European level, the Commission does what can be done only at this level, and most importantly, done better at this level. The Commission builds on the valuable contributions to health research of the individual Member States of the European Union. Many agencies like the Institutions of the United Nations, such as WHO, have an alternative agenda focused on different roles and responsibilities, although often in support of common goals.

It is critical that each has their own clearly defined goals and modes of operation. It is also important that all operations are transparent so that what is being done, and where, can be precisely established, thus avoiding wasted efforts and unnecessary duplication. What it boils down to, is the need to establish equitable partnerships which will facilitate the sharing of knowledge. Clearly with the financial and human resources which can be harnessed from within the European Union the opportunity can be provided for partnerships to be established within Europe and with third countries. These resources are not an objective or a solution in themselves. They simply provide the appropriate environment and the means to progress.

For too long it was considered that ideas and practices in health research were "for" Developing Countries, and that they could be exported from Europe to Developing Countries for direct application. While that attitude was not exceptional in times gone by, it is now certainly no longer acceptable. The European Union encourages health research "with" Developing Countries.

In establishing partnerships in health research with Developing Countries, the criteria considered to be most important can be divided in three parts. The first is the scientific aspect. It is essential that the process of science is of a high quality, indeed of international status, and respected on its own merits and rules. There is only one science, whether it is classified as basic, fundamental, strategic, operational or action research. What matters is that science flourishes in a variety of socio-economic and cultural environments.

The second, but equally important consideration is the mechanism to implement the EU policy of scientific cooperation in health research. It would be naive to consider that any scientific interaction can take place in a vacuum, insulated from other aspects of life. There must be consideration of the societal aspects of the science. In other words there must be an expectation that the scientific work will, at one time, bring tangible benefits for society as a whole. Therefore, the work supported by the Commission is aimed at addressing the major health problems faced by developing countries. New practices and technologies have to take account of the context in which they may be applied and the health benefits of their application have to be clearly established. Public health concepts are a common platform for all health research.

The third important point to consider is that health research partnerships cannot be established unless there are partners to establish them with. Partners within Europe are easier to find, but research capacity in Developing Countries is relatively scarce and cannot be created overnight. Although the inputs from national or international research programmes can help, they are not the solution in themselves.

What is needed is a prolonged intensive investment and other support to ensure capacity and capability strengthening. This will only be achieved through the political will and the economic commitment of the countries themselves together with support from other national and international sources. Fortunately the need for this support has been recognised by the European Union through its economic and development cooperation policy which is mainly the responsibility of DGIB and DGVIII within the Commission.

Science should not suffer from any unproductive rivalry, as was the case in the early years of this century, when scientists argued over whether resistance to disease was dependent upon cells or serum. Scientists allied themselves on one side or the other on the basis of their nationality. In the initial stages of the European Union's Research Programmes even the prospect of uniting two European research institutions or laboratories from different member states seemed daunting to less receptive scientists, and brought some opposition. Scientists assumed, falsely, that their efficiency or competitiveness would be diminished by having to participate in what was considered by some to be a cumbersome interaction. But the imposition of this requirement of joint research for eligibility for European Union support has stood the test of time and is helping to change the paradigm for international cooperation to one of equitable partnerships.

The benefits this brings are many. Now, there is an unprecedented level of European cooperation with many examples of the EU programme providing the initial contacts between labs which have blossomed and been extended to address many problems outside the current programme. Competition between laboratories remains a driving force for advances, but this has ensured that scientists tended to become better specialists in their own particular area. There is now an appreciation that the complexity of the problems and challenges being faced, can be solved only through cooperation among scientists with expertise in complementary disciplines.

If establishing links between scientists in Europe needed some persuasion, European scientists found establishing links with developing countries even more difficult to accept. The EC is not interested in providing strictly pre-conceived "European" solutions to problems of development. There is an acute awareness that the complex problems of development cannot be contained within national or regional boundaries, they affect all societies. The aim is to find a common path to achieving improvements in development, bringing together scientists from North and South who will address the problems as an integrated unit, each bringing their own expertise and experience to bear on the problem at hand. If this is done in the right way, the goal of learning to learn will be achieved. A culture of learning, in which scientific methodology becomes an intrinsic part of society will be established. Hypotheses will be tested and development programmes modified in the light of the results, things will not be left to chance. The interactions of the scientists in the Commission's programme leads to the establishment of a culture of learning across the globe.

The Commission continues to encourage interactions among scientists. Links between European laboratories are stronger now than they have ever been. The same can be said for links between European scientists and their colleagues in Developing countries.

But there is an additional benefit from the requirements of the programme, South-South cooperation, and the sharing of knowledge among the third countries anxious to involve their regional neighbours in their quest for knowledge of common problems which are best addressed in partnership. Of course this is not a unique achievement but it is clear that the Programme has done much to facilitate additional steps in this direction.

ANNEX 2:

THE EUROPEAN UNION (EU) FOURTH FRAMEWORK PROGRAMME FOR RESEARCH AND TECHNOLOGICAL DEVELOPMENT (RTD)

Collaborative research with developing countries is carried out against the background of the Commission's Fourth Framework Programme for Research (FP4). The basic aim of FP4 is: To support inter-Member State scientific collaboration, networking and concertation on issues of common concern. To reach this goal FP4 supports multi-centre research projects, concerted actions and accompanying measures which help to improve quality of life and increase European competitiveness, in a global context. More than this, FP4 serves to support other EU policies, such as economic and development cooperation.

The total budget of FP4 (1994-1998) is 12.3[1] billion ECU and is divided over four main activities:

I. Research, Technological Development and Demonstration within the EU Member States
(10686 Million ECU (MECU)),
II. Cooperation with Third Countries and International Organisations (540 MECU),
III. Dissemination and optimization of results (330 MECU) and
IV. Training and Mobility of researchers within the EU (740 MECU).

Activity II, Cooperation with Third Countries and International Organisations has a pivotal role, linking EU policies in science, economic cooperation and development through coherent collaborative research activities with third countries.

Health-related research can take place in activity I and in activity II programmes. The BIOMED and the BIOTECH programmes of Activity I have a budget of 552 MECU and 336 MECU respectively. Many aspects of health research which are trans-disease, can be covered by these programmes and might also be of great importance for collaboration with Developing Countries for example, malaria vaccine development. Within the activity II INCO programme (540 MECU) there is also a health component. In the specific Programme for developing countries a total budget of 63 MECU will be available for health between 1994-1998 and in the component geared towards Eastern and central Europe, health-related research is also covered (INCO-Copernicus).

[1] In 1996, budgets of specific programmes are to be increased to the new total of 13.1MECU.

The Work Programme

Although they may differ in detail the Commission's research programmes in FP4 have the following modes of implementation:

I Multilateral joint research projects,
II Concerted Actions, covering the actual costs of concertation, such as the search for partners, meetings, common publications
III Accompanying Measures, such as contract holders meetings, networks, studies, targeted research training and mobility and the dissemination of results and
IV Concertation through consultation with the Member states and in the case of the INCO-DC programme consultation with developing countries.

These are set out in the detailed Work Programme together with the main objectives of the programme. For INCO-DC these are, to promote the role of relevant high quality RTD in development in economic cooperation, to encourage scientific collaboration between Europe and DCs, between DCs and within Europe, to help reinforce and maintain RTD capacities, including human capital, in DCs, to contribute to maintaining a competence in Europe in scientific sectors of mutual interest and in those pertinent to problems of DCs, to capitalise on the experience gained during the implementation of previous Commission S&T co-operation activities and to take into consideration the political obligations of the Union and the recommendations of international fora such as the Rio conference concerning research in DCs.

The Work Programme is implemented through Calls for Proposals which are updated from year to year. Details of research themes which are to be supported are provided in these Calls for Proposals.

The Call for Proposals

The Call for Proposals (Anon 1996) contains detailed information on criteria which have to be fulfilled by applicants, for example partnerships, and also on the specific topic areas for which research proposals are invited. The Call for Proposals is updated for each call and permits the Commission to direct the research programme on the basis of the consultation processes with the Member States, developing countries and on the Commission's existing research portfolio. In general the Call for Proposals is issued six months in advance of the deadline for submission of proposals. On arrival at the Commission, proposals undergo a stringent review procedure.

The Evaluation Process

In addition to scientific quality each proposal is evaluated on a variety of aspects, which include:

Is the health problem relevant to developing countries?
Is the problem of national, regional or global relevance?
Is the problem of known, documented magnitude?
Is the problem vulnerable (are there opportunities for cost-effective impact)?
Is there political will to overcome the problem?
Will the research be induce changes in approach or political awareness?
Does the research build on existing and matching capacities?
Does the research partnership have a comparative advantage (including DC)
Is there a demonstration value (spin-off in financial or scientific terms)?
Is there a likelihood of leverage for complementary funding in European Member States and/or DCs?
Is there likelihood of sustainability of the proposed approaches?
What is the research capability strengthening aspect of the proposal?
What is the training and mobility aspect of the proposal?
How is the integration of the DC partner(s) in the national setting?
How does the project fit in the international funding picture?

The evaluation of proposals is effectively done in four tranches:

I. Decision on eligibility by the Commission's Services based on partnership and documentation of the innovation and relevance of the project.
II. Scientific evaluation by selected experts.
III. Evaluation of the highly-rated proposals from the second tranche by a regional panel from developing countries
IV. Prioritisation of the highly-rated proposals based on coherence and complementarity with the Commission's existing research portfolio, partnership value, research capacity strengthening and training value and regional versus national relevance.

Following these procedures the Programme Committee consisting of the representatives of the Member States and associated countries, give an opinion on the proposals. Finally the Commission decides to implement the selected projects and activities.

References

EC (1996) Call for Proposals. *Official Journal of the European Communities* **39,** C75/31.
EC (1997) Call for Proposals. *Official Journal of the European Communities* **34,** C117/27.

ANNEX 3:

LIST OF COLLABORATING INSTITUTIONS BY REGION/COUNTRIES

AFRICA

SWITZERLAND			Page:
Institut Tropical Suisse	Bâle	TS3*CT920112	85
SWEDEN			
Karolinska Institute	Stockholm	IC18*CT960075	136
		IC18*CT970230	167
		IC18*CT970232	171
Stockholm Environmental Inst.	Stockholm	IC18*CT960085	97
		IC18*CT970224	99
The Swedish Inst. for Health Economics	Lund	IC18*CT970218	165
Umeå University	Umeå	IC18*CT970226	190
University of Stockholm	Stockholm	IC18*CT970232	171
University of Uppsala	Uppsala	IC18*CT970250	101
UNITED KINGDOM			
Guy's and St. Thomas's Hospitals	London	TS3*CT920137	33
Institute for Health Sector Development	London	IC18*CT960115	152
Liverpool School of Tropical Medicine	Liverpool	TS3*CT920080	70
		IC18*CT960086	54
		IC18*CT970239	176
London School of Econ. & Political Sci.	London	TS3*CT940260	91
London School of Hyg. & Trop. Med.	London	TS3*CT920088	111
		TS3*CT920146	133
		TS3*CT930231	41
		TS3*CT940289	114
		TS3*CT940305	116
		TS3*CT940325	112
		TS3*CT940331	39
		IC18*CT960075	139
		IC18*CT960085	97
		IC18*CT960131	95
		IC18*CT970218	165
		IC18*CT970224	99
		IC18*CT970235	175
		IC18*CT970247	181
Lothian Health Board	Edinburgh	TS3*CT910025	63
Mansfield College	London	TS3*CT940318	118
South Bank University	London	IC18*CT970224	98
		IC18*CT970230	166
University College	London	IC18*CT970215	79
University of Aberdeen	Aberdeen	IC18*CT960053	52
University of Cambridge	Cambridge	IC18*CT960036	140
		IC18*CT970233	173
University of London	London	IC18*CT970230	167
University of Manchester	Manchester	IC18*CT970224	99
University of Newcastle upon Tyne	Newcastle Upon Tyne	IC18*CT960053	53
		IC18*CT970221	187
University of Oxford	Oxford	IC18*CT960033	22
		IC18*CT960113	151
University of York	York	IC18*CT960086	55
University of St. Andrews	St. Andrews	TS3*CT930234	87
University of Sussex	Brighton	TS3*CT920089	135
Yorkhill Hospitals	Glasgow	TS3*CT910026	45

LATIN AMERICA

MEXICO			Page:
Fundacíon Mexicana para la Salud	Tlalpan	IC18*CT960115	155
		IC18*CT970235	175
The Population Council - Latin America and Caribbean Office	Mexico	IC18*CT970250	101
NICARAGUA			
Instituto Centroamericano de la Salud	Managua	IC18*CT960115	155
Univ. Nacional Autónoma de Nicaragua	Managua	IC18*CT960058	144
PERU			
Universidad Peruana Cayetano Heredia	Lima	IC18*CT970249	182
SURINAME			
Anton de Kom Univ. van Suriname	Paramaribo	IC18*CT970247	181
TRINIDAD AND TOBAGO			
The University of The West Indies	Champs Fleurs	IC18*CT970247	178
URUGUAY			
Centro Latino Americano de Perinatología (CLAP)	Montevideo	IC18*CT970250	101
Registro Nac. de Cáncer del Uruguay	Montevideo	IC18*CT970222	189
VENEZUELA			
Concepcíon Palacios' Maternity Hospital	Caracas	IC18*CT960033	25

ANNEX 4:

List of scientists

ANNEX 4:

List of scientists

ANNEX 4:

List of scientists

ANNEX 5:

LIST OF PROJECTS BY TOPIC

A. Health Systems Research (Volume 1)

1. Clinical studies for specific health problems

2. Rational organisation of health services

3. Policies for improved practicies

4. Occupational Health

B. Virology/Bacteriology (Volume 2)

1. HIV/AIDS

HIV & Sexually Transmitted Diseases

*TS3*CT910022*
Studies on maternal and neonatal morbidity due to sexually transmitted diseases.

*TS3*CT920051*
A longitudinal epidemiological study of HIV-2 infection in Guinea-Bissau: transmission, disease development, immunology and prevention.

*TS3*CT920059*
Role of placenta in transmission of HIV infection from mother to child.

*TS3*CT920122*
Studies of the epidemiology of HIV infection and other sexually transmitted diseases in Mwanza region, Tanzania.

*TS3*CT930238*
Intervention study of sexually transmitted diseases and HIV infection among female prostitutes in Abidjan, Ivory Coast.

*TS3*CT930241*
The well-women clinic: studies on women's reproductive health.

IC18CT960050
A study on the role of HIV-1 genotypes on the epidemiology of HIV in Tanzania and Uganda.

IC18CT960110
Study of HIV-1 variability in Cameroon and Gabon. Implications for vaccine and antiviral intervention strategies.

IC18CT960114
Multicenter study on factors determining differential spread of HIV infection in African towns.

IC18CT970216
Virological and molecular characteristics of HIV strains in Africa: the impact of genetic subtypes on the pathogenesis and prognosis of HIV infection.

IC18CT970246
Study of HIV-1 variability in Cameroon and Gabon. Implications for vaccine and antiviral intervention strategies.

IC18CT970255
Development of a HIV candidate vaccine for phase I and II clinical trials in China.

HIV and Tuberculosis

*TS3*CT910033*
The application of DNA fingerprinting to the pathogenesis of HIV-related tuberculosis in Africa.

*TS3*CT910034*
Characterization of mycobacteria from HIV endemic area (Tanzania).

*TS3*CT930254*
Detrimental effects of TB on natural history of HIV infection: viral load, immune function and apoptosis.

2. Mycobacteria

*TS3*CT910036*
A comprehensive investigation of advanced methods in molecular biology for the detection of *M. tuberculosis and M. leprae.*

*TS3*CT920062*
Mucosal immunity and leprosy.

*TS3*CT920099*
Immunological and molecular analysis of lymphocytes and antigens involved in leprosy (neuritic) lesions.

*TS3*CT920154*
DNA typing of *M. tuberculosis:* epidemiology and evaluation of chemotherapy.

*TS3*CT930243*
Rapid detection of multidrug-resistant mycobacteria.

*TS3*CT940001*
Approaches to the diagnosis of active tuberculosis based on the detection of specific mycobacterial components in the urine.

*TS3*CT940299*
Immune recognition of a novel 45KDA antigen, specific to *mycobacterium leprae,* and evaluation as a potential vaccine candidate.

*TS3*CT940304*
Peptides for the early detection and vaccination against tuberculosis and leprosy.

*TS3*CT940313*
Development of a new vaccine against *mycobacterium tuberculosis.*

IC18CT960047
Mucosal immunity of leprosy (MILEP2 study) definition of leprosy transmission and protection within an endemic leprosy population.

IC18CT960060
A mouse model for latent tuberculosis and prevention of reactivation of the disease.

IC18CT970236
Identification of protective immune responses to pathogenic mycobacteria.

IC18CT970253
The pathogenesis of tuberculosis; growth rate regulation and ribosome synthesis.

IC18CT970254
Development of tuberculosis vaccine with consistent efficacy in different regions of the world.

3. Hemorrhagic Fevers

*TS3*CT920067*
Diagnosis and control of Crimean-Congo Hemorrhagic Fever (CCHF).

*TS3*CT940286*
Epidemiology of filovirus infections in Central African Republic: a risk factors study associated with subsistence activities.

*TS3*CT940290*
The use of recombinant proteins and synthetic peptides for diagnostics and elucidation of virulence markers in dengue virus infections.

4. Human Papillomavirus (HPV)

*TS3*CT940295*
Human papillomavirus (HPV) infections in the pathogenesis of oesophageal cancer in the high-risk areas of China.

IC18CT970234
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