COMMISSION OF THE EUROPEAN COMMUNITIES

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FIRST PROGRAMME OF RESEARCH ACTIONS

in the sector of

MEDICAL AND PUBLIC HEALTH RESEARCH

PROPOSAL FOR A COUNCIL DECISION

adoping a concerted action in the field of

registration of congenital abnormalities

(Medical and Public Health Research)

PROPOSAL FOR A COUNCIL DECISION

adopting a concerted action in the field of

cellular ageing and decreased functional capacity of organs

(Medical and Public Health Research)

PROPOSAL FOR A COUNCIL DECISION

adopting a concerted action in the field of

extracoporated oxygenation

(Medical and Public Health Research)

(submitted to the Council by the Commission)

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FIRST PROGRAMME OF RESEARCH ACTIONS
in the sector of
MEDICAL AND PUBLIC HEALTH RESEARCH

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FIRST PROGRAMME OF RESEARCH ACTIONS
in the sector of
MEDICAL AND PUBLIC HEALTH RESEARCH

I. INTRODUCTION

According to the Council's Resolution of January 1974 on the co-ordination of national policies and the definition of projects of interest to the Community in the field of science and technology, the Committee on Medical and Public Health Research (CRM), set up by the PREST group on June 1972, became responsible to CREST in order to assist it, and in turn the Community Institutions, in performing their tasks.

In compliance with its mandate, CRM, assisted by three Specialized and three Ad Hoc Working Groups, executed its explorative tasks according to the time-table appearing in the Annex of the Resolution and covering the 1974-1976 period, and reported to CREST (Doc. CREST/21 and 22/1976) in particular on the conclusions drawn from the experience gained during this first phase.

The conclusions of relevance to this proposal for a First Programme of Research Actions are the followings :

(a) The main objectives of European co-operation in the medical field should be in the prevention, in the early detection of disease and in rehabilitation.

(b) Implementation of common actions should be performed by or in association with the research organizations of the Member States.

(c) Following important criteria should be applied to the choice of common actions and to the selection of priorities :

- the topic should be of importance to the Community as a whole;
- the topic should have practical importance in particular from the social and economic point of view;
- on scientific grounds : either the project should need to be implemented jointly or at least could be carried out much more effectively on an community basis than separately in each Member State;
- the project should be expected to give clear and reasonably early results.

(d) Co-ordination of national policies should encourage coherence of methods of working of the national research organizations, thus laying the foundations for an effective scientific community.

(e) It is shown that in respect to co-ordination of medical and public health research policies within the Community there is a common pattern of organization in all Member States, but within this pattern there are wide differences of detail. Mainly both facts, namely that the machinery within the national research organizations and the existing scientific policies

of these organizations are widely differing, and that research in the medical field is largely carried out as small projects, put constraints on policy making. Variations in ways of categorizing work and defining priorities make the establishment of general common policy priorities difficult at this time. However, comparison and co-operation in respect of research policies is considered possible for specific fields of research directed to one of a few closely related practical objectives.

CREST in turn accepted these conclusions (Doc. CREST/27/1976), gave a favourable opinion on criteria for choosing topics and selecting priorities, considered CRM's explorative work as an extremely valuable basis to enter immediately a second working phase which would consist in the elaboration, before the end of 1976, of a first programme of research actions, and invited the Commission to submit to the Council a corresponding proposal for decisions.

II. ELABORATION AND CHOICE OF THE ACTIONS

Several preliminary studies for possible common action have been performed by CRM's Working Groups after identification of specific fields of common interest, according to their terms of reference. The procedure applied to such an elaboration requires survying various fields of interest from the following points of view :

- state of knowledge and critical aspects of the field in relation to the present status of medical and public health problems;
- identification of the most significant problems with particular reference to the development of prevention, early diagnosis and rehabilitation;
- evaluation of the needs for the most efficient handling of the above-mentioned problems, from the point of view of research and/or training requirements.

On the background of these studies, CRM has suggested as components of the First Programme of Research Actions three subjects which are related to the particular fields of :

(A) Registration of Congenital Abnormalities

(B) Cellular Ageing and Decreased Functional Capacity of Organs

(C) Extracorporeal Oxygenation

On the basis of the opinions of CRM and CREST, the Commission then prepared the proposal for a Council Decision adopting three multiannual concerted actions in the above-mentioned fields of Medical and Public Health Research.

The choice was performed by applying the approved criteria, by considering the feasibility of a gradual co-ordination (both mentioned under I), and by taking into account the relevant activities of appropriate International Organizations such as WHO, OECD, Council of Europe, European Medical Research Councils, European Science Foundation, etc.

There are obviously many other research themes as important as those which were retained now, which can be taken into consideration in the frame of a Community programme in medical research. The preparative work carried out by the specialized working groups of CRM led to the presentation to CRM of 5 projects. Among them, and next to the 3 projects presented in this document, were: thrombosis, and human factors in road traffic accidents. During its meeting of June 30, 1976, CRM requested further information on these two subjects. They will be reexamined together with a series of new projects in June 1977. As to the 3 projects presented hereafter, they were retained as being in conformity with the Community objectives and interests according to the criteria described on pages 2 and 3 of this note. Chapter III (p. 4 and 5) outlines for each of them the motivation for Community approach.

Thus, the 3 above mentioned themes must be considered as the first elements of a more comprehensive programme of which other elements are presently being studied, and which will be the subject of future proposals.

III. SHORT DESCRIPTION AND CHARACTERISTICS OF THE ACTIONS

(A) Multiannual Concerted Action (3 years) in the field of

"Registration of Congenital Abnormalities"

Objective : Registration of congenital malformations and of Inherited biochemical and chromosome abnormalities as well as of twins and multiple pregnancies in selected areas of the Community in order to monitor incidence and prevalence of congenital abnormalities and to allow early institution of remedial measures.
Harmonization of existing national registers and standardization of registration procedures.
Gradual co-ordination of the research covered by the concerted action.

Motivation : Congenital abnormalities have become a major cause of stillbirth, infant death and childhood disablement. Still, the number of cases of congenital abnormalities occurring in any one area as well as in a single country is insufficient for an effective study at national level alone; therefore, only a Community effort can ensure statistically valid results. On the other hand, co-ordination will be greatly facilitated by the limited number of existing national registers.

Starting phase : Establishment of an appropriate network of national registers with the initial participation of 14 regional services from all the Member States.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

Continuation : Submission of a possible new action proposal in due time.

Related activities : First centralized exercise to co-ordinate the national policies for research on Congenital Abnormalities by a new Ad Hoc Working Group of CRM.
Actual elaboration of a research programme in the field of "Prenatal and Perinatal screening of inborn metabolic diseases and chromosome abnormalities"

(B) Multiannual Concerted Action (4 years) in the field of

"Cellular Ageing and Decreased Functional Capacity of Organs"

Objective : Oriented research on cellular ageing as the basis for decreased functional capacity of organs in order to understand the resulting physiological ageing processes occurring at the level of the whole individual; study of the mechanisms underlying the age-related functional decline in particular of the liver, of the immune system and of the lens.
Gradual co-ordination of the research covered by the concerted action.

Motivation : There is a clear need to enhance multidisciplinary collaboration and exchange of experience and knowledge in an increasingly important area of research related to the health status of elder persons, which is a major socio-medical problem in Europe. This area has never received the attention it deserves and interaction at the executive scientific level has to be regarded as not being sufficiently developed.

An attempt should be made to initiate a gradual co-ordination of a very large and diversified research domain, where numerous small projects are carried out by relative small research teams from various scientific disciplines, by starting from a few but well defined fundamental research topics.

Starting phase : Collaboration between more than 70 scientists from about 20 institutes of the Member States.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

Continuation : A proposal for a largely extended programme in this field will very probably be necessary in a later stage in order to meet the numerous research and co-ordination requirements, which are inherent but uncovered by this programme.

(C) Multiannual Concerted Action (4 years) in the field of

"Extracorporeal Oxygenation"

Objective : Collaborative research on improvement of present extracorporeal oxygenator principles as well as on development of alternative ones, including methods for continuous monitoring and dynamic compensation of the patients deficiencies, in order to obtain the possibility of a clinically satisfactory long-term treatment; a particular effort is directed towards technologies which diminish the damage to the blood and at the same time increase the efficiency of gas exchange.
Co-ordination of the research covered by the concerted action.

Motivation : Presently available oxygenators work satisfactorily for periods up to 5 - 10 hours. Longer working period are needed. Since individual countries each tackle separately only some of the inherent problems and since none of these national efforts is likely to ensure adequate and reasonably early results, the chances of success can be significantly improved by an integration of all related activities ongoing in the Member States into a common action.

Starting phase : Collaboration between more than 100 scientists from about 20 institutes of the Member States.
After the Council's Decision Non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

Continuation : A decision to continue this action will mainly depend on the results obtained from research execution and co-ordination during the first three years.

IV. IMPLEMENTATION OF THE FIRST ACTION PROGRAMME

The first programme of research actions in the sector of Medical and Public Health Research, which will be implemented by carrying out its three multi-annual concerted actions, will be of considerable interest, because of its social and economic importance, to all Member States, even to those not involved in a particular line of research or lacking the required facilities to participate actively in a particular way.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate in each single concerted action.

In principle, the competent national authorities are responsible for the execution of the national contributions to each action within the framework of their commitments and are prepared to integrate the research, covered by each concerted action, into a process of co-ordination at Community level over the respective periods of time.

For each single action a Concerted Action Committee is established in which the Member States are represented by one delegate and one alternative. The terms of reference are laid down in the respective Annex B to the Draft Council Decision.
Provision will be made for an adequate representation of the possibly participating non-Member States on each committee.

The competences of the Committee for Medical and Public Health Research cover also the implementation of each single action; this Committee is in particular duly qualified for giving to the research its proper place within the sectorial policy of the European Communities as well as for ensuring its success.

The co-ordination of each single action will be carried out under the responsibility of the Commission, assisted by a Project Leader to be appointed by the Commission in agreement with the respective Concerted Action Committees.

V. FINANCIAL VOLUME

The estimated financial volume of the research to be carried out by the Member States within the framework of each action are as follows :

Concerted action A : "Registration of Congenital Abnormalities"

0.85 m.u.a. for a 3-year period with the active participation of all the Member States.

Concerted action B : "Cellular Ageing and Decreased Functional Capacity of Organs"

4,0 m.u.a. for a 4-year period with the active participation of Belgium, Denmark, France, Germany, Ireland, Italy, The Netherlands and United Kingdom.

Concerted action C : "Extracorporeal Oxygenation"

4,1 m.u.a. for a 4-year period with the active participation of Belgium, Denmark, France, Germany, Ireland, Italy, The Netherlands and United Kingdom.

These figures are based on estimates as communicated by the competent national authorities.

The costs of co-ordination, on charge of the Community budget, are estimated at :

Concerted action A : 330,000 u.a. for a 3-year period

Concerted action B : 400,000 u.a. for a 4-year period

Concerted action C : 360,000 u.a. for a 4-year period

VI. PROSPECTIVES

The present proposal must be seen as bearing on the first elements of the Community Medical Research Programme. They will be gradually complemented by other action proposals, all of which will have to meet the criteria laid down for Community action. Sub-groups are presently carrying out preparatory work, which will be screened by CRM at a later stage.
It is expected that a proposal for a second programme will be ready for presentation to the Council in 1978.

MULTIANNUAL CONCERTED ACTION

in the field of

"REGISTRATION OF CONGENITAL ABNORMALITIES"

(3 years)

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CONCERTED ACTION

in the field of

"REGISTRATION OF CONGENITAL ABNORMALITIES"

(Medical and Public Health Research)

I. INTRODUCTION

In compliance with its mandate, the Committee on Medical and Public Health Research (CRM), assisted by its Specialized Working Group : Epidemiological, Statistics and Clinical Trials, has recommended as a project of interest to the Community a joint action in the field of "Registration of Congenital Abnormalities" and advised the Commission in elaborating this proposal for a multi-annual concerted action.

In accordance with this opinion the Commission has chosen this specific research field :

- on the basis of an extensive review, sponsored by CRM and the Commission, recording the ongoing activities in the Member States;
- by considering the agreed objectives of European co-operation in the medical and public health domain, and
- by applying the approved criteria for the selection of research priorities.

The relevant activities ongoing in non-Member States, particularly in European countries, as well as those of appropriate International Organizations have been taken into account.

The overall aim of the proposed action is to set up in each participating Member States (where possible for the whole country, where not possible in a region with a defined birth population) a register of all congenital abnormalities observed at birth (or during a period after birth to be defined) in the total birth population (including still-births), either by making use of existing registers or by creating new ones.
Particular attention is drawn on the fact that the information available from such registers will also be of particular importance for the implementation of specific topics relevant to the "Biology and Health Protection Programme" (1976-1980) and to the "Environmental Research Programme (1976-1980), both ongoing Indirect Actions of the Commission.

As modality of research execution preference is given to a "Concerted Action".

II. MOTIVATION

In the countries of the European Community, as a result of an increasing control of other major conditions in childhood, congenital abnormalities have become a leading cause of still-birth, infant death and childhood disablement. Meanwhile they represent a major birth problem because they are common, they cause a great amount of suffering and their care creates a considerable financial burden to the society.

Better knowledge of the factors responsible for congenital abnormalities can lead to the prevention of some and greatly reduce the number of others because these abnormalities often result from environmental factors within the uterus as well as from genetic factors : for example drug or toxic substances taken by the mother, or certain infections during pregnancy. While some of these factors have been identified, there is a need for an early warning system to recognize changing patterns of congenital abnormalities due to factors not yet identified.

Various systems for recording are, as the performed review shows, existing in the Member States but, unfortunately, useful information regarding congenital abnormalities rests at present very limited for following reasons :

- systematic information differs in its completeness from one country to another due to legal and fiscal differences in setting-up records and in running registers;
- the number of cases occurring in any one area as well as in a single country is insufficient for an effective study at national level alone;
- the recorded data are of various types because the diagnostic criteria applied vary to a great extent.

The establishment of a register and an appropriate network is therefore necessary to make on a standardized basis statistically valid studies feasible.

III. SPECIFIC AIMS

The proposed register and the appropriate network have the following specific aims :

(1) To monitor incidence and prevalence of congenital abnormalities (congenital malformations and inherited abnormalities) in different population groups and to follow fluctuations of trends with time.

(2) To assemble a sufficient number of specific abnormalities for retrospective studies of the effects of suspected environmental factors.

(3) To set up groups for prospective studies on the effectiveness of care, the cost and the psychological effects of abnormalities in order to assist in genetic counselling.

(4) To identify twins with or without abnormalities and to identify them as far as possible into monozygotic and dizygotic twins; abnormalities with chromosomal patterns and with genetic determinants can then be studied.

Finally, it should be stressed that an important consequence will be to raise the level of existing congenital abnormalities registers to a "European standard" mainly by :

- the standardization of diagnostic criteria and of recording procedures to allow comparability;
- the dissemination of information;
- the exchange of experience and knowledge;
- the exchange of personnel, and
- the training of skilled personnel.

IV. CONTENT

The action involves setting up a notification system to collect data about any congenital defect observed by the person in attendance at the birth (doctor or midwife) for every birth (live or stillborn) in the country (or in one of its defined regions). A report of any observed defect however trivial would be asked for, but initially the study data would be analysed for only those malformations which are immediately obvious and for which the data would likely be reasonably complete.

Screening newborn children for biochemical abnormalities is carried out in the most European countries but the data collected are not centralised, they remain usually in the laboratories and hospitals where the children were examined. Laboratories in European countries begin to exchange information about these screening procedures but there is an urgent need for centralisation of information to permit much needed epidemiological studies to be set up.

Methodological studies will be carried out in order to improve completeness and representativeness of ascertainment procedures and of diagnostic consistency, as well as to speed up reporting procedures for monitoring needs in order to allow early institution of remedial measures on the part of health authorities.
Initially the programme will not try to encompass all congenital abnormalities. Preliminary studies suggest that the listing of abnormalities reportable to the registers should be restricted and include the anomalies of the central nervous system (anencephaly, spina bifida etc...), Down's syndrome, gross anomalies of the limbs, multiple abnormalities, phenylketonuria and celiac disease. Twins and multiple pregnancies will also be registered. The programme will be expanded once the initial aims of fostering reporting systems and upgrading the standards of existing systems will be achieved.

V. STRUCTURE

The structure of the concerted action is based on an extensive review of the existing systems for recording births and congenital abnormalities in the countries of the EC as well as in a number of neighbouring countries with similar technical problems.
From these systems a selection of regional registers or services has been made with regard to their competences, facilities and willingness of collaboration.
Thus, the proposed network of registers will initially be established on the collaboration between the following existing regional registers of the Member States :

BELGIUM	:	Brugge
		Hainaut
DENMARK	:	Odense
FRANCE	:	Paris
GERMANY	:	Hessen
IRELAND	:	Dublin
		Galway

ITALY	:	Milano
		Roma
LUXEMBOURG	:	Luxembourg
NETHERLANDS	:	Leidschendam
UNITED KINGDOM	:	Belfast
		Glasgow
		Liverpool

Since certain countries outside of the EC built up a high level of expertise in the running of corresponding registers and thus can actively contribute to the success of this endeavour, an amendment for the participation of non-Member countries involved in European co-operation in the field of scientific and technical research (COST) in this action is foreseen after the Council's Decision.

VI. DURATION

A duration of 3 years is proposed for this concerted action.
Due to the complexity of the problem to be tackled, this period should be considered as an initial phase. Continuation is foreseen by the submission of a new proposal in due time.

VII. IMPLEMENTATION

The concerted action is to be implemented with the participation of all Member States.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

In principle, the competent national authorities are responsible for the execution of the national contributions to this action and are prepared to integrate the research, covered by this concerted action, into a process of co-ordination at Community level over a period of 3 years.

A Concerted Action Committee is established in which the Member States are each represented by one delegate and one alternative who may be assisted by experts.
Provision will be made for an adequate representation of the participating non-Member States on the Concerted Action Committee.

The competences of the Committee on Medical and Public Health Research cover also the implementation of this action; this Committee is in particular duly qualified for giving to this research its proper place within the sectorial policy of the European Communities as well as for ensuring its success.

The Concerted Action Committee is the body in which the exchange of information between the Member States, CRM and the Commission is staged. The Commission and the Committee will be assisted by a Project Leader.

Beyond this, the terms of reference of this Committee are essentially :

- to assist in the co-ordination of the national research projects executed in this field and to advise the executing laboratories;
- to advise governments and the Commission with regard to research needs in this field;
- to evaluate the results of research and to draw conclusions with regard to their applications;
- to promote exchange of experience between the scientists involved by organizing symposia, etc. ...;
- to promote the dissemination of knowledge.

VIII. FINANCIAL VOLUME

The financial volume of the research in this field to be executed by the participating registers or services of all the Member States is estimated at 0.85 m.u.a. for a 3-year period.

This figure is based on estimates, as communicated by the competent national authorities.

The costs of co-ordination, on charge of the Community budget, are estimated at 330,000 u.a. for the 3-year period.

ITALY	:	Milano
		Roma
LUXEMBOURG	:	Luxembourg
NETHERLANDS	:	Leidschendam
UNITED KINGDOM	:	Belfast
		Glasgow
		Liverpool

Since certain countries outside of the EC built up a high level of expertise in the running of corresponding registers and thus can actively contribute to the success of this endeavour, an amendment for the participation of non-Member countries involved in European co-operation in the field of scientific and technical research (COST) in this action is foreseen after the Council's Decision.

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This figure is based on estimates, as communicated by the competent national authorities.

The costs of co-ordination, on charge of the Community budget, are estimated at 330,000 u.a. for the 3-year period.

ANNEX I

PROPOSAL FOR A COUNCIL DECISION

adopting a concerted action in the field of

Registration of Congenital Abnormalities

(Medical and Public Health Research)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal of the Commission;

Having regard to the opinion of the European Parliament;

Whereas by virtue of Article 2 of the Treaty, the Community has been assigned the task of promoting throughout the Community a harmonious development of economic activities, a continuous and balanced expansion and an accelerated raising of the standard of living;

Whereas the Council stressed in its Resolution of 14 January 1974 on an initial outline programme of the European Communities in the field of science and technology that an appropriate approach should be adopted towards the whole range of available ways and means, including concerted action and that whenever it proves desirable that third countries, particularly European ones, should be associated in these projects, steps should be taken to make this possible;

Whereas on 14 January 1974, the Council entrusted the Community Institutions aided by the Scientific and Technical Research Committee (CREST) with the task of ensuring the gradual co-ordination of national policies in the field of science and technology;

Whereas a concerted Community research action in the field of registration of congenital abnormalities is likely to contribute effectively to the achievement of the above-mentioned aims;

Whereas the Member States intend, as part of the rules and procedures applicable to their national programmes, to carry out the research described in Annex A, and are prepared to integrate such research into a process of co-ordination at Community level over a period of three years;

Whereas the carrying out of such research as described in Annex A will require a financial contribution of about 0.85 MUA from the Member States;

Whereas the Treaty has not provided the necessary powers for this purpose;

Whereas the Scientific and Technical Research Committee (CREST) has given its opinion with regard to the Commission proposal;

HAS DECIDED :

Article 1

The Community shall implement for a period of 3 years a concerted action in the field of Registration of Congenital Abnormalities.

This action shall consist in the co-ordination at Community level of research which is described in Annex A and which forms part of the research programme of the Member States.

Article 2

The Commission shall be responsible for such co-ordination.

Article 3

The maximum financial contribution by the Community to such co-ordination action is estimated at 330,000 UA, the unit of account being defined according to financial regulation in force.

Article 4

To facilitate the carrying out of the action, a concerted action Committee on the "Registration of Congenital Abnormalities", hereinafter referred to as "the Committee", is hereby established.
A project leader shall be appointed by the Commission with the Committee's agreement. He assists in particular the Commission in its co-ordinating action.

The terms of reference and the composition of this Committee are defined in Annex B.

The Committee shall draw up its rules of procedure. Its secretariat will be provided by the Commission.

Article 5

(a) In accordance with a procedure to be adopted by the Commission in agreement with the Committee, the participating States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action and forward to the Commission all information useful for co-ordination. They shall also endeavour to provide the Commission with information in similar research planned or carried out by bodies for which they are not responsible. This information shall be treated as confidential if requested by the Member State which provides it.

(b) The Commission shall prepare yearly progress reports on the basis of the information supplied, and shall forward them to the Member States.

(c) At the end of the co-ordination period, the Commission in agreement with the Committee shall forward to the Member States and to the European Parliament a general report on the execution and results of the co-ordination action. The Commission shall publish this report six months after it has been forwarded, unless a Member State objects. In this case

the report shall be distributed, at their request, solely to the institutions and undertakings of which the research or production activities are justifying access to the knowledge resulting from the performance of the research covered by the Community concerted action. The Commission may make provision that the report remains confidential and is not passed to third parties.

Article 6

1. In accordance with the provisions laid down in Article 228 of the Treaty establishing the EEC, the Community may conclude agreements with other States involved in European Co-operation in the field of Scientific and Technical Research (COST) with a view to extending the co-ordination which is the subject of this Decision to research undertaken in these States.

2. The Commission is hereby authorized to open negotiations for the conclusion of agreements of the type referred in the preceding paragraph.

Article 7

This Decision shall come into force on the 1st January, 1978.

Done at on

For the Council

The President

ANNEX A TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of

Registration of Congenital Abnormalities

(Medical and Public Health Research)

The research will be carried out with the purpose of acquiring scientific and technical knowledge in this field, selected for its importance at Community level.

The research is expected to cover the following topics :

(1) Registration of congenital malformations as well as of inherited biochemical and chromosome abnormalities in selected regions of the Community. Initially, the recorded abnormalities will include the anomalies of the nervous system (anencephaly, spina bifida, etc. ...), Down's syndrome, gross anomalies of the limbs, multiple abnormalities, phenylketonuria and coeliac disease.

(2) Registration of twins and multiple pregnancies in selected regions of the Community.

(3) Relevant methodological studies in order to obtain an optimal co-ordination of both existing national registers and registration procedures.

The co-ordination will include the following regional registers of the Member States :

BELGIUM	:	Brugge and Hainaut
DENMARK	:	Odense
FRANCE	:	Paris
GERMANY	:	Hessen
IRELAND	:	Dublin and Galway
ITALY	:	Milano and Roma
LUXEMBOURG	:	Luxembourg
NETHERLANDS	:	Leidschendam
United Kingdom	:	Belfast, Glasgow and Liverpool

These countries will contribute research under all three topics mentioned above.

ANNEX B TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of Registration of Congenital Abnormalities

(Medical and Public Health Research)

Terms of reference and composition of the concerted action Committee "Registration of Congenital Abnormalities"

1. The Committee shall :

   1.1. Contribute to the optimum execution of the programme by giving its opinion on all of its aspects;

   1.2. Evaluate the results and draw conclusions as regards to their application;

   1.3. Ensure the exchange of information referred to in Article 5(a);

   1.4. Keep abreast of national research being done in the fields covered by the concerted action, and more especially of scientific and technical developments likely to affect the carrying out of the action;

   1.5. Indicate the orientations to the project leader.

2. The Committee's reports and opinions shall be transmitted to the Commission and to the participating States. The Commission shall forward these opinions to the CREST.

3. The Committee shall be composed of one representative and one alternative responsible for co-ordinating the national contributions to the programme, and the project leader. Each member may be accompanied by experts.

MULTIANNUAL CONCERTED ACTION

in the field of

"CELLULAR AGEING AND DECREASED FUNCTIONAL CAPACITY OF ORGANS"

(4 years)

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CONCERTED ACTION

in the field of

"CELLULAR AGEING AND DECREASED FUNCTIONAL CAPACITY OF ORGANS"

(Medical and Public Health Research)

I. INTRODUCTION

In compliance with its mandate, the Committee on Medical and Public Health Research (CRM), assisted by its Specialized Working Group : Research in the field of Medical Biology, has recommended as a project of interest to the Communi the joint implementation of research in the field of "Cellular ageing and decreased functional capacity of organs" and advised the Commission in elaborating a corresponding proposal for a multiannual concerted action.

In accordance with this opinion the Commission has chosen this specific research field :

- on the basis of the exploratory work carried out by the Specialized Working Group;
- by considering the agreed objectives of European co-operation in the medical and public health domain;
- by applying the approved criteria for the selection of research priorities, and
- having regard to the conclusions elaborated by the European experts in this specific field during a workshop, held on 12-14 February 1976 under the sponsorship of CRM and the Commission, where according to the present state of the art the most significant research problems were identified, and where the needs for the most efficient handling of the problem, from the point of view of research and training requirements, were evaluated.

The relevant activities ongoing in non-Member States, particularly in European countries, as well as those of appropriate International Organizations have been taken into account.

As modality of research execution preference is given to a "Concerted Action".

II. MOTIVATION

The health status of elder persons and problems connected to it are of major socio-medical concern since at least 11% of the population in the European Community is older than 65 years of age. Social and medical advances will continue to change the age-structure of the population and increase the proportion of elder persons in it. Also birth rate may play an additional rôle in future; thus it can be expected that these changes in size and structure of the population will have a great impact of health, health care and health research in the EC.

Biological ageing processes are the cause for the gradual change of a young individual into an old one and they contribute to the development of many diseases in the elderly population. In the 11% quoted above, between 80 and 90 % suffer from one or more chronic disease. Thus, increasing sums have to be yearly allocated by the single Member States for the health care of elderly persons.

Nevertheless, research in the domain of GERONTOLOGY, covering the biological, psychological and social aspects of ageing, has never received all the attention it deserves. Although research is carrying out in the Member States on the various aspects of this complex problem and several scientific centres have reached a high level of special knowledge and expertise, the scientific developments in this area have not kept up neither with the needs of our society nor the requirements of our scientific community.

Therefore, as a realistic approach in order to tackle a basic part of the problem connected with the physiology of ageing in a more efficient way, and to achieve clear and reasonably early results, a joint European research effort was deemed necessary.
Since changes at the cellular level are probably responsible for most of the physiological ageing processes occurring at the organ level and at the level of the whole individual, the emphasis was placed on cellular ageing as the basis for decreased functional capacity of organs.

Three representative topics, each with its own specific approach to the problem of the cellular basis of ageing, all closely related to the physiology of elderly people, were selected for initial action. These were :

A. Cellular basis of liver ageing

B. The immune response during ageing

C. Ageing of the lens

III. CONTENT AND TOPICS

A. Cellular basis of liver ageing

Many mammalian organs, including the liver, show a decrease in functional capacity with age. Due to the complex manner in which organs function, it is very difficult to differentiate between cellular and extracellular causes for the impairment in function. Furthermore, it is impossible to make a detailed interpretation of the ageing of an organ in the absence of quantitative information on the properties of the various cell classes within the organ in question.

The cellular basis of the ageing process has been studied in organs, tissues and cell organelles, in particular in the liver, the functions of which decline with age. A better understanding of the mechanism underlying this functional decline will be achieved by improving the methods of analyzing separately the different cell types of the liver and by reconstituting in vitro the relationships which exist between parenchymal cells and Kupffer and endothelial cells, in order to determine their respective importance. The analysis of the various cell types will include the comparison of alterations in bioenergetic and other biochemical characteristics of mithochondria and in the regulation of lysosomal enzyme activities.

B. The immune response during ageing

The disciplines of immunology and gerontology impinge upon each other in several ways.
The immune system provides a convenient model for the investigation of ageing processes and an immense amount of background information is available. The system can be studied by a wide variety of well-established quantitative techniques and is known to undergo progressive age-associated changes. Longitudinal studies are practicable in both animals and, to a more limited extent, in man.

The existing patterns of, and immediate potential for, collaboration in immunogerontology are perhaps less highly evolved partly due to the broadness of the subject and the diversity of topics currently under study. Such diversity is a source of strength, provided that good contact can be maintained and developed among the interested laboratories. In the immediate future, exchanges of techniques and material among several laboratories are planned. In a slightly longer term, it is envisaged that more extensive collaboration will develop in certain areas, particularly in the application to man of investigational systems developed in animals.

C. Ageing of the lens

The lens grows during the whole lifespan, increasing in weight and volume. It is the organ with the highest protein content; about 35 % of its wet weight consists almost completely of organ specific proteins which, through a special arrangement, are responsible for its transparency.

Ageing leads to 2 different effects representing a decreased functional capacity, which have been well-known to ophthalmologists for centuries :

a) around the 4th decade, the human lens looses the ability of accomodation, which means that the capacity for changing the lens shape to enable lens focusing at different distances becomes weaker,

and

b) each ageing person develops morphological lens changes. However, it is remarkable that only in some patients do these circumscribed opacities progress to mature cataracts, the time of occurrence warying widely.

The proposed co-operative research on ageing of the lens should provide more complete information on the different age-induced mechanisms leading to well-differentiates types of senile cataracts. From experimental cataract research, there is evidence that certain models provide transparency changes which are similar to those observed in the ageing human. This study has to be perfected in order to perform future investigations with suitable animal models. It is necessary to gain better knowledge on the age-related disturbances and modifications which could influence the process of cell division and differentiation for the synthesis of crystallin and capsular material.
In epithelial and terminally differentiated lens cells, the machinery for protein synthesis has to be maintained. This implies a stabilization of mRNA, the molecular mechanisms of which have not yet been completely elucidated. Proteins once synthesized undergo age-induced changes by aggregation, insolubilisation and posttranslational modifications of primary structure. The underlying mechanisms of such changes must be further investigated in order to better understand how they effect the functional capacity of the lens. Discoveries in the mechanisms of ageing in the lens will probably be applicable to the mechanisms in most of the other tissues not readily available for research purposes.

Finally in addition to these research topics, the concerted action has tp include the following possibilities and technical facilities, respectively :

- short term exchange of research workers between collaborating laboratories in order to train in special methods or to perform special investigations on the spot using available experimental material;
- an information centre to advice on availability of material (animals, organs and tissues) which is scarce and expensive. This would not only lead to considerable savings by avoiding waste, but also permit an optimal utilization of old animals, which are difficult to obtain;
- a one year plenary meeting at which an interdisciplinary view of the related research and results as well as future trends and plans may be obtained by all participants. This general meeting would also permit the establishment of standardization in materials and methods used;
- twice yearly interlaboratory exchange of ideas, methods and results by visits of scientists within each sub-group. These in-depth discussions should be done by rotation of the meeting places to allow a better knowledge of the facilities, methods and research of each team, and
- a project leader.

IV. STRUCTURE

Since the national authorities are responsible for the execution of their respective contributions to this concerted action, several Member States have designated their competent medical research organizations as active participants, while other Member States designated directly the participating institutes, which were chosen with regard to their competences, facilities and willingness for collaboration.

BELGIUM

- F.N.R.M. Fonds National de la Recherche Médicale, Bruxelles

DENMARK

- Danish Medical Research Council, Copenhagen

FRANCE

- INSERM Institut National de la Santé et de la Recherche Médicale, Paris

GERMANY

D1 - Institut für Experimentelle Ophthalmologie der Universität Bonn Abteilung Biochemie des Auges, Bonn-Venusberg

D2 - Max-Planck-Institut für Immunbiologie, Freiburg-Zähringen

IRELAND

- Medical Research Council of Ireland, Dublin

ITALY

- C.N.R. Consiglio Nazionale della Ricerca, Roma

NETHERLANDS

NL1 - Laboratorium voor Biochemie Universiteir van Nijmegen, Nijmegen

NL2 - Institute for Experimental Gerontology TNO, Rijswijk

NL3 - Centraal Laboratorium Bloed Transfusiedienst, Amsterdam

UNITED KINGDOM

- M.R.C. Medical Research Council, London

V. DURATION

A duration of 4 years is proposed for this concerted action.

VI. IMPLEMENTATION

The concerted action is to be implemented with the agreement of all Member States.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

In principle, the competent national authorities are responsible for the execution of the national contributions to this action and are prepared to integrate the research, covered by this concerted action, into a process of co-ordination at Community level over a period of 4 years.

A Concerted Action Committee is established in which the Member States are each represented by one delegate and one alternative, who may be assisted by experts.
Provision will be made for an adequate representation of the participating non-Member States on the Concerted Action Committee.

The competences of the Committee on Medical and Public Health Research cover also the implementation of this action; this Committee is in particular duly qualified for giving to this research its proper place within the sectorial policy of the European Communities as well as for ensuring its success.

The Concerted Action Committee is the body in which the exchange of information between the Member States, CRM and the Commission is staged. The Commission and the Committee will be assisted by a Project Leader.

Beyond this, the terms of reference of this Committee are essentially :

- to assist in the co-ordination of the national research projects executed in this field and to advise the executing laboratories;
- to advise governments and the Commission with regard to research needs in this field;
- to evaluate the results of research and to draw conclusions with regard to their applications;
- to promote exchange of experience between the scientists involved by organizing symposia, etc. ...;
- to promote the dissemination of knowledge.

VII. FINANCIAL VOLUME

The financial volume of the research in this field to be executed by the Member States is estimated at 4,0 m.u.a. for a 4-year period.
This figure is based on estimates, as communicated by the competent national authorities.

The inventory of the research projects indicates that Belgium, Denmark, France, Germany, Ireland, Italy, The Netherlands and United Kingdom would contribute research under the three topics of this concerted research action.

The cost of co-ordination, on charge of the Community budget, is estimated at 400,000 u.a. for the 4-year period.

ANNEX I

PROPOSAL FOR A COUNCIL DECISION

adopting a concerted action in the field of

Cellular Ageing and Decreased Functional Capacity of Organs

(Medical and Public Health Research)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal of the Commission;

Having regard to the opinion of the European Parliament;

Whereas by virtue of Article 2 of the Treaty, the Community has been assigned the task of promoting throughout the Community a harmonious development of economic activities, a continuous and balanced expansion and an accelerated reising of the standard of living;

Whereas the Council stressed in its Resolution of 14 January 1974 on an initial outline programme of the European Communities in the field of science and technology that an appropriate approach should be adopted towards the whole range of available ways and means, including concerted action and that whenever it proves desirable that third countries, particularly European ones, should be associated in these projects, steps should be taken to make this possible;

Whereas on 14 January 1974, the Council entrusted the Community Institutions aided by the Scientific and Technical Research Committee (CREST) with the task of ensuring the gradual co-ordination of national policies in the field of science and technology;

Whereas a concerted Community research action in the field of cellular ageing and decreased functional capacity of organs is likely to contribute effectively to the achievement of the above-mentioned aims;

Whereas the Member States intend, as part of the rules and procedures applicable to their national programmes, to carry out the research described in Annex A, and are prepared to integrate such research into a process of co-ordination at Community level over a period of four years;

Whereas the carrying out of such research as described in Annex A will require a financial contribution of about 4,0 MUA from the Member States;

Whereas the Treaty has not provided the necessary powers for this purpose;

Whereas the Scientific and Technical Research Committee (CREST) has given its opinion with regard to the Commission proposal;

HAS DECIDED :

Article 1

The Community shall implement for a period of 4 years a concerted action in the field of Cellular Ageing and Decreased Functional Capacity of Organs.

This action shall consist in the co-ordination at Community level of research which is described in Annex A and which forms part of the research programmes of the Member States.

Article 2

The Commission shall be responsible for such co-ordination.

Article 3

The maximum financial contribution by the Community to such co-ordination action is estimated at 400,000 UA, the unit of account being defined according to the financial regulation in force.

Article 4

To facilitate the carrying out of the action, a concerted action Committee on the "Cellular Ageing" hereinafter referred to as "the Committee", is hereby established. A project leader shall be appointed by the Commission with the Committee's agreement. He assists in particular the Commission in its co-ordinating action.

The terms of reference and the composition of this Committee are defined in Annex B.

The Committee shall draw up its rules of procedure. Its secretariat will be provided by the Commission.

Article 5

(a) In accordance with a procedure to be adopted by the Commission in agreement with the Committee, the participating States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action and forward to the Commission all information useful for co-ordination. They shall also endeavour to provide the Commission with information on similar research planned or carried out by bodies for which they are not responsible. This information shall be treated as confidential if requested by the Member State which provides it.

(b) The Commission shall prepare yearly progress reports on the basis of the information supplied, and shall forward them to the Member States.

(c) At the end of the co-ordination period, the Commission in agreement with the Committee shall forward to the Member States and to the European Parliament a general report on the execution and results of the co-ordination action. The Commission shall publish this report six months after it has been forwarded, unless a Member State objects. In this case

the report shall be distributed, at their request, solely to the institutions and undertakings of which the research or production activities are justifying access to the knowledge resulting from the performance of the research covered by the Community concerted action. The Commission may make provision that the report remains confidential and is not passed to third parties.

Article 6

1. In accordance with the provision laid down in Article 228 of the Treaty establishing the EEC, the Community may conclude agreements with other States involved in European Co-operation in the field of Scientific and Technical Research (COST) with a view to extending the co-ordination which is the subject of this Decision to research undertaken in these States.

2. The Commission is hereby authorized to open negotiations for the conclusion of agreements of the type referred in the preceding paragraph.

Article 7

This Decision shall come into force on the 1st January, 1978.

Done at on

For the Council

The President

ANNEX A TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of Cellular Ageing and Decreased Functional Capacity of Organs

(Medical and Public Health Research)

The research will be carried out with the purpose of acquiring scientific and technical knowledge in this field, selected for its importance at Community level.

The research is expected to cover the following topics :

(1) Cellular basis of liver ageing : biophysical and biochemical studies at organ, cellular and subcellular level of the progressive, age-associated functional alterations, including comparative studies in other cell types.

(2) The immune response during ageing : oriented studies in both animals and, to a limited extent, in man of the age-induced changes in the immune system with emphasis on immunodeficiencies and possibilities of therapy.

(3) Ageing of the lens : physiological, morphological and biochemical studies in human and animal tissues of the age-related functional alterations leading to senile cataracts.

The co-ordination will include the following competent medical research organizations respectively participating institutes of the Member States :

BELGIUM

- F.N.M.R. Fonds National de la Recherche Médicale, Bruxelles

DENMARK

- Danish Medical Research Council, Copenhagen

FRANCE

- INSERM Institut National de la Santé et de la Recherche Médicale, Paris

GERMANY

- Institut für Experimentelle Ophtalmologie der Universität Bonn Abteilung Biochemie des Auges, Bonn-Venusberg

- Max-Planck-Institut für Immunbiologie, Freiburg-Zähringen

IRELAND

- Medical Research Council of Ireland, Dublin

ITALY

- C.N.R. Consiglio Nazionale della Ricerca, Roma

NETHERLANDS

- Laboratorium voor Biochemie, Universiteit van Nijmegen, Nijmegen
- Institute for Experimental Gerontology TNO, Rijswik
- Centraal Laboratorium Bloed Transfusiedienst, Amsterdam

UNITED KINGDOM

- M.R.C. Medical Research Council, London

These countries will contribute research under the three topics mentioned above.

ANNEX B TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of

Cellular Ageing and Decreased Functional Capacity of Organs

(Medical and Public Health Research)

Terms of reference and composition of the concerted action Committee

"Cellular Ageing"

1. The Committee shall :

1.1. Contribute to the optimum execution of the programme by giving its opinion on all of its aspects;

1.2. Evaluate the results and draw conclusions as regards to their application;

1.3. Ensure the exchange of information referred to in Article 5(a);

1.4. Keep abreast of national research being done in the fields covered by the concerted action, and more es ecially of scientific and technical developments likely to affect the carrying out of the action.

1.5. Indicate the orientations to the project leader.

2. The Committee's reports and opinions shall be transmitted to the Commission and to the participating States. The Commission shall forward these opinions to the CREST.

3. The Committee shall be composed of one representative and one alternative responsible for co-ordination the national contributions to the programme, and the project leaser, Each member may be accompenied by experts.

MULTIANNUAL CONCERTED ACTION
in the field of
"EXTRACORPOREAL OXYGENATION"
(4 years)

TABLE OF CONTENTS

CONCERTED ACTION

in the field of

"EXTRACORPOREAL OXYGENATION"

(Medical and Public Health Research)

I. INTRODUCTION

In compliance with its mandate, the Committee on Medical and Public Health Research (CRM), assisted by its Specialized Working Group : Research in the field of Biomedical Engineering, has recommended as a project of interest to the Community the joint implementation of research in the field of "Extracorporeal Oxygenation" and advised the Commission in elaborating a corresponding proposal for a multiannual concerted action.

In accordance with this opinion the Commission has chosen this specific research field :

- on the basis of the explorative work carried out by the Specialized Working Group;
- by considering the agreed objectives of European co-operation in the medical and public health domain;
- by applying the approved criteria for the selection of research priorities, and
- having regard to the conclusions elaborated by the European experts in this specific field during a workshop, held on 15-20 June 1975 in Copenhagen under the sponsorship of CRM and the Commission, where according to the present state of the art the most significant problems related to this field of research were identified.

The relevant activities ongoing in non-Member States, particularly in European countries, have been taken into account.

Execution in the form of a "Concerted Action" was deemed important if the research problems were to be carried out efficiently. Because none of the national efforts alone is likely to ensure adequate and reasonably early results, the chances of success can be significantly improved by their integration into a concerted action.

II. MOTIVATION

Treatment with oxygenators has in the past two decades mainly been focused on short term use to provide cardiopulmonary support during surgical corrections and replacements.
For this purpose the presently available oxygenator types have prove clinically satisfactory for periods up to 5-10 hours.

The categories of illnesses treated by such surgery are valvular functional defects and congenital malformations. However, these diseases constitute only a part of the cardio-pulmonary disorders which could potentially be treated better if long term extracorporeal oxygenation were possible.

For example, cardiac failure due to acute myocardial infarction is today the most frequent cause of physical disability in the productive age groups, from which relatively high direct and indirect costs to our society are arising. Recent advances in coronary surgery provide a possibility of recovering the full function of the ischaemic myocardial tissue. Here, the remarkable capability of rapid revascularisation of the myocardium can be utilized by attempting a relief of the heart through cardiopulmonary support during this period. Also the treatment of reversible reduction or loss of lung function will require the use of extracorporeal oxygenation but for periods longer than a week.

With its demand for long term use of oxygenators what seemed earlier apparently negligible problems have grown to become limiting factors for the success of the treatment. Furthermore, the patients in question are invariably very ill and undergo a poor functioning of their regulatory systems which are out of control. Cardiopulmonary failure is frequently associated with anuria, coagulopathies and often further complicated by infections. The victims are thus unable to withstand further shifts in their physiological parameters.

Consequently, success of treatment depends on a close dynamic adjustment of the performance according to the needs of the patient. In clinical terms this implies attempts not only to control the conventional blood gas and electrolyte parameters as well as the oxygen consumption, but also to maintain a sufficient blood flow through at least the vital organs and to sustain the nutrition of the organism.

From a survey of the present state of the art concerning oxygenator research the following main conclusions can be drawn :

- Substitution of membrane oxygenators for those simply using direct gas-to-blood interface, e.g. in form of gas bubbles, may improve possibilities for extracorporeal clinical oxygenation from hours to weeks duration. The first generation of such membrane oxygenators confirms this view. Though improvement of flow geometry already has lead to an increase in the gas transfer rate, the presently available oxygenators as well as those of the near future will represent only a temporary solution due to the serious physical and biological limitations inherent in present membran materials.

- Available systems are designed and used at their peak capacity and the problem of controlled adaptation of gas exchange capacity to the needs of the patient remains unsolved.

- The currently available membrane materials are at best biologically inert, and these are not able to prevent blood trauma and thrombotic deposits which in turn leads to progressive deterioration of oxygenation efficiency and to an enhancement of bleeding tendency in the treated patient.

In view of the multitude of problems to be solved, at different levels, a joint multidisciplinary research effort will be more likely to overcome the difficulties involved.
Furthermore, since individual countries each tackle separately only some of these problems and since none of these national research efforts alone is likely to ensure a concerted attack on the overall problem, an integration of all related activities, ongoing in the Member countries, into a "Concerted Action" is likely to increase the chances of solving the problem.

III. OBJECTIVES

The following three representative objectives, all of them feasible and offering good prospects of success, were chosen for this joint European research effort :

1) Continuous improvement in performance of present oxygenator principles with respect to the limitations set by diffusion resistance and blood trauma.

   a) Clinical applicability of introduction of a controlled secondary flow (blood mixing) into present oxygenator principles.

   b) Studies of the effects of blood flow and shear stress on the aggregation and adhesion of platelets, of the interaction of red cells and platelets, and of pharmacologic methods of intervention.

2) Continuous development of alternative oxygenation principles and testing for their clinical applicability.
   Here, research is aiming in particular at further development and joint evaluation of the principles of :

   a) Hyperbaric oxygenation.

   b) Physico-chemical release of oxygen (from H_2O_2) through membranes containing catalatic activity.

   c) Liquid oxygenation by using inert liquids (fluorocarbons) for direct gas transfer to the blood.

3) Development of methods for continuous control and dynamic compensation of the patient respiratory, circulatory and metabolic deficiencies.

   a) Dynamic control systems, based on oxygen consumption and carbon dioxide production in the patient, for the regulation of the gas transfer rate in oxygenators.

   b) Regulation of blood electrolytes and pH in the perfused patient.

In addition to these research objectives, the programme should foresee :

- a one yearly plenary meeting at which an interdisciplinary view of the related research and results as well as future trends and plans may be obtained by all participants,

- interlaboratory meetings and exchange of personnel for short periods to familiarize with methods and equipment or actually carry out experiments on the spot in close collaboration with the host scientists,

- a project leader.

IV. STRUCTURE

Since the national authorities are responsible for the execution of their respective contributions to this concerted action, several Member States have designated their competent medical research organizations as active participants, while other Member States designated directly the participating institutes, which were chosen with regard to their competences, facilities and willingness for collaboration.

BELGIUM

- F.N.R.M. Fonds National de la Recherche Médicale, Bruxelles

DENMARK

- Danish Medical Research Council, Copenhagen

FRANCE

- INSERM Institut National de la Santé et de la Recherche Médicale, Paris

GERMANY

D1 - German Hearth Centre, Munich

D2 - Dept. of Physiology, Technical University, Aachen

D3 - MPI, System-Physiologie, Dortmund

D4 - Dept. of Physiology, University of Mainz

IRELAND

- Medical Research Council of Ireland, Dublin

ITALY

- C.N.R. Consiglio Nazionale della Ricerca, Roma

NETHERLANDS

NL1 - University of Groningen

NL2 - Eindhoven University of Technology

NL3 - Dept. pf Physiology, University of Nijmegen

NL4 - Dept. of appl. Physiology and Cryobiology, Central Red Cross Blood Transfusion Service, Amsterdam

UNITED KINGDOM

- M.R.C. Medical Research Council, London

V. DURATION

A duration of 4 years is proposed for this concerted action.

VI. IMPLEMENTATION

The concerted action is to be implemented with the agreement of all Member States.
After the Council's Decision non-Member States involved in European co-operation in the field of scientific and technical research (COST) will be invited to participate.

In principle, the competent national authorities are responsible for the execution of the national contributions to this action and are prepared to integrate the research, covered by this concerted action, into a process of co-ordination at Community level over a period of 4 years.

A Concerted Action Committee is established in which the Member States are each represented by one delegate and one alternative who may be assisted by experts.
Provision will be made for an adequate representation of the participating non-Member States on the Concerted Action Committee.

The competences of the Committee on Medical and Public Health Research cover also the implementation of this action; this Committee is in particular duly qualified for giving to this research its proper place within the sectorial policy of the European Communities as well as for ensuring its success.

The Concerted Action Committee is the body in which the exchange of information between the Member States, CRM and the Commission is staged. The Commission and the Committee will be assisted by a Project Leader.

Beyond this, the terms of reference of this Committee are essentially :

- to assist in the co-ordination of the national research projects executed in this field and to advise the executing laboratories;
- to advise governments and the Commission with regard to research needs in this field;
- to evaluate the results of research and to draw conclusions with regard to their applications;
- to promote exchange of experience between the scientists involved by organizing symposia, etc. ...;
- to promote the dissemination of knowledge.

VII. FINANCIAL VOLUME

The financial volume of the research in this field to be executed by the Member States is estimated at 4,1 m.u.a. for a 4-year period.
This figure is based on estimates, as communicated by the competent national authorities.

The inventory of the research projects indicates that Belgium, Denmark, France, Germany, Ireland, Italy, The Netherlands and United Kingdom would contribute research under the three topics of this concerted research action.

The cost of co-ordination, on charge of the Community budget, is estimated at 360,000 u.a. for the 4-year period.

ANNEX I

PROPOSAL FOR A COUNCIL DECISION

adopting a concerted action in the field of

Extracorporeal Oxygenation

(Medical and Public Health Research)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal of the Commission;

Having regard to the opinion of the European Parliament;

Whereas by virtue of Article 2 of the Treaty, the Community has been assigned the task of promoting throughout the Community a harmonious development of economic activities, a continuous and balanced expansion and an accelerated raising of the standard of living;

Whereas the Council stressed in its Resolution of 14 January 1974 on an initial outline programme of the European Communities in the field of science and technology that an appropriate approach should be adopted towards the whole range of available ways and means, including concerted action and that whenever it proves desirable that third countries, particularly European ones, should be associated in these projects, steps should be taken to make this possible;

Whereas on 14 January 1974, the Council entrusted the Community Institutions aided by the Scientific and Technical Research Committee (CREST) with the task of ensuring the gradual co-ordination of national policies in the field of science and technology;

Whereas a concerted Community research action in the field of extracorporeal oxygenation is likely to contribute effectively to the achievement of the above-mentioned aims;

Whereas the Member States intend, as part of the rules and procedures applicable to their national programmes, to carry out the research described in Annex A, and are prepared to integrate such research into a process of co-ordination at Community level over a period of four years;

Whereas the carrying out of such research as described in Annex A will require a financial contribution of about 4,1 MUA from the Member States;

Whereas the Treaty has not provided the necessary powers for this purpose;

ANNEX I

Whereas the Scientifc and Technical Research Committee (CREST) has given its opinion with regard to the Commission proposal;

HAS DECIDED :

Article 1

The Community shall implement for a period of 4 years a concerted action in the field of Extracorporeal Oxygenation.

This action shall consist in the co-ordination at Community level of research which is described in Annex A and which forms part of the research programmes of the Member States.

Article 2

The Commission shall be responsible for such co-ordination.

Article 3

The maximum financial contribution by the Community to such co-ordination action is estimated at 360,000 UA, the unit of account being defined according to the financial regulation in force.

Article 4

To facilitate the carrying out of the action, a concerted action Committee on the "Extracorporeal Oxygenation", hereinafter referred to as "the Committee", is hereby established. A project leader shall be appointed by the Commission with the Committee's agreement. He assists in particular the Commission in its co-ordinating action.

The terms of reference and the composition of this Committee are defined in Annex B.

The Committee shall draw up its rules of procedure. Its secretariat will be provided by the Commission.

Article 5

(a) In accordance with a procedure to be adopted by the Commission in agreement with the Committee, the participating States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action and forward to the Commission all information useful for co-ordination. They shall also endeavour to provide the Commission with information on similar research planned or carried out by bodies for which they are not responsible. This information shall be treated as confidential if requested by the Member State which provides it.

(b) The Commission shall prepare yearly progress reports on the basis of the information supplied, and shall forward them to the Member States.

(c) At the end of the co-ordination period, the Commission in agreement with the Committee shall forward to the Member States and to the European Parliament a general report on the execution and results of the co-ordination action. The Commission shall publish this report six months after it has been forwarded, unless a Member State objects. In this case the report shall be

distributed, at their request, solely to the institutions and undertakings of which the research or production activities are justifying access to knowledge resulting from the performance of the research covered by the Community concerted action. The Commission may make provision that the report remains confidential and is not passed to third parties.

Article 6

1. In accordance with the provisions laid down in Article 228 of the Treaty establishing the EEC, the Community may conclude agreements with other States involved in European Co-operation in the field of Scientific and Technical Research (COST) with a view to extending the co-ordination which is the subject of this Decision to research undertaken in these States.

2. The Commission is hereby authorized to open negotiations for the conclusion of agreements of the type referred to in preceding paragraph.

Article 7

This Decision shall come into force on the 1st January, 1978.

Done at on

For the Council

The President

ANNEX A TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of

Extracorporeal Oxygenation

(Medical and Public Health Research)

The research will be carried out with the purpose of acquiring scientific and technical knowledge in this field, selected for its importance at Community level.

The research is expected to cover the following topics :

(1) Continuous improvement in performance of present oxygenator principles with respect to the limitations set by diffusion resistance and blood trauma :

a) Clinical applicability of introduction of a controlled secondary flow (blood mixing) into present oxygenator principles.

b) Studies of the effects of blood flow shear stress on the aggregation and adhesion of platelets, of the interaction of red cells and platelets, and of pharmacologic methods of intervention.

(2) Continuous development of alternative oxygenation principles and testing for their clinical applicability.
Here, research is aiming in particular at further development and joint evaluation of the principle of :

a) Hyperbaric oxygenation.

b) Physico-chemical release of oxygen (from H_2O_2) through membranes containing catalatic activity.

c) Liquid oxygenation by using inert liquids (fluorocarbons) for direct gas transfer to the blood.

(3) Development of methods for continuous control and dynamic compensation of the patients respiratory, circulatory and metabolic deficiencies.

a) Dynamic control system, based on oxygen consumption and carbon dioxide production in the patient, for the regulation of the gas transfer rate in oxygenators.

b) Regulation of blood electrolytes and pH in the perfused patient.

The co-ordination will include the following competent medical research organizations respectively participating institutes of the Member States :

BELGIUM

- F.N.M.R. Fonds National de la Recherche Médicale, Bruxelles

DENMARK

- Danish Medical Research Council, Copenhagen

FRANCE

- INSERM Institut National de la Santé et de la Recherche Médicale, Paris

GERMANY

- German Heart Center, Munich
- Dept. of Physiology, Technical University, Aachen
- MPI, System-Physiology, Dortmund
- Dept. of Physiology, University of Mainz

IRELAND

- Medical Research Council of Ireland, Dublin

ITALY

- C.N.R. Consiglio Nazionale della Ricerca, Roma

NETHERLANDS

- University of Groningen
- Eindhoven University of Technology
- Dept. of Physiology, University of Nijmegen
- Dept. of Appl. Physiology and Cryobiology, Central Red Cross Blood Transfusion Services, Amsterdam

UNITED KINGDOM

- M.R.C. Medical Research Council, London

These countries will contribute research under the three topics mentioned above.

ANNEX B TO THE PROPOSED COUNCIL DECISION

adopting a concerted action in the field of

Extracorpeal Oxygenation

(Medical and Public Health Research)

Terms of reference and composition of the concerted action Committee

"Extracorporeal Oxygenation"

1. The Committee shall

1.1. Contribute to the optimum execution of the programme by giving its opinion on all of its aspects;

1.2. Evaluate the results and draw conclusions as regards to their application;

1.3. Ensure the exchange of information referred to in Article 5(a);

1.4. Keep abreast of national research being done in the fields covered by the concerted action, and more especially of scientific and technical developments likely to affect the carrying out of the action.

1.5. Indicate the orientations to the project leader.

2. The Committee's reports and opinions shall be transmitted to the Commission and to the participating States. The Commission shall forward these opinions to the CREST.

3. The Committee shall be composed of one representative and one alternative responsible for co-ordinating the national contributions to the programme, and the project leader. Each member may be accompanied by experts.