**Academy of Finland in brief**

The Academy of Finland is an expert organisation on research funding. The Academy seeks to enhance the high standard of Finnish research by long-term research funding, by science and science policy expertise, and by strengthening the status of science in society at large.

The main focus of the Academy's development activities is placed on improving professional research career opportunities, providing preconditions for high-quality research environments and utilising international opportunities in all fields of research, research funding and science policy.

The Academy's operations cover all scientific disciplines, from archaeology to space research and from cell biology and psychology to electronics and environmental research.

The wide range of high-level basic research funded by the Academy provides a sound basis for innovative applied research and the exploitation of new knowledge.

For more information on the Academy of Finland go to www.aka.fi/eng/.
The research programme for Health and Other Welfare Differences between Population Groups (TERO) was launched by the Academy of Finland in 1998, and the funding of the programme expired at the end of the year 2000. The programme was a continuation to an earlier research programme Health for All by the Year 2000 funded during the years 1989-1995. Besides the Academy of Finland, the Ministry of Social Affairs and Health has granted funding to the TERO programme. A total of 22 research projects have been involved in the programme; these projects have been in the fields represented by the Research Council for Health and the Research Council for Culture and Society. The project leader of a project has acted as the coordinator of the whole programme. The programme has also had a steering group appointed by the Academy of Finland; the task of this group has been to monitor the implementation of the aims of the programme and to support its coordination.

The aim of the TERO research programme has been to support research on social variations in health and other areas of welfare and to shed light on the causes of variations in health and welfare and to give incentives for activities to reduce them. Another aim has been to develop such means that can help to prevent the emergence of welfare disparities as well as such means that can help to reduce existing disparities particularly by improving the welfare of those in less privileged positions.

The Academy of Finland expects that the results of the research programmes funded by the Academy be evaluated after the termination of the programmes. Professor Johannes Siegrist from the University of Düsseldorf, Professor Juhani Lehto from the University of Tampere and Director General Vappu Taipale from the National Research and Development Centre for Welfare (Stakes) were invited to evaluate the TERO programme. Tapio Kirsi, M.Sc. (Admin.) from the University of Tampere acted as expert secretary for the evaluation.

The evaluators were asked to focus their evaluation on the following issues in particular:

- implementation of the aims specified in the programme memorandum
- success of the research programme as a whole, including coordination
- output and impact of the projects included in the programme, and as far as possible, the evaluation of impacts
- researcher training
- impact of the whole programme on scientific and/or societal development
- national and international collaboration

The publication includes the report of the evaluation group. The abstracts of the projects involved in the research programme and coordinators’ report are available on the Academy’s web pages at www.aka.fi/publications. The abstracts provide useful information on the content, results and success of the programme.

Hilkka Riihimäki
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of the Research Programme
Low socioeconomic status is the most important single determinant of premature mortality in advanced societies. A social gradient of mortality has been documented in a number of European countries, in Canada, the USA and several other countries leaving those at the top with a life expectancy between five and ten years (men) or three and seven years (women) longer than those at the bottom.

Public health research has shown that access to and quality of healthcare, although important, plays a relatively minor role in explaining these variations. Unfavourable conditions early in life, unhealthy lifestyles adopted during adolescence and early adulthood and exposure to adverse social and material environment in adult life are found to contribute most to the explanation of health inequalities.

To better understand the processes of linking these conditions to health and to reduce health inequalities based on scientific knowledge, several research programmes have been recently launched both at national and international level, including the United Kingdom, Sweden, the Netherlands and the European Union. In this context the TERO programme initiated by the Research Council for Health of the Academy of Finland can be considered an important contribution to public health research and policy in this country. The background of this programme was the same as in other countries. However, the Finnish programme was extended during the preparation period to include not only the differences of health but other welfare differences as well.

By supporting and coordinating the TERO research programme the Academy of Finland has contributed significantly to the advancement of science in this field both nationally and internationally. The Programme has enabled several research teams to further develop their investigations and to strengthen research collaboration. It has been instrumental in supporting some excellent research groups, in providing funding opportunities for junior teams and in promoting consideration for health and welfare differences between population groups in the research community.

This report has been undertaken to highlight both the achievements and shortcomings of the Programme. The report is based on independent assessment of the extended abstracts provided by the project leaders, selected publications of the project teams, the report of the Programme coordination and on our participation in the final seminar of the Research Programme in Helsinki on June 7-8, 2001. Based on its evaluation work, the group has outlined a number of recommendations to the Academy to be taken into consideration in the future development of the Academy’s research funding policy.
2 Research programmes of the Academy of Finland

The Academy of Finland promotes high-quality scientific research by long-term research funding. The Academy's means to fund research include research programmes and targeted programmes. Other main means are 'traditional' research project funding, centre of excellence programmes and graduate schools. Research programmes consist of a number of interrelated projects within the same multidisciplinary target area of research. Usually the point of departure is to strengthen new research areas, to reinforce a particular research field and/or to respond to current needs in society.

More than 20 research programmes have been launched. The most extensive programmes have been funded by more than EUR 10 million. Usually the funding of a programme amounts to around EUR 5 million. The size of the TERO programme, in terms of funding, has been EUR 2.5 million. Among the ongoing and newly launched programmes the following, for example, range partly close to this programme: Marginalisation, Inequality and Ethnic Relations in Finland (2001-2003) and The Economic Crisis of the 1990's: Reasons, Events and Consequences (1998-2001). The new programme on Health Promotion (2001-2004) can be seen as an indirect continuation of the TERO programme.

The research programme as a research policy instrument of the Academy is still new and it has not yet been thoroughly evaluated. Neither is there an established model for programme evaluation. The conclusions of this evaluation focuses mainly on the programme process as a whole. The evaluation of individual projects could have been particularly premature for those projects that have only recently started their work. The range of the projects is so broad that it would not be fair to use the same evaluation criteria on all of them.
In view of the internationally recognized importance of social inequalities in health in many developed countries, including Finland, the focus of the Programme is well-justified. Some of the involved Finnish research teams have made significant scientific contributions to this theme since the 1980s, and it was conclusive to strengthen their research efforts by this Programme. Moreover, as several other northern European countries have launched similar programmes, the potential of international collaboration and synergism is excellent.

Despite these merits the focus of the Programme has been too broad. In addition to social inequity in health the Programme also addresses other welfare differences, sets ten broad themes and has the ambition not only to describe the social differences in health and welfare, but also to shed light on the causes of differences and the ways in which they could be reduced.

With a limited budget, a total of the 22 projects have been supported, ranging from small-scale exploratory investigations to large population studies, from ethical analysis of welfare differences to genetic epidemiology. While a broad and interdisciplinary programme has its own strengths, one cannot expect cross-disciplinary output, given the attained broad spectrum of projects and such a limited time span. For these structural reasons, the outcomes of the Programme concern preliminary achievements within single projects rather than cross-fertilization between projects.

In practice, the Programme seems to have been one source of funding to most significant Finnish research teams that work on social epidemiology of social variation of health. Probably the most important exception is the research on social inequality in the access to and use of health care, which has not received funding from the Programme. At the same time, the Programme has been much more marginal for Finnish research on ‘other welfare differences’. The research on interventions and policies to reduce social differences in health and welfare was also weakly represented among the applications for funding from the Programme.
The multidisciplinary character of the Programme makes it difficult to assess the standard of the research. Different disciplines and approaches develop in different contexts also in terms of standards. For instance, both publication traditions and standards are more international for social epidemiology than for social policy research or evaluation of interventions. There is also much stronger tradition of large national individual-level datasets with opportunities for longitudinal research designs in health than in other welfare research.

Even taking into consideration the different starting points of the project teams, it is fair to say that they vary considerably as to the standards and quality of their research. There are excellent research teams with international reputation whose standing has certainly been enhanced through the Programme. Even more of the projects may be rated as very good. Many research teams are currently in the process of publishing their results. It is not yet possible to assess the standard of all these projects. Only few projects were accepted into the Programme which – in our view – did perhaps not merit funding within the scope of this Programme.

Overall, the scientific level of projects with an epidemiologic background was remarkably high. It was shown that combining social science information with biomedical information results in an improved estimation of health risks. Several projects documented social dynamics of negative life events such as unemployment and their effects on health, affecting even children of exposed parents. Marginalisation and social exclusion processes were studied in children and adolescents; other investigations dealt with health effects of adverse working conditions and with health behaviours in old age. Most importantly, large-scale datasets were analysed documenting the extent and change over time of social variations of mortality in Finland and comparing them with the United Kingdom and other European countries. Finally, the role of income differentials, of gender and of social networks in explaining health variations has been, and continues to be, analyzed.

In conclusion, the standard of national research in the field has been significantly improved by the Programme.
Finland is unique in terms of its substantial body of high-quality administrative data and population health and welfare data. In addition, several large prospective studies have been initiated and followed-up over an impressively long period of time. This rich, outstanding source of knowledge is invaluable both in national and international perspective. At least ten out of the 22 projects are working with large datasets which offer promising opportunities for further scientific exploration.

To illustrate the significance of the results attained by large datasets, three out of several substantial findings obtained within the Programme can be mentioned: First, it has been proven that health inequalities are closely related to the economic cycle (recession, unemployment rate), thus suggesting one explanation for the differences between Finland and the United Kingdom as well as within Finland over time. Secondly, gender inequalities in health were documented, again by comparing Finnish and British data. Interestingly, new results indicate that gender differences in these countries are smaller than was assumed, and that employment in combination with a balanced private/family life produces favourable effects on health. Thirdly, an important piece of the newly-created knowledge base relates to the analysis of social variations in health expectancy: compared to conventional life expectancy larger differences were found using this new indicator.

The evaluation group noticed that within the projects the Finnish traditionally strong emphasis on regional differences and related socioeconomic differences gained less attention than in previous Finnish research. The group would also have expected more consideration to the analysis of concepts used in the classification of population groups, e.g. the potential significance of ethnic background or the validity of traditional income and occupational categories.

Some of the projects, particularly those oriented mainly to policies to reduce differences, applied qualitative research methods or a combination of qualitative and quantitative research methods in their studies. The need for such research to respond to the challenges of the Programme is also evident. However, few such projects funded by the Programme seem to be still in the process of producing their main reports. They have not been active enough in publishing in international scientific journals, yet.

The development of relevant social theory or linking the empirical results with relevant social theory was rather weak in most publications of the projects. The lack of theoretical analysis in a number of projects may also prevent from proceeding from social epidemiology to relevant conclusions with regard to public policies.

In conclusion, in spite of certain shortcomings the Programme has as a whole been successful in strengthening the knowledge base in its target area.
Increasing networking among members

As mentioned, the broad topical spectrum, limited funding, restricted time and large geographical differences between the research teams across Finland created some obstacles against more intense networking and interdisciplinary collaboration. This is also obvious from the feedback given by the project leaders to the coordination group. It is evident that the Programme has supported networking more for the projects with a social epidemiology orientation than for the projects with a more distant approach from this actual “core area” of the Programme.

Certainly, the research seminars have contributed to a systematic and organized scientific exchange, in addition to information facilities such as website, e-mail, circulation of papers etc. In particular, young researchers can hopefully make use of an established network in their future work.

Impact on researcher training

Clearly, the impact of the Programme on researcher training must be considered as one of its major strengths. The number of Master's degrees and doctoral dissertations gained within the Programme is impressive. We look forward to this promising output in a couple of years.

A great number of projects have reported their problems in finding additional funding for doctoral students to finish their Ph.D. theses. This is an obvious concern with the Programme that is so short that it cannot provide funding through a standard four year period, which is an average time for Ph.D. studies in Finland.
Impact on international research cooperation

Scientific productivity in terms of published papers in peer reviewed international journals or books varies remarkably between the project teams. In fact, one group has documented an outstanding publication output, three more groups have very good, twelve groups have good or fair and six groups have poor or (so far) no international publications output as related to the Programme. It should be remembered, however, that the teams started at different levels in 1998 and that many publications take a long way, even after completion of the research project. Probably none of the teams reached a high level of publications only due to the Programme.

It should also be kept in mind that both the publication traditions and publication channels are different. The traditions of social policy and social work research are quite national and hence the articles are mostly in Finnish. Some of the research groups even appreciate more impact on society than on international science. This is different from the tradition of social epidemiology research where there are several important international journals and where refereed publications are most relevant to researchers.

The most productive project teams had established their international cooperative links before the Programme was started. Thus, the Programme has been particularly helpful in strengthening existing international research cooperation rather than initiating new ones. At least eight out of the 22 projects document convincing and, in part, long-standing and extremely successful international research collaboration. There are also some teams which have a good international record but not related to this Programme.

Independent of the Programme a network is funded by the EU called ‘EU Working Group on Socioeconomic Inequalities in Health’, where some social epidemiologists of the Programme participate in the core group. This EU network is considered very important in the field and has increased international contacts of several research teams. The network is organising multidisciplinary research meetings and discussions on the topic.

In conclusion, research activities covered by this Programme have made, and continue to make, a significant contribution to international science, at least as far as the analysis of health variations within and between countries is concerned.
9 Impact on society

The programme has evidently had an impact on the preparation of the new ‘Health 2015’ programme recently endorsed by the Finnish Government. This comprehensive new health policy for Finland gives a particular emphasis on the development of action to reduce social inequity in health. Concerted research on health and welfare differences between population groups has also raised the consciousness of the Finns to address inequalities by effective policies.

10 Programme funding

Although the total funds allocated to the Programme were of the size of the Academy’s regular research programme funding, it turned out that limited overall funds of the projects including mixed grants by different research agencies, created a major constraint of this initiative. It is partly due to the selection procedure, where out of 80 applications 22 were accepted into the Programme. The scope of the Programme being so wide, there were too many projects to be properly funded solely by the Academy. This implied that at least half of the projects document changes or reductions in their initial research proposals due to financial restrictions. In some cases, internal mismanagement may have contributed to this, but most powerful adverse effects were produced by limited resources. While the projects chosen faced severe downsizing of their finances, the reductions were not properly reflected in the research plans accepted by the Academy. There has not been any mechanism to negotiate cuts in the project proposals. Some teams have received only 30 per cent of the money applied for. This has been especially detrimental to new, starting groups with no other funding. The more established teams could have continued partly their work with some added funds from the Programme. It may also be considered whether it is worthwhile to fund a project for one person one year.

Another issue concerns multisource funding. The Academy should negotiate with the researchers on which part of the project is funded by any of their funding agencies. As well should the results of the sub-project funded by the Academy be clearly specified.

The fund allocation responsibility is usually delegated to a programme group, which has the task to select the projects. This group seems to be of utmost importance and has to consider the expected results of the programmes. The too dispersed allocation of the funds is a major concern and needs primary consideration in future research policy.
11 Achievements of the coordination group

In view of the available modest resources, the coordination center has completed its task well. In particular, the organization of information exchange and dissemination, the preparation of seminars, the support provided to the project teams, the efforts to collect annual reports and the investments in international exchange have been accomplished by this small team in a very efficient way. We understand that there were good reasons to assign these responsibilities to one of the involved projects. However, one should be aware of that structural role conflicts are likely to occur. We therefore agree with the coordinator's self-evaluation and conclusion that an external coordinator would be recommendable for a similar task in the future.

12 Recommendations

On the basis of its evaluation, the group has outlined ten recommendations to the Academy of Finland to be taken into consideration in the follow-up of this Programme and in the future development of similar programmes.

1. The use, updating, development and coordination of the unique Finnish administrative registers, broad datasets, longitudinal datasets and prospective studies that have proven, once more, their strengths in this Programme should be a continuous concern in the research policy of the Academy.

2. The development of research on the public policies relevant to the development and reducing of health and welfare differences between population groups was not attained as satisfactorily as the other aims of this Programme. The development of such research should be a special concern for the Academy in the future.

3. There are good reasons for extending the existing research networks by setting broader scope for research programmes. However, the scope of a programme should be so focused that cooperation, cross-fertilization and coordination within the programme are possible and that the funds available have potential to make a difference in the focused research area.

4. The time frame of this kind of programme should be longer than three years or such a short programme should be followed by a second phase of funding for those projects that have performed in the most promising way during the first phase.

5. The practice of providing only 25-30 per cent of the applied funding for the projects without negotiating new project proposals with the project teams may be
detrimental both from the perspective of the aims of the programme and from the perspective of the project teams. Funding should be either closer to the applied level for smaller number of projects or there should be a procedure for specifying the part of the project proposal that will be funded by the programme.

6. The full funding of young, promising and expectedly innovative research teams should be a special concern for this kind of programme. This kind of risk taking should be part of the implementation of the programme, parallel to funding established teams with record of good performance.

7. Special efforts should be undertaken to support the development of research teams that combine the theoretical background and methodologies of different scientific disciplines with the study of common research questions.

8. The continuation of the Ph.D. studies started within this kind of programmes, e.g. through additional funding, graduate schools or other support, should be a special concern for the Academy.

9. There should be more time between the announcement of the programme and the deadline for applications in order to enable the development of larger multidisciplinary research teams and the participation of all potential applicants.

10. The tasks of programme coordination should be clarified. The coordination could start early enough to support the development of new research teams. Role conflicts should be avoided in the definition of the tasks and/or recruitment of the coordinator.