

International Evaluation Group

Report of the International Evaluation

**OF THE FINNISH INSTITUTE
OF OCCUPATIONAL HEALTH**

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Report of the International Evaluation of the Finnish Institute of Occupational Health

Summary

§ The International Evaluation Group consisted of members representing several academic disciplines, yet sharing experience and a deep understanding of occupational safety and health theory and practice. It performed an expert assessment of the strategy and activities of the Finnish Institute of Occupational Health (FIOH), based on a self-evaluation by the Institute, a number of other documents, and interviews with FIOH management and staff, customers and other stakeholders.

In relation to *policy relevance and results* the IEG finds that FIOH's work is consistent with and supports the policies of the Government. FIOH is an important contributor to work-force well-being and national welfare, and it deserves credit for attempts to change the present practice of occupational health services, which limits the effectiveness of the services, especially in prevention.

FIOH provides a broad range of services for workplaces that are highly appreciated by its stakeholders (public and private organisations, collaborating partners, professional associations, ministries, and the Parliament). However, in spite of the existing law and the contract between MSAH and FIOH, its core tasks and priorities are not always clear to all stakeholders.

FIOH plays a prominent role in increasing global awareness about workers' well-being and health. This role is very much appreciated in international networks, in the Nordic countries and Europe, as well as worldwide. One example is the WHO network of collaborating centres of occupational health. These activities are not only important for the occupational health of workers around the globe, but they also contribute considerably to the ability of FIOH and its partners to acquire international funds and to the prestige of Finland in the world.

As to how FIOH relates to other institutions that develop working life, the IEG finds that FIOH is well positioned and that no overlaps with the National Institute of Health and Welfare (THL) and universities are obvious. Certain basic research performed at FIOH could be argued to more properly belong to the university setting, but it is central to FIOH's applied research and development activities. The strategic goals of FIOH are highly relevant in view of the future needs of Finnish working life.

The IEG emphasises the importance of preserving FIOH as a separate institute in the future. As such it will best guarantee the continuation of the focused and applied research, development and educational efforts that are in line with and support attempts to promote a well-being workforce and the development of good working conditions. Those are the intentions of the National Working Life Strategy to 2020, which make the argument for a separate institute even more compelling.

The IEG has also scrutinized FIOH's "operational efficiency and relevance in innovation and quality". It finds that the FIOH operates under an innovation model that appropriately identifies client problems and has initiated successful partnerships with large and small client organisations. Having said that, the IEG suggests that FIOH should consider a comprehensive monitoring of workforce and workplace client needs through a combination of active and passive surveys and other data gathering methods.

FIOH has reached world class in research and solution dissemination, as demonstrated by a large number of high impact publications produced and systematic implementation achieved through partnering with clients in well-planned development activities. FIOH is engaged in R&D networks nationally and internationally (e.g. FIOH is coordinating one EU nano-network).

The innovation model has efficiently supported the continued change of FIOH's organisation towards client focus and problem solving. As to operational efficiency and relevance FIOH has

scrutinised its research portfolio and terminated projects not related to strategic priorities. The innovation model stimulates researchers to provide clients with solutions meeting their needs.

The IEG underlines that FIOH's staff is highly competent, many are multi-skilled and move flexibly between research, development and education. There is, though, a need to broaden skill-sets if present goals of longer work-careers are to be met, and as a consequence, more older people will continue at work. FIOH should increase its efforts to recruit staff with medical, behavioural, organisational, management and IT expertise to meet the challenges of an ageing workforce and the increasing digitalisation of working life. The IEG compliments FIOH for its implementation and impact research, but emphasises that it should be further strengthened by involving more economic expertise.

Responding to its assignment included in the Government resolution on state research funding and research institutes, the IEG, by referring to assessments reported above, points out that FIOH is well-equipped to serve the Government and ministries involved in developing working conditions and working life in Finland. The IEG has not identified any obvious overlaps of core activities with other institutes or universities. It suggests, though, that as to two support functions - registry (database) management and research laboratories – possible synergies or resources to be shared between THL, FIOH and Kela, among others, could be explored. That analysis should be based on a thorough evaluation of possible scale economies vs. the costs of not having the expertise or equipment in-house.

The IEG makes the following recommendations to FIOH and its leadership:

- Pay due attention to the Government's plan to reduce public spending and reorganise state research funding, which will lead to further reductions in FIOH's state funding
- Do more to justify strategic choices and actions: Identify the needs of stakeholders, present solutions clarifying the evidence-base of those, suggest implementation plans, evaluate for impact
- Prioritise needs and activities, guided by the required focus on prolonging working careers, in order to make informed decisions about reductions necessary because of budget cuts
- While doing increasingly more research on the effectiveness of interventions and partnering with client organisations, do even more – establish a programme in impact research to complement the innovation model
- Given the present biomedical research potentially leading to more emphasis on personalised risk and less on risks related to working conditions, make a consistent effort to consider the implications and implement safeguards
- Make digital communication the main channel to reach employers, employees, decision-makers and all citizens in Finland
- Monitor the working conditions in relation to labour market trends with increasing numbers of immigrants, workers with "flexible" contracts and self-employed
- Become a specialist of the totality of working life to include periods of work, unemployment, and multiple careers and jobs.

Key word

Health Promotion, Health Care, Innovation Policy, Public Administration, Occupational Health and Safety, Research and Development, Research Policy, Sectoral Research, Social Welfare

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1 ASSIGNMENT

The Finnish Ministry of Social Affairs and Health (MSAH) appointed on 19 August 2013 the following group of experts to evaluate the activities of the Finnish Institute of Occupational Health (FIOH):

Professor Mats Brommels, Director, Medical Management Centre, Karolinska Institutet (chair)
 Professor Stavroula Leka, Director, Centre for Organizational Health & Development, School of Medicine, University of Nottingham
 Professor Frank Pot, Radboud University Nijmegen
 Dr. Paul A. Schulte, Director, Education and Information Division, US National Institute for Occupational Safety and Health
 Professor Hannu Uusitalo, former Director of the Finnish Centre for Pensions
 Dr. Palle Ørbæk, Chief Medical Consultant, Danish Working Environment Authority

The members of this group have different disciplinary backgrounds, but share a deep knowledge and understanding of occupational safety and health theory and practice, health services research, and research implementation. In this document the group is referred to as the International Evaluation Group (IEG).

The scope and purpose of the evaluation was defined in its Terms of Reference as follows:

“The task of the evaluation group is to assess how FIOH succeeds in implementing its mission in modern work life. The evaluation should be future-oriented, reflect the challenges for development of work life and make recommendations for the further development of FIOH’s activities.

The evaluation will address the relevance and effectiveness of FIOH’s activities:

- Are FIOH’s objectives and results relevant?
- Is FIOH’s approach effective?

The relevance and effectiveness will be evaluated:

- in respect to the needs of work life at the moment and in future, especially in respect to prolonging of working careers,
- with regard to co-operation between research institutes and universities and to distribution of work in developing the work life, and
- with regard to international co-operation and distribution of work in developing the work life.”

On 5 September 2013 the Finnish Government passed a resolution on the “Comprehensive Reform of State Research Institutes and Research Funding”. In Section 3 of the resolution it is stated that:

“The activities of the National Institute for Health and Welfare and the Finnish Institute of Occupational Health will be assessed by 30 June 2014. This will include an evaluation of the suitability and compatibility of the institutes’ strategic research areas, and of their key development and administrative tasks, taking account of feed-in requirements related to decision-making and steering within government.

In addition, thought will be given to the possible elimination of overlapping functions and the appropriate division of labour and research tasks between universities and research institutes. During this evaluation, development proposals will be formulated related to the

institutes' strategic management and their research, development and administrative tasks, and on which research functions should be transferred to the universities.

The ministry in charge will be the Ministry of Social Affairs and Health, in collaboration with the Ministry of Education and Culture.”

To structure its work, the IEG used the “Objects of the evaluation” listed in the Terms of Reference. The task was to answer two groups of questions regarding policy relevance and results, and operational efficiency and relevance in innovation and quality. The additional assignment, defined in the 5 September 2013 Government resolution, was formulated as a third group of questions to understand the position of FIOH in relation to the planned reform of state research institutes and research funding.

The questions were:

“1. Policy relevance and results

- a) Have the strategic goals and allocation of resources of FIOH been in accordance with its legislative mandate and the relevant strategic national objectives set by the Government and Ministry of Social Affairs and Health?
- b) Have the policy relevance of FIOH’s objectives and client results of FIOH been adequate and applicable in respect of the needs of FIOH's clients:
 - authorities
 - workplaces
 - citizens
 - mediating bodies that serve, support or represent citizen’s activities and are related to - occupational health and safety,
 - public management and development of occupational health and work life in Finland and the European Union, and
 - collaboration with other policy sectors.
- c) Are the strategic goals of FIOH adequate in respect to the role of other institutions developing work life, especially in respect of the role of the National Institute of Health and Welfare (THL) and universities?
- d) Are the strategic goals of FIOH relevant in view of the future needs of Finnish work life?
- e) Is there a need for having FIOH as a separate institute in the future?

2. Operational efficiency and relevance in innovations and quality

- a) Are FIOH's processes and practices appropriate, innovative and efficient in acquiring information of client needs?
- b) Are FIOH's processes and practices innovative, of good quality and efficient in R&D? Is FIOH's role appropriate in relation to other agents in the field and does FIOH make good use of partnerships?
- c) Are FIOH's processes and practices innovative, appropriate and efficient in disseminating outputs to customers? Is FIOH's role appropriate in relation to other agents in the field and does FIOH make good use of partnerships?
- d) Are the knowledge and competence of FIOH and its personnel adequate and sufficient for the current and forthcoming needs in respect to comprehension, coverage and level of knowledge and competence?”

According to the 5 September 2013 Government Resolution the IEG should formulate a stance on:

“3. The position of FIOH in relation to the planned comprehensive reform of state research institutes and research funding, and more specifically:

- a) Are FIOH’s strategic research areas, and their key development and administrative tasks, suitable and compatible taking account of feed-in requirements related to decision-making and steering within government?
- b) Are there overlapping functions between the research institutes possible to eliminate? Is the division of labour and research tasks between universities and research institutes appropriate?”

2 ORGANISATION AND METHODS OF THE EVALUATION

The evaluation of FIOH is an expert assessment by the IEG based on document analysis, and interviews with FIOH stakeholders, management and staff, as well as the Board of directors of the National Institute for Health and Welfare.

The documents consist of government and ministry policy documents of relevance for the strategies and activities of FIOH, a FIOH self-evaluation report written by FIOH’s departments and units, and a number of “special reports” on issues of specific relevance to the core functions of FIOH.

The IEG met with representatives of the Ministry of Social Affairs and Health (MSAH), the Board of directors and the Management team of FIOH, other ministries and stakeholder groups on 26-27 November 2013. After having studied the documents, the IEG met on 3-7 March 2014 with the FIOH Management team for a follow-up, representatives of users of FIOH services, and members of selected FIOH research groups, as well as members of the “Influence through Knowledge” programme. In addition, the IEG met with the Board of directors of the National Institute for Health and Welfare on 5 March 2014.

The documents and interviewees are listed in Appendix I.

The IEG summarised the content of the policy documents and compared their objectives and recommendations in relation to working life, and occupational safety and health, with the FIOH Strategy for 2011-2015, in order to formulate a view on the policy relevance of FIOH’s activities.

The IEG also reflected on the views and priorities expressed by the FIOH leadership, FIOH activities and achievements reported in the self-evaluation and special reports, and descriptions of programme priorities and activities reported by interviewed staff. Those observations were compared to stakeholder needs and priorities in order to assess the “operational efficiency” of the FIOH, the results achieved, and their relevance and impact.

3 BACKGROUND TO THE EVALUATION

The international scene

It is useful to begin with a look outside of Finland when evaluating the performance of FIOH and its preparedness for moving towards the 2020 priorities by doing research and other activities of high relevance for the Finnish society in a globalised world. The scene will be set by giving a brief report of the European activities and conclusions of future scanning and priority setting for occupational safety and health (OSH) research. In addition, the scenario will be complemented with ideas expressed in the future oriented activities promoted by the National Institute of Occupational Health (NIOSH) in the United States and by the World Health Organization (WHO).

Two European reports are central for the future priorities concerning OSH. One report has been developed by the Partnership for European Research in Occupational Safety and Health (PEROSH), which includes FIOH as an active member. The second report has been published by the European Agency for Safety and Health at Work (EU-OSHA). In line with the EU2020 Strategy for smart, inclusive, and sustainable growth, one of the aims of OSH research is to contribute to healthy, safe, innovative and sustainable workplaces, and in keeping people healthy, to prolong their number of years of gainful employment.

As the result of a joint consultation process, the PEROSH partners identified seven research challenges for OSH until 2020. The challenges were identified within a framework of future scanning, using general forecasting exercises, literature reviews and stakeholder discussions, which had been organised by the individual institutes. A comprehensive national and international collaborative process identified seven main challenges considered to be essential for future OSH activities and in need of research: 1. Sustainable employability to prolong work careers – 2. Disability prevention and reintegration – 3. Psychosocial well-being in a sustainable work organisation – 4. Multifactorial genesis of work-related musculoskeletal disorders – 5. New technologies as a field of action for OSH – 6. Occupational risks related to engineered nanomaterials – 7. Safety culture to prevent occupational accidents.

EU-OSHA then published a report entitled “Priorities for occupational safety and health research in Europe: 2013-2020”. This report identified the priorities for OSH research in the coming years in order to promote European priority setting and to facilitate better coordination of research activities and a more efficient allocation of resources.

EU-OSHA identified a selection of key documents on OSH prepared by OSH networks, e.g. PEROSH and NEW OSH ERA, and several more. Reports from non-European OSH institutions such as NIOSH, WHO, and the International Labour Organization (ILO) were also included. In the next phase, the four most important OSH research areas were identified and selected: 1. Demographic change – 2. Globalisation and the changing world of work – 3. Safe new technologies – 4. New or increasing occupational exposures to chemical and biological agents. The four topics were in part selected due to their relevance to the economic, societal and policy context, and the related challenges on the one hand, and the targets of the Europe 2020 strategy and the Horizon 2020 programme on the other hand. One of the documents states that “Healthy and safe working conditions are closely associated with the productivity and the performance of enterprises”, and that “high quality of work goes hand in hand with high employment participation”.

Subsequently, desk research and expert consultations identified three to six of the most important topics within each thematic area. Examples of these topics of relevance for Finland are: older workers, prolonging work life, gender aspects, migrant workers, working with chronic

disease, musculoskeletal disorders, changing organisations and work patterns, stress and mental disorders, wellbeing at work, OSH in small and micro enterprises, hazards in green technologies, new toxic substances, nanomaterials in an innovation driven society, and several more.

The EU-OSHA report also identified some important transversal issues: mainstreaming OSH research in other research areas, intervention research, OSH and risk communication, and prevention through design.

New OSH research that converges with the mainstream of economic, general health and environmental research, is greatly needed. Translation of OSH research into new workplace policies, solutions and practices is needed in order to ensure an impact on workers' health and safety. The transfer of research results to affect policies and professional practices has not always been adequate and needs greater attention.

Intervention research is crucial to the improvement of OSH practice. The goal of intervention research in OSH is to translate basic research knowledge into preventive actions, and to determine whether specific interventions have beneficial effects for workplaces and workers. The majority of OSH interventions are not evaluated using rigorous research methods, so there is an urgent need for studies that evaluate the feasibility, effectiveness, and costs and benefits of interventions at the workplace, in occupational health service settings, and at a policy level.

Appropriate risk communication that empowers non-experts to make informed judgments and decisions is also highly needed. The challenge is to provide the right information in the right way in order to change the receivers' beliefs, attitudes and/or behaviours related to risk. Risk communication is particularly important in the context of new technologies with uncertainty regarding their potential risks; examples include the nanotechnologies and electromagnetic fields. There is a need to strengthen risk communication research to find efficient ways to deliver timely and appropriate information on OSH to various target audiences.

The development of the "prevention through design" concept will make it possible to address OSH issues in the design stage to prevent or minimise work-related hazards and risks associated with the construction, manufacture, use, maintenance, and disposal of facilities, materials and equipment. Prevention through design is a concept applicable to all industry sectors and workplaces, and is particularly relevant when developing new technologies, processes and materials. The concept should be promoted as a cost-effective means to prevent or reduce work-related accidents and health problems, and enhance occupational safety and health.

From outside Europe, two innovative concepts may be of high relevance for the future development of OSH in Finland. One is the NIOSH Total Worker Health (TWHTM) strategy which integrates occupational safety and health protection with health promotion to prevent worker injury and illness, and to advance health and well-being. The other is the WHO Healthy Workplace Model that offers a comprehensive way of thinking and acting for securing health, leadership and involvement, as well as sustainability and integration.

Emerging evidence has recognised that both work-related factors and health factors beyond the workplace jointly contribute to many of the health and safety problems of workers. Traditionally, workplace health and safety programmes have been separate. Health protection programmes have focused mainly on safety, reducing worker exposures to risk factors in the work environment itself. Health promotion programmes, on the other hand, target lifestyle factors. A growing body of science supports the effectiveness of combining these efforts through workplace interventions that integrate both health protection and health promotion initiatives.

In the United States, NIOSH launched the TWHTM program in June 2011 as a step to a Healthier U.S. Workforce. The TWHTM program supports the development and adoption of ground-breaking research and best practices of integrative approaches that address both occupational health protection and health promotion.

The United Nations high-level meeting in 2011 emphasised the need to "promote and create an enabling environment for healthy behaviours among workers, including establishing tobacco-free

workplaces, and safe and healthy working environments through occupational safety and health measures, including, where appropriate, through good corporate practices, workplace wellness programmes and health insurance plans.” The WHO considers workplace health programmes as one of the best-buy options for prevention and control of non-communicable diseases, and for mental health. Such programmes can help to achieve the objective of reducing avoidable deaths due to non-communicable diseases and the burden of mental ill-health, and to protect and promote health at the workplace. The WHO Healthy Workplace Model integrates efforts to prevent work-related physical and psychosocial risks with the promotion and support of healthy behaviours and it also includes the broader social and environmental determinants of the health of workers.

The European priorities for OSH development and research, as well as the NIOSH and WHO concepts and programmes, are all highly relevant sources of information when discussing the future priorities and strategic development of the FIOH.

Finland: an era of austerity

This third international evaluation of the Finnish Institute of Occupational Health takes place in a situation, which is from an economical, as well as a public policy point of view, much more strenuous when compared to the times of the previous evaluations in 2004 and 2009. The international fiscal crisis in 2008 has hit Finland harder than many other countries. The GDP in Finland fell in 2009 in real terms by 8.5 per cent. In 2010 and 2011 the growth rate was positive, but fell below zero again in 2012 and 2013. At the moment, the GDP in real terms is lower than before the crisis started in 2008. Forecasts show minor positive growth in the coming years, but growth is probably going to be more modest than in most other EU countries. Finland’s export is less diverse than that of, for example, Sweden, and is dependent mainly on the paper and electronic industries, and both of these sectors have been hit by declining demand in the global market.

In addition to these short-term economic problems, Finland, like many other countries, is facing a long term change in the dependency ratio (the number of people below 15 and above 65 years of age in relation to the number on people at working age, 15-65 years of age). Specifically, the number of older people will increase in the forthcoming years and decades. According to Statistics Finland, Finland had about 25 people above the age of 65 per 100 persons in the working age in 2010, while the ratio in 2030 will be 45. The number of working age people in the population is not assumed to decline significantly. However, the future prospects on growth depend on productivity improvement, since no increase in the workforce is expected.

These challenges are tackled by various policies, including taxation, and by efforts to limit the growth of public expenditure. Recent Finnish governments have tried to control the size of public employment through different programmes. The “public sector productivity programme” requires public sector organisations, including FIOH, to reduce their personnel. Forecasts suggest that public deficits and debt are increasing rapidly, although the goal of the present government is to decrease their GDP share. The government has already decided on cuts of public expenditures and increases in taxes for next year, and years to come.

The present government has also decided on a comprehensive reform of state research institutes and research funding. The aim is to promote the use of research in governmental decision making and to make research function as a “strategic resource for decision making and societal development”. New “strategic research funding” instruments will be created, by reducing the funding of state research institutes. The goal is to gradually increase the strategic research funding annually until 2017, when it will reach 70 million euros. This fund will be administered by a “council for strategic research” to be established at the Academy of Finland (Finnish Research Council). In addition, 12.5 million euros will be dedicated to the Prime Minister’s office to be used

for research, assessment activities, and reviews meeting the immediate information needs of the government and its ministries.

These austerity measures have had and continue to have consequences for FIOH as well. Due to the government “public sector productivity programme” FIOH’s key resources have been reduced. The state subsidy has declined, leading to a reduction of 100 full-time staff since 2008. These reductions of FIOH’s resources will probably continue in the coming years. In addition, due to the reform of state research institutes, FIOH’s state subsidy will further decline by 3.9 million euros in 2017, which amounts to more than 9 percent of FIOH’s state subsidy in 2013.

These decisions lead to great challenges for FIOH. It has to adapt to these changes and still maintain and further improve its contribution to the Finnish working life and health. At the same time, important social changes are occurring, which need FIOH’s attention. As noted above, to achieve growth in productivity is an important goal in Finland, which will be promoted by a healthy workforce. However, the workforce is growing older, and mental health problems are increasing as causes for sickness absence and disability. Prolonged unemployment is a health risk. Although the age-standardised incidence of disability pensions has declined, there is still room for improvement.

The evaluation of FIOH was conducted against this succinctly presented background, and it paid particular attention to the following five challenges:

- 1) The Government is presently making an overhaul of state research funding and is assessing the state research institutes, including FIOH and its “sister organisation”, the National Institute for Health and Welfare.
- 2) The Government has set the goal that Finland, by 2020, will be a socially sustainable and vibrant society.
- 3) The national focus on curative rather than preventive service is hindering the efforts to extend working careers and reduce absence from work due to disability and disease. The background of increasingly prevalent chronic conditions requires more emphasis on preventative efforts.
- 4) The majority of Finnish workplaces (about 320,000, including primary production) have fewer than 10 employees. The occupational safety, health, and well-being of the workforce in these small firms is a major challenge.
- 5) The amount of information in the world in general, and in Finnish society in particular, is growing rapidly. Decision-makers, from individual workers to employers and government authorities, must deal with information overload, as they attempt to address workforce health, safety, productivity, and well-being issues.

4 IMPLEMENTATION OF THE RECOMMENDATIONS OF THE 2009 INTERNATIONAL EVALUATION

A number of recommendations were made in the 2009 evaluation of FIOH that concerned both its overall activities and more specifically the activities of its regional offices. It is obvious that significant results have been achieved in relation to these recommendations over the past years. These have been underpinned by a more focussed approach in relation to operations and client services. In addition, there has been an effort to translate knowledge into practice and disseminate

these practical solutions more widely. This has been achieved through the introduction of a more efficient organisation of FIOH's activities and the development of further collaboration with key stakeholders.

Furthermore, several steps were taken to address recommendations in relation to regional offices. These steps aimed at ensuring continuity in the ability to serve clients and in expanding the reach of FIOH's activities, especially to SMEs. Finally, steps have been taken to address recommendations in relation to internal processes in FIOH and ensuring that staff is consulted and supported, although it should be noted that external constraints placed upon FIOH might have not facilitated the full uptake of these recommendations.

Overall, FIOH has responded well to the recommendations made in 2009 although there are certain areas where further work is required. The most important of those is in serving the needs of small businesses since these represent the majority of businesses in the country. It should be acknowledged that difficulty in reaching smaller businesses is not unique to Finland; this area has been a consistent priority in all countries and especially as concerns health and safety. It should also be acknowledged that FIOH has made efforts to further address small business needs since the 2009 evaluation. For example, surveys have been conducted to better identify existing needs. New networking activities have been introduced. Dissemination methods have been further developed to be more appropriate for SMEs. FIOH recognises the need for continued efforts to reach small businesses and being innovative in the process. Continued assessment of core activity areas in relation to client needs and associated deployment of resources will be useful to this end in the future.

5 POLICY RELEVANCE AND RESULTS OF FIOH STRATEGY AND ACTIVITIES

5.1 FIOH GOVERNING PRINCIPLES AND TASKS

Apart from the Parliamentary Act on the Operations and Financing of the Finnish Institute of Occupational Health (24.2.1978/159), the IEG identified the following regulations and policy documents relevant to the mission and strategy of the Institute:

- Programme of Prime Minister Jyrki Katainen's Government (22 June 2011)
- The Government's National Working Life Development Strategy to 2020 (published in December 2012); its vision being to make the Finnish working life the best in Europe by 2020.
- Socially Sustainable Finland 2020 - Strategy for Social and Health Policy, Ministry of Social Affairs and Health (MSAH, Publications 2011:1)
- Policy for Working Environment and Well-being at Work by the year 2020, Ministry of Social Affairs and Health (MSAH, Publications 2011:13)

The FIOH Act states that:

“The task of the Finnish Institute of Occupational Health is to engage in and promote research on the interaction between work and health, and for this purpose to handle personal data for studying and monitoring the development of the health status of workers. In addition, the Institute carries out investigation, measurement and service work relating to the prevention and elimination of health hazards and impairments occurring at workplaces or otherwise in work environments. The Institute carries out independent health care, nursing and laboratory activities for the purpose of diagnosing, treating and preventing occupational diseases and diseases caused by or relating to work,

and for assessing work ability. The Institute engages in education and training, publication and information activities relating to its sector, and carries out the other tasks provided and laid down for it.

The Finnish Institute of Occupational Health may, from workers' exposure data obtained by carrying out the measurement and laboratory activities provided in Section 2, form a register of occupational hygiene exposure measurements and a register of biological exposure measurements. ...

The Finnish Institute of Occupational Health maintains a register of work-related diseases for the purpose of research, investigation and prevention, and the development of diagnosis and treatment of occupational diseases and other work-related diseases. ...

The Finnish Institute of Occupational Health may, in addition to the activities stipulated in Section 2, produce health care services exclusively for the use of another party, carry out research, personal assessment activities and other investigations and measurements relating to its sector, and with the consent of a registered person, store and use these data for research and investigation tasks in its sector.”

The programme of the present government sets three overarching priorities: reduction of poverty, inequality and social exclusion, consolidation of public finances and enhancing sustainable economic growth, employment and competitiveness. As regards FIOH's activities, especially important goals of the government programme relate to raising the employment rate and prolonging work-careers. The programme refers to the agreement on raising the retirement age expectancy of those aged 25 to a minimum of 62.4 years by the year 2025. This goal needs measures to expand employment at the beginning, in the middle, and at the end of working careers. For FIOH, especially important is the observation that:

“Inability to work is the single most significant factor shortening careers. Therefore, the Government will focus on preventing inability to work and providing more work opportunities for those partially capable of working as a measure to extend careers. This will particularly require the improvement of the promotion of health, occupational health care, rehabilitation and working life. Special attention will be paid to enhancing the prevention and treatment of mental health and substance abuse problems, workplace referral to treatment, as well as its realisation, and the facilitation of people's return to work.”

The programme includes a section on occupational health services, which are stated to play an essential part in extending careers. It emphasises the availability of high-quality occupational health care services, with a refocus on occupational health care activities to better support the extension of careers. The comprehensiveness, effectiveness and quality of occupational health services will also be increased. The occupational health services of entrepreneurs, agricultural entrepreneurs, and those in short-term employment must be further improved. The opportunities of small-sized workplaces to acquire occupational health care services must be improved.

As a further step of the Government Programme, the National Working Life Development Strategy to 2020, co-ordinated by the Ministry of Employment and the Economy, involving several ministries, central organisations of the labour market, and expert organisations like FIOH, aims to develop working life quality and productivity simultaneously by reaching the Finnish workplaces through cooperation networks, development programmes, and knowledge management and communication. This programme sets the vision and defines focus areas as featured in the figure below:

The focus areas of the Finnish working life strategy



Four focal areas of workplace development are innovation and productivity, trust and cooperation, health and well-being at work, and a competent workforce. As to health and well-being at work, attention should be paid to the following measures: promotion of well-being at work, management of workload and risks, occupational healthcare, development of the work-environment and change management, meaningfulness of work, and management and promotion of working capacity. The role and objectives of national actors – FIOH being one – are to ensure that:

- Occupational health and safety legislation supports the development of working life
- Resources for activities promoting well-being at work are allocated appropriately
- National level actors create joint plans for the development of well-being at work, health, safety and well-being demonstrating that those are national values
- A model for early support and intervention for people at risk is promoted
- Productivity and well-being at work are developed simultaneously

The MSAH strategy “Socially Sustainable Finland 2020” states as its vision that “Finland in 2020 will be a socially sustainable and vibrant society, in which equality, mental and material well-being, gender equality, and economic, social and ecological sustainability contribute to the balanced development of society”. One of the “strong foundations” for welfare mentioned is longer working careers through well-being at work. The ambitions of the Ministry in this respect are specified in the “Policy for Working Environment and Well-being at Work by the year 2020” as “the prolongation of the working period of life by three years by 2020”. The vision of the policy is that “health, safety and well-being are important shared values that influence every workplace and every employee”. The objectives are to reduce the incidence of occupational diseases by 10 %, accidents at the work-place by 25 %, and that employees report a 20 % reduction in perceived physical and mental strain. A good working environment will require that leadership is recognised as the cornerstone of well-being at work, occupational health services are seen as valued partners by employers and workplaces, that knowledge about occupational health and well-being at work is spread by active communication, that standards of working conditions are promoted by legislation, and that work-safety officials of Regional State Administrative Agencies implement legislation.

The IEG concludes that the current priorities of Finnish social and health policies, as expressed in the documents cited above, call for a number of actions which fall within the realms of FIOH. The next section looks at how FIOH at the strategic level has aimed to meet these expectations.

5.2 FIOH STRATEGY FOR 2011-2015

“Well-being through work” – the strategy of FIOH for years 2011-2015 was approved by the Board of directors on 2 September 2010.

The mission of FIOH is “to promote occupational health and safety as a part of good living”, indicating the adoption of a broader systems view, while responding to the national programmes referred to above. In addition, FIOH has chosen “well-being at work” as its main task, in which it specialises.

“Well-being at work” is not directly defined in the strategy document. It is argued, though, that “financial, social, mental and physical well-being that stems from work is manifested in individuals’ lives, the work community, and in society at large”. And further: “When work is healthy, safe and meaningful, workers prosper, and retain their enthusiasm for work”. Good workplaces and well-being is said to extend careers, the main target of the national working-life strategies. That target will be supported by the FIOH strategic goals: safe and meaningful work, supportive organisations, effective occupational health services, and flourishing workers.

FIOH is creating unique expertise within this extended area of well-being at work, ensuring that it is continually improved, acknowledged, and in demand. The success of the strategy will depend on FIOH’s ability to increase its understanding of the interaction between work and health, and effectively putting research into practice.

The main instrument for the implementation of the strategy is the renewed organisation of FIOH – referred to as the “Innovation model – putting knowledge and solutions into practice”. The organisation is a matrix, creating permeable interfaces between research (“Creating solutions”), development and consultancy at workplaces (“Client services”), and education and communication (“Influence through knowledge”). It builds on the organisation established during the previous strategy period, but the IEG characterises it as still being unique among research centres in its focus on implementation and change in order to secure impact.

FIOH intends to make its research future-oriented. The research is organised in themes. The five themes are: Effective occupational health services, Work participation and sustainable careers, Work life and the future, Well-being solutions for the workplace, and Social capital, health, and well-being at work – all expressing the ambition to meet the objectives of the national policy documents. The Disability prevention centre advances traditional occupational safety and health. The Nanosafety research centre and the Brain at work theme have less obvious links to the policy goals, but are central to the ambitions to cover future occupational health and well-being hazards.

The FIOH responses to the national policy goals and strategies will be further scrutinised when addressing the questions of the evaluation assignment, pulling together information from the FIOH strategy and other documents, as well as stakeholder interviews.

5.3 IEG ASSESSMENT

The IEG assessment of the policy relevance and results of the FIOH provided argued answers to the questions posed in the assignment.

Question 1a) Have the strategic goals and allocation of resources of FIOH been in accordance with its legislative mandate and the relevant strategic national objectives set by the Government and Ministry of Social Affairs and Health?

The IEG finds that the FIOH work plan follows closely the Act on the Operations and Financing of the Finnish Institute of Occupational Health.

As to the MSAH strategy “**Socially Sustainable Finland 2020**”, the 2011-2015 FIOH strategy makes an indirect contribution to the strategy goal “A strong foundation for welfare” and a major contribution to reaching the goal “A healthy and safe living environment”. FIOH activities are less relevant in relation to the goal “Access to welfare for all”.

The MSAH Policy for Working Environment and Wellbeing at Work by the year 2020 defines measures in five areas. All are central to the tasks of FIOH, and the Institute addresses those in its strategy.

- “Leadership as the cornerstone of wellbeing at work”: FIOH supports leadership nationally and locally when communicating research results, developing guidance for controlling hazards, and offering training programmes to managers and occupational health and safety specialists.
- “Occupational health services as a companion”: The development of occupational health services according to national policy documents and the FIOH strategy is identified as a challenge, and is given proper attention in the strategy of the Institute.
- “Knowledge, determination and competence through cooperation”: FIOH is considered a major contributor of expertise to the national collaboration.
- “Effective communication”: FIOH focuses specifically on how knowledge on the improvement of working-life can be spread to workplaces and implemented.
- “Good legislation”: FIOH is the provider of expert advice on occupational health and safety to the MSAH and the Parliament.
- “Competent occupational safety administration”: FIOH has a major responsibility for educating occupational safety staff.

FIOH plays a major role in the implementation of the Government’s National Working Life Development Strategy 2020. This is supported by the statement made by the representative of the Ministry of Employment and the Economy stating that FIOH should be considered to be one of the main actors. In terms of the strategy’s focus areas, FIOH can make the following contributions:

- “Innovation and productivity”: FIOH’s research on worker well-being supports this national initiative.
- “Trust and cooperation”: FIOH has a long history of partnering with different parties on the labour market and supporting workplaces both in the private and public sector, thus contributing to a shared understanding.
- “Health and well-being at work”: This focus area will benefit from FIOH’s core competencies and is a main part of the Institute’s strategy.

- “A competent workforce”: This area concerns the workforce in general and is not a major part of FIOH’s responsibilities.

Question 1b) Have the policy relevance of FIOH’s objectives and client results of FIOH been adequate and applicable in respect of the needs of FIOH’s clients?

This question has been addressed by the IEG based on information gained by stakeholder interviews.

Authorities

FIOH’s objectives are policy-relevant to various authorities and the Institute provides research-based advice to support decision-making. For instance, FIOH acts as an expert for the Finnish Work Environment Authority. Other examples are the contribution of FIOH to government strategies, such as the MSAH “Policy for the work environment and well-being at work until 2020” and the “National working life development strategy to 2020”, central to the Ministry of Employment and the Economy. FIOH’s expertise and contribution will be in even higher demand in the future as the strategy has the bold vision to make working life in Finland the best in Europe by 2020.

Some interviewees, representing political bodies, were somewhat uncertain regarding FIOH’s tasks and priorities, despite the extensive communication efforts of the Institute, including its “policy briefs”, also sent to members of Parliament.

Workplaces

Most FIOH activities focus on workplaces, but the IEG finds that even more effort is needed to specifically reach small businesses. FIOH Client services, aiming at improving workplaces and occupational safety and health management, reach many public and private organisations in Finnish society. Research for creating solutions provides better tools and approaches through the application of the renewed innovation model. Communication of research results and good practices (influence through knowledge) is substantial. IEG interviews with customers provided evidence that these services and solutions appeared to be highly appreciated. Some interviewees advocated for more digital services.

The IEG acknowledges that reaching small companies is difficult in all countries. The Zero Accident Forum is a good example of a concept that can successfully be used by SMEs. Reference can also be made to the Danish example of coaching new entrepreneurs. The FIOH web magazine called Työpiste (Workstation) that was launched in 2009 is comparable to those. This web-only publication is aimed at a wider audience and popularises FIOH’s research. It is frequently updated and includes tips, features, interviews, columns, blogs, Q&A, and user-generated content, including tips on well-being at work. It also offers concrete advice and tips on how to improve the well-being of the workplace. The magazine’s popularity was boosted by the growth of its Facebook follower group.

Apart from improving workplaces and occupational safety and health management, FIOH develops and evaluates Return-To-Work (RTW) approaches and tools that appear to be successful. This success probably contributes to the decrease in disability pensions observed in Finland.

Citizens

FIOH's activities are mainly focused on professionals, employers, and workers. In addition, the general public who live near industrial facilities also benefit from safe factories. Healthy public buildings, such as schools and hospitals, are of importance for population health. Ongoing collaboration with Senate Properties, municipalities and hospitals is very important in this respect. The IEG registered that all partners are very content with their collaboration with FIOH.

A good quality working life of civil servants and healthcare workers, which is the focus of one of the most successful of FIOH's research projects, will also result in better and more effective services for citizens and patients.

FIOH also serves as a resource for citizen protection by being a designated source of expertise on chemical disasters.

Mediating bodies (labour market organisations, professional societies)

These organisations that serve, support or represent citizens' activities, and are related to occupational health and safety, have somewhat differing views on the usefulness of FIOH's services, but, in general, they appreciate the inputs of FIOH.

The tripartite governance model of FIOH is a remarkable strength. The working life actors in the FIOH board discuss work life issues and are regularly updated on the latest knowledge by the Institute.

Among the employers' associations, there are slight differences in their appreciation of FIOH's work. Agricultural (MTK) and municipality employers (KT) are mostly positive. KT likes the proactive stance and FIOH's "positive psychology" paradigm. MTK remarks that there is room for even more practical cooperation with agricultural entrepreneurs. The Federation of Finnish Enterprises (representing small businesses) welcomes FIOH's activities for small enterprises. The Confederation of Finnish Industries (the major representative of the Finnish Employers) would appreciate more focus in the work of FIOH and claim that with such a policy the Institute could manage with fewer resources.

Regarding the trade union prospective, SAK strongly supports FIOH. SAK "does not accept additional reductions in FIOH funding". The organisation emphasises that the focus on longer careers can only be successful with "more personnel and financing."

The representatives of the professional associations of occupational physicians and occupational nurses told the IEG that they are very satisfied with the high quality education of occupational health and safety professionals offered by FIOH. They succeeded in convincing the IEG that no other institutions in Finland could take over this education and improve upon the performance. The situation where occupational nurses typically have to pay for their professional education out of pocket is a problem which requires a solution.

Public management and development of occupational health and work-life in Finland and the European Union

FIOH is an active and highly regarded collaborator in the national and international communities. By supporting the authorities as described above, FIOH contributes substantially to the public management and development of occupational health and working life in Finland. This is also recognised by the Academy of Finland: "It is important that research conducted at FIOH will be sufficiently supported in the future as well." Concerning the question about remaining an

independent Institute, the Academy does not take a stand. “Yet the discontinuation of an independent Institute with a long and successful history can damage the quality of research, but it is also possible that occupational health research in a new context will gain novel synergy advantages and actually benefit from being exposed to different and variable influences.” The IEG holds the first scenario to be more plausible than the second one.

Globally, FIOH is one of the most influential institutes in the world, along with NIOSH (USA). Naturally, the volume of its international activities is much smaller than that of NIOSH, but its contribution to raising awareness globally and to research and education in Europe is substantial. This influence includes FIOH’s ability to acquire funding from EU-resources together with international partners.

Collaboration with other policy sectors

FIOH’s efforts are consistent with the objectives of the healthcare, education and labour sectors.

Regarding the healthcare sector, FIOH is specifically supporting occupational health services. However, these services are – in the current healthcare system – more focused on medical examination and treatment rather than on integral prevention (including hygienic, safety, ergonomic and organisational interventions). This discrepancy is obvious, for example, by noticing the rising costs of occupational healthcare (doubled in the first decade of this century) on the one hand, and on the other hand the fact that no change in the level of absenteeism and workplace accidents can be demonstrated.

FIOH contributes to the education sector by providing professions education for occupational safety and health professionals as discussed above. It also has a programme in occupational safety and health for students in secondary level education or vocational training that prepares those students for work-life and supports their career planning.

The focus of FIOH on work ability and longer careers enhances a well-functioning labour market under current and future conditions. However, less attention is being paid to people with flexible contracts who in general have lower quality jobs and fewer opportunities for competence development than people with fixed contracts.

FIOH emphasises the connection of well-being at work with the competitiveness of companies and the Finnish economy. Through “workplace innovation”, as it is currently called by the European Commission, well-being at work (learning on the job, participation in decision making, stress prevention) and organisational performance (labour productivity, innovation capability) can be achieved simultaneously. Stronger FIOH collaboration with TEKES, e.g. in the current Liideri programme (Business, productivity and joy at work) could bring those two perspectives even closer.

As a general observation the IEG noted that FIOH has many interactions with stakeholders and customers, but could benefit from a comprehensive needs assessment and monitoring system.

FIOH does not keep a systematic inventory of stakeholder needs and client categories; such an inventory could support internal priority setting.

The IEG got the impression that there is no systematic customer evaluation. The importance of systematic evaluation does not only hold for customer services, but also for research, as peer review of articles is only one way of assessing the impact of research. Another approach is to seek an assessment by the client or authority that commissioned the research.

Concluding analysis

FIOH provides a broad range of services for workplaces that are highly appreciated by its stakeholders (public and private organisations, collaborating partners, professional associations,

ministries, and the Parliament). However, in spite of the existing law and the contract between MSAH and FIOH, its core tasks and priorities are not always clear to all stakeholders.

FIOH plays a prominent role in increasing global awareness about workers' well-being and health. This role is very much appreciated in international networks, in the Nordic countries and Europe, as well as worldwide. One example is the WHO network of collaborating centres of occupational health. These activities are not only important for the occupational health of workers around the globe, but they also contribute considerably to the ability of FIOH and its partners to acquire international funds and to the prestige of Finland in the world.

Question 1c) Are the strategic goals of FIOH adequate in respect to the role of other institutions developing work life, especially in respect of the role of the National Institute of Health and Welfare (THL) and universities?

FIOH's mission, strategy, and services focus on health and well-being at work. Its distinct focus is in the development of work life. The National Institute of Health and Welfare (THL) seeks to serve actors and decision-makers particularly in central government and municipalities. Both organisations focus on health issues, but their key collaborators are quite different. THL's main clients are municipalities and municipal federations providing health and welfare services for the whole population. FIOH's customers are workplaces and its activities serve the development of health and welfare at work. Having scrutinised with considerable detail the activities of FIOH in relation to THL, the IEG does not identify overlaps in these two institutions as regards to their core functions and areas of action. Institutionally, this is also secured by the strategic leadership of the MSAH, which in dialogue with FIOH and THL develops the strategies and activities of these organisations to meet the challenges of the changing Finnish social and health sectors.

However, it is possible that the effective use of the laboratory facilities of FIOH and THL could be enhanced by carefully examining possible overlaps, and analysing ways to overcome them. We suggest that FIOH and THL set up a joint study group to examine this possibility. The study group should also consider the possibilities of cooperation with other public research laboratories close to the FIOH Helsinki site. Similarly, there might be overlaps in FIOH and THL in their management of research registries (databases). We also suggest that this issue should be examined jointly by FIOH and THL from the perspective of a wider use of open data sources in Finland.

FIOH has an extensive research portfolio. FIOH's research consists mainly of applied research and development, while basic research uses only 5 percent of FIOH's R&D resources. FIOH's R&D expenditure is allocated to many areas of (applied) sciences. Medical and health sciences are the largest part (40 percent), followed by social sciences (27 percent), natural science (18 percent), engineering and technology (14 percent), and humanities (1 percent). FIOH's R&D is truly interdisciplinary, as should be expected from an organisation aiming at serving practical purposes. Could parts of this research be more successfully carried out at universities?

Because of the practical focus and the research into practice orientation, the vast majority of FIOH's R&D is not overlapping with university research. However, we notice that some research groups have general or basic sciences orientations (examples are epidemiology and systems biology); those are extremely productive both as regards to the quantity and quality of their scientific output. It could be argued that this research would fit more properly and be attractive to a university setting. Having examined the impact of these groups on FIOH's strategic goals and activities and the practical needs of its customers, the IEG has come to the conclusion that these groups also make an important contribution to FIOH's applied research and development activities, not only in their own focal area, but also more generally. The conclusion is that even this part of FIOH's research could not be done with the same success in other environments in Finland. Merging parts of FIOH with other research organisations would be detrimental to its mission and capability to serve Finnish working life.

Question 1d) Are the strategic goals of FIOH relevant in view of the future needs of Finnish working life?

FIOH introduced a new strategy for 2011-2015 titled “Well-being through work” which aims at developing work as a source of well-being. This approach promotes moving beyond a strict focus on managing risks in health and safety to creating positive work environments that allow the workforce to flourish and develop. The vision of well-being through work addresses three challenges: the ageing population, the problems of the state and municipalities to fund public services, and changes in work characteristics. Success in realizing well-being through work depends on how well risks are managed and positive interactions between work and health are promoted. FIOH has adopted an innovation model to engage with various stakeholders at the regional, national and international level, and create appropriate solutions to promote well-being at work.

FIOH’s strategy fits well with the MSAH policy for the work environment and well-being at work until 2020 and supports the National Working Life Development Strategy. FIOH’s strategic goals, with a strong focus on well-being, are highly relevant in view of the future needs of Finnish work life. In particular, given the ageing of the Finnish population and workforce, the focus on extending careers and integrating young people into the workforce is particularly relevant. In addition, FIOH supports several networks to promote well-being at work such as the Leadership Development Network, the Forum for Well-being at Work and the Network for Well-being in workplaces. Finally, FIOH’s Client Services focuses on supporting the development of well-being at work. The commitment of occupational health services will be important for these efforts to increase work ability and management capabilities among employers.

Overall, not only are FIOH’s strategic goals relevant in view of the future needs of Finnish work life, but addressing these needs could not be achieved effectively in Finland without the existence and important contribution of FIOH.

Question 1e) Is there a need for having FIOH as a separate institute in the future?

It follows from the answer to Question 1c that the IEG is convinced that a separate institute will best guarantee the continuation of focused and applied research, development and educational efforts that are in line with national policies, and support attempts to promote a healthy workforce and the development of good working conditions. It seems to the IEG that, for example, in light of the intentions of the National Working Life Strategy to 2020, the argument for a separate institute is even more compelling than previously thought. FIOH’s various functions serving the development of the Finnish working life support each other, and the distinctness of FIOH’s mission could be easily lost or considerably weakened by a merger with other institutions.

6 FIOH OPERATIONAL EFFICIENCY AND RELEVANCE IN INNOVATIONS AND QUALITY

Question 2a) Are FIOH's processes and practices appropriate, innovative and efficient in acquiring information of client needs?

FIOH operates under an innovation model that appropriately identifies client problems as a focus. FIOH has a rich history of providing services to client groups and has had various successful

partnerships with large and small client organizations. In the research that has come out of these partnerships, FIOH has developed various solutions leading to longer working careers, successful entry into work, better work engagements, reduced accidents, mould-free environments, and has focused on factors affecting workers' well-being. FIOH's efforts in acquiring information on client needs have been appropriate, innovative, and efficient. A vast amount of useful information and a broad number of solutions have been developed. This is a dynamic record of achievements, but FIOH may make a larger contribution by focusing its efforts on groups of workers and workplaces rather than on individuals. FIOH should consider a comprehensive monitoring of workforce and workplace client needs through a combination of active and passive surveys and data-gathering methods. This would then allow for the identification of unmet needs and potential new partnerships, as well as a greater opportunity to improve the well-being of the Finnish workforce. This effort could also be a main driving force in setting priorities for future research and implementation of client services. If this type of comprehensive assessment were continued over time, it would serve as a monitoring system that could help track the impact of various interventions and guide the development of new ones.

Question 2b) Are FIOH's processes and practices innovative, of good quality and efficient in R&D? Is FIOH's role appropriate in relation to other agents in the field and does FIOH make good use of partnerships?

FIOH has reached world class in research and solution dissemination. FIOH has pioneered various methods for disseminating outputs; in particular, it is moving into the digital era at a timely and efficient pace. Nonetheless, like others, FIOH faces the challenge of improving its outreach to small and medium-sized enterprises. These companies employ the majority of the workforce, and often lack the resources or knowledge to address the issues of health, safety, and well-being. FIOH has made a good start in supporting enterprises of all sizes through national networks (such as Leadership Development at Work) and forums (such as the ZERO Accident Forum) in Finland. However, these efforts are limited in their impact on a larger scale, and more powerful approaches should be developed. FIOH should consider approaches to targeting small and medium-sized enterprises with sector-specific communications and should further identify intermediary organisations and product-value-chain representatives that can influence those enterprises.

FIOH is a state research institute that spends more than one third of its total budget on R&D activities and employs around 300 person-years for this purpose. This fact together with the expectations that the Institute delivers evidence based expert advice to its stakeholders is the reason why an analysis of the Institute's scientific productivity and quality is of importance. For this purpose the IEG has assessed the Institute's scientific position in Finland, as well as internationally.

Several reports have in recent years reviewed the Finnish research and development field, and the Finnish scientific publication activity and citation impact, using either Web of Science or Scopus as the source for statistics. The scientific performance of Finnish researchers is generally found to be in parity with other European countries and above the world average. Looking at the Nordic countries, Finland is generally scoring somewhat lower than Sweden and Denmark. The total national performance level is an important indicator when looking specifically at the scientific performance of the FIOH.

International comparisons of publication activity and citations, with some central features of collaboration and lead authorships, have been presented by the Scimago organisation on the basis of 2007-2011 Scopus statistics for Finland. The bibliometric analysis of publications provides a detailed picture of the research profiles of the compared institutes. In addition to standard research reports and articles, the FIOH also publishes extensively in national scientific journals and professional publications, which are not included in this analysis.

Among the 20 most productive Finnish research organisations are several state research institutes, including FIOH. In the bibliometric analyses, focusing on relative citation index, the National Institute of Health and Welfare (THL) comes out as the leading research organisation in Finland, with a higher rank than the largest national university (University of Helsinki). In an earlier period the FIOH ranked 18th based on the field normalised citation index. In the latest global report (covering 2007–2011), FIOH, with 1239 publications, again ranked as the 18th Finnish research organisation, and globally held the rank of 1930. This is in reality an impressive position for an occupational safety and health (OSH) institute, given the fact that the discipline is small compared to life sciences.

Comparisons of institutes in other countries with similar tasks and responsibilities as FIOH are somewhat difficult to make as Scopus data is not available for the most relevant comparable institutes. Most of the European OSH institutes have a relatively modest focus on peer reviewed scientific output, and lack data available in the Scimago releases, including Web of Science and Scopus. PubMed data from the five largest European OSH research institutes - those of Italy, France, Germany, United Kingdom and Poland - disclose that none of them have a scientific output at the same level as FIOH.

FIOH had for the period 2007-11 a normalised citation index (NI) of 1.59, meaning that the publications by FIOH authors were cited more than 1.5 times the world average in the respective research field. NI typically ranges from about 1.3 to somewhat above 2. The large US institutes hold the highest values around 2.5 or more, while many of the European institutes have values in the range of 1.5-1.7.

The proportion of publications with the leading author from FIOH is 43.0%. For research organisations these percentages mostly range between 30% and 50%. FIOH's proportion of international collaborative publications was 45%. This is on average in the range of 40-50% for the European institutes, and the large US institutes have somewhat smaller percentages (30-40%).

Of the FIOH's scientific publications, 62% appeared in the most influential journals in the field (top 25% of journals ranked by Scientific Journal Ranking Indicator, SJR). This figure was high for most institutes included in the statistics, ranging around 60-80%. In addition 18.1% of the FIOH's publications belonged to the top 10% of the most cited papers in the respective fields (% Exc). Typically, some 20-30% of publications belong to this category.

The FIOH's scientific publications were most frequently published in journals within the research areas of occupational/environmental health/epidemiology (33%). FIOH published the second most frequently in journals of clinical neurology (6.6%), toxicology (6.2%), neurosciences (5.4%), and environmental sciences (5.0%). Generally the journals are the most respected and relevant choices for publications for an OSH institute such as the FIOH.

The list of the 20 most cited articles in 2009–2012, published by FIOH researchers, indicates that high quality research, often based on representative study populations with rich data and available biosamples, is well represented. These top cited articles also reflect collaborative research including collaboration with THL and large universities, e.g. University of Helsinki.

In conclusion, the bibliometric analysis shows that the FIOH actively reports research findings in international and national scientific journals. FIOH also publishes widely in other publication forums such as professional magazines, books, booklets, and general newspapers and magazines using both national languages (although mainly Finnish). Overall, the share of scientific publications, around 50% in peer-reviewed international journals, demonstrates that emphasis is put on the dissemination of information using multiple channels.

Question 2c) Are FIOH's processes and practices innovative, appropriate and efficient in disseminating outputs to customers? Is FIOH's role appropriate in relation to other agents in the field and does FIOH make good use of partnerships?

The IEG finds the FIOH innovation model highly successful, as it has efficiently supported the continued change of the FIOH organisation towards a truly client-focused, problem solving agency. FIOH has managed the challenging task of involving researchers in providing clients with solutions meeting their needs. FIOH has found out that highly performing researchers also are successful in providing client services.

FIOH has paid attention to its operational efficiency and relevance by developing its organization and management. It has also scrutinised its research portfolio and terminated projects not related to strategic priorities.

By comparing to the previous international evaluation, the IEG finds that FIOH has continued to make progress in its ambition to “provide solutions”.

As is the case in most countries, FIOH continues to have a challenge in its outreach to small and medium-sized businesses.

Question 2d) Are the knowledge and competence of FIOH and its personnel adequate and sufficient for the current and forthcoming needs in respect to comprehension, coverage and level of knowledge and competence?

FIOH's staff is highly competent. Many faculty members are multi-skilled and move flexibly between research, development and education. Having said that, there is a need to broaden skill-sets if the present goals of longer work-careers are to be met, and as a consequence, greater numbers of older people will continue to work. The health and social challenges of an older workforce differ from those of “normal work age”, and call for medical, behavioural, organisational and management know-how, specialised on ageing and sustained work careers.

The IEG emphasises that FIOH should develop its skills in implementation and impact research, and to that end establish a resource centre for intervention and implementation research. That centre should involve sufficient economic expertise.

The IEG suggests that FIOH strengthens its competence to meet the challenges of an increasing digitalisation of working-life.

All previous evaluations of FIOH have consistently commended the high level of knowledge and competence of its staff. The IEG repeats that assessment.

It should also be noted that FIOH has made efforts to recruit staff with key competencies in priority areas. There is also evidence of effort to develop competencies in relation to developing and disseminating practical solutions, apart from purely generating knowledge.

7 RESPONDING TO THE ASSIGNMENT OF THE GOVERNMENT RESOLUTION

On the 5 September 2013 Government Resolution, the IEG was instructed to assess FIOH in relation to its role as an expert centre for governmental decision making and possible overlaps with the National Institute of Health and Welfare (THL) and universities. Using the wording of the resolution, the task was to form an opinion on “the position of FIOH in relation to the planned comprehensive reform of state research institutes and research funding”.

Question 3a) Are FIOH's strategic research areas, and their key development and administrative tasks, suitable and compatible taking account of feed-in requirements related to decision-making and steering within government?

The IEG underlines that, as demonstrated in responses to questions 1 and 2, FIOH is well-equipped to serve the Government and its ministries involved in developing working conditions and working life in Finland.

Question 3b) Are there overlapping functions between the research institutes possible to eliminate? Is the division of labour and research tasks between universities and research institutes appropriate?

The IEG has not identified any obvious overlaps in core activities. It suggests, though, that as regarding two support functions - registry (database) management and research laboratories - synergies or shared resources between THL, FIOH and Kela, among others, could be explored. That analysis should be based on a thorough evaluation of possible scale economies versus the costs of not having necessary expertise or equipment in-house. When discussing registries and databases the issue of access for the public to those data resources, while preserving confidentiality and integrity, should be discussed.

8 DISCUSSION

The IEG conclusions are summarised in the following statements (in italics):

Considerable progress made since the 2009 evaluation, especially in the area of "research into practice", which illustrates the utility of the FIOH Innovation Model

FIOH has introduced a matrix organization and implemented an innovation model in order to address recommendations made by the 2009 evaluation. The new model acknowledges that the innovation process is more a learning or co-creation process - a dialogue - than a chain that starts from basic sciences, moves to applied sciences, then to development, and finally to implementation. The Institute has three "areas of activity": Creating Solutions, Client Services, and Influence through Knowledge. Creating Solutions is organised into nine themes. The matrix aims to balance demand and supply with an emphasis on partnerships. It adds value to the areas of activity only in so far as multidisciplinary and multiprofessional projects and other activities exist.

Clearly, FIOH's innovation model has resulted in a successful reorientation of focus and activities while at the same time fostering the utilisation of diverse knowledge and expertise to develop meaningful solutions and meet stakeholder needs. FIOH should be commended for its response to the changing needs of Finnish working life by implementing new models to achieve results. The IEG acknowledges on FIOH's part that there is still some way to go to fully realise the strengths of such reorganization and reorientation. Restructuring processes such as this need their time to take root.

FIOH has made significant progress in the area of research into practice and is clearly moving in the right direction as recommended previously. Further effort should be employed in this respect to fully capitalise on the benefits of the matrix organisation and the new innovation model implemented.

The work is consistent with and supports the policies of the Government

As described earlier, government policies aim to achieve longer working careers. The programme of the present Government and its vision and activities to develop the quality of the Finnish working life present FIOH with an important role, as an expert organisation role, to contribute to the fulfilment of those goals. FIOH has developed its strategies and activities accordingly. The IEG is convinced that FIOH's activities will be an integral part of the implementation of all government and ministry programmes that set out to improve Finnish working life.

FIOH is an important contributor to workforce well-being and national welfare

Since the well-being of the workforce is critical to the national welfare, FIOH's focus on well-being at work is highly appropriate. FIOH's 2011–2015 vision of "Well-being through Work" is evident throughout its programmes. FIOH has various focal achievements in its "Well-being through Work" efforts. Most notably, it has focused on increasing the length of working careers through research and solution development, the implementation of which are mainly the task of mediating organisations. Longer working careers will partly offset the effects of the increasingly unfavourable economic dependency ratio in Finland. FIOH has also identified factors that determine well-being at work and changes that can improve it. Various reports give examples on how to improve well-being at work.

By organising its activities as themes, FIOH has achieved focus and efficiency, but runs the risk of downplaying its own importance in its communication. One way of overcoming this difficulty would be to systematically relate efforts to national needs and priorities. All nine of the themes of FIOH are, indeed, important national priorities, with great potential to meet the goals of extended working careers and well-being of the workforce, and FIOH is in the position to provide empirical evidence to demonstrate this.

FIOH deserves credit for attempts to change the present model of occupational health services, which limits its effectiveness

FIOH has raised concerns that occupational health services give too much emphasis to the treatment of medical conditions, which reduces their capacity to take on their main tasks – risk detection and health promotion among individuals, and the development of a healthy workplace including the psychosocial work environment. FIOH has forcefully promoted this focus of occupational health services when contributing to the design of the Good Occupational Health Practice (GOHP) and in its education of occupational health specialists in different professions.

FIOH's research has influenced various company and national policies, showing the effectiveness of its communication activities, in the area of which FIOH is presently decisively moving into the digital world

FIOH's research has influenced various national and company policies. This illustrates the effectiveness of its communication activities and the progress FIOH is making as it moves into the digital world. FIOH has a productive history of developing and assessing well-being at work and has communicated its efforts through scientific journals, non-science publications, and various information periodicals. More recently, FIOH has embraced and utilised new channels of communication, the worldwide web and social media, recognizing that the world is in an era of digital production with human intellectual capital as a central factor. The reach of information and knowledge generation in an organisation like FIOH are enhanced by these new channels, and

FIOH is actively exploring and using them. Nonetheless, this is still a transition period in which audiences, clients, and stakeholders utilise both traditional and new media, and FIOH wisely is addressing both, but trending toward a digital approach. FIOH is improving outreach to target populations by using digital means of communication. FIOH has correctly identified its role in achieving national well-being at work as one of “influence through knowledge” and has incorporated digital approaches in all the elements of this vision. Ultimately, “influence through knowledge” has the objective of “moving people to action.” This effort should be focused both on employers, who are responsible for workplace safety, health, and well-being and employees and their organizations, which should learn about and gain confidence in innovative preventive actions.

In addition to utilising modern channels of communication, FIOH needs to further enhance the content of communications and solutions by including more emphasis on the economic burden of hazards and threats to well-being, as well as the return on investing in preventative efforts and those that promote well-being. These are the critical types of information that will move employers to prevent and control occupational hazards, and promote the well-being of employees.

FIOH’s research volume is high and the quality in parity with the best international institutes with similar responsibilities

FIOH documents a steady scientific output which to its volume and quality is of a very high international standard. There is an even distribution of scientific and popularised publications, the latter serving both OSH professionals and the public. FIOH is ranked among the 20 most productive Finnish research organisations and has a relative field normalised citation index of 1.59. The research is mostly published in high quality journals, with a median impact factor around 3. FIOH publishes widely with in cooperation with national and international collaborators; this includes regular, well-established collaboration with THL and the larger Finnish universities. Among OSH research institutes with similar responsibilities, FIOH is ranked in the absolute top level concerning scientific output as to both quantity and quality.

FIOH is conducting research that currently could not be done with the same success in other environments in Finland

This conclusion has been validated by the analysis presented in previous sections of this document. Although some of the most productive research teams in FIOH would be warmly welcome by universities, those could not provide the same committed, long-term financial and infrastructural support as a “sectoral” research institute. At universities, research interests are based on the individual interests of scientists rather than being part of a strategic programme, and funding is typically short-term and external. In addition, sectoral research institutes can provide data for research which is gathered to serve governmental agency surveillance or monitoring purposes or development activities, absent from universities. The IEG found that these scientifically productive groups also had an important role to support services and development activities of FIOH.

Merging parts of or the whole FIOH with other research organisations would be detrimental to its mission and capability to serve Finnish working-life

The analysis of the IEG suggests that FIOH is managed efficiently guided by a strategy that is well aligned with national policies and priorities. The IEG did not identify activities that could benefit from being performed in other organisations. None of the stakeholders interviewed by the IEG recommended the merger of FIOH and THL, and no major overlaps in activities were evident. Both research institutes provide scientific knowledge on health and services to the public, public

administration, and organisations working in their field of influence, but their constituencies are different. A merger would run the risk of emphasising general health targets over those of a healthy work-force and well-being at work, and in that way would be less supportive of the government policies concerning working life.

Some overlaps exist between FIOH and THL in registry (database) management and in research laboratories – the possibility to share resources could be explored by the institutes

However, the IEG noticed that both THL and FIOH have big research laboratory facilities, potentially offering scope for higher efficiency. The IEG did not have the possibility or competence to explore this issue, but suggests that the two institutes appoint a working group to examine possible overlaps. The working group should also consider collaboration with research laboratories at the University of Helsinki, situated in the vicinity of the institutes.

Both institutes also collect data on large population cohorts and administer mandatory registries with individual risk, socioeconomic and clinical data. There might be advantages in sharing database management resources between the institutes and the Social Insurance Institution (KELA).

FIOH continues to make a critical contribution to the education of the nation's cadre of occupational health and safety professionals – the funding model is inadequate and should be changed

FIOH's expertise and staff input cannot easily be replaced in undergraduate, graduate, post-graduate, or continuing education of healthcare professionals, and more specifically, occupational health specialists of different professions. The IEG was told that medical occupational health specialists receive their education as part of the general educational system of medical specialties in salaried positions, with the employers also paying tuition fees. In contrast, occupational health nurses have to pay their educational costs privately. This unequal arrangement needs to be corrected.

FIOH provides a broad range of services for workplaces that are highly appreciated

The IEG found convincing evidence that FIOH provides a broad range of services for workplaces that are highly appreciated by its stakeholders (workplaces, public and private employers, labour market organisations, professional associations, the Government and governmental agencies and the Parliament). Despite this, the IEG also heard from stakeholder representatives that were not aware of the breadth of FIOH's activities.

FIOH plays a prominent role in increasing global awareness about worker well-being and health

FIOH plays a prominent role in increasing global awareness about worker well-being and health. This role is very much appreciated in the international OSH networks, in the Nordic countries, in Europe and worldwide. The WHO occupational health collaborating centres network appreciates the contributions of FIOH. These activities are not only important for the occupational health of workers around the globe, they also contribute considerably to the ability of FIOH and its partners to acquire international funds for Finnish OSH research, and to the reputation of Finland as a global front-runner in working life improvement.

9 RECOMMENDATIONS

In addition to the proposals presented above, the IEG recommends the FIOH, when preparing for its next strategy period, to:

Pay due attention to the Government's plan to reduce public spending and reorganise state research funding, which will lead to further reductions in FIOH's state funding.

Do more to justify strategic choices and actions: Identify the needs of stakeholders, present solutions clarifying the evidence-base of those, suggest implementation plans, evaluate for impact.

Prioritise needs and activities, guided by the required focus on prolonging working careers, in order to make informed decisions about reductions necessary because of budget cuts.

While doing increasingly more research on the effectiveness of interventions and partnering with client organisations to do even more – establish a programme on impact research to complement the innovation model.

Given the present research potentially leading to more emphasis on personalised risk and less on risks related to working conditions, to make a consistent effort to consider the implications and to implement safeguards.

To make digital communication the main channel to reach employers, employees, decision-makers and all citizens in Finland.

To monitor the working conditions in relation to labour market trends with increasing numbers of immigrants, workers with "flexible" contracts and self-employed.

To become a specialist of the totality of working life to include periods of work, unemployment, multiple careers and jobs.

APPENDIX I

The documents used by the IEG and the interviewees it met during the evaluation process

1. Background material

Act on operation and financing of the FIOH (in English, unofficial translation)

Degree on operation and financing of the FIOH (in English, unofficial translation)

Dynamics of organizations and work in Finland. A compilation of the interim results of Finland's MEADOW (Measuring the Dynamics of Organisations and Work) survey, written by Tuomo Alasoini, Tekes 2013.

Government Resolution on Comprehensive Reform of State Research Institutes and Research Funding 5 September 2013

Meeting Future Needs of Finnish Working Life Through a Healthy Workforce. 2009 International Evaluation of the Finnish Institute of Occupational Health. Ministry of Social Affairs and Health, Reports 2009:7 Written by Göran Bondjers, Paulien Bongers, Marily Fingerhut, Timo Kauppinen, Stavroula Leka, Paul Schulte, Vappu Taipale and Hannu Uusitalo.

National Working Life Development Strategy to 2020. Ministry of Employment and the Economy, 2103.

Programme of Prime Minister Jyrki Katainen's Government 22 June 2011

Socially Sustainable Finland 2020. Strategy for social and health policy. Ministry of Social Affairs and Health, 2010.

Sosiaali- ja terveysministeriön ja Työterveyslaitoksen tulossopimus vuosille 2012–2015; tulosta-voitteet 2014. In Finnish only (FIOH performance agreement with the Ministry of Social Affairs and Health)

Sosiaali- ja terveysministeriön ja Työterveyslaitoksen tulossopimus vuosille 2012–2015; tulosta-voitteet 2013. In Finnish only (FIOH performance agreement with the Ministry of Social Affairs and Health)

Strategic plan for the implementation of the Government Programme 5 October 2011

Työ ja Terveys Suomessa 2012. Finnish Institute of Occupational Health (Work and Health in Finland, summary in English)

Well-being through work. Strategy of the Finnish Institute of Occupational Health 2011-2015

WoS vai Scopus? Suomalaisen tutkimuksen tila 2010-luvun alussa kansainvälisten viiteaineistojen mukaan. Ministry of Education and Culture, publications 2013:17 (in Finnish)

2. Material provided by the FIOH for the evaluation

Special reports:

THL and FIOH in the Finnish Research and Development Field. Report for the International Evaluation Groups of the National Institute for Health and Welfare (THL) and the Finnish Institute of Occupational Health (FIOH/TTL) (29 p.)

ISBN 978-952-261-435-3 (pdf)

http://www.ttl.fi/en/publications/Electronic_publications/Documents/THL_and_FIOH.pdf

Comparison of scientific publication outputs of THL and FIOH to foreign research institutes (ppt.)

Development of occupational safety and health work at the workplace (16 p.)

ISBN 978-952-261-433-9 (pdf)

http://www.ttl.fi/en/publications/Electronic_publications/Documents/Occupational_safety.pdf

The status of occupational health services in Finland and on the role of the Finnish Institute of Occupational Health in the development of occupational health services (20 p.)

ISBN 978-952-261-432-2 (pdf)

http://www.ttl.fi/en/publications/Electronic_publications/Documents/OHS.pdf

Changes at work – a challenge and an opportunity for well-being at work, careers and the quality of work life (22 p.)

ISBN 978-952-261-434-6 (pdf)

http://www.ttl.fi/en/publications/Electronic_publications/Documents/Changes_at_Work.pdf

Self-evaluation material:

Activities of the Finnish Institute of Occupational Health in 2009-2013. Self-evaluation.

ISBN 978-952-261-429-2 (pdf) (163 p.)

http://www.ttl.fi/en/publications/Electronic_publications/Documents/Self_evaluation.pdf

Self-evaluation of the Finnish Public Sector study (the 10Town study and the Hospital personnel study) and Whitehall II collaboration (20 p. + references)

Status Report; Biomedicine-associated reformative, future-orientated research 2011-present (Systems Toxicology Team) (20 p. + references)

External evaluation of the Reformative and Future oriented Research:

Assessment of Research Areas: Finnish Public Sector study (the 10 Town study and the Hospital personnel study) and Whitehall II collaboration (31 December 2013)

Assessment of the Systems Toxicology Team (30 December 2013)

3. Hearings and written statements of the authorities and stakeholders

Meeting with MSAH Board of Directors 25 November 2013

Permanent secretary Päivi Sillanaukee, Director general Raimo Ikonen, Director general Leo Suomaa, Director general Liisa-Maria Voipio-Pulkki, Director general Aino-Inkeri Hansson, Medical counsellor Kristiina Mukala, Ministerial counsellor for finance Arto Koho

Meeting with THL Executive Committee 5 March 2014

Director general Juhani Eskola, Deputy director general Marina Erhola, Assistant director general Marja Vaarama, assistant director general Erkki Vartiainen, Director (administration) Kari Saari- nen, Secretary of the executive committee Markus Syrjänen, Research professor Jussi Simpura

4. Written or oral statements received from the following authorities and stakeholders

25 November 2013

Academy of Finland, Director Jarmo Wahlfors

Rector Council of the Universities of Applied Sciences (ARENE), Lecturer Marja Lindholm

University Chancellor Council (UNIFI), Liisa Savunen, Executive Director

Local government employers (KT), Bjarne Andersson, Expert

Sinikka Laisaari, Chair of FIOH Board of Directors and Leo Suomaa, Director General, (MSAH)
Member of FIOH Board of Directors

Ministry of Education and Culture, Marja-Liisa Niemi, Counsellor of Education

Ministry of Social Affairs and Health, Päivi Sillanaukee, Permanent Secretary, Raimo Ikonen,
General Director, Liisa-Maria Voipio-Pulkki, Director, Kristiina Mukala, Medical Counsellor,
Arto Koho, Ministerial Counsellor for Finance

Central Union of Agricultural Producers and Forest Owners (MTK), Timo Sipilä, Director

Central Organization of Finnish Trade Unions (SAK), Kari Haring, Medical Expert

Finnish Funding Agency for Technology and Innovation (Tekes), Jenni Nevasalo, Director

Finnish Innovation Fund (SITRA), Antti Kivelä, Director

Finnish Confederation of Professionals (STTK), Riitta Työläjärvi, Expert

Confederation of Finnish Industries (EK), Jyrki Hollmén, Principal Consultant and Jan Schugk,
Chief Medical Expert

5. Stakeholder and client interviews

Interest groups: Finnish Association of Occupational Health Nurses (FAOHN) and Finnish Association of Occupational Health Physicians (STLY) 4 March 2014

Harry-Pekka Kuusela Specialist Physician in Occupational Health Care, Diacor Health Care Services; Board Member in the STLY

Pilvi Österman, Leading Occupational Health Nurse, Doctagon Occupational Health Service; Board Deputy Member of FAOHN, Chair of the FAOHN International Section, FOHNEU Secretary 2012–2015

Public sector, workplaces 4 March 2014

Kaj Hedvall, Director, Strategy, Development and Information Management, Senate Properties (several projects resolving indoor air and environment problems, improving participative design of workspaces, training maintenance personnel etc.)

Teija Jokiranta, Researcher, City of Espoo (Kunta 10; part of the Finnish Public Sector Study)

Public sector, decision makers 4 March 2014

Margita Klemetti, Director, Working life 2020 –programme, Ministry of Employment and the Economy

Juha Rehula, MP and Chair of the Social Affairs and Health Committee, Parliament of Finland

Private sector, enterprises 4 March 2014

Päivi Sivonen, HR Manager, Itella Oyj (wellbeing at work training) 5 March 2014

Rauno Vanhanen, Director, Federation of Finnish Enterprises 4 March 2014

Armi Terho, Plant Doctor, Manager of Occupational Health, Outokumpu Stainless Oy (PPE; hearing protectors) (telephone interview)

6. Meetings with FIOH staff**Discussion on the Base Report with FIOH Executive Committee (extended) and other responsible writers** 3 March 2014

Harri Vainio, Director General
 Guy Ahonen, Director, Knowledge Management
 Matti Arola, Administrative Director
 Antti Koivula, Director, Client Services
 Irina Kuoksa, Head of HR
 Sara Lamminmäki, Head of Planning
 Saara Leppinen, Special Adviser to the Director General
 Anneli Leppänen, Director, Development of Work and Organizations
 Jorma Mäkitalo, Director, Health and Work Ability
 Anna-Liisa Pasanen, Director, Research and Development
 Jussi Rantala, Head of Finance
 Jouni Toikkanen, Head of Development
 Timo Tuomi, Director, Work Environment Development
 Anneli Vartio, Head of International Affairs, Creating Solutions

Introduction to the FIOH activities – presentations 26 November 2013

General Introduction (Harri Vainio)
 Creating Solutions Area of Activity (Anna-Liisa Pasanen)
 Client Services Area of Activity (Antti Koivula)
 Influence Through Knowledge Area of Activity (Guy Ahonen)

Presentations on the basis of the special reports 26 November 2013

RDI Analysis. THL and FIOH in the Finnish research and development field (Jouni Toikkanen and Kirsti Husgafvel-Pursiainen, Research Professor)
 The current state and development of occupational health services (Jorma Mäkitalo)
 The current state and development of occupational safety (Rauno Pääkkönen, Director, Well-being Solutions for the Workplace)

FIOH staff interviews 6 March 2014**Reformative, future orientated research, collaboration with universities**

Biomedicine-associated research; Systems Toxicology:

Harri Alenius, Team Leader, Research Professor
 Kirsti Husgafvel-Pursiainen, Research professor
Cohort studies, psychosocial factors at work:
 Mika Kivimäki, Research Professor
 Tuula Oksanen, Team Leader, Assistant Chief Medical Officer
 Jussi Vahtera, Research professor

Disability prevention; MSD, mental disorders

Kirsi Ahola, Team Leader, Development of Work and Organizations
 Kari-Pekka Martimo, Director, Effective Occupational Health Services
 Eira Viikari-Juntura, Director, Disability Prevention Centre
 Marianna Virtanen, Research Professor, Development of Work and Organizations

Collaboration with enterprises; SHOK activity as an example

Kristian Lukander, Research Engineer, Brain and Technology (SalWe SHOK)

Kiti Müller, Director, Brain at Work (SalWe SHOK)

Hannu Koskela, Head of Laboratory, Developing Indoor Environments (RYM SHOK)

Kari Reijula, Director, User-centric Indoor Environments (RYM SHOK)

Knowledge management; systematic reviews (Cochrane)

Guy Ahonen, Director, Knowledge Management

Jos Verbeek, Senior Researcher, Surveillance and Reviews

APPENDIX II

Report on Occupational Safety Efforts in the Finnish Institute of Occupational Health (FIOH)

The basis for evaluating FIOH investment and impact in the area of occupational safety is to view it within the broader framework of the importance of “work” to Finland. Work, its products and benefits drive the Finnish welfare state while the deleterious effects of work act as a brake on it. The cost to Finnish society for accidents and illness overall is estimated to be 3% of GDP. Of all sectors of society, work is critical to the Finnish national welfare, so it is of paramount importance that the Finnish workforce is kept healthy and has a productive and extensive working lifetime. To this end, FIOH plays a critical role and the evaluation of FIOH should be in terms of how well FIOH carries out its role.

The first element of evaluation is to determine whether “occupational safety” is an important topic for FIOH to address. Occupational safety has at least two distinct meanings and these are both used throughout the base document. In the broad general sense, “occupational safety” is used as meaning freedom from danger or harm from any of the hazards in the workplace: physical, chemical, biological, psychosocial, and traumatic injury. In this sense, the base document describes safety in all the nine themes. In the narrower sense of “occupational safety” as free from work-related accidents and resultant traumatic injury or death, it is implied in most of the themes and explicit in the RK10 (e.g., safe beginnings) RK 11 (e.g., cooperation with zero accident programs, and RK15 (e.g., alertness and sleep deprivation effects).

The general understanding of “occupational safety” is with regard to the prevention of work-related traumatic injuries and death. In Finland, there are about 700,000 injury accidents annually of which 119,000 occur at work and 23,000 in commuting to and from work (Statistics Finland, 2011). FIOH appropriately conducts research and develops guidance to prevent traumatic occupational injuries and death because 1-in-7 injuries is due to work and at least 55,000 of these resulted in 4 or more days away from work, and 47 were fatalities. The prevalence of disability from these work-related injuries is not documented, but appears to be quite substantial over a multi-year period. Moreover, it is not clear to what extent this disability is linked to early retirements, but it is reasonable to suspect that there is some direct relationship.

The overall burden to families, society, and the Finnish economy of these injuries and deaths merits attention and indicates the relevance of FIOH’s work. The impact of FIOH’s efforts on preventing traumatic occupational injuries and deaths is difficult to determine. The base report provides some, but not complete, evidence to link FIOH efforts to the reduction of injury and fatalities that has been occurring since the late 1990s. The evidence mostly is in the form of intermediate outcomes that link FIOH research and guidance with decreases in injury or fatality rates. These intermediate outcomes include such examples as: demonstrating effectiveness of a group guidance method among young people transitioning from school to work; training of 505 trainers nationwide; implementation of a “safe beginnings” program in five work organizations employing young people in occupations, from the construction industry to fast food chains; production of guidance materials for use by employers and workers in developing suitable workplace accommodations for people with disabilities; development of materials in various languages for immigrant workers; determination that training truck drivers on alertness management does not solve driver sleepiness; and participation in the Zero Accident Forum. FIOH

has particular focus on the highest risk subset of new and young workers through a variety of programs. It is also focusing on return to work, however it would be useful if disability due to traumatic injury was an explicit category of disability in FIOH efforts.

FIOH's attention to well-being at work and of the workforce is a necessary and appropriate focus. Workers' well-being is conditioned by their perceptions of their safety and extant programs to investigate and control safety hazards. Employers' consideration of risk factors and implementing interventions to prevent injuries instills the feeling of well-being in workers. Nonetheless, there are various issues that need further attention. First, occupational safety in terms of injury and fatality prevention in accidents should be more comprehensively addressed. There does not appear to be a cohesive effort that coordinates it across themes. Such coordination could lead to more impact per unit of investment. Moreover, priorities could better be set and addressed. Second, as the base report indicates, the concept of safety needs re-evaluation in Finland to include the mental and psychosocial aspects, and FIOH should take an active lead in this. One contribution that FIOH could make is to better assess and disseminate the economic impact of work-related traumatic injuries and fatalities on productivity, length of work life, and worker well-being. Analyses using quality adjusted life years (QALYs) or similar methods may be appropriate. Third, the impact of FIOH efforts needs to be assessed more scientifically. FIOH should develop an "impact science" expertise that identifies intermediate and end outcomes related to FIOH research, guidance, and training. FIOH should be able to track where its information and guidance is used by others to conduct further research or take preventive actions. Additionally FIOH should:

- Develop and implement a strategy to influence the 280,000 workplaces with fewer than 10 employees in appropriately addressing safety;
- Work with relevant organizations to better educate managers;
- Develop a campaign promoting the concept that occupational safety expenditure is an investment.
- Conduct research on employer motivation to invest in safety;
- Assess the "early intervention" model;
- Strengthen currently weak research in occupational safety;
- Conduct more research and intervention assessment in service sector, trade and accommodation and food services sectors; and
- More comprehensively address safety awareness in the immigrant workforce.
- Evaluate the utility of developing a "predictive analytics" resource for injury prevention in Finland.

It is also important to evaluate the effectiveness of FIOH with regard to the broader definition of occupational safety which is freedom from harm from the various hazards in the workplace. These are not just traumatic effects but also effects in terms of morbidity, dysfunction, and decreased well-being. This broader concept permeates all FIOH themes and is inherent in FIOH's "raison d'etre". Nonetheless, evaluating the organizational features and resultant impact is difficult since this type of occupational safety is so pervasive in FIOH work. Therefore linking specific or summary efforts to outcomes is problematic. Again, the lack of a scientific way to measure and link impact is a deterrent. There are however, numerous intermediate indicators throughout the base report that, viewed in light of the critical importance of the work sector to Finnish national welfare,

indicated that FIOH efforts are highly relevant and impactful. Further, to increase FIOH's impact, there is a need for a broader focus on research on interventions, from tools and process designs to policy research. This is embodied in the spirit of the "creating solutions" aspect of the Innovations Model, and it merits further emphasis.

Overall, the role of FIOH in collaborating and partnering with other institutions and organizations involved with occupational safety is strong. The interaction with Center for Occupational Safety (COS) is appropriate and appears to be synergistic. It could be made stronger if there was a designed effort for COS to identify problems that needed investigation and for FIOH to conduct the investigation. FIOH also should have a dedicated effort to analyze the body of compensation data to identify categories of injury scenarios that need further investigation. Upon completion of the other various investigations FIOH should work further with COS to promote implementation of solutions.

APPENDIX III

Report on the Status of Occupational Health Services in Finland and on the Role of the Finnish Institute of Occupational Health in the Development of Occupational Health Services

Occupational health services (OHS) in Finland were established and further developed within the realms of labour market practices, typical for the Nordic countries. In the early 20th century companies within the manufacturing and pulp and paper industries employed physicians and nurses and even ran hospitals for their employees as publicly organised health services were scarce. Those health services over the years were looked upon as fringe benefits and were included in negotiations and agreements between employers' associations and labour unions. Labour market relations were also regulated by legislation, and occupational safety and health became important areas for control by government agencies. The 1978 acts on occupational health care and the Finnish Institute of Occupational Health (FIOH) demonstrate very clearly this tri-partite governance structure of occupational health in Finland.

The report describes the historical development of OHS from “the early days” of workplace medical services to “statutory preventive OHS” (1978-), OHS as a “resource for workplace development” (early 1990's), the introduction of guidelines for “Good Occupational Health Practice (GOHP)” (1997), the intensified “medical care orientation” (2000-) and the impact of the financial crises, starting in 2008, calling for a redirection of OHS to support the reduction of the number of disability pensions, work ability promotion and longer working careers.

The authors cite statistics that a steady increase in “medical treatment visits” since 1993, whereas employee health checks have declined and the number of workplace inspections has remained unchanged. Important reasons for this development are the State Insurance Institution's reimbursement policy, and the deterioration of public sector primary care, which has increasing difficulties to offer services to working-age people. The report finds this trend unsatisfactory, not in line with Good Occupational Health Practice (GOHP), and not supporting national working life strategies nor the Government policy “Occupational health 2015”.

The role and functions of FIOH are discussed in the report. FIOH has a dominating role in the training of OHS specialists of different professions and influences the attitudes and knowledge utilisation of those practitioners. FIOH develops work processes and tools to support the implementation of GOHP. The impact of these measures has not been significant, though, indicating that “governance by information”, employed widely by the Government and state agencies, has low potential to change actual practice. In addition, FIOH provides, as an expert body, information and advice to the Government, public authorities, labour market organisations, the general public, private and public employers and workplaces.

The IEG finds that the present FIOH strategy is well aligned with different government policies aiming at prolonging work careers, improving work environments and working life and promoting well-being at work. FIOH forcefully tries to influence OHS in Finland and encourage services to change their present orientation from “medical treatments” to workplace development in line with GOHP. The IEG echoes the view expressed in the report as an important opportunity to change the course of OHS by supporting OHS service providers to innovate and to spread and implement those practices elsewhere. FIOH can to that end utilise an already existing network (“SEITTI”) for learning collaboratives.

FIOH should continue its present activities to change OHS to be better fit with the goals of the Government's bold plan - to make Finland the best working environment of Europe by 2020. FIOH can play a major role in promoting that plan, due to the size and disciplinary breadth of its activities, its strong research base, well organised advisory services, established collaboration with all parties of the tri-partite governance structure, and its extensive work with employers and workplaces.

http://www.ttl.fi/en/publications/Electronic_publications/Pages/Internationalevaluation.aspx