

Development plan PF: Work and Health



Contact person: Øystein Vedaa, Department for health promotion work

Introduction

It is a goal for society that adults who are able and willing, should be included in the workforce. For some, work can be a source of income, identity, and social connections, while for others, it can lead to health problems. Health issues, whether stemming from the workplace or not, can make it difficult for individuals to find, continue, or participate in work until retirement age. The relationship between work and health affects a large portion of the population, with the workplace considered one of the significant health determinants for public health.

The pandemic in spring 2020 demonstrated the interplay between work and health in several ways. Significant changes in the workplace were central to the COVID-19 response measures. Health consequences arising from unemployment triggered by these measures are among the potential unintended effects. Healthcare workers, as an exposed group, faced higher risks of infection and significant workloads.

Health and work environments vary over time and across countries and regions. Therefore, knowledge about work and health must be current and locally relevant to promote healthy developments in the workplace. Improved understanding is needed about health selection into work, factors affecting occupational health, absenteeism, presenteeism, and prevention of health issues through the workplace. This knowledge should be integrated with comprehensive insights into the overall population's health. Hence, understanding the relationship between work and health is crucial for a public health institute's societal mission.

Through the initiatives outlined in this document, the Norwegian Institute of Public Health aims to develop a clearer academic profile on work and health issues. The primary goal is to explore the relationship between work and health from a population perspective. The focus will be on enhancing the public health relevance of ongoing and new projects within this theme and addressing knowledge gaps. In the first 3-5 years, the focus will be on five thematic areas:

1. **Life course:** Investigating early risk factors, later workforce participation, transitions between education and employment, and absenteeism in working age.
2. **Disease burden:** Analyzing the burden of disease during working age across countries and over time, including projection analyses and how various health issues result in loss of active working years.
3. **Risk factors:** Studying the relationship between working hours and absenteeism, mapping alcohol use in work settings, and its associations with absenteeism and presenteeism.
4. **Interventions:** Testing the effects of e-health interventions to prevent alcohol use, absenteeism, and presenteeism.
5. **Structure and frameworks:** Examining social, demographic, and health-related aspects of changes in the workplace, such as technological advances, changing job content, and the disappearance of job tasks.

Why should the NIPH strengthen its competence in work and health?

The Norwegian Institute of Public Health's focus on work and health aligns with international and national strategic directives, shaping resource utilization in this area. It also corresponds with several key objectives in the Institute's own strategy for the current period, demonstrating a concerted effort to integrate work and health considerations into broader public health goals.

NIPH's focus on the work-health area is aligned with the UN's Sustainable Development Goal 8, "Decent Work and Economic Growth." This goal includes specific objectives, such as achieving full and productive employment and decent work for all, including youth and persons with disabilities, and equal pay for equal work by 2030. Additionally, it emphasizes the inclusion of young people in the workforce, with a target to significantly reduce the proportion of youth not engaged in work, education, or training by 2020.

Nationally, the Norwegian Labour and Welfare Administration (NAV) provides services to about 2.8 million users annually and manages approximately one-third of the national budget. A significant portion of NAV's users are people with health issues. According to NAV statistics, around 16 percent of the population aged 18 to 66 received health-related benefits in 2017.

The Norwegian Directorate of Health (HDIR) and the NAV have developed a joint strategy for work and health, emphasizing the need for increased efforts to strengthen the knowledge base in this field (as outlined in the report "Arbeid og helse – et tettere samvirke"). Collaboration between health and work-related services is highlighted as key in the public health report, "Gode liv i eit trygt samfunn" (Meld. St. 19, 2019), particularly in addressing mental health issues that keep many out of the workforce. The government aims to continue this inclusive effort, necessitating enhanced knowledge in the field.

The NIPH's strategy for the current period prioritizes cross-sector collaboration and innovative data combinations. The broader strategy for 2019-2024, "Bedre helse for alle," seeks new ways to protect lives and improve health and quality of life for the entire population. A key aspect of public health work is to engage in context where people are present, such as workplaces. As per Statistics Norway's 2018 data, 69% of men and 65% of women aged 15 to 74 were employed, with employment rates among immigrants in the same age group slightly lower.

Measures for development in a 3-5 year perspective

A working group has been established at the Norwegian Institute of Public Health, initially comprising researchers from the Centre for Disease Burden, the Department of Health Promotion, the Department of Substance Use and Tobacco, and the Centre for Fertility and Health. The group will expand as needed and will play a central role in implementing various measures.

Overview: The working group at the NIPH will expand as needed and maintain an overview of activities related to work and health. To strengthen this function, the group plans to:

- Convene in fall 2020 and spring 2021.
- Publish an internal blog post on "Opus" inviting contact and sharing information about relevant projects and plans.
- Establish connections with the Health Services Area team, which conducts literature reviews on work, health, and welfare topics.

Research and Analysis: The group will consolidate expertise and update knowledge in related areas to strengthen information sharing across projects at the institute. To enhance this function:

- Update the chapter on work and health in the Public Health Report in collaboration with the editorial committee.
- Create a larger environment for project discussion and concrete research collaboration.

Financing: The group will seek external funding for projects, preferably related to identified initiatives.

To boost financing:

- Coordinate discussions with Department for Research Administrative Support (FAS) regarding calls for proposals and funding strategy.
- Establish contact with relevant directorates.
- Work towards prioritizing positions in the area to support the institute's initiatives.

Data: The initiative will support efforts to establish datasets for research and development, including:

- Establishing a system for recording data on shift work (Project collaboration with Haukeland University Hospital and the University of Bergen).
- Conducting annual surveys on alcohol and the workplace among 1500-2000 Norwegian workers from 2015-2021.
- The group will review existing datasets with connections to FD-trygd (Norwegian social security data), focusing on the thematic orientation of data processing bases, and identify the need for new data sources.

Potential for external financing

Several of the projects described above already have funding from various sources. The most relevant thematic programs from the Research Council of Norway (NFR) are VAM-2, HelseVel, and BedreHelse. Through established collaborations in the field, we are well-positioned to pursue international partnerships and applications for funding from NordForsk, EU, and other international research programs. The topic is highly relevant to practice in a resource-intensive area, making it promising to explore funding opportunities through publicly announced research grants and assignments from directorates.

Presentation of some ongoing and planned project within the five thematic subgroups

In the following, we will present some ongoing projects that can be classified under the five thematic groups: Life Course, Disease Burden, Risk Factors, Interventions, and Structure and frameworks. Many of the projects mentioned will have elements that cross these five thematic areas. However, each project will not be described in detail under each theme since this overview is not exhaustive, but rather intended to provide examples of ongoing/planned activities within the five thematic areas.

1. Life Course: Mental Health in Youth and Subsequent Occupational Functioning Relevance

Weak career engagement during youth is linked with lower employment rates and income later in life, both reflecting and contributing to social inequality. Individuals with health issues in their youth often face challenges entering the workforce, resulting in a generally healthier employed population compared to the unemployed. Despite some research focus on the adverse effects of youth unemployment and policy responses, in-depth studies on the underlying drivers are scarce. The NIPH is involved in several projects exploring the relationship between early mental health and later occupational performance, including:

- Neurodevelopmental disorders and comorbidity (Kari Klungsøyr).
- Student Health and Wellbeing Study (SHoT) (Børge Sivertsen).
- Mental health and quality of life in Norwegian university students (Robert Smith).
- Social inequality in youth and mental health across the lifespan (Simon Øverland).

Status

Several of the aforementioned projects will link data to study risk factors for the need for social security benefits and disability benefits in young people. The 'Neurodevelopmental Disorders and Comorbidity' project has funding to cover most data access and linkage expenses. Data availability is expected by fall 2020, with plans to apply for funding for 2-3 postdoctoral positions and 1-2 PhD scholarships from the University of Bergen, the Norwegian Research Council, and/or Helse Vest in 2020 and 2021. The first doctoral candidates are scheduled to begin in January 2021.

The most recent data collection for the 'Student Health and Wellbeing Study' (SHoT) was conducted in 2018. These data have been linked to the National Education Database in 2019 and are planned to be linked to FD-trygd (Norwegian social security data) in 2021. The data collection for this project has been initially financed by Norwegian student welfare organizations. There are plans to apply for funding from the Research Council of Norway (NFR) on September 2, 2020, as part of a collaborative project.

In the project 'Mental Distress and Quality of Life in Norwegian University Students,' students completed weekly surveys regarding their mental health during the spring semester of 2020. This unique data collection captures the mental health and quality of life of the student population before, during, and after the COVID-19 pandemic. The data will be linked to FD-trygd (Norwegian social security data) in 2020/21. The project's data collection is initially funded by internal resources from the Norwegian Institute of Public Health, University of Bergen, and Modum Bad, with an application for external funding submitted to the Research Council of Norway in collaboration with the University of Oslo and Modum Bad.

The project "Social Inequality in Adolescent Mental Health in a Life Course Perspective" is funded by the Research Council of Norway (NFR). It is led by the University of Bergen (UiB) with the Norwegian Institute of Public Health (FHI) as a collaborating partner. The project is scheduled to start in the fall of 2021.

Ambition

In the 'Neurodevelopmental Disorders and Comorbidity' project, the goal is to study the connections between ADHD and/or ASD, comorbid somatic and psychiatric illnesses, and their impact on later life functionality, such as the need for social security benefits, disability benefits, and highest educational attainment. The project uses data from various registries, including FD-trygd, and the Norwegian Mother, Father and Child Cohort Study (MoBa). The 'SHoT' and 'Mental Distress and Quality of Life in Norwegian University Students' projects aim to study life quality and mental health in the student population. In 2021, SHoT data will be linked with FD-trygd to identify risk factors for incomplete education and early workforce dropout. The 'Mental Distress' project employs a longitudinal design to study the network structure of life quality and mental health among students, with plans to link data to FD-trygd to study early workforce dropout risks. The "Social Inequality in Adolescent Mental Health in a Life Course Perspective" project will utilize existing longitudinal data to explore transitions from adolescence to young adulthood.

2. Burden of disease: Disease Burden in Working Age

Relevance

To create effective welfare systems and prevent long-term sickness absence and workforce drop-outs, it's crucial to have comprehensive, accurate, and current data on health issues and mortality causes among working-age individuals. Understanding how these causes evolve is also important. Such information aids policymakers in developing targeted prevention strategies, identifying gaps in healthcare and service access, and setting priorities for research funding.

The working-age population is key to production, goods and services exchange, tax revenue, and welfare distribution. They are responsible for caring for children, young people, and the elderly, both directly and indirectly through resources generated by the workforce. Norway's population is projected to shift towards an inverted pyramid by 2040 due to declining fertility rates and increasing life expectancy. This shift will challenge the welfare and social security systems, as a smaller working-age population will need to support a larger elderly population. Increased sickness absence and disability pensions further reduce the active workforce, intensifying challenges for the welfare system.

There is a need for more information on current and future health challenges in the working-age population. Existing knowledge is based on data and analysis that vary across types of health problems. Many data sources represent only selected groups within the working-age population or only reflect mortality or morbidity. Comparative analyses between countries are often lacking, incomplete, or consist of incompatible fragments.

Status

The challenges mentioned will be addressed in the "Working-age Burden of Disease (WorkBoD)" project, led by Simon Øverland. A project protocol has been developed as the basis for a Research Council of Norway (NFR) application submitted on May 20, 2020. There are also plans to expand the project into a collaborative effort for the NFR deadline on September 2 2020.

Ambition

The main goal of this project is to produce the most comprehensive overview to date of health in the working-age population, including time trends, current status, and future scenarios for global regions and countries, for both men and women. It also aims to estimate lost working years due to both morbidity and mortality in the working-age population. The project will provide new knowledge and an analytical platform to address current societal challenges at the intersection of work, welfare, and health in the population.

3. Risk factors: Work Environment Exposure, Sick Leave, and Presenteeism

Relevance

Work Hours: Over 20% of the workforce has irregular work hours or shift work, and in the healthcare sector, a third work shifts. Sick leave in healthcare is three percentage points higher than in other sectors, and one in five nurses leaves the sector within their first ten years of work. Difficulties in dealing with shift work are believed to be a key reason for this attrition. Statistics Norway reports a current shortage of 5,600 nurses, which could rise to 28,000 by 2035. Shift work is associated with cardiovascular disease, cancer, diabetes, obesity, gastrointestinal issues, depression, work-related accidents, and increased sick leave. However, much research in this field remains unclear due to inadequate quality in measuring shift work exposure.

Alcohol and Work Life: Alcohol is the third leading cause of illness worldwide, with risky alcohol consumption contributing to over 200 different diseases and injuries. Studies suggest that between 10 and 30 percent of workers engage in high-risk alcohol consumption, and as much as 40 percent of short-term absences from work (one-day absences) may be alcohol-related.

Status

Work Hours: The Norwegian Institute of Public Health (NIPH) is involved in several projects focusing on the consequences of shift work. The 'Health Promoting Work Schedules' (HeWoS) project, an NFR-funded initiative at the University of Bergen (UiB) with NIPH as a partner, also collaborates with Helse-Bergen, STAMI, and occupational health institutes in Denmark and Finland. Starting in fall 2020, it will employ two PhD candidates and one postdoctoral researcher. The 'Survey on Shift Work, Sleep, and Health among Nurses' (SUSSH) began at UiB in 2008/2009, surveying around 5,000 nurses initially and then annually tracking the same individuals. NIPH collaborates on this project, which has been funded by various sources, most recently by NordForsk in cooperation with the Finnish occupational health institute.

Alcohol and Work Life: The 'Alcohol and Work Life' project consists of I) annual surveys among 1,500-2,000 Norwegian workers conducted from 2015 to 2021, II) a qualitative study carried out in 2015 and 2017 involving a total of 48 interviewees, and III) the evaluation of professional guidelines for substance abuse prevention in the public sector (RusOFF; assigned to the Norwegian Directorate of Health by the Ministry of Health and Care Services in 2016 for development and implementation) with a project period extending to 2021. The 'Alcohol and Work Life' project is financed by the Norwegian Directorate of Health.

Ambition

Work Hours: In the HeWoS project, the goal is to examine the relationship between various shift work schedules and chronic illness and sick leave by linking shift work exposure data with sick leave registry data. Another aim of the HeWoS project is to study the consequences of short rest periods between shifts in a randomized controlled trial (RCT). Many shift workers have schedules with less than 11 hours off between shifts. Several observational studies have found this is associated with disrupted sleep and increased risk of accidents and sick leave, but this has not been investigated in an RCT before.

Alcohol and Work Life: In the 'Alcohol and Work Life' project, the goal is to use surveys to assess the prevalence and attitudes towards alcohol use among workers in the workplace context, alcohol-related absenteeism, reduced productivity, and other consequences, both positive and negative, of work-related alcohol use (e.g., social exclusion, unwanted sexual attention), and alcohol practices (e.g., payday drinking). It also aims to explore alcohol's role in the gray area between work and leisure and to understand how alcohol-related workplace issues are experienced and managed. The project seeks to contextualize and deepen survey results with qualitative data and identify topics for future quantitative studies. Additionally, it evaluates the effects of RusOFF, examining knowledge and implementation of professional guidelines for alcohol use in the public sector compared to the private sector, changes in workplace alcohol practices, and reductions in work-related alcohol use in the public sector.

4. Measures: Alcohol and Work Life

Relevance

Alcohol and Work Life: As previously noted, alcohol is a major cause of illness and injury, and many workers engage in high-risk alcohol consumption. The workplace can serve as a suitable setting for early intervention and prevention of health-damaging substance use.

Status

The WIRUS project at the University of Stavanger (NFR project 2017 to 2022), with NIPH as a partner, evaluates the effectiveness of two different preventive measures offered to employees at 25 Norwegian workplaces. The interventions being assessed are the eHealth program Balance and counseling using the Motivational Interviewing approach, compared to a control group. The primary outcome is changes in sick leave, alcohol use, and presenteeism. So far, around 250 employees are participating in the randomized controlled trial (RCT) study.

Ambition

The WIRUS project is organized into various subprojects:

1. Literature reviews on alcohol use and sick leave, alcohol use and presenteeism, and eHealth interventions in the workplace.
2. A screening study of approximately 30,000 employees in 25 Norwegian companies (with about 25% response rate) to examine aspects related to alcohol consumption, workplace participation, and work environment.
3. A randomized controlled trial (RCT) evaluating the effectiveness of two different preventive measures: the eHealth program Balance and counseling using the Motivational Interviewing approach, compared to a control group, focusing on reducing sick leave, alcohol use, and presenteeism.
4. Process evaluation within the RCT to understand risky alcohol use and factors affecting the efficacy of the interventions, as well as a cost-benefit and cost-effectiveness study

to evaluate potential savings from the interventions.

5. Study on the scope and barriers of occupational health services in preventing risky alcohol use, with participation from nearly 300 occupational health service employees.
6. Study focusing on knowledge translation and implementation of research to equip frontline services for evidence-based practice in addressing this public health issue.

5. Structure and frames: Technological Work Changes, Family Relations, and Health Effects

Relevance

Rapid technological advancements have the potential to significantly alter job content and replace numerous occupations. The social, demographic, and health-related dimensions of these changes have not yet received adequate attention in research, and their consequences remain unknown. A new Research Council of Norway (NFR) project (started in 2019 at NIPH, PI: Vegard Skirbekk) aims to investigate the social, demographic, and health-related aspects of technology-induced job loss using Norwegian population registries.

Status

The project's initial phase focused on identifying occupations particularly at risk of being replaced by robotics. A key aspect involved developing detailed descriptions of tasks within various jobs, as machines are relatively more suited to replace routine tasks. In 2020, work is expected to describe which occupational and demographic groups are most affected by robotics. From fall 2020, the project will explore health effects of unemployment, emphasizing heterogeneity and identifying subgroups particularly vulnerable to job loss. It will examine how this correlates with the risk of robotics and which family members in the population are most impacted by others' job loss.

Ambition

The project will analyze how these factors impact individuals in terms of social and health outcomes, including quality of life, likelihood of securing a new job, incidence of illness, exercise habits, and demographic outcomes (e.g., relationship stability, childbirth). A key goal is to conduct in-depth empirical analyses to identify groups particularly vulnerable to technological changes in the labor market. Additionally, this knowledge base will be used as a platform to participate in societal discussions about how economic policies should be structured to achieve goals in the areas of work and health.