**In brief - The NFA’s research programme for Analysis and Data**

**Summary**

The research programme for Analysis and Data (A&D) is intended to deliver on the strategic objectives related to the development of analysis tools and data infrastructure based on the prioritisations of the ‘National strategy for working environment research’, the NFA’s institutional strategy and the Ministry of Employment’s group-wide evidence and data strategies. The research programme is particularly focused on developing working environment economics as a research area, running development and use of methods for register analysis and impact measurement as well as a concentrating more on using new approaches such as big data and machine learning.

**Vision**

The vision for the research programme is to contribute to positioning the NFA as a leading research environment in Denmark within methods for quantitative analysis of working environment data and the relationship between working environment and labour market status, including the development of a new prioritised research effort in working environment economics. The aim is to ensure that the NFA is regarded as a credible actor with considerable relevance and methodological quality in its research and analysis products. The strategic efforts in the departments will be undertaken in close collaboration with the other research areas within the NFA as well as with external research environments with a view to ensuring that the efforts contribute as much as possible to the development of methodological and analytical competences throughout the NFA.

**Focus areas**

The research programme consists of three focus areas:

1. Building and consolidating a new field of research within working environment economics.
2. Supporting the quantitative methodology development of the NFA’s research and analytical work, including in particular the development of methods for measuring labour market outcomes, supporting the research units with impact measurement, register analyses and survey analyses as well as testing new analysis methods such as big data analyses, machine learning and federated data analysis.
3. To ensure efficient and correct data management within the NFA and an up-to-date software infrastructure for managing data and analyses.

**Prioritised initiatives**

To succeed with its objectives, ‘Analysis and Data’ will prioritise the following efforts:

* Establishing a research environment for working environment economics, including through developing new models for economic evaluations of working environment factors and working environment interventions, as well as integrate the working environment economic angle into projects across the NFA and in collaboration with external economic research environments.
* Continuing the development of multi-state analyses of labour market attachment, including determination of working life projections and length of working life.
* Further developing absence research with a view to becoming better at explaining the extent of absence and development in sickness absence.
* Further prioritising knowledge about machine learning. Additionally, a number of employees in the area should have knowledge of the methods for estimation and predictions with machine learning.
* Streamlining and automating data management.
* Establishing new cross-cutting registers, including by developing better coherent registers in the areas most used by the NFA and examining a model for project organisation at Statistics Denmark, where the NFA administers its own surveys.
* Consolidating the NFA’s analysis software, including through continuously supporting the greater adoption of open source analysis tools such as R and Python and reducing the NFA’s dependence on SAS and SPSS.

**Competences**

‘Analysis and Data’ currently possesses strong competences in a number of areas such as register analyses, survey methods, modelling of working life projections and length of working life as well as data management. These competences must be retained and developed. Employees from ‘Analysis and Data’ must be involved in cross-cutting projects on equal footing with employees from other research areas, contributing in particular with competences related to statistical methods and register data analysis.

As part of developing the research field of working environment economics, we will have to recruit researchers for a completely new field of research. Recruitment of a professor began in mid-2021, and we will be recruiting an additional five researchers with an economics background over the course of 2021.

With respect to data management, we will build new competences within the NFA so that new initiatives such as a new database solution can ensure an efficient and future-proof infrastructure and allow us to support the research departments in the adoption of new tools. At the same time, it is important to retain strong SAS competences for the operation of the ongoing projects.