

STREAM newsletter 13  
April 2018

# NEWS STREAM

*Working with a  
Chronic disease*



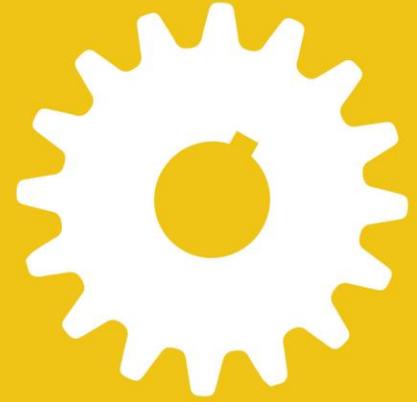
## What is STREAM?

STREAM is a **longitudinal study** among persons **aged 45-64** in the Netherlands. Participants fill in an online questionnaire on topics such as: health, work, knowledge and skills, social circumstances, and financial situation.

More than **12,000 employees, 1,000 self-employed persons, and 2,000 non-employed** persons participated at baseline (2010). In 2017, over 40% had participated in each wave. In 2015, a **new cohort** was invited to participate, to again include persons aged 45-49 and to include more working persons in the other age groups (N=6,738).

For data collection an existing Intomart GfK internet panel is used. For 89% of baseline participants, **data linkage** with information from **Statistics Netherlands** is possible.

STREAM is conducted by **TNO**. Collaborating partners are VU University Medical Center, Erasmus Medical Center and the Netherlands Interdisciplinary Demographic Institute. STREAM is funded by the Dutch Ministry of Social Affairs and Employment.



**TNO** innovation  
for life

**STREAM** is interested in **(inter)national and multidisciplinary collaborations** to conduct **innovative research with practical implications.**

Contact us for possible **partnerships!**

More information on STREAM is available at:

**[www.monitorarbeid.nl/STREAM](http://www.monitorarbeid.nl/STREAM)**

Contact: **[infostream@tno.nl](mailto:infostream@tno.nl)**



## Working with a chronic disease | STREAM newsletter April 2018

### STUDY on TRANSITIONS in EMPLOYMENT, ABILITY and MOTIVATION

With the ageing of the labour force, chronic health problems have become more common among employees. For older employees, chronic diseases may reduce sustainable employability, which is defined as the ability to work happily, healthily, and productively until the statutory retirement age, which is increasing in many countries.

In the past, STREAM has been used to study the relation between individual chronic health problems on the one hand and work ability, productivity and labour market inactivity on the other ([link](#), [link](#), [link](#)). These studies found that especially musculoskeletal and psychological health problems influence sustainable employability negatively. Work factors modified the relation between chronic health problems and sustainable employability to some extent. For instance, higher autonomy reduced the risk of disability benefits among workers with chronic

health problems as well as the risk of sickness absence among workers with musculoskeletal, circulatory and psychological health problems.

In this newsletter, recent research on chronic diseases using STREAM is highlighted. De Wind et al ([link](#)) found that, in adjusted analyses, work characteristics were not related to health deterioration among workers with a chronic disease. Another study by De Wind ([link](#)) and a study by Sewdas et al ([link](#)) found that workers with a chronic disease are less likely to work until the retirement age or beyond the retirement age. In this newsletter we will further elaborate on factors predicting working until or beyond the retirement age among workers with a chronic disease.

We hope you enjoy this newsletter!

The STREAM-team.

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## ***Do work characteristics predict health deterioration among employees with chronic diseases?***

De Wind A, Boot CRL, Sewdas R, Scharn M, Van den Heuvel S, Van der Beek A

Published in: Journal of Occupational Rehabilitation ([link](#))

It is likely that the number of workers with a chronic disease will increase in the near future. These workers, like those without a chronic disease, are expected to work longer, since the statutory retirement age is increasing in many countries, among which the Netherlands. Although work has been shown to be positively related to health, this may not be true for all employees. Work may be less beneficial for the health of employees with a chronic disease.

This study aims to investigate whether work characteristics predict health deterioration over a 3-year period among employees with chronic diseases, in particular those with musculoskeletal and psychological health problems.

Almost 20% of the employees with a chronic disease reported a deterioration of health during follow-up. Higher social support of colleagues or supervisor was related with health deterioration in the crude analyses, but not in the adjusted analyses. The other work characteristics were not related to health deterioration among employees with a chronic disease. Similar results were found in subgroup analyses among employees with musculoskeletal and psychological health problems. The results may partly be explained by the healthy worker effect: those employees 45 years of age or older with a chronic disease who are still in paid employment may have been able to adapt their work to their illness.

### *Methods*

5,600 employees with a chronic disease at baseline (2010) from STREAM were included in this study. Whether someone had a chronic disease was assessed with one question: “Do you (currently) have one or more of the following chronic diseases, disorders, and handicaps?”. See the published article for an overview of possible answers to this question. Health deterioration was defined as having a lower score on general health (measured with one question in the SF-12 “How is your health in general?”, possible answers were ‘excellent’, ‘very good’, ‘good’, ‘moderate’, and ‘poor’) at follow-up than at baseline. Included work characteristics were: physical, mental, emotional, and psychological work demands, as well as social support of colleagues and supervisor and autonomy. Logistic regression analyses were performed to analyze the relation between work characteristics and health deterioration.

*“Almost 20% of the employees with a chronic health disease reported a deterioration during follow-up.”*



## ***Determinants of working until retirement compared to a transition to early retirement among older workers with and without chronic diseases: Results from a Dutch prospective cohort study***

Sewdas R, Van der Beek AJ, De Wind A, Van der Zwaan LGL, Boot CRL

Published in: *Scandinavian Journal of Public Health* ([link](#))

Previous research suggests that having a chronic disease might negatively affect work participation. It is likely that older workers with a chronic disease will experience more limitations at work or to continue working, than older workers without a chronic disease. It is important to study which determinants influence limitations to continue working among workers with a chronic disease, as in many countries the statutory retirement age is increasing for workers with and without a chronic disease. The aim of this study was to explore the differences and similarities in determinants of working until a statutory retirement age, among workers with and without a chronic disease.

Older workers with a chronic disease were less likely to work until the retirement age. The majority of the determinants were similar for both workers with and without a chronic disease. For instance, depressive symptoms were related

negatively to working until the retirement age in both groups. Differences between workers with and without a chronic disease were only found for mastery and autonomy. Higher mastery and higher autonomy were only related to working until the retirement age among workers with chronic diseases. An explanation of this finding may be that a large group of workers with a (severe) chronic disease had already left the work force. The remaining workers may be a selection of relatively healthy older workers with and without a chronic disease.

### *Methods*

Participants in STREAM 'at risk' for early retirement at baseline (employed, between the ages of 57 and 62 and had valid data on the outcome measurement during three years of follow-up) were selected for this study. Chronic disease was assessed with one question: "Do you (currently) have one or more of the following

chronic diseases, disorders, and handicaps?". See the published article for an overview of possible answers to this question. Working until the retirement age was defined as working until the age of 65, which was the statutory retirement age in the Netherlands during this study. As determinants, individual factors (mastery), health and health behavior (perceived mental and physical health, depressive symptoms, recovery and relaxation, physical activity), work related factors (working full-time, physical, quantitative, emotional, and mental demands, autonomy, social support), and social factors (work-family balance, and family-work balance) were included. Logistic regression analyses were performed to analyze the relation between the determinants and working until the retirement age. To test whether relations between determinants and the outcome measure differed between employees with and without a chronic disease, interaction terms were tested.



## Predictors of working beyond retirement in older workers with and without a chronic disease – results from data linkage of Dutch questionnaire and registry data

De Wind A, Scharn M, Geuskens GA, Van der Beek AJ, Boot CRL

Published in: BMC Public Health ([link](#))

An increasing number of retirees continue to work beyond retirement despite being eligible to retire. As the prevalence of chronic disease increases with age, working beyond retirement may go along with having a chronic disease. Working beyond retirement may be different for retirees with and without chronic disease. This study aimed to investigate whether demographic, socioeconomic and work characteristics, health and social factors predict working beyond retirement, in workers with and without a chronic disease.

Workers without chronic disease were more likely to work beyond retirement compared to workers with chronic disease (27% vs 23%). The final prediction models for workers with a chronic disease and those without a chronic disease are shown in the figure on the right. The results of this study indicate that underlying mechanisms of working beyond retirement may be different for the large group of older workers with a chronic disease.

### Methods

Employees aged 56 to 64 years at baseline and, retired during follow-up were included (N=1,125). Chronic disease was assessed with one question: “Do you (currently) have one or more of the following chronic diseases, disorders, and handicaps?”. See the published article for an overview of possible answers to this question. Questionnaire data on demographic and work characteristics, health, social factors, and working beyond retirement were linked to registry data from Statistics Netherlands on socioeconomic characteristics. Separate prediction models were built for retirees with and without chronic disease using multivariate logistic regression analyses. For more information on how the predication models were constructed, click the link to the full article.

### Without chronic disease

**Work characteristics**  
- Not working in semi-skilled labor

**Health**  
- Feeling full of life  
- Physically active >2 days a week  
- Worse recovery

**Social factors**  
- Having a partner who does not support working until the retirement age

**Working beyond retirement**

### With chronic disease

**Work characteristics**  
- Working in health care  
- No permanent contract  
- Lower physical work load

**Health**  
- Better perceived physical health  
- Higher body height





## Other selected publications

Sewdas R, De Wind A, Van der Zwaan LGL, Van der Borg WE, Steenbeek R, Van der Beek AJ, Boot CRL. Why older workers work beyond the retirement age: a qualitative study. BMC Public Health 2017; 17:672 [LINK](#)

Bouwhuis S, Geuskens GA, Boot CRL, Bongers PM, van der Beek AJ. Predictors of transitions from single to multiple job holding: Results of a longitudinal study among employees aged 45-64 in the Netherlands. Am J Ind Med 2017;60(8):696-710. [LINK](#)

De Wind A, Boot CRL, Sewdas R, Scharn M, van den Heuvel SG, van der Beek AJ. Do Work Characteristics Predict Health Deterioration Among Employees with Chronic Diseases? J Occup Rehabil 2017 Jun 29. doi: 10.1007/s10926-017-9716-z. [\[Epub ahead of print\]](#)

De Wind A, Leijten FRM, Hoekstra T, Geuskens GA, Burdorf A, van der Beek AJ. "Mental retirement?" Trajectories of work engagement preceding retirement among older workers. Scandinavian Journal of Work Environment & Health 2017;43(1):34-41 [LINK](#)

Havermans BM, Boot CRL, Hoekstra T, Houtman ILD, Brouwers EPM, Anema JR, van der Beek AJ. The association between exposure to psychosocial work factors and mental health in older employees, a 3-year follow-up study. Int Arch Occup Environ Health 2017 [\[Epub ahead of print\]](#)

Oakman J, de Wind A, van den Heuvel SG, van der Beek AJ. Work characteristics predict the development of multi-site musculoskeletal pain. Int Arch Occup Environ Health. 2017 May 9. doi: 10.1007/s00420-017-1228-9. [LINK](#)

Scharn M, van der Beek AJ, Huisman MA, de Wind A, Lindeboom M, Elbers CT, Geuskens GA, Boot CR. Predicting working beyond retirement in the Netherlands: an interdisciplinary approach involving occupation epidemiology and economics. Scand J Work Environ Health 2017;43(4):326-336. [LINK](#)

Ybema JF, van der Meer L, Leijten FRM. Longitudinal Relationships Between Organizational Justice, Productivity Loss, and Sickness Absence Among Older Employees. International Journal of Behavioral Medicine 2016; 23(5): 645–654 [LINK](#)

Full list of publications: [LINK](#)