Sickness absence due to mental health disorders-a societal perspective
Roelen, C. A. M.; van Rhenen, W.; Koopmans, P. C.; Bultmann, U.; Groothoff, J. W.; van der Klink, J. J. L.

Published in:
Occupational Medicine-Oxford

DOI:
10.1093/occmed/kqs065

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2012

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

Copyright
Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): http://www.rug.nl/research/portal. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.
Sickness absence due to mental health disorders—a societal perspective

C. A. M. Roelen1,4, W. van Rhenen2,5, P. C. Koopmans3, U. Bültmann1, J. W. Groothoff1 and J. J. L. van der Klink1

1Department of Health Sciences, University Medical Center Groningen, University of Groningen, PO Box 196, 9700 AD Groningen, The Netherlands, 2Center for Human Resource, Organization and Management Effectiveness, Business University Nyenrode, PO Box 130, 3620 AC Breukelen, The Netherlands, 3ArboNed, PO Box 141, 9700 AC Groningen, The Netherlands.
4Present address: 365/ArboNed, PO Box 158, 8000 AD Zwolle, The Netherlands.
5Present address: 365Zin, PO Box 85091, 3508 AB Utrecht, The Netherlands.

Correspondence to: C. A. M. Roelen, 365/ArboNed, PO Box 158, 8000 AD Zwolle, The Netherlands. Tel: +31 38 4554700; fax: +31 38 4537272; e-mail: corne.roelen@365.nl

Background
Sickness absence (SA) is affected by societal factors. Increasing socioeconomic stress may cause or worsen mental health disorders, which are among the most frequent causes of SA. Employees may also be more cautious about being absent, for example in times of poor economy.

Aims
To monitor the incidence of SA due to mental health disorders in the Netherlands from 2001 to 2010.

Methods
Descriptive observational study of long-term (>3 weeks) SA available from an occupational health service register. The incidence of both total and mental health long-term SA in each year was calculated and evaluated alongside the changes in SA compensation policies, gross national product and national unemployment statistics. The incidence of mental health SA was stratified based on the economic (agricultural, industrial, private, public) sector.

Results
The incidence of both total and mental health SA decreased gradually since 2004, and fell during the economic recession in 2009 in all economic sectors, particularly the agricultural and industrial sectors. The incidence of mental health SA increased with preliminary economic recovery in 2010 in the private and public sectors, but not in the agricultural and industrial sectors.

Conclusions
Long-term SA due to mental health disorders has decreased since 2004, but further studies across countries are required to confirm and explain this trend.

Key words
Economy; epidemiology; mental disorders; mental health; sick leave; sickness absence.

Introduction
Sickness absence (SA) has economic consequences in terms of reduced productivity. Studies on the impact of economic developments on SA report inconsistent results. Some studies found lower SA levels during economic recession, which was explained by changes in absence behaviour [1–3]. The discipline hypothesis assumes that employees are more cautious about being absent when unemployment is high and the outlook for finding other work is poor [3]. Alternatively, Scandinavian studies reported higher SA levels during economic recession and argue that poor health rather than behavioural changes explained higher SA during an economic recession [4,5].

At face value, the present economic situation and socioeconomic stress may cause mental health disorders or worsen existing ones. The extent to which these societal factors affect SA in general, and mental health SA in particular, depends on SA benefits [6]. This descriptive study examined mental health SA in the Netherlands and the possible influence of SA policy changes in 2004 and an economic decline in 2009.

Methods
In this study, SA is defined as absence from work due to any illness or injury. In the Netherlands, employees...
visit an occupational physician (OP) after 3 weeks of SA for medical certification. OP-certified SA data and diagnoses of approximately 1 million employees (not self-employed) were available for this study. OPs record SA diagnoses according to the 10th version of the International Classification of Diseases (ICD-10) [7]. Mental health SA was defined as OP-certified long-term SA due to signs of emotional disturbance (ICD-10 R45), depressive disorders (ICD-10 F32), anxiety disorders (ICD-10 F40–41) and stress-related disorders (ICD-10 F43). These disorders encompass more than 90% of all mental health SA in the Netherlands and are also a major cause of work-related SA [8], in contrast to specific psychiatric disorders, such as bipolar disorder, schizophrenia and personality disorders, which were not included in this study.

In contrast to most European countries with ‘public’ SA benefits paid by social insurance agencies, the Netherlands has a ‘private’ SA benefit system in which employers compensate for SA. In 2004, the maximum period of employer-compensated SA was extended from 1 to 2 years. Furthermore, the regulations about systematic return to work activities were tightened, and now prescribe extra rehabilitation programmes when return to work stagnates.

The incidence of total and mental health SA was calculated in each year, stratified based on the economic (agricultural, industrial, private, public) sector. Economic development was assessed by the gross national product (GNP) and Dutch national unemployment statistics. Data were analysed based on inspection of time series rather than rigorous statistics. Incidences were evaluated with 95% confidence intervals (CIs). If an incidence lay outside the 95% CI of another incidence, then the null hypothesis that these incidences are equal was rejected.

### Results

In 2001, 1% of 956 623 employees worked in the agricultural sector, 30% in the industrial sector, 53% in the private sector and 16% in the public sector, as compared to 1, 20, 59 and 20%, respectively, of 1 006 861 employees in 2010. Over the decade, the proportion of older employees (≥50 years) increased from 20% in 2001 to 25% in 2010 and the proportion of employed women from 41 to 45%.

The GNP reflected economic growth in the period from 2004 to 2007 and a recession in 2009. Since this economic recession, unemployment levels increased from 4% of the working population in 2008 to 5% in 2009 and 2010 (Table 1). The incidence of OP-certified total SA decreased gradually from 2004 to 2008 and fell during the economic recession in 2009.

Table 1. Long-term SA and economic and labour market developments

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (n)</th>
<th>GNP (%)</th>
<th>Unemployment (%)</th>
<th>Incidence (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total SA</td>
</tr>
<tr>
<td>2001</td>
<td>956 623</td>
<td>2</td>
<td>4</td>
<td>94.2 (93.6–94.8)</td>
</tr>
<tr>
<td>2002</td>
<td>962 235</td>
<td>0</td>
<td>4</td>
<td>108.3 (107.6–108.9)</td>
</tr>
<tr>
<td>2003</td>
<td>937 030</td>
<td>0</td>
<td>5</td>
<td>126.9 (126.2–127.6)</td>
</tr>
<tr>
<td>2004</td>
<td>1 037 149</td>
<td>2</td>
<td>6</td>
<td>124.4 (123.7–125.1)</td>
</tr>
<tr>
<td>2005</td>
<td>961 890</td>
<td>2</td>
<td>7</td>
<td>123.1 (122.4–123.8)</td>
</tr>
<tr>
<td>2006</td>
<td>970 390</td>
<td>3</td>
<td>6</td>
<td>112.2 (111.6–112.9)</td>
</tr>
<tr>
<td>2007</td>
<td>913 266</td>
<td>4</td>
<td>5</td>
<td>104.7 (104.0–105.3)</td>
</tr>
<tr>
<td>2008</td>
<td>924 300</td>
<td>2</td>
<td>4</td>
<td>103.7 (103.0–104.3)</td>
</tr>
<tr>
<td>2009</td>
<td>1 033 072</td>
<td>-4</td>
<td>5</td>
<td>81.2 (80.7–81.8)</td>
</tr>
<tr>
<td>2010</td>
<td>1 006 861</td>
<td>0</td>
<td>5</td>
<td>86.0 (85.4–86.6)</td>
</tr>
</tbody>
</table>

The table shows the changes in GNP as a percentage of the GNP in the preceding year.

Discussion

The incidence of both total and mental health long-term SA decreased gradually after a change in benefits policy in 2004, and then fell during the economic recession in 2009. This trend was unexpected, because work was becoming more and more mentally demanding [8]. One would also expect increasing incidences with the ageing of the study population and the increasing employment of women [9]. It is likely that the extended SA compensation in 2004 reduced disability pensioning and that the stricter regulations on return to work reduced the duration of SA, but it remains unclear how the policy changes affected the incidence of long-term SA episodes.
Figure 1. The incidence of long-term mental health SA. The figure shows the incidence and 95% CI (indicated by error bars) of long-term (>3 weeks) mental health SA among employees working in agriculture (dotted line), industry (black line), private sector (dark grey line) and public sector (light grey line) from 2001 to 2010.

Running a provisional regression on the data, the year and policy change (and their interaction) significantly affected both total and mental health SA, while GNP and unemployment did not. Ecological studies comparing SA trends and economic developments across countries could contribute to more robust conclusions on the associations between SA and economic developments.

Key points
- In the Netherlands, both total and mental health long-term sickness absence over 3 weeks showed a gradual decline in incidence since 2004.
- The incidence of total and mental health long-term sickness absence fell with an economic recession in 2009 and increased with preliminary economic recovery in the public and private sectors in 2010.
- More studies across countries are required to draw robust conclusions on the associations between sickness absence and economic developments.

References