Work-related sickness absence as reported by UK general practitioners

L. Hussey¹, S. Turner¹, K. Thorley¹, R. McNamee² and R. Agius¹

¹Centre for Occupational and Environmental Health, University of Manchester, Oxford Road, Manchester M13 9PL, UK, ²Health Methodology Research Group, University of Manchester, Oxford Road, Manchester M13 9PL, UK.

Correspondence to: L. Hussey, Centre for Occupational and Environmental Health, Room 4.3, Block C, 4th Floor, Ellen Wilkinson Building, The University of Manchester, Oxford Road, Manchester, M13 9PL, UK. Tel: 0161 275 8492; fax: +44 (0)161 275 5506; e-mail: louise.hussey@manchester.ac.uk

Methods

General practitioners (GPs) report cases of work-related ill-health via an online web form. Sickness absence information reported with each case was compared by demographic information, diagnosis/symptom and employment factors.

Results

Between 2006 and 2009, THOR-GP received 5683 case reports of work-related ill-health; 53% were musculoskeletal diagnoses and 31% were mental ill-health diagnoses. Over half (56%) of cases reported had associated sickness absence. Diagnosis had a highly significant influence on the occurrence of any associated sickness absence. Eighty-one per cent of mental ill-health cases were reported to result in sickness absence compared to 50% of musculoskeletal cases. Public sector employees incurred sickness absence more frequently than those from the private sector. Industries with the highest mental ill-health incidence rates had sickness absence episodes most frequently. Within employment groups, levels of sickness absence were inversely proportional to the level of self-employment.

Conclusions

These data reported by GPs with vocational training in occupational medicine may help to inform policy decisions targeting work-related exposures and the management of sickness absence, thereby reducing the UK burden of work-related sickness absence.

Key words

General practice; mental ill-health; public sector; self-employment; sickness absence; work-related.

Introduction

Issues surrounding sickness absence have become of increased interest in recent years. This is due to raised awareness of costs to employers and to the UK economy (estimated at £17 billion in 2009) [1,2], and as a result of greater understanding of the relationship between work and health, alongside increasing evidence that work is good for physical and mental well-being [3]. In 2008, these issues surrounding work and health were highlighted in the review of the health of Britain’s working age population [4], which recommended the introduction of a ‘fit note’, whereby a general practitioner (GP) may recommend which work tasks a patient is able to undertake rather than signing them off work altogether.

In the UK, rates of sickness absence and its determinants are published by various sources, using different methods of calculation and presentation of results, which can make comparisons difficult. The Confederation of British Industry estimated that 6.4 days were lost per employee, resulting in 180 million days lost in 2009 [2]. Labour Force Survey (LFS) data found that 3% of employees took at least 1 day off work/year, resulting in 5.8 million days lost [5]. Other estimates include a GP-based study that calculated the sickness absence rate at 102 certificates per 1000 person-years [6].

There is little published information on the underlying determinants of work-related sickness absence on which to inform policy decisions on workplace interventions. However, one source of data is the survey of Self-reported...
Work-related Illness (SWI) [7]. This survey reported 29.3 million days lost (1.24 days per worker) in 2008/2009 and presents sickness absence by diagnosis, gender, industry and region. Publications on work-related sickness absence have also concentrated on psychosocial and physical factors affecting absence from work [8,9].

Another national source of information on work-related sickness absence is The Health & Occupation Reporting network in General Practice (THOR-GP) [10]. Since 2005, 250–300 GPs trained to diploma level in occupational medicine (DOccMed) have reported cases of work-related ill-health and associated sickness absence seen in general practice clinics.

This paper aims to analyse how work-related sickness absence reported to THOR-GP prior to the introduction of the fit note (and subsequent change in data collected) varies demographically, diagnostically and by employment, thereby assessing which factors influence the burden on sickness absence (due to work-related ill-health) in the UK.

Methods

THOR-GP has by design between 250 and 300 GPs participating at any one time. This number of GPs was originally based on a power calculation of the numbers needed to detect a 15% change in incident cases of work-related ill-health over 2 years using a two-sided test, based on a normal approximation to the Poisson distribution with continuity correction. The primary source of recruitment is the alumni of the DOccMed course at the University of Manchester; information on other DOccMed GPs qualified elsewhere is not so easily available; however, when identified, these GPs are also approached to participate in the scheme. THOR-GP reporters submit details via an online web form of any reports of work-related ill-health; just over half (3080, 58%) were skin cases, 137 (3%) respiratory and 240 (4%) ‘other’ diagnoses, such as injuries and infections. Over 560 (10%) skin cases, 137 (3%) respiratory and 240 (4%) ‘other’ diagnoses, such as injuries and infections. Over half (56%) of these 5683 cases had associated sickness absence totalling 77 254 days. The sickness absence data were positively skewed with the number of days most frequently reported as 7, 14, 21 and 28, consistent with GPs tending to recommend and report the sickness absence periods in weeks (Figure 1). The mean for each sickness absence case was 24.3 days; the median was 15.

The majority of THOR-GP cases were male (3117 cases, 55%). Over half (54%) of these male cases had associated sickness absence; this is significantly lower than for female cases (59%) (Chi-square = 12.2, df = 1, P < 0.001). Female cases on average also had more sickness absence days reported (females 25.1 and males 23.5); however, median scores were the same (15 days) for females and males.

Diagnosis was the main determinant having a significant (Chi-square = 8.6, df = 5, P < 0.001) influence on the sickness absence associated with a case. Sickness absence was associated with 81% of work-related mental ill-health cases compared to 50% of musculoskeletal cases (Table 1). Mental ill-health cases also had longer periods away from work.

Cases within the youngest age group had time away from work less frequently than older workers and shorter periods of absence; the number of days per case also increased with age (Figure 2).

Industrial divisions were classified into mostly public and mostly private sectors. The mostly public industrial sectors, plus financial intermediation, had the highest...
proportions of cases (and longest periods) with associated sickness absence (Table 2). These industries were the sectors with the highest work-related mental ill-health incidence rates (Figure 3). However, the relationship between industrial sector and sickness absence is not solely explained by diagnosis; there are still differences between the sectors even after stratifying by type of ill-health. Although the mostly public sectors remain among those industries most likely to have sickness absence for both musculoskeletal and mental ill-health, cases reported from transport, storage and communication were most likely to have time away from work.

The higher the proportion of the workforce within an industrial sector that is self-employed, the lower the proportion of cases reported with sickness absence (Figure 4).

<table>
<thead>
<tr>
<th>Number of cases</th>
<th>Cases with associated sickness absence, n (%)</th>
<th>Mean number of days certified per sickness absence case</th>
<th>Median number of days certified per sickness absence case</th>
</tr>
</thead>
<tbody>
<tr>
<td>All musculoskeletal</td>
<td>3080</td>
<td>1542 (50)</td>
<td>18.7</td>
</tr>
<tr>
<td>Upper limb</td>
<td>1504</td>
<td>590 (39)</td>
<td>19.2</td>
</tr>
<tr>
<td>Spine/back</td>
<td>1137</td>
<td>706 (62)</td>
<td>18.2</td>
</tr>
<tr>
<td>Lower limb</td>
<td>396</td>
<td>224 (57)</td>
<td>19.5</td>
</tr>
<tr>
<td>Other</td>
<td>165</td>
<td>93 (56)</td>
<td>18.8</td>
</tr>
<tr>
<td>All mental ill-health</td>
<td>1779</td>
<td>1441 (81)</td>
<td>30.6</td>
</tr>
<tr>
<td>Anxiety/depression</td>
<td>730</td>
<td>568 (78)</td>
<td>34.8</td>
</tr>
<tr>
<td>Stress</td>
<td>979</td>
<td>824 (84)</td>
<td>27.8</td>
</tr>
<tr>
<td>Other</td>
<td>80</td>
<td>56 (70)</td>
<td>33.7</td>
</tr>
<tr>
<td>Skin</td>
<td>560</td>
<td>103 (18)</td>
<td>17.0</td>
</tr>
<tr>
<td>Respiratory</td>
<td>137</td>
<td>36 (26)</td>
<td>30.6</td>
</tr>
<tr>
<td>Other</td>
<td>239</td>
<td>113 (47)</td>
<td>27.7</td>
</tr>
<tr>
<td>All cases</td>
<td>5683</td>
<td>3180 (56)</td>
<td>24.3</td>
</tr>
</tbody>
</table>

**Discussion**

Over half the work-related ill-health cases reported to THOR-GP (2006–09) had associated sickness absence. Females had sickness absence more frequently than males and for longer periods of time. Cases aged 16–25 years had time away from work less frequently and the length of absence increased with age. Diagnostic category was the predominant determinant influencing sickness absence; mental ill-health cases were more likely to have sickness absence and for longer time periods; as a result, cases from industries with high work-related mental ill-health incidence rates were most likely to have associated sickness absence.

Mostly public sectors and finance had the highest proportions of sickness absence and also the longest periods...
of absence, largely due to a high incidence of mental ill-health. Sickness absence remained high in these industries after stratification by diagnostic category. However, employees within transport, storage and communication were absent from work most frequently for both musculoskeletal and mental ill-health diagnoses. Cases from sectors with high proportions of self-employment had fewer sickness absence episodes.

THOR-GP is based on surveillance methods, and its strengths and weaknesses have been considered previously [11]. Reporters are distributed UK wide and shown to be geographically representative [16]. However, THOR-GP reporters’ behaviour may differ from other GPs as they are trained to DOccMed level, and it is estimated that only 4% of UK GPs have this training [17,18]. Research [19] has also shown that, like many THOR-GP reporters, GPs working part-time in occupational medicine certified shorter periods of absence. The majority of THOR-GP sickness absence data are reported at the time of the initial or follow-up consultations. GPs can report subsequent certified absence via the web form; however, it is unlikely that all GPs provide this data, especially with long-term sickness; therefore, data are continuously audited. A year retrospectively, GPs are asked how long the patient was away from work in total; analysis has shown that the data presented here could be underestimated by 60%. Although these results may not give a complete longitudinal picture of the absence period, they compare the frequency of episodes between different employment sectors. Even if incomplete, the length of time away from work can be compared as there is no obvious reason why GPs would bias data by reporting subsequent sickness absence certificates issued to a patient employed in one sector over another.

Gender differences are likely to be partially explained by the relationship between sickness absence and diagnosis. Absence episodes are more frequent in females who have higher proportions of mental ill-health reports [11].

Industrial divisions were categorized as mostly public or mostly private sectors [14,15], but some sectors are more ‘public’ than others. Public administration and defence employees are almost all within the public sector; however, health care and education include private hospitals and schools. The mostly private sectors also vary; transport, storage and communication will include public sector Royal Mail and agriculture includes Forestry Commission workers.

Incidence rates estimated from THOR-GP have been correlated with sickness absence data. These rates are published by Health & Safety Executive as part of their annual statistical publication [20]; however, they are subject to certain caveats [16].

Most published literature relates to ‘all cause’ sickness absence, as opposed to solely work-related absence. The main comparator is therefore SWI information; these self-reported data also show higher rates in females compared to males and for psychological diagnoses [7,21]. Higher rates have been described in females for all cause episodes of sickness absence [5,6]; however, Shiels et al. found that sickness absence episodes in males were significantly longer [22]. Two of these studies also reported increased rates with age and with mental health diagnoses [6,22].

The mostly public and finance sectors had more sickness absence episodes. However, after stratification, financial sector employees were no longer among those most likely to have time off, suggesting results were due to high incidence rates of mental ill-health within that sector. In contrast, cases from the mostly public sectors remain among those most likely to have sickness absence therefore illustrating that the high frequency of episodes is not an effect of the type of ill-health reported.

This is also the case for employees in transport, storage and communication; workers with either diagnosis had time away from work more frequently than others. A closer inspection of these THOR-GP reports showed that post and telecommunication (including Royal Mail) workers took sickness absence most frequently (72% of cases) and that mental ill-health sickness absence episodes were particularly high for road/rail drivers (91%), often due to traumatic events.

SWI figures also show high rates of sickness absence in health care, public administration and defence and transport and storage and communication. All cause sickness absence is also reported as being highest in the public sector [2,23]. It has been suggested that increased public sector rates could be attributed to under-reporting in the private sector. This is not the case within THOR-GP as reports originate from GPs not employees [1,24]. Sickness absence may be higher among public sector employees such as health care workers as they are exposed to psychological rather than physical stressors [25].
<table>
<thead>
<tr>
<th>Industrial division</th>
<th>All cases</th>
<th></th>
<th></th>
<th>Musculoskeletal</th>
<th></th>
<th></th>
<th>Mental ill-health</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of cases</td>
<td>Incidence rate per 100 000 person employed</td>
<td>Cases with associated sickness absence, n (%)</td>
<td>Number of days certified per sickness absence case</td>
<td>Number of cases</td>
<td>Incidence rate per 100 000 person employed</td>
<td>Cases with associated sickness absence, n (%)</td>
<td>Number of days certified per sickness absence case</td>
<td>Number of cases</td>
</tr>
<tr>
<td>Education&lt;sup&gt;a&lt;/sup&gt;</td>
<td>360</td>
<td>1118</td>
<td>259 (72)</td>
<td>35.6</td>
<td>94</td>
<td>292</td>
<td>51 (54)</td>
<td>23.2</td>
<td>244</td>
</tr>
<tr>
<td>Public administration and defence&lt;sup&gt;a&lt;/sup&gt;</td>
<td>469</td>
<td>1873</td>
<td>332 (71)</td>
<td>25.8</td>
<td>199</td>
<td>797</td>
<td>120 (60)</td>
<td>17.9</td>
<td>238</td>
</tr>
<tr>
<td>Financial intermediation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>179</td>
<td>1157</td>
<td>125 (70)</td>
<td>26.4</td>
<td>52</td>
<td>336</td>
<td>21 (40)</td>
<td>13.4</td>
<td>125</td>
</tr>
<tr>
<td>Health and social care&lt;sup&gt;a&lt;/sup&gt;</td>
<td>771</td>
<td>1801</td>
<td>505 (66)</td>
<td>26.2</td>
<td>314</td>
<td>734</td>
<td>167 (53)</td>
<td>17.5</td>
<td>370</td>
</tr>
<tr>
<td>Transport, storage and communication&lt;sup&gt;b&lt;/sup&gt;</td>
<td>434</td>
<td>1819</td>
<td>281 (65)</td>
<td>23.3</td>
<td>286</td>
<td>1199</td>
<td>181 (63)</td>
<td>17.6</td>
<td>107</td>
</tr>
<tr>
<td>Retail and wholesale&lt;sup&gt;b&lt;/sup&gt;</td>
<td>692</td>
<td>1337</td>
<td>394 (57)</td>
<td>18.8</td>
<td>411</td>
<td>794</td>
<td>219 (53)</td>
<td>16.8</td>
<td>200</td>
</tr>
<tr>
<td>Real estate and business&lt;sup&gt;b&lt;/sup&gt;</td>
<td>389</td>
<td>924</td>
<td>202 (52)</td>
<td>21.8</td>
<td>217</td>
<td>515</td>
<td>95 (44)</td>
<td>20.4</td>
<td>143</td>
</tr>
<tr>
<td>Manufacturing&lt;sup&gt;b&lt;/sup&gt;</td>
<td>860</td>
<td>1904</td>
<td>441 (51)</td>
<td>25.4</td>
<td>527</td>
<td>1167</td>
<td>274 (52)</td>
<td>19.4</td>
<td>148</td>
</tr>
<tr>
<td>Construction&lt;sup&gt;b&lt;/sup&gt;</td>
<td>627</td>
<td>2223</td>
<td>284 (45)</td>
<td>23.2</td>
<td>468</td>
<td>1660</td>
<td>217 (46)</td>
<td>24.1</td>
<td>46</td>
</tr>
<tr>
<td>Hotels and restaurants&lt;sup&gt;b&lt;/sup&gt;</td>
<td>290</td>
<td>1875</td>
<td>112 (39)</td>
<td>16.5</td>
<td>147</td>
<td>950</td>
<td>58 (40)</td>
<td>11.7</td>
<td>52</td>
</tr>
<tr>
<td>Agriculture, hunting and fishing&lt;sup&gt;b&lt;/sup&gt;</td>
<td>143</td>
<td>3064</td>
<td>55 (39)</td>
<td>17.2</td>
<td>97</td>
<td>2078</td>
<td>42 (43)</td>
<td>16.2</td>
<td>9</td>
</tr>
<tr>
<td>Other community, social and personal services&lt;sup&gt;b&lt;/sup&gt;</td>
<td>340</td>
<td>1675</td>
<td>131 (39)</td>
<td>15.2</td>
<td>199</td>
<td>980</td>
<td>76 (38)</td>
<td>14.2</td>
<td>59</td>
</tr>
</tbody>
</table>

<sup>a</sup>Mostly public sector.

<sup>b</sup>Mostly private sector.
Results described here suggest issues of employee motivation influence absence from work. Public service organizations are likely to have more generous sickness absence policies than those in the private sector. Also, results here show that industries with higher proportions of self-employment have fewer episodes of sickness absence. A self-employed worker is likely to be more financially motivated to work. It is interesting to note that a survey of 11 000 employees found that a third of all sick leave was taken on a Monday, and sickness absence rates were highest in January [26]. Studies have shown how personal characteristics influence the frequency of sick leave episodes [27].

THOR-GP data demonstrate patterns in work-related sickness absence by diagnosis and industry. Cases of work-related ill-health often have associated sickness absence as the GP may be strongly influenced by the patient and will consider their role as patient advocate and keep the patient away from the attributed exposure [28]. Work-related mental ill-health, although difficult to diagnose specifically and probably multi-factorial in causation, has been increasing in reported incidence which may reflect a reduction in the stigma associated with psychological ill-health [29]. This, along with personal factors such as employee motivation may cause long periods of absence, ultimately resulting in permanent worklessness [30].

These data are reported by GPs with vocational training in the issues surrounding work and health who are well placed to provide data on the sickness absence caused by problems at work. THOR-GP data highlights the higher sickness absence rates found in the mostly public industries with high levels of psychological work demands. Increased awareness of these issues may help inform policy decisions targeting work-related exposures and thereby contribute to reducing the work-related sickness absence burden in the UK.

Key points
- Over 80% of cases of work-related mental ill-health reported by GPs have associated sickness absence; as a result, industries with high rates of these work attributable psychological diagnoses had the highest rates of sickness absence.
- Mostly public sectors and financial intermediation had the highest proportions of associated sickness absence and also the longest periods of absence, largely due to a high incidence of mental ill-health; however, sickness absence remained high in these industries even after stratification by diagnostic category.
- Cases from sectors with high proportions of self-employment had fewer sickness absence episodes, suggesting issues of employee motivation also have an influence on absence from work.

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Conflicts of interest
None declared.
References


