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Development

Sickness certification in general practice: a comparison of electronic records with self-reported work absence

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Background: Reports of work absence usually come from self-report or company absence records; however, these records are limited to just one company. Electronic recording of sickness certification in primary care medical records may provide an alternative source of data, but its relation to other sources of sickness absence information is unknown. Comparing general practitioner electronic sickness certification records with self-reported work absence would enable the comparability of these electronic records to be established. **Aim:** To investigate the comparability of electronic medical records of sickness certification in primary care, with self-reported work absence. **Methods:** Analysis included 292 primary care low-back pain consulters who consented to medical record review. A within-group design was used to match electronic records of sickness certification with self-reported sickness absence. **Findings:** Overall 95% of the electronic medical records of sickness certification matched with self-reported absences; 96% in employed consulters and 95% in unemployed consulters. In all, 94% of employed participants were a direct match, 2% a consistent match and 4% a mismatch. Including consistent matches increased matching to 97% in employed consulters and to 100% in unemployed consulters. Electronic records of sickness certification in general practice are a useful method of analysing sickness absence in the population, as they are comparable with other sources of data. Additionally, electronic records of sickness certification will allow the investigation of sickness absence where data from one company are too limited and self-report is not available or unreliable. To facilitate the use of electronic medical records of sickness certification, data need to be accurately recorded and evaluated or audited to ensure completeness and validity. Furthermore, methods should be developed to ensure straightforward linkage between sickness certification records and other data held on the electronic medical record.

Keywords: back pain; general practice; primary care; sickness certification; validity

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Background

In the United Kingdom (UK), general practitioners (GPs) are the gatekeepers to both primary healthcare and some social security benefits,

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including statutory sick pay, which is accessed through the issue of a sickness certificate (Hiscock and Ritchie, 2001). GPs issue sickness certificates based on their assessment of the capacity of a patient to carry out their usual job (Shiels and Gabbay, 2006). On average, GPs will issue approximately 20 sickness certificates per week, the majority of which will be for short spells of incapacity (Sawney, 2002). In 2005 it was estimated that 4.48 million people of working age were claiming a key benefit, 3 million of whom were claiming sickness benefits (Department for Work and Pensions, 2005).

Sickness certificates cover the first six months (28 weeks) of incapacity and entitle individuals to receive statutory sick pay, if in employment, and job-seekers allowance or incapacity benefit, if not in employment. There are a number of certificates that may be issued when patients consult their GP requiring a period of work absence (Table 1). Although some employers require a sickness certificate from the first day of work absence, GPs are not legally required to issue a sickness certificate prior to the seventh day of work absence; before this time individuals may self-certify any period of absence using an SC2 form.

Return to work following a period of absence is a common outcome in many studies (eg, Burton and Waddell, 2004; Dionne *et al*., 2005; Young *et al*., 2005); however, return to work is rarely used in the UK due, in part, to the difficulty in obtaining accurate data. Examining periods of sickness certification using GP-issued medical certificates, may overcome the difficulty in obtaining data and provide a more accurate estimate of episodes spent away from the workplace due to sickness. Low-back pain (LBP) is one of the leading causes of sickness and invalidity benefits in Europe (Waddell and Burton, 2005); therefore, individuals with back pain provide a logical place to start exploring sickness certification in relation to work absence.

Table 1 Types and use of sickness certificates

Certificate type	Use
MED3	Allows the general practitioner (GP) to record the advice given to a patient, the diagnosis and the duration of work absence advised, a MED3 may also be issued to an unemployed patient stating that they are not fit to look for work.
MED4	A MED4 certificate is issued after 28 weeks of incapacity and is usually completed at the time of a Personal Capability Assessment (an assessment of whether individuals are capable of performing specified everyday tasks associated with work).
MED5	Allows the GP to record the advice given to a patient, the diagnosis and the duration of work absence advised. A MED5 is issued in place of a MED3 and used when the GP has not seen the patient on the day of issue.
MED6	Allows the GP to record the advice given to a patient, and the duration of work absence advised. A MED6 is issued in place of a MED3 and used if the patient or employer should not be aware of the diagnosis.

Sickness certification reporting

Sickness absence data are often collected through employers' databases or self-report. Data have been published assessing the quality of self-reported sickness absence compared with data collection from employment records. In general, the specificity of questionnaires for detecting sick leave has been demonstrated to be high when compared with company records; however, sensitivity is reportedly low (Burdorf *et al*., 1996; Fredriksson *et al*., 1998). Differences in sensitivity have been postulated to be due to differing time periods in the recall of sickness absence (van Poppel *et al*., 2002). It has also been found that the discrepancy between self-reported absence and company records is limited (Severens *et al*., 2000), and conversely that there are substantial differences in agreement with the duration of sickness absence when questionnaire data and company records are compared (van Poppel *et al*., 2002).

It is evident that sickness absence reporting is varied and difficult to establish when using company records, which are limited to specific workforces, or self-reported data from questionnaires. The use of GP records may provide an alternative method of assessing sickness certification within the UK, but their relation to other sources of sickness absence information is unknown. Comparing GP electronic sickness certification records with self-reported work absence would enable the comparability of these electronic records to be established. If these records can provide good-quality information on sickness certification, then patterns and trends in sickness absence can be more easily described.

However, the use of electronic GP medical records to examine patterns and trends in sickness certification has not been explored. The aim of this paper, therefore, was to investigate the comparability of electronic sickness certification records in primary care with self-reported work absences.

Methods

Participants

A sample of 292 primary care LBP consulters, who were participants in a wider study of LBP and provided consent to access their medical records, were included in the current analysis. All participants were aged 30–59 years and had consulted their GP with an episode of LBP during the study period (mid-October 2001 to mid-October 2002) (Dunn and Croft, 2005).

Data collection

Questionnaire

Participants had returned a self-completed postal questionnaire asking about their employment status, and how many days sickness absence from work they had taken 'in the past two weeks', this time period was selected to minimise potential recall errors that may occur over longer periods.

At 12-month follow-up, participants were again asked the number of days absent from work 'in the past two weeks'.

Sickness certification records

Electronic records of sickness certification were identified using GP Read codes for the certificates MED3, MED4, MED5, MED6, private medical certificates and incapacity benefit forms. These certification records were downloaded from the GP medical record database, for the year prior to the 12-month follow-up (2002–2003).

Matching of certificates with self-reported absences

The date the questionnaire was returned at the 12-month follow-up by participants was used as the reference date. Sickness certificates issued in the month prior to questionnaire return were matched with self-reported work absences in the two weeks prior to questionnaire return. Participants were asked to record their absence over a period of two weeks to limit recall bias; however, certificates were identified over the preceding month to ensure that all certificates were identified, which enabled the inclusion of certificates issued for a longer duration. Where sickness certification records did not match with self-reported absences, the electronic consultation record was examined to look for certification recording.

Analysis

All analyses were performed using SPSS (SPSS Inc, Chicago, IL, USA) for windows.

Employed

There were a number of categories in which sickness certification records could match absence in the employed participants (Figure 1). Participants could be a direct match, a consistent match or a mismatch.

Unemployed

Unemployed persons may report no days or all two weeks off work as their unemployment may not be due to LBP, and they may or may not have a sickness certificate. Therefore unemployed participants could only be a consistent match or a mismatch. The majority of sickness certificates in unemployed participants should be related to incapacity benefits; however, some individuals may be issued with MED3 certificates if they are 'unfit to seek work' due to illness.

It was anticipated that there might be some discrepancies in the matching of electronic sickness certification records and self-reported absences. Therefore, the records of those participants whose certification records did not match their self-report of absence were looked at by hand to identify potential explanations for non-matching.

Results

Of the sample of 292 consulters, 54% were female and the mean age was 47 years (inter-quartile range 40–54 years). Overall, 95% of the electronic medical records of sickness certification matched with self-reported absences; 96% in employed consulters and 95% in unemployed consulters.

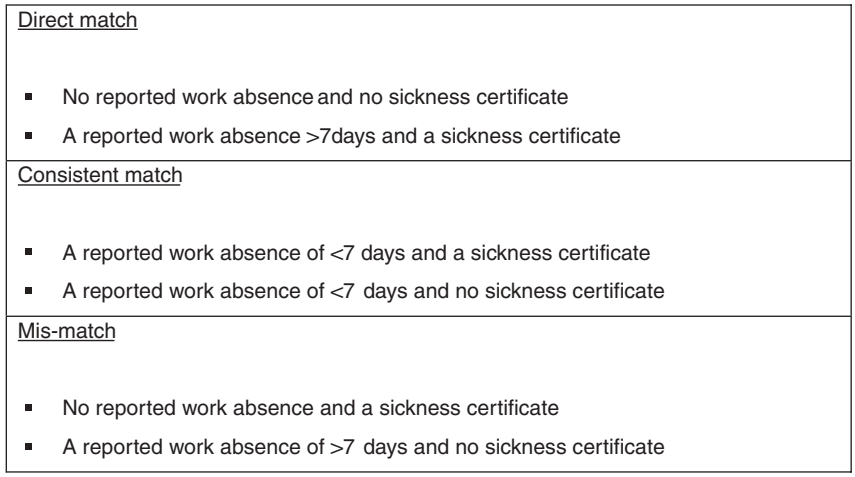

Figure 1 Matching categories in employed participants

Employed participants

Table 2 presents data on the matching of sickness certificates electronically recorded on the GP database with reported periods of work absence. Among employed consulters, 94% had direct matches, where electronic records showing no sickness certification were associated with no report of work absence, and where a sickness certificate was associated with an absence of more than seven days. Just 2% of employed participants had a consistent match; these were all short periods of work absence not necessitating a sickness certificate. The mismatch rate was 4%.

Investigating the mismatches by hand showed that of the three participants who did not have a certificate recorded but who reported a work absence of more than seven days, none could be matched. Of those four participants who had an electronic sickness certificate but who did not report any work absence, two participants received sickness certificates the day after questionnaire return, the final two participants could not be matched. Including these two closely matched certificates increased the proportion of certificates matching absences to 97% (175 + 2/185).

Table 2 Employed participants matching sickness certificates with self-reported work absence over the period of one month

Self-reported absence	Sickness certificate	
	Yes	No
>7 days	6*	3‡
<7days	0†	3†
None	4‡	169*

*Direct match = 94% of the total.
† Consistent match = 2% of the total.
‡ Mismatch = 4% of the total.
$n = 185$ (11 missing absence data, two missing certification data).

Unemployed participants

Within the unemployed participants 95% ($n = 89$) had no sickness certificate on their medical records, 5% ($n = 5$) did have sickness certificates and the medical records of all participants who had received sickness certificates were examined by hand. Of those five with certificates in their medical records, four had certificates issued for incapacity benefits and were therefore consistent matches, and one had a MED3 certificate. Including these consistent matches brings the rate of matching up to 100% in the unemployed participants.

Discussion and conclusions

This study demonstrates that electronic medical records of sickness certification held by GPs are

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comparable with self-reported absence from work, in both employed and unemployed primary care LBP consulters. Although there is some discrepancy between the two sets of records, this is minimal, indicating that electronic records of sickness certification are a useful method of measuring absence data when compared with self-reported absence.

The princpal limitation to the current study is that neither electronic medical records of sickness certification nor self-reported work absences are the 'gold standard' in the recording of data concerning time away from work due to ill health. However, in any population study there are difficulties in obtaining sickness absence data for many individuals who work in a range of different organisations; a key strength of this study is that the workforce as a whole can be examined rather than just one organisation. This study demonstrates that electronic records of sickness absence are comparable with other sources of data. Sickness certificates are an integrated part of the electronic medical record, and therefore easily accessible by all practice staff, which should serve to increase the recording of certificates. Any registered doctor may issue sickness certificates; however, in the UK the proportion of employees with access to an occupational health service is still minimal and nearly all individuals seeking a sickness certificate will visit their GP (Nicholson, 2004).

The current paper lacks information on the duration of sickness certificates, it is not a legal requirement to record all the details of certificates, and therefore conclusions cannot be drawn as to the matching of duration of sickness absence between self-report and electronic medical records. There is also limited information on individuals who report less than seven days absence and do not receive sickness certificates, due to the nature of the UK certification system. Although there were very few reports of work absence lasting less than seven days in the current study, this is an issue that should be considered in future work. The participants in this study may be more likely to report sick leave due to the nature of their condition, LBP, which has been demonstrated to lead to increased work absence (Waddell and Burton, 2005). However, the finding that reports of no work absence match with no sickness certificate would suggest that application to healthier groups is possible, although more work is needed to confirm this. Finally, the population included here may be atypical of other populations with other medical conditions, and no conclusions can be made as to whether the results would be the same for other medical conditions, further work would again be needed to answer this question.

The findings of this study suggest that GPs are recording sickness certificates appropriately, this is despite research highlighting a lack of knowledge and lack of interest amongst GPs in the sickness certification system (Hussey *et al.*, 2004). The particular strength of the data obtained from GP records is the ability to assess long-term certified sickness absence (more than seven days absence from work); these are the individuals who may be more likely to require incapacity benefits. Identifying individuals at the early stages of sickness absence may enable interventions to be targeted at those most likely to have long-term sickness absence. The GP practices included in this study are part of a research network and are therefore more aware of the importance of the accurate coding of problem titles and documentation of electronic records. However, they are not specifically trained in the coding of sickness certificates. The outcome, that certification matches well with self-reported absence, indicates that GPs are consistently recording sickness certificates across the practices included in this study.

To develop and facilitate research into sickness certification, there are a number of issues that should be addressed. The data need to be accurately recorded, appropriately evaluated and linked to existing medical records to maximise its use.

GPs and other practice staff who issue or record sickness certificates should aim to routinely record accurate details of all certificates they issue onto their electronic medical records. Currently, there is no obligation for the GP record to include this information electronically following a consultation, and paper records are very difficult to collate for audit or research purposes. In addition, more of the information contained on the certificate should be recorded on the electronic system, particularly the duration of the certificate that is usually missing from current electronic records. In order to ensure that data held on the electronic medical records of individual primary care practices are complete and valid, regular auditing of these systems and appropriate staff training needs to be in place.

Although recording of sickness certificates can currently be included in some electronic medical records, these data are not routinely linked to consultation data; this is something that has to be undertaken by researchers. The development of the electronic medical record systems to systematically link patient consultation data with additional information, such as sickness certificates, would facilitate the use of this information for clinical and public health purposes, potentially improving patient care and our understanding of issues surrounding sickness certification and work absence.

The finding that electronic sickness certificates are an accurate method of assessing sickness certification has many benefits: it creates a new data source allowing the exploration of sickness certification across a range of employers and also across a range of health conditions; the data are widely available and becoming more so with the increasing use of electronic records in general practice; therefore, there is a huge potential to implement further research into sickness certification.

In conclusion, the use of electronic records provides relatively easy access to sickness certification data that may be used to track patterns and trends in certification for a range of diseases and symptoms, not only LBP. Furthermore, the impact of diseases and symptoms on work absence and therefore sick pay can also be tracked, allowing insight into the course of conditions across time in the context of work absence. These data would suggest that the use of GP electronic records in the exploration of sickness certification is a practical and useful method of assessment.

Ethical approval

The North Staffordshire Local Research Ethics Committee approved this study.

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