

Patient factors associated with duration of certified sickness absence and transition to long-term incapacity

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SUMMARY

Background: Despite a considerable increase in claims for long-term sickness benefits, and the impact of certifying sickness upon general practitioner (GP) workload, little is known about transition to long-term incapacity for work.

Aim: To explore the relationship between patient factors and the transition from short-term to long-term work incapacity, in particular focusing on mild mental health and musculoskeletal problems.

Setting: Nine practices comprising the Mersey Primary Care R&D Consortium.

Design: Prospective data collection and audit of sickness certificate details.

Method: GPs issued carbonised sickness certificates for a period of 12 months. The resulting baseline dataset included claimant diagnosis, age, sex, postcode-derived deprivation score, and sickness episode duration. Associations of patient factors with sickness duration outcomes were tested.

Results: Mild mental disorder accounted for nearly 40% of certified sickness. Relatively few claimants had their diagnosis changed during a sickness episode. Risk factors for longer-term incapacity included increasing age, social deprivation, mild and severe mental disorder, neoplasm, and congenital illness. For mild mental disorder claimants, age, addiction, and deprivation were risk factors for relatively longer incapacity. For musculoskeletal problems, the development of chronic incapacity was significantly related to the nature of the problem. Back pain claimants were likely to return to work sooner than those with other musculoskeletal problems.

Conclusions: In addition to the presenting diagnosis, a range of factors is associated with the development of chronic incapacity for work, including age and social deprivation. GPs should consider these when negotiating sickness certification with patients.

Keywords: sick leave; sickness certification; sickness absence; mental health; musculoskeletal system.

Introduction

THE term 'sickness absence' refers to a person's inability to work because of illness, rather than unwillingness or lack of employment opportunities. In most advanced industrial societies there is a form of sickness insurance system that requires such absence to be sanctioned by certification. In a theoretical context, the certification of sickness absence is related to two key concepts within the discipline of medical sociology. The first concept, 'illness behaviour',¹ is concerned with how different people or social groups interpret and respond to symptoms. Those suffering the same type and level of symptoms may react in different ways. For instance, the response may be to continue working through illness or to request that sickness absence be certified by a doctor. The second related sociological concept is the 'sick role',² consisting of four institutionalised expectations involving the clinician and patient. To legitimately adopt the 'sick role', the patient is expected to seek medical advice and to accept the doctor's role in sanctioning exemption from normal social responsibilities.

The agency responsible for certifying sickness absence varies across countries. In the United Kingdom (UK) and Scandinavian countries, a primary care physician plays the key role in certification, usually after an initial period of patient self-certification (in the UK this period is 7 days). Hence, the individual's request to have work incapacity certified, and subsequent right to claim social security benefits, requires a judgement by the clinician regarding the degree and length of sanctioned sickness absence. However, in reality, the term 'sickness absence' may be misleading. There is evidence that the prevalence, frequency, and duration of such absence cannot always be explained by medical reasons alone.³ The decision to abstain from work may be the result of some or any of a range of psychosocial, financial, organisational, or medical factors.

Despite the considerable costs of sickness absence, very little research into this process has been published. For historical reasons, relating to the development of social insurance systems, most of this research has been conducted in Scandinavian countries. There has been a substantial increase in claims for long-term sickness benefits in the two decades after 1975 in the United Kingdom. In this period, claimants of Invalidity Benefit rose by 250%, and although there has been a reduction in claims since the initiation of Incapacity Benefit and the Department of Social Security (DSS) all-work test in 1995 (now replaced by the Department for Work and Pensions' personal capability assessment), the number of claimants of long-term Incapacity Benefit currently exceeds 1.3 million,⁴ representing approximately 7% of the UK

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HOW THIS FITS IN*What do we know?*

There has been a dearth of research in the United Kingdom in relation to the certification of sickness by general practitioners in the first 28 weeks of patient sickness absence (prior to the Benefits Agency test of eligibility for Incapacity Benefit). Hence, little is known of the factors involved in transition to long-term incapacity.

What does this paper add?

This study presents preliminary data from a comprehensive sick note dataset to stimulate research in this important, but neglected, substantive area.



working-age population. It has been estimated that the financial cost of long-term incapacity, in terms of state spending and related costs, exceeds £20 billion a year.⁵ There is anecdotal evidence that the contractual obligation to issue sickness certificates to patients has a considerable impact upon overall general practitioner (GP) workload. Subsequently, there has been increasing debate about the role of the GP as the 'gatekeeper to social security benefits'.⁶⁻¹⁰

Our research seeks to identify risk factors for the development of long-term incapacity. In particular, since the certification of sickness within primary care is the starting point on the route to long-term incapacity, more information is needed about trends in the early stages of incapacity; that is, prior to the 28-week period of certified sickness that marks the transition from statutory sick pay (SSP) to short-term higher rate Incapacity Benefit (IBST-H). Relatively few incapacity benefit claimants resume the status of availability for paid work. A recent analysis of long-term sickness benefit recipients between 1978 and 1995 reported that only 2% were in paid employment within 2 years of initial benefit receipt.⁵

UK-based research investigating associations between individual characteristics and sickness absence has tended to be conducted at the level of the organisation, independent of medical and social policy contexts. For instance, the Whitehall II cohort study of British civil servants reported on associations between duration of sickness absence and various aspects of the individual employee: socio-economic status,¹¹ social support networks,¹² lifestyle,¹³ sex,¹⁴ and health status itself.¹⁵

In relation to sicklisting within the primary care context, much of the research on the role of individual patient characteristics has been conducted outside the UK. Patient factors studied include sex,¹⁶⁻¹⁸ age,¹⁹ occupation,²⁰ and family status.^{21,22} Associations with diagnosis-specific sickness absence have also been studied, in particular sicklisting owing to psychological problems¹⁸ and musculoskeletal diagnoses.¹⁷

One of the main reasons for the dearth of UK-based research designed to investigate trends in early stages of incapacity has been the unavailability of reliable routine certification data captured at the general practice level. As a consequence, little is known about factors that may influence the transition from acute sickness to chronic incapacity, and the identification of patients at risk of such incapacity. Our research aims at:

- Investigating hypothesised associations between

claimant-based factors and the transition from short-term to long-term incapacity, for all claimants in the database.

- Studying the same associations for two important diagnostic categories: 'musculoskeletal' and 'mild mental disorder', within the total claimant group. Government statistics indicate that these two diagnostic groups account for approximately 60% of claims for Incapacity Benefit.²

Methods*Setting*

All the Mersey Primary Care R&D Consortium practices took part in the study. The combined lists of the one South Cheshire, five Liverpool, and three Sefton practices are in excess of 80 000, with over 50 000 patients of working age, covering inner city, urban, and rural populations.

Construction of a sickness certification database

In conjunction with the DSS (and later the Department for Work and Pensions), the consortium produced modified pads of MED3 and MED5 sickness certificates incorporating a carbonised copy for each certificate written. All GPs in the nine consortium practices were requested to use the pads for 12 months, but to otherwise follow their usual sickness certification procedures. A total of 87 GPs (45 principals) were involved in issuing these certificates at the practices for all or part of the data collection period. They were not provided with information about the research outcome measures or explanatory variables during the data collection period.

The four research ethics committees (Liverpool, South Sefton, North Sefton, and South Cheshire), covering the geographical area of the consortium, approved the use of these certificates as a means of retaining routine sick note data. Each committee accepted that individual patient consent was not feasible in such a study, but insisted on strict procedures to ensure patient anonymity was established before utilisation of data by the research team. Information on the copies of certificates issued was collated and coded by administrative staff at each practice and entered into a database within the practice. At the end of the collection period, each practice dataset was incorporated into an anonymised central database by consortium research staff. This baseline dataset included: type of certificate, date of certificate, claimant study number (for tracking purposes), certifying GP code, claimant postcode, date of birth, claimant sex, duration of sick note, and reason for certified incapacity.

Post hoc computation of variables involved transformation of 'claimant postcode' into a Townsend deprivation score and 'date of birth' into claimant age. The issue of continuous sick notes to a patient was deemed to result in a 'sickness episode'. Duration of such an episode was calculated by totalling all periods of incapacity on the sickness certificates. In the case of issue not being continuous (that is, gaps in dates of sickness period covered by any type of certificate, including MED 3, 4, or 5), separate episodes were assumed. The diagnosis given as the reason for each sick note was allocated to a broad diagnostic group loosely based upon READ code categories, but simplified for use in a general

practice-based study.²³ Finally, the computed claimant ages were collapsed into four age groups.

Outcome and explanatory variables

In the subsequent analysis of data, the main outcome measures used were 'total duration of sickness episode' and 'greater than 28-week incapacity'. The latter was a dichotomous variable computed as an indicator of transition to long-term incapacity. Potential explanatory variables included in the analysis were claimant age, sex, Townsend deprivation score, and diagnostic group (of diagnosis on certificate). Initial analysis found the distribution of deprivation scores across the claimant group to be markedly skewed. To permit meaningful analysis, the variable was transformed into quartiles of claimant scores.

The study was primarily concerned with the predictive potential of patient factors only. Although a certifying GP code was included in the data collection process, GP-based variables influencing sickness certification are to be considered in a separate study.

Statistical analysis

Univariate analysis of potential associations between outcome variables and claimant/certificate factors used a *t*-test or one-way ANOVA (plus post hoc Tukey test) for the continuous outcome (duration of sickness episode) and a χ^2 test for the dichotomous outcome (>28-week incapacity). In addition, logistic regression models were constructed to investigate the independent effects of the explanatory covariates upon the outcome of most interest in the study, a sickness episode exceeding 28 weeks. Because of the risk of a Type I error introduced by multiple testing of associations between variables, we have used a more rigorous level of $P < 0.01$ as evidence of statistical significance.

We also conducted separate statistical analyses of two

claimant subgroups: those suffering from musculoskeletal problems and those suffering from mild mental disorders. We used SPSS for Windows V10 to compute statistical analyses.

Results

Claimant and certificate profile

The complete database contained details of 13 127 MED3 and MED5 medical certificates issued to 6271 patients during the collection period. Claimants' mean age was 39.9 years (standard deviation [SD] = 12.1 years), and 44.7% were males. The mean duration of claimant sickness episode was 9.9 weeks/69 days (SD = 13.9 weeks/97.3 days), with 3049 claimants being issued with more than one certificate in the episode. Nearly 10% of claimants in the study had a period of certified sickness exceeding 28 weeks in total. The median Townsend social deprivation score, based upon the individual claimant postcode, was 4. Over 20% (1317/6271) of the claimant group had a Townsend score of 7 or more, indicating a high level of deprivation.

Diagnostic group profile

Table 1 summarises the relationships between the categories of primary diagnosis recorded on certificates and the total number of weeks certified in the study. Over half of certified sickness absence was found within two broad categories: mild mental disorders (such as anxiety and depression) and musculoskeletal problems. This table also includes information relating to the shift in diagnosis from initial certificate to second certificate for the 3049 claimants who received more than one sick note in the study. In addition to the expected stable diagnostic categories of 'congenital' and 'severe mental disorder', the 'mild mental disorder' category was also markedly robust, with over 90% of claimants being diagnosed with the same or related psychological diagnosis on their first two certificates.

Table 1. Proportion of total weeks certified on all sickness certificates in study, by diagnostic group, and degree of change in diagnostic group from first to second certificate.

Diagnostic category	Number of weeks certified	% of total weeks certified	% of claimants in same diagnostic category from first to second certificate	Of those claimants changing diagnosis, % of largest shift
Mild mental disorder (MMD)	23 962	39.7	90.9	(12.0 to musculoskeletal)
Musculoskeletal	9262	15.4	78.0	(5.8 to injury)
Injury	4271	7.1	76.1	(5.1 to symptoms)
Postoperative recovery	3334	5.5	77.4	(3.6 to respiratory)
Respiratory	3154	5.2	56.1	(9.8 to MMD)
Symptoms (not otherwise specified)	2934	4.9	53.6	(7.2 to musculoskeletal)
Circulatory	2826	4.7	75.8	(6.3 to post-op recovery)
Severe mental disorder	1794	3.0	92.3	(7.7 to Nervous system)
Nervous system/sense organ	1650	2.8	77.2	(7.0 to MMD)
Investigations/procedures	1107	1.9	26.0	(16.9 to MMD)
Digestive	1086	1.8	61.3	(10.0 to post-op recovery)
Neoplasm	951	1.6	76.2	(14.3 to post-op recovery)
Congenital	771	1.3	100	-
Infectious/parasitic	735	1.2	44.7	(16.7 to respiratory)
Endocrine/nutrition/metabolism	672	1.1	88.0	(4.0 to skin)
Genitourinary	557	0.9	53.8	(12.8 to MMD)
Skin	478	0.8	59.3	(11.1 to MMD)
Pregnancy/childbirth	446	0.7	77.1	(8.6 to symptoms)
Causes of injury and poisoning	215	0.4	41.9	(29.0 to injury)
Haematology	81	0.1	62.5	(25.0 to post-op recovery)

Table 2. Logistic regression of long-term incapacity (>28 weeks) by selected explanatory variables: total claimant group (n = 6271).

Dependent: >28 weeks incapacity (N/Y)	OR	OR (95% CI)	Significance
Claimant sex (male)	-		0.03 ^a
Claimant age (+1 unit)	1.03	1.02 to 1.04	<0.001
Townsend deprivation score			
Quartile 1 ^b , reference	1.00		
Quartile 2	-		0.66
Quartile 3	-		0.34
Quartile 4 ^c	2.20	1.65 to 2.92	<0.001
Diagnostic group (first certificate in sickness episode)			
Mild mental disorder, reference	1.00		
Infectious/parasitic	0.05	0.01 to 0.19	<0.001
Neoplasm	2.82	1.3 to 5.9	0.007
Endocrine/nutrition/metabolism	-		0.34
Haematology	-		0.88
Nervous system/sense organ	-		0.78
Circulatory	-		0.54
Respiratory	0.16	0.10 to 0.25	<0.001
Digestive	0.32	0.17 to 0.62	<0.001
Genitourinary	0.43	0.18 to 0.99	0.004
Pregnancy/childbirth	-		0.22
Skin	-		0.52
Musculoskeletal	0.73	0.56 to 0.95	0.02
Congenital	16.8	5.1 to 55.4	<0.001
Symptoms (NOS)	0.50	0.34 to 0.74	<0.001
Injury	0.23	0.15 to 0.35	<0.001
Causes of injury and poisoning	-		0.15
Investigations/procedures	0.43	0.22 to 0.84	0.01
Postoperative recovery	0.30	0.18 to 0.48	<0.001
Severe mental disorder	7.90	4.3 to 14.4	<0.001

^aOdds ratio = OR = 1.24, 95% CI = 1.03 to 1.5, $P < 0.05$. ^bleast deprived.

^cmost deprived. NOS = not otherwise specified.

Total claimant group: association between outcome and explanatory variables

In the total claimant group of 6271, there was a significant sex difference between the mean duration of sickness episodes (male mean = 10.9 weeks versus female mean = 9.0 weeks; 95% confidence interval [CI] = 1.2 to 2.6 weeks; $P < 0.001$). A significantly higher proportion of males were certified sick for more than 28 weeks (males = 11.6% versus females = 8.4%; $\chi^2 = 20.3$, degrees of freedom (df) = 1, $P < 0.001$).

For the four age groups (<30, 30–44, 45–59, ≥ 60 years or over) there was a linear relationship with increasing length of sickness episode. Mean episode duration was 7.9, 9.0, 11.5, and 17.0 weeks, respectively ($F = 55.9$, $P < 0.001$). Claimants in the over 28-week-duration group were significantly older than those in the shorter episode group (mean age = 44.0 versus 39.6 years; 95% CI = 3.4 to 5.4 years; $P < 0.001$). Claimants in the highest quartile of deprivation had a significantly longer mean duration of certified sickness than those in the least deprived quartile (mean = 13.1 versus 7.8 weeks; 95% CI = 4.1 to 6.5 weeks; $P < 0.001$). The two deprivation groups similarly differed in the proportion of claimants with an episode lasting more than 28 weeks (15.0% versus 7.0%; $\chi^2 = 41.8$, df = 1, $P < 0.001$).

A logistic regression model was constructed to assess the independent effects of claimant age, sex, deprivation score, and diagnostic group of sickness episode upon the probability of long-term (>28 weeks) incapacity. Table 2 presents the results of regression, with three of the four

covariates having significant effects upon incapacity (at the $P < 0.01$ level). The impact of differential diagnosis is particularly striking, with the reference category 'mild mental disorder' being a relatively powerful predictor of chronic incapacity (with only more obvious causes of physical or social disability, 'neoplasm', 'congenital', and 'severe mental disorder' having greater effects). The most deprived quartile group of claimants was 2.2 times more likely than the least deprived group to be sicklisted for more than 28 weeks. Older claimants were significantly more likely to be long-term incapacitated than younger claimants (increased risk of 1.03 for a 1-year age difference).

Mild mental disorder group: association between outcome and explanatory variables

A total of 1758 (28.0%) claimants in the study had a first sickness certificate with a mild mental disorder as the reason for incapacity. Diagnoses within this category included anxiety, stress, depression, 'mixed anxiety and depression', bereavement reaction, and addiction. These claimants were significantly younger than those in other diagnostic categories (mean age = 38.3 versus 40.7 years; 95% CI = 1.7 to 3.1 years; $P < 0.001$). Nearly 54% of them had a higher than median deprivation score compared with 44% for the rest of the overall claimant group ($\chi^2 = 41.9$, df = 1, $P < 0.001$). There was also a significantly higher proportion of females in this subgroup (58.7% versus 53.9%; $\chi^2 = 12.2$, df = 1, $P < 0.001$). Compared with the rest of the claimant group, claimants with mild mental disorder were more likely to have long-term (>28 weeks) incapacity (15.6% versus 7.8%; $\chi^2 = 88.1$, df = 1, $P < 0.001$).

Men with mild mental disorder had significantly longer periods of certified sickness than women within this subgroup (mean episode duration = 15.7 versus 12.8 weeks; 95% CI = 1.5 to 4.4 weeks; $P < 0.001$). Males were also significantly more likely to be sicklisted for longer than 28 weeks (18.6% versus 13.5%; $\chi^2 = 8.6$, df = 1, $P = 0.008$).

The trend of mean episode duration for each of the four age groups (<30, 30–44, 45–59, ≥ 60 years or over) in the mild mental disorder claimant subsample was not linear. Respective means were: 13.6, 13.2, 15.8, and 17.4 weeks. The post hoc Tukey test found that only one pair of age groups (30–44 and 45–59 years) was significantly different ($P = 0.004$) in mean duration. No significant difference in age was found between mild mental disorder claimants with an episode exceeding 28 weeks and those with shorter periods of certification.

The most deprived quartile of these claimants had significantly longer sickness episodes than the least deprived group (mean = 17.8 versus 10.4 weeks; 95% CI of difference = 5.0 to 9.8 weeks; $P < 0.001$). The most deprived group also contained higher proportions of claimants certified for longer than 28 weeks (21.4% versus 8.9%; $\chi^2 = 17.5$, df = 1, $P < 0.001$).

Within this diagnostic group, claimants receiving certification because of alcohol or substance addiction had a mean episode duration of 24.1 weeks, compared with 18.3 for depression and 13.4 for anxiety.

After taking into account the results of univariate analysis above, Table 3 presents the output from a logistic regression model testing the independent effect of each explanatory variable upon mild mental disorder incapacity for more than 28

Table 3. Logistic regression of long-term incapacity (>28 weeks) by selected explanatory variables: 'mild mental disorder' group (n = 1665).

Dependent: >28 weeks incapacity (N/Y)	OR	OR (95% CI)	Significance
Claimant sex (male)	-		0.14
Claimant age (+1 unit)	1.02	1.01 to 1.03	0.005
Townsend deprivation score			
Quartile 1 ^a , reference	1.00		
Quartile 2	-		0.66
Quartile 3	-		0.48
Quartile 4 ^b	2.03	1.20 to 3.42	0.008
Type of mental disorder			
Stress, reference	1.00		
Anxiety	2.49	1.36 to 4.55	0.003
Depression	3.20	2.05 to 4.99	<0.001
Mixed anxiety and depression	2.39	1.21 to 4.25	0.01
Bereavement	-		0.35
Alcohol/substance addiction	8.17	4.0 to 17.22	<0.001
Debility	-		0.39
Postnatal depression	-		0.87
Other mild mental problem	-		0.29

OR = odds ratio. ^aleast deprived. ^bmost deprived.

Table 4. Logistic regression of long-term incapacity (>28 weeks) by selected explanatory variables: musculoskeletal group (n = 872).

Dependent: >28 weeks incapacity (N/Y)	OR	OR (95% CI)	Significance
Claimant sex (male)	-		0.19
Claimant age (+1 unit)	-	-	0.02 ^a
Townsend deprivation score			
Quartile 1 ^a , reference	1.00		
Quartile 2	-		0.38
Quartile 3	-		0.56
Quartile 4 ^b	-		0.77
Non-back problem	3.26	2.03 to 5.20	<0.007

^aOdds ratio = OR 1.02, 95% CI = 1.01 to 1.04, $P < 0.05$. ^bleast deprived. ^cmost deprived.

weeks. Older and more deprived claimants were significantly more likely to have over 28 weeks certification. There were significant differences between the diagnostic subcategories. Compared with the reference diagnosis (stress), claimants with 'addiction' were over eight times more likely to be sick long term. Sex had no significant independent association with long-term incapacity among these claimants.

Musculoskeletal group: association between outcome and explanatory variables

Claimants with an initial diagnosis within the 'Musculoskeletal' category (n = 864) were also analysed separately. This diagnostic group of claimants was significantly older (mean age = 43.1 versus 39.6 years; 95% CI = 2.6 to 4.4 years; $P < 0.001$) and less deprived than other claimants on our database. Just over 43% of claimants in this diagnostic category had a Townsend deprivation score above the median compared with 47.3% for the rest of the claimants in the study ($\chi^2 = 4.1$, df = 1, $P = 0.03$). Musculoskeletal claimants were significantly more likely to be male (52.4% versus 43.7%; $\chi^2 = 23.3$, df = 1, $P < 0.001$) and claiming benefit for more than 28 weeks (13.1% versus 9.3%; $\chi^2 = 12.3$, df = 1, $P < 0.001$).

Within the musculoskeletal claimant group itself, there were no significant differences between males and females

in terms of total certified sickness (mean = 12.6 versus 11.7 weeks; 95% CI = 1.5 to 3.3 weeks; $P = 0.77$) or the proportions of males and females with an episode exceeding 28 weeks (14.3% versus 12.0%; $\chi^2 = 0.99$, df = 1, $P = 0.34$).

There was a linear relationship between the duration of sickness episode and age within this subgroup. The mean duration increased with age from 8.2 weeks to 10.2, 14.1, and 20.6 weeks. Only means for one pair of age groups (<30 and 30–44 years) were not significantly different ($P = 0.23$) after application of the Tukey test. Those musculoskeletal sufferers with an episode longer than 28 weeks were significantly older (mean age = 47.6 versus 42.4 years; 95% CI = 2.7 to 7.9 years; $P < 0.001$) than claimants in the shorter duration group.

There were no significant differences found between musculoskeletal sufferers in the least-deprived and most-deprived quartile groups, in relation to either mean duration of incapacity or proportions of quartile groups incapacitated for longer than 28 weeks. The type of musculoskeletal problem certified appeared to have an association with duration of sickness episode. Duration of total episode after initial back pain diagnosis was significantly shorter than for episodes due to other musculoskeletal problems (mean = 9.3 versus 19.4 weeks; 95% CI of difference = 7.6 to 12.6 weeks; $P < 0.001$).

In the logistic regression model (Table 4), only the musculoskeletal category had a significant independent effect upon prolonged work incapacity (at the $P < 0.01$ level). A diagnosis of back pain as the reason for incapacity significantly decreased the risk of long-term certified sickness.

Discussion

Summary of main findings

This study reports the findings of the most comprehensive quantitative study of sickness certification in general practice to date. The reason for sickness absence was changed relatively infrequently on continuing absences within the same episode. Mild mental disorders accounted for almost 40% of sickness absence. Risk factors for the development of longer-term work incapacity included social deprivation, increasing age, and, to a lesser extent, sex. Apart from severe and progressive illnesses (such as cancer and severe mental disorder), mild mental disorders were particularly associated with claimants developing longer-term sickness absence. At present, relatively few of these long-term claimants ever return to paid employment. For claimants within the largest diagnostic group of mild mental disorders, additional risk factors for chronic incapacity were age, addiction, and deprivation. Within the second group (musculoskeletal problems), while age increased risk, back pain sufferers tended to return to work earlier.

Although these are significant findings in their own right, they are relatively fixed variables and hence may be useful in the development of a theoretical model aiming at predicting which patients are more likely to be long-term sicklisted, within specific diagnostic categories.

While such a predictive model may be very useful in primary care, the results of our study also suggest possibilities for more direct intervention to prevent long-term incapacity. The study identified groups at risk of long-term incapacity from potentially reversible conditions, who may benefit from interventions to enable them to recover and return to work,

reducing their risk of long-term absence from the workforce with its consequent social exclusion and relative economic deprivation. A substantial proportion of the patients with mild mental problems may fall into this category.

Strengths and limitations of the study

We used carbonised certification pads to ensure that all sickness certificates issued during the period of our study were included in the database. We reduced the impact of the recording of seasonal and infection epidemics by collecting data for a complete year. However, the results reported here are restricted to anonymised demographic data linked to the diagnoses recorded on the certificates. We have not accounted for other contemporaneous and historical information that may potentially impact upon duration of certified sickness. Occupational history was not consistently recorded in the primary care records, so we were unable to explore the relationship between employment factors and incapacity for work within this study. Further research is required to explore the extent to which employment and income factors influence the development of longer-term incapacity. One might speculate that job satisfaction, potential income loss, and employment prospects may be important factors. As stated above, GP factors accounting for variation in certifying behaviour were not considered in this study.

In the context of existing evidence

This study and national Incapacity Benefit statistics⁴ confirm mild mental disorder as superseding musculoskeletal problems as the largest diagnostic contributor to incapacity for work. Not only does this represent a changing trend over time within the UK, but it appears to conflict with the patterns in other societies, particularly in Scandinavia.²⁴⁻²⁷ This switch may reflect an increased willingness by patients and/or GPs to consider psychosocial diagnoses at the onset of a physical illness, reflecting the increasing acceptance of a mild mental disorder, such as 'stress', as a legitimate cause of sickness within society. This view is supported by our finding that relatively few claimants shifted from physical to psychological diagnoses during an episode of sickness absence. The differences may also reflect diverse patterns of somatisation in the respective societies and cultures as well as varying occupational and environmental exposures to risk factors. However, previous research has shown that psychosocial factors are strong predictors of the development of long-term incapacity from low back pain.²⁸ It may also be that changing patterns in treatment and rehabilitation (such as Royal College of General Practitioners back pain guidelines) are impacting on GP decisions regarding fitness for work and physical capacity, as well as improved recovery times and outcomes.

Implications for research and practice

Our findings to date support the need for an intervention trial to manage psychological factors for claimants at risk of developing long-term incapacity. Further research, based upon a larger-scale comprehensive sick note database, will enable estimation of the relative influence of physical, social, and environmental (including employment) factors upon the development of longer-term incapacity. We are currently

conducting qualitative studies investigating the attitudes, experiences, and opinions of claimants and practitioners.

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