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Recurrence of Work-Related Low Back Pain and Disability

Association Between Self-report and Workers' Compensation Data

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Study Design. Retrospective cohort.**Objective.** To explore the ability to capture low back pain (LBP) recurrence using wage-replacement (WR) data.**Summary of Background Data.** LBP can be a recurrent, fluctuating, and disabling condition. Because of its largely nonspecific and subjective nature, the condition poses challenges for research and clinical management, as speaking directly with the affected individuals is not always practical. Little information is available on how indicators of LBP recurrence that can be extracted from administrative databases relate to patients' self-report.**Methods.** Participants with a compensated claim for work-related LBP (N = 90) were interviewed regarding their LBP-related experiences after their initial return to work. Interview data were compared with WR data, which was provided by the participants' workers' compensation provider.**Results.** Concordance was observed between WR-based indicators and self-reports of additional time off due to LBP. The best performing WR-based indicator reflected a payment history that began with more than 7 consecutive days of initial WR payments, followed by a gap in WR payments of more than 7 consecutive days, followed by another WR payment period of more than 7 consecutive days (sensitivity = 55%, specificity = 73%, overall accuracy = 69%). Although concordance was observed between the 2 measures of additional time off, the best performing WR indicator was not

related to participants' other self-reports of post-return-to-work LBP recurrence which included LBP being significantly worse usual; LBP experiences; seeking health care for LBP; and the experience of difficulties related to the back condition.

Conclusion. Results indicate that compensation data can be used to capture what a claimant would self-report as additional time off after their initial return to work due to their LBP condition. However, the use of self-report recurrence indicators is recommended if there is a desire to capture a fuller extent of workers' ongoing pain and/or disability experiences.**Key words:** low back pain, workers' compensation, recurrence, administrative data, wage-replacement benefits, self-report.**Level of Evidence:** N/A**Spine 2013;38:2279-2286**

Low back pain (LBP) is often considered a benign, self-limiting condition with excellent prognosis. However, there is growing evidence that a group of individuals with LBP experience recurrent, fluctuating, and disabling pain. Recurrence poses challenges for clinical management of the condition as well as for research.¹⁻⁴ Investigators have struggled with how best to define and measure meaningful recurrences, and depending on the definition used, studies have reported that between 24% and 87% of patients have subsequent LBP within a year after their initial episode.^{5,6} This wide range is at least partially due to the inconsistent definitions and measures used, indicating that better definitions and measures of LBP recurrence are needed.

Analysis of workers' compensation data indicates that recurrent episodes of LBP substantially raise direct and indirect costs, with almost 70% of overall time off work, 71% of wage-replacement costs, and 84% of medical costs occurring after the first attempt to return to work (RTW).⁷ As indicated by authors of recent systematic reviews,^{5,8} despite LBP recurrence receiving considerable research attention, there seems to be little consistency in how it is conceptualized and measured. To date, recurrence measures have focused on discrete repeated episodes of pain, disability, health care utilization, and time off work, with the highest recurrence rates observed in studies focusing on reported pain episodes.^{2,9} These various measures of LBP recurrence have been explored and some of

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these have been quantitatively investigated with the aim of establishing accurate LBP recurrence rates.^{2,9,10}

Gaps in the history of WR benefits are commonly used as an indicator of recurrence.¹¹ Because wage-replacement benefits are paid when workers experience work disability, gaps in the benefit history often indicate periods of time when the worker has returned to work or is capable of working. Previous research has found that shorter gaps are associated with higher recurrence rates, leading to potential overestimation because shorter gaps may be due to failed attempts of a worker to perform regular or light duties, vacation, work stoppage, or other reason besides a true recurrence of pain.¹¹ Although these investigations provide some insight into possible recurrence rates, definitions were constructed using administrative claims data and have not been compared with self-reports of the workers experiencing the problem.¹²

Marras *et al*¹³ studied LBP in occupational environments and directly compared reported pain recurrence with employer confirmed work absences. Within the 196 workers available for 1-year follow-up, symptom reporting was found to yield more than 5 times as many recurrences as employer confirmed lost time (recurrence rates of 58% for self-report of symptoms *vs.* 10% for employer confirmed lost time). However, focusing on symptom reporting may not accurately differentiate a meaningful recurrence from a relatively minor pain event and might also lead to errors in measurement.¹⁴ Qualitative research with individuals experiencing LBP indicate that many patients adjust to living with on-again/off-again pain and consider it a regular part of daily life.^{15,16} For such individuals, experiencing pain may not necessarily constitute a meaningful recurrence; rather, it would be part of their everyday life.¹⁷ Additionally, time taken off work also may not be a completely valid indicator due to the many factors influencing work loss such as availability of financial compensation. To our knowledge, no previous studies have compared compensation benefit payments with workers self-reports of LBP recurrence.

The objective of the current investigation was to explore the ability to capture LBP recurrence using WR-payment data. We did this by examining the concordance between claimants' self-reports of LBP experiences after their initial RTW, and their post-RTW WR payment history. Our aim was to identify a pattern of WR payments that corresponded with claimants' reports of taking additional time off related to their back condition. In addition, we sought to determine how claimant reports of recurrent work loss related to their broader reports about their experience with LBP (*i.e.*, was it significantly worse than it usually is, did they experience any difficulties related to their LBP, and did they seek health care after initial RTW).

MATERIALS AND METHODS

This study followed a retrospective cohort design. Data were extracted from a Canadian workers' compensation claims database (WorkSafeBC), with workers with a claim for LBP identified for telephone interview. During the interview, they were asked about their LBP-related experiences after initial

RTW. Participant reports were then compared with payment history data obtained from WorkSafeBC. The University of Alberta Health Research Ethics Board as well as the Liberty Mutual Research Institute for Safety Institutional Review Board reviewed and approved this project.

Participants and Procedure

Participants (N = 90) were drawn from the total pool of individuals filing low back claims with WorkSafeBC between July 1, 2008, and March 31, 2009. Inclusion criteria were having a workers' compensation claim for a low-back condition, suspension of WR benefits in the year after filing the claim, verbal report of RTW after the initial episode, and willingness to participate in a telephone interview. Invitations to participate in the research were sent to individuals selected randomly by WorkSafeBC. Response details are contained within Figure 1. Participants' age was in the range from 24 to 65 years, and the majority of invitees and respondents were male. Table 1 reveals the additional information pertaining to study demographic and injury characteristics. Comparisons of characteristics between population, invitee, and participant indicated no significant differences in relation to sex or nature of injury. However, study participants were slightly older (≈ 2.5 yr)

Figure 1. Flow diagram of participant recruitment and selection.

TABLE 1. Study Demographic and Injury Characteristics: Participant Characteristics Stratified by Self-report of Additional Time Off Due to Back Condition (χ^2 and F Statistics Relate to Tests for Differences Between Participants Reporting Taking Additional Time Off and Those Not)

Demographic Characteristic	Population (N = 3168)	Invitees (N = 923)	Participants (N = 90)	Additional Time Off Because of Back Condition Mean (SD) or n (%)		χ^2 or F Value
				No (n = 67)	Yes (n = 23)	
Age (yr)	43.16 (11.28)	43.24 (11.13)	45.79 (10.11)	45.82 (10.51)	43.91 (8.78)	0.610
Sex (male)	2012 (63.5)	587 (63.6)	55 (61.1)	41 (61.2)	14 (60.9)	0.001
Nature of injury						1.402
Sprain/strain/tear	2820 (89.0)	800 (86.7)	81 (90.0)	60 (89.6)	21 (91.3)	
Fracture	94 (3.0)	26 (2.8)	2 (2.2)	1 (1.5)	1 (4.3)	
Sciatica	141 (4.5)	57 (6.2)	5 (5.6)	4 (6.0)	1 (4.3)	
Other traumatic injury	42 (1.3)	12 (1.3)	1 (1.1)	1 (1.5)	0 (0.0)	
Other	71 (2.2)	28 (3.0)	1 (1.1)	1 (1.5)	0 (0.0)	
Was LBP due to a trauma event? (Yes)			76 (84.4)	54 (80.6)	22 (95.7)	3.890*
Currently employed (Yes)			78 (86.7)	59 (88.1)	20 (87.0)	0.019
Currently working (Yes)			71 (78.9)	54 (80.6)	17 (73.9)	0.459
Education level						3.874
Partial high school			11 (12.2)	8 (11.9)	3 (13.0)	
High school diploma			19 (21.1)	16 (23.9)	3 (13.0)	
Partial college			22 (24.4)	15 (22.4)	7 (30.4)	
Technical diploma/degree			23 (25.6)	19 (28.4)	4 (17.4)	
University degree			15 (16.7)	9 (13.4)	6 (26.1)	

* $P < 0.05$.

LBP indicates low back pain; SD, standard deviation.

than the study population and those invited to participate ($F = 4.79$, $P < 0.05$; and $F = 4.37$, $P < 0.05$, respectively).

Participants were interviewed using a one-on-one format during which they were asked open- and closed-ended questions related to their experience with LBP after initial RTW. Interviews were conducted between September 2010 and September 2011. Interview questions were developed on the basis of the researchers' understanding of LBP recurrence and results of a qualitative study examining the issue of recurrence.¹⁵ The interview contained questions confirming whether the participant had RTW, whether they were currently working, and various aspects of recurrence including whether they had to take additional time off work, whether they experienced pain or difficulties due to their condition, and whether they sought health care since RTW (see Supplemental Digital Content Appendix A available at <http://links.lww.com/BRS/A839>). Computer-assisted-telephone interviewing was used to collect the survey data. Interviews were conducted by an experienced polling firm (Synovate, Vancouver, Canada). The interview average duration was 18.7 minutes. Claimants were given a \$25 gift card for their time. The mean time between injury and

interview was 26.6 (standard deviation, 4.7) months, the minimum was 18 months and the maximum was 36 months.

Measures

Survey data were merged with data provided by WorkSafeBC, which included age, sex, part of body and nature of injury codes, number of visits to physicians and allied health providers (*i.e.*, physical therapy and chiropractors), as well as history of payments for any WR benefit. To identify indicators of recurrence potentially associated with participants' self-report of taking additional time off due to their back condition, the WR benefit chronology was reviewed to find gaps in the payment history. The durations of subsequent benefit episodes were also considered. Using the claimants' unique identifying number within the WorkSafeBC database, we were also able to obtain information on benefit payments made within any subsequent LBP claims, including those with a new claim number.

Because short gaps (*i.e.*, 3 d or less) in compensation payment histories commonly occur, and the extent to which they reflect a RTW can be questioned,^{15,16} the decision was made to limit the length of gaps to more than 3 days. Shorter gaps may

be due to failed attempts of a worker with LBP to perform regular or light duties, vacation, work stoppage, or other reason besides a true recurrence of pain. In terms of the nature of the WR payments, both total temporary disability (TTD) benefits and temporary partial disability (TPD) benefits were examined. TTD benefits are provided when the worker is completely incapable of working, whereas TPD benefits are provided when the worker is capable of performing some work such as modified duties or part-time hours. In conducting this research, we were most interested in episodes of "meaningful disability," which we defined as being greater than 1 week (*i.e.*, >7 calendar days). We considered this timeframe meaningful for a number of reasons. First, it involved what we considered a substantial amount of time away from the workplace. Second, as discussed earlier, short periods of payments may not necessarily reflect time away from the workplace due to LBP. Finally, wage-replacement payments are typically made on a weekly basis. As such, it was our judgment, that payments of more than 7 days reflected not only a substantial amount of time away from the workplace, but were also likely to truly capture time away from the workplace due to LBP. Definitions of the WR indicators we used are as detailed in Table 2. It should be noted that all time periods are consecutive days. For example, the indicator >7>3>7 captures a scenario where the claimant had more than 7 consecutive days of WR payments, followed by more than 3 consecutive days without WR payments, followed by another WR payment period of more than 7 consecutive days.

Analysis

Because LBP is most often a nonspecific condition defined by the experience of pain, we considered worker self-report of pain to be the best indicator (*i.e.*, criterion standard) for the condition and its recurrence. A diagnostic framework

was used to test the WR-based recurrence indicators' ability to capture self-reported additional time off. We explored various definitions of recurrence (*i.e.*, different sizes of gaps and different durations of TTD/TPD payments) within the compensation data, to determine optimal accuracy in comparison to participant self-report. Sensitivity, specificity, and overall proportion of correct classification were calculated. In addition, χ^2 and analysis of variance were used to test the relationship between the best performing WR-based recurrence indicator, as well as participant reports of additional time off, and other self-report recurrence indicators including: LBP being significantly worse than usual after RTW; post-RTW pain level; post-RTW health care seeking; and 4 experiencing other difficulties related to the back condition after RTW.

RESULTS

Of the 90 claimants interviewed, 23 (26%) reported taking additional time off after RTW because of their back condition. The only significant difference between those reporting additional time off and those not was related to the nature of the injury, with those initially experiencing a traumatic event being more likely to report taking additional time off (Table 1). Various potential compensation recurrence indicators were tested for their relationship to self-reported additional time off (Table 3), with a number of the indicators found to significantly relate to self-reported additional time off because of LBP. Taking into consideration indicator sensitivity, specificity, and overall percentage correctly classified, in our opinion, the best performing recurrence indicator reflected: greater than 7 days of initial WR payments, then greater than 7 days of gap in payments, then another WR payments period of greater than 7 days (under the same or new claim number) (*i.e.*, WR indicator >7>7>7). However,

TABLE 2. Definitions of Wage-Replacement–Based Indicators of LBP Condition Recurrence

Indemnity-Based Indicator	Definition
>7>3>7	>7 d of any payment, then >3-day gap, then >7 d of any payments for the incident or new claim number
>7>3>14	>7 d of any payment, then >3-day gap, then >14 d of any payments for the incident or new claim number
>7>3>21	>7 d of any payment, then >3-day gap, then >21 d of any payments for the incident or new claim number
>7>7>7	>7 d of any payment, then >7-day gap, then >7 d of any payments for the incident or new claim number
>7>7>14	>7 d of any payment, then >7-day gap, then >14 d of any payments for the incident or new claim number
>7>7>21	>7 d of any payment, then >7-day gap, then >21 d of any payments for the incident or new claim number
>7>14>7	>7 d of any payment, then >14-day gap, then >7 d of any payments for the incident or new claim number
>7>14>14	>7 d of any payment, then >14-day gap, then >14 d of any payments for the incident or new claim number
>7>14>21	>7 d of any payment, then >14-day gap, then >21 d of any payments for the incident or new claim number
>7>21>7	>7 d of any payment, then >21-day gap, then >7 d of any payments for the incident or new claim number
>7>21>14	>7 d of any payment, then >21-day gap, then >14 d of any payments for the incident or new claim number
>7>21>21	>7 d of any payment, then >21-day gap, then >21 d of any payments for the incident or new claim number

TABLE 3. Results Comparing Participants' Self-report of Additional Time Off Because of a Back Condition With Wage-Replacement–Based Indicators of Additional Time Off Because of a Back Condition

Indemnity-Based Indicator	χ^2	Sensitivity Estimate (95% CI)		Specificity Estimate (95% CI)		Overall Accuracy Estimate (95% CI)	
>7>3>7	4.982*	0.6087	(0.4092–0.8082)	0.6567	(0.5430–0.7704)	0.6444	(0.5455–0.7433)
>7>3>14	5.631*	0.5217	(0.3176–0.7259)	0.7463	(0.6421–0.8505)	0.6889	(0.5932–0.7845)
>7>3>21	4.028*	0.4783	(0.2741–0.6824)	0.7463	(0.6421–0.8505)	0.6778	(0.5812–0.7743)
>7>7>7	6.669†	0.5455	(0.3374–0.7535)	0.7313	(0.6252–0.8375)	0.6854	(0.5889–0.7819)
>7>7>14	7.073†	0.4783	(0.2741–0.6824)	0.8060	(0.7113–0.9007)	0.7222	(0.6297–0.8148)
>7>7>21	5.217*	0.4348	(0.2322–0.6374)	0.8060	(0.7113–0.9007)	0.7111	(0.6175–0.8048)
>7>14>7	5.393*	0.4783	(0.2741–0.6824)	0.7761	(0.6763–0.8759)	0.7000	(0.6053–0.7947)
>7>14>14	5.110*	0.3913	(0.1918–0.5908)	0.8358	(0.7471–0.9245)	0.7222	(0.6297–0.8148)
>7>14>21	3.467	0.3333	(0.1317–0.5350)	0.8261	(0.7367–0.9155)	0.7111	(0.6175–0.8048)
>7>21>7	2.454	0.3913	(0.1918–0.5908)	0.7761	(0.6763–0.8759)	0.6778	(0.5812–0.7743)
>7>21>14	2.103	0.3043	(0.1163–0.4924)	0.8281	(0.7357–0.9206)	0.6897	(0.5924–0.7869)
>7>21>21	3.467	0.3478	(0.1532–0.5425)	0.8358	(0.7471–0.9245)	0.7111	(0.6175–0.8048)

* $P < 0.05$.
† $P \leq 0.01$.

as inspection of Table 3 reveals, the confidence intervals varied widely. With regards to the length of the gap, when the definition was set to be greater than 21 days (>7>21>7), the relationship between this definition and self-reports of additional time off was not significant (Table 3). A similar trend was observed for the length of the second round of WR payments: if the gap was required to be greater than 14 days, this resulted in the relationship no longer being significant, or if it was significant, the sensitivity of the indicator was generally greatly reduced (Table 3; >7>14>14).

As Table 3 highlights, in all cases the indicator did better at identifying cases where the claimant did not report having additional time off (*i.e.*, specificity of approximately 70%–80%). The indicators did less well in terms of sensitivity (correctly classifying those who did have additional time off). Analysis of misclassifications occurring with the >7>7>7 indicator reveals that for those not classified as having a recurrence, but reporting that they did ($n = 10$), 4 had either a short initial or recurrent episode of WR payments (<7 d), 1 had a gap of 6 days, and 4 cases had a gap in TTD payments that was filled with TPD payments around the time of the reported additional time off. For the remaining participant, no additional WR payments were found. For those classified as having additional time off, but not reporting it ($n = 18$), 3 had relatively short gaps (<14 d), and 2 had short additional episodes (<14 d). For the remaining 13 cases, payment histories indicated substantial additional durations (ranging from 3 wk to 6 mo).

In total, 67% of study participants indicated that since RTW there had been a time when their back condition was significantly worse than usual. Additionally, 87% reported

experiencing LBP, 77% reported seeking health care for their back condition after the initial RTW, and 80% reported experiencing post-RTW difficulties related to their back condition (Table 4). When comparisons were made between those reporting additional time off and those that did not, participants' self-reported additional time off was found to be related to (1) reports of their back condition being significantly worse than usual since RTW; (2) pain level (but not the experience of pain); (3) the seeking of health care; and (4) the report of experiencing post-RTW difficulties related to their back condition (Table 4). There was no relationship between the optimal compensation recurrence indicator (>7>7>7) and any of the other self-report indicators of LBP recurrence (Table 5).

DISCUSSION

Although we think that persons experiencing back pain are the authority on their condition and its recurrence, when conducting research or program evaluation it is not always practical to speak directly with the injured worker. In such cases, researchers and health care evaluators have looked to alternative data sources, including workers' compensation payment information to measure recurrences.¹⁰ However, this has been done without a good understanding of how payment information relates to workers' self-report of condition recurrence. The results of this study, which aimed to address this task, suggest that although WR payment data can correspond with workers' self-report, the extent to which this is true depends on various parameters including the length of time between payment episodes, the length of subsequent episodes and the consideration of multiple claim numbers.

TABLE 4. Comparisons of Self-reported Additional Time Off Because of Their Back Condition, With Other Self-reported LBP-Related Difficulties After Initial RTW

Self-report Indicators of Post-RTW LBP-Related Difficulties	χ^2 or F Value	Self-reported Additional Time Off After RTW M (SD) or n (%)		Total N = 90
		No n = 67	Yes n = 23	
Time after initial RTW when back condition significantly worse than it usually is (Yes)	5.72*	40 (59.7)	20 (87.0)	60 (66.7)
Experienced back pain after initial RTW (Yes)	2.16	56 (83.6)	22 (95.7)	78 (86.7)
Reported pain level after initial RTW (rating out of 10)	9.95 [†]	5.08 (3.1)	7.35 (2.4)	5.67 (3.1)
Sought health care for back after initial RTW (Yes)	6.23*	47 (70.1)	22 (95.7)	69 (76.7)
Experienced difficulties related to back following initial RTW (Yes)	4.731*	50 (74.6)	22 (95.7)	72 (80.0)

* $P \leq 0.05$, $^{\dagger}P < 0.01$.

LBP indicates low back pain; RTW, return to work; SD, standard deviation.

Although there were a number of WR indicators that performed similarly, the best performing recurrence indicator reflected greater than 7 days of initial WR payments, then greater than 7 days of gap in payments, then another period of WR payments (under the same or a new claim number) that were of greater than 7 days in duration (*i.e.*, WR indicator >7>7>7). Extending the gap between payments beyond 7-day results in a reduction of classification accuracy, such that fewer than 50% of reported recurrent episodes are correctly identified. Similarly, requiring that the second episode be longer than 2 weeks in duration decreased the sensitivity of the indicator. One logistical challenge of this measure is that it requires consideration of gaps in the workers' current claim as well as all subsequent disability episodes, including those paid under new compensation claim numbers. If only payments associated with the current claim number were included, we observed no significant relationships with self-reports of

recurrence (results not shown, but available on request). We also observed that the current claim was often not the workers' first experience with LBP disability because they often had previous claims for the condition.

Our results are somewhat divergent from a recent Delphi study that attempted to reach consensus among researchers with an interest in LBP recurrence on definitions for (1) "recurrence of an episode of LBP" (as an outcome event); and (2) "recurrent LBP" (as a patient population).¹⁸ Both definitions agreed upon by the researchers included a gap of at least 30 days between pain episodes, which is much longer than our observed gap of 7 days. Our measure is consistent with the consensus definition in that gaps in benefits imply that the individual did RTW for a period, and then subsequently experienced functional difficulty enough to take more time off due to the painful condition. Our measure does not imply that LBP subsided or was nonexistent.

TABLE 5. Comparisons of the Best Performing Wage-Replacement–Based Indicator of Additional Time Off Due to Back Pain (>7>7>7), With Other Self-reports of LBP-Related Difficulties After Initial RTW

Self-report Indicators of Post-RTW LBP-Related Difficulties	χ^2 or F Value	>7>7>7 M (SD) or n (%)		Total N = 90
		No n = 59	Yes n = 31	
Time after initial RTW when back condition significantly worse than it usually is (Yes)	0.87	39 (66.1)	21 (67.7)	60 (66.7)
Experienced back pain after initial RTW (Yes)	0.45	53 (89.8)	25 (80.6)	78 (86.7)
Reported pain level after initial RTW (rating out of 10)	0.00	5.67 (3.0)	5.68 (3.4)	5.67 (3.1)
Sought health care for back after initial RTW (Yes)	0.02	45 (76.3)	24 (77.4)	69 (76.7)
Experienced difficulties related to back after initial RTW (Yes)	0.44	46 (78.0)	26 (83.9)	72 (80.0)

LBP indicates low back pain; RTW, return to work; SD, standard deviation.

Recurrences of LBP are considered an important phenomenon⁶; however, previous qualitative research has highlighted that individuals experiencing LBP often think that their pain to be an ongoing occurrence despite varying levels of pain or even periods of time when the pain has remitted.¹⁵ LBP was not viewed as consisting of discrete recurrent episodes, but was viewed as an ongoing intermittent and fluctuating experience (comes and goes, but is always there). Our current data support this later viewpoint. All of our interview respondents reported a RTW after the initial LBP episode; however, the vast majority (>83%) also reported experiencing LBP after the initial return. All of the claimants with recurrent TTD gaps of at least 7 days reported experiencing LBP after RTW; yet 90% of those with no gap in benefits also reported experiencing LBP after RTW. For these claimants, LBP truly was an intermittent, remitting, and fluctuating predicament of life.¹⁹

Study findings support the idea that compensation data can be used to capture what claimants consider as additional time off due to their compensated LBP condition. However, if such data are used, findings should be interpreted with the understanding that gaps in payment do not necessarily mean that the person is not in pain, work disabled, nor experiencing difficulties related due to their LBP condition. That nearly all of the claimants in our study had ongoing reports of LBP has implications for LBP recurrence measurement. It highlights that some individuals are capable of working with LBP, whereas others are not. This may be due to differences in pain intensity, presence of workplace accommodations, or availability of modified work at the workplace, levels of workplace support, or some other factor.¹⁰ Although we are unable to determine precisely what resulted in recurrent work loss with our data, it seems important that definitions of recurrent LBP go beyond reports of reoccurring LBP alone.² Researchers and others attempting to measure LBP recurrence are advised to also consider the extent to which the pain interferes with life activities such as sustainable work.¹² Referencing our earlier qualitative work,¹⁵ we would recommend that questions include average daily pain rating, what it is like when their pain “flares up,” and what it is like when it gets really bad (attack state). In addition, we suggest asking about “flare up” and “attack state” pain duration, and how the respondent’s participation in their daily activities was effected during these times.

Limitations

The main limitation of this study was the low participation rate. Only 10% of the people selected for inclusion in the research were interviewed. Although the response rate is lower than ideal when measured by traditional methods, it is typical of surveys involving workers’ compensation claimants. Interestingly, contemporary research has indicated little difference in results from studies with varying response rates; for example, a comparison of data gathered using the Pew Research Center’s usual methodology (response rate of 25%), with a more rigorous recruitment method (response rate of

50%), produced statistically indistinguishable results.²⁰ Such findings have challenged conventional thinking, and there is currently no consensus regarding response rates and survey quality.²¹ With only 90 participants, the study had low statistical power but despite this, statistically significant results were observed. Regarding generalizability, participants were approximately 2.5 years older than the population from which they were sampled but they were similar in terms of sex and diagnosis. Overall accuracy (69%), sensitivity (55%), and specificity (73%) are not as large as one would like. This could likely be enhanced with more refined interview questions. The questions used in this study were recently developed on the basis of a qualitative study,¹⁵ and reliability had not been tested. Although we recognize these limitations, we anticipate that the current results are sufficiently robust to inform future studies in other jurisdictions and LBP populations. Although further research might benefit from including health care usage when attempting to capture what people with a compensated claim for LBP consider a recurrence of their condition, it should be noted that within the current dataset, such investigations revealed no significant relationships (data not shown).

CONCLUSION

Results support the contention that WR data can be used to capture what claimants’ consider additional time off due to their LBP condition. With that said, our best performing WR indicator was not found to relate to other self-reports of LBP recurrence including recurrent or exacerbated pain, seeking health care, or experiencing other difficulties associated with LBP. If the aim is to answer questions that address claimants’ broader post-RTW back pain experiences, then additional data sources are required.

➤ Key Points

- ❑ Due to its non-specific, fluctuating, recurrent and subjective nature, low back pain (LBP) is a condition that poses challenges for research and clinical management.
- ❑ Findings indicate that workers’ compensation data can be used to capture a partial understanding of workers’ LBP recurrence experiences (i.e. the need for additional time off due to back pain following their initial return to work).
- ❑ To more fully capture workers’ ongoing pain and/or disability experiences, the use of recurrence indicators beyond those which are available in compensation databases is recommended.

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