



## Research

## People with low back pain perceive needs for non-biomedical services in workplace, financial, social and household domains: a systematic review

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## KEY WORDS

Low back pain  
Systematic review  
Patients  
Health services needs  
Health services demand



## ABSTRACT

**Question:** What needs of non-biomedical services are perceived by people with low back pain? **Design:** Systematic review of qualitative and quantitative studies examining perceived needs of non-biomedical services for low back pain, identified through searching of MEDLINE, EMBASE, CINAHL and PsycINFO (1990 to 2016). **Participants:** Adults with low back pain of any duration. **Data extraction and analysis:** Descriptive data regarding study design and methodology were extracted. The preferences, expectations and satisfaction with non-biomedical services reported by people with low back pain were identified and categorised within areas of perceived need. **Results:** Twenty studies (19 qualitative and one quantitative) involving 522 unique participants (total pool of 590) were included in this systematic review. Four areas emerged. Workplace: people with low back pain experience pressure to return to work despite difficulties with the demands of their occupation. They want their employers to be informed about low back pain and they desire workplace accommodations. Financial: people with low back pain want financial support, but have concerns about the inefficiencies of compensation systems and the stigma associated with financial remuneration. Social: people with low back pain report feeling disconnected from social networks and want back-specific social support. Household: people with low back pain report difficulties with household duties; however, there are few data regarding their need for auxiliary devices and domestic help. **Conclusion:** People with low back pain identified work place, financial and social pressures, and difficulties with household duties as areas of need beyond their healthcare requirements that affect their ability to comply with management of their condition. Consideration of such needs may inform physiotherapists, the wider health system, social networks and the workplace to provide more relevant and effective services. [Chou L, Cicuttini FM, Urquhart DM, Anthony SN, Sullivan K, Seneviwickrama M, Briggs AM, Wluka AE (2018) People with low back pain perceive needs for non-biomedical services in workplace, financial, social and household domains: a systematic review. *Journal of Physiotherapy* 64: 74–83]

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### Introduction

Low back pain (LBP) is the leading cause of disability worldwide<sup>1</sup> and affects approximately 80% of the adult population at some point in their lives, as well as one in five younger people.<sup>2</sup> It impacts many aspects of life and is associated with limitations in: activity and participation; psychosocial distress; workplace absenteeism and presenteeism; and community engagement.<sup>3–5</sup> LBP also disrupts a person's wellbeing and sense of self.<sup>4–7</sup> There is often a significant impact on an individual's participation, with people with LBP in various societies reporting difficulties maintaining employment<sup>8–11</sup> or difficulty in participating in important community activities.<sup>12</sup> These impacts are reflected in the staggering indirect costs due to loss of employment amounting to an estimated AUD 2.9 billion lost in annual gross domestic product.<sup>13</sup> With unemployment and costs of required healthcare,

this adds to patients' financial insecurities and concerns,<sup>8,14,15</sup> often exacerbating their pain experience.

Historically, a biomedical model for LBP aetiology and management has been adopted and promoted based on the assumption of a linear relationship between pathology (usually structural pathology) and the experience of pain. However, a biomedical approach alone does not adequately explain the experience of persistent pain for most people, is costly (AUD 1 billion indirect costs annually)<sup>16</sup> and is not associated with positive outcomes for the majority of patients.<sup>17</sup> Although there is high utilisation of biomedically oriented care, people with LBP continue to experience pain, disability and dissatisfaction<sup>7,15,18</sup> and the prevalence and impacts of LBP continue to rise, suggesting the need for a paradigm shift.<sup>19</sup>

LBP, particularly chronic non-specific LBP, is often a complex experience that is affected by multiple, interacting domains

(somatic, cognitive, emotional, social, workplace). This makes an individual's unique experience of pain and its corollaries widespread and varied. Consequently, there has been a longstanding paradigm shift in the management of LBP, with healthcare providers being encouraged to adopt a person-centred, biopsychosocial approach to assessment and management.<sup>20–22</sup> The biopsychosocial approach is underpinned by components of care that include factors outside a solely biomedical paradigm, and which are important to patients. While still considering possible somatic influences on the experience of pain, the biopsychosocial approach emphasises identification and management of non-somatic factors, which in many cases require non-biomedical management approaches.

Healthcare services that rely solely on a biomedical model may not adequately address the broader and significant impacts of LBP on a person's life. Thus, it is important to examine these broader (non-biomedical) experiences, to better understand the impact of LBP on quality of life, and perceived needs of non-biomedical services that may enable better self-management, to inform person-centred models of care for LBP. Therefore, we aimed to examine the existing literature regarding patients' perceived needs of non-biomedical services for LBP. Given the breadth of the topic, a systematic review was performed to enable an in-depth exploration of the patients' perspective, map the existing literature, and identify gaps in the evidence.<sup>23,24</sup>

Therefore, the research question for this systematic review was:

What needs of non-biomedical services are perceived by people with low back pain?

## Method

We performed a review of published data using an established framework<sup>25</sup> to identify what is known about the perceived needs of people with LBP for non-biomedical services, within a larger project examining patient-perceived needs relating to musculoskeletal health.<sup>26</sup>

### Identification and selection of studies

A literature search was performed by electronically searching relevant databases (MEDLINE, EMBASE, CINAHL and PsycINFO) for articles published from January 1990 to July 2016. A comprehensive search strategy was developed iteratively by a multidisciplinary team involving an academic librarian, patient input and clinician researchers. The time period (1990 to 2016) was chosen to include relevant studies examining the current patient perspective. The search strategy combined both MeSH terms and text words to capture information regarding patients' perceived needs of non-biomedical services for LBP. The term 'non-biomedical services' was used to incorporate a variety of services for non-biomedical determinants of health, such as: environmental factors, social factors, community factors, socioeconomic factors, and health behaviours.<sup>27</sup> Studies were not excluded based on their study design, so that the review would broadly capture any dimensions of the patients' perspective of their needs of non-biomedical services and LBP. The detailed search strategy is provided in Appendix 1 (see eAddenda for Appendix 1).

Two investigators (LC and SA) independently assessed the titles and abstracts of all studies identified by the search strategy, and assessed these for relevance. The initial screening was set to be over-inclusive in order to retain all relevant studies. Studies were included if they met these criteria: the participants were aged > 18 years; the participants had LBP, excluding LBP from fractures, malignancy, infection and inflammatory spinal disorders; and the study reported the participants' perceived needs, which included their preferences, satisfaction or expectations of non-biomedical services for LBP. No restrictions were applied with respect to the prevalence of LBP or whether the participants had

acute, sub-acute or chronic LBP. Studies were excluded if they were not published as full-text articles in English. When screening of the title and abstract indicated that a paper appeared to meet the inclusion criteria, the full-text version was retrieved and assessed for relevance by one investigator (LC). Where there were discrepancies regarding the inclusion of studies, these were resolved by review of the full text. Where further discrepancies remained, a third investigator (AW) reviewed the full text and adjudicated to reach consensus. A manual search of the reference lists of the eligible studies was conducted to identify further studies for inclusion in the review.

### Assessment of characteristics of the studies

#### Quality

To assess the risk of bias and methodological quality of the included studies, two authors independently reviewed all of the included studies (LC and SN). For qualitative studies, the Critical Appraisal Skills Programme (CASP) tool was used.<sup>28</sup> The risk of bias tool by Hoy et al was used to assess the external and internal validity of quantitative studies: low risk of bias of quantitative studies was defined as meeting eight or more criteria, moderate risk of bias was defined as meeting six or seven criteria, and high risk of bias was defined as meeting five or fewer criteria.<sup>29</sup> The reviewers discussed and resolved disagreements through consensus. Any disagreements in scoring were reviewed by the senior author (AW).

#### Aims

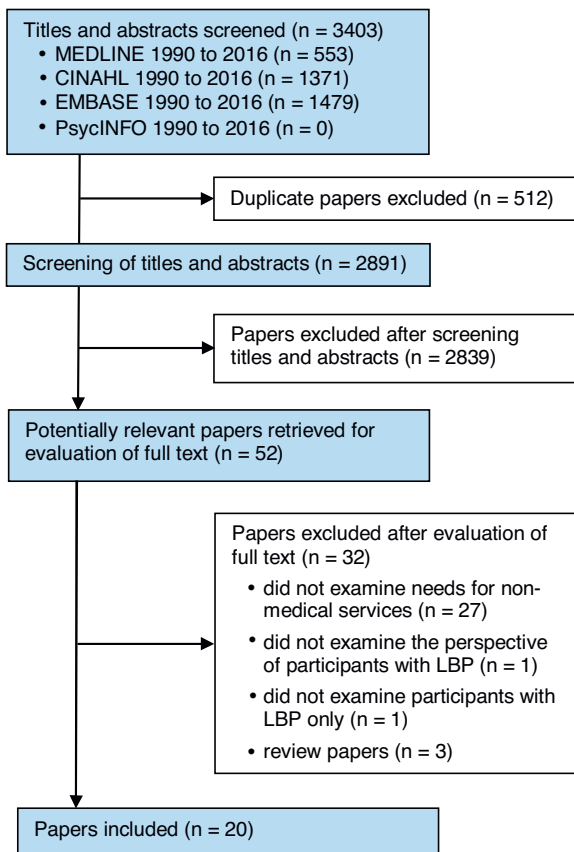
One investigator (LC) independently extracted data from the eligible studies using a standardised data extraction form developed for this review. The following data were systematically extracted: author and year of publication; primary study aim; and description of the study methods.

#### Participants

One investigator (LC) independently extracted data about the study participants. The details of the study participants extracted were: sample size, age distribution, gender ratio, and source. The definition of LBP used for eligibility was also extracted.

### Data extraction and analysis

Included studies were initially reviewed by one author (LC) to identify aspects of non-biomedical services for LBP that patients had a preference for, expected, or were satisfied with, using principles of meta-ethnography to synthesise qualitative data.<sup>30</sup> This involved first identifying key concepts from the included manuscripts and reciprocal translational analysis. This allowed for the translation and comparison of the concepts from individual studies to other studies, enabling the gradual exploration and development of overarching themes.<sup>30</sup> This form of analysis allows for the development of a concept or theme by considering different viewpoints related to the same issue, described in different ways. In this first stage, one author (LC) initially developed a framework of concepts and underlying themes, based on primary data in the studies and any pertinent points raised by the authors in the discussion. In the second stage, two senior authors (FC and AW) with over 20 years of clinical rheumatology consultant-level experience, respectively, and one physiotherapist (AMB) independently reviewed the framework of concepts and themes. This important phase of the meta-synthesis process ensured: clinical meaningfulness, and appropriateness of pooling diverse studies by evaluating whether common themes and concepts were identified across heterogeneous samples.



**Figure 1.** Flow of studies through the review. LBP = low back pain.

## Results

### Flow of trials through the review

The search strategy returned 3403 abstracts, of which 20 studies explored patients' perceived needs of non-biomedical services in the context of LBP. After removal of duplicates and screening of the remaining titles and abstracts, 32 papers were retrieved in full text. Of these, 20 papers were deemed eligible for inclusion in the review. [Figure 1](#) outlines the flow of papers through the review.

### Characteristics of included trials

The majority of studies were conducted in the United Kingdom,<sup>8-10,14,15,18,31-36</sup> two were from Australasia,<sup>37,38</sup> two were from the Middle East,<sup>39,40</sup> two were from Europe,<sup>41,42</sup> one was from South Africa,<sup>11</sup> and one was from North America.<sup>43</sup> The duration of LBP was undefined in 13 of the studies.<sup>8-11,14,15,18,31,33,34,40,41,44</sup> Among the studies that stated the duration of the pain, four reported on chronic back pain (> 12 weeks' duration),<sup>35,36,39,43</sup> three reported on pain > 8 weeks' duration,<sup>32,37,38</sup> and none examined acute back pain (< 4 weeks' duration). Across the 20 included studies, the total pool of participants was 590, but some clusters of studies appeared to have used some or all of the same participants: Coole<sup>8-10</sup>, Slade<sup>37,38</sup> and Walker<sup>15,18</sup>, suggesting an apparent total pool of 522 unique participants. The characteristics of the included studies are shown in [Table 1](#).

### Quality

Quality assessments of the included qualitative studies are presented in [Table 2](#). The overall quality of qualitative studies was poor, especially for Critical Appraisal Skills Programme criteria related to potential biases with recruitment strategy and data collection. Quality assessment of the included quantitative study is presented in [Table 3](#). The quantitative study met four of the criteria

and was at high risk of bias, with potential biases in participant recruitment and data collection.

### Design

There were 19 qualitative studies<sup>8-11,14,15,18,31,32,34-41,43,44</sup> and one quantitative study.<sup>33</sup> Of the qualitative studies, 14 used interviews,<sup>8-10,14,15,18,31,32,34,36,40,41,43,44</sup> five used focus group discussions,<sup>11,35,37,38,40</sup> and one used participant observation.<sup>40</sup> The quantitative study used questionnaires.<sup>33</sup> The sample sizes of the included studies were small and varied from five to 130 participants. There were nine studies that had ≤ 20 participants and 10 studies with 21 to 100 participants.<sup>8-11,32,39-41,43,44</sup> One study had > 100 participants.<sup>33</sup>

Participants were sampled from a range of settings, including pain management clinics (five studies<sup>15,18,34-36</sup>), back pain rehabilitation services (five studies,<sup>8-11,33</sup> with three studies including the same participants<sup>8-10</sup>), family practice clinics (three studies<sup>32,40,43</sup>), rheumatology clinics (three studies,<sup>14,39,41</sup> with one recruiting from both a public rheumatology clinic and two private practices<sup>41</sup>), community-dwelling volunteers responding to advertisements (two studies based on the same participants<sup>37,38</sup>), a clinical trial (one study<sup>44</sup>) and university employees who had back pain necessitating 2 weeks of absence from work (one study<sup>31</sup>).

### Participants

There was a female predominance of participants in the included studies, with eight studies having a higher proportion of females to males<sup>14,32,33,36-38,41,44</sup> and two studies only evaluating female patients.<sup>31,39</sup> Four studies had approximately equal numbers of male and female participants<sup>8-10,43</sup> and four studies had more male participants.<sup>11,15,18,40</sup> Two studies did not specify the gender profiles of the participants.<sup>34,35</sup> The average age of the participants included in the studies was middle age (40 to 65 years of age),<sup>8-11,14,18,31,32,36-41,43,44</sup> Two studies did not specify the age profiles of the participants<sup>31,33</sup> and three studies provided the age ranges of included patients but not the average age.<sup>15,34,35</sup>

### Participants' perceived needs

Four main areas of perceived need emerged from the included studies relating to patient perceived needs of non-biomedical health services for LBP. These four main areas are discussed below and detailed in Boxes 1-4.

#### Needs related to occupation and return to work

Participants' perceived difficulties in the workplace were identified in nine studies,<sup>9-11,31,32,35,40,41</sup> as summarised in [Box 1](#). Reid found that 42% of 50 employed people with LBP had problems at work.<sup>32</sup> Participants struggled with the physical components of their jobs<sup>11</sup> and Campbell reported that participants felt that poor working conditions and manual labour contributed to their LBP.<sup>35</sup> However, participants felt a strong social pressure to maintain employment and that absence from work was associated with social disapproval.<sup>40</sup> Borkan found that some participants reported feelings of anxiety, due to limitations at work from their back pain, especially when patients had to modify or change jobs.<sup>40</sup> Participants also expressed guilt that other colleagues and managers were taking on their workload, and felt pressure to return to work.<sup>31,41</sup> Some participants needed a third party, such as a family member or health professional, to advocate for them and tell them that they could not go back to work.<sup>31</sup> Ryan reported that many participants noted that a gradual return to work after a period of leave due to back pain allowed them to satisfy their employers, whilst also recognising their physical limits.<sup>31</sup>

Eight studies also reported that participants wanted assistance to modify the workplace environment to help maintain their jobs.<sup>9-11,31,32,35,40,44</sup> Participants were angry and dissatisfied with the limited education provided about techniques to prevent LBP, such as lifting or handling.<sup>35</sup> They felt that the lack of adequate help

**Table 1**  
Characteristics of the included studies (n = 20).

Author Year Country	Design	Participants			Primary aim	
		n	Age (yr) <sup>a</sup> Gender	Source		LBP definition
Allegretti <sup>43</sup> 2010 USA	Qualitative: in-depth interviews	23	45 <sup>b</sup> (28 to 72) 52% female	Purposive sampling at a hospital family care centre	Chronic: > 6 months of (near) daily pain	To explore discrepancies between patients with chronic LBP and physicians using paired interviews of shared experiences aiming to improve doctor-patient communication and clinical outcomes.
Bailly <sup>41</sup> 2015 France	Qualitative: semi-structured interviews	25	51 <sup>c</sup> (25 to 81) 66% female	Public university hospital outpatient department and two private practices	Subacute or chronic: exact duration N/S	To better understand the experiences of patients living with chronic LBP, with a focus on impact on relationship with family, friends and work colleagues.
Borkan <sup>40</sup> 1995 Israel	Qualitative: focus groups, interviews, participant observation	66	40 (18 to 67) 35% female	Purposive recruitment via community nurses, physicians or chart review, at three family medicine practice locations	N/S	To increase the understanding of LBP through patients' perceptions, beliefs, illness behaviours and lived experiences.
Brooks <sup>36</sup> 2013 UK	Qualitative: semi-structured interview	18 <sup>d</sup>	49 (45 to 52) 67% female	Convenience sampling at a hospital pain management clinic	> 12 weeks	To explore whether the illness beliefs of significant others differed depending on their relative's working status, and to make some preliminary identification of how significant others may facilitate or hinder work participation for those with persistent back pain.
Buus <sup>44</sup> 2015 Denmark	Qualitative: semi-structured interviews	25	47 (9) 56% female	Purposive sampling from the intervention arm of trial of a counselling intervention for LBP	N/S	To explore LBP patients' perspective on long-term effects of participating in a counselling intervention designed to motivate them to change work routines and to exercise.
Campbell <sup>35</sup> 2007 UK	Qualitative: group discussions	16	(34 to 78) Gender N/S	Sampling from completers of a multidisciplinary pain management program who requested further secondary care referral	> 1 year	To examine expectations for pain treatment and outcome and to determine whether they are influential in maintaining health service consumption.
Coole <sup>8</sup> 2010 UK	Qualitative: semi-structured interviews	25	45 (22 to 58) 52% female	Convenience sampling of people with LBP who had been offered multidisciplinary rehabilitation	N/S	To explore the individual experiences and perceptions of patients awaiting rehabilitation who are concerned about their ability to work because of persisting or recurrent LBP.
Coole <sup>9</sup> 2010 UK	Qualitative: semi-structured interviews	25	45 (22 to 58) 52% female	Convenience sampling of people with LBP who had been offered multidisciplinary rehabilitation	N/S	To explore employed patients' experiences and perceptions of work prior to attending a rehabilitation programme.
Coole <sup>10</sup> 2010 UK	Qualitative: semi-structured interviews	25	45 (22 to 58) 52% female	Convenience sampling of people with LBP who had been offered multidisciplinary rehabilitation	N/S	To explore the experiences of employed people with back pain regarding the help they have received from GPs and other clinicians regarding work.
De Souza <sup>14</sup> 2011 UK	Qualitative: interviews	11	49 (SD 15) 55% female	Purposive sampling at a rheumatology outpatient clinic	N/S	To explore the interactions and relationships within the family and the workplace from the perspective of the person with chronic spinal pain.
Holloway <sup>34</sup> 2000 UK	Qualitative: in-depth interviews	20	(28 to 80) Gender N/S	Purposive sampling at two pain clinics	N/S	To show how people manage and perceive the change from being well people to becoming 'pain-afflicted' patients.
Layzell <sup>33</sup> 2001 UK	Quantitative: questionnaire	118	Age N/S 58% female	Mailed invitation (with reply paid) to people recently treated at a physiotherapy department	N/S	To assess patient satisfaction with the current services provided for back pain and to increase the level of understanding from the patients' perspective on beliefs about their back pain and how it affects their daily life.
		12	Age: N/S 50% female	People with LBP from the author's workplace or the community	N/S	
Reid <sup>32</sup> 2004 UK	Qualitative: interviews	50	(36 to 55) 54% female	Random selection of patients with LBP at five general practices	> 8 weeks	To explore the perceived health needs of patients with chronic low back pain.
Ryan <sup>31</sup> 2014 UK	Qualitative: semi-structured interviews	5	Age N/S 100% female	Purposive sampling of staff with LBP at a university	N/S	To explore the experiences of individuals returning to work after an episode of sickness absence due to LBP.

**Table 1** (Continued)

Author Year Country	Design	Participants				Primary aim
		n	Age (yr) <sup>a</sup> Gender	Source	LBP definition	
Slade <sup>38</sup> 2009 Australia	Qualitative: focus group discussion	18	51 (10) 67% female	Metropolitan and community newspaper advertisements and university email	> 8 weeks	To evaluate what factors participants in exercise programs for chronic LBP perceive to be important for engagement and participation.
Slade <sup>37</sup> 2009 Australia	Qualitative: focus group discussion	18	51 (10) 67% female	Metropolitan and community newspaper advertisements and university email	> 8 weeks	To determine participant experience of exercise programs for nonspecific chronic LBP.
Soeker <sup>11</sup> 2006 South Africa	Qualitative: focus group interviews	26	(18 to 60) 31% female	Random sampling from a hospital occupational therapy department and a rehabilitation clinic	N/S	To elicit perceptions and experiences of facilitators and barriers that affected individuals who received back rehabilitation and their ability to resume their worker roles.
Tavafian <sup>39</sup> 2008 Iran	Qualitative: focus group	24	43 <sup>b</sup> (18 to 70) 100% female	Convenience purposive sampling of patients from a rheumatology research centre	> 90 days	To explore Iranian women's beliefs regarding the cause of their LBP.
Walker <sup>15</sup> 1999 UK	Qualitative: interviews	20	(28 to 80) 40% female	Two pain clinics	Any duration	To explore back pain patients' views of their lives and their worlds and provide an 'insider' perspective on chronic back pain at the point where patients seek help from pain treatment centres.
Walker <sup>18</sup> 2005 UK	Qualitative: in-depth interviews	20	56 <sup>c</sup> (28 to 79) 40% female	Two pain clinics	N/S	To elaborate on the lived experience of chronic back pain in those actively seeking help from pain clinics.

LBP = low back pain, N/S = not specified.

<sup>a</sup> Mean (SD or range) unless otherwise stated.<sup>b</sup> Average (not otherwise specified).<sup>c</sup> Median.<sup>d</sup> These included nine with LBP and nine relatives or significant others.**Table 2**Quality of the qualitative studies (n = 19) according to the Critical Appraisal Skills Programme criteria.<sup>28</sup>

Study	Clear statement of aim	Qualitative methodology appropriate	Appropriate research design	Appropriate recruitment strategy	Appropriate data collection	Researcher reflexivity	Ethical consideration	Rigorous data analysis	Clear statement of findings	Research value
Allegretti <sup>43</sup>	Y	Y	Y	N	N	Y	Y	Y	Y	Y
Bailey <sup>41</sup>	Y	Y	Y	N	Y	Y	Y	N	Y	Y
Borkan <sup>40</sup>	Y	Y	Y	Y	N	U	N	Y	Y	Y
Brooks <sup>36</sup>	Y	Y	Y	N	N	N	Y	N	Y	Y
Buus <sup>44</sup>	Y	Y	Y	Y	N	Y	Y	N	Y	Y
Campbell <sup>35</sup>	Y	Y	Y	N	N	N	Y	N	Y	Y
Coole <sup>8</sup>	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Coole <sup>9</sup>	Y	Y	Y	N	N	N	Y	Y	Y	Y
Coole <sup>10</sup>	Y	Y	Y	N	N	N	Y	Y	Y	N
De Souza <sup>14</sup>	Y	Y	Y	N	N	N	Y	Y	Y	N
Holloway <sup>34</sup>	Y	Y	Y	N	N	N	N	N	Y	N
Reid <sup>32</sup>	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Ryan <sup>31</sup>	Y	Y	Y	N	N	N	Y	Y	Y	Y
Slade <sup>38</sup>	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Slade <sup>37</sup>	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Soeker <sup>11</sup>	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Tavafian <sup>39</sup>	Y	Y	Y	N	N	N	Y	N	Y	N
Walker <sup>15</sup>	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Walker <sup>18</sup>	Y	Y	Y	Y	N	Y	Y	Y	Y	Y

N = no, U = unclear, Y = yes.

**Table 3**Quality of the quantitative study (n = 1) according to the Hoy et al<sup>29</sup> risk of bias tool criteria.

Study	Representative study population	Appropriate sampling frame	Random selection or census	Minimal non-response bias	Data collected directly from participants	Acceptable case definition	Valid and reliable measurements	Consistent mode of data collection	Appropriate data collection period	Numerator and denominator appropriate
Layzell <sup>33</sup>	N	Y	Y	N	Y	N	N	Y	N	N

N = no, Y = yes.

**Box 1.** Participant-perceived needs related to occupation and return to work.**Workplace assistance**

- Bailly<sup>41</sup>  
Borkan<sup>40</sup>
- Participants felt that they could not fill their roles in the workplace and rely on other colleagues.
  - Some participants with LBP felt that there is strong social pressure to maintain work equality and that absence from work due to low back pain seems to be associated with greater social disapproval and self-recrimination.
- Buus<sup>44</sup>
- Limitations at work could provoke anxiety, especially when patients needed to modify or change jobs.
  - Participants who had a workplace assessment felt that the occupational physicians' presence legitimised their problems.
- Campbell<sup>35</sup>
- Participants thought that poor working conditions and manual labour contributed to their LBP. They were angry that techniques to help prevent LBP, such as lifting and handling information, were not made more freely available or accessible.
- Coole<sup>10</sup>
- Many participants reported that they had not received any advice or support in relation to work that they found effective. They felt that they were given advice that was out of context of the workplace.
  - Several participants described how GPs and other clinicians advised avoidance of work or particular tasks, rather than form an essential part of their recovery.
  - Participants reported that some GPs were more inclined to provide sickness certification than interventions aimed at work retention or recommending modified duties.
- Coole<sup>9</sup>
- Only a minority of the participants received support through occupational health services. Many participants were unsure if there was an occupational health service, or what it may offer them. Some also had the view that occupational health was employer-orientated, which could result in a lack of trust.
  - Some participants considered the modifications suggested by occupational health as being inappropriate or ineffective.
  - Occupational health consultations were generally conducted away from the work site and participants questioned the validity of this assessment.
  - Lack of adequate help in effective work modifications could lead to further sickness absence.
- Reid<sup>32</sup>  
Ryan<sup>31</sup>
- Of the participants who were working, 42% mentioned problems at work.
  - Most participants expressed guilt that other colleagues and managers were taking on their workload whilst they were away and that there was pressure to return to work.
  - Some participants needed a third party (eg, family or doctor) to tell them that they could not go to work – they needed someone to 'stand up to' the pressure of returning to work for them.
  - Many participants noted that a gradual return to work allowed them to satisfy some of the pressure to return to work whilst allowing them to respect their perceived limits.
- Soeker<sup>11</sup>
- Participants had problems with the physical components of their jobs, especially if they had to work at different heights or weights.
  - Many participants were not involved in decisions pertaining to alternative job placement strategies after they had been injured.
  - Participants felt that their injuries could have been prevented if they were working within a safer environment.
  - None of the participants reported receiving any work-based assessment or support following the onset of back pain.
- Walker<sup>18</sup>
- Employer attitudes and assistance**
- Bailly<sup>41</sup>  
Brooks<sup>36</sup>
- Participants reported that it seemed impossible to get their employers to understand their disease.
  - Participants wanted flexibility from their employers, primarily in allowing time off to attend medical appointments, but also reduced or flexible working hours. They also wanted adaptations to their working role when necessary.
- Coole<sup>8</sup>
- Majority of participants felt cautious about disclosing the fact they had low back pain because they may be labelled a 'fraud' or 'disabled', which may prevent them from working.
  - Participants described how their employers would only 'take back pain seriously' if a person had a sickness certificate for back pain.
- Coole<sup>10</sup>
- Participants felt that there was little evidence of dialogue between GPs and other clinicians and employers, leaving the participants to channel and interpret information between the two sectors.
  - Participants were generally in favour of contact being made between healthcare practitioners and the workplace.
- Coole<sup>9</sup>
- Some participants reported that their employers were unhelpful in providing suitable workplace equipment.
  - There was little face-to-face communication between occupational health practitioners, the GP and the employer.
- Soeker<sup>11</sup>
- Patients had negative experiences with employers and reported that employers were unsympathetic. These reinforced feelings of self-doubt or inefficacy, and some employees feared going back to work and adopted the sick role or become angry and frustrated.
  - Participants felt that they needed informed managers and physicians, especially with regard to injury management strategies.
- Walker<sup>18</sup>
- Patients felt that their employers showed a lack of understanding or sympathy towards their back pain.

with work modifications could lead to further sickness absence.<sup>10</sup> Furthermore, some participants felt that safer working environments could have prevented their injuries.<sup>11</sup> Many participants also reported not receiving any advice or support in relation to work practices and safe transition of return to work<sup>10,18</sup> and, if advice was given, they felt that it was out of context.<sup>10</sup> Participants reported that healthcare providers were more likely to advise work avoidance and to be more inclined to provide sickness certification rather than strategies to help maintain employment.<sup>10</sup> Coole found that only a minority of participants received support formally through occupational health services and, among those who did, some perceived the suggested modifications to be inappropriate or ineffective.<sup>9</sup> Some participants questioned the validity of the occupational health consultations, as they were generally con-

ducted away from the work site.<sup>9</sup> In contrast, Buus reported that some participants felt that an assessment by a workplace occupational physician legitimised their back pain.<sup>44</sup> Soeker found that many participants were not involved in decisions pertaining to alternative job placement strategies after they had been injured.<sup>11</sup>

Seven studies reported participants' experiences with their employers.<sup>8–11,18,36,41</sup> Some participants felt cautious about disclosing their back problems for fear of it affecting their job security.<sup>8</sup> Participants also reported that employers lacked understanding, were unsympathetic and would only take them seriously if they had sickness certification.<sup>8,11,18,41</sup> Some participants also found that their employers were unhelpful in providing suitable workplace equipment.<sup>9</sup> These negative experiences with employers reinforced feelings of self-doubt or inefficacy, and some

**Box 2.** Participant-perceived needs related to financial support.**Insurance**  
Allegretti<sup>43</sup>

- Participants felt that a lack of adequate health insurance was a barrier to effective management of LBP.
- Participants felt that the time-consuming process of the disability benefit system was a barrier to effective management of LBP.

Soeker<sup>11</sup>

- Participants felt that the insurance system's administrative procedures were inefficient, resulting in delays in compensating the treating health professionals and reinforced inappropriate injury management methods.

**Compensation**Holloway<sup>34</sup>

- Patients wanted legitimization of their back pain to allow them to receive benefits or compensation.

Walker<sup>15</sup>

- Some participants felt that their compensation claims alienated them from former colleagues.

**Disability claims**Walker<sup>15</sup>

- Most participants were now reliant upon state incapacity benefits.
- Several participants lived in fear that their incapacity benefit might be taken away from them, and some described trying to obtain benefits as a battle.

Walker<sup>18</sup>

- Several participants had applications for statutory support rejected, which reinforced their sense of loss.

**Box 3.** Participant-perceived needs related to social support.Bailly<sup>41</sup>

- Participants reported that family and friends provided assistance, such as listening, understanding and motivation.
- Having social activities was reported as an effective way of diverting their attention from their LBP.

Borkan<sup>40</sup>

- Participants felt that low back pain may diminish or sever bonds to the community.
- Some participants felt that LBP focus groups are therapeutic.

de Souza<sup>14</sup>

- Spousal support was valued by all participants experiencing pain.

Slade<sup>38</sup>

- Social support, such as back-pain-specific support groups, and hearing success stories were viewed as encouraging.

Slade<sup>37</sup>

- The concept of back-pain-specific support groups was very popular.

Tavafian<sup>39</sup>

- Social pressure was mentioned by several female participants as a source of stress and accounted for their LBP.

Walker<sup>18</sup>

- Friendship and social networks also suffered as a result of enforced disengagement from work and social activities.

**Box 4.** Participant-perceived needs related to assistive devices and assistance with the home environment.**Assistive devices**Borkan<sup>40</sup>

- Participants identified environmental factors as aggravating or the source of their back pain, including improper chairs with lack of lumbar support and exposure to wind or cold while not wearing suitable shoes.

**Assistance with the home environment**Bailly<sup>41</sup>

- Participants felt that they were unable to perform their social role at home (eg, they had difficulty caring for their children).

Borkan<sup>40</sup>

- Participants identified that certain housework chores and gardening are difficult for patients with low back pain.

Holloway<sup>34</sup>

- Participants reported not being able to carry out the functions that culture dictates and expects they should perform.
- Some female participants reported that their spouses had taken on household duties.

Layzell<sup>33</sup>

- Participants had difficulty with housework, shopping and gardening during acute episodes of pain.

Reid<sup>32</sup>

- Disability in performing home chores or other regular tasks of living such as gardening was common.
- Female participants mentioned problems with childcare.

Tavafian<sup>39</sup>

- Female participants frequently stated that they were burdened with housework without any support from their family. The burden of hard work without support caused stress, which aggravated their back pain.

participants feared going back to work and would rather adopt the sick role.<sup>11,41</sup> Participants felt that they needed managers who were informed.<sup>11</sup> They also wanted their employers to communicate with their healthcare providers to better understand their situation, and to improve the working environment, especially with regard to injury management strategies.<sup>9,10</sup> Furthermore, Brooks found that participants wanted flexibility from their employers, primarily to allow them to attend medical appointments.<sup>36</sup>

**Need for financial support**

Five studies explored participants' needs for financial support,<sup>11,15,18,34,43</sup> as summarised in **Box 2**. Allegretti reported that participants believed that a lack of adequate health insurance was a barrier to effective management of LBP.<sup>43</sup> Soeker found that participants felt that the management of their LBP was compromised by the insurance system's inefficient administrative procedures.<sup>11</sup> Furthermore, many participants were reliant upon state incapacity benefits but lived in fear that their benefits may be

taken away.<sup>15</sup> Several participants had their applications for statutory support rejected, which reinforced their sense of loss.<sup>18</sup> Moreover, participants wanted legitimisation of their back pain; otherwise, they could not receive compensation.<sup>34</sup> On the other hand, some participants felt that their compensation claims alienated them from former colleagues.<sup>15</sup>

**Need for psychosocial support**

Seven studies examined participants' needs for social support,<sup>14,18,37-41</sup> as summarised in **Box 3**. Participants felt that their social networks and community engagements suffered as a result of disconnection from work and social activities due to their LBP.<sup>18,40</sup> Tavafian found that social pressure was mentioned by female participants as a source of stress and accounted for their LBP experience.<sup>39</sup> Some participants reported that LBP peer-support groups were therapeutic.<sup>40</sup> Slade found that participants wanted back-specific social support networks built on shared experiences.<sup>37,38</sup> Furthermore, participants with back pain valued spousal support.<sup>14,41</sup>

### *Need for assistive devices and assistance with the home environment*

Seven studies examined participants' needs for assistive devices and assistance with the home environment, as summarised in [Box 4](#). One study reported on participants' needs for assistive devices.<sup>40</sup> Borkan found that participants identified certain environmental factors as either the source of their pain or contributing to their pain experience, including improper chairs with lack of lumbar support and inappropriate footwear.<sup>40</sup> Six studies evaluated participants' needs for assistance with their home environment.<sup>32–34,39–41</sup> Participants reported difficulty with household chores and gardening,<sup>32–34,39–41</sup> especially during acute flares of pain.<sup>33</sup> In particular, female participants felt burdened with housework, which caused further stress that aggravated their LBP.<sup>39</sup> Participants also reported problems with childcare.<sup>32,41</sup>

## Discussion

This review identified 20 relevant articles that explored the needs perceived by people with LBP for non-biomedical services related to that pain. It is difficult to summarise these across different healthcare and social security systems, for example, where occupational health requirements vary. Nevertheless, four consistent areas of perceived need emerged independent of the study setting, suggesting concordance of concepts: occupational, financial, social, and assistive devices and assistance with the home environment.

Occupation and financial concerns were very troubling to people with LBP, with consistent findings across multiple studies, suggesting this issue to be universal. People experiencing LBP felt pressured to return to work,<sup>31,40,41</sup> despite struggling with the demands of their occupation.<sup>8–11,18,32,35</sup> They described a strong social pressure to maintain employment and had concerns about stigmatisation from loss of employment and feelings of guilt regarding the inability to uphold work ethics.<sup>8,11,31,40,41</sup> People with LBP believed that they received limited workplace assistance and return-to-work support from healthcare providers, insurers and employers. Furthermore, they perceived that they lacked appropriate advice regarding safe working practices.<sup>8–11,18,36</sup> Several studies also identified perceived inadequacies of employers in supporting workers with LBP.<sup>8–11,18,36,41</sup> Notably, these findings were consistent across all persistent musculoskeletal pain conditions.<sup>45</sup> Although there are guidelines to direct clinicians and employers in managing workers with LBP,<sup>46,47</sup> it was unclear whether these could be readily implemented and whether they were acceptable and deemed appropriate by people with LBP. Taken together, these findings highlight a perceived need for more coordinated and standardised systems in which patients, healthcare providers, compensation providers and employers cooperate more effectively to address the management of workplace issues that people with LBP may encounter. In particular, supporting workers with LBP to return to work through appropriate certification and workplace support may be important.<sup>48</sup> These areas require consideration and investigation because prior to changing practice or policy, any interventions or system changes will need evaluation, given the variability of outcomes of workplace interventions and current low level of evidence available.<sup>49</sup> Underlying this need were the issues of self-image and financial security.

People with LBP identified concerns about financial security, and their ability to navigate their way through financial support systems, including government welfare and insurance, to obtain financial security. Many people with LBP were reliant on state incapacity benefits;<sup>15,18</sup> however, they wanted legitimisation of their pain because they were fearful that their benefits might be revoked.<sup>15,34</sup> Participants also perceived the health insurance systems to be inefficient and barriers to the management of their LBP.<sup>11,43</sup> Studies that evaluated participants' needs for financial support were conducted in the UK,<sup>15,34</sup> the USA<sup>43</sup> and South Africa.<sup>11</sup> Whilst the insurance policies and benefits varied between

countries, common concerns were expressed that highlighted the threat to financial security posed by LBP.

Back pain was also identified as a threat to social independence, eliciting widespread social needs not necessarily linked to occupational and financial security. People reported disconnection from their social networks as a result of their LBP, and they wanted back-specific support networks.<sup>14,18,37–40</sup> The need for social support was a recurring concern among those with musculoskeletal conditions, with patients with osteoarthritis<sup>50–53</sup> or inflammatory arthritis<sup>54,55</sup> reporting similar needs. This highlights the importance of social connectedness and the positive role of social relationships in optimising wellbeing.<sup>56</sup>

Despite being ranked the highest cause of disability in the Global Burden of Disease Study in 2010,<sup>1</sup> there was a surprising lack of data evaluating the needs perceived by people with LBP for assistive devices and assistance with activities of daily living. A single study by Borkan found that people perceived improper chairs with a lack of lumbar support and inappropriate footwear as contributors to their LBP.<sup>40</sup> Five studies identified perceived difficulties with household chores and gardening.<sup>32–34,39,40</sup> This review did not identify any studies reporting on the perceived needs of gait aids or lumbar support devices. Furthermore, although LBP may affect mobility, there were no studies reporting on the perceived needs for transportation. The lack of data regarding the perceived needs of assistive devices and assistance with activities of daily living contrasted with other musculoskeletal conditions such as osteoarthritis and inflammatory arthropathies, where there were more data identifying these areas of need.<sup>51,52,54,55,57–60</sup> Additionally, the included studies evaluated a largely middle-aged cohort, and further studies examining older participants with low back pain are needed, especially given the increasing prevalence of low back pain with advancing age.<sup>2</sup>

The results of this review need to be considered in light of a number of limitations. Firstly, participant perceptions were often collected from studies that did not have that as their main area of focus. Thus, it is possible that all areas of perceived need and their relative importance may not have been identified within this review. Although the included studies tended to have modest sample sizes with mainly English-speaking, middle-aged participants from developed countries who were recruited from primary or tertiary healthcare settings, rather than community centres, the results were remarkably consistent, suggesting universality of the themes. Nevertheless, it is unknown whether all results were generalisable to the wider community and different ethnicities and economies. Moreover, some of the included studies were more than 10 years old, and need to be interpreted with caution, as they may not reflect current patient needs. Furthermore, this review only identified studies evaluating non-acute back pain, so results could not be extrapolated to those with acute back pain. These limitations and the overall poor quality of identified studies highlight the gap in the literature and the need for high-quality studies addressing people's perceived needs for non-biomedical services directly related to LBP. Despite these limitations, this review examined both qualitative and quantitative studies from four complementary databases and used broad inclusion and exclusion criteria in order to capture the breadth of available data. By performing this broad review of the literature, an inclusive and in-depth summary of the key concepts relating to people's perceived needs of non-biomedical services for their LBP has been provided.

People with LBP identified workplace, financial, social and household pressures as areas of need beyond their healthcare requirements that affect their ability to comply with management of their condition. Consideration of such needs may inform community stakeholders' support programs to provide more relevant and effective services. Furthermore, it reinforces the need to incorporate a biopsychosocial paradigm into the management of LBP, as many perceived needs are non-biomedical, so holistic care cannot be achieved with the biomedical approach alone. These findings underscore the pervasive effect of LBP on the



individual. Patients with LBP were threatened by occupational and financial insecurity, which may detrimentally affect self-image,<sup>14,35,36</sup> locus of control<sup>34</sup> and social connectedness,<sup>40</sup> all of which impact health outcomes, including persistence of pain, contributing to a vicious cycle. This has the potential to exacerbate the associated disability. With LBP being such a prevalent cause of disability worldwide, these issues may need to be addressed with non-judgemental strategies developed to limit their impact. Whilst preventive strategies are important, interventions to reduce the likelihood of chronicity may need to focus not only on the biopsychosocial issues related to healthcare, but also to address these wider factors that affect the individual and may perpetuate disability related to back pain.

**What is already known on this topic:** Low back pain is common and disabling, particularly if it becomes chronic. The limitations of a purely biomedical approach to treatment have led to widespread calls for a biopsychosocial approach to assessment and management, which is now consistently supported by clinical guidelines. However, widespread adoption of the biopsychosocial approach is lacking. Consideration of the full breadth of the perceived needs of people with low back pain may help to better inform biopsychosocial approaches to management.

**What this study adds:** People with low back pain identified workplace, financial, social and household pressures as areas of need, beyond their direct healthcare requirements, that affect their ability to comply with management of their condition and actively participate in care. This broad array of perceived needs reinforces the need for a biopsychosocial approach to assessment and management that includes health behaviour change. Identification of these factors may assist physiotherapists to explore and take action around factors that may perpetuate disability related to low back pain.

**eAddenda:** Appendix 1 can be found online at <https://doi.org/10.1016/j.jphys.2018.02.011>

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