

# Systematic Review of Healthcare Costs and Resource Utilization in Fibromyalgia in European Countries and the US

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## BACKGROUND

Fibromyalgia is a chronic pain condition characterized by generalized musculoskeletal pain, hyperalgesia and allodynia, and is commonly associated with other symptoms such as fatigue, poor sleep quality, anxiety and depression.<sup>1</sup>

## OBJECTIVES

- To systematically review and synthesize the existing literature on healthcare costs and resource utilization associated with fibromyalgia in five key European countries (France, Germany, Italy, Spain and the UK), and the US

## METHODS

- Embase® and MEDLINE® were systematically searched using a combination of Emtree® and free-text terms to identify studies reporting cost and resource use data for fibromyalgia published between 2014 and 2024 with pre-defined inclusion criteria (Table 1)
- This review was conducted and reported following the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines<sup>2</sup>

Table 1. Inclusion criteria

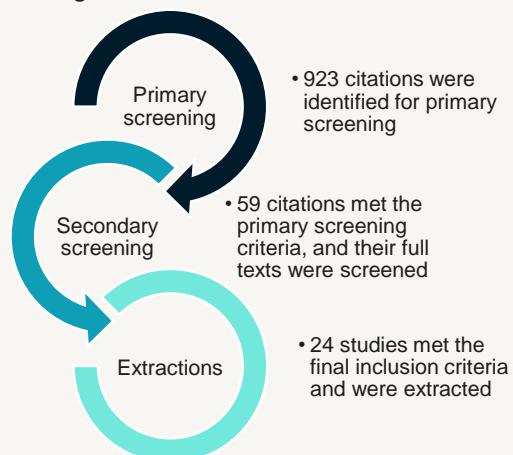
<b>Population</b>	Adults (≥ 18 years) with a diagnosis of fibromyalgia
<b>Interventions and comparators</b>	No limits
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>Direct and indirect cost components</li> <li>Total cost</li> <li>Healthcare resource cost</li> <li>Resource use data</li> <li>Cost and management of TRAEs</li> <li>Societal costs, cost of carer and productivity losses</li> </ul>
<b>Study designs</b>	<ul style="list-style-type: none"> <li>Cost studies</li> <li>Resource use studies</li> <li>Cost/economic burden studies</li> <li>Economic evaluations reporting costs or resource use               <ul style="list-style-type: none"> <li>Budget impact analysis</li> <li>Cost-benefit analysis</li> <li>Cost-consequence analysis</li> <li>Cost-minimization analysis</li> <li>Cost-utility analysis</li> </ul> </li> <li>SLR and meta-analysis (for cross referring only)</li> </ul>
<b>Language</b>	English
<b>Country</b>	France, Germany, Italy, the UK, the US, and Spain
<b>Time limits</b>	Studies published from 2014 onwards
<b>Publication type</b>	Full-text publications only

Key: SLR, systematic literature review, TRAE, treatment-related adverse event.

## RESULTS

- Among the 24 included studies, 12 were from the US, six were from Spain, and one each was from France, Germany, Italy, and the UK. Additionally, one study reported data from five European countries (France, Germany, Italy, the UK, and Spain), and another study reported data from both the US and Europe (Spain and Italy) (Figure 1)
- Of the included evidence, 13 were retrospective studies, six were cross-sectional studies, and five were randomized controlled trials
- The sample size across studies ranged from 42 to 116,183 patients with fibromyalgia

Figure 1. PRISMA flow diagram

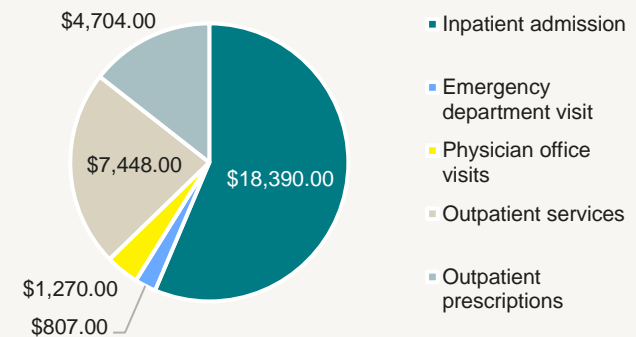


Key: PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

## Direct costs

- In the US, the mean cost of pain-related medication was \$1,037 per patient year.<sup>3</sup> The major driver of healthcare cost was inpatient admission, accounting for 56% of total annual costs in 2009 (Figure 2)
- In Europe, mean annual direct healthcare-related cost per patient was found to be €786.48. This comprised drug cost (€560.58) and consultation cost (€225.90)<sup>4</sup>
- According to a study by Bateman et al., the mean out-of-pocket expenditure per patient was \$307.10 in the US and €410.40 in Europe (Spain and Italy) for the 3 months prior to enrolment<sup>5</sup>

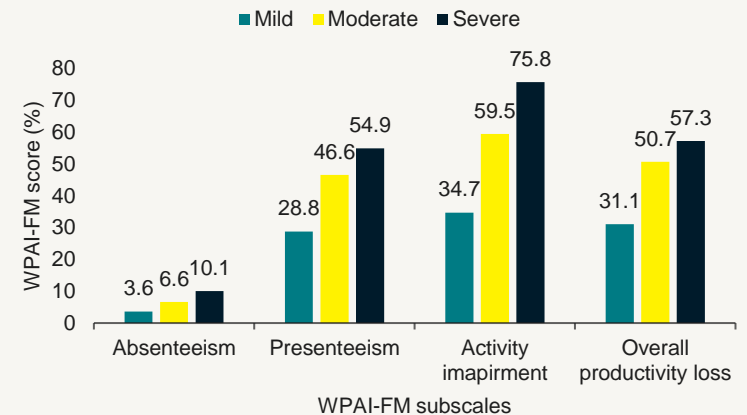
Figure 2. Mean annual healthcare cost in the US



## Indirect costs

- As the severity of fibromyalgia increased, overall productivity loss increased from 31.1% to 57.3% (Figure 3)<sup>6</sup>
- In France, fibromyalgia results in an average of 37 days of sick leave per patient per year<sup>7</sup>

Figure 3. WPAI-FM according to disease severity

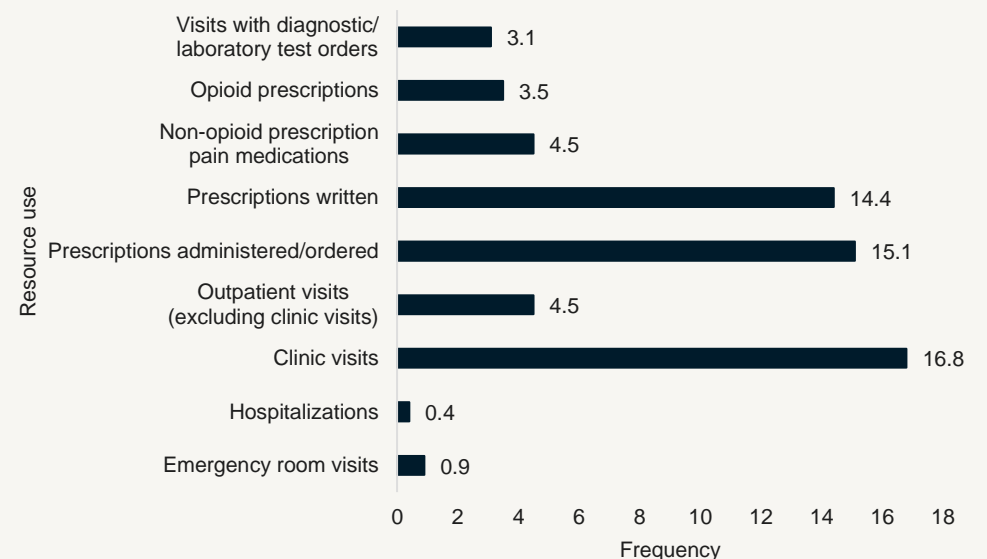


Key: WPAI-FM, Work Productivity and Activity Impairment-Fibromyalgia.

## Healthcare resource use

- In the US, patients with fibromyalgia had an average of 16.8 clinic visits per year during 2011 (Figure 4)
- Margolis et al. reported that patients with fibromyalgia visited healthcare centres (physician office, clinic, hospital, emergency room, physical therapy, other health care visits) an average of 20.6 times per year<sup>8</sup>

Figure 4. Mean annual healthcare resource use



## CONCLUSIONS

- The findings indicate that fibromyalgia leads to a substantial economic burden on the healthcare system and society
- Inpatient care, outpatient care, drug cost and work productivity losses were the key drivers of cost in patients with fibromyalgia
- The current study underscores the necessity for new treatments or strategies to more effectively manage fibromyalgia

## REFERENCES

- Antunes et al. *Front Physiol.* 2022; 13:968292. 2. Page et al. *Bmj.* 2021; 372:n71. 3. Johnston et al. *Pain Med.* 2014; 15(4):562-76. 4. Liedgens et al. *ClinicoeconOutcomes Res.* 2016; 8:113-26. 5. Bateman et al. *Clin Exp Rheumatol.* 2016; 34(2 Suppl 96):S106-13. 6. Salaffi et al. *Clin Exp Rheumatol.* 2022; 40(6):1151-8. 7. Laroche et al. *BMC Rheumatol.* 2019; 3:44. 8. Margolis et al. *Clinicoecon Outcomes Res.* 2016; 8:675-83.



An electronic version of the poster can be viewed by scanning the QR code.