



UMEÅ UNIVERSITY

Umeå University Medical Dissertations New Series no. 2412

Interdisciplinary pain rehabilitation in primary care. A health economic perspective.

Katarina Eklund

Academic dissertation

Which, with the due permission of the Vice-Chancellor of Umeå University for the examination for the Degree of Doctor of Medical Science, is presented for public defence in Betula, Norrlands universitetssjukhus, Medicinska biblioteket, 90737 Umeå on Friday, 13 March, 2026 at 09:00.

Link to participate via Zoom: <https://umu.zoom.us/j/63313987875>

The thesis will be defended in Swedish.

Faculty opponent:

Professor Cecilia Roe, Avdelning for fysikalsk medisin og rehabilitering Oslo Universitetssykehus og Institutt for Klinisk medisin , Oslo universitet, Norge

Department of Community medicine and Rehabilitation

Organisation

Umeå University
Department of Community
medicine and Rehabilitation

Document type

Doctoral thesis

Date of publication

20 February 2026

Author

Katarina Eklund

Title

Interdisciplinary pain rehabilitation in primary care. A health economic perspective.

Abstract

Background Chronic pain affects multiple aspects of life, including employment, functioning, interpersonal relationships, and overall quality of life. Approximately one-fifth of the European population experiences chronic pain. Yet, research and public policy have devoted limited attention to this condition, despite its substantial societal costs, including reduced productivity and high healthcare utilisation. Specialist care provides the Interdisciplinary Pain Rehabilitation Programme (IPRP) as an evidence-based treatment for chronic pain. Primary care settings manage most patients with chronic pain yet rarely use this programme. Implementing IPRP requires coordinated professional involvement and substantial initial resources, which may limit its adoption. Existing health-economic evaluations are limited, short-term, and inconclusive, creating uncertainty about the programme's long-term benefits.

Aims The overall aim of this thesis was to advance understanding of the health economic implications of IPRPs in primary care from both a societal and healthcare provider perspective. Study I aimed to evaluate patient-reported outcomes and healthcare utilisation one year before and after a case manager-led IPRP. Study II aimed to analyse the cost-effectiveness of IPRP compared with care as usual. Study III aimed to analyse healthcare utilisation and costs one year before and after IPRP. Study IV aimed to examine whether participating in IPRP in primary or specialist care is associated with background variables, pain characteristics, quality of life, anxiety, and depression.

Methods Study I compared patient-reported outcomes and healthcare utilisation one year before and after assessment using non-parametric analyses, the Wilcoxon Signed Rank and Mann-Whitney U tests. Study II applied a cost-utility analysis to evaluate the cost-effectiveness of IPRPs compared with usual care. In Study III, healthcare utilisation and costs during the 1 year before and after IPRP were analysed by linking regional registry data to participants. Paired t-tests were used for comparative parametric analyses (Study III). The distribution of resources was compared one year before and one year after IPRP (Studies I and III). Study IV used logistic regression to identify baseline factors associated with participation in IPRP in primary or specialist care.

Results In Study I, reduced healthcare utilisation after IPRP was associated with increased activity levels, improved health-related quality of life, and fewer visits to general practitioners. Increased healthcare utilisation was associated with higher pain intensity and a lack of psychological support at baseline and greater use of specialist services. The cost-utility analysis in Study II indicated that IPRP in primary care is cost-effective, especially in the long term. In Study III, healthcare utilisation decreased by 16% and costs by 12% in the year after IPRP, mainly due to fewer consultations with general practitioners and physiotherapists. Study VI found that women, individuals with university education, and those with frequent general practitioner visits were more likely to participate in IPRP in specialist care. Persistent pain and multiple pain sites also increased the odds of specialist referral. Conversely, obesity, high pain intensity, greater pain catastrophising, and better general health were associated with participation in IPRP in primary care.

Conclusion IPRP improves health-related quality of life and reduces sickness absence sufficiently to support its cost-effectiveness compared with usual care, particularly over the long term. Decreased healthcare utilisation after IPRP may result in cost savings and freed resources in primary care settings. Early biopsychosocial intervention, including psychological support, may enhance well-being and prevent unnecessary healthcare use. Reorganising primary care resources could strengthen chronic pain management and facilitate the wider implementation of IPRP. Socioeconomic factors appear to influence referral pathways to IPRP, resulting in unequal access to healthcare and inefficient resource use. Simpler guidelines are needed to ensure that patients with lower rehabilitation needs are managed in primary care, while those with greater needs are referred to specialised rehabilitation.

Keywords: Chronic pain, interdisciplinary pain rehabilitation, primary care, health economic evaluation, resource allocation

Language

English

ISBN

978-91-8070-914-9 (print)
978-91-8070-915-6 (pdf)

ISSN

0346-6612

Number of pages

82 + 4 papers