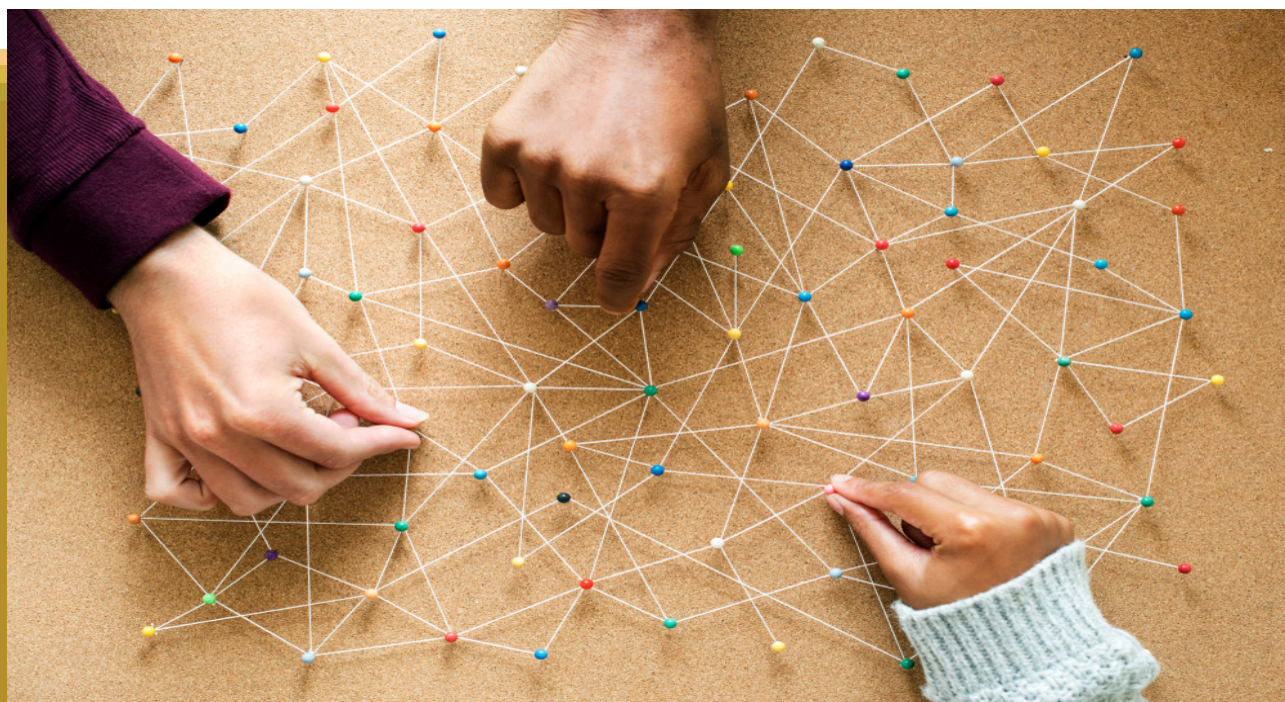


MULTIMODAL MANAGEMENT OF PAIN IN BELGIUM: NINE DOMAINS OF INTERVENTION



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Acknowledgements: We would like to warmly thank all patients from patient associations and healthcare professionals from pain centers who participated to our interviews. We would like also to thank all the stakeholders who took part in our online survey.

We thank Laurent Lepère (Académie de recherche et d'enseignement supérieur (ARES)) and Catherine Stalmans (ARES) for explanation on the organisation of the French-speaking colleges and universities in Belgium.

Finally, we thank Manon Choinière (Centre de recherche du Centre hospitalier de l'Université de Montréal, Canada), David Holloway (electronic Persistent Pain Outcomes Collaboration (ePPOC), Australasian Health Outcomes Consortium, Faculty of Science, Medicine and Health, Australia) and Ruth Zalansky (Dept of Anesthesiology and Intensive Care, Universitäts klinikum Jena, Germany) for sharing their experience on pain data registry.

Reported interests KCE members: KCE is a federal institution funded by INAMI-RIZIV, by the Federal Public Service of Health, Food chain Safety and Environment, and by the Federal Public Service of Social Security. KCE's mission is to advise policymakers on decisions relating to health care and health insurance on the basis of scientific and objective research. It is expected to identify and shed light on the best possible solutions, in the context of an accessible, high-quality health care system with due regard for growing demand and budgetary constraints. , KCE has no interest in companies (commercial or non-commercial, i.e. hospitals and universities), associations (e.g. professional associations, unions), individuals or organisations (e.g. lobby groups) that could be positively or negatively affected (financially or in any other way) by the implementation of the recommendations. All experts involved in the writing of the report or the peer-review process completed a declaration of interest form. Information on potential conflicts of interest is published in the colophon of this report. All members of the KCE Expert Team make yearly declarations of interest and further details of these are available upon request.

Reported interests: 'All experts and stakeholders consulted within this report were selected because of their involvement in the topic of chronic pain management. Therefore, by definition, each of them might have a certain degree of conflict of interest to the main topic of this report'.

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- The external experts were consulted about a (preliminary) version of the scientific report. Their comments were discussed during meetings. They did not co-author the scientific report and did not necessarily agree with its content.
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Publication date: 22 January 2026

Project number: 2021-07

Domain: Health Services Research (HSR)

MeSH: Chronic Pain; Models, Biopsychosocial; Pain management; Patient education

NLM Classification: WL 704



Language: English
Format: Adobe® PDF™ (A4)
Legal depot: D/2026/10.273/06
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How to refer to this document?

Jonckheer P, Desomer A, Benahmed N, Vos B, Lenoir D. Multimodal management of pain in Belgium: nine domains of intervention. Health Services Research (HSR) Brussels: Belgian Health Care Knowledge Centre (KCE). 2026. KCE Reports 414. <https://doi.org/10.57598/R414C>.

This document is available on the website of the Belgian Health Care Knowledge Centre.



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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
ACT	Acceptance and Commitment Therapy The purpose of Acceptance and Commitment Therapy (ACT) is to explore how the individuals with chronic pain accept their chronic pain symptoms. ¹
BNI	British Nursing Index
BPS	Biopsychosocial
CBT	Cognitive Behavioural Therapy CBT is a therapeutic approach that involves a cognitive re-structuring process in which negative or mal-adaptive thoughts and behaviours are replaced with more adaptive thoughts and/or behaviours. ¹
CINAHL	Cumulative Index to Nursing and Allied Health
CNCP	Chronic non cancer pain
CPC	Chronic pain centres. In Belgium there are 35 CPC certified by the authorities and many others.
EFIC	European Pain Federation
GP	General practitioner
HCP	Healthcare professional
IASP	International Association for the Study of Pain
ICD	International Classification of Disease
ICHO	Interuniversitair Samenwerkingsverband HuisartsenOpleiding
IPISHC	Interfederal Plan for Integrated Social and Health Care
IT	Information Technology
LBP	Low back pain
LUSS	Ligue des Usagers des Services de Santé
MSK	Musculo-skeletal
NIHDI	National Institute for Health and Disability Insurance (RIZIV - INAMI)
OLS	Organisations loco-régionales de santé
PNE	Pain Neuroscience Education
PICO	Population Intervention Comparison Outcome
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
QES	Qualitative evidence synthesis
SM	Self-management
VVP	Vlaams Patiëntenplatform
WHO	World Health Organization



■ SCIENTIFIC REPORT

1 INTRODUCTION

KEY POINTS

- Pain is a complex phenomenon and our understanding of it is constantly evolving. In 2020, a new definition by the International Association for the Study of Pain (IASP) highlighted the nuances and complexity of pain
- Worldwide prevalence estimate of chronic pain is high, about 20-25%.
- Chronic pain has a huge impact on individuals but also on society in terms of resources use and public costs.
- Management of chronic pain requires a change in perspective from a pure biomedical to a broader biopsychosocial view.
- Optimising the supply and accessibility of multimodal chronic pain management, including pain neuroscience education, is challenging.

1.1 Context and definition

The opioid crisis prompted several authorities to reconsider how pain is managed. In 2020, the International Association for the Study of Pain (IASP) revised the definition of pain for the first time since 1979.² This new definition aims to convey the nuances and the complexity of pain. As shown in Box 1, concepts such as the adaptive role, communication issues and psychosocial impact are highlighted.

Box 1 – Revised definition of pain (IASP³)

The previous definition of pain was *"An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage"*.²

The revised definition of pain *"An unpleasant sensory and emotional experience associated with, or **resembling that associated with**, actual or potential tissue damage,"* is expanded upon by the addition of **six key notes** and the **etymology of the word pain** for further valuable context:

- **Pain is always a personal experience** that is **influenced** to varying degrees by **biological, psychological, and social factors**
- **Pain and nociception are different phenomena.** Pain cannot be inferred solely from activity in sensory neurons.
- Through their life experiences, **individuals learn the concept of pain.**
- **A person's report of an experience as pain should be respected.***
- Although pain usually serves an **adaptive role**, it may have **adverse effects** on function and social and psychological well-being.
- **Verbal description** is only one of several behaviours to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.
- The Declaration of Montréal, a document developed during the First International Pain Summit on September 3, 2010, states that "Access to pain management is a fundamental human right."



Three categories of pain are described depending on the mechanism of pain.

- Nociceptive pain describes pain associated with an ongoing input **from real or threatened tissue** injury (damage and/or inflammation), such as a burn or sprain.
- Neuropathic pain describes pain caused by nerve damage due to an injury or disease of the (peripheral or central) nervous system itself, like shingles or diabetic neuropathy.
- Nociplastic pain arises from altered pain processing in the nervous system. This term was introduced in 2016 to describe chronic pain that is not characterised by obvious activation of nociceptors or neuropathy but by central sensitisation (see also section Pain Neuroscience Education).⁴ This addresses pain where patients do not exhibit clear evidence of any actual or threatened tissue damage, nor evidence of a lesion or disease of the somatosensory system.⁵

These three categories are not mutually exclusive. There is evidence for the overlap of nociceptive, neuropathic, and nociplastic pain, indicating that nociplastic pain is not a distinct entity, but part of a chronic pain continuum.⁴ The term 'mixed pain' is used to describe 'a complex overlap of the different known pain types (nociceptive, neuropathic, nociplastic) in any combination, acting simultaneously and/or concurrently to cause pain in the same body area. Either mechanism may be more clinically predominant at any point of time. Mixed pain can be acute or chronic'. For example, it is applied for cancer pain, chronic low back pain, osteoarthritis pain or postsurgical pain.⁵

Both the World Health Organisation (WHO) and the IASP define pain as chronic when it persists or recurs for more than 3 months.⁶ Previously, the concept of persistence past normal healing was used but this is mainly applicable for pain after surgery and this is why a purely temporal criterion was preferred. Although the IASP acknowledged that a temporal cutoff of 3 months is arbitrary, it is consistent with other temporal cutoffs that are applied in other diseases.⁶ By including two different verbs, namely 'persist' and 'recur', the definition clearly includes 'episodic pain', i.e. pain that occurs from time to time. Pain does not have to persist continuously for three months to be considered chronic.

It is also noticeable that the WHO and the IASP included **chronic pain as a diagnosis in its own right** in its 11th revision of the International Classification of Diseases (ICD-11).⁶ Two categories are defined depending on the presence of underlying diseases: chronic **primary** pain refers to pain that exists despite complete tissue healing, or pain that has no identifiable cause. Chronic **secondary** pain occurs in association with underlying diseases (i.e. chronic cancer-related pain, chronic neuropathic pain, chronic secondary visceral pain, chronic posttraumatic and postsurgical pain, chronic secondary headache and orofacial pain, and chronic secondary musculoskeletal pain).⁶

This inclusion in the ICD-11 codes is of great importance to healthcare practitioners as it provides legitimacy to what was so often considered as a subjective symptom and presents chronic pain syndromes as independent health conditions.⁷ It is also expected to facilitate research on aetiology and pathophysiology, epidemiological investigations and health policy decisions, including the adequate financing of treatments.⁶



Box 2 – Concepts of pain considered in this report

Acute pain is defined as ‘pain of recent onset and probable limited duration. It usually has an identifiable temporal and causal relationship to injury or disease’ (<https://www.iasp-pain.org/resources/topics/acute-pain/>). However, this type of pain is out of scope for this report.

If pain is still experienced after 3 to 12 weeks, it is labelled as subacute pain. This subacute pain is an important notion because, as we will emphasize several times in this report, optimal pain management should start before chronicity sets in, namely during the subacute phase of pain, also known as ‘transitional pain’.⁸

In some publications, the term ‘persistent pain’ (i.e. ‘*aanhoudende pijn*’ in Dutch or ‘*douleur persistante*’ in French) is used instead of ‘chronic pain’. The use of this alternative term is particularly useful in the context of communication with patients to avoid the nocebo effect of ‘chronicity’, i.e. the belief that the pain is endlessly recurrent and/or will worsen over time.⁷ It can be considered that the use of ‘persistent pain’ leans towards a more person-centred approach, whereas ‘chronic pain’ is better suited in a medical context.⁷ Furthermore, as stated previously in the introduction, pain can also be described by a fluctuating pattern. If this episodic/intermittent/recurrent pain occurs from time to time since more than 3 months, it is included in the chronic pain definition as explained above.

The term ‘complex pain’ is sometimes used by Belgian experts in pain, but it could have a stronger nocebo effect than chronic pain. It also risks leading primary care practitioners to believe that complex pain is more difficult to treat and not their responsibility. Finally, although the different types/categories of pain are clearly defined, the impact of pain on patients cannot be generalized. There is a large distribution in the resulting disability and impact on the daily life of a patient suffering from any type of pain, that depends on a variety of influencing factors.⁹

Because of all these considerations and to stay in line with the International Classification of Diseases, this report uses the term ‘chronic pain’ and adds the term ‘subacute pain’ when this make sense.

1.2 Burden estimate

1.2.1 High prevalence in adult population

The current prevalence of chronic pain in Belgium is not accurately known. Most Belgian figures are based on a large-scale telephone survey undertaken in 15 European countries and Israel in 2003 by Breivik et al. This survey estimated that one in five European adults suffered from chronic pain, which was moderate in 2/3 of the cases and severe in 1/3 of the cases. Nearly one quarter of Belgians (23%) declared to suffer from chronic pain, which was severe in 37% of cases and when looking at Belgian households, 42% were confronted with chronic pain. Chronic pain was defined as pain lasting more than 6 months, having pain during the last month, several times during the last week, and with the most recently experienced pain having an intensity 5 or more on the Numeric Rating Scale ranging from 1 (no pain) to 10 (worst pain imaginable).¹⁰ Given this specific definition, it is possible that the prevalence of bothersome chronic pain may be higher than estimated.

In the Health Interview Survey (HIS) performed by Sciensano, there are five indicators focusing on bodily pain as presented in Box 3. However these indicators address the past 4 weeks and do not consider the duration or recurrency of pain. In addition, there are indicators on the prevalence of chronic diseases in the HIS but these do not specify whether the disease is a source of chronic pain. (<https://www.sciensano.be/en/projects/health-interview-survey/hisia#health-and-quality-of-life>; last publication in 2018)

In the U.S., the National Health Interview Survey (NHIS) included questions that can be used to estimate the prevalence of pain and its impact on the life or work activities. The NHIS is a cross-

sectional, household survey of the civilian, noninstitutionalised population conducted annually by the National Center for Health Statistics (NCHS). The data from 2019-2021 showed that the prevalence of chronic pain among U.S. adults ranged from 20.5% to 21.8%, and the prevalence of high-impact chronic pain ranged from 6.9% to 7.8%.¹¹ These findings are in line with the estimates on worldwide level, where the prevalence of chronic pain is situated around 20-25%.¹²

In Europe, a recent systematic review of epidemiological data, including the study by Breivik et al., showed great variability in the results, with point prevalence of chronic pain ranging from 12% to 48%, 6-month prevalence from 17.5% to 49.8%, 12-month prevalence ranging from 8.1% to 44.6%, and lifetime prevalence ranging from 12.7% to 33.7% independently of gender sex.¹³ Heterogeneity of the sample size and diagnostic criteria was suggested as source of this variability.¹³

Box 3 – Bodily pain in Belgium: Health Interview Survey from Sciensano

The Health Interview Survey (HIS) is a large-scale interview among a sample of 10,000 participants from the Belgian population. It is repeated every 4 to 5 years since 1997. In 2023-2024, the HIS asked questions on the presence of bodily pain in the past 4 weeks and showed the following results¹⁴:

- In 2023-2024, 31.6% of the population aged 15 years and older experienced moderate to severe bodily pain in the past 4 weeks. These numbers show an increase over time (28.4% in 2008).
- One out of three people who experienced pain also reported that the pain interfered with their work or household activities. This interference decreased over time (37.4% in 2008)
- Back pain was the most reported type of pain.
- Bodily pain increased with age (18.4% of the 15-24 year-olds vs 38.0% of the 75+) and is more frequent in women (38.0%) than in men (24.9%).
- Lower educated people are more at risk of bodily pain (40.1% of people with at most a lower secondary degree vs 26.1% of people with higher education degree).
- The SF-36 pain score, which combines the severity of bodily pain and its burden on daily life in the past 4 weeks, increased from 24.3 in 2008 to 29.3 in 2023-2024 (on a scale of 100).

The HIS also addresses the topic of chronic diseases. Among them, five musculoskeletal disorders (arthrosis, arthritis, chronic low back disorders, neck problems and osteoporosis) that could be associated to chronic pain are considered.

- In 2023-2024, the prevalence in the population aged 15 and over was highest for chronic low back disorders (24.6%), followed by osteoarthritis (19.2%), neck problems (12.0%), arthritis (7.7%) and osteoporosis (3.8%).
- While an increase in prevalence was observed between 2013 and 2018 for osteoarthritis, back and neck problems, between 2018 and 2023-2024, the prevalence of osteoarthritis, arthritis, back problems, and osteoporosis has remained largely unchanged and the prevalence of neck problems has decreased. Only the prevalence of osteoarthritis among women has slightly increased during this period.

Another chronic disease that can be a source of chronic pain is for example migraine:

- In 2023-2024, 10.8% of the population aged 15 and over reported having had a migraine episode in the past 12 months (it is not possible to estimate the evolution due to a change in the questionnaire).



1.2.2 Important impact on individuals

Living with chronic pain can affect not only **physical functioning but also sleep quality, mental health, and social relationships**.^{12, 15} These comorbidities often contribute to worse health, reduced functioning, poorer treatment response, and increased health care costs.¹² As chronic pain is largely invisible, those living with pain report feeling disbelieved and stigmatized by family, friends, co-workers, and medical professionals.^{12, 15} This leads sometime to isolation and poor quality of life.¹⁶

Chronic pain can have an impact on people's ability to work and participate in household activities and community life.¹⁵

Chronic pain raises questions of **equity**.¹⁵ Like many other chronic conditions, it disproportionately affects vulnerable populations such as seniors, people living in poverty, people living with mental health or substance use disorders, people who have experienced trauma or violence, etc. A review of epidemiological data from Europe revealed that some sociodemographic factors (e.g. female gender, higher age, no partnership, lower education level, unemployment) and clinical features (e.g. medical diseases, mental disorders or functional impairment) are associated with higher prevalence or severe level of chronic pain.¹³

With the ageing population, the prevalence of chronic pain and its impacts are expected to grow.¹⁵

1.2.3 Important impact on use of resources and public costs

Chronic pain leads to substantial direct (health care) and indirect (loss of production) costs.¹⁵ For example, chronic pain is estimated to be Australia's third most costly health condition in terms of health expenditure. Additionally, musculoskeletal conditions are the second and injuries the fourth most costly condition, which are both disorders that carry a strong association with chronic pain.¹² According to the European Pain Federation (EFIC) and Pain Alliance Europe (PAE), annual direct and indirect costs of chronic pain may be as high as 4% of gross domestic product (GDP).¹⁷ This estimation is based on a Norwegian study population, where the accumulated difference in costs was compared between people with and without chronic pain from 2010 to 2016. A high prevalence of chronic pain (36%) was observed in this population. The cost difference between people with and without chronic pain was estimated at 12 billion € (i.e. 4% of Norway' GDP of 334 billion € in 2016).¹⁸

Direct costs are linked to the costs of healthcare use (ambulatory care, hospital care including surgeries and other treatments) and purchased prescriptions. For example, chronic pain is among the most frequent reasons why people seek healthcare.¹⁷ In Belgium, a longitudinal study performed in French-speaking general practices in 2018 showed that chronic pain patients constituted between 33% and 49% of general practitioners' patient contacts. The vast majority (81%) of those patients experienced pain for over a year. Pain was the primary motive of the GP consultation for 54% of the chronic pain patients (and 78% of the (sub)acute patients).¹⁹

Chronic pain is also associated to resource use in terms of specialised treatment. For example, according to the National Institute for Health and Disability Insurance (RIZIV-INAMI) data, 377,780 chronic pain treatments (e.g. radiofrequency, infiltration) were tarified to the compulsory health insurance in 2024 for an estimated 179,097 patients, which means an average occurrence per patient per year of 2.07. This represents an annual expenditure of 50,891,540 € and an average annual expenditure per patient of 284.16 €. ²⁰

Indirect costs of chronic pain are related to productivity loss due to absence from work but also education loss for students, informal carers burden (such as family or friends, who take time to care for individuals with chronic pain), and presenteeism (lower at-work productivity). Chronic pain is considered as a major cause of functional disability, negatively affecting work productivity and impacting the social security budget.¹⁶ A systematic review of epidemiological data in Europe found that patients with chronic pain (with impairment for six months or at least a substantial interference with daily living) had on average 29.7 (SD = 34.8) disability days per year.¹³ It is based on one study published in 2006, using the National Health Interview and Examination Survey from Germany.²¹

In Belgium, musculoskeletal (MSK) disorders are considered as the major contributors to the loss of productive life years. The Belgian Burden of Disease study, based on data from 2013-2018, aimed to analyse the health and economic impact of MSK disorders focusing on low back pain, neck pain, osteoarthritis and rheumatoid arthritis. Results showed that, in 2018, 2.5 million Belgians were affected by at least one MSK disorder. Every year the musculoskeletal disorders costed on average 3 billion € in medical expenses and 2 billion € linked to work absenteeism. Low back pain was considered as the most costly MSK disorder.²²

1.2.4 Opioids crisis

Pain is related to antalgic consumption with the **worrisome issue of opioids**. In 2020, Belgium ranked among the top 5 consumers of opioid pain medication worldwide, after the US, Germany and Austria and ahead of Switzerland.²³

The Medical Evaluation and Control Service of the RIZIV-INAMI analysed the consumption of five prescribed opioids (tramadol, tilidine^a, oxycodone, fentanyl patches and piritramide) between 2006 and 2017. The **number of unique users increased by 88% between 2006 and 2017, from 587,779 to 1,104,485**. This means that **approximately 10% of all Belgians consumed at least one of the above mentioned opioids in 2017 and that** in the same year an expenditure of 56.1 million € was dedicated to drug reimbursement from the health insurance.²⁴ In 2024, 1,128,108 Belgian inhabitants had consumed at least one opioid (i.e. oxycodone, fentanyl, tramadol, tilidine, morphine, hydromorphone, piritramide, buprenorphine or tapentadol) and Belgium health insurance dedicated 54,938,741 € to opioids reimbursement.²⁵

The reason for the opioids consumption is not known but the **problem of long term use** (which can be linked to chronic disorders) was also highlighted. A chronic use of more than 365 DDD (defined daily dose) per year was noticed in approximately 33,000 patients in 2017. Together these patients use 34% of the number of DDD supplied. Therefore, the **increasing number of high and chronic users of opioids** was considered alarming, especially for the 23% under the age of 50.²⁴

Several recommendations and actions for a rational use of opioids have been implemented in Belgium in recent years. For example, many meetings were organised by the RIZIV-INAMI and an education programme for general practitioners and pharmacists was developed. (in Dutch <https://www.bcfi.be/nl/articles/4131?folia=4120> and in French <https://www.cbip.be/fr/articles/4131?folia=4120>) The recent guideline on multimodal management of chronic primary pain formulated the following recommendation “Consider not prescribing opioids in the treatment of chronic primary pain.” (GRADE 2C).

1.3 Biopsychosocial model

For several years, the biomedical model has been discredited in favour of a biopsychosocial model in the management of chronic pain.²⁶⁻²⁸ As indicated in its name, this model recognises three overlapping components: biological, psychological and social.

Biological contributors include genetics, inflammation, nociception, system dysfunction or tissue pathology.²⁹ Examples of biological risk factors for pain include underlying affections or infections as shingles.^{12, 30}

Psychological contributors are beliefs, thoughts, knowledge, predictions, feelings...²⁹ Psychological risk factors include cognitive, behavioural and affective factors contributing to pain such as poor knowledge about pain, misconceptions about pain, injury or recovery, depression, anxiety, fear of pain, catastrophizing, traumatic experiences, low recovery expectations, or low confidence in self-management.^{12, 30}

^a Valtran is no more on the Belgian market since 2021.



Social contributors are family, friends, colleagues, access to care, community, culture and society.²⁹ Examples of risk factors from this category are limited social support, job dissatisfaction, unsafe working environments, financial difficulties, negative experiences with the health care system or poor access to timely healthcare.¹²

It is important to note that these three categories are interconnected. The biopsychosocial (BPS) model highlights that the human body is not a machine, but rather a complex combination of components.²⁹ This allows to view complex health issues like pain, from different angles.

In their book “Explain pain supercharged”²⁹, G.L. Moseley and D.S. Butler showed contrasts between the biomedical and biopsychosocial approach of pain.(see Table 1)

Table 1 – Contrasts between biomedical and biopsychosocial mental frameworks presented by G.L. Moseley and D.S. Butler in Explain Pain Supercharged.²⁹

A more biomedical perspective	A more biopsychosocial perspective
Involves a search for a single cause.	Recognises multiple causes from biological, psychological and sociological domains.
A focus on the disease process.	A focus on disease and the responses to disease (illness).
Strongly focuses on anatomical and biomechanical principles.	Strongly acknowledges interactions between brain and body.
More disease focused.	More health focused.
Patient management often passive – ‘what can medicine do for you?’	Patient management more active, including self-management – ‘what can you do for yourself?’
Curative monotherapies attempted (such as surgery, injection, manipulation).	Therapies more rehabilitative/interdisciplinary.
The dominant response is to cut it out, turn it off or replace it.	The dominant response is to train it.
Higher perceived harmfulness of physical activity, yet an emphasis on physical activity.	Lower perceived harmfulness of physical activity.
Research aimed more at cellular, molecular and genetic levels, some engagement with neuroscience.	Research aimed more at psychosocial contributions with increasing engagement with neuroscience.
May fail to recognise preventative medicine.	Includes psychosocial contributing factors as precursors to injury/disease.

1.4 Multimodal management

Addressing the biopsychosocial risk factors early—particularly through timely access to biopsychosocially-orientated rehabilitation—is essential to prevent pain from becoming chronic and disabling.³⁰ In practice, the BPS model requires a comprehensive assessment of the three components to understand each patient and the integration of different types of management.³⁰ One aim is to focus on modifiable risk factors to reduce the transition from (sub)-acute to chronic pain. For example, advice on physical activities can be offered alongside participation in peer support discussions or return-to-work programmes. Treatment is not ‘one-size-fits-all’ but needs to be person-specific.¹²

Other strategies can reduce the likelihood that pain will persist over time or dramatically affect the patients’ functioning. Examples include primary prevention of chronic disease through improved nutrition, healthier built environments, preventing and managing injury and trauma, enhancing health literacy in general, improving surgical techniques or optimising pain management in the perioperative period. However, these strategies are beyond the scope of this report.

Two important attention points have to be mentioned about multimodal management of pain. Firstly, the integration of the three BPS components does not imply that care is provided by different healthcare professionals. A multimodal approach, which means the combination of different types of treatment (pharmaceutical and non-pharmaceutical), can be delivered by one professional or an interdisciplinary team. Secondly, the multimodal management of pain does not only focus on struggling against the transition to chronic pain. A biopsychosocial model that solely aims to help patients with chronic pain to accept it (i.e. learn to manage and live with their pain while it is considered incurable) is not consistent with contemporary pain science not the evidence showing sustainable benefits of some interventions.³¹ Actions since the subacute phase (or even earlier) are promoted.

1.5 Pain Neuroscience Education

For several years, the multimodal management of chronic pain has presented difficult challenges for both patients and healthcare professionals (HCPs). Self-management (SM) is particularly highlighted as it gives the care responsibility to both the patients, to manage their own health conditions, and on HCPs to provide appropriate advices and education to empower their patients.³²

To improve this situation, the inclusion of Pain Neuroscience Education (PNE) among the various options of multimodal pain management is emphasised (see some concepts in the Table 2 below).

The aim of the PNE is to reduce patients' harmful beliefs about their pain (de-education) and to give them some notions of neurobiology and neurophysiology (re-education). It focuses on reconceptualising patients' beliefs about pain, emphasising that pain does not always equate to harm, and addressing factors such as stress, lifestyle, and environmental influences. This can allow patients to understand that pain can be correlated with structural and functional changes in the brain and that it is possible to reverse these changes by themselves.^{7, 31, 33, 34}

PNE is described as a continuous process using metaphors and tools.^{7, 31, 34} This can decrease some patients' expectations and beliefs such as requests for a precise diagnosis, preferences for the biomedical model or inclinations towards the passive approach, etc.^{28, 35}

Several studies found that pain education such as "Explain Pain" in Australia showed a significant clinical effect in terms of improved knowledge (about pain), catastrophizing and participation in the rehabilitation process based on the biopsychosocial approach.²⁹ Other results revealed an important clinical impact on the improvement of pain, function (disability), work and quality of life in people with chronic pain.⁷ For example, the number needed to treat (NNT) to achieve a 50% decrease in pain or function 6 months after the presentation of "Explain pain" is four (Moseley G.L. & Butler D.S., Explain Pain Supercharged., p.97).²⁹ More recently, a systematic review showed that compared to physiotherapy alone, the most sustainable effects of treatment in patients with chronic low back pain were achieved for physical function and fear avoidance with pain education programs delivered with physiotherapy care, and for pain intensity with behavioural therapy delivered with physiotherapy care. Although their clinical effectiveness diminishes over time, particularly in the long term (≥ 12 months post-intervention), evidence supports the clinical benefits of combining physiotherapy care with these specific types of psychological intervention.³⁶ Furthermore, no deleterious effects have been reported for PNE.³⁷ PNE can therefore be considered as a part to be included in the multimodal management of patients with chronic pain^{31, 33, 38, 39}, and for patients suffering from sub-acute pain to prevent chronicity.³¹

PNE also targets healthcare professionals. The influence of the HCPs own beliefs and attitudes on their patients' beliefs and attitudes, and therefore on the patients' behaviour and treatment adherence is emphasised.²⁸ In addition, HCPs adherence to the guidelines (and more particularly to the biopsychosocial approach contained therein) can also be influenced by their beliefs and attitudes.³⁵ The biomedical approach is still favoured among professionals and is associated, for example, with less favourable advice on returning to work or physical activities.³⁵ Healthcare professionals also seem to lack confidence in their own ability to address biopsychosocial issues with their patients.^{35, 40}



Table 2 – Common Target Concepts presented by G.L. Moseley and D.S Butler in Explain Pain Supercharged.²⁹

Target Concept	Explanation
1. Pain is normal, personal and always real.	All pain experiences are normal and are an excellent, though unpleasant, response to what your brain judges to be a threatening situation. All pain is real.
2. There are danger sensors, not pain sensors.	The danger alarm system is just that – there are no pain sensors, pain pathways or pain endings.
3. Pain and tissue damage rarely related.	Pain is an unreliable indicator of the presence or extent of tissue damage – either can exist without the other.
4. Pain depends on the balance of danger and safety.	You will have pain when your brain concludes that there is more credible evidence of danger than safety related to your body and thus infers the need to protect.
5. Pain involves distributed brain activity.	There is no single ‘pain centre’ in the brain. Pain is a conscious experience that necessarily involves many brain areas across time.
6. Pain relies on context.	Pain can be influenced by the things you see, hear, smell, taste and touch, things you say, things you think and believe, things you do, places you go, people in your life and things happening in your body.
7. Pain is one of many perspective outputs.	When threatened the body is capable of activating multiple protective systems including immune, endocrine, motor, autonomic, respiratory, cognitive, emotional and pain. Any or all of these systems can become overprotective.
8. We are bioplastic.	While all protective systems can become turned up and edgy, the notion of bioplasticity suggests that they can change back, through the lifespan. It is biologically implausible to suggest that pain can’t change.
9. Learning about pain can help the individual and society.	Learning about pain is therapy. When you understand why you hurt, you hurt less. If you have a pain problem, you are not alone – millions of others do too. But there are many researchers and clinicians working to find ways to help.
10. Active treatment strategies promote recovery.	Once you understand pain, you can begin to make plans, explore different ways to move, improve your fitness, eat better, sleep better, demolish DIMs*, find SIMs** and gradually do more.

*DIMs = *Danger in me such as looking at an x-ray, believe that pain is forever, nosey neighbour...*

**SIMs = *Safety in me such as gentle exercise, belief in the health professionals, friends who understand...*

1.6 Need for improvement

Despite scientific evidence and guidelines promoting multimodal management of chronic pain, the translation into clinical practice appears to be suboptimal and the biomedical approach still persists.^{7, 41}

Patients with chronic pain are not always satisfied with their treatment⁴² and besides non-adherence to recommendations by HCPs (and patients)⁷, organisational barriers hindering access to biopsychosocial approaches are also described.^{30, 43}

2 OBJECTIVE AND METHODS

KEY POINTS

- Four research questions were defined in order to reach the main objective, i.e. to propose potential interventions for improving the multimodal pain management in Belgium.
- Several sources were consulted: scientific literature, representatives of patient associations, healthcare professionals from chronic pain centres, grey literature and individuals responsible of initiatives in Belgium and abroad.
- Finally, a survey was conducted among a large group of Belgian stakeholders to assess the acceptability, feasibility and priority of potential interventions.
- A group of experts in pain and in guidelines implementation validated the methods and reviewed the first results to ensure they were consistent with the latest scientific knowledge.

2.1 Research objective

The objective of this research is to identify barriers and facilitators regarding the implementation of multimodal management (including pain neuroscience education) at the patients level and at the healthcare professionals (HCPs) level in order **to propose potential interventions to improve the management of chronic pain in Belgium**.

2.2 Research questions

To achieve the objective mentioned above, four research questions were formulated:

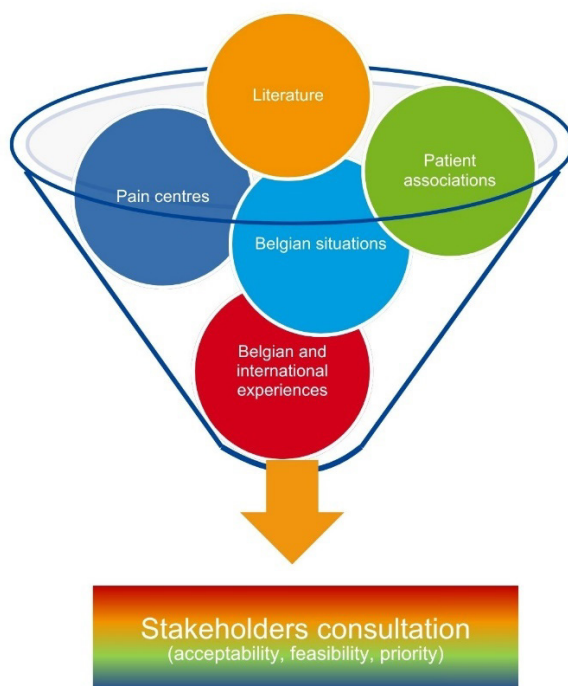
1. What are the barriers and enablers for adult patients with (sub-acute or) chronic pain to adhere to the multimodal approach including the BPS model and pain education?
2. What are the barriers and enablers for health care professionals to use the multimodal approach, in particular the BPS model and pain education for adult patients with chronic pain?
3. What are the barriers and enablers (success factors) for building and maintaining local pain networks using the multimodal approach with BPS model and pain education model for adult patients with chronic pain in Belgium?
4. What are the potential/feasible/acceptable interventions (local pain networks included) for improving the use of multimodal approach and in particular the BPS model and the pain education in Belgium?

2.3 Global methodology

Barriers, enablers and interventions to optimise the multimodal management of pain were searched in different data sources as shown in the Figure 1.



Figure 1 – Sources of data used to identify barriers, enablers and interventions for improving pain management in Belgium



- The **scientific literature** was reviewed to identify both the patients and healthcare professionals' perspectives about the barriers and facilitators as well as potential solutions.
- The perspectives of **Belgian patients and HCPs** were collected through discussions with representatives of patient associations and HCPs from four chronic pain centres. **Scientific and grey literature specific to Belgium**, such as reports from Belgian authorities, was also used as source of information on the situation in our country.
- The analysis of the results from all these sources was used to define domains of interventions. Each domain was translated into action points, with specific stakeholders involved in the domain. A search for experiences in Belgium or abroad was carried out to define practical attention points.
- A **group of experts** in pain and in implementation of recommendations was gathered to validate the methodology of the study. Two meetings were organised to discuss the methods and the preliminary results. The action points proposed for improving multimodal management of chronic pain in Belgium were reviewed in writing. The composition of this expert group is available in the colophon.
- At the end of the process, a large group of stakeholders was consulted to measure the acceptability, feasibility and priority of each action point. A Lime Survey was developed and sent to 165 stakeholders representing patient associations, professional organisations in health, occupational and social care, hospitals, sickness funds and government agencies.

3 LITERATURE REVIEWS ON THE BARRIERS, ENABLERS AND INTERVENTIONS TO IMPROVING THE MULTIMODAL MANAGEMENT OF CHRONIC PAIN

KEY POINTS

- Many barriers, enablers and interventions to improve the multimodal management of pain are identified in the literature both by patients and health care providers (HCPs). We classified them into three levels (micro, meso and macro levels) and highlighted that one intervention can mitigate several barriers across different levels. It is also important to note that these factors (barriers and enablers are interrelated and can influence each other in a positive, but also negative way within one level and throughout the three levels.
 - At the micro level (i.e. relation between individuals):
 - A certain **patient profile** could potentially hinder the adherence to or the impact of the multimodal management of chronic pain. This profile is characterised by some demographic aspects, such as attaining an older age, being male, unmarried and/or having a migration background, but also by aspects related to the pain-related symptoms itself (e.g. severe pain level), or comorbidities, fatigue, distress... **Barriers intrinsic to the patients** are mainly related to pain beliefs, cognitions and behaviors. A lack of knowledge about pain (and its management), biomedically oriented beliefs, misconceptions that pain is inevitable or too difficult to manage, perceptions of low self-efficacy, preference for passive treatment or negative emotions (e.g. fatalism), are all factors that hinder the successful application of a biopsychosocial (BPS) approach. HCPs mentioned also that some patients have unrealistic expectations of a “magic cure” that will eliminate all pain, a lack of openness to understanding the relationship between psychosocial factors and pain or disability and, a lack of motivation or even ulterior motives that hinder the success of the pain management. Regarding **enablers**, logically, the improvement of patients’ knowledge and beliefs about pain facilitates their active participation to the multimodal management of their pain. The perception of self-efficacy supports the return-to-work. Other enablers intrinsic to patients are for example desire to reduce pain, acceptance of pain, self-awareness, coping skills and positive previous experiences with self-management. The HCPs also mentioned the importance of patient motivation and compliance to readjustments for stay at work or return to work (SAT/RTW).
 - **Unsupportive healthcare providers** because of their lack of knowledge about pain (and its management), negative behaviors and emotions or poor skills in communication are mentioned by the patients as barriers to the multimodal management of pain. HCPs themselves confirm these barriers by reporting several gaps in necessary knowledge and skills, misconceptions of guidelines, unhelpful beliefs, habits of biomedical focus but also unclear professional identity and some negative emotions as frustration. Conversely, adopting a patient-centred approach is considered an important enabler according to patients. This includes a supportive attitude of HCPs and the use of effective communication, characterised by clarity and direct interaction. Effective listening, believing and understanding the patient’s reality, valuing and encouraging the person, tailoring the treatment to the patient’s needs by shared decision making and problem solving are paramount for patients to create a strong therapeutic alliance. Obtaining equity and treating vulnerable patients can however be particularly challenging in this context. **HCPs** agree that increased professional knowledge, beliefs, experiences and skills (including in effective



communication with empathy, negotiation, appropriate language...) are enablers for multimodal pain management. Their own motivation, ability to manage their emotions and a flexible professional identity are also mentioned.

Other **barriers** to the multimodal management of pain are the **inappropriate support** (poor or excessive) from family, relatives, friends, colleagues and employers. Logically, having formal and informal (including emotional) support and positive relationships with significant others, peers, colleagues and supervisors are considered as **facilitators** for the self-management of pain and the return to work.

- Regarding **potential interventions**, approaches to improve the patients expectations and motivations are proposed such as goal setting, incentives and coping strategies. In addition, experiential learning and the use of implementation plans with reminders and guidance of the patients are suggested. Family involvement, peer support interventions and socialisation are promoted to increase the patients' support by (significant) others. HCPs can also take action themselves to improve their skills or professional identity. This learning curve should be continued throughout their entire career and be characterized by lifelong learning.
- At the meso level (i.e. relation with the organisations providing care):
 - From the **patients'** perspectives, **barriers** are related to a lack of availability of care (e.g. long waiting times) and some inadequate modalities of intervention (e.g. lack of time). Interventions such as group or remote sessions have been reported as both barriers as enablers, depending on the context. This highlights the need for a patient-centred approach. **HCPs** highlight similar barriers (e.g. time constraints), but also the large amount of administrative work, some environmental constraints (e.g. no private room) and the lack of educational tools for patients. HCPs reported several imperfections in the local professional network such as an inefficient communication between HCPs, occasional conflicts between peers, contradictory information given to the patients, spatial distances and insufficient availability of specialist services for referrals. Regarding the **enablers**, **patients** emphasise the accessibility of HCPs, and the use of a patient-centred approach (including a personalised communication). Some intervention methods (e.g. multiple sessions on pain education) and the use of supporting tools (e.g. diary) are also mentioned. Enablers for **HCPs** consist of elements that counterbalance their experienced barriers such as the access to a well-functioning local inter-disciplinary network with efficient communication channels (including many different stakeholders for the return-to-work issues), sufficient local organisational resources (e.g. time for contacts with patients or involvement of a care coordinator) and supporting tools for the patients education.
 - **No concrete solutions** were found to improve the local professional network or to increase the time for contacts between the HCPs and their patients at the meso level. Regarding the work processes, pre-outpatients group interventions, implementation of care coordinators to facilitate (interdisciplinary) collaboration and communication, and knowledge mobilisation initiatives for patients are proposed. The development of joint patient assessments and treatment plans, the use of culturally and linguistically competent service providers and remote supports (e.g. telehealth) are suggested as supporting tools.
- At the macro level (i.e. policy, healthcare system and society):
 - The complexity of the health care system, insufficient coverage from the social security and health insurance, the negative economic climate and the fact that the society is judgemental, unsupportive and discriminatory are **barriers** highlighted by **patients**. **HCPs** confirm these barriers, particularly the societal negative outlook but also

emphasise other issues such as failures in the health policy (e.g. lack of monitoring, lack of pain specialists, unsuitable regulations), insufficiency of the funding model (for example to compensate the time and skills of HCPs in exploring psychosocial aspects) and insufficient training, guidelines and clinical tools. The HCPs training is the only **enabler** mentioned by the patients. HCPs confirm this one and the positive impact of (limited amount of available) guidelines and tools but they emphasise other enablers such as the support by professional organisations, the involvement of the primary care in the multimodal management of pain, a funding model aligned with clinical guidelines recommendations and a society more supportive of the BPS approach (e.g. employers making work adaptations for the return to work).

- Many interventions are proposed to improve the policy commitment (portfolio, national multi-stakeholder group, registry), the healthcare system organisation and funding (integrated care, re-balancing fee schedules away from procedure, primary care involvement), the societal perspective (e.g. advocacy campaign) and the provision of HCPs training and supporting tools. Although the development of a patient registry holds great potential, the prevailing challenges (concerning the lack of clear diagnoses, the need for resources and the difficulty to stimulate HCPs to participate in data collection) necessitate further research before implementation is feasible. Creating a national network of stakeholders and the development of a national pain strategy would additionally facilitate the realisation of a strategic and consistent orientation with regards to pain policy.
- Finally, we formulated five statements summarizing the findings:
 - Pain is complex and requires competencies of both patients and HCPs. Training are necessary.
 - Patient participation is a paramount element of the multimodal management of pain. Patient-centeredness and therapeutic alliance are essential in care pathway. Significant others, peers, colleagues and employers have also a role to play in pain management.
 - Collaboration between HCPs and organisational aspects of care should be improved.
 - Pain management has to be accessible and realistic. The concept of integrated care and the role of the healthcare system in terms of resources allocation is highlighted.
 - A paradigm shift is needed at the society level. Advocacy campaign, national pain strategy, nation stakeholder network and collection of data are potential useful interventions.

3.1 Objectives

The aim of this literature review was to identify barriers and enablers to the use of BPS and multimodal approaches in chronic pain management as reported by patients and health professionals. We also searched for potential interventions that address these identified barriers or take advantage of the enablers. The results of the literature review serve as building blocks for the development of potential interventions to optimise the multimodal management of chronic pain in Belgium.

3.2 Methods

A review of reviews was carried out to deal with the large body of evidence existing in the domain of chronic pain. The advantage of this method is to provide an overview of multiple situations and interventions while avoiding searches from scratch.⁴⁴



3.2.1 Search strategy

Searches were designed and conducted by a librarian experienced in systematic reviews, using a method designed to optimise term selection. The following databases were searched between 14/02 and 23/03/2023: MEDLINE (including Epub Ahead of Print, In-Process & Other Non-Indexed Citations), Embase, Cochrane Database of Systematic Reviews, PsycInfo, Cinahl and Pedro. No language limits or publication date limits were set. The only limit set is a filter for systematic reviews. An update was conducted in the same databases between 26/04 and 03/05/2024. Hand searching of systematic reviews included in the retrieved reviews was also made.

We used several words to identify the population concerned: chronic pain but also persistent, refractory, intractable, long-term... Furthermore, the MeSH terms proposed only two categories regarding the pain duration: the acute pain i.e. “an intensely discomforting, distressful, or agonizing sensation associated with trauma or disease, with well-defined location, character, and timing” and the chronic pain which is defined as an “aching sensation that persists for more than a few months. It may or may not be associated with trauma or disease, and may persist after the initial injury has healed. Its localisation, character, and timing are vaguer than with acute pain”. As explained in the “Introduction” of this report, some interventions can be proposed before the transition to chronicity, in a subacute phase. Therefore, the term ‘subacute’ has been added to the search strategy. Regarding the interventions themselves, we used not only the terms bio, psycho and social but also holistic approaches, self-management, pain education, etc. Details of search strategies is available in [Supplement 1](#).

3.2.2 Data selection

The bibliographic search results were exported and deduplicated using the Rayyan screening tool (Intelligent Systematic Review – Rayyan software, <https://www.rayyan.ai/>).

The study selection involves three stages, managed within Rayyan :

1. A screening form was developed based on the inclusion and exclusion criteria (see Table 3). It was tested among reviewers with a subset of 20 articles.
2. Titles and abstracts were assessed by two independent reviewers for potential relevance; the reviewers resolved any conflict (e.g. one reviewer selected “yes” or “maybe” and the other selected “no”) by discussion and consensus.
3. Two independent reviewers screened all potentially relevant full-text articles (= all articles tagged as “yes” or “maybe” during the previous stage). Disagreements were resolved by consensus.

Table 3 – Inclusion and exclusion criteria

	Inclusion	Exclusion
Population	Adult patients (18+) with chronic pain (i.e. described as chronic pain by the authors, or pain lasting longer than 3 months) or with sub-acute pain (i.e. pain lasting from 6 weeks until 3 months) - adults presenting risk factors for chronic pain will also be included	Children and adolescents; adult patients with acute pain (or pain lasting less than 6 weeks)
Intervention	Studies must report on multimodal approach including at least the biopsychosocial or pain education model	Unimodal interventions (such as surgical, pharmacological, or exercise-based interventions) for pain management or to prevent foreseeable pain (e.g. post-operative pain)

Study design	Systematic reviews, meta-analysis and meta-ethnography	Primary studies, including randomised controlled trials, quasi-experimental studies, non-randomised studies with comparison group (case-control, prospective, or retrospective cohort) or without comparison group (e.g. prospective or retrospective cohort, cross-sectional). Case reports/case studies, letters, editorials, viewpoints/opinion, study protocols and conference abstracts
Setting	The multimodal approach can be used both in primary and secondary (or tertiary) care. Pain centres and pain networks are typically implemented in hospital, community health and ambulatory settings.	/
Outcomes	Primary outcomes: Barriers and enablers (success factors) for the adoption of the multimodal approach, including the BPS/pain education model. These outcomes will be subdivided according to two populations: • Patients' adherence to this approach, • health care professionals use of this approach Secondary outcomes: Initiatives and/or potential interventions to address identified barriers to adherence or use of the multimodal approach	Efficacy or effectiveness of the multimodal approach per se, or a comparison of interventions (e.g. opioids vs exercise)

3.2.3 Data extraction

Study specific data forms were used to extract predefined data for each review. These data included:

- Review characteristics (kind of systematic review, searched databases, search date and years covered by included studies in each systematic review, source of funding and competing interest, method used for statistical analysis if any)
- Review objective
- Included studies: number and kind of included studies in each systematic review, countries, duration of follow-up
- Setting (community, hospital,...)
- Patients characteristics (eligibility and exclusion criteria, age, duration of pain, underlying condition,...)
- Interventions: content of the multimodal approach (and of the control intervention if any)



- Primary outcomes: barriers to adhere to or use the multimodal approach; enablers to adhere to or use the multimodal approach
- Secondary outcomes: potential interventions to address identified barriers to improving adherence or use of the multimodal approach
- Authors recommendations
- Limitations

Information was extracted by a researcher and then reviewed by another one. Discrepant findings were resolved through consensus. We did not impute data for any outcomes.

All processes ensure that bias is minimised when deciding whether to include or exclude certain studies, based on application of objective inclusion/exclusion criteria, independent reviewers, and conflicts resolution by consensus.

3.2.4 *Quality assessment*

The risk of bias assessment was conducted by one researcher and verified by a second. Systematic reviews of RCTs and non-randomised trials were assessed by the AMSTAR 2 checklist.⁴⁵ Risk of bias in systematic reviews of qualitative studies was assessed by ROBIS.⁴⁶ The authors were contacted if any additional information was needed to perform the quality appraisal. Disagreements in assessments were resolved through discussion or by involving a third researcher. More details on the methods used for the quality appraisal are available in Supplement 1.

The aim of this quality assessment is to provide a level of confidence in the results specifically in relation to the interventions proposed as a potential strategy.

3.2.5 *Data analysis*

A framework analysis approach was used to analyse the included reviews. Data were sifted and sorted according to the framework proposed in the qualitative review of high quality from Ng et al. 2021⁴⁷.

The framework comprises three levels that are designed to facilitate the classification of barriers and enablers to the adoption of the BPS approach for chronic pain:

1. The **micro level** focuses on the clinical interface and addresses healthcare professional-related and patient-related factors (e.g. knowledge, skills, perceptions...)
2. The **meso level** includes factors related to the health service provision level (e.g. resourcing issues of the organisation, work process, community factors...)
3. The **macro level** comprises factors at health system and policy level (e.g. health policy, global funding issues, societal factors, training of healthcare professionals...)

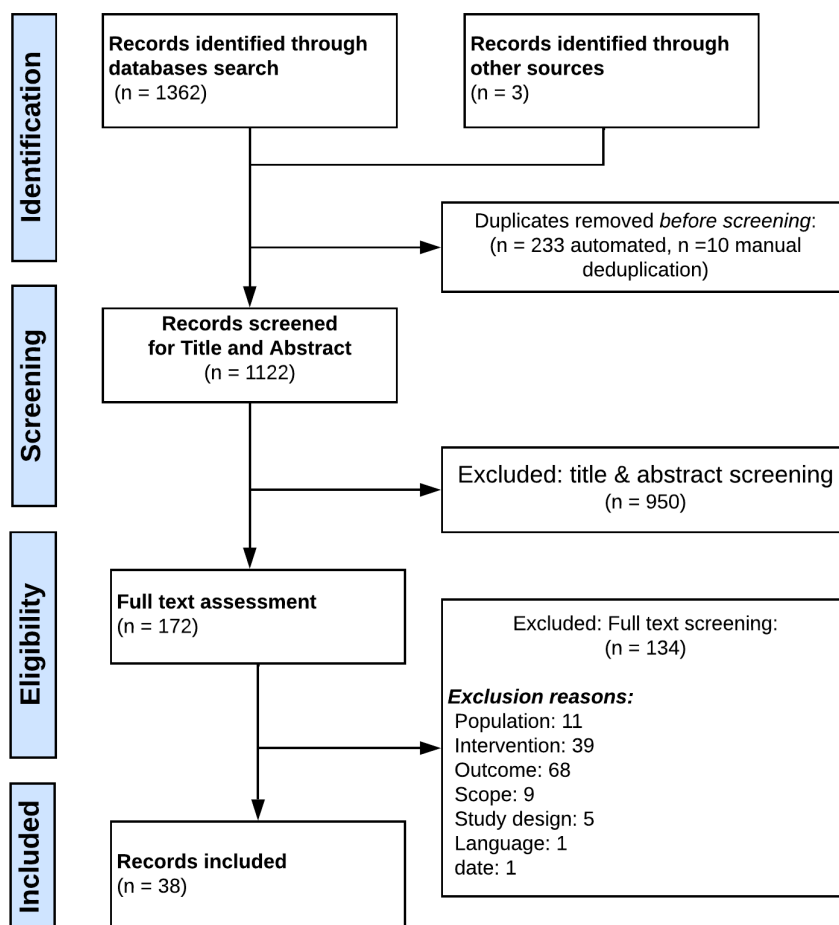
We used and adapted this framework to be consistent with the Belgian situation (e.g. workforce training was considered as a part of the macro level rather than meso level).

3.3 **Results**

3.3.1 *Description of the studies*

The combined searches in 2023 and 2014 yielded 1362 articles. After duplicates removal, 1122 were screened on title and abstract and 172 on full text. Three reviews were identified by handsearching. Finally, 38 articles were included for the analysis. (see [Supplement 1](#)) The main reason for exclusion was the outcomes because several reviews did not focus on barriers, enablers or solutions regarding the multimodal management of pain (Figure 2).

Figure 2 – PRISMA flow chart presenting the number of reviews included/excluded in each stage of the selection process.



Some of the 38 included reviews focused on barriers and enablers, some on solutions to improve the multimodal pain management and some on both topics. All these are listed below in the corresponding sections. For each review, we listed the primary studies to verify that no two reviews were based on the same studies. Some overlaps were identified. For example, Ng⁴⁷ and Van Dijk⁴⁸ share six studies or Watson⁴⁹ and Ziegler⁵⁰ three but no overlap in the analysis and conclusions of these reviews was observed. Further details on the populations and interventions included in each review can be found in the evidence tables in [Supplement 1](#).

3.3.2 Patient barriers and enablers to the multimodal approach

3.3.2.1 Description of the included studies

In this section, we focus on the barriers and enablers reported by the patients. In this purpose, we retrieved 20 reviews^{1, 50-68} identifying barriers and enablers to biopsychosocial and psychosocial approaches to chronic pain in adults. Among those, four reviews focused on chronic musculoskeletal pain^{55, 60, 62, 67}, two on chronic low back pain^{56, 66}, one on neuromusculoskeletal pain⁵⁰ and one on medically unexplained symptoms.⁵⁹ The remaining 11 papers dealt with overall chronic pain^{1, 51-54, 57, 58, 61, 63, 64, 68} but some of them focused on specific populations such as cancer patients⁵¹, workers^{1, 58, 60}, refugees and immigrants⁵² or older persons.⁶¹

An overview of the quality assessment of the reviews is available in [Supplement 1](#).



3.3.2.2 *Barriers reported by patients at micro level*

At the micro level, a distinction is made between barriers intrinsic to patients and those external to them. Barriers intrinsic to patients relate to their demographic and clinical characteristics, as well as their knowledge, beliefs, education, attitudes and expectations in relation to chronic pain. Extrinsic barriers originate from the patient's social environment, whether it be healthcare providers, significant others, colleagues or employers. Finally, barriers to collaboration imply the interaction between patients and healthcare professionals (HCPs): these barriers are both intrinsic and extrinsic to the patients.

Barriers intrinsic to patients

- Demographic characteristics

- *Age*

In geriatric populations, age-related physiological changes (altered drug absorption, decreased renal excretion), sensory and cognitive impairments, polypharmacy and multimorbidity present significant challenges to the management of persistent pain.⁶¹ Older patients with chronic cancer pain report poorer pain and pain management knowledge, and more concerns about the potential adverse effects of analgesics.⁵¹ Furthermore, 'Pain is a natural part of getting older', 'Pain worsens with age', 'Stoicism leads to pain tolerance' and 'Prescription analgesics are highly addictive' are beliefs and attitudes regarding pain and pain treatments reported by older adults. These beliefs and attitudes lead to undertreatment.⁶¹

The return to work is also affected by advancing age. Older patients feel that undergoing a retraining programme for a different occupation due to the presence of pain becomes unfeasible due to their age.⁵⁸

- *Gender*

Some studies have indicated that male patients with cancer pain may encounter more barriers to pain self-management compared to their female counterparts. Male patients have also been observed to express greater concerns about distracting the physician from the treatment of the cancer itself if they discuss their pain.⁵¹

- *Marital status*

A study in cancer patients reported that those who were unmarried expressed more concerns and barriers to optimal pain management at home.⁵¹ This finding may be related to the need from family support (see section 3.3.2.5 below).

- *Ethnicity*

In Switzerland, an individual's migration background was found to affect the efficacy of an interdisciplinary outpatient pain management programme, including physicians, physiotherapists, social workers, occupational therapists and clinically trained psychologists.⁵²

- Clinical characteristics

- *Severe pain level*

It has been reported that high pain intensity represents a significant obstacle to achieving optimal pain self-management in cancer patients⁵¹ and to the alleviation of pain symptoms during interdisciplinary pain management programmes delivered to migrant patients.⁵²

- *Clinical limitations*

The presence of pain flare-ups, fatigue and low energy were identified as barriers to self-management in adults with chronic musculoskeletal pain.⁶² Furthermore, the presence of

physical limitations in patients with medically unexplained symptoms may render challenging the undertaking of primary care or community-based behavioural modification interventions.⁵⁹

- *Psychological factors*

Anxiety and depression have a detrimental impact on the self-management abilities of individuals with chronic pain, irrespective of pain experience type. This is noted in groups such as those with cancer pain⁵¹ or chronic musculoskeletal pain⁶². Furthermore, high levels of anxiety and depression have also been demonstrated to impede the efficacy of pain management intervention among migrant patients engaged in interdisciplinary pain programmes.⁵²

As well, psychological factors such as distress experienced from ongoing pain, fear of pain and/or reinjury, stress, fatigue⁵³ and reduced concentration capacity⁶² also have a negative impact on the self-management abilities of individuals with chronic pain. In cancer patients, the signs of imminent death represents an additional psychological barrier to pain self-management.⁵¹

Social isolation resulting from mood, mindset, stress⁶² or directly from chronic pain⁵⁸ has a negative impact on the ability to self-manage chronic musculoskeletal pain⁶² or return to work.⁵⁸

- Competencies

- *Knowledge*

A lack of knowledge about pain represents a barrier to high-value physiotherapy in patients with knee osteoarthritis⁵⁴ and to pain self-management strategies in cancer patients⁵¹ or in patients with musculoskeletal pain⁶². A lack of knowledge about pain management techniques represents another common barrier to pain self-management in patients with cancer.⁵¹ A mismatch between therapeutic principles and patient knowledge and beliefs about pain also hinders evidence-based psychotherapies.⁵⁷

Knowledge deficit may render patients open to negative assumptions, hearsay or myths.⁵¹

- *Beliefs*

Biomedically oriented beliefs about chronic pain (i.e. chronic pain symptoms are related to tissue damage) are found to be associated with reduced treatment adherence during the course of high-value physiotherapy⁵⁴ or self-management interventions.⁵³

Furthermore, firmly held traditional beliefs about pain impede the learning during pain education interventions.⁵⁰ Adherence to recommendations during pain education interventions is also negatively affected by the perceived barriers relate to individual's opinions of the tangible and psychological costs associated with the treatment.⁶³

In cancer, the notion of what a 'good patient' should be (i.e. not complaining or not asking for pain relief), the belief that pain is an intrinsic aspect of the cancer experience) and the concern that reporting pain might distract HCPs from treating the cancer lead patients to not voice their discomfort or request pain relief.⁵¹ In addition, the belief that pain is an inevitable part of cancer and nothing can be done to control it may affect the patient's ability to manage their pain at home.⁵¹

Other beliefs that can hamper success of multimodal interventions are described by patients with medically unexplained symptoms such as their belief that they should self-manage pain, it is inappropriate to discuss psychological problems (with GP) and there is a stigma related to reporting psychosocial problems.⁵⁹

Finally, self-management of chronic pain may also be influenced by low self-efficacy (i.e. belief of capabilities), leading to an overreliance on external support.⁶² In return to work



(RTW), the inability to plan for the future due to the unpredictable nature of the pain condition and its impacts on physical mobility⁵⁸, the individual's outlook about their ability to handle work and manage their pain^{58, 60, 65}, and in case of adjustments at the work place, the feelings of not fulfilling their work as a member of a team or the doubts about how long their colleagues' support might continue^{60, 65} are all perceptions identified as barriers to stay or return to work.

- *Attitudes*

The literature identifies three attitudes that affect adherence to pain interventions: frustration, fatalism and despair.^{51, 59, 61}

While frustration represents a barrier observed in patients undergoing behavioural interventions for medically unexplained symptoms when no improvement was observed or when symptoms worsened⁵⁹, fatalism is a barrier to cancer pain self-management⁵¹ and nonpharmacologic approaches in older people.⁶¹ Despair was identified as a significant internal impediment to maintaining employment and returning to work. Individuals experiencing despair may externalise their problems as unsolvable and pain oriented.⁶⁰

- *Experiences*

Negative previous experiences with self-management affected ongoing compliance.⁶²

Barriers extrinsic to the patients

- Healthcare providers

The literature review showed that patients identified two barriers emanating from healthcare professionals, namely a lack of support and communication problems.

- *Unsupportive healthcare professionals*

A lack of knowledge and the HPC's inability to respond to queries or to treat symptoms in patients participating in behavioural interventions constituted a significant obstacle to the implementation of non-biological approaches.^{50, 59} This may inhibit learning during pain education interventions.⁵⁰ The confrontation of HCPs negative cognitions, behaviours and emotions during pain education interventions represents another significant barrier to learning.⁵⁰ HCPs with pharmacological or biomedical treatment preferences may also provide limited information to patients, resulting in them being unaware of self-management options.⁶²

A number of factors have been identified in the literature as being responsible for a poor relationship between patients and HCPs, which may result in patients lacking the knowledge and empowerment to manage their pain effectively.^{51, 53, 62} These factors include some HCPs attitudes or skills as a limited understanding of the context of an individual's life, patients feeling that they have not been listened to, and clinicians' scepticism about pain.⁵³ Specifically, some patients reported disagreements with GPs regarding the physical or psychological nature of their symptoms and also that sometimes simplistic explanations were proffered by GPs.⁵⁹

In the context of work, patients feel they are not understood (physicians did not understand their clients' working environment)⁵⁸, but also a disrespectful attitude from the medical profession.⁶⁰

- *Communication issues*

Poor quality of communication is frequently reported by the patients as challenging during pain management interventions such as self-management^{51, 56, 62}, non-pharmacological approaches¹, educational interventions⁵⁰, and primary care/community-based behaviour modification interventions.⁵⁹ This issue may be attributed to various factors with different impacts:

- Inadequate content of communication (e.g. using unrelatable content, introducing too many new concepts at once, using inconsistent messages) inhibits learning during pain education interventions.⁵⁰
- Incomplete or limited information leads potentially to a lack of choice^{51, 59, 62} For example, the lack of information/choice given by referrers are barriers to primary care or community-based behaviour modification interventions for medically unexplained symptoms.⁵⁹
- Conflicting advice, unclear instructions, dismissive comments⁶², insensitive and unprofessional communication and too infrequent communication⁵¹ are barriers to self-management.
- Context in which communication occurs such as misunderstanding related to the pain experience and its management strategies, closely linked with miscommunication, may affect the partnership and chronic back pain self-management.⁵⁶
- Poor communication among HCPs is also mentioned and noted by older patients as a barrier to less reliance on pharmaceutical medication.¹

Communication issues are also discussed in the chapter 3.3.3.2.

- Significant others

Poor support from family, relatives and friends has been identified as a barrier to effective self-management of (cancer) chronic pain. This lack of support may be attributed to the invisible nature of pain and the inability of significant others to acknowledge the ongoing struggle in self-managing pain.^{51, 53, 62} Conversely, overly supportive family members may impede the return to work by protecting patients with chronic pain from physical activity and encouraging them to rest.⁵⁸

- Colleagues or employers

Colleagues and employers may affect the return to work of patients with chronic pain due to lack of understanding, mutual mistrust, possible interprofessional conflict, sense of injustice due to unequal distribution of work or poor relationship in particular with supervisors.^{58, 65} Supervisors that did not participate in workplace interventions do not facilitate the return-to-work of workers with chronic pain.⁶⁰ Return to work of patients with chronic pain can also be hampered by employers' lack of knowledge about the options available for adjusting the workplace.^{58, 65}

Barriers both intrinsic and extrinsic to the patients

Differences in expectations between patients with chronic pain and their care providers or employers may affect multidisciplinary approaches to pain management or return-to-work interventions. For example, inconsistency between pain management decision and patient expectations or unmet patient expectations led to higher dropout rates in multidisciplinary chronic musculoskeletal pain clinic.⁵⁵ Mismatch between employee and employer expectations may result in a failure of intervention related to return to work. These expectations are mainly related to quantity of work (e.g. *'I need to be at full capacity'*), quality of work (e.g. *'I may not do a good job'*), speed of work (e.g. *'I won't be able to keep up'*) or fulfilling a particular role at work (e.g. *'I need to be able to respond to an emergency'*).⁵⁸



3.3.2.3 Barriers reported by patients at meso level

Meso level barriers are defined as those observed at the level of the care organisation, encompassing the range of care options, the manner in which they are provided, and the context in which the intervention is delivered.

Availability of care

- **Long waiting times** such as waiting for specialist appointments, diagnostic tests, treatments and entry into programmes for return to work are reported by patients as barriers to an optimal self-management of pain or a return to work.^{51, 58}
- The access to care may be impeded by geographical and **logistical barriers**, for example difficulty to attend evidence-based psychotherapy⁵⁷ or pain **specialists**⁶⁸.
- In some contexts, there is **a paucity of interventions** for the management of chronic pain. HCPs start with opioids and patients may be inclined to consider them as the sole course of treatment.⁶⁸

Factors linked to the intervention modalities

The health service provision can hamper the BPS approach of chronic pain for different reasons:

- **Time constraints** are a barrier to participation in biopsychosocial interventions (such as cognitive behavioural techniques) and self-management.^{53, 66} For example, a 15-minute visit to a HCP in primary care is considered as too little time to support patients self-management strategies.⁶⁸
- The delivery of pain education interventions as a **standalone event**, rather than as part of a process, impedes the patient's learning.⁵⁰
- **Standard self-management** interventions (including advice) not flexible enough for individual tailoring are perceived by patients as a barrier and a reason of lower motivation.^{53, 56, 62} In medically explained symptoms, the behavioural intervention model was also found by patients to be negative, inflexible and inapplicable in real-world settings.⁵⁹
- **Group interventions** may impede biopsychosocial interventions⁶⁶, pain self-management⁶² or return to work programmes⁵⁸ as listening to other experiences made the patients feel worse. For example, when rehabilitation programme for return to work was performed in group, some patients were negatively affected by other participants who were depressed.⁵⁸
- Technical problems with **online home training programme** (e.g. difficulty in running it on an android device) are reasons for discontinuing the biopsychosocial interventions by patients with chronic low back pain.⁶⁶
- The use of **written communication** is perceived as an impediment to effective communication in the context of chronic back pain self-management.⁵⁶
- In **RTW interventions**, managers did not always have the resources for making appropriate adjustments and saw the planning of these accommodations as an additional demand on their time. They also felt that information about work restrictions from occupational health was not always realistic in the work setting and therefore difficult to implement.⁵⁸ A failure of strategies consisting to prevent further pain such as a little at a time, taking continuous breaks, working slower and being aware of body posture and workloads is also mentioned.⁵⁸ The success of a RTW intervention is highly dependent on the type of jobs held by the patient with chronic pain. While returning to physical work was perceived as challenging by patients with chronic pain, more highly skilled work offered greater scope for flexibility and adaptation.⁵⁸ Unwillingness of employers to modify employees' workload led to an informal basis of adjustments, either by themselves or by involving colleagues.⁶⁰

3.3.2.4 *Barriers reported by patients at macro level*

Several dimensions at society level contribute to system-level barriers for non-pharmacological approaches of chronic pain and undertreatment, in particular in vulnerable population such as elderly.^{61, 68} The literature review identifies barriers originated from the characteristics of the health system, the social security and the perception of the society.

- The **organisation of healthcare system** may affect the access to BPS intervention in terms of access or support provided. Some patients experience difficulties to navigate the care system, especially in the complex system which surrounds chronic pain management.⁶⁸
- Furthermore, the **social security and health insurance** supporting the healthcare system may also affect the access to care by providing insufficient coverage. For example, treatment options can be limited according to health insurance type/status.⁵⁵ The health insurance system can also be a barrier in the return to work. Vague or incorrect information of the representatives of the insurance agency are mentioned as impeding the process of return to work.⁶⁰ Financial difficulties and economic insecurity for the patients may occur when they move from welfare benefits back into work.⁵⁸ The labour market is also highly depend to the **economic climate**. Austerity can be perceived as an obstacle to work due to reduced job availability and a competitive job market. Reorganisations and rationalisation in the workplace have changed jobs; they became more demanding and potentially difficult to adapt for people with a pain condition. Moreover some job adjustments such as a reduction of working hours may imply economic consequences for the employers.⁶⁰ Consequently, the current economic climate is a clear barrier to the return to work.⁵⁸
- Finally, the patients with chronic pain perceived societal support to be essential for their self-rehabilitation. However, they also indicated that they felt that their **families and society were often judgemental, unsupportive and discriminatory**.⁵⁸

3.3.2.5 *Enablers reported by patients at micro level*

With regard to the obstacles to the BPS approach for chronic pain, the enablers identified by patients at the micro level can be classified into two categories: intrinsic and extrinsic to the patients. Intrinsic factors pertain to patient education, knowledge, skills, beliefs, attitudes, and experiences regarding chronic pain. Similarly, as with the barriers, extrinsic factors originate from the patient's environment.

Enablers intrinsic to patients

- Demographic characteristic: Educational level

In cancer patients, it was observed that patients with higher educational levels reported fewer communication barriers with healthcare providers.⁵¹

- Competencies

- *Knowledge*

Patients need explanations (of the cause and prognosis of the pain) and information on self-management.⁵⁶ The provision of information and knowledge about the nature, characteristics, underlying mechanisms, exacerbating factors and psychosocial elements facilitates an active role and participation in self-management of chronic pain.^{51, 56, 62} For example, older patients can be reformed at each visit by discussing a management plan with the physician including explaining and reemphasising the benefits of the recommended intervention(s) for persistent pain.⁶¹ Acquiring knowledge and information about the pain self-management process is a part of active participation of the cancer patients in their own care. This includes using formal and informal resources (e.g. knowledgeable healthcare providers, the Internet, books, journals, and other patients, friends, or relatives who have the same experience with pain).^{51,}



In addition, education (e.g. in how to perform duties safely) facilitates the return to or stay at work.⁶⁰

- *Beliefs*

The patient fear of potential drug-related adverse events influence the adoption of non-pharmacological strategies for the management of persistent pain in older patients.⁶¹

Self-efficacy, which is the individual's belief in their capacity, is mentioned as an enabler in return to work. The process of returning to work is made easier when individuals change their behaviours, thoughts, beliefs and attitudes regarding their self-efficacy to perform their job duties despite any health or physical limitations they may have.⁶⁰

- *Attitudes*

The literature identifies three attitudes that facilitate the BPS approach in chronic pain: desire to reduce pain, empowerment and acceptance of pain. Wanting to reduce pain motivates the patients to search for solutions and management options⁶²; feeling empowered is critical for applying the skills learned during the self-management intervention into practice and regaining a sense of control⁵³; a positive acceptance of pain (by acceptance and commitment therapy) allows patients to engage in more physical activities than they initially thought possible and felt more positive regarding their future.¹

- *Skills*

The implementation of the biopsychosocial approach, such as self-management, is facilitated through the process of self-discovery and self-awareness^{51, 53}. Self-discovery as self-awareness address the ability to distinguish self (i.e. body, thoughts, and feelings) from pain. This is achieved by understanding the biopsychosocial nature and mechanisms that contribute to the development of chronic pain. This acts as a catalyst to choose the appropriate non pharmaceutical strategy to prevent the exacerbation of pain. The development of self-awareness may be facilitated by a number of factors, including positive experiences gained from the implementation of new strategies, educational interventions, peer learning, clarifying the pain history to a HCP, or the utilisation of a diary (see also 'supporting tools' at the meso-level).^{51, 53, 67}

In addition, having positive coping skills such as pacing (taking regular and frequent rest breaks) also facilitates the management of chronic pain.¹

Communication skills are also promoted to improve interpersonal relationships in the work setting and foster a sustainable return to work.⁶⁵

- *Experiences*

Previous positive experiences with self-management facilitate ongoing compliance.⁶² Self-management of pain may also be facilitated by involving the patients in their own care.^{51, 56} For example, active participation of the cancer patients in their own care was perceived to be beneficial for continued pain self-management at home.⁵¹

Enablers extrinsic to the patients

- Healthcare providers

As for the barriers, we can distinguish two enablers emanating from HCPs, namely the HCP support and the quality of the communication. This can lead to a third concept, called the therapeutic alliance.

- *Supportive HCPs*

The ability of patients to engage in self-management and pain education interventions appears to be facilitated by the professional yet personal manner (including positive

interpersonal connection, friendliness and empathy) and effective listening of the healthcare professionals involved.^{50, 56, 64} Effective listening encompasses being listened, feeling understood (including why they had the pain) and encouraged.⁵⁶ A positive interpersonal connection with health professionals can facilitate patient learning.⁵⁰

In migrant population, cultural concordance reflected in HCP has been shown to improve patient compliance and treatment response. Cultural concordance refers to HCP's ability not only to speak the language of the patients fluently but also, to demonstrate an understanding of patient's health care beliefs and preferences.⁵²

- *Communication*

Effective communication, characterised by clarity and direct interaction, is an enabler for patient engagement in self-management, active management and pain education interventions.^{50, 56, 62} Communication also play a role to tailor treatment to patient needs in patient-centeredness approach. Listening, understanding and getting to know the patient, and allowing the patient to explain their problem and to question the HCP were recurrently cited in relation to this dimension.^{64, 69}

Patients with chronic pain have identified a number of useful communication techniques that facilitate their engagement with non-pharmacological approaches including the use of lay language, understandable metaphors, personally relevant information and visual aids such as drawings and charts, anatomical models and pamphlets.^{50, 56}

Relevant information expected by the patients pertained the following areas: pain process, diagnosis, prognosis, treatment processes, self-management strategies, patients' roles and responsibilities for caring for themselves and managing their own pain.⁵⁶

Patients with chronic back pain suggested that visiting the same professional would improve the continuity of the treatment, and enable professionals to gain a deeper understanding of them. This mutual understanding improves the patient-professional partnerships and facilitates the self-management.⁵⁶

- Significant others

Support from loved ones (family or friends) helps to implement, maintain or continue pain self-management^{51, 53, 61} and return to work⁶⁰. Support from significant others can take different forms, such as a positive relationship, being believed and understood, socialisation, active participation in the intervention, and help with household chores.^{51, 53, 60, 61} In addition to significant others, social support can stem from home attendants and community-based agencies.⁶¹

- Colleagues or employers

The provision of support from colleagues and supervisors can facilitate patients' ability to self-manage pain and to either return to work or remain in their place of work. In addition to emotional support from colleagues, patients may benefit from the explanation of physical limitations to colleagues and supervisors, the integration of colleagues at the rehabilitation clinic, the fostering of positive working relationships, the promotion of an organisational culture that values formal and informal support from colleagues, or the meeting of professionals from the different organisations involved in the return to work process.^{53, 60}

Enablers both intrinsic and extrinsic to the patients

- Therapeutic alliance

A strong therapeutic alliance between patients with chronic pain and HCPs is paramount for learning the neurobiology of pain, engaging in evidence-based psychotherapies, educating the patient about chronic pain and developing and maintaining the ongoing pain self-management process.^{50, 51, 53, 56, 57, 62}



A strong therapeutic alliance requires an effective communication (e.g. open and nonjudgmental HCP communication) but also that HCPs give the feeling to the patients that they are believed and listened to, their specific needs are understood, their person is valued and the care is person centeredness by means of shared decision making and guided problem solving.^{53, 62} For example, patients who have the opportunity to discuss their story and experiences with a HCP appear to improve their engagement in pain neuroscience education.⁶⁷ Practitioner understanding of specific patient needs may promote more relevant self-management approaches.⁶²

3.3.2.6 *Enablers reported by patients at meso level*

Meso level enablers are defined as those observed at the level of the care organisation, encompassing the intervention provision or the work environment.

Factors linked to the intervention provision

- Access to HCPs

Easy access to healthcare services in terms of location of facilities, service availability and affordability improved attendance at external self-management services.^{61, 62}

To facilitate the return-to-work intervention, patients reported the need for accessibility to health care providers, including psychological support and assistance with general practical issues related to their rehabilitation process.⁶⁰

- Patient-centeredness

Individualised approaches involving specific treatment for different health needs, management programme tailored to the individual's preferences and abilities or personalised self-management strategies with regular communication motivate and encourage patients engaged in self-management.^{56, 61, 62} This patient-centeredness care approach also increases the adherence to self-management by rendering the interventions more desirable, realistic and feasible. To motivate older patients to adhere to a management programme, the environment in which the older patient engages in a therapeutic activity should also be appropriate and accessible.⁶¹

In addition to the personalisation of the interventions, a personalised communication of the information enables learning about the neurobiology of pain.⁵⁰

- Intervention format

The format of the intervention may facilitate the implementation of BPS interventions, such as the delivery of interventions in a group setting, across multiple sessions, or through a holistic approach or goal setting.

Group format of non-pharmaceutical interventions such as pain self-management or rehabilitation programme to return to work is mentioned as an enabler of chronic pain management by several authors^{53, 62, 68} although group format was reported as a barrier in the previous chapter of this report. Many patients felt isolated, and the option of joining a group with similar conditions not only improved participation but gave a sense of belonging, understanding and enabled them to connect with others and learn from their experiences. Being part of the group also improved accountability to show up and continue self-management.⁶² Group treatment contributes to better coping with pain and groups also improve agency and control over health in low income and racially diverse patients living with chronic pain and depression.⁶⁸ Interventions that gather physically participants empower patients with chronic pain by giving them a sense of normality and reducing the feel of isolation. This format may facilitate learning, provide opportunities for empathetic listening, encourage peer validation, motivation, and adoption of positive role models.⁵³

The provision of pain education in **multiple sessions** has been demonstrated to facilitate the learning of the neurobiology of pain.⁵⁰

A **holistic approach** has been shown to facilitate the return to work, while **goals setting** has been shown to facilitate the self-management of pain by workers.¹ Holistic approaches utilise integrated care teams, a biopsychosocial model or a pain management team. The goal setting process involves the identification of both a medical goal (such as the reduction of pain) and an overall health and well-being goal (such as a better work-life balance or return to work).¹

- Supporting tools

The utilisation of a diary to document medication administration, side effects, experiences, and pain-related questions has been demonstrated to enhance the patients' awareness of their pain experience, facilitate communication with HCPs, provide a guide to self-care behaviours, and promote a sense of control.⁵¹

In the work environment, a number of techniques may be employed to assist patients with chronic pain in either returning to work or maintaining their current position. For example, the following techniques may be considered: adapted work techniques, equipment, technical aids, assistive devices, the possibility of working as a supernumerary, gradually reintroducing the patient into the workplace, trying alternating duties and tasks, retraining in other jobs or reducing working hours.⁶⁰ In addition, some tools are proposed to support the development of self-management skills in workers with chronic pain such as educational material in the form of short videos on pain management or integration of practical self-management strategies including relaxation, mindfulness, back-specific and general exercises at work.⁶⁵

3.3.2.7 *Enablers reported by patients at macrolevel*

The HCP's training is the only enabler found at the macrolevel in the patient's perspective. It has been observed that health care professionals skilled in pain neuroscience education help patients to reconceptualise pain⁶⁷ and that this can lead to well-informed, educated patients who take an active role in their care and pain management and can lead to better health outcomes during chronic pain self-management¹.

3.3.3 *Professional barriers and enablers to the multimodal approach*

3.3.3.1 *Description of the studies*

We retrieved 16 reviews^{1, 47, 48, 55-57, 59-61, 66, 68, Wilson, 2015 #252, 70-73} analysing the professionals point of views on the biopsychosocial approach of chronic pain.

The majority of these reviews addressed a mix of different healthcare professionals such as general practitioners, physicians of different specialties, nurses, physiotherapists, occupational therapists, chiropractors. Three reviews focused on physiotherapists perspectives.^{48, 66, 71} One publication (presenting the results of stakeholders dialogues based on literature reviews) did not provide information on the HCPs involved.⁷⁴

General chronic pain was the topic of seven reviews.^{1, 57, 61, 70, 72-74} Five others studied musculoskeletal chronic pain^{47, 48, 55, 56, 60} and one more specifically chronic low back pain⁶⁶. One study focused on psychological intervention by physiotherapists practices for chronic pain but also for sport injuries, mental health and neurological rehabilitation.⁷¹ and another focused on medically unexplained symptoms (including chronic fatigue syndrome and fibromyalgia)⁵⁹.

Some reviews addressed specific population, i.e. (injured) workers^{1, 60, 72} and older persons (mean sample age of 60 years or greater)⁶¹

The qualitative review from Ng et al. 2021⁴⁷ collated a large number of studies (n = 25) identifying barriers and enablers that can influence healthcare professionals' adoption of a biopsychosocial approach to non-cancer, musculoskeletal pain. This review with a low risk of bias presented results for all kinds of health care professionals managing outpatients according to 3 levels: micro, meso and



macro levels. As explained in the section Methods of this chapter, we used and adapted this framework to perform the current literature analysis.

An overview of the quality assessment of the reviews is available in the [Supplement 1](#). One article presents a policy development in Canada based on a literature review and a stakeholder consultation. Because of the specific design of the study, no quality appraisal was performed.⁷⁴

3.3.3.2 Barriers reported by HCPs at micro level

The micro level focuses on the clinical interface between the patient and the health care professionals.⁴⁷ Two kind of barriers can be distinguish at the micro level: the barriers related to the healthcare professionals themselves in terms of competencies such as knowledge, skills, beliefs, or emotion and the barriers perceived by the HCPs as related to the patients (e.g. patients' motivation).

Barriers related to HCPs

- Competencies

- *Lack of knowledge*

Several studies showed that HCPs do not rate themselves as highly knowledgeable with regard to chronic pain management. This pertains the conceptualisation of chronic pain itself both for primary care providers and multidisciplinary teams or rehabilitation physicians⁵⁵, the difficulty to assess chronic pain⁶⁸, the significance of the psychosocial domains for physiotherapists⁴⁸, the identification of psychosocial factors (PSF)⁴⁷ or the utilisation of questionnaires and screening instrument for their assessment^{47, 48, 71} and the management of PSF due to a deficiency in understanding the types and appropriateness of interventions^{47, 48, 71}. Furthermore, the occupational health knowledge required for the provision of successful return to work (RTW) also appears to be deficient for all types of HCPs.⁷²

A lack of knowledge of what other HCPs do and when and where to refer to is also highlighted.^{47, 71}

- *Misconceptions of clinical practice guidelines*

While the concept of evidence-based practice has been widely accepted for years, its application in practice seems to be hampered by a lack of knowledge on the part of HCPs. Misunderstanding the concept of "evidence-based" itself and the hierarchy of evidence makes it difficult for HCPs to critique what they read.⁴⁷ Guideline recommendations are perceived as uncertain or unhelpful.⁴⁷ For example, HCPs appeared to be unclear about what 'nonspecific' meant in the diagnosis of non-specific musculoskeletal pain.⁴⁷ Guidelines are also perceived as generic or simplistic (one-size-fits-all approach) or too rigid in the management of patients' musculoskeletal conditions.⁴⁷ For example, HCPs felt patients perceived physical activity as counter-intuitive to the 'warning sign' that pain signified stress to the body and needed rest.⁴⁷ HCPs therefore used guidelines pragmatically within the limits of their own knowledge.⁷³

- *Insufficient skills*

An important challenge found in the literature on chronic pain management is the difficulty to make fluent **connections between the biomedical and the biopsychosocial models**. Many HCPs seem more comfortable with a biomedical focus. In medically unexplained symptoms (MUS) for example, when HCPs felt that they were a novice or did not have the required skill levels (included not as comfortable with mental health aspects of the interventions as physical health), they express difficulties to deliver BPS interventions.⁵⁹ Embarrassment about asking about psychosocial factors, as well as ambivalence towards the behavioural medicine approach were observed, also specifically among physiotherapists⁴⁸ There is an apparent contradiction in that the majority of physiotherapists 'agreed' that they were confident in their understanding and use of psychosocial practice, yet

also identified confidence in psychosocial practice as a barrier to moving beyond the biomedical perspective.⁴⁸ Some HCPs used a dualistic biopsychosocial model, whereby once something biomedical has been excluded, they made an abrupt shift towards psychosocial explanations with, in some cases, a stigma attached.^{47, 48, 73} Here clinical work shifted away from biomedical diagnosis towards persuading patients that psychosocial factors influenced pain. This abrupt shift could threaten the therapeutic relationship.⁷³

The **difficulties to collaborate with patients because of the HCP lack of communication and interpersonal skills** (e.g. counselling, explaining, instructing, listening, reassuring, motivating, promoting, and selling a management approach) is emphasised in chronic pain.^{47, 48, 68} Effective communication is limited by many interrelated factors such as health professionals' personalities, behaviour, resources, whether or not they are willing to involve and motivate their patients in self-management.⁵⁶ In terms of skills, the current literature review emphasised difficulties and/or insufficient abilities, such as dealing with sensitive topics⁴⁷ and patients emotions^{47, 48, 66, 69}, managing and negotiating patients' biomedical concerns, health beliefs and expectations^{47, 59} (see also point patients' belief and expectations below), successfully implementing certain cognitive-behavioural communication strategies^{48, 66}, integrating clinical explanations within a broader biopsychosocial framework that makes sense to the patients⁴⁷, and forging a strong clinical-patient alliance (see Box 4) with the importance of patient empowerment.^{47, 48, 59, 73}

- *Beliefs*

Several HCP unhelpful beliefs can steer HCPs away from using the biopsychosocial approach.^{47, 73} For example, believing that a decrease in the frequency of pain is a sign that there is no psychological component to the pain experience or believing that reassuring the patient is like negating the patient's condition.⁴⁷ One publication mentioned the **sceptical cultural lens** where HCPs do not always trust patients' reports of chronic non-malignant pain.⁷³ In this case, HCPs found themselves making judgements, based on personal factors rather than clinical findings, about whether the pain was real or imagined. (e.g. patient sitting like you and I and saying they are hurting 10 out of 10). HCPs engaged in a process of categorisation to decipher patients' truth claims (difficult/easy, resisting/accepting etc.). Some recognised that this categorisation was flawed and advocated trust as the basis of the therapeutic relationship.⁷³

- *Habits and experiences*

HCPs habits and experiences can also be sources of difficulty in the management of chronic pain.^{47, 48} This is a problem when the biomedical focus overrides the guideline recommendations. These habits can be subconsciously or consciously continued (e.g. not feel a desire to learn). For example, HCPs may not seek information from guidelines because they view their clinical experience as superior to evidence from guidelines or they may adopt an uncritical stance towards their own experiences and knowledge.⁴⁷ This is specifically mentioned for physiotherapists where *"Interpretation and integration of psychosocial findings in functional behavioral analysis, goal setting and treatment might be the greatest challenge since many physiotherapists resort to clinical reasoning based on feeling and experience, instead of a using a structured approach"*.⁴⁸

- *Personal factors*

HCP perceptions of the professional identity, role definition and scope of practice are personal factors that can hamper the biopsychosocial approach in chronic pain.^{47, 48, 59, 72} Some HCPs feel that it is not their role to screen and manage PSFs (including the role of referring to other HCPs for psychosocial issues).^{47, 48} An illustrative example is return to work, where HCPs saw their role as providing ergonomic, postural, and exercise advice, rather than addressing psychosocial issues related to chronic back pain.⁷²



Other personal factors interfering with the BPS approach are HCPs **negative emotions** (frustration, feeling of waste of time, professional insecurity...) associated with the management of chronic pain.^{47, 73} As mentioned above in the paragraph on lack of skills, HCPs can feel **frustrated, uncomfortable or reluctant** to ask about patients' psychosocial factors fearing that it may jeopardise the clinician–patient alliance and be too personal⁴⁷; a sense of professional failure for not being able to remove the patient pain can be demoralising and undermine HCPs sense of professionalism⁷³; an embodied biopsychosocial approach based on the recognition of human losses (e.g. unemployment, divorce, depression) in patients could trigger a deep sense of personal loss in the HCP (tension between proximity and distance to be managed)⁷³; in older patients, multiple failed attempts to treat pain in the past can lead HCPs and patients to therapeutic nihilism, i.e. the conviction that further treatments are not likely to yield benefit⁶¹.

Barriers related to patient factors

The HCPs perceptions that some patient factors can hamper the BPS management of chronic pain is highlighted by several authors.^{47, 48, 55-57, 59, 61, 71-73} These factors are not only intrinsic to the patients as demographic characteristics and competencies but also extrinsic to the patients, related to s with significant others or social aspects of life.

- Patient demographic characteristics

Older age is seen as a factor that can complicate pain management (e.g. clinicians' concerns about the potential treatment-related harm in the elderly).⁶¹

A **poor health literacy and language barriers** can interfere with effective communication in chronic pain.^{47, 72} These factors can lead to HCP's negative implicit biases. For example, one systematic review on chronic musculoskeletal pain in vulnerable population found that women with lower educational levels were selected significantly less frequently for multidisciplinary rehabilitation than were women with higher educational levels. No significant selection differences based on education level were found in males.⁵⁵

- Patient competencies

HCPs felt that some patients' beliefs, expectations or attitudes are barriers to a multimodal approach to chronic pain. They mentioned a **preference for passive treatment**^{48, 72}, **unrealistic expectations of a "magic cure"** that will eliminate all pain^{48, 56, 72} or a **lack of openness** to understanding the relationship between psychosocial factors, pain, and disability^{48, 57, 59, 61, 71, 72}.

Patient's cultural beliefs can hamper patient-centred care because evidence-based recommended treatment did not always consider this aspect. As a result, the patient is unable to participate to the treatment plan.⁷²

A **lack of patient motivation or ulterior motives** are also evoked by HCPs. Ng et al. quoted patients being invested in the sick role for financial benefit or compensation or playing the sick role to escape pressure or avoid working or manipulate family relationship. This HCPs judgment usually overemphasised the negative stereotype of the chronic pain sufferer.⁴⁷

A stereotypical preconception among HCPs that individuals with chronic pain are **difficult to manage** is mentioned by some authors.^{59, 72} In the context of MUS for example, patients are felt to be 'heartsink' (heartbroken) or demanding of time and resources which hampers empathy and therefore trust.⁵⁹

- Extrinsic factors of the patients

HCPs judgments about **patients' circumstances**, including the judgment of patients' **social issues** are other sources of difficulties in multimodal pain management. For example, emotional problems, relationship problems, unhappiness with work, alcohol misuse, lack of adequate health insurance and involvement with a legal case may overemphasise the negative stereotype (exaggerating, dependent, beyond help) of chronic musculoskeletal pain.⁴⁷

3.3.3.3 Barriers reported by HCPs at meso level

The meso level focuses on the local health service provision of care.⁴⁷ Two themes are mentioned in this section: the barriers related to professional community factors and those due to resourcing issues at the institution (or practice) level.

- **Local professional community factors**

HCPs need access to a **clinical support system or network** with an efficient communication channel to provide appropriate biopsychosocial management of pain. However, several gaps are observed on this matter.^{47, 55, 59, 60, 72-74}

- Nonhomogeneous or differing **treatment orientations** by colleagues may result in **inefficient communication** between professionals about what care was required, or may be perceived as conflicting or disturbing the relationship with peers.^{47, 59, 73} This could create an uncomfortable feeling that healthcare colleagues were not working on the same side as each other or the patient.⁷³ This can also give rise to **contradictory patient information** and confusion.^{47, 55} In return to work for example, although multidisciplinary teams work together, poor communication between professionals from different organisations resulted in conflicts between the medical professionals, employers, and the employees.^{60, 72}
- Even if HCPs have a same vision of chronic pain management, a lack of access to other healthcare professionals (through collaboration or meetings) can also occur because of **spatial or organisational distance**.⁴⁷
- The lack of specialist services and limited appointment slots (e.g. physiotherapy, exercise programmes, psychological service, pain centres) is an issue not only for the patients but also for the HCPs.^{47, 73, 74} A local system having a large number of patients with a limited number of HCPs restricts the availability of health professionals' support and access to investigations and referrals.^{47, 56, 73} A lack of local mental health resources is also emphasised as a barrier to the role of primary care in the multimodal management of MUS.⁵⁹

Local organisational resources

Lack of **organisational support** or **contradictory expectation from the organisation** can be translated in some counterproductive issues such as a lack of time with patients, disincentivising work processes or requirements, and a lack of supporting tools.^{47, 59, 71-73} This can leave HCPs to feeling isolated.⁴⁸

- **Lack of time**

The **short clinical consultation time** (linked also to the heavy patient caseload) is one important barrier hampering the multimodal management of chronic pain either in primary or secondary care.^{47, 59, 72} HCPs described how time restrictions could encourage HCPs to focus on the physical care and were perceived as a barrier to an embodied approach encompassing exploration (such as filling and scoring questionnaires) and management of psychosocial factors.^{47, 71, 73} In RTW, lack of time in consultation (e.g. for GPs) is one reason explaining why HCPs are unable to communicate effectively with patients and stakeholders (with confidentiality that limits the potential for accommodations to a patient's place of employment).⁷²

There is also insufficient time to prepare and reflect on clinical cases, and to read and learn about clinical practice guidelines.⁴⁷

- **Disincentive work processes or requirements within organisations**

The need of completing a large amount of **administrative work** for example requires sufficient times and interferes with other tasks.⁴⁷ Changing the attending doctor at each patient encounter is also mentioned as an unsupportive work process.⁴⁷



Some **environmental constraints** can limit HCPs ability to explore psychosocial factors at an individual level (when an in-depth exploration seems necessary to enable the provision of optimal care).⁴⁷ This is the case for organisations proposing only **group therapy sessions** or lacking infrastructure to offer **privacy** for patients who need it (private rooms with walls and doors, instead of cabins or open plan rooms with curtains)⁴⁷ or suitable environment for pain assessment and treatment by physiotherapists⁴⁸.

- Lack of supporting tools

Patients educational content and tools are paramount to support a BPS approach and a lack of these tools is mentioned as a barrier.⁴⁷

3.3.3.4 *Barriers reported by HCPs at macro level*

The macro level focuses on the political support or attention given by governments, payers, professional associations and regulators to evidence-based care. This encompasses the health policy (including regulation), the funding models, the societal perspective, but also the recommendations and training provided to the HCPs^b.

Health policy

If the multimodal management of chronic pain is not a government's target, there is a high risk that it will not receive the attention and funding needed.⁴⁷ This can result in a variety of failures, such as:

- **Limited health system support for self-management** (e.g. coping strategies, yoga, stress management), even though there is evidence (and cost-effectiveness studies) to support this.⁷⁴
- **HCPs discomfort** related to the lack of policy support that can be perceived as a challenge of **dual advocacy** where the HCP is simultaneously an advocate of the patient (representing the patients' interests) and an advocate of the healthcare system (made important decisions as representatives of that system). This resonates with the challenge of making decisions based on what is best for the individual patient alongside utilitarian decisions for the greatest number.⁷³ Conversely, some government policies may be counterproductive to the appropriate management of chronic pain. For example, audit of HCPs adherence to guidelines imposed by government agencies can be perceived as a threat to medical autonomy.⁴⁷
- **Inadequate access** to optimal chronic pain management in **primary care and specialists care**, notably by inadequate training and continuing professional development (see below) but also because non-physician HCPs are not actively engaged in chronic pain management at the primary care level.⁷⁴
- Governance arrangements that do not ensure the **credentialing of chronic pain providers and clinics**.^{47, 74}
- **Inequitable geographical access** to regional multidisciplinary chronic pain management centres.⁷⁴
- **Regulations** which may not explicitly endorse the use of a biopsychosocial approach within healthcare system or workplace culture. One example cited by Ng et al. is Germany where **physicians** are liable (and can be **financially penalised**) for over-referring. Because of the regulated practice of physiotherapists in chronic pain, a referral from a physician is required, but many physicians in ambulatory care seemed to fear a financial penalty if they made many referrals to other professionals.⁴⁷

^b Although these two last issues are considered at the meso level by Ng, we insert them at the macro level as it seems more appropriate to the healthcare system of Belgium.

- A lack of a **monitoring system** to identify patterns of under- and over-utilisation of programmes, services, and drugs.⁷⁴

Funding model

Criterion for the funding set by healthcare systems, insurers or organisations can be incompatible with the use of a BPS approach since this could influence how HCPs worked (e.g. fee-for-service or lump-sum payment), who to refer to, treatment type, time slice, duration, and frequency to see patients.⁴⁷ A lack of funding to compensate HCPs for their time and skills in exploring psychosocial aspects is mentioned by several authors.^{47, 48, 59, 71} This can encourage some forms of care (e.g. injections) but not others (e.g. counselling and monitoring).⁷⁴ This can also create financial barriers to access for some patients.⁷⁴ For example, in some countries, the lack of reimbursement of physiotherapists linked with the cost regarding the use of BPS approach hampers its use.⁴⁸ This issue can be exacerbated if the patient lacks adequate health insurance or money to afford treatment.⁴⁷

Societal perspective

The persistence of a **biomedical culture** is present not only in HCPs and systems but also in patients and society; for example, HCPs mentioned the pressures from patients and stakeholders for imaging; they evoked also the social stigma and negative connotation towards psychological services which prevent some HCPs from referring patients to this kind of support.⁴⁷ The proliferation of misleading information through mass media such as the Internet does not help.⁴⁷

The risk of **stigma** is particularly evident in the return to work, where HCPs perceive that patients are reluctant to disclose their condition to employers because of the stigma associated with chronic pain.⁷² Relationships at work with colleagues can worsened this situation. Even the family can misunderstand the patient needs. For example, when families relieve patients of housework, HCPs perceive this action as reducing the individual's autonomy and responsibility, ultimately, delaying their RTW.⁷² Additionally, the coordination and scheduling of health care treatments act as a barrier which delays RTW, as workers are expected to book and attend treatment sessions outside of work hours.⁷² Finally, there is the resistance of employers to adapt workplace or work process either by misunderstanding of health factors to be considered or because some jobs are considered unmodifiable by nature.^{47, 72} All these factors do not facilitate the BPS approach including RTW in pain management.

Insufficient training and tools for HCPs themselves

- Clinical practice guidelines formulation issues

Guidelines have been criticised by some authors^{47, 73} for several reasons: they do not take into account the real-world situation of lack of resources (e.g. funding and time)⁴⁷; they aim for some uniformity in practical procedures promoting 'one size fits all' which is not compatible with the concept of delivering individualised care;^{47, 73} their development is not sufficiently based on HCPs' previous clinical practice, former knowledge and training⁴⁷; the presentation of guidelines is not always appealing (with so much paper and characters) and believed to be incompatible with HCP way of learning⁴⁷; they are also perceived as not providing adequate clinical tools to guide how to influence the patient's condition or evaluate the patient's environment or they propose too many psychosocial questionnaires to choose from.⁴⁷

- Workforce training issues

Deficient formal training (especially at undergraduate level) on multimodal management of chronic pain is broadly evoked.^{47, 48, 56, 59, 68, 71, 74} with a biomedical focus during the (undergraduate) training which implies a need for further training⁴⁸; a lack of explicit communication, counselling/psychosocial training in undergraduate or postgraduate training programmes to teach how to approach patients' emotions, assess and address patients' psychosocial concerns is also highlighted.^{47, 56, 74}



3.3.3.5 Enablers reported by HCPs at micro level

Enablers are often the mirror of the barriers. Two kinds of enablers are therefore distinguished at the micro level. Those related to the HCPs themselves such as their knowledge, skills, beliefs, emotion and those perceived by the HCPs as related to the patients (e.g. patients' motivation).

Enablers related to HCPs

- Competencies

- *Knowledge*

Several areas of knowledge are mentioned as useful in applying a BPS approach to chronic pain management. The acknowledgment of the limitations of a biomedical orientation⁴⁸ and the knowledge on how to identify or manage psychosocial factors (e.g. knowing how to use questionnaires and instruments for psychosocial screening) are two important examples.⁴⁷ Personalised care (which means “*spending time listening to all the factors involved in that particular patient’s pain to find an approach that is tailored to them*”)⁴⁷ and stratified approach (i.e. subgrouping and matching patients to treatments according to risk of chronicity for example)⁴⁸ are two concepts that can facilitate BPS approach. Knowing which are other treatment options, what other HCPs do, and when and where to refer is underlined as is the understanding that chronic pain management is not about curing the pain, but managing the pain.⁴⁷ Furthermore, self-awareness of their own gaps in knowledge, with an ability to separate informal judgments about patients from the clinical reasoning process is emphasised.⁴⁷ This may enable HCPs to self-reflect on work experience and evidence separately.^{47, 48} An illustrative example is the recognition by physiotherapists of the risk of iatrogenic problems resulting from advice not supported by evidence, or unwittingly colluding with the patient’s reluctance to move.⁴⁸

- *Skills in implementing the BPS approach*

Appropriate skills can help to overcome the two challenges discussed in the chapter on barriers, namely making fluid **connections between the biomedical and the biopsychosocial models**, and **working with patients**.

To avoid making an abrupt shift towards psychosocial explanations, the ability to use an **embodied biopsychosocial approach** (with no breaking point where the physical becomes psychological) is emphasised.^{47, 73} It implies for HCPs to have skills to listen, provide reassurance and promote or talk in a very careful way about the biopsychosocial approach to patients.⁴⁷ Some GP trainees describe how they initiate discussions about underlying psychological factors as early as possible. This paves the way for future consultations to legitimately revisit these possibilities without seeming like a last resort.⁵⁹

The role of **effective communication** is highlighted respectively for understanding which are the relevant strategies for each patient, and for offering specific treatment and self-management skills adapted to the patients’ background and health needs.⁵⁶ *Sitting alongside and supporting patients, rather than trying to ‘fix’ them, could be rewarding for both the patient and their HCP.*⁷³ Several tips for effective communication are presented in the chapter 3.3.4 Potential interventions. The ability to use patient-centred communication is promoted.^{47, 48, 56, 59} Because patients with chronic pain are not a homogeneous group, different interventions may be indicated for different subgroups of patients. This requires the ability of physiotherapists to apply clinical reasoning skills, and a dynamic approach of communication and practical skills to deliver personalised care.⁴⁸ This leads Van Dijk et al. to question whether the treatment of patients with chronic pain requires an **advanced practitioner** (for example a physiotherapist specialised in communication and personalised care for chronic pain).

A set of skills is mentioned as facilitating effective communication:

- Feelings of **empathy** and **understanding** are important to manage patients' **emotions and reactions**.^{47, 73} In the medically unexplained physical symptoms context, GPs, when interviewed, felt that showing empathy with the patient and taking an interest in them, enabled the patients to gain personal trust in the doctor.⁵⁹ It is not always easy. For example, physiotherapists acknowledged that sad emotions felt by patients with chronic pain were sometimes difficult to hear, but they preferred their patients to display their emotions because this facilitates the physiotherapist's understanding of the patient's problems and influences the result of treatment positively.⁶⁹
 - Ability to explore, manage and negotiate **health beliefs and patients' expectations** is clearly mentioned as enablers of the BPS approach as this supports establishment of **trust**, agreement on treatment and **therapeutic alliance (see Box 4)**.^{47, 48, 56, 59, 61, 72, 73} This ability requires clear and unambiguous communication of the expectations of both the HCP (e.g. the GP) and the patient.^{56, 59} It is about mutual understanding to achieve a **common goal** and develop a **partnership**.⁵⁶ It is also about **flexibility and ability to negotiate or make concessions**.⁵⁹ In some cases, HCPs mentioned that they have offered to prescribe painkillers or refer for investigation (even if this is ethically questionable) in order to maintain the relationship by showing that the patient's expectations are being met.⁷³
 - Understanding the **patients' values, preferences and lifestyle** is an enabler for patients **motivation and empowerment**.^{48, 59, 73} If a patient feels that a proposed treatment is compatible with their illness model and with their preferences/lifestyle (e.g. dance classes vs. exercise) then they are more likely to initiate the treatment and to persist with it.⁵⁹ Empowering patients implies that they embrace HCPs proposition because they are convinced that it is the right one and not because HCPs want them to choose a particular option.⁷³ **Shared responsibility** with patient for recovery is also quoted specifically for physiotherapists.⁴⁸
 - **Effective communication** needs to use **appropriate language** to engage, motivate and provide explanations to patients.^{47, 48, 56, 59}
- *Beliefs*
- Few HCPs beliefs** are mentioned as **helpful** in the multimodal management of chronic pain, such as believing in the limitations of the biomedical model, or that patients would not improve unless psychosocial factors are addressed, or guidelines would allow the factors related to persistent disability to be identified and managed more rapidly.^{47, 48} Expectation of the potential increase in quality of health, value creation and innovation provided by using a stratified care approach is specifically cited by physiotherapists.⁴⁸
- *Experiences*
- In terms of HCPs habits and experiences**, a critical reflection on their knowledge and one's own way of working, and an ability to reflect on evidence and clinical experience separately are mentioned as enablers.^{47, 48} Personal experience or maturity, amount of experience treating patients with chronic pain (including involvement in significant events using opioid therapy⁶⁸) and learning from colleagues underpinned craft knowledge.⁷³ Furthermore, **additional qualifications** through upskilling or postgraduate courses and **relevant work experience** were associated with more confident practice of the BPS approach.⁴⁷



- Personal factors

- *Motivation*

Personal motivation/commitment to improve care provided is another enabler specifically mentioned for physiotherapists.⁴⁸

- *Management of emotions*

Another enabler is related to the HCPs ability **to manage their own negative emotion** such as the use a “detached empathy”, trying to see where that person was coming from but not letting it become too personal.⁷³

- *Professional identity*

As showed in the chapter on barriers, **professional identity, role definition and scope of practice** are personal factors that can hamper the BPS approach in chronic pain. Conversely, the ability of HCPs to have a **flexible professional identity or a biopsychosocial treatment orientation in their role and scope of practice** is an enabler.^{47, 48, 56} One example is the recognition by physiotherapists that their role is to educate patients about appropriate behaviour to achieve self-management, i.e. how to live with the pain and what to do to control it when it occurs.⁵⁶

Enablers related to patient factors

Some patients factors are perceived by HCPs as facilitating the chronic pain management such as the **patients motivation** or some **patients’ characteristics**.^{1, 47, 48, 60} **Patient compliance** is considered as fundamental in RTW (i.e. the extent an employee accepts functional restoration and RTW rather than pain reduction), where graded activity of unconscious motor skills or techniques were readjusted to prevent wrong postures at work.⁶⁰ Having a meaningful involvement in occupations (both paid and unpaid) may be an integral piece to self-managing chronic pain in workers.¹

Having social support is also key piece to a self-management programme in RTW which may elicit better health outcomes for patients.¹

The HCPs attitude according to patient characteristics is also important. The recognition of the complexity of patients’ clinical presentation (such as long-term disability, multiple yellow flags, clinical presentation of allodynia or kinesiophobia, or patients who were not progressing) prompts the exploration of psychosocial factors.^{47, 48}

3.3.3.6 Enablers reported by HCPs at meso level

Local professional community factors

As mentioned in the section on professional barriers at meso level, access and availability of a **clinical support system or network** is an enabler for the multimodal management of chronic pain.^{47, 48, 59, 70, 72} General support by peers who were interested to manage psychosocial factors is an example.⁴⁷ Peers and colleagues are also source of informal learning.^{47, 48}

Several authors highlighted the importance of a **well-functioning interdisciplinary network**^{47, 48, 59, 70, 72} with different expertise and length of work experience⁴⁷ in a non-hierarchical, egalitarian

structure.⁴⁷ A SR of 12 RCTs showed that interdisciplinary interventions incorporating teamwork^c and teaming^d have improved patient-reported pain outcomes in comparison to usual care.⁷⁰

Alignment between HCPs in the interpretation about what care is required is recognised as beneficial, leading to reciprocity and collaboration, confidence in the capabilities of colleagues and reciprocal respect.^{47, 73} Clear referral pathways, common language and efficient communication channel are supportive factors.^{47, 48, 70, 72} For example, regularly scheduled, weekly telephone conferences among clinical team members to review patient cases had an effect on chronic pain even in primary setting.⁷⁰ Joint patient assessment or development of treatment plans at baseline are useful.⁷⁰

For encouraging the return to work and stay at work, the needed support is **enlarged to all stakeholders** (i.e. professionals from the different organisations involved in the RTW process, colleagues at the rehabilitation clinic, workplace settings, family, and friends).⁶⁰ Clear need for a common body of knowledge that is agreed upon by all healthcare disciplines and effective regular communication are the keys to collaboration. Common language, diagnostic criteria, and appreciation of the multifactorial impacts of chronic pain will enable disciplines to come together to form clear practice guidelines, and to have common RTW goals for patients.^{1, 72} In this context, HCPs identified “**integrational leadership**” as a prerequisite for interdisciplinary teams, where a member is responsible for developing internal and external communication structures to promote collaboration and integration.⁷² An **highly interactive decision making** process is proposed to optimise each member’s potential contribution.⁷²

Local organisational resources

The alignment of organisations to EBP methods or BPS approach is an enabler mentioned by several authors in the management of chronic pain.^{47, 48, 70, 72} This alignment can take different forms, such as providing sufficient time for the contact HCP-patient, supportive work process or access to material tools.

- Time for contact HCP-patient

Allotting time for all HCPs to meet and discuss with patient is vital for successful communication.⁷² Devoting the time to establish mutually agreed-on treatment goals is an important step in building a therapeutic alliance.⁶¹

- Work processes or requirements within organisations

A strong **leadership** support within organisations to adhere to guidelines or local directives for healthcare professionals to keep up with professional development and evidence-based practice encourages a BPS approach of chronic pain.⁴⁷ The organisation can also provide social structures in the workplace such as supervision, coaching, peer and management support.⁴⁸

The presence of an **administrative** staff working within the clinical team⁴⁷ or sufficient time to HCPs for managing the administrative tasks⁷² are supportive.

Availability of **specialist services and appointment slots** is important to support the HCPs in the management process (e.g. access to MRI scan before the patient can be referred to the surgeon).⁴⁷ Prompted patient contact, either in response to automated patient symptom monitoring or to a patient request for follow-up is also promoted in primary setting.⁷⁰

^c “Teamwork” describes the processes of communication, coordination, and collaboration that foster integrated team-based care within bounded teams

^d “Teaming” is the dynamic act of bringing individuals together around a task, goal, or patient; teaming can be helpful in meeting patient needs when clinicians need to work together on an ad hoc basis to address the dynamic and multifaceted nature of pain.(Connell et al.)



The involvement of a **(nurse) care manager/coordinator** in the team structure (even in primary care setting) appeared to have some clinical effects on chronic pain by fostering patient-centred care through added patient support. Furthermore, care managers may help organise teams around shared goals by ensuring each team member is aware of their specific roles, even as roles dynamically change.⁷⁰ In RTW for example, it seems beneficial to establish a care coordinator who is responsible to form and maintain a stable communication structure (and inform all members of the therapeutic team about the patient's changing needs and goals). Additionally, having a care coordinator can encourage each interdisciplinary team member to be equally accountable for working within the pre-established treatment plan and ensure that the needs of all stakeholders are heard and considered for the most holistic delivery of RTW interventions.⁷²

Actively **incorporating the patient in team processes** by multiple, scheduled patient contacts for follow-up could support the improvement of patient pain outcomes in future interdisciplinary interventions. According to Connell et al., this team process can overlap with the structural role of a designated care manager, who is often the individual responsible for patient contact (see paragraph above). However, they wanted to highlight patient contact as a distinct process that encourages teaming with patients.⁷⁰ Patient education workshops also can be considered as a part of team process with some effects on pain outcomes.⁷⁰

Regarding the **environmental constraints**, access to one-on-one therapy sessions for patients (rather than group therapy) and access to private treatment rooms are mentioned.^{47, 48}

- Availability of **tools** to support a BPS approach

Some examples of tools are provided in the literature, such as psychosocial screening tools or questionnaires in the clinic setting, embedding risk stratification tools within a computer, tablet, or mobile device⁴⁷, educational videos and resources to explain pain to patients⁴⁷. In RTW, providing a translator when necessary is another way to provide aid in the information translation process.⁷²

3.3.3.7 *Enablers reported by HCPs at macro level*

Few enablers sustaining the multimodal management of chronic pain are described at the macro level. As for barriers, they can be related to the health policy, the funding model, the societal perspective and the recommendations and training provided to the HCPs.

Health policy

The endorsement and political support by **professional organisations** and compensable bodies for the use of clinical practice guidelines are seen as a form of assurance and support to healthcare professionals.⁴⁷

Locating or coordinating treatment within primary care is described as likely to activate a BPS approach in medically unexplained symptoms, as the GP has a better knowledge of personal circumstances, which is achieved through continuity of care.⁵⁹ **Personalised care** is also a fundamental value for GP. Furthermore, for patients who do not wish to explore psychological attributions for their symptoms, and are therefore unwilling to accept psychological/psychiatric referral elsewhere, primary care setting may be found more acceptable.⁵⁹

Funding model

When the funding criterion from compensable bodies or healthcare systems align with recommendations from guidelines or multimodal rehabilitation as a biopsychosocial treatment model, this facilitates the uptake of evidence-based guidelines.⁴⁷ **Specific financial support** from workers' compensation board or health insurance may gear the healthcare professional towards using a biopsychosocial approach.⁴⁷ For example, health insurance could help finance the longer time needed for a patient-centred consultation.⁴⁷

Societal perspective

Employers supportive of a graduated approach for the return to work served as an enabler to promote the use of a biopsychosocial approach for rehabilitation.⁴⁷

Training and tools for HCPs themselves

- CPG formulation issues

Several characteristics of guidelines are described as enablers for HCPs adherence to recommendations and are the opposite of the barriers mentioned above. The authors mentioned the guidelines compatibility to **real-world practice**⁴⁷, to **individualised care**^{47, 73} and to healthcare professionals **former knowledge and training**⁴⁷, guidelines giving a quick synthesis of evidence and a global overview of treatment options (including identification of ineffective treatments) with up-to-date, useful information, decisional algorithms and suggestion of psychosocial questionnaires that help HCPs in their clinical decision making, facilitate teamwork and common language among HCPs and can be used as a tool with patients to justify evidence-based practice.⁴⁷

- Workforce training issues

Importance of HCPs training is highlighted by several authors.^{1, 59, 71} For example, in a review on physiotherapy and rehabilitation, those with some level of **formal training in psychological interventions** had more positive attitudes than those without formal training, and predominantly those with underpinning knowledge valued the importance of psychological skills higher.⁷¹ HCPs training (especially **front-line providers** such as primary care physician or nurses) was also found important to facilitate well informed, educated patients who take an active role in their care and pain management.¹

However, adequate delivery of BPS approach and perceived effectiveness in cognitive-behavioural therapy (CBT), motivational interviewing and goal setting are not systematically increased by training.^{1, 59, 66, 71} The learning curve to working with the chronic pain population requires extra “on the spot” experience and time.¹ In addition to the training programme, an **extensive support** (i.e. treatment protocol with a detailed description of each treatment session, supervision, DVD with examples of the first sessions, and access to a website with supporting materials) could positively influence the delivery of the therapy.⁶⁶

Box 4 – The concept of therapeutic alliance

- Most simply defined as a constructive collaboration between patient and physician.
- Has been associated with improved treatment outcomes among patients receiving general and rehabilitative medical care for chronic pain.⁶¹
- Needs specific competencies. Ability to forge a strong therapeutic alliance are interrelated with skills for communication.
- Requires several components. Firstly, sufficient time to establish mutually agreed-on treatment goals. *“Other core elements of the therapeutic alliance include (1) setting realistic expectations about what can and cannot be accomplished, taking into account such immutable factors as patient age, aetiology, and duration of the pain; (2) availability of the physician for advice, reassurance, and support during pain flares; (3) tenacity and commitment on the part of both physician and patient; (4) mutual respect; and (5) a reciprocal bond generated by both parties’ having an emotional investment in the outcomes of treatment.”*⁶¹



3.3.4 Potential interventions to support the multimodal approach

Twenty-one reviews identified potential interventions to facilitate, stimulate or support multimodal management of chronic pain.^{1, 47, 48, 52, 54, 56, 59, 61, 69, 72, 74-84}

Few systematic reviews focused on solutions for improving the BPS pain management in their research questions; most of the authors proposed some interventions in front of barriers observed in their selected studies. The review published by Wilson et al. is an exception. This literature review (with stakeholder dialogues) focused specifically on evidence for improving chronic pain management at the macro level (in Canada).⁷⁴

General chronic pain was the topic of 14 reviews.^{1, 52, 61, 69, 72, 74, 75, 77-79, 81-84} Six others studied musculoskeletal chronic pain^{47, 48, 54, 56, 76, 80} and another focused on medically unexplained symptoms (including chronic fatigue syndrome and fibromyalgia)⁵⁹.

Some reviews addressed specific population, i.e. (injured) workers^{1, 72}, older persons (mean sample age of 60 years or greater)^{61, 76, 83, 84}, romantic couples⁸¹ and migrant populations, refugees, asylum seekers or torture survivors⁵².

An overview of the quality assessment of the reviews is available in [Supplement 1](#). Two reviews^{61, 81} were assessed as having a high risk of bias, and seven^{48, 52, 59, 76, 82-84} as having a moderate risk of bias. We mention the risk of bias also in the results below in order to give more or less important weight to the proposed interventions.

Results are presented in this section according to the framework used for patients and healthcare professionals' perspectives. However, many factors are interrelated and some interventions are potentially useful at different levels. For example, the micro level is clearly influenced by the organisation of the healthcare system (meso level) and the health policy (macro level).

3.3.4.1 Potential interventions at micro level

The barriers and enablers at micro level focused on the individual patient level, with an important influence of HCP and patient characteristics. The interventions proposed at this level are few. This can be explained by several reasons. Firstly, some barriers are not possible to be changed (e.g. patient age). Secondly, several barriers depend of interventions from another level (e.g. HCPs knowledge is the result of the training either during the curriculum or in continuing education). Thirdly, some interventions were also enablers and the distinction between both concepts is blur. We present the results in three categories: the interventions for improving the factors intrinsic to the patients themselves, the factors linked to significant others and peers and the HCPs factors.

Interventions for improving patient factors

Several patient factors were identified for improvement. We distinguish below the patient expectations and the patient motivation. Both are interrelated.

- Patients' expectations

In a clinical review of low quality, Makris et al. proposed some strategies to counter negative treatment expectations in **older patients** with persistent pain.⁶¹ Not all are depending from interventions at the micro level but we can quote the following tips that can be used by HCPs:

- Taking the patient's reports of pain **seriously**, while at the same time **refraining from promises** about the results of treatment;
- Making clear that the HCP will **not abandon** her/him patient, emotionally or otherwise;
- Remaining **readily available** to respond to questions and concerns with each intervention;
- Providing an effective backup or "rescue" pain medication during each new analgesic trial;

- Linking potential treatment benefits with an important **patient goal** (e.g. increased ability to perform activities of daily living because of reductions in pain);
- Reducing feelings of hopelessness, for example by encouraging a patient to reconnect with longstanding **artistic or religious interests**.
- Patient motivation

Two reviews focused on older adults ($\geq 65y^{61}$ or $\geq 75y^{76}$) and proposed some interventions to increase patients' motivation or adherence to treatment:

 - **Explaining** and reemphasising **at each visit** the benefits of the recommended intervention(s)⁶¹; Providing instructions in simple, clear language and in multiple formats (spoken, written, pictorial, and/or recorded videos) is mentioned by Chopra et al. in the context of home-based physiotherapy, so that the patient can refer to the materials when required and perform the interventions correctly in the long-term without continuous contact with the healthcare provider;⁷⁶
 - **Tailoring** the management program to the **individual's preferences and abilities** (with regular assessment of the patient's physical capacity and general health in regular follow-up appointments);^{61, 76}
 - Promoting appropriate and accessible **environment** in which the older patient can engage in a therapeutic activity;⁶¹
 - Reinforcing the importance of **socialisation** and leveraging **social supports** in the form of family members, home attendants, and community-based agencies;⁶¹
 - Encouraging patient engagement in **pleasurable activities** (e.g. reading, listening to music, shopping for clothes) with coaches and family carers to reinforce and support her/his engagement in these activities.⁶¹
 - In order to address the decline of the patient's adherence to home-based interventions over time, Chopra et al. recommended to incorporate behavioural therapy, including SMART (Specific, Measurable, Attainable, Realistic, and Time-bound) **goal setting, incentives, and coping** strategies to positively encourage patients to self-manage their condition.⁷⁶

Having a meaningful **involvement in occupations** (both paid and unpaid) is also suggested by occupational therapists as an integral piece to self-managing chronic pain in a scoping review on workers with chronic pain.¹

Several reviews addressed the use of **remote support** as a strategy to improve or maintain the patient adhesion to the multimodal management of pain.^{54, 77, 78, 80, 82} This strategy is presented in the meso level since it is also proposed to counter barriers such as the lack of available therapists or treatment costs.

Interventions for improving factors linked to significant others and peers

Regarding the **factors extrinsic to the patient**, one systematic review of RCTs with critically low quality level⁸¹ studied the effect of **couple-focused methods** (e.g. relaxation, meditation, psychoeducation, cognitive and behavioural coping skills (e.g. joint distraction, self-control skills)).⁸¹ However, given the poor quality level of this review, this issue should be investigated further.

Another SR of high quality level focused on **peer support intervention** (PSI) in adults with chronic non-cancer pain, where PSI was defined as a gathering of 2 or more people with similar conditions with the goal of supporting one another by providing emotional, appraisal, and informational assistance.⁷⁵ This intervention could be delivered via any mode, including face-to-face, virtual (audio or video call, messaging/emailing, or social media platform), or hybrid, and in any format, including group, one-to-one, or hybrid. In order to differentiate a PSI from a support group, some amount of training had to be provided to the peer-support volunteers (PSVs).⁷⁵ The main findings of this SR were



the lack of research in this field, the fact that peer to peer relationship is perceived as unique by those giving and receiving peer support, and important components include communication with specific discussion topics (emotional, informational, appraisal and instrumental support), a shared understanding (e.g. sharing ideas on self-management), and the ability to connect on a personal level. A number of benefits were described from taking part in PSIs, including developing a greater sense of purpose, feeling optimistic about the future, and an overall improvement in skills, such as communication, knowledge, and confidence. However, a number of physical (e.g. length of the therapy sessions), logistical and interpersonal barriers to successful implementation have also been reported. The authors underlined that ways of overcoming these barriers should be considered when developing future PSIs.⁷⁵ No evidence was found on the remaining intervention components, namely the format, role of the PSVs, length of intervention and frequency of contacts between PSVs and participants. To support PSVs, another component is PSV training (from 3 to 12 hours).⁷⁵

Finally, as mentioned above, it is suggested **for older adults** to reinforce the importance of **socialisation** and leverage **social supports** in the form of family members, home attendants, and community-based agencies. This recommendation could take the form of encouraging more frequent communication with close family members by way of telephone or Skype or encouraging participation in group-based activities (e.g. chair yoga, music appreciation classes) at a senior center or other agency.⁶¹

Interventions for improving HCP factors

- HCP skills in communication

The effect of HCP training on knowledge and skills are described at the macro level in the section 3.3.4.3 below. We described here the actions that can be taken by HCPs themselves to improve their skills in chronic pain management. The results we found focused mainly on communication behaviours and tools which is an area closely linked (and a mean) to change patients' attitudes, expectations, beliefs and skills.

In the context of psychologically informed physical therapy (PIPT^e) in chronic pain management, the systematic review (SR) and meta-synthesis of low risk of bias from Chapman et al. mentioned eight communication behaviours preferred by physiotherapists in chronic pain rehabilitation. The authors of the SR concluded that these behaviours should be explored as potential mediators of treatment effects in future studies since very few quotations explicitly define competent or effective communication.⁶⁹ The eight communication behaviours mentioned by Chapman et al. are the following:

- **Disclosure-facilitating communication**, i.e. use of several verbal and nonverbal communication behaviours to **encourage patients to disclose personal information in interactions**, such as open-ended questions/formulations, gaze and nodding as conversation continuers, and asking about lifestyle.
- **Rapport-building communication**, i.e. creating an atmosphere to foster **trust** by listening, using humour, and tailoring communication to the individual being treated.
- **Empathic communication** which focused on identifying and attending to **emotional matters**. In this context, listening was paired with encouraging, working with, and not judging patients. Empathic communication also involved using touch to communicate a **strong and supportive relationship** and relaying personal pain experiences to patients.

^e PIPT combines traditional biomedical physical therapy interventions (e.g. therapeutic exercise, physical modalities, manual therapies) with 1 or more behavioural elements adapted from evidence-based psychotherapies for pain management (e.g. Cognitive Behavioural Therapy, Acceptance and Commitment Therapy, Mindfulness Based Stress Reduction).

- **Collaborative communication** such as seeking common treatment goals, shared decision-making... Successful collaborative communication centred around the goal of ensuring individuals felt involved in their own care, engaging in communication behaviour like *“taking time over explanations; using appropriate terminology; listening, understanding and getting to know the patient; and encouraging the patient’s participation in the communication process”*.
- **Professional accountability communication**, i.e. admitting limitations in professional skills or knowledge in front of the patients and asking for help when needed. This is considered by PTs as an important indicator of good physiotherapists.
- **Informative communication**: providing education and information, reconciling patient perspectives, developing patient insights and reconciling information from verbal and nonverbal (e.g. postures/movements, pain behaviours) communication cues during presentations of pain. Preferred communication was described as regular updates and correcting **misguided patient beliefs**.
- **Agenda-setting communication** (in one study): communication practice in which providers organise and guide conversations to prioritise selected topics or tasks during an interpersonal encounter that may be constrained by time; this can include shifting topics, shutting down a topic of conversation or ensuring that a topic gets covered before the end of a visit. Physiotherapists related that strategies to close down a pain conversation were to “summarize the consultation and to include a prognosis of the patient’s problem.” Physiotherapists also described shifting from one topic to another through the strategic use of yes/no questions and “okay” terminators.

Meta-communication or communicating about communication: in one study, physiotherapists asked their patients the open-ended question *“If pain could talk, what would it say?”* — *an aspect of metacommunication was introduced, where patient and physiotherapist together reflected, giving new perspectives on the experience of pain.* In this example, physiotherapists encouraged participants to speak about their communication through a third party anthropomorphised concept — their own pain as a human being with the ability to use language. Physiotherapists acknowledged that “communication about communication, appeared as means to open locked dialogues, and was initiated by the physiotherapists and the patients,” suggesting that both physiotherapists and participants found meta-communication to be a helpful tool in furthering understanding.⁶⁹

According to Chapman et al., HCPs can use this conceptual framework of eight communication behaviours as a guide to consider in their practice and for reflecting on their existing communication practices.⁶⁹

Doing conscious and practical adjustment (e.g. reminding themselves of communication strategies prior to a consultation) is mentioned in a scoping review of moderate quality level as an enabler for physiotherapists to improve the implementation of these strategies.⁴⁸ This could be kept in mind. However, the authors of this review concluded also that many physiotherapists experienced difficulty in negotiating a shared understanding with the patient on pain and the required course of treatment. Further research on the skills needed for negotiating and shared decision making regarding a BPS approach is recommended.⁴⁸ Chapman et al. emphasised also that the effectiveness of communication behaviours on treatment outcomes has not been established and that strategies to optimise their combination remain unknown. It is the reason why they used the term “preferred” to refer to communication behaviours cited as being preferred by investigators, physical therapists, and/or participants; they also underlined the need of further studies in this domain.⁶⁹



- HCP personal factors

Regarding the HCPs role, one scoping review on physiotherapists treating patients with chronic musculoskeletal pain in primary care mentioned **boundary setting** as one strategy with a dual purpose: to help define their scope of practice more explicitly for greater clarity about their clinical role and to aid patient recovery through a focus on patient self-care by encouraging them to focus less on pain symptoms and limitations and more on function and activities they can achieve.⁴⁸

3.3.4.2 Potential interventions at mesolevel

Some of the issues identified in the professional barriers are addressed in the literature by potential interventions. We therefore present the findings in the two similar categories to those in the barriers chapter: the professional community factors and the organisational resources at the institution (or practice) level.

Local professional community factors

Although the lack of access and availability of a clinical support system or HCPs network with an efficient communication channel was mentioned by several authors^{47, 55, 59, 60, 72-74}, we found few propositions of interventions in this area. For example, in the review of moderate quality level on physiotherapists using the BPS model, Van Dijk et al. emphasised the need for a common understanding of pain between HCPs within the organisation. They suggested that implementation includes whole teams of healthcare providers but without developing recommendations on this.⁴⁸

Local organisational resources

- Time

We found no practical solution to increase the time dedicated to the HCPs-patient contact at the meso level. However, in order to encourage organisation in this direction, some arguments could be used, such as the fact that fewer physiotherapy sessions are required when using stratified care approach.⁴⁸ According to this SR of moderate quality level focusing on BPS approach in physiotherapy: *"The overall expectation that the use of a BPS approach costs more time, and therefore resources and reimbursement, can be questioned. This might be true for the period of implementation and while learning to integrate this new approach. When treating patients using an integrated BPS approach, it might shorten the therapeutic process by focusing on self-efficacy and the prevention of further chronification"*.⁴⁸ Nevertheless, the authors emphasised also that time and resources may need to be allocated differently to fit the BPS approach without specifying how this allocation might be developed.

- Work processes or requirements within organisations to comply with guidelines

Constraints within the organisation such as poor offer of group sessions were identified by HCPs (and patients) as barriers since this can be a way to counter the lack of access to BPS approach. One SR of high quality level focused on **pre-outpatients group interventions** (i.e. different kind of group education programs or self-management training or group assessment delivered in primary or secondary care) and compared them to individual assessment by a multidisciplinary team in pain centres or waiting lists.⁷⁹ Results were in favour of the group interventions for the usage of pain management strategies, improvements in pain self-efficacy, high satisfaction levels, reduction in healthcare utilisation, waiting times and costs per patient. However, there were moderate-to-low levels of participant engagement with the initiative, which varied across the included studies. The authors suggested that feedback from those who did not participate or did not attend in group sessions should be examined in future studies, and efforts should be made to identify whether individual factors exist that predict who might benefit from group based interventions.⁷⁹ Some forms of group activities organised by health professionals were also reported in another SR of high quality level as being a useful method to address the patient needs

of health information, but according to the patients, the effect was largely due to the individual physiotherapists who led the groups.⁵⁶

One structural enabler emphasised in the literature is the implementation of **care coordinators**.^{70, 72} One SR in RTW mentioned some characteristics that these professionals need to have in order to consider institutional, social, and cultural barriers. A broad and in depth understanding of the health care system, the institutional framework of the patient's re-entry job site and creativity skills are mentioned.⁷²

One SR of moderate quality level analysed also **knowledge mobilisation initiatives** for the dissemination, synthesis or transferred knowledge (e.g. education session, workshops but also support tools) and **self-management programs** that provide systematic guidance (e.g. a program where the patients progress through multiple and structured modules over time) to promote behavioural changes for pain self-management in older adults.⁸⁴ Only one initiative showed significant improvement in patients pain knowledge scores after education (but it was assessed only in 2 studies) while evidence for improvements in pain attitudes and beliefs was reported (in all of the 3 initiatives measuring this issue) as well as in nonpharmacological pain management (in 3/9 studies). Significant improvements in patient outcomes as pain intensity, mobility, health-related quality of life, length of hospital stay, anxiety and self-efficacy scores were observed in 30% of the initiatives. High satisfaction was reported in 10 out of 12 (83%) studies. Education was viewed as engaging, believable, and helpful. Regarding the self-management programs, improvement in knowledge, patient outcomes and patients pain management were observed with a high degree of satisfaction. Education was considered as motivating and valuable.⁸⁴

- Supporting tools

According to a SR of moderate quality level on interventions used to support refugee and immigrant populations experiencing chronic pain, multidisciplinary teams delivering care should consider providing **interpreters or service providers who are culturally and linguistically competent** in an effort to complement the language, culture, concepts and attitudes of the population receiving care and to ensure that long-term results are maintained. This may provide a useful adjunct to physician consultation and advice, and has important practical implications towards achieving culture-sensitive healthcare. Approximately 80% of studies using this kind of interventions found improvements in physical symptoms associated with chronic pain. A sense of freedom to discuss intentions and fears clearly was also described. Cultural adaptation should be provided from the inception of the intervention through to delivery.⁵²

As mentioned at the micro level, several reviews addressed the use of **remote support** as a strategy to improve or maintain the patient adhesion to the multimodal management of pain.^{54, 77, 78, 80, 82} This is also a strategy to counter issues for face-to-face therapy access such as reduced mobility due to physical complaints, limited transport possibilities, treatment costs, and associated stigma or lack of available therapists (included well-trained cognitive behavioural therapy (CBT) practitioners) by offering an online self-management program that can be completed at home:^{78, 82}

- In a SR of high quality level on telehealth interventions in patients with chronic MSK pain, Fernandes et al. showed that telehealth interventions with well-designed interactive platforms that provide tailored information, with flexibility to fit patients' routine, and the broad availability of material may favour better engagement. Telehealth interventions comprised web-based, videoconference-based, telephone-based, video-based, smartphone app-based programs, used solely or in combination. The following components are included, solely or in combination: graded exposure to patients' preferred physical activity, education and strategies for self-management, supervised and unsupervised muscle strengthening exercises, acceptance and commitment therapy, cognitive behavioural therapy, pain coping skills training, physical activity plan, social support, and pain management. Encouragement



of self-efficacy was linked to successful telehealth delivered self-management programs. However, some barriers to patient engagement were associated with the remote aspect of telehealth interventions such as the perception this is too impersonal to build rapport between HCPs and patients; a lack of content flexibility; some technological challenges (malfunction and privacy concerns) and information overload. Furthermore, telehealth interventions were challenging to engage when delivering irrelevant content and with limited options to support patients with low digital (health) literacy.⁷⁷

- One review of moderate quality level⁸² analysed self-management and the remote support in Internet-based CBT (iCBT) consisting mostly on weekly modules with (homework) assignments with multiple digital modalities provided within the same treatment (e.g. written text, video and downloadable audio files). A variety of CBT-based techniques were possible such as psychoeducation, relapse prevention, self-monitoring, relaxation, goal setting, activity planning, cognitive restructuring and problem solving. Feedback on assignments following an intervention was also provided to the patient by psychologist or coach who had a motivating role to increase adherence to the treatment. Different modes of contact were described and can be mixed such as e-mail, written feedback, telephone call, videoconference call, bulletin board, standardised SMS text message or even face-to-face. The results showed an effectiveness of iCBT comparing to passive (e.g. waiting list or care-as-usual) and active (e.g. face-to-face CBT or a different psychotherapy) control conditions for different psychological and physical outcomes. Treatment satisfaction was high and adverse events were minor. The iCBT and active control conditions had similar dropout rates (both 23 %), whereas passive control conditions had slightly lower dropout rates (16 %). The most common reasons for drop out were lack of time, health issues/hospitalisation, technical difficulties, and lack of computer skills. The author also suggested that more extensive training in using the internet program for patients and offering proactive technical support may reduce attrition.⁸²
- In a SR of high quality level on group teletherapy (online Web-based course for 75% of the studies; videoconferencing alone or telephone-delivered CBT alone for the others), the authors⁷⁸ mentioned that these interventions were helpful in improving pain, mood, activity level/disability and catastrophising. Two of the studies showed a significant reduction in risk of current opioid medication misuse. Results of comparative studies between interventions given in-person and those using video-conferencing suggested that, even though some preferred in-person treatments, both types of interventions were equally effective. If a person with chronic pain was instructed to use an online pain management programme and the user knew that his or her provider was tracking use of the programme there is a greater likelihood that the programme would be used. Few of the selected studies seem to take advantage of technology that would allow chronic pain patients to interact directly with others and to establish a bond as part of a group membership.⁷⁸
- One SR of high quality level on evidence-based physiotherapy found several patient-related interventions aiming to increase adherence to exercise.⁵⁴ Proposed tools were telephone-based coaching, technology (i.e. activity tracker), messaging services or software applications (online or smartphone). Results showed moderate effectiveness of technology: there were improvements in exercise program adherence among intervention groups (compared with controls) up to 6 months' follow-up but functional outcomes favouring the intervention group over the control group were observed in only one study (at 4 weeks' follow-up) and pain outcomes favoured intervention groups at 6 weeks' follow-up in only one study (and no difference in other studies at 6 months, 12 months and 18 months).⁵⁴
- This is confirmed by a SR of high quality level on electronic health (eHealth) to support adherence to home exercise therapy in osteo-arthritis. In this review, Schafer et al. showed small (SMD<0.5) improvements and maybe no meaningful difference for individual patients in pain, physical function and health-related QoL after eHealth-supported home exercise interventions compared with no or other interventions.⁸⁰ Nevertheless, the authors concluded

that in patients with osteoarthritis of the knee, clinicians should consider using eHealth interventions to support home exercise and self-management (weak recommendation, moderate quality of evidence). This recommendation places a high weight on the positive balance of (small) benefits against possible adverse events and on patient's values and preferences. Less weight is placed on implementation barriers because of lack of training and financial incentives for health care providers.⁸⁰

3.3.4.3 *Potential interventions at macro level*

The barriers and enablers described at the macro level were related to the health policy, the organisation and the funding model of the healthcare system, the societal perspective and the recommendations and training provided to the HCPs. We used the similar categories for the potential interventions even if they are interrelated (for example, the health policy can be modified if the societal perspective changes). Most of the strategies proposed at the macro level were found in the review with stakeholder dialogues published by Wilson et al. for the Canadian health system.⁷⁴

Health policy

- **Initiate a national stakeholder-engagement process** with the aim of raising awareness of chronic pain issues within the health policy and systems community, as well as health system issues within the chronic pain community, is proposed by Wilson et al.⁷⁴ The first country in the world with a national strategy and framework for the management of pain was Australia (National Pain Summit in 2010) and could be served as experience. Evidence from sources including (but not limited to) academic pain centres, interest groups representing people living with chronic pain and the public, health provider associations and other sources can be mobilised for this approach.⁷⁴ Several actions are described by Wilson to develop this stakeholders engagement:
- **Create a multistakeholder working group** to engage **health system decision makers** in supporting comprehensive chronic pain management (poor evidence). This option involves raising awareness and support among policymakers who could or should be paying attention to chronic pain, ideally in the context of a broader effort to engage all relevant stakeholders in supporting improvements to chronic pain management (with the stakeholders including the full range of health system decision makers, healthcare providers, researchers and provincial/national coalitions or non governmental organisations). To create this working group, a first step could be to establish a **network of stakeholder groups with a coordinating 'hub'** and identify among them **key opinion leaders** (in pain management, primary healthcare practices, regional health authorities, government, consumers...) who can take actions. Several **tools** are considered to support the key opinion leaders (and the stakeholder groups from which they are drawn) such as **compelling data** about the current burden of chronic pain and the implications (e.g. costs) of not addressing it (see third bullet below); regularly updated **guidelines** for the management of chronic pain at the primary healthcare level and in related fields of practice; **mechanisms to coordinate** across fields of practice and across relevant disease groups that are often linked to chronic pain; and periodically identified **priorities for new primary and secondary research** and the communication of these priorities to relevant funders.⁷⁴

However, Wilson et al. mentioned several barriers for this strategy such as the difficulty to involve people living with chronic pain in the stakeholder group (e.g. due to physical limitations or the stigma associated with chronic pain), the risk that some HCPs are sceptical about or unwilling to implement the recommendations from a working group or the fact that healthcare delivery organisations may not be willing to participate in a working group for chronic pain compared with other conditions that have bigger impacts on their organisation; in contrast, organisations with existing chronic pain strategies may not be willing to participate in a working group that is covering ground that they have already covered. Furthermore, the development and ongoing activities of a working group need resources which are often limited.⁷⁴



- Develop **chronic pain policy portfolios or strategic orientations** is another interventions proposed by Wilson et al. to engage health system decision makers in supporting comprehensive chronic pain management (no evidence but previous experiences).⁷⁴ The aim of this strategy is to provide the opportunity to coordinate responses to chronic pain within and across governments, regional health authorities, and the stakeholder community. It could include actions such as mapping what existing policy portfolios are relevant to support chronic pain management, particularly at the primary health care level, and establishing an integrated portfolio to support chronic pain management or a coordinating role that would work across other relevant portfolios and departments.⁷⁴

One barrier identified by Wilson et al. for this strategy is related to the fact that authorities at policy level (ministries or regional health authorities) are increasingly focused on broad issue domains (e.g. chronic disease) that encompass many different diseases rather than on specific issues as pain.⁷⁴

- Establish a **patient registry/treatment monitoring system** is a concrete strategy proposed by Wilson et al. (with substantial uncertainty regarding the benefits-risks balance).⁷⁴ This option focuses on identifying what services are being offered to whom (i.e. what types of patients), by whom (e.g. what disciplines), and how frequently (with appropriate attention to privacy concerns). It also allows to identify both under- and over-utilisation and to monitor potential efforts to improve service delivery and their impacts (with publicly reporting opportunities for improvement).⁷⁴ To further understand this option, it is useful to consider it according to four key health system elements: patient registries, treatment-monitoring systems, privacy issues pertaining to patient registries/treatment-monitoring systems, and public reporting of aggregated data.⁷⁴

Several barriers were identified by Wilson et al. regarding the establishment of registry/treatment monitoring:

- Operational challenge in defining eligibility for a condition that lacks an 'event', widely agreed diagnostic criteria and demonstrated pathology
- Collection of individual-level data may compromise an individuals' privacy and lead to stigmatisation
- Individuals often have more than one diagnosis (e.g. chronic pain and arthritis) that requires monitoring
- Primary healthcare providers will require training and support in how to use the registry/monitoring system
- Organisations must be sensitive to the personal health information being collected and how it is used
- Resources must be in place to ensure sustainability of information systems in the longer term.

To address these barriers, Wilson propose to implement the registry **in the form of a program of research** rather than a government or regional health authority initiative.⁷⁴

Organisation and funding models of the healthcare system

The importance of primary care in the pain management is emphasised by two reviews.^{59, 74}

- Broker and support the implementation of a **cross-payer, cross-discipline model of patient centred primary health care-based chronic pain management** that addresses the full spectrum of comprehensive care (e.g. prevention, early intervention, treatment, management and rehabilitation) is proposed by Wilson et al.⁷⁴ This option focuses on rewarding quality and efficiency. This implies several actions:

- Change the current healthcare system payment by re-balancing fee schedules away from procedures and toward payment for the time demands associated with chronic pain assessment, management, support, and dealing with payers and employers
- Accredite chronic pain 'specialist' providers or centres
- Engage the most cost-effective providers
- Provide stepped-support from telecommunications to in-person interactions and integrated care through tiered referrals from primary health care to accredited regional multidisciplinary pain clinics.⁷⁴

However, the model of patient-centred primary healthcare-based chronic pain management is linked to several barriers identified by Wilson et al. such as⁷⁴:

- Individuals with chronic pain may need more specialised and urgent pain management (for example in case of injuries) than may be feasible in primary health care;
 - Health care providers, particularly physicians, have to ensure that a patient-centred primary health care model is integrated with speciality and community-based pain services;
 - Chronic pain has not traditionally been considered as a chronic disease to be managed by primary health care providers;
 - Collaborative work arrangements need to be established and maintained between primary healthcare organisations, secondary and tertiary care organisations that can support these primary healthcare organisations (e.g. chronic pain management programs in academic health science centres), and payers;
 - There may be a lack of human resources to provide team-based care (although which professionals and healthcare setting are required would need to be assessed initially);
 - Provincial and territorial governments may be unwilling to broaden the breadth and depth of public payment for primary health care, particularly during a recession.⁷⁴
- **Locating or co-ordinating treatment within primary care** is also mentioned in medically unexplained symptoms (MUS).⁵⁹ Several reasons are provided to sustain this primary care role. First, GPs are able to exercise the 'stepped-care' principle so that all appropriate options are explored prior to referral to specialist care. Second, they have knowledge of patients' life circumstances. Third, they have ability to performing psychosocial interventions and many GPs already provide general support to patients with stress, anxiety or depression. They can also combine continuity of care and diversity of perspectives (e.g. larger practices, practice teamworking rather than personal GP provision, increasing front-line nurse roles, etc.). Offering GPs a behavioural toolkit to manage patients with MUS as well as those with more generalised complaints may simply be making better use of their time with a stronger likelihood of benefit or resolution.⁵⁹

Leaviss et al. emphasised two barriers in the location of chronic pain management in the primary care service. The first one is generic and seem due to the current models of service delivery (GPs at the center of care with short consultation time, few multidisciplinary team, lack of local mental health resources...) which are not adapted to the specific requirements of these treatments. This ongoing discourse is currently taking place against a backdrop of service reconfiguration, new models of care and migration of services from secondary to primary care. Another barrier is the fact that this change can introduce additional demands on an already pressurized frontline service. The time, skills and motivation required to use a BPS approach may not be considered feasible.

One facilitating element may lie with the availability of psychological practitioners based in primary care, which is becoming an increasingly common model. This allows to build on an (existing) relationship of trust rather than referring to an unfamiliar HCP in secondary care. Furthermore,



this could potentially break down the strongly entrenched divide between psychological and physical forms of primary care.⁵⁹ However, funding is also required to reconstruct existing practices to incorporate psychologists.⁴⁷

Societal perspective

- Launch an **advocacy campaign** is proposed by Wilson et al. as one possible intervention to engage health system decision makers in supporting comprehensive chronic pain management.⁷⁴ The aim of this strategy is to increase attention to the issue in general; and elevate the visibility of chronic pain on provincial and territorial governments' agendas in particular. This is therefore related to the policy level. A variety of advocacy approaches can be used such as traditional media (print, radio and television) or 'new media' (mass short messages (MSMs) and other mobile phone-based strategies, as well as online petitions and other Internet-based approaches) for public engagement; and efforts to directly engage government officials.⁷⁴ The development, pilot testing and iterative redevelopment of a package of communication materials that highlight the ways in which chronic pain affects people's lives, the costs associated with the status quo and success stories (and how their cost-effectiveness compares with the status quo) are also options.⁷⁴

Barriers identified by Wilson et al. to advocacy campaign are the following:

- People living with chronic pain may be unwilling (e.g. due to the stigma associated with chronic pain) or unable (e.g. due to the limitations related to having chronic pain) to be meaningfully engaged in advocacy campaigns;
- There is a wide array of advocacy campaigns for many different diseases with each competing for the attention of the broader public but also for the attention of health system decision makers;
- Providers or associations of providers attempting to directly engage health system decision makers may not have the time or skills required to make the case for better supporting chronic pain management;
- Organisations attempting to directly engage health system decision makers may not have the time or skills required to make the case for better supporting chronic pain management;
- Key health system advocacy organisations (e.g. medical associations) may not be willing to devote resources to advocacy for chronic pain compared to other conditions that have bigger impacts on their members' interests.

Training and tools for HCPs themselves

- **HCPs training** is mentioned by several authors as a key point for supporting the BPS approach of chronic pain and the patient adherence.^{1, 59, 67, 71} Suggested content of training from the healthcare professionals' perspectives include what are psychosocial factors (including how much emphasis to place on it in a patient) and how to connect the biological to the psychosocial factors or component parts of the biopsychosocial model).^{47, 71} In MUS, evidence exists for the value of specific management techniques in improving clinician communication skills with the aim of reducing investigations and health-care costs.⁵⁹ However, no clear recommendation on the content of training can be provided here.

In a SR of moderate quality level on pain management in older adults, Yarycky et al. focused on knowledge translation (KT) for all kind of HCPs.⁸³ Knowledge translation consists on both knowledge mobilisation (KM), i.e. dissemination of education for HCPs, patients or other knowledge users, and knowledge implementation (KI), i.e. methods promoting systematic uptake of evidence-based practices into routine practice and improving overall health care. Among the 172 KT interventions analysed by Yarycky et al., most were multidisciplinary in nature and used a multiformat delivery approach (e.g. lecture, booklet, and video).⁸³

Regarding KM, the results of this SR showed improvements in HCPs self-reported knowledge about pain, in assessment practices and in pharmacological pain management after KM compared with baseline. HCPs were often satisfied with the increased attention raised towards older adult pain and reported increased comfort and confidence in delivering evidence-based care. Program information was considered fitting if it addressed gaps in participant knowledge and/or if suggested strategies were applicable to their settings. However, KM studies were less likely to promote nonpharmacological strategies and effects on patient outcomes are heterogeneous. Barriers to change, including high staff turnover, heavy workload, lack of time, scheduling issues and resource sharing, prevented successful integration of programs into settings after education was delivered.⁸³

Regarding KI, most studies reported high acceptability responses from participants. Education and guidelines were viewed as beneficial, of high value, and practical; over half (n = 10, 53%) programs assessing adoption reported increases in the use of program recommendations or resource use. Program components that provided reminders or incorporated coaches and mentors to facilitate education into practice often increased feasibility. However, high feasibility ratings did not guarantee patient outcome improvements. Four KI initiatives examined cost. Three studies reported decreased service costs after program delivery. One initiative reported the hiring cost of an interdisciplinary care leader but did not elaborate on the findings. Barriers to change hampering KI acceptability were staff turnover, limited administrative support, scheduling conflicts, heavy workload and staff perceptions. Only 4 (29%) studies showed satisfactory fidelity (i.e. the adherence to an implemented intervention as intended by the developers). Many initiatives reported issues with documentation. Inadequate staff management and mismanagement of resource materials also hindered program fidelity. Technological barriers to fidelity were identified in web-delivered initiatives.⁸³

One important conclusion of the SR from Yarycky et al. is certainly that **dedicated implementation plans and strategies (with reminders, reinforcements and guidance)** are needed to successfully apply knowledge to settings. According to Yarycky et al., KT without an implementation component may be justified only for large-scale initiatives, when the goal is to reach thousands or even millions of people, as is the case in KT social media campaigns.⁸³

The need of additional support to KT was also underlined by one scoping review of moderate quality level on physiotherapy.⁴⁸ In this review, the authors mentioned that limiting teaching and training to focus solely on improving knowledge and skills might be less effective because it disregards important barriers in other domains (such as lack of confidence, role clarity and dealing with patient expectations). Therefore, they suggested to **combine didactic and experiential learning** on chronic pain and that this combination runs over longer durations with supervision and feedback.⁴⁸

- **Guidelines** can be used as a source of information for patients to provide clarity, contributing to their understanding of their condition and evidence-based treatment options;⁴⁷ The facts and figures in guidelines could be an aid to communicate advice and reassure patients and convince them of the legitimacy of the biopsychosocial approach.⁴⁷
- **Create a national network of centres with a coordinating 'hub'** to provide chronic **pain-related decision-support** is proposed by Wilson et al.⁷⁴ The function/focus of a coordinating hub would be to:
 - Analyse data about treatment patterns (which can include the analysis of data from a patient registry/treatment-monitoring system);
 - Synthesise research evidence;
 - Develop and disseminate resources and tools to support self-management;



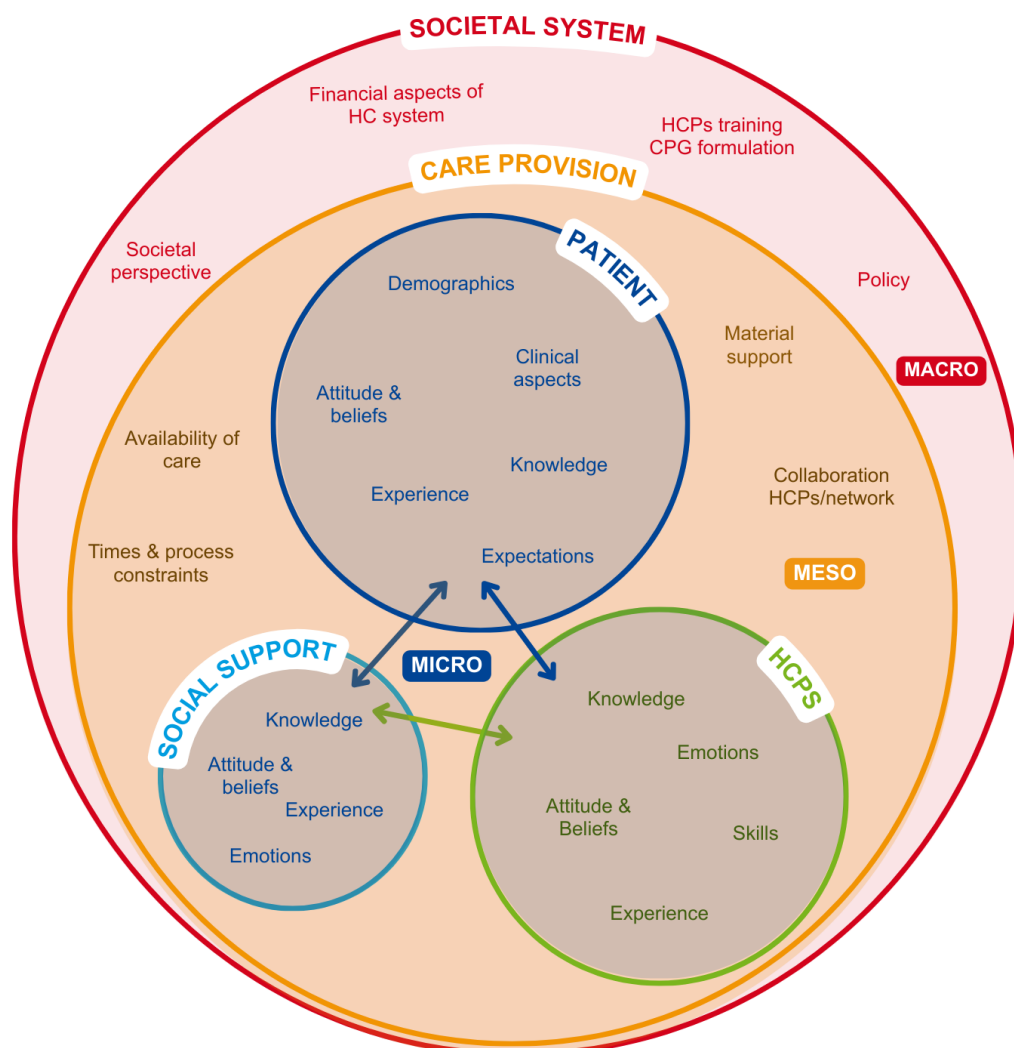
- Develop and disseminate clinical practice guidelines and other resources and tools to support providers and organisations in prevention, early identification and ongoing treatment;
- Offer support to undergraduate professional training programs;
- Offer continuing professional development and other strategies to support evidence-based care (both for single disciplines and multidisciplinary teams);
- Monitor efforts to improve care (across the full range of payers and the full continuum of care, including primary health care, postsurgical care, etc) and evaluate their impacts.

There are several barriers identified by Wilson et al. regarding this strategy. Resources (time and money) are required to meaningfully involve people living with chronic pain in the development and evaluation of medical device technology. Accountability structures have to be in place, to satisfy the multi-institutional and cross-jurisdictional nature of a national network of centres. A broad information of all clinical and non-clinical members of healthcare teams is also needed for effective use of information technologies. Furthermore, there is a risk that HCPs (specifically in primary care) perceive decision supports as a threat to their professional authority. Professional training and ongoing continuing professional development is needed to address how to deliver the full spectrum of comprehensive chronic pain management.⁷⁴

To address these barriers, Wilson proposes to⁷⁴:

- Hinge the national network centres on getting the right champions (clinicians, leaders in teaching institutions and people living with chronic pain) around the table from the beginning.
- Support the implementation of a cross-discipline model through demonstration projects, coupled with rigorous monitoring and evaluation (short term), and through systematic effort to “move beyond the early adopters” for the long term.

Figure 3 – Overview of the factors influencing the pain management according to the literature review



3.4 Discussion

3.4.1 Transversal analysis across the reported barriers, enablers and solutions related to multimodal pain management

The literature review is one among other **building blocks** to answer the **four research questions** mentioned in the introduction. We identified many barriers and enablers in the multimodal management of pain from the patients and HCPs perspectives and most of them are consistent across studies and countries. The third research question on the local network found no direct response in this review of reviews. Concerning the fourth research question, several interventions are described including the results of their implementation when available, which is of particular interest for this study.

We present the results in **three interacting levels**: micro, meso and macro. Many barriers and enablers are described at the micro level while more solutions appear to rely on the macro level. The table 1 in [Supplement 2](#) presents an overview of the relations between barriers, enablers and potential solutions.

Some authors highlighted that more barriers are described in primary studies than enablers.¹ However, barriers and enablers are often the **two sides of the same coin**. For example, while the



lack of patient knowledge on pain mechanism is mentioned as a major obstacle of pain self-management, the understanding of this topic is identified as a facilitator.

An important observation in the literature review is that many factors are interrelated. For example, the patient's ability to return to work may be affected by on the one hand the patient's low self-esteem about his capabilities to perform at work, but also by more external factors, such as lack of understanding by the colleagues, mutual mistrust or the lack of knowledge and resources of the employer for adjusting the workplace. If the job is not adjusted, the patient may feel uncomfortable and less effective than before, with feelings of guilt towards colleagues and reduced self-esteem.

Several domains of intervention were identified by this review of reviews. We present them using the wording proposed by Thompson et al.⁶⁴:

Pain is complex and requires competencies of both patients and HCPs.^{1, 47, 48, 50, 51, 53-56, 58-60, 62, 64-67, 69, 71, 72, 85}

- There is **a lot to learn** in the chronic pain domain. The biopsychosocial approach and patient neuroscience education challenge many of the beliefs and habits of patients and professionals alike, and this requires effort at several levels. For example, HCPs need to know about pain concepts, mechanisms, assessments, management but also how to improve their skills, attitudes, beliefs, emotions, confidence... in order to be supportive partners to patients with chronic pain.^{1, 47, 48, 59, 64, 66, 71-73, 76}
- In this context, enhancing **professionals' competencies** requires education, support, interdisciplinary collaboration, and process evaluations of interventions. The content of training cannot be defined by this review of reviews but **effective communication skills and behavioral management** are particularly emphasised to drive improved adoption of a BPS model of pain care.^{47, 50, 51, 56, 62, 69} Training in the BPS approach and evidence-based practices is required not only during the basis cursus in universities or university colleges but also during continued pain education upskilling.⁴⁷
- Different levels of training can be offered including the development of advanced practitioners to manage pain.⁴⁸ Multidisciplinary training is also promoted.⁷⁴ Because simply disseminating knowledge is not enough to successfully implement competencies in practice^{1, 59, 66, 71}, the use of **dedicated implementation plans** and strategies is suggested. Reminders, reinforcements, guidance, supporting tools (as videos with examples or treatment protocol)⁶⁶ or combining didactic and experiential learning over longer durations with supervision and feedback are considered as supports for the implementation.⁴⁸
- **Person living and working with pain** also have to be trained to improve their understanding and adherence to the BPS approach. **Patient educational program** should target acquiring specific knowledge (pain neuroscience education) and competencies including self-empowerment, self-awareness, self-efficacy... to perform self-management in pain and facilitate the SAW/RTW process.^{1, 48, 50, 51, 53, 54, 56, 57, 60, 62, 64, 65, 77, 79}

Patients participation is a paramount element of the multimodal management of pain – Patient-centeredness and therapeutic alliance are essential

- For supporting the patients involvement in their own care, a core enabler identified in the literature is the importance of a **patient-centred approach** in which the management plan is adapted to the individuals' preferences, abilities and needs and integrates both medical as overall health and well-being goals.^{47, 48, 50, 52, 56, 59, 61, 62, 73} This patient-centeredness requires an understanding of the individual's context (including demographic and clinical characteristics, cultural factors, concerns, experience, work conditions, etc.) and a tailoring of the interventions accordingly.^{47, 48, 56, 59, 69, 74, 76} One particular issue identified in the literature that may be related to patient-centredness is the challenge of equitable health care management and attention to vulnerable populations.⁵⁵

- Some interventions are illustrative of the need of **tailored care**. Group interventions for example can be perceived as an opportunity to interact with others who shared similar chronic pain experiences.^{53, 62, 68, 79} but also as demoralising by listening to negative experiences from peers.^{58, 62} Telehealth is both a potential support (e.g. well-designed interactive platforms can provide tailored information, with flexibility to fit patients' routine)^{54, 77, 78, 80} and a barrier to patient engagement according to the patients' IT abilities.^{77, 80} More extensive training in using the internet program for patients and offering proactive technical support are suggested.⁸²
- Sometimes, the change in relationship to pain was reported as an ongoing "trial and error" process where learned strategies (e.g. pacing, cognitive techniques) were tested and tried during and following the intervention.⁵³ This implies **flexibility** and **negotiation skills** from both patients and HCPs.
- The development of a **true partnership** between patient and HCPs has to replace paternalism in pain management. A **strong therapeutic alliance** with shared decision making, common goal, shared responsibility and guided problem solving is indeed an important enabler of the patient participation in the pain management.^{47, 48, 50, 51, 53, 56, 57, 59, 61, 62, 72, 73}. In the SAW/RTW context, the partnership would be enlarged to the employer to explore ways of addressing managing pain, managing work relationships and making workplace adjustments.^{1, 60, 65}
- The role of **care managers/coordinators** as a common structural feature of the interventions is underlined (including in primary care setting). They can offer additional support that promote patient-centred care and bridge the gap between clinical guidelines and the implementation of interdisciplinary, team-based chronic pain care.⁷⁰ This is also proposed in the SAW/RTW context.^{58, 72}
- **The place of significant others in the partnership** is also underlined as **social support** is a key element of the pain management.^{1, 51, 53, 58, 60-62, 81}. The family support is an enabler and its absence or low level is clearly identified as a barrier to an optimal management of chronic pain. However, an overly supportive attitude by significant others is also mentioned as a possible source of poor adherence to the multimodal pain management including the return to work.⁵⁸.
- **Peers** can be another source of social support, as mentioned in the group interventions above. Initiatives using peer-support volunteers (PSVs) as long as they have the relevant lived experience, personal attributes, and communication skills have shown potential benefits in pain management.⁷⁵ The question of necessary training to be provided to PSVs is highlighted.⁷⁵ In the SAW/RTW context, social support can be extended to colleagues, employers, professionals from the various organizations involved in the RTW process, etc.^{53, 60}
- To create and support the therapeutic alliance, HCPs must offer clear explanations but also **respect, empathy, emotional support**...^{47, 56, 59, 61, 73} However, an emotional cost is also described in HCPs treating patients with chronic pain^{50, 59, 64, 69, 73}. There is a balance to be found by HCPs between distance/anonymity and proximity/familiarity.⁷³ HCPs personal involvement should be adapted for each individual and context.⁷³

Collaboration between HCPs and organisational aspects of care should be improved

- The findings of this literature review highlight the benefits of reciprocity, mutuality and collaboration between HCPs and the benefits of being able to break down or cross professional boundaries and hierarchies. Transmission of information by several HCPs speaking the same language facilitates the patients participation to their own care.^{47, 48, 70, 73} **Joint patient assessment** or development of **treatment plans** are useful tools to reach this objective.⁷⁰. A good inter-personal collaboration between stakeholders (i.e. all professionals included in the RTW process) is also emphasised in the SAW/RTW process.^{1, 60, 72}



- However, alignment between HCPs is not so obvious in practice and HCPs underline the need of a **network with efficient communication channels** between professionals.^{47, 48, 55, 59, 60, 70, 72-74} Some authors emphasised that implementation strategies to improve pain management should include whole teams of healthcare providers and that one HCP acknowledged as **clinical champion** can play a facilitating role in this.⁴⁸ In SAW/RTW also, **integrational leadership** where a member is responsible for developing internal and external communication is considered as a prerequisite for interdisciplinary teams.⁷²
- Organizational structures (e.g. hospitals) should facilitate the interdisciplinary collaboration by implementing clear communication channels, shared decision-making processes and integrated care pathways (see below). In the primary settings, regular contact with the same HCP is suggested to improve the continuity of the treatment, and the patient–professional partnerships.⁵⁶

Pain management has to be accessible and realistic – the role of the healthcare system

- A well-functioning healthcare system plays a fundamental role in pain management. For example, **accessibility** to HCPs specialised in pain is determinant in the BPS approach. Long waiting time, short duration of consultations, inequal geographical distribution, costs for patients and lack of supporting tools are common barriers to be addressed.^{47, 48, 51, 53, 54, 57-59, 62, 64, 66, 68, 71-73}
- To implement the BPS approach in practice and facilitate the patient care pathway, **integrated stepped care** is emphasised by several authors.^{1, 48, 74} The role of each level of care has to be determined. For example, the GPs awareness of the life circumstance of patient or HCPs focus on personalised care are added values of primary care⁵⁹ but the lack of time or training can also limit these added-values in practice. It is why all HCPs, particularly physicians, have to ensure that a patient-centred primary health care model is integrated with speciality and community-based pain services.⁷⁴
- **Time and resources** might have to be allocated differently to fit the BPS approach and the patient neuroscience education.⁴⁸ Furthermore, there is a belief that the use of a BPS approach costs more time, and therefore resources and reimbursement should be re-examined. According to one review, this might be true for the period of implementation and while learning to integrate this new approach but not at more long term.⁴⁸ It is even suggested that treating patients using an integrated BPS approach might shorten the therapeutic process by focusing on self-efficacy and the prevention of further chronification.⁴⁸
- Several kinds of **tools** are proposed to help HCPs in the pain management but also for their educational role, communication tasks, self-management or SAW/RTW support. Some examples are practice guidelines (compatible to real-world and individualised care)⁴⁷, screening questionnaires, embedding risk stratification tools within a computer, tablet, or mobile device⁴⁷, educational videos to explain pain to patients⁴⁷, patient diary to monitor self-management⁵¹ or translators.^{52, 72}

A paradigm shift is needed at the society level

- The persistence of a biomedical culture is present not only in HCPs and systems but also in patients and society which is source of stigma, misunderstanding or false belief in chronic pain.⁴⁷ For supporting comprehensive chronic pain management, **advocacy campaign** using traditional media (print, radio and television) and new media (mobile phone-based strategies, as well as online petitions and other Internet-based approaches) is suggested.⁷⁴ This could also encourage governments and policymakers to prioritize pain management, ensuring reorientation of funding models, training programs, and research initiatives.^{47, 74} Other interventions are proposed to sustain implementation of BPS approach at macro-level such as developing a **national network of stakeholders** and thereafter a **national pain strategy**.⁷⁴ The use of success stories or quick wins that highlight the benefits of interventions are mentioned as interesting tips for supporting a change of perspective in society, including decision-makers.⁷⁴ This is particularly important to

develop **pain policy strategic orientation** across governments, regional health authorities, and the stakeholder community.⁷⁴

- **Patient registry** is proposed to objectivate not only the burden of chronic pain but also issues in the care pathway.⁷⁴ However, there are several barriers to the establishment of registry in chronic pain such as the lack of clear diagnostic criteria, difficulty to stimulate HCPs participation in the data collection, needs of resources... Because of these barriers, there is considerable uncertainty about the benefits-risks balance of this registry and it is suggested to be implemented as research program rather than a government or regional health authority initiative.⁷⁴
- Finally, two frameworks were mentioned in the retrieved reviews to provide insights for improving the adoption of a biopsychosocial model of pain: the Sustainable intEgrated chronic care modeLS for multi-morbidity: delivery, Financing, and performancE (SELFIE) and the Consolidated Framework for Implementation Research (CFIR). Rather than focusing solely on individual-level behaviour change, SELFIE and CFIR aim to align the organizational-level factors with the individual-level factors, fostering thorough analysis, effective implementation, and systematic evaluation of outcomes.^{47, 71} SELFIE aims to improve **person-centred care for persons with multi-morbidity** by proposing **evidence-based, economically sustainable, integrated chronic care models** that stimulate cooperation among multiple stakeholders across health and social care sectors (<https://www.selfie2020.eu/>). CFIR provides a structured approach to analysing **contextual factors** that impact implementation efforts, ensuring that interventions are effectively integrated into real-world settings. Both frameworks are valuable tools for improving healthcare delivery and ensuring that interventions are successfully adopted in different settings (<https://cfirguide.org/>). Other frameworks exist in implementation science such as the **Capability, Opportunity, Motivation-Behaviour (COM-B) model**, which identifies key factors influencing behaviour, the **Theoretical Domains Framework (TDF)**, which helps map barriers and enablers to change or the **Behaviour Change Wheel (BCW)**, which uses the COM-B, nine interventions functions and seven policy categories (<https://www.behaviourchangewheel.com>).

3.4.2 Limitations

Chronic pain management is an area of medicine that is subject to constant evolution (e.g. in PNE^{86, 87}). Consequently, a pragmatic approach was adopted, entailing the use of the review of reviews method (umbrella review) for the identification of evidence pertaining to barriers and facilitators. Due to limitations in terms of resources and time, it was not feasible to update the reviews that were identified during the selection process for the evidence.

In addition, the validity of the review of reviews depends on the coverage and quality of both the primary studies and the available systematic reviews and meta-analyses.⁴⁴ The scope of this literature search is barriers, enablers and solutions which are rarely studied by RCTs but more often by qualitative studies. This was a challenge to appraise the quality of these reviews, and we used an amended instrument (Robis) to perform this work. The results of the quality appraisal shows a majority of reviews of high quality level^{47, 53-56, 58, 60, 62, 67, 69-73, 75, 77-80} or moderate^{48, 52, 57, 59, 63-65}. It is also important to notice that reviews of low quality of bias can be based on primary studies of high quality and vice versa.

Several limitations were highlighted by the authors of the retrieved reviews. The heterogeneity of the primary studies in terms of aims, methodology, interventions or involved HCPs is an important one.^{48, 73} A large variation in the use of terminology and in the way of describing and structuring the data extraction, mapping and thematization relied was also noted. The varied description and lack of consensus on the definition of the BPS was another issue. Many papers focused on a single condition, on a specific part of the clinical process, a detailed BPS intervention or a single approach, while often not clearly specifying what is considered to be a BPS approach and whether the BPS intervention comprises all 3 components.⁴⁸ It is not sure that the social component was addressed in depth during the studied BPS interventions.



By using a review of reviews, we took the risk to miss findings of primary studies not included in the retrieved reviews. However, the results of the literature served as one (and not the only one) source of information to develop recommendations for the Belgian health care system. We also carried out a search of the grey literature and we organised several discussions with experts and stakeholders involved in the multimodal management of pain to obtain other sources of information.

It is interesting to note that we did not find any review specifically focusing on the development of a local network of HCPs for multimodal pain management (third research question). However, the need for the support from other HCPs is clearly identified by the professionals (for referrals, for providing consistent information to the patients, etc.) and integrated care is presented as a way to support HCPs involved in one patient care to work together.

3.4.3 Future research

Several research topics were proposed by the authors of the retrieved reviewed. We do not pretend to be exhaustive but the list below can provide some ideas for the future.

- To identify other significant factors that hinder or facilitate the process of pain self-management⁵¹;
- To investigate practitioner barriers and level of chronic pain education⁶²;
- To explore HCPs experiences with chronic pain in diverse ethnic groups, gender-specific contexts and in older people living in the community⁷³;
- To study the interrelatedness of barriers in pain management, their hierarchy, and origins⁴⁸;
- To identify the resources that help in fostering the process of pain self-management and overcoming the obstacles and barriers that affect patients' adherence to the pain management care plan⁵¹;
- To purposefully assess patient preferences regarding interventions (e.g. peer support)⁷⁵;
- To define the skills needed to negotiate and engage in shared decision-making in a biopsychosocial approach⁴⁸;
- To identify the mechanisms and types of knowledge transfer media and mobilization that will be of value to both health/helping professionals and persons living or working with chronic pain¹;
- To explicitly address the social component and furthermore to publish a protocol of the BPS intervention⁶⁶;
- To understand on how to target the barriers and facilitators in implementation, the relevance for pre- and post-graduate education, and the role of the health care system⁴⁸;
- To evaluate impact of KT in older adults^{83, 84}
- To report on telehealth safety, effectiveness and accessibility to self-management support across different socioeconomic communities and remote locations^{57, 62, 77, 78, 81, 82}
- To create a culture at different levels (individual HCPs, managers, system-level decisions) that positively engages with marginalised populations⁵⁵;
- To understand the employer perspective⁵⁸
- Furthermore, it would be essential to regularly update findings in the multimodal pain management (in particular in pain neuroscience education) to ensure that more contemporary data have not been missed. Indeed this is a **very quickly moving field and contemporary versions of PNE have better methods**, refined content etc. Several clinical trials with those methods are underway but not published yet, such as the place of virtual reality, the impact of PNE on patient expectation....

4 THE CURRENT CARE OFFER IN THE MANAGEMENT OF CHRONIC PAIN: BARRIERS AND POTENTIAL SOLUTIONS IN BELGIUM

KEY POINTS

Despite policy efforts over the past decades to promote a multimodal pain management based on a biopsychosocial (BPS) approach in Belgium, multiple **barriers** persist in clinical practice:

- **Limited awareness and acceptance of the BPS model:** Both patients and healthcare professionals often lack familiarity with the BPS approach and show reluctance toward multimodal care management. There is a strong preference for medication or technical interventions, while psychological support is frequently perceived as irrelevant or as minimizing physical suffering. Multimodal management or referral to a Chronic Pain Centre (CPC) is typically considered only as a last resort after other treatments fail.
- **Insufficient knowledge of chronic pain and the BPS approach:** Although interprofessional training programs are emerging, chronic pain, pain neuroscience education and pain management remain a secondary focus in most curricula. This results in limited understanding of pain mechanisms and how the BPS model addresses patient needs. Knowledge gaps lead to reluctance in validating pain, delayed diagnoses, inconsistent expertise among different types of healthcare professionals, and postponed referrals to CPCs.
- **Financial and organizational constraints:** The implementation of a BPS approach is hindered by structural limitations, including lack of remuneration for extended consultations (essential for comprehensive assessment and patient education), shortage of specialized psychologists in primary care, absence of incentives for multidisciplinary meetings and collaboration, and restricted access to CPCs due to the limited number of funded pain centres and staff shortage in these centres.
- **Fragmented policy vision:** Chronic pain continues to lack political priority in Belgium, and there is no clear, coordinated vision for organizing chronic pain management across federal and regional (federated entities) levels. This results in a fragmented care landscape characterized by a very limited number of funded CPCs; a standstill in the federal application process for additional funding, leading to absence of quality guarantees, outdated criteria, and no renewal of application procedures; and insufficient funding, causing annual financial deficits in existing centres. At the primary care level, the absence of a structured clinical pathway prevents effective patient guidance for pain relief and chronicity prevention. Furthermore, implementing the BPS approach in primary care is hindered by inadequate incentives for longer consultations, multidisciplinary meetings, and participation in local multidisciplinary networks.

Potential **solutions** to enhance BPS implementation in clinical practice

- Promote **patient engagement** by introducing peer and family support initiatives and embedding shared decision-making practices within care pathways.
- Increase **public awareness** through targeted campaigns that explain the principles and benefits of the BPS approach, helping patients and the general population better understand and accept this approach
- Develop a **chronic pain care pathway**, including a multidisciplinary and comprehensive approach, in a stepped care model starting in primary care and escalating to CDCs when necessary (e.g. for complex cases), guided by a dedicated care coordinator and organized in a local network where possible to ensure continuity and collaboration.



- Integrate chronic pain education into all stages of healthcare **training** by scheduling regular programs on chronic pain management in the initial and ongoing training of all HCPs, emphasizing interprofessional collaboration and clear role definitions across disciplines.
- Improve **accessibility** to chronic pain management by providing financial incentives for the patient (e.g. a personal care budget, more affordable psychological care), for the HCP (e.g. remuneration for extended consultations, incentives for multidisciplinary meetings) and on system level by ensuring adequate funding, workforce capacity and availability of specialized care services.
- Support **policy and societal changes** needed for the recognition of chronic pain as a distinct health condition and to ensure BPS approach and interdisciplinarity in all policies
- Create **quality and data systems** to improve tracking and accountability in pain care management (e.g. registers, quality indicators)

4.1 Background

The biopsychosocial (BPS) approach is not new in Belgium, and several policy reforms and initiatives have been introduced to support its implementation in chronic pain management. However, it remains unclear whether these measures have delivered meaningful benefits for patients or improved healthcare system efficiency. Evaluating the performance of such a care model is beyond the scope of this report, as it requires long-term data on patient outcomes and associated costs, which are currently lacking. Nevertheless, identifying key barriers to the implementation of the BPS approach can help define strategies to strengthen care organization for chronic pain patients.

Past reforms and initiatives related to the implementation of a BPS approach in chronic pain management

The last decades the care services for chronic pain management underwent a major transformation from pilot projects to a model of specialised care centres with (federal) governmental funding to implement a BPS approach in chronic pain management.

This transformation was induced by the publication of a *White book* from the Belgian Pain Society (BPS) in 1988. In line with the recommendations of these publications, nine reference centres for chronic pain were set up and funded by the National Institute for Health and Disability Insurance (NIHDI - RIZIV - INAMI) as pilot projects in 2005 and algological functions were introduced in the hospitals in 2009 (with federal funding). After the publication of an evaluation report, edited by an interuniversity team in 2011⁸⁸, the pilot projects evolved to the funding of 35 multidisciplinary pain centres geographically distributed over Belgium. In the same time, the algological function within 73 hospital services evolved to the current so-called multidisciplinary algology teams.^{43, 88} This evolution to the current organizational care model frames within the policy framework to make chronic pain a policy priority for public health. An additional project was set up for the management of acute pain in children, but this section will not further detail this service since its particular target population (out of the scope of this research). These three types of initiatives receive a total yearly budget of 18 million euros.

However, the above-mentioned organizational model is, due to its federal funding and competences, mainly focused on specialized care, either on ambulatory basis in the multidisciplinary centres for the management of chronic pain (CPC), or in hospital wards during residential stay (cfr. the multidisciplinary algological teams). Since primary care is more a regional competence, the elaboration of a regional pain policy plan falls under the responsibility of each of the Belgian regions. Some initiatives were found (and mentioned by the interviewees) on the management of chronic diseases, but no specific policy plan has been elaborated and implemented on the biopsychosocial management of chronic pain in primary care services.

Furthermore, despite these initiatives, a coordinated pathway for the patient with (chronic) pain is still lacking. This gap in the current care offer affects both on patient level (and the barriers he perceives in accessing care), as well on the organization of care provision in primary and specialized care.^f

4.2 Objectives

Main research question for this chapter was formulated as follows: **What barriers hinder the current implementation of multimodal management with a biopsychosocial (BPS) approach in chronic pain care in Belgium, and what potential solutions warrant further investigation?**

This chapter describes the current care offer and based on the interviews with patient organizations and healthcare providers from the CPCs, the perceived barriers (on conceptual level of the BPS approach, on patient level, on HCP level and on organizational level across primary and specialized care services) related to access to care services and the implementation of the multimodal pain management in clinical practice. The final section gathers all collected data on potential solutions and were an inspiration for the further elaboration of potential interventions to improve access to multimodal pain management in Belgium.

4.3 Methods

Different methods were applied to find the answers on the research question:

- Search for Belgian reports: Through internet searches and direct contact with Belgian experts in chronic pain management, several relevant reports were identified. These reports were used to describe the current care offer, and the barriers and potential solutions they cited were extracted and compared with those identified during stakeholder interviews (see below).
- Search for descriptions of the current care offer: Through internet searches on the different websites from governmental organisations, NIHDI, professional associations, and patient associations, the elements of the current care system for chronic pain management were identified and summarized.
- Exploratory interviews with representatives of (a selected list of) patient associations: Four online group discussions were organised. There were two per language (Dutch, French). The selection of patient associations was made in collaboration with the national patient umbrella organisations (Vlaams Patiëntenplatform (VPP) and Ligue des Usagers des Services de Santé (LUSS)), and was primarily oriented by type of pathologies linked with chronic pain.
- Site visits to four multidisciplinary pain centres (CPCs), with group interviews with the HCPs: the choice was made to visit and interview two funded CPCs (one in French-speaking region and one in Dutch-speaking region) and two non-funded CPCs (one in French-speaking region and one in Dutch-speaking region)

For both the site visits as the interviews with the patient associations, a similar interview guide was used, with an introductory question on the historical background of their organisation/CPC, a first part on the perceived barriers in the implementation of BPS approach in clinical practice, a second part on the solutions they already encountered or find interesting to further explore and a closure question on the policy priorities they would set as minister of Public Health. The interviews were recorded and transcribed to a template, what was used for all interviews (with small adaptations if needed). Based on these templates a comparison was made on common barriers across the patient associations and the HCPs from CPCs (see tables in [Supplement 2](#)).

^f Care providers not involved in the management of a chronic pain patient, are considered as out-of-scope for this chapter (e.g. dentists, midwives).



For the barrier analysis, perspectives from both patients and healthcare providers were considered, along with organizational challenges in primary and specialized care. A different approach was applied for the analysis of solutions: instead of categorizing by care level, solutions were grouped into thematic domains. This choice aimed to avoid redundancy and highlight that most solutions are not care-level specific but rather transversal. Policy priorities were presented in tables, distinguishing between data from patient organizations and healthcare professionals in chronic pain centres (CPCs), as the interviewees' background could influence proposed solutions and priorities. For example, a non-funded CPC might advocate for reforms in the application process for funding, while patient associations may view this as less relevant. Barriers and solutions identified in interviews were compared with those found in Belgian reports; however, this comparison was not in-depth, as the next chapter will further explore these solutions by domain and assess their acceptability and feasibility.

4.4 Results

This section examines the current care offer and how it is perceived by patients (via patient associations) and healthcare providers (HCPs from CPCs). A comprehensive description of all possible interventions, from prevention to chronic pain management, was beyond the scope of this report. Instead, the focus is on care services that provide multimodal treatment using a biopsychosocial (BPS) approach, as well as the barriers identified by patients and HCPs in relation to these services.

4.4.1 Patient journey in chronic pain management

In order to understand the current Belgian situation, the Figure 4 illustrates a common patient's journey in seeking a diagnosis and pain relief. It shows how patients often consult multiple healthcare providers across different settings and are frequently sent back and forth between the different care providers.

The patient journey is characterized by⁹

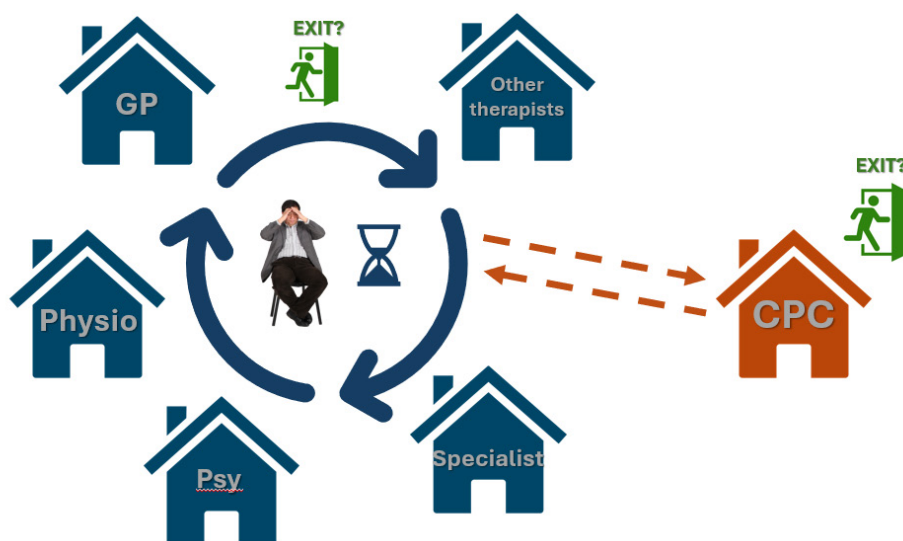
- **Lack of guidance:** Patients cannot rely on a clear care pathway and often move between different healthcare providers in search of a diagnosis or pain relief.
- **Repetition over time:** Patients frequently revisit the same provider or consult another professional from the same discipline.
- **Delayed referrals:** Referrals are sometimes delayed due to various factors, such as healthcare providers being uncertain about when and to whom to refer, or patients being reluctant to consult the recommended specialist.
- **GP as a central point:** General practitioners (and sometimes specialists) act as a "roundabout," with patients repeatedly returning to request new referrals to other care options.
- **Multiple information sources of varying reliability:** Patients seek advice from the internet, family, social circles, and patient associations, with mixed accuracy.
- **Diverse and sometimes conflicting approaches:** Each provider applies their own perspective on pain and its management. These approaches can be contradictory or lack evidence, including alternative therapies without official recognition in Belgium. The biopsychosocial (BPS) approach is largely unknown to patients and HCPs or is not explicitly identified as such.

⁹ This journey is meant as illustration and each patient will have his own care trajectory. This description is based on insights drawn from interviews with patient associations, and HCPs from CPCs. It does not claim to be exhaustive.

- **Chronic pain centres (CPC) as a last resort:** Referral to a CPC often occurs late, after numerous trial-and-error attempts. These centres are poorly known by patients before referral, and even some healthcare providers are unaware of their role in chronic pain management.
- **Uncertainty about whether exit points exist:** Managing chronic pain is complex and requires follow-up after treatment ends. In practice, however, patients often feel lost and are unsure if or when they can discontinue treatment. The indication of 'exit' in the figure also reflects the frequently undefined duration of care in both primary care and CPCs.

What is lacking in this figure, is the impact of this journey on the patient's personal life, such as work absence, loss of social connections, and reduced quality of life.⁸⁹ This process often extends over a prolonged period, which increases the risk of pain becoming chronic.

Figure 4 – Schematic overview of a patient journey



CPC: chronic pain centre, GP : General Practitioner, Physio: physiotherapist, Psy: psychologist.

The result of this journey is a patient lost in the care system. Chronic pain management appears to be often complex and fragmented. From symptom onset to diagnosis and long-term treatment, patients frequently face delays, unclear pathways, and inconsistent communication between providers. These challenges can result in prolonged suffering, diminished trust in the healthcare system, and limited engagement with biopsychosocial (BPS) strategies.

I was sent from one doctor to another, from hospital to hospital. Blood was drawn, scans and X-rays were taken, but no one seemed able to link the symptoms to any particular illness.

Over the years, I have tried many different types of 'therapy' in the hope of getting better, such as acupuncture, auricular therapy, mobilisation, swimming (but that wasn't possible because of Raynaud's), sauna, craniosacral therapy, yoga, etc. But to no avail. [extract from a testimonial of a patient on a Belgian website ⁹⁰]

Although no published reports exist on the patient journey within CPCs, insights from the interviews with HCPs from the CPCs regarding the functioning of these centres are used to illustrate how the biopsychosocial (BPS) approach is applied in clinical practice.

A common feature among the interviewed CPCs is the **waiting period** before patients can access the centre. Additionally, **eligibility** is determined through various selection criteria. These include geographic restrictions (e.g. access limited to residents of a specific region), pathology-based conditions (such as limiting the proportion of patients with fibromyalgia or prioritizing fast-track access for cancer pain), and patient readiness to engage with a biopsychosocial (BPS) approach, which can



influence acceptance into the CPC program. **Patient assessment** is conducted by a multidisciplinary team of healthcare professionals and concludes with a joint consultation where results are discussed with the patient and, when possible, their family. Validated tools and instruments are frequently used to collect data during the assessment process. The **management plan** typically includes a standardized program featuring educational sessions that cover a range of relevant topics and a re-activation program with physical activities (often based on graded activity). In some centres the BPS approach is complemented by interventional techniques. The **follow-up** period varies across CPCs, ranging from no follow-up after program discharge to return visits over several years. Interviewees indicated that these differences are often linked to specific pathologies—for example, patients with fibromyalgia may be offered programs at a slower pace. The evaluation report indicated a preference for extended follow-up periods. However, quicker referral back to primary care requires sufficient resources and the expansion of multidisciplinary BPS management within primary care settings.⁸⁸

4.4.2 *Patients' perspectives on biopsychosocial pain management*

Patient-related factors—such as knowledge of the BPS approach, attitudes toward its application, and organizational barriers—play a critical role in the success of chronic pain management. These elements strongly influence patient adherence to their care plan.

4.4.2.1 *Negative attitude of patients towards chronic pain and the BPS approach*

Factors, such as knowledge gaps, negative attitude toward certain types of care interventions (e.g. psychological support) and more passive coping strategies or unrealistic expectations can significantly hinder the implementation of a BPS management plan and complicate patient engagement with this care model. This section explores these barriers, as reported in the *interviews with patient associations and with HCPs from CPCs* (see tables in [Supplement 2](#)).

- **Unfamiliarity with the Biopsychosocial (BPS) approach**
Although most patient associations acknowledge the value of a comprehensive approach to chronic pain, they rarely identify it explicitly as the BPS model. Interviewed patient associations and their members are generally unfamiliar with the concept, largely due to complex terminology. Patients require clear, accessible explanations to understand its principles.
- **Reluctance toward a comprehensive approach**
Some patients are not ready for multidisciplinary interventions and may only consider them after a crisis. There is a strong preference for medical-technical interventions first, and psychological support is often perceived as irrelevant or as minimizing physical suffering. This misunderstanding creates resistance to multimodal care and reduces acceptance of non-biomedical strategies.
- **Difficulty accepting chronicity of pain**
Many patients expect a purely biomedical solution and struggle to accept the chronic nature of pain, which limits engagement in long-term management strategies.
- **Condition-specific reluctance**
Certain types of pain, such as headaches, are frequently minimized or normalized by patients, leading to delays in seeking care.
- **Lack of assertiveness and knowledge**
Patients often lack sufficient understanding of pain mechanisms and do not feel empowered to respond when healthcare professionals fail to listen or address their concerns.
- **Unrealistic expectations**
Patients frequently hold incorrect expectations about treatment outcomes, continuing to “fight the pain” rather than learning acceptance. This can lead to discouragement, missed appointments, and poor adherence to therapy, especially when empathy from healthcare providers is lacking.

- **Passive coping strategies**
Patients tend to favour passive medical techniques over active self-management and lifestyle changes. Scientific insights and recommendations for behavioral adjustments, such as smoking cessation, are often rejected. This passive approach is sometimes reinforced by other care professionals, undermining multimodal strategies.
- **External locus of control**
Many patients rely entirely on healthcare professionals for solutions, lacking a sense of personal responsibility for managing their condition. This dependency is occasionally reinforced by care models that do not promote patient empowerment.

4.4.2.2 Organisational issues for the patient

Interviews with patient associations and HCPs from CPCs highlighted that patients face multiple challenges in accessing and managing chronic pain care (see tables in [Supplement 2.2](#)). Patients face multiple obstacles that limit access to effective chronic pain management.

- **Financial constraints** remain a major barrier, restricting access to care and excluding certain (alternative) therapies due to lack of recognition and reimbursement. The current financing model, which ties subsidies to specific treatments, further reduces flexibility in care planning.
- **Administrative complexity** adds significant stress, with unclear regulations and lengthy administrative procedures often delaying treatment.
- **Digital health tools** are underutilized, either due to low patient familiarity or unsuitability for certain individuals.
- **Social support** structures are weak. Peer-led initiatives were disrupted during the COVID-19 pandemic, and family involvement in care remains inconsistent. Many patients report feelings of isolation, while informal carers receive little recognition or assistance.
- Finally, patient involvement in **care coordination** is limited. Health-related constraints, lack of knowledge, and social isolation prevent many from actively managing their care plan, reinforcing dependency on healthcare providers.

4.4.3 Healthcare professionals' perspective on biopsychosocial pain management

This section examined the key barriers related to professional knowledge, attitude and practice as well as organisational issues encountered in clinical practice, as reported in the *interviews with patient associations and with HCPs in CPCs* (see also tables in [Supplement 2.2](#)).

4.4.3.1 Lack of knowledge and reluctant attitude of healthcare professionals

The attitude of the healthcare professional toward the BPS approach can have its influence on treatment orientation (e.g. a predominant biomedical mindset), on the relationship with his patient (e.g. a more empathic attitude of the HCPs may encourage the patient to accept self-management strategies), on his referral pattern (e.g. within a biomedical mindset the referral of the patient to a CPC may be delayed) and on the knowledge of the patient (e.g. clear explanations on the multimodal approach may reduce the resistance in patients). Barriers related to the attitude of the HCPs will also hamper the implementation of a BPS model as a comprehensive care pathway and could further encourage fragmented care and the provision of unnecessary interventions and medication overuse. Following barriers are presented in random order.

Underestimation and invisibility of pain

- Chronic pain remains under-recognized in Belgium due to a lack of reliable data on its prevalence and societal impact, despite the existence of an ICD-11 code. Its symptoms are often invisible and difficult to objectify, leading to minimization by healthcare professionals and delayed diagnosis.



Conditions such as fibromyalgia and chronic fatigue syndrome are poorly understood, contributing to stigma and lack of empathy. Physicians may hesitate to recognize chronic pain as a legitimate clinical diagnosis, particularly when symptoms are invisible and lack measurable parameters. This reluctance contributes to variability in patient experiences—some GPs are proactive and supportive, while others provide minimal assistance. Once a diagnosis is established, patients emerge from a long period of therapeutic uncertainty. Knowing what they have brings significant relief and changes their perception of pain (and its management).

Insufficient training for healthcare professionals

- Education for HCPs places too little emphasis on chronic pain and the biopsychosocial approach, with an overreliance on biomedical models. GPs often lack knowledge of certain diagnoses (e.g. psoriatic arthritis) and cannot specialize in all areas, which limits their ability to manage complex pain cases effectively.

Undetermined referral patterns

- Multimodal approaches are frequently applied without adequate explanation, leaving patients unclear about why they are referred to psychologists or psychiatrists. Referrals to CPCs are often delayed or suboptimal, reducing the effectiveness of early intervention.

Variation in professional expertise

- While HCPs in CPCs generally have adequate knowledge and expertise, primary care settings lack specialized professionals and consistent understanding of chronic pain management principles.

Resistance to learn more about the BPS approach

- Some professionals show reluctance toward training, particularly psychologists who may perceive pain management as outside their professional identity. There is also a tendency among certain HCPs to assume they already possess complete theoretical knowledge, which discourages further learning.

Predominant biomedical orientation

- Pain management in primary care remains heavily biomedical, leading to overconsumption of pain medication, significant budgetary impact, and increased risk of dependency. GPs often prescribe painkillers due to time constraints or patient expectations. Neurosurgeons and anaesthesiologists may prioritize technical interventions over patient dialogue or collaboration with other professionals. Physiotherapists sometimes fail to follow prescriptions, and multidisciplinary care is often introduced only after prolonged biomedical treatment. Care delivery tends to be protocol-driven rather than patient-centred, with limited consideration of home and family contexts.

Lack of information on patient rights

- Patients are often uninformed about their rights by CPCs or sickness funds, which limits their ability to access appropriate care and support.

4.4.3.2 *Organisational issues for the healthcare professional*

Interviews with patient associations and HCPs from CPCs reported organisational issues encountered by the healthcare professionals. In the interviews, it was not always evident whether these issues were specific to primary care or specialized care. Therefore, they are presented here as transversal barriers, applicable across all levels of care.

- **Limited accessibility due to financial restrictions**

Access to chronic pain management is significantly restricted by financial and structural barriers. Healthcare professionals often **lack sufficient time** for education, coordination, and comprehensive patient assessments, while psychological care remains financially inaccessible for many patients. **Rigid financing models** limit flexibility in care planning by tying subsidies to the number and type of treatments (e.g. infiltrations). Additionally, the absence of remuneration for longer consultations discourages in-depth evaluations and meaningful patient dialogue. Short consultation times, combined with performance-based medicine, prevent the comprehensive approach required for undiagnosed or complex cases.

- **Difficulties accessing digital health records and technology**

Accessing electronic health records is cumbersome, adding to these challenges. Restricted access to digital health tools for general practitioners (GPs) is also an issue. For example, GPs are no longer permitted to conduct consultations by phone, reducing flexibility in care delivery. Hospital software is cumbersome, requiring multiple steps (e.g. 18 clicks) and functioning inconsistently—only 25% of hospital doctors reportedly know how to use the Walloon health network. Access through the Flemish network (Cozo) is even more challenging, requiring mobile phone identification and manual entry of patient ID.

- **Lack of care coordination**

Weak care coordination—caused by unclear role definitions, fragmented communication, and poor interoperability of patient records—complicates continuity of care. Poor coordination within the healthcare system results in redundant medical tests and inefficiencies. The **absence of clearly defined roles** among professionals hampers the implementation of effective coordination strategies. Care delivery remains largely **protocol-driven** rather than patient-centred, with limited consideration of home and family contexts. **Communication gaps** persist among primary healthcare professionals and between primary, secondary, and tertiary care levels. Additionally, patient records often contain incorrect information that is difficult to amend, further complicating continuity of care.

4.4.4 *Barriers related to multimodal management with a BPS approach*

4.4.4.1 *Barriers related to the components of the BPS approach*

In clinical practice, BPS model is approached as a multimodal care model, provided by either one professional with all the necessary competences or by an interdisciplinary team, and covering care aspects such as self-management strategies (including patient education), physical re-activation, psychological support, social interventions and pharmacological management. Within the application criteria for funding for multidisciplinary pain centre⁸⁸, BPS management is described as a non-interventional pain management with:

- Patient education sessions with information about biological and psychological mechanisms of pain and the recommended behaviours;
- Re-adaptation approach with physical re-activation, management of activities and ergonomic principles;
- Psychological therapy with cognitive behavioural therapy, techniques for stress management and management of psychological or psychiatric comorbidities;



- Social interventions for encourage social and/or socio-professional re-integration;
- Pharmacological management;
- Communication with GP with reports on the intake evaluation of the patient, intermediate and a final report of the care trajectory, the obtained outcomes and propositions for further follow-up.

Interviews with patient associations and HCPs from CPCs highlighted specific barriers related to these individual components of the biopsychosocial model.

- **Patient education** on chronic pain and the biopsychosocial model is often insufficient. General practitioners rarely explain the rationale behind referrals to psychological care, and patients receive little information about available pain management options. This lack of understanding can lead to confusion, resistance, and poor engagement in care.
- Current **physical activity** programs, such as “exercise on prescription” or aqua jogging, are often unsuitable for chronic pain patients, leading to dropout and risk of symptom aggravation. Many patients experience fear of movement, and there is a shortage of physiotherapists trained in the biopsychosocial (BPS) approach.
- **Psychological support** in chronic pain care is often delayed or overlooked. When offered, it is frequently framed as the cause of illness rather than a consequence of prolonged pain and diagnostic delays, reinforcing stigma. Patients resist psychological care due to misconceptions, fear of being labelled, and a preference for biomedical solutions. Accessibility is another major barrier, with long waiting times, financial constraints (see high out-of-pocket costs), limited reimbursement (and restricted number of sessions), and a shortage of psychologists trained in pain management. Stigma and lack of clear guidance on therapeutic options further discourage engagement.
- The **social dimension** of the BPS approach is often neglected. Social workers’ roles are undervalued, and their heavy caseloads limit patient support. Coordination with other healthcare professionals is minimal, and multidisciplinary meetings rarely include social workers, reducing the integration of social determinants into care planning.
- **Reintegration into work** for chronic pain patients is hindered by rigid “all-or-nothing” policies (e.g. part-time or a limited hours of work not allowed), lack of individualized approaches, and insufficient workplace accommodations. Insurance doctors often adopt a repressive rather than supportive stance, with limited multidisciplinary input and poor communication between stakeholders (HCPs-employer-patient). Patients face stigma, job insecurity, and financial disincentives, while administrative complexity and digital literacy requirements further complicate RTW processes.

4.4.4.2 *Organisational barriers related to BPS management in primary care*

In general, patients can access primary care services easily and without major restrictions. They have free choice of healthcare professionals and can switch from one professional to another. Some gatekeeping measures exist, such as requiring a physician’s prescription for physiotherapy—although this requirement will soon be relaxed for certain conditions. Financial incentives also apply, for example, better reimbursement when the GP holds the global medical file and acts as the coordinator of care. Additionally, some professionals offer therapies not officially recognized in Belgium, but partial reimbursement may still be available through sickness funds.

Each of the key-elements of a multimodal treatment based on a BPS approach (e.g. patient education sessions, re-adaptation approach, psychological therapy, etc) can be provided in primary care. However, some organizational issues can hamper the implementation of such a multimodal treatment in clinical practice.

Interviews with patient associations and HCPs from CPCs reported that primary care professionals often lack sufficient training and awareness of chronic pain management and the biopsychosocial approach, leading to reliance on biomedical strategies and inconsistent referral patterns. GPs play a key role in diagnosis but may misattribute symptoms (without further investigation or pain management) or delay referrals to specialists and CPCs. Limited consultation time, poor coordination among professionals, and insufficient early intervention to prevent chronicity further hinder effective care. Organizing multidisciplinary care within every GP practice remains challenging.

Based on these barriers, mentioned in the interviews, a further analysis was made on the key elements that hamper the multimodal treatment, and in particular the multidisciplinary collaboration and care coordination.

- **Organisation of multidisciplinary collaboration**

In primary care, care services are geographically scattered, and some HCPs tend to work in their own clinical domain, without any formal collaboration with colleagues from the same profession and even less with HCPs from other care disciplines. However, several initiatives are already set up to facilitate the multidisciplinary collaboration, such as the community healthcare centres and other types of multidisciplinary group practices. Within these community healthcare centres (*wijkgezondheidscentra – maisons médicales*) several types of HCPs are gathered on the same location to enhance a more comprehensive approach to care management, covering healthcare (including prevention and health promotion) and wellbeing.⁹¹ The care team exists in most community centres of a GP and a nurse and can be optionally completed with other types of professionals from healthcare and social care. A more detailed description of the community healthcare centres can be found in a recent KCE report.⁹² The data analysis in this KCE report showed that the share of GPs (FTEs) working in solo practices decreased significantly in the period 2012-2022 from 63% of all GPs to 41%. The share of GPs working in a group practice, on the other hand, increased from 27% to 41% in the same period. The share of GPs working in a GP network or a community health centre with capitation payments slightly increased from 6% to 10% and from 4% to 8%, respectively. Also, some regional differences were seen with more GPs working in group practices in Flanders, more GPs were practising solo in Wallonia, and the largest share of

GPs working in a community health centre with capitation payments was found in Brussels. Across all regions the number of community health centres increased significantly with almost a doubling between 2012 and 2023.

Similar to the community healthcare centres, are the group practices in Flanders (*'brede eerstelijnspraktijken'*)^h in which comprehensive care can be provided either in a single location or through a network of cooperating professionals. This type of group practices is still in pilot phase and there is not yet a structural funding foreseen.

Multidisciplinary meetings in primary care are not implemented in the regular reimbursement system of the NIHDI, only on regional level some initiativesⁱ were setup for the remuneration of such multidisciplinary meetings. This type of remuneration is restricted to certain criteria, such as the profile of the patient (e.g. with a certain degree of care or support need); the number of meetings is limited (e.g. only one meeting per year) and administrative steps needed before such a multidisciplinary meeting can be setup. Evaluation reports on the performance of such meetings in primary care could not be retrieved.

^h <https://www.departementzorg.be/nl/brede-eerstelijnspraktijken>

ⁱ <https://www.departementzorg.be/nl/multidisciplinair-overleg>



Pilot and research projects are set up on the implementation of integrated care in primary care.^j Local collaboration platforms have been established to support the organization of integrated care in clinical practice. In Flanders, for example, the region is divided into primary care zones, each covering at least 60,000 inhabitants. Within each zone, integrated care implementation is coordinated by care councils (*zorgraden*). An evaluation is currently underway to identify ways to improve the implementation of integrated care.

In the next chapter several action points have been further investigated and elaborated on interprofessional collaboration.

- **Care coordination**

In the interviews with patient associations and HCPs from CPCs, the lack of care coordination was several times mentioned, not only between HCPs in primary care but also between primary care and CPCs, with loss of information between HCPs, redundant assessments, and lack of a comprehensive approach in care management. Patient associations highlighted that individuals with chronic pain are often in a vulnerable position. Their health condition, combined with social isolation and limited familiarity with digital health tools, reinforces this isolation and reduces their ability to act as coordinators of their own care plan.

Currently some initiatives are set up to improve the care coordination, with the most known example of case managers. This type of care coordination is further investigated in the next chapter and a KCE report will be published in winter 2026 on the evaluation of this type of coordination function.

Some digital communication tools, such as Mysanté.be, BelRAI were cited in the interviews, but the interviewees reported mainly struggles with these tools, such as lack of conformity between the different tools, lack of user-friendliness in the application of these tools in clinical practice, and the administrative burden.

4.4.4.3 *Organisational barriers related to BPS management in specialised care*

In Belgium, patients have free choice of healthcare professionals and can access directly both specialist and hospital care.⁹³ This section focuses on the organisation of care in CPCs. Other types of specialised care, such as ambulatory and hospital care provided by specialists (e.g. orthopaedics, rheumatologists, etc), pathology-specific consultations, such as in spine units... are not considered in this report.

In the current Belgian landscape, two types of multidisciplinary pain centres (CPC) exists, with on the one hand a selected number of funded CPCs and on the other hand an unrestricted number of non-funded pain centres. In this section 'non-funded' refers solely to the absence of additional federal financing for implementing a BPS approach within a multidisciplinary pain centre. It does not imply lower quality of care in these centres.

Since 2013, 35 centres were selected as multidisciplinary centre for the management of chronic pain (CPC), with 21 in Flanders, 10 in Wallonia and 4 in Brussels.⁸⁸ Under this agreement, each centre receives an annual lump sum through a B4 contract (type of hospital budget), which is renewable on a yearly basis.

These centres were selected out of 63 potential hospital candidates, based on following criteria:

- Previously a reference centre for chronic pain and a number of services from "Forfait 1" or "Forfait 2" in the past 3 years (before 2013).

j

<https://www.departementzorg.be/nl/naar-meer-geintegreerde-zorg-vlaanderen>

- A coordinating physician (anaesthesiologist or specialist in physical medicine, or neurologist or neurosurgeon) with a minimum appointment of 0.75 FTE in the hospital, of which at least 40% is allocated to the centre. This coordinating physician must dedicate at least 0.2 FTE to the coordination of the centre and demonstrate additional training in algology as well as at least 3 years of practical experience in the field of chronic pain. The team consists of at least 3.8 FTE, with the following minimum staffing: 0.80 FTE nurse, 0.80 FTE psychologist, 0.80 FTE physiotherapist, 0.50 FTE social worker, 0.50 FTE occupational therapist
- The hospital has a social service that the CPC can rely on.
- Coordination among different care professionals regarding pain detection and treatment, specifically optimizing the management of chronic pain with the organization of multidisciplinary meetings within the centre.
- These multidisciplinary centres, in addition to the direct treatment of patients with chronic pain and the management of patients with subacute pain at risk of worsening in the medium term due to the presence of “yellow flags”, are also tasked to support algology teams in their own hospital and in surrounding hospitals that do not have an CPC, and to provide the necessary training for this purpose.
- The CPC has its own premises and is a clearly identifiable, unified infrastructure within the hospital. The CPC is open at least 8 half-days per week throughout the year, offers telephone availability, and has 4 hospital beds within the same department exclusively reserved for patients with chronic pain.
- Every year funded CPCs are obliged to submit an activity report and based on these activity reports, an evaluation report covering the reported activities in 2014-2015 was published.⁸⁸ Since then, no evaluation reports are publicly accessible. Presenting the quantitative analyses would be redundant as the data are now outdated. However, certain trends in the results still provide valuable insights into the functioning of the funded CPCs. Both input from the interviews and the data from the evaluation report were used in this section.
- **Organisational issues related to care management in CPCs**

Interviews with patient associations and HCPs from CPC reported that **access to CPCs** is often delayed due to limited awareness and the perception of CPCs as last resort among healthcare professionals resulting in referral hesitation. Also the mandatory referral by physician or specialist restricts the fluent referral of a patient to a CPC. Long waiting lists (6–12 months), geographical inequality in distribution of the centres across Belgium, and pre-selection based on patient readiness, place of residence or pathology further restrict timely care.

Issues related to **care management** include barriers related to assessment, management plan and the coordination within the CPC

- **Assessment issues:** Pain assessment is often inadequate, using a single scale despite multiple pain sites. Full assessments are fragmented across multiple appointments, causing delays and leaving patients without timely follow-up. Initial conclusions (made by previously consulted physicians) are rarely revisited, leading to prolonged misdiagnosis.
- **Rigid care protocols:** Lack of personalized advice and strict adherence to fixed protocols reduce flexibility. Patients often receive insufficient explanations about the care pathway or referrals. Some centres are dominated by a single discipline, limiting the BPS approach.
- The evaluation report⁸⁸ indicates a trend of decreasing individual sessions and increasing group sessions. A variety in practices is seen across the funded CPCs, determined by patient profiles, task delegation to other CPCs in their network, but also differences in the BPS perspective is seen. The centres are free to adapt the BPS approach to local needs, but this hampers the elaboration of a more standardised approach across the different CPCs.



- **Coordination gaps:** Poor internal coordination within CPCs and weak collaboration with primary care lead to fragmented care. Communication with GPs is limited to letters or emails, and multidisciplinary meetings are rare, resulting in fragmented care pathways and poor continuity between primary and CPC care.
- Although the interviews did not explicitly address the development of networks, this remains one of core objectives of CPCs. Therefore, the evaluation report⁸⁸ provides an overview of the evolution of these networks: a variety is seen with some centres collaborating with more than 10 other hospitals, whereas the majority of the centres have a collaboration with 1 or 2 algological teams. Other centres claim also to have set up a collaborative network with other CPCs, constituting a meta-network. These networks were initially used for training but evolved to more organisational activities and open for external partners, such as patient associations, VDAB-GTB, local professional associations of paramedics, etc.
- **Structural challenges:** Non-funded CPCs lack resources for multimodal care and team meetings. Unequal engagement from hospital professionals and absence of a designated contact person further hinder continuity
- **Linguistic barriers:** Patients with insufficient language proficiency—often due to foreign origin—are frequently excluded from CPC care trajectories because educational sessions are offered only in the regional language (Dutch or French). Interpreter services are often required during consultations, adding extra costs for hospitals and creating logistical challenges.

In the evaluation report on CPCs⁸⁸, a reflexion is made on the current (cfr 2014-2015) barriers in the organisation of chronic pain management in CPCs and following barriers and needs were identified related to chronic pain management:

- **Need to increase awareness and education** on pain management, the biopsychosocial (BPS) model, and prevention of chronicity, via training
 - **Need to integrate pain as a quality indicator** in national and international accreditation systems and include pain measurements in electronic health records.
 - **Need to accelerate referral** to appropriate care by improving knowledge of risk factors (e.g. “yellow flags”) and formalizing referral procedures for cases such as repeated back surgery or prolonged work incapacity.
 - **Need to ensure complementarity** with other care models, encouraging collaboration between different actors and integrating multidisciplinary diagnostics with invasive treatments when appropriate.
 - **Need to expand expertise** sharing and aftercare, including rehabilitation services and primary care support, with adequate financing for psychologists, physiotherapy, and complex GP consultations.
 - **Risk to avoid unjustified exclusion** of patient groups based on diagnosis (e.g. fibromyalgia). Specialization within CPCs is acceptable but should not lead to excessive exclusion; coordination within regional networks is recommended.
 - **Need to include patient representation** in hospital networks to safeguard the completeness and accessibility of care offerings.
- **Resource issues related to BPS management in CPCs**

Interviews with patient associations and HCPs from CPCs revealed following resource issues:

 - **Financial issues for patients:** Many patients are reluctant to begin a care trajectory in non-funded CPCs due to the **absence of** financial reimbursement for these services. Additionally, travel to CPCs poses a challenge, as more than half of patients live over 30 kilometres away from the centre.

- **Staffing limitations** significantly reduce the capacity of multidisciplinary pain centres. Many professionals work part-time, limiting the number of patients that can be treated. In funded CPCs, reference salary scales for paramedical staff remain very low, based on junior-level positions without seniority, and have not been updated for over a decade except for a recent indexation that still falls short of the estimated 25-point adjustment needed. There are few full-time equivalents (FTEs), and some centres operate with only one physician. Physicians face high workloads due to the time-intensive nature of consultations. Additionally, there is a shortage of psychologists specialized in chronic pain and Cognitive Behavioral Therapy (CBT).
- According to the evaluation report⁸⁸, some CPCs are under staffed while the majority have hired more personnel than initially planned in the funding allocations. This variation in team composition has been confirmed by the Committee as a point of attention in future evaluations.
- **Insufficient funding:** CPCs face annual financial deficits, leading to staff reductions and pressure to prioritize reimbursable technical acts over multidisciplinary care. Consultations are underfunded (€19 for 45+ minutes), and paramedical services lack sustainable financing. Multidisciplinary consultations are poorly reimbursed and limited to predefined pathologies. CPCs have also requested budget allocations that reflect their case load (patient profiles) and account for local organizational differences.⁸⁸
- **Undervalued intellectual work:** Cognitive and consultative efforts are not adequately recognized in the current fee-for-service model.
- **Training gaps:** Physicians outside the CPCs lack training on the psychological impact of pain and multidisciplinary approaches, while primary care knowledge gaps reduce CPC effectiveness.
- **Quality assurance deficits:** Federal funding of CPCs does not guarantee quality; few centres fully apply the BPS model. The decision-making power of the CPC steering committee is weak, with no budget or mandate for control. Expansion from 9 to 35 centres occurred without robust quality checks.
- **Policy and governance issues:** Chronic pain lacks political priority and a clear vision on the organisation of chronic pain management is lacking, and reforms risk reducing consultation time for complex cases. Non-funded CPCs survive by billing patients directly, threatening interdisciplinary care.
- In the evaluation report on CPCs⁸⁸, a reflexion is made on the current (cfr 2014-2015) barriers in the organisation of chronic pain management in CPCs and following needs were identified related to resource use:
 - The need for more research on evidence-based chronic pain management (the choice of topics can be guided by the yearly activity reports from the CPCs), and on organisational aspects (e.g. forms of collaboration)
 - The need for a continuous monitoring, with PROMs and PREMs
 - The need for a national database with data on quality assurance
 - Also barriers were listed regarding resource use in CPCs⁸⁸:
 - **The current number of CPCs is insufficient** to cover all the eligible patients with a need for specialised pain management (an estimated 8,5% of the Belgian population).
 - The (excessively) long waiting lists and inadequate service provision cannot be resolved if the current organisational models are retained and no additional resources are allocated.



- Because of these issues, care of patients with pain must be supported by primary care facilities and other outpatient services in order to ensure consistent continuity of transmurals and multidisciplinary care. High-quality care for this patient population is only possible within the framework of a transmurals network model. Within this concept of transmurals network model, also regional hospital networks and integrated care models should be considered.

4.4.5 Training and education on chronic pain management

The multimodal management of chronic pain and the BPS approach require many competencies from HCPs such as sufficient knowledge on pain concept, mechanism, assessment and treatment but also appropriate skills, attitudes, beliefs, emotions to be supportive and able to develop a strong relationship and therapeutic alliance with the patient. In both the interviews with the patient associations and the HCPs from CPCs, the lack of training of the HCPs was repeatedly cited. In line with this finding a more detailed description is presented here on the current educational offer for HCPs on chronic pain management and in particular on the BPS approach.

4.4.5.1 Current offer of educational programs on (chronic) pain management

An analysis of the Belgian context revealed significant gaps in training for HCPs on chronic pain management and the biopsychosocial approach (see sheet HCPs training in the [Supplement 3](#)). The search across websites of Belgian educational institutions covered initial education, continuing training, and specialized programs for doctors, nurses, physiotherapists, and psychologists.

Initial training

- Chronic pain is rarely addressed in medical curricula, with only isolated courses (e.g. UCLouvain's "Algology – Chronic Diseases") and limited references in other universities (e.g. management of chronic pain is one of the studied topics but not the focus of the course, or is only considered as a case study for clinical training).
- Nursing programs provide little transparency on pain-related content, making it unclear whether BPS principles are taught.
- Physiotherapy programs most consistently include multimodal and BPS concepts, often under "psychology of pain."
- Psychology curricula cover psychosocial models but not specifically in relation to chronic pain.

Continuing and specialized education

- Doctors and nurses are legally required to pursue continuing education, while physiotherapists and psychologists have only ethical obligations. NIHDl offers financial incentives to nurses and physiotherapists who attend continuing education courses, but these incentives are not topic-specific.
- Specialized programs exist, such as the Inter-University certificate in algology for physicians and pain nurse certifications in Flanders and French-speaking regions.
- Few continuing education opportunities were identified for physiotherapists and psychologists.
- Multidisciplinary initiatives, such as the EBP project^{7, 94} and the Certificate in Multidisciplinary Algology (Haute École Léonard de Vinci), provide structured training for multiple professions.

Overall, while some promising initiatives are in place, chronic pain education in Belgium lacks uniformity, structured implementation, and sufficient emphasis on the BPS approach. Strengthening these areas is essential to improve care quality and foster integrated management strategies.

4.4.5.2 Availability of clinical guidelines on chronic pain management

Clinical guidelines provide systematically developed recommendations based on the best available evidence, expert consensus, and clinical feasibility. They help practitioners make informed decisions about diagnosis, treatment, and follow-up care for chronic pain patients. Guidelines promote consistency in clinical practice by reducing variability in treatment approaches and serve as an educational tool for both initial and ongoing professional training. The development and implementation of a guideline can also be considered as a guarantee for quality assurance within the health system.

In December 2024 a new **Belgian guideline was published on the multimodal management of chronic primary pain**.³⁰ This guideline was developed by the Working Group on the Development of Primary Care Guidelines (WOREL) under the auspices of the NIHDI. This guideline provides a tool to improve quality of care for patients with chronic primary pain, to promote collaboration with secondary care and to improve patient outcomes, such as quality of life, functionality, pain management and professional reintegration. However, pain management in secondary or tertiary care has not been addressed nor for secondary pain.

- The multimodal management, based on the biopsychosocial approach, covers non-pharmacological interventions, such as pain education, physical activity and exercise therapy, stress management and lifestyle interventions, cognitive behavioural therapy, as pharmacological options and interprofessional collaboration.

Several barriers, mentioned in the interviews with patient associations and HCP from CPCs, are addressed in this guideline by formulating clear recommendations how these barriers can be overcome, for example:

- **Underestimation and invisibility of pain symptoms, reluctance to validate chronic pain** (also mentioned as barriers in the HCP perspective on chronic pain management): one of the first recommendations in the guideline emphasises the need to acknowledge the pain the patient describes and to set up a management plan according to the BPS model (taking into account the biological, psychological and social factors). For this comprehensive assessment, a consultation with sufficient time is recommended.
- **Undetermined referral patterns** (in which the patient is unaware of the reason for referral): the guideline recommends to formulate treatment goals, together with the patient (shared decision-making) and that are relevant and achievable for the patient. Also the most appropriate multimodal management should be discussed with the patient.
- **Passive coping strategies and external locus of control**: The guideline recommends to encourage the patient to take responsibility for and actively participate in treatment, also a collaborative and supportive relationship with the patient is considered as important
- **The request of patient for more alternative treatments**: the guideline lists all non-pharmacological interventions with insufficient evidence or effect, so the HCP can easily inform the patient about this lack of scientific evidence nor expert consensus for these interventions.

In the elaboration of the guideline, also some issues related to the implementation in clinical practice were addressed. For example, references to websites of professional organisations of psychologists have been added in order to enable HCPs to easily locate behavioural therapists in their area. The interprofessional collaboration has also been covered in this guideline, by recommending on:

- **The use of a unified and uniform language** within the interprofessional team (e.g. the modified ICF core set for chronic pain)
- **The criteria for referral to specialised care**: when to refer to specialised care, the need for information exchange of relevant patient data between the different care levels



- **The appointment of a care coordinator/care manager** within the primary care team to enhance coordination and to increase the likelihood of seamless interprofessional collaboration.

Other aspects related to the implementation of the guideline in clinical practice were:

- **The need for knowledge transfer** between the care levels and in particular for the management of complex pain cases
- It is advisable to organise **periodic training sessions and/or consultation meetings** with the primary care professionals involved in order to facilitate cooperation.
- It is advisable to provide **adequate funding** in Belgium for all primary care professions involved in the care of patients with chronic primary pain (including occupational therapy, physiotherapy and psychology).
- It is advisable to **eliminate the long waiting lists for psychotherapy** within the agreed primary psychological care system, specifically for patients with chronic primary pain.
- It is advisable to provide a chronic primary pain **care pathway** in Belgium that streamlines cooperation between primary, secondary and tertiary care (including the exchange of relevant patient data).

Currently no new developed or updated guideline is available on multimodal pain management in specialised care or covering also other types of chronic pain.

4.4.5.3 *Interdisciplinary training program*

Recently an interdisciplinary training program about chronic pain was developed and tested in a group of medical doctors, nurses, psychologists, physiotherapists, occupational therapists, dentists and pharmacists.⁷ The training consisted on two e-learning modules (approximately one hour per session) and two face-to-face workshops (7 hours per workshop). The training program aimed to improve HCPs competencies for integrating biopsychosocial chronic pain management with a cognitive behavioural approach into clinical practice. The e-learning modules provided theoretical basis to the participants and maximised the time for interactions and skills training during the workshops. The two workshops - in interdisciplinary groups - were designed to focus on skill training and practical implementation of the biopsychosocial model and improved communication techniques and pain science education for a cognitive behavioural approach in clinical practice because this is applicable and essential to all HCPs. A variety of educational methods was used (e.g. interactive lesson, video material, local opinion leaders, clinical reasoning training, etc.) and during the workshops interdisciplinary collaborative exercises were applied to facilitate uniformity in communication and chronic pain management approach, and improved collaboration in clinical practice. Patient materials were developed to support the participants for the integration of BSP model in clinical practice. The training was provided by a pair of teachers: one experienced in teaching and familiar with chronic pain and the BPS model, the other knew the local context and could tailor the training program to the local context (e.g. sociocultural diversity of the patients in a geographic area).

The participants who completed the full training program (n=405 participants) were used for analysis. The results show that the majority of the participants were GP or physiotherapist, but also psychologists, nurses, occupational therapists and pharmacists participated. Only dentists refused to participate. More than the half of the participants worked already in a multidisciplinary team.

After completion of the full training program, a significant improvement was seen in knowledge and attitude of the HCPs towards the BPS approach: a high level of BPS knowledge and support for non-pharmacological interventions, also acting in line with guideline recommendations was increased and the participants were also satisfied during and after the training program. The authors concluded that such an interdisciplinary training program has a positive impact across all types of HCPs.

Achieving long-term improvements in chronic pain management requires structural changes that address barriers to implementation, such as insufficient organizational or financial support,

inconsistencies in interdisciplinary collaboration, and the persistence of a predominantly biomedical approach among some professionals.

4.4.5.4 Professional competences: algology

Interviewees pointed out that existing training programs, such as the inter-university certificate and European initiatives, emphasize the biopsychosocial model but only provide certificates rather than diplomas. To address this gap, a non-discipline-specific algologist role should be created, open to various professionals (e.g. physical medicine doctors, nurses). The focus of algologists should be on diagnosis and referral rather than mastering all interventional techniques.

Additionally the interviewees mentioned the need to establish a distinct professional status for algologists that is not tied to billing codes for technical interventions. Recognition should be based on expertise in chronic pain management rather than procedural skills. Currently, recognition is hindered by performance-based medicine and internal disagreements among anaesthesiologists regarding the role and scope of algologists.

In 2014, the Council of Physician-Specialists and General Practitioners considered the need for a professional qualification in algology but issued a negative opinion.⁹⁵ The decision was based on several arguments: the proposed role was described primarily as a coordinator function, which did not align with the scope of a qualification title; training and recognition criteria were not clearly defined; and it was deemed that all healthcare professionals should receive adequate pain management training. The Council concluded that creating a new qualification would not resolve the existing knowledge gaps in pain management.

Nevertheless this negative advice, the discussions are ongoing within the professional associations of physicians, and no consensus has been achieved on the specific roles for this type of HCP.

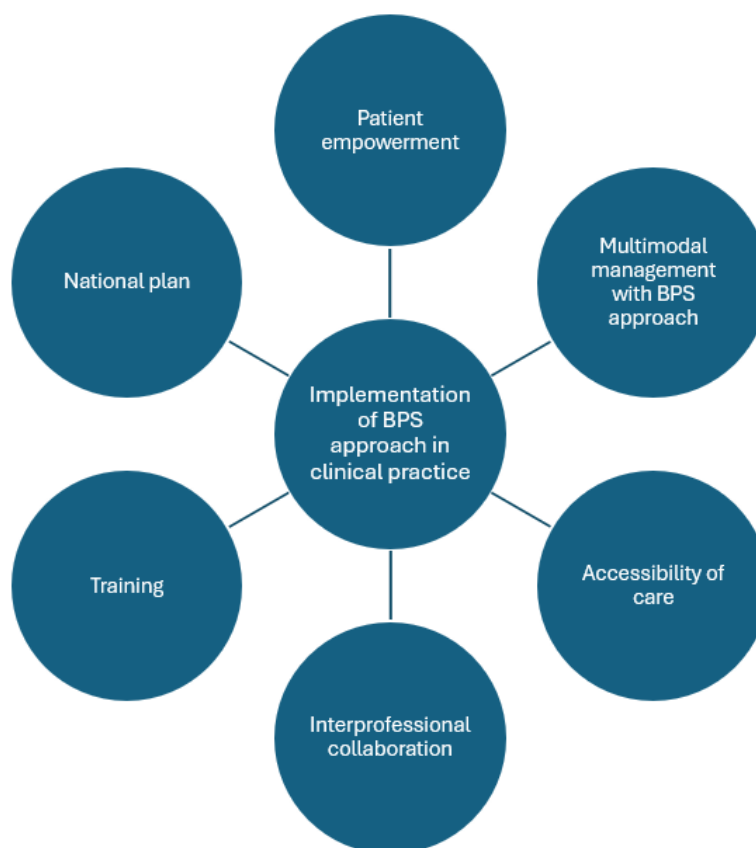
4.4.6 Proposed interventions to improve the implementation of the BPS approach in Belgian clinical practice

Interviews with patient associations and healthcare professionals from CPCs identified several action points considered essential for improving chronic pain management in Belgium. In addition to these action points, interviewees were asked to outline their policy priorities. This section provides an overview of the reported action points and priorities, complemented by recommendations drawn from other sources, including published Belgian reports. These inputs served as a foundation for the further development of action points presented in the following chapters. No filtering was applied based on feasibility or acceptability; all reported action points and priorities are listed to ensure a comprehensive view of stakeholder perspectives.

An overview of the suggested action domains is presented in Figure 5.



Figure 5 – Schematic overview of suggested action domains



The following action domains outline the key action points identified by the patient associations and HCPs from CPCs for improving chronic pain management (see Table 4). They encompass measures to empower patients, strengthen biopsychosocial care pathways, enhance accessibility, foster multidisciplinary collaboration, and build capacity through training and public awareness. In addition, system-level actions such as establishing a national registry, formal recognition of chronic pain as a chronic health condition, and the development of an organizational chronic care model are essential to ensure sustainable and coordinated care.

Table 4 – Overview of reported action points per action domain

Action domain	Reported action points
<i>Patient empowerment</i>	• Language proficiency • Peer and family support • Shared-decision making
<i>BPS management</i>	• Development of a care pathway, including ○ Patient education ○ Adaptation of exercise programs ○ Expansion of psychological care ○ Integration of psychosocial check-ups ○ Strengthening of RTW pathways
<i>Accessibility</i>	• Financial accessibility • Availability of care services in primary care and in CPCs

	• Increase in staffing
<i>Multidisciplinary collaboration</i>	• Multidisciplinary composition of the care team • Multidisciplinary meetings • Care coordination • Interprofessional collaboration
<i>Training</i>	• Training for HCPs • Awareness in general public
<i>National strategy</i>	• Registry • Recognition of chronic pain as a distinct chronic health condition • Need for an organizational chronic care model

4.4.6.1 Patient empowerment

The interviews with patient associations and HCPs from CPCs highlighted several strategies to improve patient engagement and support within the biopsychosocial (BPS) approach for chronic pain management. These solutions focus on language proficiency, peer and family support, and shared decision-making.

- **Language Proficiency**

Patients should be supported and encouraged to acquire a basic knowledge of the national language (French or Dutch). This facilitates communication with healthcare professionals and improves access to care services (in particular the educational sessions in CPCs).

- **Peer and Family Support**

Peer support plays a critical role in this process by fostering a sense of community and shared experience. To achieve this, a variety of support formats should be offered, tailored to patient preferences. These include remote support groups conducted via platforms such as Microsoft Teams, moderated social media spaces that enable dynamic exchanges and testimonials, and individual sessions for those who may feel uncomfortable in group settings.

Strengthening patient associations is essential to ensure sustainable peer support structures. These associations can serve as hubs for information, mutual aid (e.g. partnership between associations, peer patient groups ('pairs aidants')), and family involvement through organized meetings and resource centres. Furthermore, patient-expert programs, such as those coordinated by PEC and LUSS, should receive financial support, as these roles are currently voluntary and require recognition for their contribution. In addition, the creation of a national chronic pain association could unify efforts across the country. LUSS has expressed willingness to facilitate this initiative, making it a promising avenue for coordinated action.

Family support is considered by the patient associations and the interviewed HCPs as equally important, as relatives and carers often play a central role in the patient's daily life and care. Dedicated support groups for spouses can help them better understand the patient's experience and encourage positive behavioral changes that improve family dynamics. Informing and educating families and colleagues about chronic pain is also crucial. This can be achieved through CPCs and dedicated spaces for relatives, as well as through information sessions that explain pain mechanisms in accessible terms, fostering empathy and constructive support.

Carers should be recognized and supported at the societal level, with resources provided to help them fulfil their role effectively. Financial support from sickness funds should also be considered for family meetings, including reimbursement for psychologists' consultation time within care pathways. These measures would not only alleviate the burden on families but also contribute to better patient outcomes.



- Shared Decision-Making

Integrating shared decision-making into care pathways is essential for empowering patients and improving adherence to treatment plans. This approach involves actively engaging patients in setting goals and managing expectations, ensuring that care decisions reflect their values and preferences.

4.4.6.2 BPS management

To improve chronic pain management and ensure effective implementation of the biopsychosocial approach, patient associations and HCPs from CPCs identified a series of action points supported by practical solutions. These recommendations aim to enhance care pathways, strengthen patient education, improve access to information, and integrate physical, psychological, and social components into treatment plans. They also address systemic challenges such as reintegration into work and the need for multidisciplinary collaboration.

Implementing these solutions requires coordinated efforts across healthcare, social services, and policy frameworks. By addressing both clinical and systemic barriers, these recommendations aim to improve patient outcomes, reduce societal costs, and foster a more inclusive and supportive environment for individuals living with chronic pain.

- Care Pathway

It is proposed to develop and implement a chronic pain care pathway designed to prevent functional loss, promote early recovery, and avoid over-medicalization. Key elements include a multidisciplinary and comprehensive approach, integration of physical and psychological care, structured evaluations (including pain evaluation, psychological consultation, multidisciplinary meetings and a designated referral physician), and clear patient communication (on the pathway and the purposes of each referral). The pathway should follow a stepped care model, starting in primary care and escalating to specialized services (CPCs) when necessary, with provisions for step-down transitions. To support this approach, it is essential to foster a shared vision and consistent knowledge base among primary care professionals. For patients presenting with complex needs or high-risk profiles, multimodal interventions should be initiated earlier in the care pathway to prevent chronicity and improve outcomes. Patient engagement within CPCs should be actively encouraged, with participation linked to clearly defined clinical conditions to ensure appropriate referral. Transitional care models should also be integrated, incorporating pre-operative risk assessments - such as screening for opioid use- to guide perioperative management and identify risks for persistent pain at an early stage. Operational efficiency within CPCs can be improved by assigning a dedicated administrative coordinator responsible for scheduling and familiar with the expertise of each professional.

One interviewee questioned the role of CPCs as the final step in the care pathway and advocated for their earlier involvement—potentially serving as a triage point before initiating pain management.

Finally, care should be organized as locally as possible, supported by adequate tools and expertise in primary care settings (cfr. low back pain pathway).

International best practices (e.g. Sweden, Netherlands, UK, Germany) demonstrate the value of structured pathways in reducing unnecessary interventions and improving outcomes

- BPS components: patient education

Patients should be encouraged and supported to become increasingly proactive, arriving better informed and prepared for consultations, able to clearly express their pain concerns, as well as informed about the treatment options and actively engaged in dialogue with the HCPs.

Patient education is therefore central to improving self-management and treatment adherence. Recommendations include introducing patient associations to the BPS model through accessible

formats, training patient ambassadors (similar to MS ambassadors), and offering structured education programs such as psychoeducational workshops (see below ‘psychological support’). These initiatives should cover pain mechanisms, lifestyle adjustments, and coping strategies, while maintaining clear boundaries between evidence-based care and complementary practices (e.g. essential oils, sophrology, etc). Regarding these complementary practices, the interviewed patient associations repeated several times the need to retrieve accurate information about the evidence behind these practices.

Improving access to information is essential for patient empowerment. Suggested measures include creating helplines or orientation platforms, organizing large-scale information sessions (similar to maternity classes), developing simple, accessible tools with clear, understandable information (e.g. videos, app), and funding patient associations to produce targeted educational content. Media campaigns (e.g. to raise awareness about reintegration and coping strategies) and digital health solutions (with a personalized approach) should complement these efforts.

- **BPS components: physical activity**

Two interventions are proposed for increasing the physical activity: To promote safe and supervised physical activity through physiotherapy centres, community-based programs, and hospital-based movement centres; to adapt “exercise on prescription” programs to address fear of movement and encourage adherence.

- **BPS components: psychological support**

In order to expand access to (home-based) psychological care, it is proposed to deploy mobile mental health teams, reimburse family consultations, and ensure the availability of specialized pain psychologists in both primary care and CPCs.

An example of psychoeducational workshops was also described by one of the CPCs: The program includes structured psychoeducational workshops designed for small groups of approximately eight patients. Participation is contingent upon completion of an initial individual psychology session (cost: €50), ensuring that patients are adequately prepared for group work. Each workshop is co-facilitated by two professionals: either an occupational therapist and a psychologist (both salaried) or an occupational therapist and a physiotherapist, with the latter receiving a K20 fee plus €20 per workshop. Sessions last two hours and cover key topics such as emotional regulation, understanding the pain system, physical activity, relaxation and sophrology techniques, and nutrition. The program runs over seven weeks, with one session per week. While no formal outcome evaluation has been conducted, patient self-assessments consistently indicate high levels of satisfaction and perceived benefit. However, the main challenge remains a shortage of staff, which limits the centre’s capacity to accommodate all patients who could benefit from this intervention.

- **BPS components: social support**

Three propositions were formulated for this issue: To integrate social workers into care planning; To include regular psychosocial check-ups in care pathways to improve continuity (e.g. improvement in information flow); To organise early identification of patients in need for referral to more specialised care.

- **BPS components: professional reintegration**

Reintegration into the workforce remains a major challenge. Proposed solutions include individualized return-to-work plans prioritizing functional capacity and tailored solutions, job coaching models, simplified administrative procedures, and public awareness campaigns (on the reintegration of chronic pain patients into workforce). Career reorientation support is also critical. Patients should have access to reskilling and upskilling programs, as well as personalized guidance to facilitate transitions into adapted roles or new positions. Eligibility for return-to-work (RTW) incentives should be broadened to include these adapted roles, thereby encouraging



employers to create sustainable employment opportunities. Occupational health services ('*arbeidsgeneeskunde*' - '*médecine du travail*') must be fully integrated into RTW planning to ensure alignment between medical recommendations and workplace realities.

Innovative job coaching models, such as those developed in the Rheumanet program, should be extended to chronic pain populations. These models combine multidisciplinary expertise with psychological and social assessments, offering comprehensive support for reintegration. For individuals unable to return to paid employment, meaningful volunteering opportunities should be promoted, accompanied by appropriate guidance.

Administrative procedures for workplace reintegration should be simplified, with additional support for patients who have low digital literacy. Medical assessments must be conducted by multidisciplinary teams, and reports should undergo thorough review. In Belgium, physicians are expected to assess functional work capacity, yet they currently lack the ability to visit workplaces or accurately evaluate potential job adjustments—highlighting a structural gap that needs to be addressed. Also according to the interviewees, existing initiatives, such as the “Back to Work” project (one day per week), have shown limited success in restoring functional capacity for most patients. A more comprehensive and structured reintegration process with conditional measures that encourage societal and work engagement should be considered.

Structural reforms should recognize chronic pain as a condition requiring workplace accommodations and coordinated support across sectors. Additionally, in one of the interviews was suggested that the *Agence pour une Vie de Qualité* (AVIQ) should play a greater role in coordinating and supporting return-to-work initiatives.

4.4.6.3 Accessibility

The interviews with patient associations and HCPs from CPCs identified several actionable strategies to improve the accessibility to chronic pain management. These proposed solutions address three key areas: improving financial accessibility at both the patient and system levels, ensuring the availability of care services in primary and specialized settings, and securing adequate staffing to meet the organizational requirements of chronic pain management.

- **Financial Accessibility**

- At the patient level, several measures are proposed to reduce financial barriers to care. Introducing a personal care budget for each patient would allow the creation of personalized care packages and facilitate informed discussions about available options. The development of a care pathway fully integrating the biopsychosocial approach is also recommended. Psychological care should be made more affordable, as current costs (approximately €50 per session) often exceed patients' financial capacity, despite the need for ongoing support.

Additional measures include implementing financial co-responsibility by requiring patients to contribute to consultations within CPCs, and introducing a small co-payment for paramedical consultations—though this option faces legal constraints and must consider maximum billing thresholds (MAF). A social worker could assist patients in navigating costs and available financial support mechanisms.

- At the system level, improved funding is essential to reduce pressure on healthcare professionals and ensure adequate resources. This includes increasing the number of psychologists specialized in chronic pain and cognitive-behavioral therapy (CBT) in both primary care and CPCs, expanding reimbursement for psychological care, and providing additional funding for CPCs, including support for intervention activities in primary care. Budget allocation should be stratified based on the severity of patient complaints to ensure efficient resource use.

- **Availability of Care Services**

- Consultation time in primary care should be extended, particularly for chronic pain patients, to allow for comprehensive assessment and education on the BPS approach. Primary care professionals must be equipped to manage chronic pain effectively and deliver secondary prevention during the subacute phase.
- Availability of CPCs must also be addressed. Expanding the number of funded CPCs would improve financial accessibility for patients. CPC services should be broadened to include reimbursable wellness interventions, reducing reliance on unsafe alternative practices. Future structural reforms may involve transitioning from large CPCs to smaller, specialized centres with high-level expertise. In the long term, large CPCs could be phased out, retaining only small expert centres. CPCs should evolve into facilitators of primary care networks, providing support for complex cases and actively training primary care professionals in the field. A reassessment of the functioning, funding, and missions of funded pain centres is necessary, including audits of recent reports sent to primary care and on-site evaluations.
- Innovative models, such as integrated primary care approach, should be promoted. Some projects involve larger primary care practices incorporating psychology and physiotherapy, with pain specialists acting as consultants and CPC representatives visiting group practices to organize multidisciplinary meetings (e.g. “LAC-mobile”).

- **Staffing**

- To meet growing demand, the number of psychologists specialized in chronic pain and CBT must be increased in both primary care and CPCs. Psychiatrists should be more involved in care, although this remains challenging due to patient reluctance and logistical barriers to direct interaction between teams and psychiatrists.
- Furthermore, the role of pain experts by experience should be reintroduced in every CPC to enhance patient engagement, listening, and information sharing, including awareness of patient rights.
- Additionally, a non-discipline-specific algologist role should be created, based on knowledge rather than technical skills. This role should be open to various professionals (e.g. physical medicine physicians, nurses) and focus on diagnosis and referral rather than mastering all interventional techniques.

4.4.6.4 *Multidisciplinary collaboration*

The interviews with patient associations and HCPs from CPCs identified several actionable strategies to overcome barriers in implementing the biopsychosocial (BPS) approach for chronic pain management. These solutions span multiple action points within the action domain on ‘multidisciplinary collaboration’, including team composition, meetings and co-consultations, care coordination, and interprofessional collaboration.

- **Multidisciplinary composition of the care team**

Two solutions are proposed:

- Encourage general practitioners to work in group practices that integrate psychologists and complementary therapies (e.g. yoga, Pilates, acupuncture). This approach improves accessibility and reduces stigma associated with psychological care. In line with the suggestion of group practices, an initiative was mentioned in which larger primary care practices integrated psychology and physiotherapy, with pain specialists serving as consultants. CPC representatives visit these group practices to organize multidisciplinary meetings (e.g. “LAC-mobile”).
- Establish an intermediate service between physical medicine and CPCs to provide secondary prevention and early relief during the subacute stage.



- **Multidisciplinary meetings**

Three solutions are proposed:

- Promote integrated consultations involving multiple professionals together with the patient and their family to ensure comprehensive care.
- Co-consultations between GPs, psychotherapists, and physiotherapists should be established to enhance understanding of specific health conditions and validate patients' experiences (e.g. recognizing the psychotherapist's role in managing migraines).
- Secure financial support for multidisciplinary consultations (in CPCs) for complex cases (e.g. Münchhausen syndrome), which require coordinated expertise within CPCs.

- **Care coordination**

Four solutions are proposed:

- Introduce dedicated coordinators to inform families, connect patients with their social environment, and assist isolated individuals in finding trusted support. Care coordination should be available for patients who need it.
- Existing NIHD-funded pilot projects on case managers should be extended to other chronic conditions (e.g. Lyme disease, fibromyalgia) and chronic pain management.
- Shared patient records and digital tools (e.g. MySant ) should be implemented, with dedicated time for professionals to update and consult them.
- Care coordinators should be embedded within primary care zones, familiar with the local care landscape, and able to refer patients appropriately. This role could be filled by a pain nurse in a group practice or a local coordinator per zone. Local authorities should also promote awareness of care coordinators among patients. Importantly, coordination should not become an additional barrier—direct referrals must remain possible.

- **Interprofessional Collaboration**

- Shared communication tools are essential. This includes enabling shared patient records and improving the use of digital platforms such as MySant . CPCs should complement detailed written reports (including multidisciplinary meeting minutes and individual evaluations) with direct phone calls to GPs, ensuring timely information exchange. A unified record system, similar to BelRai, should be implemented at the national level, accessible to all professionals (including paramedics) and integrated with regional and hospital IT systems.
- General practitioners should be considered as key actors in applying the BPS model and guiding referrals to appropriate services.
- Risk stratification for chronicity should be strengthened through early identification, such as training administrative staff to identify at-risk patients and reserving time slots for fast-tracking pre-chronic cases (e.g. those at risk of complex regional pain syndrome). Preoperative contacts with surgeons should be established for high-risk patients based on surgery type, age, and medical history.
Tools should be provided to facilitate the identification of chronification risk factors.
- Regular psychosocial check-ups with a psychologist and social worker should be integrated into care pathways, even for patients already in therapy, to maintain contact, improve information flow, and enable early referral to CPCs when needed. Finally, all healthcare professionals should be made aware of the importance of avoiding iatrogenic messages (e.g. "It's abnormal to have pain three weeks after surgery").

4.4.6.5 Training

The interviews with patient associations and HCPs from CPCs identified key action points aimed at strengthening professional competencies and fostering a culture of collaboration. It emphasizes the need for equipping HCPs with both technical knowledge (through regular, structured education programs on chronic pain, interprofessional training and continuous learning) and attitudinal skills, such as empathy, active listening, and shared decision-making. Additionally, raising public awareness about chronic pain and invisible illnesses through targeted campaigns and early health education is essential to reduce stigma and promote understanding.

- **Training for HCPs**

- Attitudinal skills

Training programs should not only focus on clinical knowledge but also on attitudinal skills, such as demonstrating empathy and validating patients' experiences. GPs should receive specific training in active listening and shared decision-making to strengthen patient engagement and trust.

- Education programs for HCPs

Regular training sessions on chronic pain and the biopsychosocial (BPS) approach should be organized for all healthcare professionals, with particular emphasis on psychologists. GPs should be trained to refer patients early to CPCs when initial treatments fail.

Basic and ongoing training must go beyond theoretical content, incorporating positive reinforcement through peer supervision (e.g. monthly sessions). Training should be scheduled at an appropriate stage in the curriculum—neither too early nor too late—and favour interactive small-group discussions over large lectures.

For example, at ISEI, third-year nursing students participate in a pain-focused day led by the multidisciplinary team at St-Luc, including afternoon workshops to discuss complex cases from internships.

- Interprofessional Education

Collaboration and role clarity across disciplines should be taught during initial training. Multidisciplinary managers could serve as trainers or facilitators, acting as local champions. A mobile team of trainers should be created, as there is no single effective model. CPCs should also take on an educational role by supporting and training primary care professionals.

- **Awareness in the General Public**

Public awareness about chronic pain and invisible illnesses must be increased through education and targeted campaigns. These campaigns should use multiple media channels to inform the general population and promote understanding of the BPS model among both patients and healthcare professionals.

Health education should start early, including in schools, to foster awareness of patients' life trajectories and the impact of chronic pain on daily living.



4.4.6.6 National strategy

The interviews with patient associations and HCPs from CPCs highlighted three key actions for systemic improvement: the creation of a national chronic pain registry, formal recognition of chronic pain as a distinct health condition, and the development of a comprehensive organizational model for chronic pain management. These reforms must be accompanied by a broader shift away from billing-code-driven medicine toward integrated, patient-centred care.

- **Registry**

To inform policy decisions and strengthen advocacy, it is essential to calculate the societal cost of chronic pain, including accurate and detailed data on work-related impacts. Establishing a national chronic pain registry would provide robust epidemiological data, document the true scale of the problem in Belgium, and serve as a foundation for research and evidence-based planning.

- **Recognition of chronic pain as a distinct health condition**

Chronic pain—particularly conditions such as fibromyalgia—should be officially recognized as a distinct health condition, including cases of undiagnosed pain within the “grey zone.” Recognition at both societal and policy levels is critical to legitimizing the condition and improving access to care.

A specific legal status for chronic pain patients should be created, independent of the underlying diagnosis, to ensure uniform reimbursement and equitable access to services.

- **Need for an organizational model for chronic pain**

A structured organizational model is required to improve care delivery. This includes:

- Strengthening primary care capacity to reduce dependency on CPCs.
- Defining tertiary care needs, including clear criteria for referral to third-line care, estimating the number of patients requiring such services, and determining the appropriate number of specialized centres.
- At the macro level, a broader perspective on healthcare organization is needed: and four interventions are proposed
 - Avoid the dominance of billing-code-driven medicine.
 - Integrate chronic pain management into a comprehensive healthcare strategy, rather than isolating it as a separate entity.
 - Move away from a “repair medicine” model that traps patients in repetitive care trajectories (e.g. obesity, billing-code-based care).
 - Ensure chronic pain projects transcend current structural and financial boundaries.

Budgeting should be based on stratifying complaint severity to allocate resources appropriately. A more accurate referral pattern and a capped financing system should be implemented to ensure sustainability.

4.4.7 Proposed policy priorities

During the interviews with patient organizations and healthcare professionals from CPCs, participants were asked a final question: “If you were the Minister of Health, which measures would you prioritize implementing?” Each participant provided their policy priorities. In this section, these priorities are grouped by overarching domains and presented in random order (no ranking was asked to the interviewees). Unlike the previous section, where responses from patient organizations and CPCs were combined, two separate tables are presented here to highlight the distinct perspectives and visions for improving chronic pain management: see Table 5 for the policy priorities reported by the patient associations, and Table 6 for the policy priorities reported by the HCPs in the CPCs. In line

with the action points, reported in previous section, no selection was made and these priorities served as input for the further elaboration of the action points in following chapters.

Table 5 – Overview of policy priorities, reported by the patient associations

<i>Policy priority</i>	Reported political actions
<i>Prevention</i>	Increase focus on prevention ○ Launch awareness campaigns to encourage physical activity (starting in schools), societal prevention strategies, and healthy lifestyle habits.
<i>Patient empowerment</i>	• Ensure that each patient's needs are heard and respected, allowing them to choose the most suitable care options without being constrained by rigid criteria or standardized checklists ○ Establish quality criteria for healthcare professionals to guarantee the delivery of patient-centred care • Acknowledge the valuable knowledge patient associations bring to policy development and provide them with financial and institutional support ○ Attend conferences organized by patient associations when invited as a policymaker. ○ Consider the impact on patients people before making political decisions. ○ Include patients in the development of clinical guidelines. ○ Increase recognition of patient associations' roles, including volunteer compensation, to enhance their visibility and sustainability.
<i>Recognition of pain</i>	Recognize chronic pain as a distinct health condition to improve patient care, advance research, and address pain conditions without formal diagnoses.
<i>Financing</i>	Provide adequate financial resources ○ Ensure sufficient funding for the healthcare system to better support patients ○ Reallocate financial resources to strengthen CPCs
<i>Professional reintegration</i>	Involve employers and occupational physicians: ○ encourage employers to comply with standards on working hours and overtime to reduce workload. ○ Provide better support for sick employees and offer alternative roles when necessary.
<i>Research</i>	Launch a research project involving healthcare professionals, researchers, and patient associations to create a strong evidence base for progress, including defining the necessary budget: • Bring together university rectors to raise awareness of the issue. • Build on existing work, such as the KCE study, which already provides part of the solution.



Table 6 – Overview of policy priorities, reported by the HCPs from CPCs

Policy priority	Reported political actions
<i>Prevention and life-style</i>	• Address the impact of mental health early in life to reduce risk factors ◦ Establish prevention clinics • Encourage coping strategies and healthy movement habits. ◦ Major awareness campaigns (e.g. “Until we’re in the six-sided box, we keep moving!”). ◦ Free sports for everyone and direct access for sports clubs in schools (to avoid “parent-dependent” transportation). ◦ Include lifestyle factors and coping strategies in prevention programs
<i>(patient) Education and training for HCPs</i>	• Expand chronic pain education starting from secondary school • Make chronic pain management more appealing to healthcare professionals (and in particular all primary care professionals). ◦ Develop multidisciplinary and interprofessional education programs (to clarify roles and foster collaboration) ◦ Include pain management courses in GP training ◦ Postgraduate program in algology (open to other HCPs).
<i>Care pathways</i>	• Create primary care pathways to avoid unnecessary referrals and to reduce appointment delays. • Position GPs as key actors in risk identification and referral. • Build capacity in primary care to manage treatments currently handled by CPCs • Expand primary care psychological services ◦ Improve accessibility to psychologists (with better reimbursement) ◦ address knowledge gaps among peripheral psychologists • Integrate occupational medicine into a multimodal approach
<i>Financing and system reform</i>	• Need for a financing reform. ◦ Provide adequate financial resources ◦ Shift to care program-based funding to support integrated and multidisciplinary approaches ◦ Reallocate financial resources to strengthen CPCs.
<i>Quality and data systems</i>	• Improve tracking and accountability in chronic pain care management ◦ Create quality registries and indicators for chronic pain.
<i>Professional reintegration</i>	Facilitate return-to-work pathways and reduce systemic barriers ◦ Promote part-time work, telework, and progressive reintegration. ◦ Create working groups between insurers, employers, and organisations (such as FOREM). Integrate occupational medicine into a multimodal approach ◦ Improve professional knowledge on disability and progressive return-to-work strategies. ◦ Create more coherent systems across sectors (education, government). ◦ Increase public and institutional support for reintegration by changing the mindset and breaking stereotypes like “<i>you have to wait until the patient gets better to return to work</i>”
<i>Role of CPCs</i>	Review the role of CPCs: complex cases • Position CPCs as coordinators for complex cases Review the role of CPCs: knowledge-sharing

	• CPC should act as knowledge-sharing hubs (i.e. coordinator of a primary care network) ○ Start with multidisciplinary teams offering integrated monthly consultations in the field (knowledge sharing). ○ Create a local network on a voluntary basis (e.g. community health centres with healthcare professionals, home helpers, pharmacists collaborating in a neighbourhood, as proposed by Ri De Ridder in his book <i>"Au chevet de nos soins de santé"</i>). Review the funding procedure for CPCs ○ Evaluate currently funded centres (check how patients are actually managed and whether the entire team is truly trained in pain). ○ Review recognition criteria and allow other centres to be funded.
Community engagement	Reduce patient isolation and strengthen social networks. ○ Support local networks and community health centres. ○ Finance participatory initiatives (e.g. solidarity-based restaurants, workshops (e.g. nutrition, gardening as social activity, lifestyle and hygiene, creative activities)).
Policy and societal change	Integrate health considerations across all ministries ○ Include health representatives in every ministry. ○ Ensure BPS approach and interdisciplinarity in all policies. Reduce societal stressors ○ Promote a less anxiety-inducing society (e.g. the announcement about reintegrating long-term sick people into work is an example of a message that shocks and scares chronic pain patients). ○ Explain that the "bio" in the BPS model has changed: it no longer refers to the peripheral nervous system of acute pain (and localized lesion treatment) but to neuroplasticity and sensitisation of the central nervous system. <i>For depression, there is an interesting slogan: "It's in the brain, not in the head!"</i> ○ Promote public awareness initiatives (e.g. exhibitions, "Pain Walk").

4.5 Discussion

4.5.1 Transversal analysis of barriers and proposed potential interventions in Belgian clinical practice

Interviews with patient organizations and healthcare professionals (HCPs) from chronic pain centres (CPCs) revealed a wide range of barriers and potential solutions for implementing chronic pain management using a biopsychosocial (BPS) approach. Input included specific issues related to the BPS approach, such as the limited availability of psychologists in primary care, which restricts access to psychological support, and the lack of coordinated care, which hinders the development of comprehensive management plans. Interviewees also provided broader perspectives on the current care offer. For example, CPC professionals identified organizational barriers in primary care and explored underlying causes, such as delayed referrals to CPCs due to limited awareness in HCPs about the role of CPCs or gaps in initial HCP training. Similarly, patient organizations offered a more systemic view, highlighting how healthcare structures could be improved to support multimodal management within a BPS framework.

In Table 7 a linkage is made between domains of barriers and which solutions could potentially address these barriers. This table can be interpreted in two ways: reading horizontally shows which solutions address each barrier domain, while reading vertically illustrates the impact of a single



solution across multiple barrier domains. This is only a try-out and this will be further elaborated in the following chapters.

Table 7 – Explorative exercise on how action domains can have an impact on the reported barriers

Domain of barriers	Patient empowerment	Care pathway	Availability of care services	Multidisciplinary collaboration	Training	Policy reform
<i>At patient level</i>						
<i>Patient's attitude</i>	✓					✓
<i>Financial and administrative constraints</i>		✓	✓			✓
<i>Lack of social support</i>	✓					
<i>Lack of care coordination</i>		✓		✓	✓	
<i>At HCP - care service level</i>						
<i>HCP's attitude</i>					✓	
<i>Lack of knowledge</i>					✓	
<i>Lack of time</i>						✓
<i>Lack of care coordination</i>		✓		✓	✓	
<i>Financial constraints</i>						✓
<i>Insufficient access</i>		✓	✓			✓

4.5.2 Limitations

The analysis of barriers and solutions for implementing multimodal management with a biopsychosocial (BPS) approach was often complicated by the interdependence of different barriers, making it difficult to classify them into distinct categories. Significant overlap exists, and in many cases, cause and effect cannot be clearly distinguished. In the analysis of the different interviews, a structural approach was applied in which the barriers related to BPS management were analysed from different perspectives, i.e. from the point of view of the patient, the HCP and from organisational point of view (across primary and specialised care). However, interviewees spoke freely (guided by a semi-structured interview guide) and categorisation of their answers was often hampered by more detailed background information. For example when a patient representative spoke about a certain barrier, the level of care or the type of HCP was not always detailed. In the analysis the results are presented as close as possible to the citations, in order to avoid over-interpretation of the results, and if available, comparison was made with other sources of data.

Representatives from patient associations and healthcare professionals from CPCs provided valuable insights into perceived barriers to implementing chronic pain management using a biopsychosocial approach. Despite the limited number of site visits, a variety of (organisational) characteristics of COCs

was found. In addition, a high degree of saturation in barriers and solutions related to the current BPS management, across all care levels, was obtained. Even in the well-known CPCs, often cited as reference or champion centres, similar findings were reported in line with the other CPCs. Furthermore, in the final phase of this project, a survey was sent to all stakeholders, including many CPCs. Therefore it could be stated that the point of view of CPCs are both consulted during the site visits and through the survey as two entry points. This merge of these two entry points served also to avoid the potential selection bias, by only visiting a restricted number of CPCs.

4.5.3 *Other sources of information on barriers in the implementation of a BPS approach*

The methodological choices in this project, such as employing semi-structured interview guides and conducting site visits to a selected number of CPCs, may influence the interpretation of the findings. For instance, barriers related to HCPs in implementing the BPS approach appeared to be more prevalent among professionals outside CPCs. This could be attributed to the fact that interviewed HCPs within CPCs primarily discussed organizational challenges and rarely addressed conceptual barriers to the BPS approach, as this concept is well understood by them. To mitigate potential biases in the analysis, additional sources of information were consulted and cross-referenced in this section.

In the preparatory phase of the development of an interdisciplinary training program in primary care, an interdisciplinary expert panel identified barriers and needs in relationship with the content of the training program and the implementation of a BPS chronic pain management in clinical practice.^{7, 94}

The identified barriers are in line with our findings on HCP attitude: some healthcare professionals show limited interest in treating patients with chronic pain or engaging in interdisciplinary collaboration. They often lack confidence in assessing psychosocial factors and believe that patients are not receptive to the biopsychosocial approach or pain education. As a result, they may not encourage patient goals focused on self-management and quality of life, and may experience negative emotions related to pain treatment. Other cited barriers in line with our findings were the lack of knowledge about chronic pain assessment and management, the BPS approach and the role of other HCPs, and organizational issues, such as lack of communication with the patient and with colleagues or other HCPs.

The role of the anaesthetists in chronic pain management was in our findings only occasionally and indirectly mentioned, whereas in the implementation report the dominance of these HCPs and their preference for technical interventional techniques was considered as a barriers for the implementation of a BPS approach in clinical practice.

4.5.4 *Ways for the future*

Despite the offer of training programs, guidelines and initiatives to facilitate the integration of a BPS approach in clinical practice, the gap between science and clinical care remains.⁷

Already in the evaluation report of 2017 on the CPCs, several recommendations were formulated and most of them are still accurate.⁸⁸

Following recommendations are extracted from the CPC evaluation report:⁸⁸

- More clarity is needed on the funding of CPCs
- Chronic pain management in CPC should be embedded in the planned reforms of the hospital landscape as one of the healthcare tasks of hospital networks
- Task agreements must be made for the CPCs within these networks, whereby both a form of “specialisation” can be applied and long-term rehabilitation can be spread across different network partners. Within these task agreements, attention must be paid to other aetiologies for which there is also evidence for a multidisciplinary approach, in addition to musculoskeletal conditions, which historically predominate in the current CPCs.
- The inclusion of patient representation is needed in these hospital networks



- The waiting lists for patients with these issues can be reduced by facilitating high-quality care options within primary care. This presupposes awareness about early detection, assessment and timely referral, knowledge sharing between all actors on a shared and integrated care pathway, adequate financing for primary care (including for the organisation of transmutal multidisciplinary meetings) and for innovative initiatives (e.g. video conference).
- Better integration of chronic pain (and its management) is needed in education curricula of all types of HCPs
- The further elaboration of multidisciplinary meetings for patients with chronic or recurrent pain symptoms is needed.
- The set-up of a national register (via healthdata.be) with systematic outcome indicators, and registration of upcoming subgroups
- Despite policy reforms introduced in 2013 and initiatives such as multidisciplinary meetings, care coordination, digital health tools, and interprofessional training programs, our findings reveal persistent barriers to both access and the implementation of the biopsychosocial (BPS) approach.

The main bottleneck in the current care model is the lack of follow-up on the organization of care within CPCs, along with insufficient funding to support quality improvement. The evaluation report on CPCs already recommended a reform, but no significant changes have been implemented since then, apart from a minor indexation of funding.⁸⁸

A new report was released evaluating 10 years of the functioning of the CPCs.^k The findings reveal long-term trends in team composition, patient volumes, patient profiles, and hours devoted to training other healthcare professionals. Overall, CPC activity has declined: fewer centers meet the minimum financing criteria, there is a shortage of paramedical staff (psychologists, social workers, physiotherapists) (although some centers show significant staff investment) and training activities have structurally decreased, reflected in fewer training hours and reduced network engagement. Care delivery has also diminished over time, with declines in new patient admissions, number of therapy sessions, multidisciplinary assessments, and biopsychosocial care trajectories. Additional analysis shows an increase in interventional techniques, both within CPCs and in other hospitals.

The results should be interpreted with caution: the data are self-reported by CPCs, some information is missing, and there is potential for misinterpretation of questions. Moreover, metrics such as FTE counts or training hours do not necessarily reflect the quality of care provided. The absence of robust quality indicators remains a major obstacle to assessing CPC performance.

This evaluation report point to a structural decline in the capacity and activity of many CPCs, despite some positive developments in certain centers. This situation calls for a fundamental re-evaluation of the mission and functioning of CPCs within the biopsychosocial care model. One key factor contributing to this underperformance is the inadequate financing of these centers, as previously highlighted in earlier evaluation report. Some future strategies for a more structural financing of the CPCs are suggested, such as linking financing to hospital networks to strengthen collaboration, or tying funding to outcome indicators through a pay-for-performance model, which requires that validated outcome indicators are developed).

^k The full report can be consulted on <https://www.health.belgium.be/nl/themas/gezondheid/organisatie-gezondheidszorg/zorgprogrammas/chronische-ziektes/pijnbeleid-het-ziekenhuis> (a synthesis is available in French and Dutch, the full report is only available in Dutch)

In the recent guideline on multimodal treatment of chronic pain in primary care, a research agenda was elaborated³⁰:

- Studies with regard to chronic pain, the new classification of chronic pain must be taken into account, including the subclassifications into the three pain phenotypes (neuropathic, nociceptive and nociplastic pain).
- There is a need for:
 - large-scale research into the long-term effects of non-pharmacological approaches to CPP;
 - research into the psychological support of patients with CPP;
 - research into the safety of long-term pharmacological therapy;
 - research to determine in which situations and/or in which subgroups medication can have added value and to compare its effect with other interventions;
 - research into the treatment of frequent comorbidities of chronic pain, such as overweight/obesity, insomnia and stress intolerance;
 - research into the feasibility of using a uniform digital communication platform;
 - qualitative research and systematic reviews of qualitative research focusing on the patient population with chronic pain;
 - research into the cost-effectiveness of individualised care and multidisciplinary care.
 - studies that jointly investigate the multimodal approach with the combination of non-pharmacological and pharmacological interventions.
- In the case of research into a specific treatment modality, the potential effects of co-interventions must be investigated.
- Several professional groups indicate that there is a lack of research into the approach to patients with chronic pain within their discipline.

4.5.5 *What are the critical enablers for change?*

Over the past decade, several initiatives have been launched to strengthen multimodal management using a biopsychosocial approach. The three main efforts at the federal level include: reform and funding of chronic pain centres, development of a clinical guideline for multimodal management in primary care, and the implementation of an interdisciplinary training program for primary care professionals. These initiatives have led to some positive changes in healthcare professionals' attitudes toward the BPS approach, with observable shifts in clinical practice, such as increased participation in multidisciplinary meetings. However, these effects tend to diminish over time. Rather than recommending yet another interprofessional training program, further research into the enablers of sustained behavioral change may be more appropriate.

A similar approach could be applied to CPCs: their evaluation should go beyond annual activity reports and include interviews with all stakeholders to identify the main barriers and key enablers for change.

Our findings reveal several patient-level barriers, including attitudes toward seeking help, acceptance of pain chronicity, active coping strategies, and trust in healthcare professionals. Developing another patient leaflet may not be sufficient; instead, further research is needed to identify which factors can effectively drive behavioral change in patients.

Another domain of action identified in the interviews is the need for training of HCPs. Within the development of an interdisciplinary training program, pain management competencies were defined and an interdisciplinary expert panel ranked these competences regarding their importance.⁹⁴ Following competences were identified and the training program aims to improve these competences:



- Understand acute and chronic pain within a biopsychosocial framework
 - Understand the difference between pain and nociception and acute and chronic pain.
 - Recognize that the purely biomedical model is out-of-date and that the biopsychosocial model of pain should be adopted.
- Assess patients with (chronic) pain comprehensively
 - Use questionnaires and interviews to identify patients' biopsychosocial factors which might influence pain experience according to the PSCEBSM model 9 (pain-somatic factors-cognitive factors-emotional factors-behavioural factors-social factors-motivation).
 - Assess the patients' resources, obstacles to improvement, and their "readiness to change"
- Integrate contemporary pain science into clinical reasoning in patients with chronic pain
 - Incorporate patients' biopsychosocial factors when making decisions regarding chronic pain type (e.g. nociceptive, neuropathic and/or nociplastic pain), patients' evaluation and care request
 - Design multimodal treatment programs, either mono- or interdisciplinary, according to the patients' representations, beliefs, expectations and needs, e.g. stress self-management program, graded activity program, graded exposure, education/reassurance, etc.
- Provide tailored and patient-centred strategies to subacute and chronic pain patients
 - Educational strategies: (1) Understand that pain science education (PSE) is a continuous process; (2) Use communication skills to favour therapeutic alliance; (3) Master pain neurophysiology and the biology behind different pain mechanisms to be able to explain pain to patients by means of metaphors and tools.
 - Use a patient-centred approach to define specific goals that are meaningful to the patient.
 - Manage obstacles to improve the patient's motivation to change
 - Teach patients pain coping skills aligned with the ideas delivered during PSE.
- Understand the role of HCPs in an interdisciplinary perspective
 - Understand other healthcare disciplines' roles in successfully managing chronic pain.
 - Communicate adequately with other HCPs about the management of chronic pain.

5 CONCRETE PROPOSAL FOR IMPROVING THE MULTIMODAL MANAGEMENT OF PAIN IN BELGIUM

KEY POINTS

- The objective of this study was to identify barriers and facilitators regarding the implementation of multimodal management (including pain neuroscience education) at the patient level and at the healthcare professional level in order **to propose potential interventions to improve the management of chronic pain in Belgium.**
- The different sources of data consulted during this research (scientific literature, grey literature, Belgian patients and HCPs interviews, discussions with experts from Belgium and abroad) showed many interrelated barriers and enablers to apply a biopsychosocial approach all over the world.
- The situation in Belgium is no better than elsewhere. Despite a few initiatives taken these last years and concrete proposals for action suggested by pain experts, multimodal pain management remains insufficiently implemented.
- Given the multitude of obstacles to overcome, whether in patient-HCP relationships, healthcare organisations, the financing system or, more broadly, the general public's understanding of pain, numerous areas for action have been identified. We have classified them in nine domains of actions.
- As many interventions proposed to improve the multimodal management of pain are similar to interventions recommended for building integrated care, we make a link between the nine domains and the different levels of the Rainbow Model for integrated care.
- For each domain, we described potential action points and searched for lessons learned by others, from abroad or in Belgium. The sheets in [Supplement 3](#) reveal how much initiatives have already been implemented across the world, with more or less success in the improvement of chronic pain management.
- Based on these elements, we proposed different action points to a Belgian stakeholders group in order to assess their acceptability, feasibility and priority. These allowed us to propose the different action points below.
- The two last domains of intervention are supportive for the implementation of the other domains. A national action plan, based on the input from a multi-stakeholders group, would ensure the logical and coherent integration of the various interventions so that they can be sustainably embedded.



5.1 Shortcomings

The objective of this study was to identify barriers and facilitators regarding the implementation of multimodal management (including pain neuroscience education) at the patient level and at the healthcare professional level in order **to propose potential interventions to improve the management of chronic pain in Belgium**. We formulated the following four research questions:

1. What are the barriers and enablers for adult patients with (sub-acute or) chronic pain to adhere to the multimodal approach including the BPS model and pain education?
2. What are the barriers and enablers for health care professionals to use the multimodal approach, in particular the BPS model and pain education for adult patients with chronic pain?
3. What are the barriers and enablers (success factors) for building and maintaining local pain networks using the multimodal approach with the BPS and pain education model for adult patients with chronic pain in Belgium?
4. What are the potential/feasible/acceptable interventions (local pain networks included) for improving the use of a multimodal approach and in particular the BPS and pain education in Belgium?

The different sources of data consulted during this research (scientific literature, grey literature, Belgian patients and HCPs interviews, discussions with experts from Belgium and abroad) showed many interrelated barriers and enablers for the use of a BPS approach in pain management. This is largely documented in the literature and in Belgium.(see [Supplement 2](#))

According to both the patient associations and the HCPs from CPCs that we have interviewed, the Belgian situation needs improvement. Some initiatives were conducted these last years but implementation of multimodal pain management remains uneven.(see Belgian chapter) The situation is the same everywhere: the barriers are so numerous and so interconnected that it is imperative to take action at different levels.

In Belgium, as early as 1998 the Belgian Pain Society conducted a project consisting of interviews, consensus meetings, and finally the drafting and dissemination of the White Paper of Pain in Belgium. At the end of 2025, both the literature and the Belgian situation show that these interventions are still relevant.

Based on evidence retrieved from the previous chapters, we identified nine domains of interventions:

- Patient centeredness
- Care pathway
- Collaboration between healthcare and social professionals
- Financial model
- HCPs training
- Data collection & research
- Population sensibilisation: media campaign; education at school
- National multistakeholder group
- National Action plan

For each domain, we defined potential actions points and we searched concrete initiatives experienced in practice. Based on the literature reviews and the grey literature, we identified responsible actors of the most illustrative one and we discussed in depth the intervention and, if assessed, the impact of the intervention. The list of the persons contacted is available in the colophon

of this report. The results of the discussion are inserted in the corresponding sheet of each domain in [Supplement 3](#).

Many actions among these nine domains of intervention are included in the definition of integrated care. This is logical since integrated care is needed to enhance the management of patients with chronic pain (as shown in the literature). Therefore, we present briefly below the concept of integrated care and make a link with the nine domains of intervention identified by this study for improving the chronic pain management.

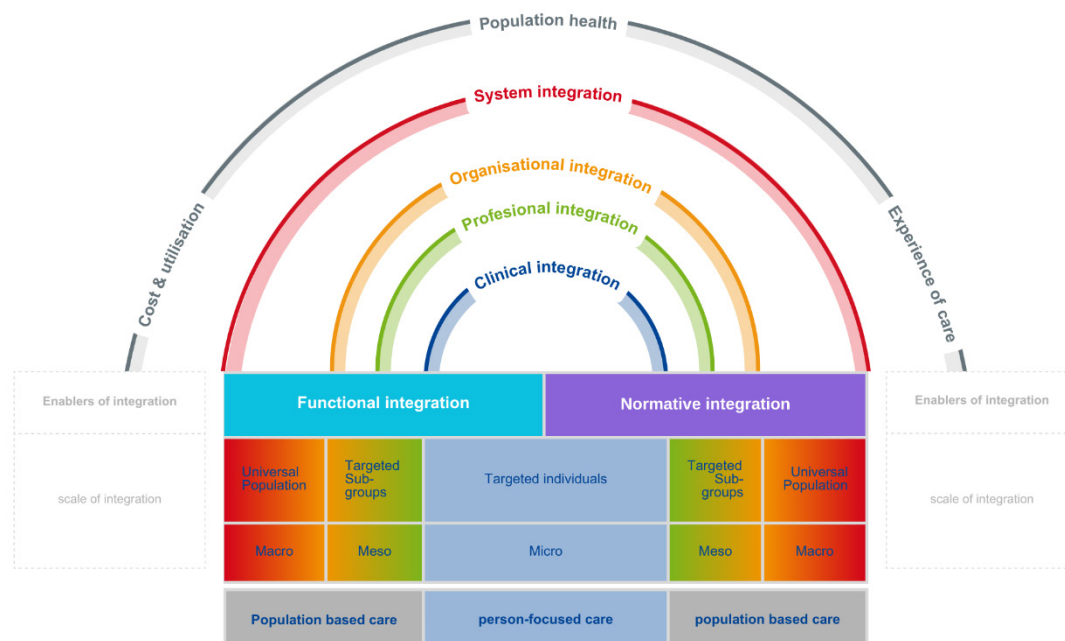
5.2 Integrated approach for chronic pain management

The BPS approach for the management of chronic pain necessitates a multimodal care strategy involving one or several HCPs. In accordance with individual patient needs, this may also encompass social services delivered, among others, by case managers and/or social workers. Effective coordination of these diverse health and social care components, tailored to the specific needs of each patient in accordance with the proportionate universalism principle, requires the establishment of an integrated care system delivery. Integrated care is widely recognized⁹⁶ as a strategic response to the fragmentation in healthcare delivery systems (see chapter 4). It is also viewed to enhance the systems' capacity to address complex and evolving patient needs (see section Introduction). Although multiple definitions of integrated care exist, it is generally understood as a model of coordinated, cross-sectoral, and seamless service provision. This approach contributes to reaching the quintuple aim of a health system (i.e. improve clinical outcomes, patient experience, provider satisfaction, financial sustainability and health equity) and to reducing unnecessary duplication of services, and limiting avoidable referrals to specialized care.⁹⁷

Integrated care is an evolving and multi-faced concept capturing numerous perspectives (population, care professionals, policy-makers community...).⁹⁸ Several taxonomies have been proposed to capture the concept of integrated care.⁹⁹⁻¹⁰¹ One of these conceptual frameworks is the Rainbow Model (see Figure 6).¹⁰⁰ The vertical axis illustrates that integration is needed at different levels: at micro level (clinical integration i.e. the level of interaction with the patient or the operational level), at meso level (professional and organisational integration i.e. the level of support and management structured at the local health system level or the strategic level) and at the macro level (system integration i.e. the level of the policy framework or the policy level). To ensure effective connectivity between the various levels, the horizontal axis represents a continuum between functional integration (seeks to improve integration through typical levers such as information systems, payment methods, definition of new professions, definition of territories, etc.) and normative integration (shared cultural values).



Figure 6 – The Rainbow model: a framework for integrated care



Sources: adaptation of J. Fares¹⁰² and P. Valentijn¹⁰⁰

Since 2023, various authorities across the country have been working within a framework of agreements to achieve more integrated social and health care. The Interfederal Plan for Integrated Social and Health Care (IPISHC) provides a common framework for initiatives that the authorities wish to implement to support the quintuple aim and the realisation of integrated social and health care. This framework is implemented based on competencies of each authority. To facilitate the structural cooperation between the federated entities and the federal authority, an Inter-Administrative Platform was implemented. It is responsible for ensuring the quality of the implementation and integration of the components of integrated social and health care. Each government deploys resources to finance integrated care programmes within its own area of competence.¹⁰³ In a first step, three targeted groups were defined: (1) pregnant women, their children, and their families during the first 1,000 days (from conception), (2) vulnerable persons and (3) obese children and adolescents. However, the need for integrated care is also a common feature among all patients with chronic conditions.

Due to its complex and multidimensional nature (including physical, psychological, and social dimensions), chronic pain could represent a particularly compelling case for initiating the transition from fragmented service delivery to a more cohesive and coordinated care model. Many interventions proposed to improve the multimodal management of pain are similar to interventions recommended for building integrated care. As shown in the Figure 7, the nine domains, identified by the transversal analysis of the literature and the Belgian situation, can be related to the different levels of the Rainbow Model.

- **Integration at the micro level**

Patient-centeredness (domain 1) addresses the nature of the interactions between patients and care or service providers. It thus enables clinical integration at micro level.

- **Integration at meso level**

The purpose of the interprofessional collaboration (domain 3) is to enhance cooperation among different (health) professionals across disciplines in order to deliver a seamless continuum of care, acting at the meso level. The organisation of the interprofessional collaboration is based on care pathways (domain 2) which also support the integration at meso level.

Training of professionals (domain 4) aims to increase not only their knowledge of chronic pain and its management, but also to improve collaboration between disciplines. This means that training of professionals supports professional integration (i.e. integration at the meso level), even though training reform occurs at the macro level.

- **Integration at the macro level**

Integration at the macro level is achieved through financing of care (domain 6) and the national plan (domain 9). Care financing affects the way the care is structured and incentivized across the entire healthcare system. Financing mechanisms are a matter of governance and policy and are therefore linked to the macro level. As the national plan aims to accelerate, institutionalize and better coordinate efforts in response to the challenges of chronic pain management, it acts as an integrating element at the macro level.

- **Normative integration**

Public awareness (domain 5) helps to build a shared understanding of chronic pain among the public and the stakeholders involved in the chronic pain management. By definition, public awareness initiatives support the normative integration of care. The implementation of public awareness campaigns is the responsibility of stakeholders from the macro level.

- **Functional integration**

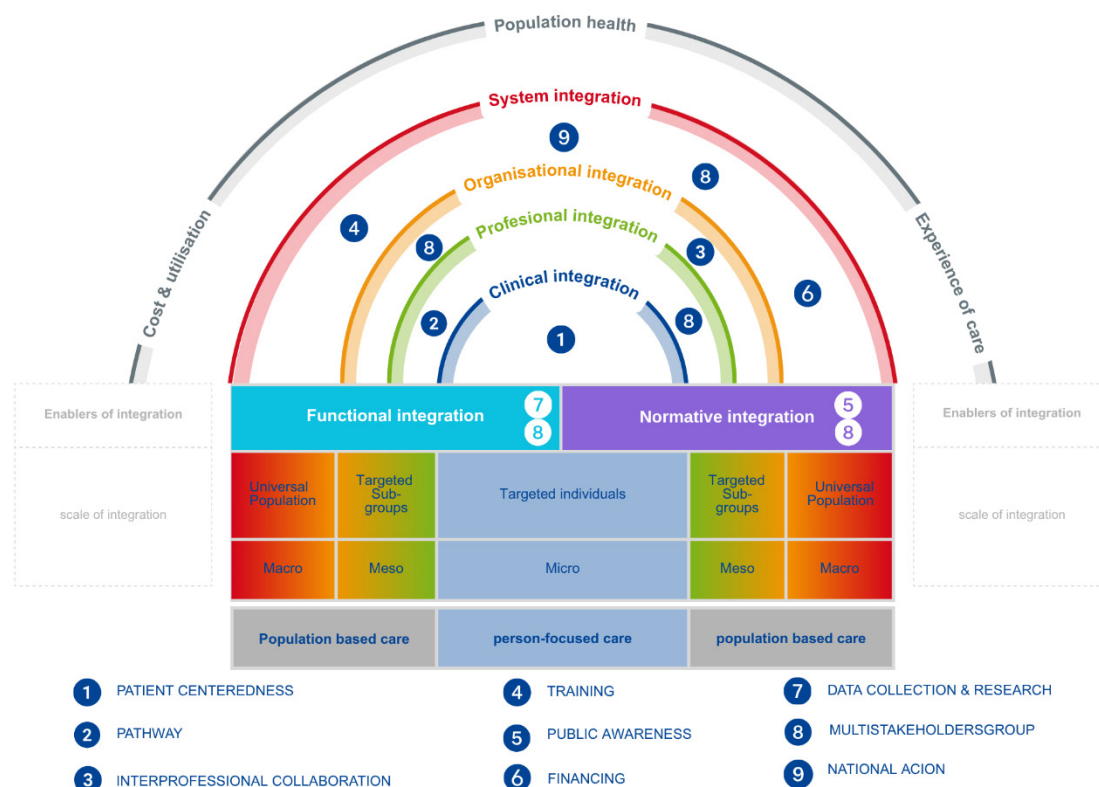
Data collection and research regarding chronic pain (domain 7) seek to monitor and evaluate the organisation of care at each level and across levels of the care organisations. Therefore, this domain acts as a functional integrator while it is implemented by actors at the macro and meso levels.

- **Multiple-level integration**

The multistakeholder group (domain 8) has multiple goals. As it has to raise awareness of pain among policymakers and in the society, the multistakeholder group plays a role in the normative integration. It also plays a role in functional integration as the group deals with research issues. However, the group also integrates at the macro level by playing a role in the national plan and setting political priorities, at the meso level by encouraging collaboration and sharing the best practice, and at the micro level by empowering patients. Although the actions of the multistakeholder group affect several levels of integration, the group itself is organised at the macro level.



Figure 7 – Actions for integrated approach for chronic pain management



Like other chronic situations, chronic pain could provide an opportunity for designing, implementing, and evaluating integrated care pathways. Furthermore, insights gained from this pilot condition may inform broader strategies for integration across other chronic health conditions.

5.3 Stakeholders input

Stakeholders were consulted regarding the nine domains of intervention and their action points. We first identified the relevant organisations (i.e. professional and patient associations, care institutions (CPC) or government agencies) involved in the topics covering the action points (Table 8). We invited all of them to designate a representative to complete the online survey on their organisation's behalf. They were contacted by email on 11/09/2025. For the French-speaking patient associations, the LUSS itself sent invitations to its members. Stakeholders who had been previously consulted for a specific domain of intervention and had agreed to participate in this consultation were also added to the list. To ensure completeness, the list of stakeholders was reviewed and validated by the experts on this project.

Table 8 – List of organisations who have been contacted to participate in the consultation

Type	N*	Acronyms or names of the contacted organisations
Professional organisations		
GP associations	9	ASGB Kartel, CMG, Domus Medica, FAGW, FAMGB, FMM, GBO-Cartel, SSMG, SSMG Junior
Specialist association	1	MoDeS
Nurse associations	13	ACN, AIIB-VUKB, AUVB-UGIB-AKPV (FR), AUVB-UGIB-AKPV (NL), FASD, FNBV, FNIB, GIFD, NPTV, NVKVV, Pijn werkgroep, VBZV, V&VN Pijnverpleegkundigen
Physiotherapists	7	ASK, AXXON (FR), AXXON (NL), Pro-Q-kine, SSFK, UKB, WVVK
Multidisciplinarity	3	BBS, Be-hive, BPS
Physician associations	3	BVAS-ABSYM, GBS-VBS, SSBe
Anaesthetists/Algo	2	GRID, VAVP
Physical medicine	1	PRM
Rheumatology	1	KBVR-SRBR
Neurologists	1	BNS
Surgery	4	RBSS, BSN, BOTA, BVOT
Psychologists	4	BFP-FBP, UPPCF, VVKP, VVP
Hospitals associations	7	BAHM-ABDH-BVZ, CHAB-RUZB, GIBBIS, SANTHEA, UNESSA, VVH, Zorgnet-ICURO
Research	1	SIP-Belgium
Patients associations	55	Ariane Fonds, bi-migraine, BOFIP, Borstkanker Kempen, BorstkankerMAN, BruCancer, CLAIR, CMP Vlaanderen, COVID long, Cum Cura, Envie, Esperanza, FAPA, Firboverke, Fibrum'out, Guerrières en pyjama, Gynca's, Hodgkin en non-Hodgkin, Hoofd-stuk, Lenabeau, Ligue SEP, LUSS**, LVV, Melanoompunt, MPN België, My Fibro, Naboram, Neo-Ma, neovida, NET en MEN Kanker, Ontmoet pijn, Ontmoeting en ontspanning kanker, OSTC, Pijnpunt, Prolong, RA Liga, RA Limburg, Radiorg, RaDiOrg, Reumanet, Revivre avec, Samana, Samen na borstoperatie, Sans pourcent, Strong together na borstoperatie, t lichtpuntje, Think Blue, Time-for-Lime, Vlaams Pijnliga, VLFP, VPP, Wg Hersentumoren, Wij Ook, Wildgroei
Social	7	Aide sociale-Sociale hulp, BSWZ, CPAS, FdSS, Hospisoc OCMW, VVSG
Expertise in a specific topic		
Training: Physicians, GP	15	Domus Medica, KULeuven, UCL, ULB, UNamur, Université de Liège, Universiteit Hasselt, UZ Brussel, UZ Gent, UZA
Training: Physiotherapists	9	Axxon, ULB, KULeuven, Uantwerpen, Ugent, Universiteit Hasselt, WVVK
Training: Nurses	7	AUVB, CAN, GIFD, HOGENT, Karel de Grote Hogeschool, Odisee, Thomas More
Training: Psychologists	7	KULeuven, Ugent, U Hasselt, ULB, Université Liège, UZA, VIVES
Media campaign	1	FOD - SPF
Children education	2	Go!, VUB
Return to work	2	APBMT-BBvAg, FOD-SPF
Intradisciplinarity	3	RESUMES, Vivalia



Government agencies	13	AVIQ, CCF Bruxelles, COCOM/GGC administratie, Departement Zorg, Fédération Wallonie Bruxelles, FOD-SPF, Ministerium der Deutschsprachigen Gemeinschaft Belgiens, NIHDI, VGC
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*Number of persons and not associations; sometimes there was more than one person contacted per association;

**LUSS contacted its partner associations

Stakeholders identified in this first step were invited to complete the online survey in the name of their association between 26/09/2025 and 12/10/2025. The survey was available in both French and Dutch, and hosted via LimeSurvey. Respondents could choose not to provide feedback on a domain and were then automatically directed to the next one. Inside the domains, respondents were asked to evaluate each proposed action point individually using a Likert scale, based on the following criteria:

- Acceptability (Fully acceptable – Rather acceptable (but with concerns) – Rather unacceptable (unless reformulated) – Completely unacceptable – I don't know)
- Feasibility (Fully feasible – Rather feasible – Rather unfeasible – Completely unfeasible – I don't know)
- Priority (scale from 0 to 10)

When a proposal was rated as “rather unacceptable/unfeasible” or “completely unacceptable/unfeasible”, respondents were required to provide a comment. For all other responses, comments were optional.

Respondent profiles were also collected (type of organisation represented and professional background) (Table 9). Respondents to the LimeSurvey were answering as patient association representative (n=16), HCP (n=30) or CPC (n=8); people involved in the training also largely took part in the survey (n=11).

Table 9 – Profile of respondents to the stakeholder consultation

Answering as...	n
Patient associations	16
Healthcare professional	30
Specialist doctor	9
Physiotherapist	7
Nurse	6
GP	5
Psychologist	3
Multidisciplinary team	3
Not answered	1
Teacher, trainer (university (college) or continuing education organizer)	11
Physiotherapy	5
Medicine	4
Nursing	2
Pain centre	8
Government agencies	5
Hospital	4
Research sector	4
Social sector	2
Employment sector	1

Other : Advisory body for patients with a chronic condition; Brussels Dutch-speaking healthcare landscape; GIBBIS; Huis voor Gezondheid

4

An action item was considered accepted if at least 75% of respondents rated it as either “fully acceptable/feasible” or “rather acceptable/feasible”. In cases where a domain did not meet the acceptance criteria, meetings were scheduled on 16/10/2025 with participants who had explicitly expressed an interest in taking part. However, given the level of acceptance, these meetings were not maintained. All comments were also analysed. All changes made to the action points were documented in each action sheet. (see [Supplement 3](#))

5.4 Proposed action points for improving the use of multimodal management of chronic pain in Belgium

- For each domain of intervention, we presented a summary of evidence, propositions for actions, the objectives, the targeted stakeholders and the points of attention. (see more details in [Supplement 3](#))

5.4.1 Patient centeredness

Action point 1. Improve patient empowerment by ensuring patient-centred care

Context: Patient-centeredness is a biopsychosocial approach and attitude that aims to deliver care that is respectful, individualized and empowering.¹⁰⁴ This can be seen as a precondition for patient empowerment which is essential in pain management.

Patient-centeredness aims at individual participation of the patient in his/her care and shared-decision making. To support this, several actions are expected from healthcare professionals (HCPs) such as attentive listening and understanding of the patient, clearly explaining chronic pain, applying biopsychosocial management, teaching self-management, offering tailored interventions and establishing a therapeutic alliance based on trust.

In Belgium (as abroad), there is a room for improvement regarding patient-centred care for patients presenting with chronic pain. Belgian patient associations highlighted several concerns. They noted problematic attitudes from both HCPs and patients, with HCPs often displaying a directive approach and insufficient empathy, while patients overly rely on HCPs for solutions. The patient associations criticized the inadequacy of patient education, particularly the lack of clarity around referrals to other practitioners. They emphasized that pain management goals vary individually, including aspects like return to work, quality of life, and feeling acknowledged, which are often overlooked by HCPs.

The literature review highlighted that supportive HCPs, equipped with interpersonal and communication skills, enhance patient engagement in chronic pain self-management. Effective communication—such as using lay language, metaphors, and visual aids were found to facilitate patient involvement in non-pharmacological treatments. The literature review outlined that HCPs skilled in pain neuroscience education help patients to take an active role in their care and pain management, which can lead to better health outcomes during chronic pain self-management. Pain education should include information on the development of chronic pain and the essential differences between acute and chronic pain. A strong therapeutic alliance between patients and HCPs is essential for effective pain management, replacing paternalistic models with shared decision-making and mutual goal setting. Key elements include realistic expectations, emotional investment, continuity of care, and flexibility in adapting strategies through trial and error. Patients benefit from consistent relationships with HCPs, which foster deeper understanding and strengthen collaborative treatment efforts. Structured involvement of significant others is proposed in the literature through couple-focused methods, family meetings, and peer-support systems, including trained volunteers and remote discussion groups. Tailored management is emphasized over standardized care, with flexible delivery modes like group or individual sessions, written diaries,



and digital tools, although telehealth adoption faces barriers in Belgium. Financial and organizational support, such as coverage for psychological services and case managers, is needed to facilitate these initiatives. Workplace adaptations and personalized strategies are recommended to support patients in maintaining or resuming employment. Finally, several vulnerable populations required specific attention such as culturally competent care and coordinated or financial support.

Several national plans, including those from Australia, Canada, and the U.S., emphasize patient empowerment and patient-centred care, and although these are very capturing, micro-level experiences remain outside the scope of this study. Pain Neuroscience Education (PNE) is highlighted as a key intervention, offering patients a neurobiological and biopsychosocial understanding of pain, along with strategies for self-management and rehabilitation. The “Explain Pain” model by Butler and Moseley provides comprehensive educational resources and adaptable curricula for diverse patient learning needs. In Belgium, initiatives like Pain in Motion and the GIFD contribute to pain education through multilingual tools, clinical resources, and multidisciplinary training. These efforts collectively support the integration of BPS principles into chronic pain care and enhance healthcare professionals' capacity to educate and empower patients.

Based on all the statements above, we proposed six action points to the stakeholders who assessed them as highly acceptable and mentioned some feasibility questions (see [Supplement 3](#)). Some of them are translated in attention points.

This leads to the six action points below. Given the fact that many actions are already taken in Belgium, it is important not to reinvent the wheel.

More information on the background, existing experiences and stakeholders feed-back for the domain “Patient centeredness” is available in the corresponding sheet in [Supplement 3](#).

Objectives of patient centredness:

- To increase the patients' empowerment and improve self-management;
- To improve communication between patients and HCPs and build a strong therapeutic alliance;
- To enhance patient neuroscience education;
- To encourage social support;
- To promote individualised pain management, taken into account particular needs and vulnerabilities.

Action point 1.1. Encourage the patients to express their needs, values and preferences, to prepare their contacts with HCPs, to take into account validated and evidence-based information on pain and pain management, to discuss their situation with partners, significant others, colleagues and employers.

- HCPs and patient associations should take up the task to provide understandable and accessible evidence-based information which means that they must have access to up-to-date evidence-based information.
- As some patients struggle to identify their needs, the implementation of a structured tool in clinical practice (e.g. ELADEB) would be useful to help them and prepare for discussions.

Action point 1.2. Encourage HCPs to have supportive attitudes and skills that improve patient-centeredness and build a strong therapeutic alliance.

This action point has several implications linked to other domains of action:

- The initial and continuing training of HCPs should include the elements below in their objectives (see HCPs Training):

- The acquisition of a supportive attitude such as empathy, active listening, reassurance, or a non-judgmental approach;
- The development of clinical skills specific to pain and its management;
- Learning collaborative practices with the patient to encourage self-management, negotiate therapeutic goals, provide care adapted to the patient's needs, values, and preferences, and ensure shared decision-making.
- The implementation of the WOREL guidelines "Multimodal management on primary chronic pain" in primary care should be supported and specifically the recommendations focusing on the relation between HCPs and patients.
- Sufficient resources (see Care pathway and Financing) should be provided in the care pathway in such a way that:
 - Health (and social) professionals can devote sufficient consultation time to patients with pain (to listen, explain, negotiate, etc.);
 - Various communication formats (on pain neuroscience education, self-management, and a multimodal approach) are available to patients;
 - Different pain management options are available to tailor the care pathway to the patient's needs, values, and preferences. This adaptation concerns both the content of treatment and the delivery method for certain care (e.g. individual or group sessions);
 - Contact with a same healthcare professional can be repeated and sustained over time to facilitate a relationship of trust and continuity of care.

Action point 1.3. Encourage HCPs organisations, sickness funds and patient associations to support pain neuroscience education conducted by HCPs by providing appropriate information directly to patients. As there are already many evidence-based materials on this topic, a more active dissemination rather than a development of new content is suggested.

Action point 1.4. Promote social support in the care pathway:

- By involving significant others in pain management activities with the patient's agreement (e.g. by suggesting to the patient to invite a relative to accompany him to a therapeutic session);
- By inviting the significant others to share their narrative about living with someone presenting chronic pain (for example, during the therapeutic session together with the patient);
- By offering psychological support to significant others if needed;
- By encouraging support by groups of peers; these peers should receive training, support and supervision to ensure adequate support of chronic pain patients;
- By developing peer-support volunteers (e.g. recovered patients); these volunteers should receive training, support and supervision to ensure adequate support of chronic pain patients;
- By involving colleagues and employers to provide them with information on education in the neuroscience of pain and the different ways of managing pain, and to discuss the needed work adaptations so that the patient can continue or return to work and navigate legal procedures.
 - To improve the integration of chronic pain patients in the work environment, a better collaboration should be established between the healthcare system, social partners, and employment policies.
 - A general change in society's view of invisible pathologies and chronic illnesses should be obtained to facilitate the reintegration of chronic pain patients.

**Action point 1.5. Provide specific support to vulnerable populations in the care pathway:**

- By ensuring that reliable information is provided in an understandable language. This “understandable language” encompasses more than just the language itself but also requires consideration of beliefs or the (sociocultural) context of the patient.
- By adapting information to other languages and cultures and/or providing the services of an interpreter or cultural mediator if necessary. It is important to realise that translating health-related information can be more difficult or sensitive and requires specific skills from a translator.
- By taking into account the potential financial difficulties of patients with lower socio-economic status (see Financing).
- By first focusing on increasing the visibility and implementation of existing tools (e.g. cultural interviews) and resources such as interpreters, physicians who speak sign language, places adapted for people with disabilities, financing support, etc. before developing new ones;
- By strengthening the care coordination for patients who are isolated, have poor coping skills or have several clinical comorbidities (see Care pathway);
- By always putting respect for the individual first and consequently offering help rather than imposing it;
- By being aware that the vulnerable population is a highly heterogeneous group with diverse needs. Mapping this heterogeneity, the related needs, and the effectiveness of existing approaches can be an interesting first step towards making progress.

Action point 1.6. Encourage research on implementation of effective communication strategies (including a reflection about the term “psycho” included in the term biopsychosocial which is so uninviting for both patients and HCPs).**Points of attention**

- Patients need help to find validated information among the vast amount of information available on internet and social media.
- Several trainings have already been developed and should be promoted to HCPs.(see Training)
- The WOREL guidelines “Multimodal management on primary chronic pain” in primary care does not cover all pain situations. Other guidelines are required. Involvement of HCPs in the guidelines development is paramount, immersing them in the evidence rigour and listening to them on feasibility, barriers and facilitators for the implementation.
- Special attention should be paid to the context of multimorbidity where multiple different guidelines apply to one patient.
- Special attention should also be paid to patient empowerment in minority groups as pain perception and communication regarding pain may vary.¹⁰⁵⁻¹⁰⁷
- The financing of the healthcare system is currently not perfectly aligned with the needs surrounding PNE. Initiating a brainstorming exercise on this topic would be a useful first step in the evolution towards better management of patients with chronic pain.(see Finance)
- Multiplying the points of access to coherent and validated information could increase the chances of bringing about change in patients’ beliefs and attitudes but without a therapist explaining it to the patient first, the educational tools are ineffective.

- Accessibility and comprehensibility of information must be assessed. The development of a supervisory body could help to ensure and monitor the accuracy and completeness of the provided information.
- It would be useful to add information on PNE in the electronic medical record of the patient.
- The limited availability of psychological support that is offered by conventioned psychologists does not allow to offer such support to all significant others.
- It is not possible to propose a unique all-encompassing approach for centeredness of care in chronic pain management due to the heterogeneity of the population and the evolution of needs over time. Several examples were found:
 - Offer group session but also individual encounter with HCPs
 - Adapt the proposition of telehealth to the preference and information technology abilities of the patients
- Recovered patients have different insights that current patients and can be powerful advocates, excellent mentors and potential coaches. In a group of peers, they can encourage a 'mutual recovery' approach and push the group towards learning objectives and mutual skills development.
- Involving colleagues and the employer isn't always possible (due to the time and energy needed) or even desirable. HCPs have little contact with the work environment of the patient. Patients with disabilities are often stigmatized and, due to the current organization of the regular workforce, lack opportunities to find/continue paid work with their condition/illness. Social legislation is very complex, and even not known by employers.
- The detection of vulnerable situations, without stigmatizing people, remains a significant challenge. It is imperative that healthcare services provide accessible assistance and support without imposing interventions, thereby ensuring respect for patient autonomy and dignity.
- Among vulnerability sources, it is important not to neglect clinical comorbidities (e.g. organ failure) because these can have an impact on treatment complexity, possible level of physical activities, access to transport...
- The call for research is inextricably linked to a call for funding for such research.
- The debate over the term "psycho" in the biopsychosocial model reveals two opposing views among the stakeholders: one side argues that the term stigmatizes patients and undermines trust, advocating for communication strategies that validate pain and emphasize normal psychological responses to abnormal situations (and not abnormal psychological responses to normal situations). The other side maintains that "psycho" is essential to highlight the role of psychological factors in chronic pain and promote interdisciplinary coherence, suggesting that removing the term alone won't resolve discomfort or improve care.

Target stakeholders

- Patient associations
- HCPs associations / Hospitals representatives
- Sickness funds (communication department)
- Work sector: Employers, occupational physicians, medical advisors from sickness funds
- Research sector



5.4.2 Care pathway

Action point 2. Define a care pathway.

Context: The current care trajectory for patients with subacute and chronic pain in Belgium presents several insufficiencies such as a too-late entry in the multimodal approach, difficulties in organizing a biopsychosocial (BPS) approach in primary care, limited access to the chronic pain centres (CPCs), organisational issues within the CPCs, arduous discharge from the CPCs and problematic maintain/return to work.

Elaboration of a care pathway for patients with chronic pain is promoted in all consulted sources. In the literature, the alignment of organisations to EBP methods or a BPS approach (e.g. time for HCPs, supportive work process or access to material tools) is an enabler mentioned by several authors in the management of chronic pain. Belgian patient associations suggested to set up a care pathway for chronic pain including the BPS approach, where patients would go through the 'pain assessment' to 'psychologist' boxes, etc. The CPCs requested as a priority that a care pathway is developed in primary care. The authors of the Belgian guideline on the management of chronic pain in primary care asked for a care pathway that streamlines collaboration between the first, second and third lines of care (including sharing relevant patient data).¹⁰⁸

It is not the aim of this research to define the content of such care pathways. We merely present the concrete propositions as they have been identified among the different explored sources. The ideal care pathway would consist of stepped care with a start in primary care, followed by a build-up to second and third line (CPC), but also a phase-out whereby the patient can be referred back to second or first line. There are some examples of such care pathways in the U.S, Sweden or U.K. In Belgium, there is currently no care pathway for pain management but some initiatives could be used to develop one. For examples, there are reintegration into work trajectories supported by RIZIV-INAMI, including return to work coordinators and collaborative frameworks involving employers, physicians, and social services.(see Care pathway sheet in [Supplement 3](#)).

The following steps are identified:

- A rapid entrance in the care pathway: Prevention of chronicity requires timely identification of risk factors—especially in preoperative or transitional phases—through patient-centred approaches, screening tools, and collaborative care, while improved access to BPS care demands greater patient awareness and a recognition of chronic pain as a distinct health condition.
- Primary care: the first step in the pathway: Primary care plays a pivotal role in implementing the BPS model for chronic pain management, with stakeholders advocating for early, multidisciplinary interventions to reduce unnecessary referrals and alleviate pressure on CPCs. This requires accessible, well-trained general practitioners, coordinated care among healthcare professionals, integration of psychologists, pain nurses, and social workers, support from specialists and structured referral criteria.
- A second line aware of what the pain management means: Targeted actions are suggested by stakeholders including sensitizing HCPs to avoid harmful discourse, involving surgeons in early risk identification and postoperative pain follow-up, and establishing intermediary services to offer subacute rehabilitation led by multidisciplinary teams before referral to the third line if needed.
- Better organisation, procedures and working conditions for the chronic pain centres. CPCs are envisioned to manage complex cases, support primary care through consultancy and knowledge-sharing networks, and provide patient education via workshops and information sessions. To ensure effective functioning, proposed measures include building multidisciplinary teams with overlapping expertise, administrative triage support, fast-track access for urgent

cases, psychiatrist involvement if needed, broader recognition of algological roles and a revised CPC funding process that safeguards funding for psychosocial pain management.

- Supported discharge from the CPCs: To avoid blocking patients in CPCs during many years and an inadequate return in the primary care, collaboration is needed and can be supported by some tools such as the elaboration of an extremely detailed medical report.
- Specific question of the care coordination: Case management is increasingly recognized as essential for supporting patients with chronic pain, particularly those facing social isolation or having difficulty navigating complex care systems. Literature and stakeholder input highlight the value of care coordinators in ensuring continuity, organizing multidisciplinary teams, and facilitating return-to-work efforts. Belgian proposals suggest to locate care coordination in local areas (e.g. eerstelijnszones), involve pain nurses, use a member from the CPC team and integrate successful pilot models (e.g. ability managers for some chronic diseases).
- The RTW as a priority: Maintaining or returning to work is a critical aspect of chronic pain management in Belgium, prompting patient associations and CPCs to propose actions. These include promoting flexible work arrangements (e.g. part-time, telework), shifting societal attitudes, involving occupational health stakeholders in care pathways, facilitating professional reorientation, adapting some financial rules (e.g. job premium), and offering individualized support through job coaches, while also recognizing the value of voluntary work for those unable to re-enter the labour market.

Based on all the statements above, we proposed two action points to the stakeholders who assessed them as highly acceptable. Stakeholders have positively emphasized the need for a clearly defined care pathway to improve the management of chronic pain. Such a pathway would help standardize clinical practices, reduce waiting times and uncertainty, and enhance continuity of care. However, feasibility of this action is questioned. Chronic pain is so diverse that it is difficult to agree on a single pathway that will propose a one-sided approach to the problem, which only truly applies to a limited number of patients. It is proposed rather to develop a baseline care pathway that should always be followed with specific additional features to adjust for the many different situations. This will allow to incorporate the necessary flexibility in pain management and be viewed from a goal-oriented care perspective. Regarding the second action point, stakeholders also mentioned some concerns that are listed in the points of attention below.

More information on the background, existing experiences and stakeholders feed-back for the domain "Care pathway" is available in the corresponding sheet in [Supplement 3](#).

Objectives of the elaboration and implementation of a care pathway on chronic pain:

- To improve the quality of care and the patient's satisfaction by selecting the best therapeutic option at the best time depending on each patient.
- To enforce implementation of the BPS model of care
- To decrease the "translation gap" between guidelines and clinical practice by identifying the facilitators and pitfalls regarding some clinical recommendations.
- To reduce the practice variation between practitioners and settings.
- To optimize the use of resources by for example avoiding the duplication of examinations or overtreatment.
- To decrease the risk of chronic pain and long term job-disabilities.

Action point 2.1. Elaborate a Belgian stepped-care pathway for patients suffering from, or at risk of, chronic pain.

This pathway should:



- Start in the (sub)acute phase (and in pre-operative phase) of pain.
- Ensure an early or even pre-emptive identification of risk factors for chronicity by increasing HCPs awareness and offering them validated assessment and monitoring tools.
- Promote patient empowerment by ensuring that HCPs actively consider patient needs, facilitate patient education, and engage in shared decision-making processes. This includes collaboratively defining treatment goals and determining, together with the patient, appropriate (moments for) referral to alternative therapeutic options (see Patient centeredness sheet).
- Base the subacute and chronic pain assessment and management on up to date evidence and existing guidelines (e.g. WOREL guidelines for primary care).
- Develop special care guidelines if needed (e.g. management in CPCs).
- Ensure easy access to multimodal management with potential fast-tracks if needed at primary care as in second or third line.
- Provide clear a definition of the role of each HCP and each line of care both for the HCPs themselves and the patients.(see Interprofessional collaboration)
- Enhance the role of primary care in the assessment and multimodal management of pain by establishing clear referral patterns.
- Involve the second line as intermediary services between primary care and CPCs for pain management.(see Interprofessional collaboration)
- Allow the CPCs to mainly focus on the more complex cases and ensure financial and structural resources to add a role of support for the other lines.
- Organise the collaboration between the first, second and third line of care. (see Interprofessional collaboration) Provide patient support to understand the navigation in the pathway (such as online platforms, call centres, or registers with reminders).
- Consider the added-value of a case-manager in the process.
- Take into account the principle of proportionate universalism i.e. the size and intensity of the BPS care should be tailored to the patient groups' needs.
- Ensure that regular re-evaluation of patient outcomes is performed in link with the care management plan.
- Include the maintain and return to work as soon as possible in the patient management.
- Facilitate a smooth transition of the patient from the CPC to primary care.

Action point 2.2. Define the implementation conditions of the care pathway at all care levels in terms of financing and organisational resources.

- Start with mapping and reviewing the pain services by location and needs analysis.
 - This analysis will require a certain budget, which will be further increased by the difficulty of mapping primary care services (in particular due to fragmentation, the multitude of care providers and locking in or flat-rate practices). Subsequently, a clear delineation of this analysis will be necessary, which should also examine whether, in addition to geographical distribution, such an analysis can also contribute to knowledge about the quality of the current services.
- Define the practical tools necessary to facilitate the orientation of patients at risk for, or with, chronic pain. A list of pain specialists could be developed based on the HCPs training and

professional qualification. However, such a list will require renewing resources for regular updates.

- Making this list available only to healthcare providers (rather than to both healthcare providers and patients) as a tool for referrals may enable primary care to better fulfil its role as gatekeeper, thereby keeping the workload of pain specialists under control. However, adjusting the financing system, strengthening primary care and improving collaboration are important prerequisites for achieving the desired outcomes of improved continuity of care. The reorganisation of care can therefore be regarded as a necessary starting point.

Points of attention:

- The population of chronic pain patients is characterized by a diversity in pain (experience), patient presentation and specific situations. Developing one pathway for all is challenging and is not in line with the concept of patient-centred care. It therefore makes more sense to aim at the development of a baseline pathway with specific features on top of it for the many different situations.
- The identification of risk factors is crucial in the prevention of chronic pain. These are known in low back pain but further research is still needed in several chronic pain conditions to identify these risk factors.
- It is necessary to present a coordinated and convincing argument to place patient education at the heart of chronic pain prevention and management.
- Healthcare and social professionals are already working in stressful conditions (due to the economic crisis), so it is important not to exacerbate their negative feelings giving them additional tasks without providing appropriate support.
- The current shortage of GPs and psychologists specialised in pain can hinder the primary care involvement in the early management of pain.
- The second level, called intermediary services, is not well defined in practice.
- CPC teams are overwhelmed, often resulting in appointment delays of several months due to limited capacity and high demand. It would be useful if CPCs would already provide support to primary care in the (sub)acute phase to prevent the chronification of pain. This would however require resources to compensate for the associated increased workload.
- Collaboration between lines of care is not so simple. There are many involved parties and all must realize that their own interests (including financial ones) should not prevail, but the interests of the patient (i.e. personalized care) should. Many steps will be needed.
- Healthcare and social support are dependent on several different authorities. This creates grey areas, delays, and a lack of coordination between all providers.
- The care pathway should guarantee the freedom of choice of the HCPs by the patients.
- HCPs need appropriate training and guidelines and the recognition or designation of (certain) specialisations could help to provide healthcare providers (and patients) with more guidance when navigating the extensive and diverse healthcare landscape (see domain 4. HCPs Training).
- The triad of the evidence-based practice concept must be reminded to all HCPs.



Figure 8 – Triad of the evidence-based practice concept.



Source: Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. [Evidence based medicine: what it is and what it isn't](#). *BMJ*. 1996;312(7023):71-72

- To support the implementation of guidelines, it is important to involve HCPs in their development. This will immerse them in the evidence and enable them to contribute their insights on feasibility, barriers and facilitators.
- Patient consent is required before involving a partner or employer.
- Professional re-integration strongly depends on the availability of adapted jobs and therefore on the willingness of employers to provide such jobs.
- The sustainability of the proposed tools is questioned.
- The definition of pain specialists is not clear. Mechanisms for quality assurance should be considered.
- Pain specialists are already overburdened and direct access could come with a risk of a further increase of their workload.
- A toll-free number risks oversimplifying complex care needs and could lead to inappropriate or unsafe advice. Alternatives such as informative web platforms and leveraging existing roles like pain nurses are preferred, given concerns about staffing, funding, scope of responsibility, and accessibility for all patients.

Target stakeholders:

- HCPs associations
- Patients' associations
- Hospital representatives
- Social sector representatives
- Work sector: Employers, occupational physician, medical advisors from sickness funds

5.4.3 Interprofessional collaboration

Action point 3. Improve interprofessional collaboration.

Context: Although multimodal pain management can be performed by one HCP from one discipline, effective interprofessional collaboration is essential for managing chronic pain. However, the literature review and consultation of stakeholders reveal persistent gaps in coordination, communication, and access across healthcare settings. In Belgium, interprofessional collaboration is hindered by a lack of clarity around the roles and responsibilities of each actor in the care pathway, an absence of a common language, and inadequate information technology (IT) communication tools for information exchange between professionals.

Three categories of propositions were identified.

- Working together in an interdisciplinary, non hierarchical network structure composed of different health and social professionals and peer learning enhance care quality and patient experience.
- Multidisciplinary consultations with the patients involving several professionals and, when appropriate, with their significant others can be useful.
- Improvement of the communication between health professionals by common language and an efficient communication channel. This is supportive to provide appropriate biopsychosocial management of pain but also to build an efficient professional network.

Regular scheduled contacts between professionals, joint consultations, a list of professionals with chronic pain skills, the use of a common language during information exchanges and a combination of summarised and detailed written communication is proposed to support this proposition. The development of a common language may also be supported by the use of international classifications such as those from the WHO (e.g. the ICD, ICF and ICHI).¹⁰⁹

Initiatives for networking during training and improving the format communication between health professional are already available in Belgium (e.g. RESUMES)

Based on all the statements above, we proposed five action points to the stakeholders. A general remark from the stakeholders is that the action points are not specific to chronic pain and are applicable to all care situations. Acceptability of the five action points are high but feasibility raises questions for all except the second actions points. Some challenges are identified regarding the use of e-Health and data exchange. The pain specialists database leads to similar comments as in the domain of the Care pathway. Several concerns regarding the integration of social services and health care in the institutional complexity of our country are also mentioned as well as the overload of general practitioners and teams from CPCs that hinder collaboration.

Five action points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain "Interprofessional collaboration" is available in the corresponding sheet in [Supplement 3](#).

Objectives of actions supporting interprofessional collaboration:

- To improve care coordination;
- To improve patients' access to care;
- To improve integration of care.

Action point 3.1. Develop interprofessional collaboration support tools for clinical practice such as the use of standardised tools for the pain assessment, new IT (Information technology) solutions for communication, and a database of professionals with specific skills in pain management



- The use of a common language around the patients with chronic pain should be promoted during HCPs training, for instance, by using the same clinical assessment tools by the health professionals. (see HCPs Training)
- In addition to existing tools (e.g. shared medical file), the development of IT solutions to support communication about patients with chronic pain in an adequate format should be added in the eHealth plan. These IT solutions should ease the communication between primary care providers, between primary care providers and CPCs, and between health and social professionals. The IT solutions should be integrated in the overall strategy to facilitate communication between healthcare professionals considering the GDPR requirements and the interoperability of the IT systems (BIHR) and should not increase the administrative burden on HCPs.
- A creation of a database of professionals with specific skills in pain management should be established by the by the Federal Public Service Health, Food Chain Safety, Environment (FOD VVVL - SPF SPSCAE) on the basis of the portfolios of healthcare providers and with the agreement of healthcare providers. This database should be regularly updated. Official recognition of training and professional qualifications is a prerequisite for database creation.

Action point 3.2. Support multidisciplinary consultation between physicians, other healthcare professionals and patients with chronic pain through adequate financing (see Financing)

Action point 3.3. Support the integration of health and social services by including people with chronic pain) among the vulnerable persons referred to in the agreement of 8 November 2023, concluded between the federal authority and the federated entities.

Action point 3.4. Facilitate the interprofessional collaboration between primary care health professionals by encouraging local collaborative initiatives within regional territories (e.g. regionale zorgzones in Flanders, eerstelijnszone/bassins de soins in Brussels or Organisations locorégionales de santé (OLS) in Wallonia...)

Action point 3.5. Facilitate the interprofessional collaboration between primary care and specialised care (secondary and tertiary care). To achieve this, a geographical network should be established to correspond with the organisation of the various lines of care. Within each unit of this network, it will be useful to identify centres that are best placed and willing to carry out the tasks.

- These centres should be supported in its mission by (1) the database of professionals with specific skills in pain management, (2) a pathway defining the roles of each HCP/ social workers along the journey of the patient with chronic pain and (3) a dedicated budget to perform this mission.
- The transmurial network should include not only the other pain centres within the care zone, but also primary and specialized healthcare providers, as well as social care actors.
- In addition to the initiatives from primary care (e.g. the designation of a care coordinator as proposed by the current guideline on the multimodal management of chronic pain³⁰), these centres should stimulate interprofessional collaboration by providing a forum for experience exchange and interdisciplinary training. These opportunities could also support the development of a common language between the different professionals.

Points of attention:

- The existing platform for information exchange between HPCs is currently not efficient.
- The consent of the patient is needed for data exchange between professionals.

- The primary care providers are already inundated.
- Harmonisation between the different regions is a challenge.
- Regional care zones in Flanders have not yet been defined; currently, only primary care zones exist.
- OLS in Wallonia are still under development.
- Brussels should be considered as one zone to avoid complexity.
- The organisation of a 'pool' of case managers in each local/regional structure needs a collaboration between federal government and the government of federated entities.
- Tertiary pain centres encompass patients from all provinces.
- The development of a transmurial network by pain centre coordinators should be considered in the light of the existing (long) waiting lists.
- The current funding mechanisms within the healthcare sector are still insufficiently geared towards promoting collaboration.
- The importance of a clearer definition of a pain specialist is also highlighted here.
- Each professional of the network should have at least two other HCPs as points of contact in the network to exchange about care experiences and challenges.

Target stakeholders:

- Representatives of health authorities (federal and federated entities)
- NHIDI (RIZIV - INAMI)
- Healthcare professional representatives

5.4.4 HCPs Training

Action point 4. Improve HCPs training

Context: A multimodal approach to pain management requires both specific (pain-related) and general (e.g. communication) competencies from healthcare professionals. It is difficult to have a comprehensive overview of HCPs training in Belgium regarding these competencies. Several initiatives already exist including multidisciplinary training but initial training programmes and continuing education programmes remain limited and very heterogeneous. All sources (literature, Belgian guidelines, Belgian researchers, HCPs from CPCs and patient associations) highlighted the need to improve the training of HCPs, both during their initial programmes and as continuing education. Some actions are proposed to the training providers such as a focus on evidence-based practices, developing competencies in pain management including communication, patient education, motivational interviewing, pain-validation¹ and professional collaboration, combining didactic and experiential learning, promoting multidisciplinary sessions, using positive reinforcement through peer learning session, providing realistic recommendations, practical tools and reminders. The development of mobile trainer teams is suggested. Patient associations asked for a list of HCPs certified in pain management. Belgian stakeholders responsible for training reported several barriers to integrating the BPS model and chronic pain management into HCPs'

¹ "To validate an individual's feelings or behaviour is to sanction their thoughts or actions as worthy of social acceptance and support" ¹¹⁰..



training, including dominance of the biomedical model, lack of interdisciplinarity, and limited access to practical, patient-centred education. They also mentioned some solutions or initiatives such as promoting consistent curricula, interprofessional training, involvement of expert patients, development of national guidelines, and support for innovative, accessible learning formats. Implementing these solutions requires cultural change, financial support, early awareness-raising (starting in secondary education), and broader public engagement to foster understanding and acceptance of the BPS approach. Several experiences of training in chronic pain management were identified, covering the following three levels: initial, continuing and specialised education. In Belgium, we identified projects in primary care on chronic pain management, interprofessional collaboration or communication. HCP knowledge, attitudes, and adherence to pain management guidelines have been improved as a result of these initiatives. IASP and EFIC highlight the importance of interprofessional collaboration, curriculum reform, and continued professional development through structured training programmes, advocacy, and access to specialised educational resources.

During the consultation, most stakeholders found the six proposed training action points for healthcare professionals acceptable and feasible. However, some concerns were raised about evaluating training impact and pedagogical research, with several respondents questioning their practicality or declining to comment.

Stakeholders confirmed known barriers such as time, resources, and recognition, while highlighting enablers like existing initiatives and international associations. They emphasised the need for better chronic pain management education, early multidisciplinary training, and stronger links between theory and clinical practice, potentially involving expert patients. The idea of a formal professional title (particularly in relation to the establishment of a registry) was also mentioned, alongside reinforcing the role of multidisciplinary pain teams in the training of hospital-based healthcare professionals.

Opinions on training evaluation were mixed: some saw it as essential for improvement, others viewed it as costly and uncertain. Based on feedback, action points were revised to build curricula from existing resources, strengthen the role of professional associations in continuing education, and promote collaboration between academic centres and multidisciplinary education organisations.

Six action points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain “HCPs training” is available in the corresponding sheet in [Supplement 3](#).

Objectives of HCPs training:

- Improving the training of HCPs will address the following issues:
 - HCPs lack of competencies to use an approach incorporating all components of the BPS model (knowledge, skills, beliefs, attitudes);
 - HCPs lack of understanding modern pain science;
 - HCPs iatrogenic attitudes;
 - HCPs misunderstanding and/or not following of clinical guidelines;
 - Lack of knowledge of other HCPs role / interdisciplinarity / responsibilities;
 - HCPs stress, frustration and other negative feeling, and difficulties to know their professional identity, their role and boundaries in their missions.

- It will ultimately improve the quality of care and accessibility of care and reduce the risk of chronicity in patients with subacute pain, as well as improve the collaboration between patients and HCPs.

Action point 4.1. Define the curriculum content for chronic pain management (i.e. specification by discipline of what must be taught at each stage of **initial and continuing education programmes)**

- Leverage existing pedagogical tools and guidance to help HCPs acquire the competences needed to manage chronic pain using a multimodal approach.
- Enhance integration of evidence-based content into curricula, including resources from EFIC, IASP, latest evidence-based guidelines and concepts such as “explain pain”.
- Develop and disseminate clinical practice guidelines and other resources to support HCPs and institutions in prevention, early identification and long-term management of chronic pain.

Action point 4.2. Develop tools and programmes for initial and continuing education to enhance HCPs competencies beyond chronic pain management

- Identify and implement tools to support the teaching of transversal competences, such as patient communication, interdisciplinary collaboration, etc.
- Promote a practical, patient-centred approach across all levels of training, incorporating a multidisciplinary perspective and ensuring consistent messages across healthcare disciplines (see Interprofessional collaboration).
- Provide opportunities for continuing professional development and foster collaboration among HCPs to ensure patient-centred care, both in individual practices and within multidisciplinary teams.

Action point 4.3. Develop appealing training programmes, using innovative pedagogical approaches and flexible formats to promote participation.

- Identify and integrate in the training existing tools and strategies, such as regional scientific opinion leaders, self-learning opportunities, pop-ups/reminders integrated into medical files, easy access to EBP resources, involvement of expert patients, case-based discussions,...
- In basic training, promote collaboration at multiple levels to ensure a consistent and multidisciplinary approach:
 - Collaboration between teachers from the same discipline (e.g. medicine faculty) to ensure curricular consistency (e.g. through a registry of pain-related courses or the appointment of a “pain coordinator”);
 - Inter-disciplines collaboration between teachers in health care and social care to foster multidisciplinary education;
 - Educational institutions collaboration, to deliver a consistent message and standardise educational content.
- In continuing education, involve professional associations and existing training organisations (e.g. ICHO) to broaden the training offer.
- Promote training by supporting HCPs with accreditation points and financial incentives (to follow the training and to implement the BPS approach in practice) .
- Develop a practical, up-to-date tool compiling the latest evidence and guidelines in chronic pain management, enabling HCPs to consult it as needed during practice.



- Establish a list of specialised teachers (e.g. from CPCs, algology teams...) to facilitate access to expert-led training. A mobile team of teachers could be an enabler to support certain educational institutions.

Action point 4.4. Promote specialised pain training to address the shortage of such specialists in primary care (e.g. psychologists)

- Develop a registry of HCPs specialised in pain management (see Interprofessional collaboration).
- Increase the number of HCPs trained in pain management.

Action point 4.5. Evaluate the impact of all training programmes in the short, mid and long term, for both HCPs competencies and patient outcomes, using diverse methods to obtain a comprehensive overview of these impacts (see Data collection and research).

Action point 4.6. Support future educational research on (see Data collection and research):

- The role of content, intensity, timing, competency level, quality, years of education on students' attitudes, beliefs and clinical decision-making;
- The influence of personal factors, such as cultural and social factors on students' learning curves in order to identify which factors hinder or encourage the development of students' biopsychosocial attitudes and beliefs.

Points of attention:

- Integrating chronic pain management into training programmes demands adequate resources, time, and strong institutional support to overcome existing barriers and ensure long-term collaboration. Time spent organising and attending training must be properly recognised.
- There are many organisations that can be involved in HCPs training (e.g. ICHO for GPs); some of them have already materials on chronic pain (e.g. Domus medica and SSMG).
- The role of experts in the field (e.g. HCPs treating patients and expert patient/patient partners should be reinforced, both in developing training materials and participating across all levels of education to better align theory with practice.
- A continuing education organisation that includes various healthcare disciplines could contribute to develop training programmes.
- Establishing certification and formal recognition for HCPs specialising in chronic pain should be explored, potentially through tools like portfolios. This ties into the creation of a registry, which would require ongoing management and raise questions about access and purpose, including coverage and usability.
- HCPs who have received enhanced training in pain management could take on the role of 'community pain champion', using a coaching approach to empower community-engaged workers under their supervision.
- HCPs should have basic skills in pain neuroscience education; they do not need in-depth pain science expertise, but enough understanding to integrate biomedical principles within the biopsychosocial model rather than treating them as separate or conflicting.
- Future HCPs should be made aware of unconscious bias in communication, pain assessment and treatment regarding minorities^{105-107, 111-113}, social status¹¹⁴ or genders¹¹⁵.

Target stakeholders:

- Universities and university colleges representatives

- HCPs organisations
- Federated authorities
- FOD VVVL - SPF SPSCAE
- NIHDI (RIZIV - INAMI)
- Patient associations

5.4.5 Public awareness

Action point 5. Improve public awareness on pain and pain management.

Context: Public education in pain is considered as crucial by many authorities abroad who recommend including it in any strategy for improving pain management. There is a need of societal understanding of what it is pain but also what is health promotion and how to implement it in the daily life.

- Awareness media campaign is proposed as one possible intervention to change the society culture, engage health system decision makers in supporting comprehensive chronic pain management, prepare patients to be more empowered, inform families and colleagues. Several examples are suggested such as advertising against painkillers, public campaigns on stress (and how to reduce it), on lifestyle (including diet), on physical exercise, on neuroplasticity or on importance to move from school age. Other potential actions are direct access from sports clubs to schools (to avoid 'parent-dependent' transport), health education at school (to get a grip on life course of patients), exhibition on pain for the general public, annual pain walk, patient ambassadors and CPC information session open to the local population. In Belgium, sensitization campaigns on health topics were launched these last years with a certain success regarding attitude or behaviour improvement. There is also a long history of media campaigns on pain across the world. Australia, Canada, the U.S. or France are very interesting examples. Repetitive events such as the annual month or week of pain are often organised. There is little data on the real impact on the public but we can say that these campaigns generally bring together different pain associations and heavily involve patients in the process, for example through testimonials.
- Children education in school settings, aimed at young people, emerge as an effective strategy for improving knowledge, beliefs, and attitudes aligned with the contemporary pain paradigm. Several initiatives have been developed to educate children or adolescents about pain neuroscience such as the PNE4Kids in Belgium. However, we found few studies assessing the impact of pain education in healthy children/adolescents and more controlled trials with longer-term follow-up are needed to investigate the effectiveness of this intervention before any firm recommendations can be made.

Based on these findings, we proposed two action points to the stakeholders. Acceptability and feasibility is high for the first one. Numerous stakeholders recognize the value of media campaigns in the context of pain education. Physicians, in particular, have noted that such initiatives may alleviate their clinical burden by addressing widespread misconceptions about pain that have been perpetuated across generations. However, some stakeholders mentioned also concerns regarding the cost and the uncertain efficacy of media campaigns. The second action point received moderate support in terms of acceptability and feasibility. Two opposite positions are found. Some advocate it because such interventions could have a positive influence on society (and its perception of chronic pain) and a preventive healthcare effect (e.g. by teaching positive coping strategies). It could also provide emotional support to children affected by pain, especially through age-appropriate methods like games and testimonies. Other stakeholders mentioned concerns about



cognitive appropriateness, relevance, and resource constraints (schools face competing priorities, including staff shortage). They suggested that a more targeted approach—focusing on adolescents or children with chronic pain—may be more viable. Pilot testing and post-implementation evaluation are recommended.

Two action points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain “Public awareness” is available in the corresponding sheet in [Supplement 3](#).

Objectives of public awareness:

- To improve public knowledge on acute and chronic pain, mechanisms of pain, factors (BPS) that influence pain, lifestyle, treatment options...;
- To disseminate clear explanation about all the factors that can influence pain;
- To encourage lifestyle supporting health (e.g. regular physical activity);
- To support patient empowerment (emphasizing the value of pain self-management programs in enabling people to live better with chronic pain);
- To decrease misconceptions about (chronic) pain;
- To decrease the risk of patient stigmatisation.

Action point 5.1. Set up a public campaign to demystify chronic pain

The campaigns should be:

- Based on existing experiences on media campaigns in health domains from Belgium and media campaigns in pain from abroad;
- Using mainstream and social media;
- Starting with predefined objectives, target audience, expected effects and messages to be conveyed;
 - Given the problem of low health literacy in the Belgian population, sufficient attention must be paid to the comprehensibility of the message. In addition, it is not only necessary to communicate how people should adapt, but also to put enough emphasis on the reasons behind the recommended measures. Finally, careful consideration must be given to how the target audience can be reached, especially when the campaign is aimed at the more vulnerable groups within the population;
 - The cost-effectiveness of each option (TV, radio, social media...) needs to be assessed thoroughly according to the objective, target audience, expected effects and budget.
- Repeated over time;
- Strengthening by public events as exhibition.

Action point 5.2. Encourage research on pain education for healthy children/adolescents at school**Points of attention:**

- The Federal Public service Chancellery of the Prime Minister (Directorate-General for Communication) provides technical data sheets to help prepare a media campaign.

- At the European level, there is an informal network of senior government communication professionals that promotes collaboration, shares best practices, and supports members in strengthening public communication throughout Europe (<https://veniceclub.eu/>)
- Some barriers to advocacy campaigns are identified such as competition between different topics for the attention of the general public and the resources of health system decision-makers.
- There is a risk that awareness campaigns as all educational interventions can increase health inequities.¹¹⁶ It is why campaigns (or tools) should be adapted to vulnerable population, with the involvement of the targeted population since the development of the action.
- Prior to the research implementation, consultations should be held with schools to determine how this can be introduced while keeping the (already high) burden on schools under control.

Target stakeholders:

- Media professionals
- Public health organisation and authorities
- HCPs and social professional organisations
- Patient associations
- Current organisations (e.g. gezondheid en wetenschap) who are focused on public information campaign
- Insurers, sickness funds
- Researchers
- Schools for children and adolescents

5.4.6 Financing

Action point 6. Improve financing of chronic pain management

Context:

The literature highlights several financing-related barriers to effective pain management. Inadequate financial coverage from social security and health insurance systems can limit patients' access to care, despite the principle enshrined in a royal decree on the federal strategic vision guaranteeing accessible, high-quality care for all, particularly for s vulnerable groups¹¹⁷. Funding models such as fee-for-service or lump-sum payments may conflict with the biopsychosocial (BPS) approach, discouraging healthcare professionals from addressing psychosocial dimensions due to lack of compensation. Additionally, economic insecurity during transitions from welfare to employment can hinder patients' return-to-work processes. In Belgium, the current financing system for health care also presents significant challenges for both patients and healthcare providers. Except in funded CPCs, patient co-payment can be high, due to reimbursement limits for physiotherapy and psychological consultations. Limited availability of conventioned professionals further exacerbates financial strain, especially for patients unable to work. The global budget for funded CPCs does not cover their operating costs and the activities set out in the agreement with the federal health authorities.

Several proposals were identified to adapt the financing roles to the BPS approach for the patients with chronic pain: implement a new financing model in place of pure fee-for-service system (e.g.



combining fee-for-service payment with alternative payment methods or pay for quality), review the financing method of the funded CPC, review the tariff agreements (nomenclature). The recent interfederal agreement to establish an integrated social and health care plan could facilitate the BPS approach by establishing a structural cooperation between the federal and federated authorities.

Based on these statements, three action points were proposed to stakeholders who assessed their acceptability as high but their feasibility as moderate. They mentioned there are several obstacles to revising chronic pain management financing, including the need for political will, institutional resistance, the nomenclature review conducted in isolation by discipline, and the planned savings in the healthcare budget. A number of considerations were also formulated concerning the development of an integrated care programme specific to chronic pain including the need for dedicated funding, intergovernmental coordination, and formal recognition of chronic pain as a public health priority. Stakeholders emphasize that the programme must align with broader integrated care efforts, preserve physician autonomy, and avoid fragmented or symptom-focused approaches. Clear metrics for evaluating lump sum financing efficiency are also essential. Finally, while stakeholders recognize the need to test any new funding model, they question what form this should take.

Three actions points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain “Financing” is available in the corresponding sheet in [Supplement 3](#).

Objectives of financial actions:

- To improve financing access to multimodal care to patients;
- To improve interprofessional collaboration;
- To improve care coordination;
- To support better financing of the “intellectual act” (e.g. the time spent with the patient).

Action point 6.1. Revise the current funding system for pain management by incorporating this consideration into the ongoing revision of nomenclature and hospital payment system.

- To encourage multimodal and patient-centred care during the management of patients with chronic pain, the current system of financing for pain centres should be revised. During this revision, all dimensions of the biopsychosocial model should be considered (i.e. interventional procedures, medications, interventions provided by physicians, physiotherapists, psychologists, nurses, social workers and care managers).
- Due to this multitude of dimensions, it would be appropriate to analyse the transition from a purely fee-for-service financing system to a mixed financing system, similar to payment systems used in integrated care (see KCE report 359).⁹⁶
- This new financing model should be developed as part of broader discussions on the revision of nomenclature and hospital payment system.
- This new model should be based on clinical practice guidelines and recent evidence, in order to discourage the provision of non-evidence-based care (see Care pathway).

Action point 6.2. Allocate a specific budget for integrating care for patients with chronic pain into the integrated care programme (see Interprofessional collaboration).

- A specific budget should be foreseen for the integration of chronic pain care at micro (see Patient centeredness), meso (see Interprofessional collaboration) and macro levels (see national action plan).

Action point 6.3. Implement transitional measures before rolling out the new financing mechanisms

- The practical implementation details and financial impact of the proposed financing measures could be tested in an appropriate design study (e.g. “virtual” payments or test in volunteer providers) (see KCE report 359)⁹⁶

Points of attention:

- The financing of chronic pain management should be a part of a broader reflection on the financing of chronic diseases. It also should serve as a model for other complex conditions. Recognizing chronic pain as a chronic health condition would entitle patients with chronic pain to a range of rights dedicated to chronic patients.
- Since the current existing pathways are considered too fragmented, a consistent and holistic vision should be adopted to avoid further compartmentalization and fragmentation.
- The link between reforms in financing and hospital reforms must also be taken into consideration
- The political will to reform the management of chronic pain in Belgium is paramount.
- Experience from the development of other inter-federal programs has already shown that this involves a high degree of complexity and time investment.
- The institutional resistance to change has to be taken into account.
- The revision of the nomenclature is performed by discipline and is not yet transversal.
- Funding for chronic pain management should include a budget for supporting patients in maintaining or returning to work.
- The choice of study design to test the financing system should be guided by its ability to support decision-making. There is a need for consensus on how to measure the efficiency of lump sum funding.

Target stakeholders:

- Federal Public Service Health, Food Chain Safety, Environment (FOD VVVL - SPF SPSCAE)
- NIHDI (RIZIV-INAMI)

5.4.7 Data collection and research

Action point 7. Support data collection and research

Context: In Belgium, there is a paucity of epidemiological data on chronic pain although evidence showed that standardized data collection has clear benefits in improving patient care pathways. The IASP provides guidance to support the development of (chronic) pain registries. In the literature, a double aim of data collection is proposed: a data collection on chronic pain epidemiology and a data collection on treatment monitoring. Several obstacles to those data collections were identified: privacy and general regulations for the protection of workers (RGPD-ARAB) concerns, the nature of the chronic pain condition, and the human and financial resources to ensure the long-term sustainability of the information systems. The experiences from abroad show that success of data collection for a registry depends on the nature and conciseness of the data, as well as the IT solution supporting the collection. It is recommended that data collection is piloted in a



small number of CPCs as part of an international collaboration. Registry in primary care is considered as too challenging by the responsible experts of these experiences.

A research agenda is available in Belgium regarding the effect of the BPS approach on chronic pain management, and some research questions are also proposed to measure the effect of interprofessional training on the implementation of multimodal chronic pain treatment. Research is also needed to develop validated indicators. A proposed solution for the prioritisation of research is the creation of a multistakeholder working group that includes not only researchers, universities, health professionals but also local communities, patients, and policy-makers.

Based on these findings, four action points were proposed to the stakeholders. Their acceptability is high except for two action points. The proposition not to consider creating a registry in primary care was assessed poorly acceptable. The stakeholders emphasised that excluding primary care from data collection could result in an underreporting of chronic pain conditions. Therefore, the action point was changed. The other fairly acceptable proposition focused on registry in CPCs. The stakeholders mentioned that CPCs are already registering data, data are also collected by hospitals, and a registry would only make sense with strong political support, which remains uncertain in the current context. Another problem is that such a registry would leave out a significant portion of patients, since not all have access to pain centres.

Feasibility is moderate for three action points and low for one (registry in primary care). The stakeholders recognize the importance of collecting data to enhance chronic pain management and optimize resource allocation. However, they mentioned several technical and legal concerns that are included below in the points of attention and lead to the formulation of an additional action point (protocol). Regarding action points on research, the stakeholders confirmed that patients, HCPs, and all professionals involved in chronic pain management should be actively engaged in developing the research agenda and participating in the research itself. This would ensure greater relevance and usefulness of the results. This would also strengthen patients' confidence in research. However, in practice, this requires real coordination between the different actors, political will to finance and follow this agenda, and time to organize effective patient participation. There is also one comment that relying on what has already been identified may prevent the emergence of new research topics.

Five action points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain "Data collection and research" is available in the corresponding sheet in [Supplement 3](#).

Objectives of data collection and research:

- To assess the pain burden in Belgium
- To improve pain knowledge of HCPs, patients, policy- and decision-makers and employers;
- To generate data for research purposes;
- To support the evaluation of quality of care in primary, secondary and tertiary (pain centres) care;
- To support the evaluation of social care (e.g. return to work interventions);
- To support the evaluation of quality of education;
- To support the development of quality indicators;
- To support the definition of relevant research topic.

Action point 7.1. Estimate prevalence and/or incidence of chronic pain in Belgium, if possible, using existing data collections (e.g. extracting chronic pain diagnosis from medical records based on a predefined data extraction protocol, medication consumption in the IMA/AIM data, or adding specific questions about chronic pain to the Sciensano national health interview survey that already includes overall questions on pain).

Action point 7.2. Assess the need for registry in primary care.

- Before considering a registry in primary care, the need for financial and human resources should be balanced with the added value of the collected data for decision-making purposes.
- If the balance is unfavourable, the data collection should be focused on available data (see action 7.1) or on CPC (see action 7.3).

Action point 7.3. Assess the need for registry in CPCs.

- Before considering a registry in CPCs, the need for financial and human resources should be balanced with the added value of the collected data for decision-making purposes.
- If the balance is unfavourable, the data collection performed by the Federal Public Service Health, Food Chain Safety, Environment (FOD VVVL - SPF SPSCAE) should be supplemented with data on patient outcomes and care pathways.
- If a registry of patients with chronic pain treated in a CPCs is considered, the definition of the minimum data set should be supported by the international collaboration and be piloted in a small number of CPCs. The registry should be designed to (1) support clinicians with the management of their patients (2) support hospital managers to assess the performance of their centre based on predefined quality indicators and to learn lessons regarding the BPS care organisation (3) provide real world data for researchers (4) provide a dashboard to support decision making of health authorities.

Action point 7.4. Develop the research agenda by taking into account the research questions that have already been identified in Belgium and at an international level and involve patients and relevant professionals (see Multistakeholder group) in the selection of research topics.

Points of attention

- The current EMDs are not equipped to handle additional data collection regarding chronic pain due to differences in coding systems. Integrating dedicated software modules could provide solutions.
- The code ICD-11 is currently poorly used in practice.
- Piloting data collection in research should support the collection of real-world data on a larger scale.
- Extracting data from nursing and psychological records is more complex and often not feasible, which limits the scope of data collection.
- The protocol should ensure high-quality data entry, compliance with GDPR regulations, and secure data extraction. Ethical committee approval would also be considered.
- The administrative burden of the data collection for both GPs and CPCs should be minimal.
- Data could also include information on medication use, particularly drugs related to neuropathy (e.g. gabapentin, pregabalin) and opioids. Analysing prescription data could serve as a first approach to identifying chronic pain patients treated with medication. This could be complemented by analysing non-prescription medication data from pharmacy databases.



However, the data on medication consumption may only reflect the number of patients with chronic pain who are treated with reimbursed medication.

- The involvement of home care services and palliative care networks should be considered for data collection.
- Sufficient financial and human resources are necessary to support this effort.
- The use of existing data could be an interesting avenue to explore within the CPCs, but it must be accompanied by greater coordination. Implementation would also require defining the data to be collected, harmonizing practices between centres, and ensuring their quality and regular updating. The proper definition of data for a broader registry might be informed by experience from the Neuro-Pain® registry.
- Clinical research should also consider sociodemographic characteristic variations in patients with chronic pain (e.g. the gender differences in pain management¹¹⁵).
- Research should explore innovative models of care (e.g. care given outside offices of HCPs by building capacities into communities, inclusion of non-HCPs in pain management...)
- Interdisciplinary research centres active in the fields of care and welfare, such as LUCAS in KU Leuven could be involved in the research process given that it is conducting research into network establishment to achieve effective integrated care.
- Strong political commitment is an absolute prerequisite for enabling implementation both of data collection and research.

Target stakeholders:

- Federal public service: FOD VVVL - SPF SPSCAE
- Data providers such as patients, GPs, other physicians and CPCs
- Policymakers from health, social, educational, labour... sectors at federal and federated authorities
- Researchers

5.4.8 Multistakeholder group

Action point 8. Support a multistakeholder group

Context: The multimodal management of chronic pain requires a paramount paradigm shift from the biomedical model towards the biopsychosocial approach. This implies interventions in many areas including patient education, healthcare professionals (HCPs) training, changes in care institutions, adaptations of the financing model, etc. This is a huge challenge that requires involvement of many decision-makers and stakeholders and a strong partnership between governments, health and social care practitioners from the first to the third line and patients. In this context, the stakeholder involvement is considered as crucial to interact with the policymakers. However, the voice of stakeholders is often divided among many associations. In Belgium, even if patient associations called for strong patient representation in the elaboration of pain management policy, there is currently no national group for pain gathering HCPs and patient associations. Several leadership multistakeholder groups focusing on pain exist across the world. Their missions include advocating to policymakers (US, NL, PT, EFIC), raising awareness of the impact of pain (AU, UK, US, NL, PT), delivering (AU) and/or supporting the achievement of pain national plan goals (AU, CA), encouraging and following research findings (AU, UK), expanding learning opportunities for professionals (UK), stimulating collaboration and sharing best practices between

professionals (UK, CA), promoting the well-being of workers in the pain sector (UK) and empowering patients (UK). The importance of involving patients as key partners in the process is emphasised.

Based on these findings, two action points were proposed to the stakeholders who assessed they are highly acceptable and feasible. The stakeholders agree that a multi-stakeholder group would allow for more coherent, representative and cross-functional coordination, by integrating the voices of patients, the field, social services and care. Such a group would make it possible to recognize chronic pain as a public health priority and bring more consistency to actions. This approach appears feasible, as analogous initiatives have demonstrated success in other domains. For instance, All.Can Belgium focuses on cancer care. Some challenges are identified in the points of attention below.

More information on the background, existing experiences and stakeholders feed-back for the domain "Multistakeholder group" is available in the corresponding sheet in [Supplement 3](#).

Objectives of the multistakeholder group:

- To increase pain knowledge of decision makers and other stakeholders involved in policy definition;
- To define patient needs and support decision makers in defining priorities, objectives and resources for improving the chronic pain management in Belgium;
- To improve coordination between health and social care professionals, create community capacity, develop and disseminate pain-related guidance and best practices;
- To stimulate collaboration among governments, regulators and health professional organizations, people with lived experience, non-governmental organizations, researchers, employers, and other stakeholders with a role to play in the management of chronic pain;
- To monitor the implementation of policy decisions;
- To identify priorities for new primary and secondary research and the communication of these priorities to relevant funders.

Action point 8.1. Formally recognize a Belgian multistakeholder working group gathering people experiencing pain, social and health care professionals, researchers, representatives from universities and university colleges, employers, sickness funds and policy-makers

The missions of this multistakeholder working group could be to:

- Collect and analyse data on (chronic) pain management in Belgium;
- Raise policy-makers' and public awareness on pain and its impact;
- Advocate for pain to be a political priority;
- Develop and support the implementation of actions to improve chronic pain management. These actions could be compiled into a National Action Plan (see National Action Plan);
- Support HCPs trainings;
- Encourage collaboration and sharing of best practices between professionals from the health care, social and occupational sectors;
- Define research priorities, encourage the conduct of studies and monitor their results;
- Promote patient empowerment.



Action point 8.2. Establish sufficient conditions to allow this group to function.

Certain conditions must be met to ensure the effective operation of this group such as:

- Basing the group composition on existing Belgian actors and providing support from existing associations (such as the '*Het Observatorium voor de chronische ziekten*' - '*Observatoire des maladies chroniques*' if a specific "pain" section is created);
- Ensuring balanced linguistic representation of patient representatives in the working group;
- Identifying within the group of key opinion leaders who can take actions, including in communication, in order to improve pain management;
- Providing a clear mandate and transparent decision-making for ensuring impact and continuity.
- Equipping the group with the necessary resources to be efficient, which may include:
 - Material and financial support to dedicate time and energy to this work;
 - Technical support for the communication between the group members (e.g. platform, hub)
 - Compelling data and stories about the current burden of chronic pain in Belgium and the implications (e.g. costs) of not addressing it (see sheet Data collection and research);
 - Compelling data and stories about the successful management of chronic pain.

Points of attention or required conditions

- It is crucial to make sure that all stakeholders are represented: pain centres and pain physicians, second and third line hospital structures, and patients. However, people living with chronic pain may be unwilling (e.g. due to the stigma associated with chronic pain) or unable (e.g. due to the limitations related to having chronic pain) to be meaningfully engaged in these activities. Contrary, it is important to not include political groups.
- Both federal authorities and federated entities should collaborate (and agree). This implies to work in at least two and even three languages.
- An important challenge is the complex coordination, possible administrative burden and the risk of slow decision-making due to divergent interests.
- HCPs may be sceptical about or unwilling to implement recommendations from a working group.
- The group should work in coherence with other policy plans (integrated care, e-health, hospital financing and nomenclature reform, etc.). Belgian institutional complexities could complicate the approach, but the cancer example shows that such an approach is possible if properly supported.
- There is a risk that if the group bears so much responsibility and requires so much material and financial support, people who participate will be those who are no longer involved in clinical practice.
- The consideration of placing such a working group within the Observatory for Chronic Diseases makes sense, but its implementation depends on a number of preconditions and the precise design of the working group.
- The efficacy of the group should be assessed.
- At the system level, the available resources could be too limited to support the development and ongoing activities of a working group.
- It must be considered that patience will be required in the process of making progress.

Target stakeholders:

- Patients and patient associations
- Health care professionals
- Social professionals
- Researchers
- University and university colleges representatives
- Labor sector representatives
- Sickness funds representatives
- Decision-makers (at federal and federated entities level)

5.4.9 National Action Plan**Action point 9. Prepare a National Action Plan on Pain**

Context: Chronic pain has such an important impact on the individual and societal level (including use of health care resources and long-term sick leaves) that political involvement is considered as a prerequisite to enhance the adoption of the BPS model. The literature review also showed that a low level of political support may lead to access issues to optimal pain management (including RTW). This can be associated with a lack of credentialed HCPs and centres, obstructing regulations, HCPs discomfort between the patients' needs and the organisational pressure...

One proposed strategy in the literature to increase political involvement in pain management is the elaboration of a National Action Plan (NAP). This encompasses all the other actions points. Several countries have developed and implemented NAPs for the pain management. These plans cover many domains of actions such as patient empowerment (AU), care pathway with timely access to appropriate pain management (AU, IASP) and equity (CA), including prevention, early intervention, patient centeredness, patient education, RTW (AU, CA), collaboration strategies between lines of care and services (UK, DK), HCPs training (AU, US, CA, IT, IASP), guidelines (DK) and accreditation standards (AU), sufficient financing and resources (AU), public awareness (AU, US, DK, IT, IASP), evaluation of outcomes (AU, CA, DK, IASP) research (AU, US, CA, UK, DK, IASP), and leadership groups (AU, CA, UK, IASP). Implementation of the NAP is sometimes monitored but rarely assessed.

In Belgium, many actions were already taken to improve pain management such as the federal funding of certain chronic pain centres (CPCs), the implementation of multidisciplinary algological teams in hospitals or the recognition of nurses' specialisations in pain but, as we showed repeatedly in this report, this is clearly not sufficient to ensure optimal management of chronic pain. At the same time, several NAPs are currently on-going in the healthcare sector (e.g. Sepsis Plan) which generate political acknowledgement (and attention in the press).

Based on this statement, four action points were proposed to the stakeholders. Their acceptability is high (or even very high) but the feasibility raises a few questions. The stakeholders agree on the utility of a NAP. Chronic pain clearly illustrates the need for a cross-disciplinary approach: it affects the body and mind, health, social issues, education, employment, and daily life. The number of people living with chronic pain is increasing exponentially, now also affecting young adults and even adolescents. Without rapid and coordinated action, society risks considerable human and economic costs: young lives weakened from the start, increased sick leave, lost productivity, healthcare overload, and increased precariousness. Limiting thinking to the health sector alone reduces the



effectiveness of actions and increases patient isolation. On the contrary, linking these dimensions helps restore meaning, strengthen the coherence of interventions, and combat the tendency to fragment and individualize problems, which further weakens the affected people. Furthermore, without a clear agreement between federal and federated entities, there is a risk that initiatives will remain scattered and ineffective. A NAP would show there is a strong political will to take this topic into account. The white book from the Belgian Pain society could be used as a first draft of the plan.

Four action points are proposed below. More information on the background, existing experiences and stakeholders feed-back for the domain “National Action Plan” is available in the corresponding sheet in [Supplement 3](#).

Objective of the National Action Plan:

The major aim of the National Action Plan is to increase the policy support for the implementation of a multimodal approach to chronic pain management in Belgium, through the commitment of policy-makers at various levels (federal and federated authorities in health, social, education, labour, etc.).

Action point 9.1. Establish an integrated strategy in pain management in the form of a national pain action plan (NAP) for federal and federated authorities from the health and other sectors such as education, social affairs, labour, etc.

Action point 9.2. Define a protocol agreement (*‘protocolakkord’- ‘protocole d’accord’*) between the federal and federated authorities for the elaboration and implementation of the NAP.

Action point 9.3. Take into account the action domains identified by this study and formulate objectives and supporting means for these actions i.e.:

- Patient centeredness and empowerment of patients with a particular attention to vulnerable populations;
- Care pathways integrating multiple levels of health and social care, including the maintain and return to work;
- Effective collaboration between health and social care professionals;
- An appropriate financial model;
- Training of HCPs, including guidelines and tools;
- Data collection and research;
- Public sensibilisation on pain and health promotion;
- Multistakeholder working group for pain.

Action point 9.4. Use enablers to facilitate involvement of policy-makers such as:

- Emphasizing the burden of chronic pain in health and social care;
- Highlighting the potential cost savings of multimodal management of chronic pain from reduced hospitalisations, surgeries, medication dependency and sickness leaves;
- Defining national objectives but also allowing a territorial approach;
- Starting with actions of low-profile change that can demonstrate how it can work;
- Establishing realistic timelines for achieving change;
- Monitoring the implementation of the plan by measurement and follow-up of both process and outcomes.

**Points of attention:**

- Barriers such as other political priorities, institutional fragmentation, lack of interest from the policy-makers or lack of financing to support a new plan can hinder the development of a Belgian NAP for pain management.
- Inconsistency in the interpretation of policy is a risk that emphasises the need for deeply prepared discussion and clear redaction of documents.
- Implementation of each action points is challenging, as has already been mentioned in the other actions described in this study.
- Be careful, however, that the message is neither caricatured nor stigmatizing and avoid potential unconscious bias in communication, pain assessment and treatment regarding minorities¹⁰⁶⁻¹¹¹, social status¹¹² or genders¹¹³.
- Patient associations propose their support.
- It is paramount to start with a definition of goals and hard endpoints. If a national plan is developed, follow-up (both process and outcome) will have to be part of the plan – the importance of evaluation cannot be overstated.

Target stakeholders:

- Policy-makers from health, social, education, labour... sectors at federal and federated authorities

5.5 Priority of the actions

Stakeholders were invited to assign a priority score to each action point, ranging from 1 to 10. Individual scores below 5 were rare. The means of the priority scores are presented in Table 10. To visualize the results, we applied a colour scale based on the following categories: green for scores between 9 and 10, turquoise for scores between 8 and 8.9, dark blue for scores between 7 and 7.9, grey for scores between 6 and 6.9 and red for scores below 6.



Table 10 – Means of priority scores attributed by the stakeholders to the action points.

Patient centeredness						Care Pathway		Intercollaboration prof.				
AP1	AP2	AP3	AP4	AP5	AP6	AP1	AP2	AP1	AP2	AP3	AP4	AP5
8.1	8.5	7.9	7.5	7.9	7.0	8.6	7.5	8.5	8.6	7.7	7.4	7.2
Training						Public		Financing				
AP1	AP2	AP3	AP4	AP5	AP6	AP1	AP2	AP1	AP2	AP3		
9.6	8.6	8.7	8.3	6.8	6.7	7.6	5.3	7.8	7.4	7.3		
Data collection & research						Group		National action plan				
AP1	AP2	AP3	AP4			AP1	AP2	AP1	AP2	AP3	AP4	
8.0	5.3	6.2	6.8			7.7	7.3	8.0	7.5	8.2	8.1	

The highest score is obtained by training of professionals. Lowest scores are observed in the domain of public awareness (for the action proposing research for children education) and in the domain of data collection (because we formulated initially a proposition **against** a registry in primary care which was not acceptable for the stakeholders). The visualization reveals mainly that results are not clear. Each domain includes actions that are considered relatively high priority. This observation reinforces a key conclusion of this study: improving pain management requires interventions at multiple levels.

We illustrated this challenge in the following figures. The nine domains of interventions are interconnected, resembling the spheres of the Belgian Atomium, with each sphere representing the involvement of different stakeholders. At the base, we positioned the national action plan and policymakers. Without policy will, the structure could not be established. Furthermore, as with an iron atom—or the Atomium—removing one sphere would cause the entire structure to collapse.

Figure 9 – Nine domains of intervention interrelated as the Atomium structure.

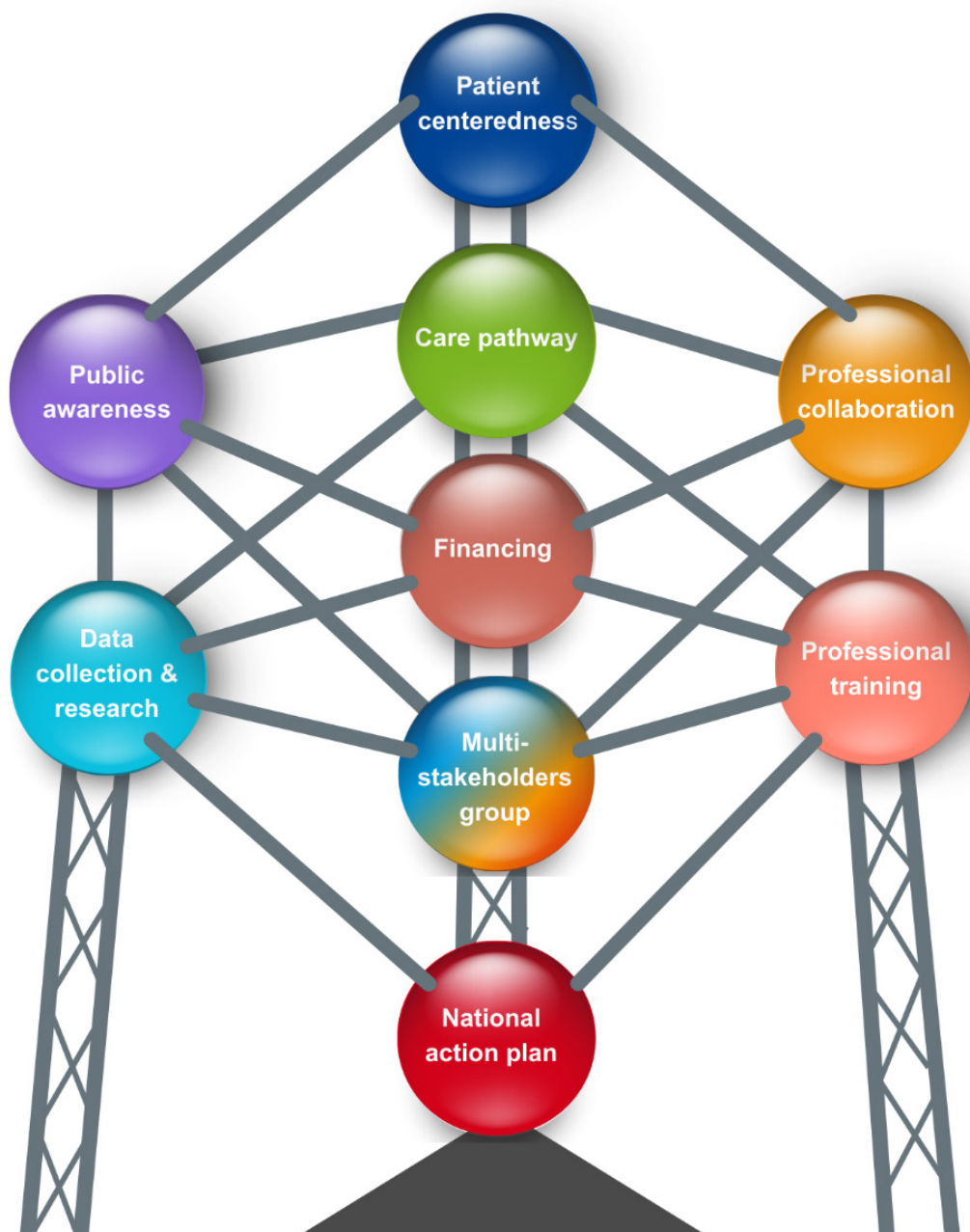
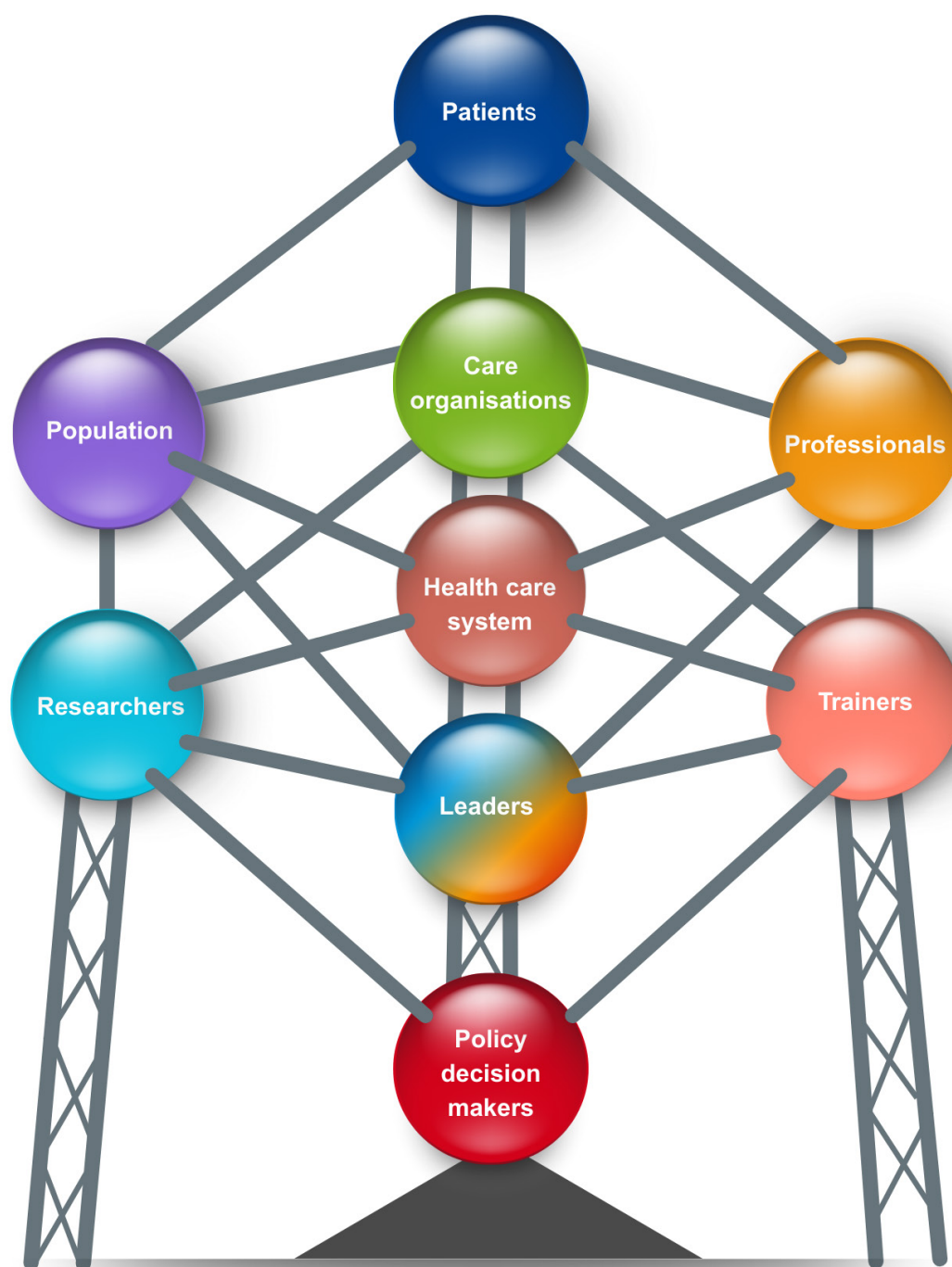




Figure 10 – Target stakeholders for the nine domains of intervention interrelated as the Atomium structure



5.6 Conclusion

This study explored a wide range of information sources to propose actions aimed at improving the management of chronic pain.

Throughout the research, both patients and healthcare professionals reported significant difficulties in adopting the biopsychosocial approach. When this approach is introduced, it often comes (too) late in the care process and is hindered by numerous obstacles, both individual and systemic.

Nine domains of intervention were identified. This highlights the complexity of the situation: proposing a single solution in response to the diverse barriers encountered in the multimodal management of chronic pain is not relevant. Moreover, each patient is unique. Their history and needs have to be taken into account to support patient empowerment, even though this poses challenges for professionals and the healthcare system. Stakeholders endorsed this perspective, emphasising that developing a care pathway is essential to better guide patients (and avoid therapeutic wandering). However, such a pathway have to be patient-centred, remain flexible and include multiple therapeutic options.

Among the proposed interventions to enhance biopsychosocial pain management, some are already known and have been implemented both in Belgium and abroad. Several are based on the principles of integrated care programmes, which Belgium, like other countries, is also striving to establish.

Two major issues emerged during our analysis. First, the question of implementing the identified interventions. A national plan (which is also one of the proposed actions) could help integrate the various interventions. However, without adequate resources, this plan risks remaining a statement of intent and failing to meet actual needs and expectations. Furthermore, implementing such a plan poses a genuine challenge and should be subject to regular evaluation. This will require data collection and analyses, as well as adaptation of action. The proposition to establish a multistakeholder group to support the pain plan makes sense. The second concern relates to the sustainability of the actions. Some will require time and therefore long-term support. Professional training clearly illustrates this. On the one hand, several years will be needed to train the many cohorts of professionals involved in pain management. On the other hand, our research clearly showed that one-off training is insufficient: training must be repeated throughout the different stages of education, including continuing education. During this study, many representatives of Belgian healthcare professional education engaged with our questions and expressed their intention to take action. However, this commitment must be sustained over time.

The concept of chronic pain is constantly evolving. Pain neuroscience education is a dynamic tool that must be adapted to new knowledge while integrating insights from communication sciences. Stimulating research is highly relevant, whether to better understand the mechanisms underlying chronic pain or to identify strategies to bypass, reduce, or control them. This will allow for the addition of innovative interventions to those proposed here. Moreover, implementation science offers major advantages for the effective application of recommendations. Regular monitoring of developments in this field is therefore essential.

The nine domains of intervention as presented above show that improving multimodal pain management depends on a set of interrelated conditions. Crucially, they remind us that this improvement does not rely solely on healthcare professionals and their patients, but involves many actors, extending to society as a whole.

Throughout the research process, alongside the need for funding and care reorganisation expressed by stakeholders, the call for political will to recognise chronic pain as a health condition in its own right was strongly voiced. The impact of chronic pain is immense, not only at the individual level but also societally. Pain causes distress for those affected and their families. It also generates societal costs, in terms of healthcare resource use and productivity loss due to sick leave. The potential benefits of improved pain management are therefore substantial.



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