



28th Annual Gabor Racz
Advanced Interventional
Pain Conference and Workshop

Budapest, Hungary **August 25-27, 2025**





WIP

13TH WORLD CONGRESS

2026

 21 - 23 September 2026

 Hilton Mexico City Reforma

 wipcongress.com



Scan the
QR Code to
register your
interest





28th Annual Gabor Racz Advanced Interventional
Pain Conference and Workshop
Budapest, Hungary **August 25-27, 2025**

Who Stays and Who Leaves? Exploring Predictors of Dropout in Chronic Pain Treatment

WIP BUDAPEST 2025



Conflicts of Interest

NONE

NOT PREDICTIVE OF DROP OUT

UNMODIFIABLE RISK FACTORS FOR DROP OUT

RISK FACTORS FOR DROP OUT

patient characteristics

patient activity

pain

psychological

patient beliefs

Provider characteristics

Treatment planning/logistics

RISK FACTORS FOR TREATMENT FAILURE

NOT CORRELATRED WITH TREATMENT FAILURE

POSITIVE ADHEARANCE FACTORS

Educational opportunities

INCREASING ACTIVE PATIENT PARTICIPATION IN REHABILITATION

NOT PREDICTIVE OF DROP OUT

- **Multidimensional pain inventory classification** Clin J Pain. 2002 May-Jun;18(3):139-43.
- **SF-36 physical composite score**
- **SF-36 mental health composite score**
- **Oswestry**
- **beck depression inventory**
- **VAS pain scale,**
- **Dallas Pain Questionnaire** Anesth Analg. 2003 Jul;97(1):156-62
- **demographic variables**
- **standardized assessment** The Clinical Journal of Pain 4(4):p 223-224

UNMODIFIABLE RISK FACTORS FOR DROP OUT

- Male gender
- Younger age
- Older age
- **Ethnicity**
- Family problems
- Financial difficulties
- Taking a job
- Significant others attitudes
- History of substance abuse
- Being a past victim of assault/abuse
- Side effects
- **Return to work expectation**
- Intervening medical condition

Turk DC, Rudy TE. Pain. 1990 Oct;43(1):7-25.

Ruth Hardman, Sharon Lawn, George Tsourtos, *Pain Medicine*, Volume 20, Issue 2, February 2019, Pages 267–277, <https://doi.org/10.1093/pm/pny167>

Takahashi N, Takatsuki K, Kasahara S, Yabuki S. J Back Musculoskelet Rehabil. 2022;35(4):793-802. doi: 10.3233/BMR-200292. PMID: 34957984; PMCID: PMC9398070.

Stollenga D, Schiphorst Preuper HR, Dijkstra PU, Boonstra AM, Reneman MF. Disabil Rehabil. 2022 Apr;44(8):1321-1327. doi: 10.1080/09638288.2020.1800839. Epub 2020 Aug 4. PMID: 32748669.

Ruth Hardman, Sharon Lawn, George Tsourtos, *Pain Medicine*, Volume 20, Issue 2, February 2019, Pages 267–277, <https://doi.org/10.1093/pm/pny167>

Kurita GP, Pimenta CA. Arq Neuropsiquiatr. 2003 Jun;61(2B):416-25.

Portuguese. doi: 10.1590/s0004-282x2003000300017. Epub 2003 Jul 28. PMID: 12894277.

Predictors of dropout in interdisciplinary chronic pain management programmes: A systematic review. *Journal of Rehabilitation Medicine*, 51(1), 2–10.

RISK FACTORS FOR DROP OUT

patient characteristics

- disruptive or uncooperative behavior
- lack of motivation
- receiving unemployment or disability benefit
- **literacy difficulties**
- Goals achieved early
- No show/no contact/not described
- Variability in pain
- Pain behavior
- **higher daily opioid dose**
- Meds too long
- Duration of work disability
- Self-efficacy

Stollenga, D., Schiphorst Preuper, H. R., Dijkstra, P. U., Boonstra, A. M., & Reneman, M. F. (2020). Early termination in interdisciplinary pain rehabilitation: numbers, timing, and reasons. A mixed method study. *Disability and Rehabilitation*, 44(8), 1321–1327. <https://doi.org/10.1080/09638288.2020.1800839>

RISK FACTORS FOR DROP OUT

patient activity

- More hours resting
- Higher disability
- lower walking ability lower QOL associated with low back pain
- Walk distance
- Pre-treatment work status
- Number of sick days
- Ability to work
- Length of disability

pain

- pain relief
- pain reduction
- Higher pain levels
- High-interference pain
- oversensitivity to cold at a non-painful site pretreatment
- No improvement/more pain
- increase of physical complaints

ATTRITION, TRANSLATION, AND FAILURE IN INTERDISCIPLINARY PAIN REHABILITATION by LAURA JANINE MINTZ

Liang Y. Association between chronic pain and attrition: a prospective analysis of a national sample of midlife adults in the USA, 2004-2014. BMJ Public Health. 2024 Mar 22;2(1):e000564. doi: 10.1136/bmjph-2023-000564. PMID: 40018233; PMCID: PMC11812813.

Takahashi N, Takatsuki K, Kasahara S, Yabuki S. Characteristics of patients who dropped out after multidisciplinary pain management in Japan: A prospective cohort study. J Back Musculoskelet Rehabil. 2022;35(4):793-802. doi: 10.3233/BMR-200292. PMID: 34957984; PMCID: PMC9398070.

RISK FACTORS FOR DROP OUT

psychological

- Depression
- Anxiety
- Catastrophic thinking
- Distress due to pain
- Higher pain catastrophizing score
- Psychological complaints
- Any cluster B Dx
- Somatization
- Opioid dependency
- Pre-contemplation

RISK FACTORS FOR DROP OUT

patient beliefs

- dissatisfaction with the treatment
- hurt equals harm
- Discrepant expectations about treatment
- lower socioeconomic status patients who were not given medication-LIMITED INSURANCE BENEFITS
- programs that have a large psychological component without adequate justification
- Hoped for further diagnostics
- Expected a more physical approach
- Less focus on the psychological aspects
- Medical cause
- Second opinion/diagnostics/other treatment

RISK FACTORS FOR DROP OUT

Provider characteristics

- Expectations of a specific medical diagnosis
- Lack of acknowledgement of the patient's complaints
- Lack of trust in the physician
- **primary physical therapist reported a higher comfort level with treating chronic pain.**
- Type of institution

Treatment planning/logistics

- Short duration of the physiotherapy
- Interruptions such as phone calls
- Not being able to fit much therapy into the short appointment time
- Discontinuity of therapists
- Inpatient pre-post 21% dropout
- Outpatient pre-post 35 % dropout
- **Having to wait for more than 4 months before starting the treatment**
- Phase of treatment

Slot's, M., Dekker, J., Pont, M., Bartels, E. A., Geertzen, J. H., & Dekker, J. (2010). Reasons of drop-out from rehabilitation in patients of Turkish and Moroccan origin with chronic low back pain in The Netherlands: a qualitative study. *Journal of Rehabilitation Medicine*, 42(6), 566–573. <https://doi.org/10.2340/16501977-0536>

[Factors Associated With Physical Therapy Attendance Rate and Self-Discharge in People With Chronic Pain](#)

Mariah Balinski, Leanna Blanchard, Renzo Mendoza, Morgan Zaranec, Alison Duncombe, and Sangeetha Madhavan
JOSPT Open 2024 2:4, 332-339

Maser D, Müßgens D, Kleine-Borgmann J, Kincses B, Schmidt K, Elsenbruch S, Müller D, Bingel U. Setting the stage for pain relief: how treatment setting impacts interdisciplinary multimodal pain treatment for patients with chronic back pain. *Pain*. 2024 Dec 1;165(12):2909-2919. doi: 10.1097/j.pain.0000000000003318. Epub 2024 Jul 19. PMID: 39051839; PMCID: PMC11562758

Elevated Pain medication questionnaire 2.3 x more likely to drop out

Pain Pract. 2006 Jun;6(2):74-88.

PMQ specificity 93% sensitivity 74%

treatment dropouts were again almost twice as likely to be taking opioid medication relative to treatment completers, $\chi^2(1) = 2.80$, odds ratio = 1.95 (confidence interval: 0.889, 4.297), $P < 0.05$.

Anesth Analg. 2003 Jul;97(1):156-62

Among patients exposed to a 4-week IPP, 34% dropped out. In the final model, significant predictors of higher odds of attrition included **younger age** or being **unemployed**. Also, **patients on opioids at preintervention had higher odds of completing the IPP** than patients not on opioids at preintervention. Follow-up analyses revealed 24 of 37 completers (65%) on opioids at preintervention reduced or eliminated use over the course of the IPP.

Figure 2

Stacked Histogram of Employment by Completion Status

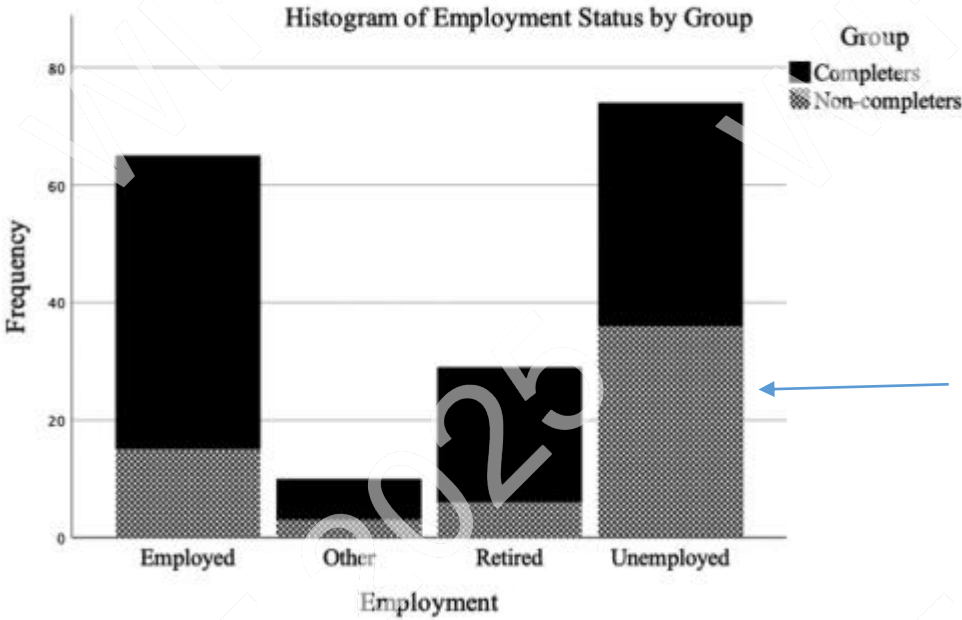
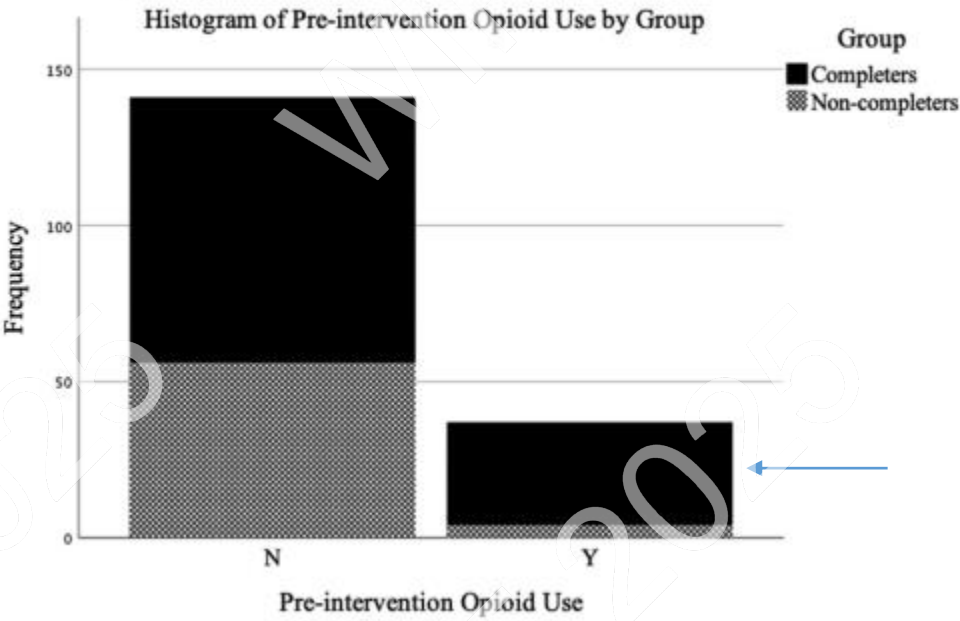


Figure 3

Stacked Histogram of Preintervention Opioid Use by Completion Status



	B	SE	Wald	Df	p-value	Odds ratio	95% CI	
							Lower	Upper
Age	-0.039	0.033	1.397	1	0.237	0.962	0.903	1.026
Work status: full time			0.947	2	0.623			
Work status: retired	0.595	1.194	0.248	1	0.618	1.813	0.175	18.829
Work status: disabled	-0.368	1.006	0.134	1	0.715	0.692	0.096	4.977
Cold pain: remote site	-0.132	0.053	6.299	1	0.012 [†]	0.876	0.790	0.971
Pain intensity (1-5/10)			5.671	2	0.059			
Pain intensity (6-7/10)	-0.297	0.965	0.094	1	0.759	0.743	0.112	4.925
Pain intensity (8-10/10)	-2.590	1.116	5.391	1	0.020 [†]	0.075	0.008	0.666
Constant	5.723	2.415	5.614	1	0.018	305.800		

[†] Denotes statistical significance.

non-completers (24.5%) reported significantly **higher pain intensity (9-10)** and **oversensitivity to cold at a non-painful site pretreatment**, with both variables also predicting completion of the IPP. In summary, these preliminary findings suggest that higher overall pain intensity and the presence of cold oversensitivity (at baseline) may identify patients at risk for dropping out of an IPP.

Zafereo J, Uhlenbrock B, Watson S, Wang-Price S, Noe C, Jarrett RB, Meltzer KJ, Huang M. Using quantitative sensory testing to predict attrition in an interdisciplinary pain management program: a pilot study. Pain Manag. 2022 Jul;12(5):623-633. doi: 10.2217/pmt-2021-0053. Epub 2022 Mar 29. PMID: 35345888.

RISK FACTORS FOR TREATMENT FAILURE

- unmarried
- smoke
- more hours of rest per day
- score higher on the University of Alabama's Pain Behavior Scale
- Pain Disability Index
- higher level of pain
- higher rates of depression
- anxiety
- serious mental illness
- ATTRITION, TRANSLATION, AND FAILURE IN INTERDISCIPLINARY PAIN REHABILITATION by LAURA JANINE MINTZ

- lower level of education
 - both lower and higher age
 - medium versus high social support
 - higher number of days to module completion
- J Med Internet Res 2022;24(8):e38261
- negative association between chronic pain acceptance
 - J Clin Psychol Med Settings. 2024 Dec 16. doi: 10.1007/s10880-024-10061-1
 - each emergency room visit over the year prior to treatment, the chance of not graduating increased by 19%. BAI and number of ER visits over the twelve months prior to program entry were found to correctly classify 77.5% of participants in any of the three treatment programs.
 - ER visits for chronic pain >1
 - <https://repositories.tdl.org/utswmed-ir/handle/2152.5/301>

BARRIERS

- Transportation
- Travel distance
- Work schedule
- Out of pocket costs

Alzakri AA, Alsultan OA, Alhuqbani MN, Aldosari ZA, Alghadir OM, Aldosari OA, Alshehri BF, Alsaleh KA. Barriers and facilitators to physiotherapy among adult orthopedic patients at King Khalid University Hospital, Riyadh, Kingdom of Saudi Arabia: A cross-sectional study. Saudi Med J. 2023 Jul;44(7):679-686. doi: 10.15537/smj.2023.44.7.20230276. PMID: 37463715; PMCID: PMC10370374.

NOT CORRELATED WITH TREATMENT FAILURE

- not to have a significantly different rates of chemical dependence diagnosis. ATTRITION, TRANSLATION, AND FAILURE IN INTERDISCIPLINARY PAIN REHABILITATION by LAURA JANINE MINTZ
- no significant influence of pain, disability, or depression severity J Med Internet Res 2022;24(8):e38261

POSITIVE ADHEARANCE FACTORS

- chronic pain, 3 or more pain sites BMJ Public Health. 2024 Mar 22;2(1):e000564.
- **intermediate or high educational level protects against dropping out** J Rehabil Med. 2021 Apr 28;53(4):jrm00185
- **taking antidepressant medication** Anesth Analg. 2003 Jul;97(1):156-62
- **on opioids at preintervention** Rehabil Psychol. 2023 Feb;68(1):65-76.
- patients who perceived significant others as being least supportive were the most likely to remain in treatment. Pain. 1990 Oct;43(1):7-25.
- longer episode of care JOSPT Open 2024 2:4, 332-339
- Inpatient program Pain. 2024 Dec 1;165(12):2909-2919.
- multifactorial belief about pain cause *Pain Medicine*, Volume 20, Issue 2, February 2019, Pages 267–277
- self-reported negative event in the previous week J Med Internet Res 2022;24(8):e38261
- CBD dosages, and the CC genotype of the rs1049353 polymorphism in the CNR1 gene were associated with improved adherence. Front Artif Intell. 2025 Feb 20;8:1557894

RISK FACTORS FOR DROP OUT

Educational opportunities

- beliefs that the control of health depended on the patient
- pain is a disability
- pain means the presence of physical injury and solicitous behavior of others is desirable when there is manifestation of pain.
- contradicting views to those of the physician from the patients' country of origin
- not holding a multifactorial belief about the cause of pain.
- Other expectations on the content of the program
- taking the symptoms seriously
- patient does not accept the explanation for the symptoms

INCREASING ACTIVE PATIENT PARTICIPATION IN REHABILITATION

- **liaise more closely with referrers** and primary care clinicians
- **education**
- **decrease wait-list times**
- **flexibility** where possible to facilitate appointments outside of the clinic setting
- An evaluation of patient pathway and attrition in the BTHFT living with Pain Service Sarah Morrow

INCREASING ACTIVE PATIENT PARTICIPATION IN REHABILITATION

- Findings underscore the importance of carefully evaluating the patient's **pain severity**,
- **attitudes about pain symptoms**, and
- **expectations and goals for treatment**.
- Attempts should be made to **correct misconceptions** and **unrealistic expectations** regarding the nature of the pain condition
- treatment options
- likely outcomes
- the role of **self-regulation training**
- and **family support**.
-
- Richmond, R. L., & Carmody, T. P. (1999). Dropout from treatment for chronic low-back pain. *Professional Psychology: Research and Practice*, 30(1), 51–55. <https://doi.org/10.1037/0735-7028.30.1.51>

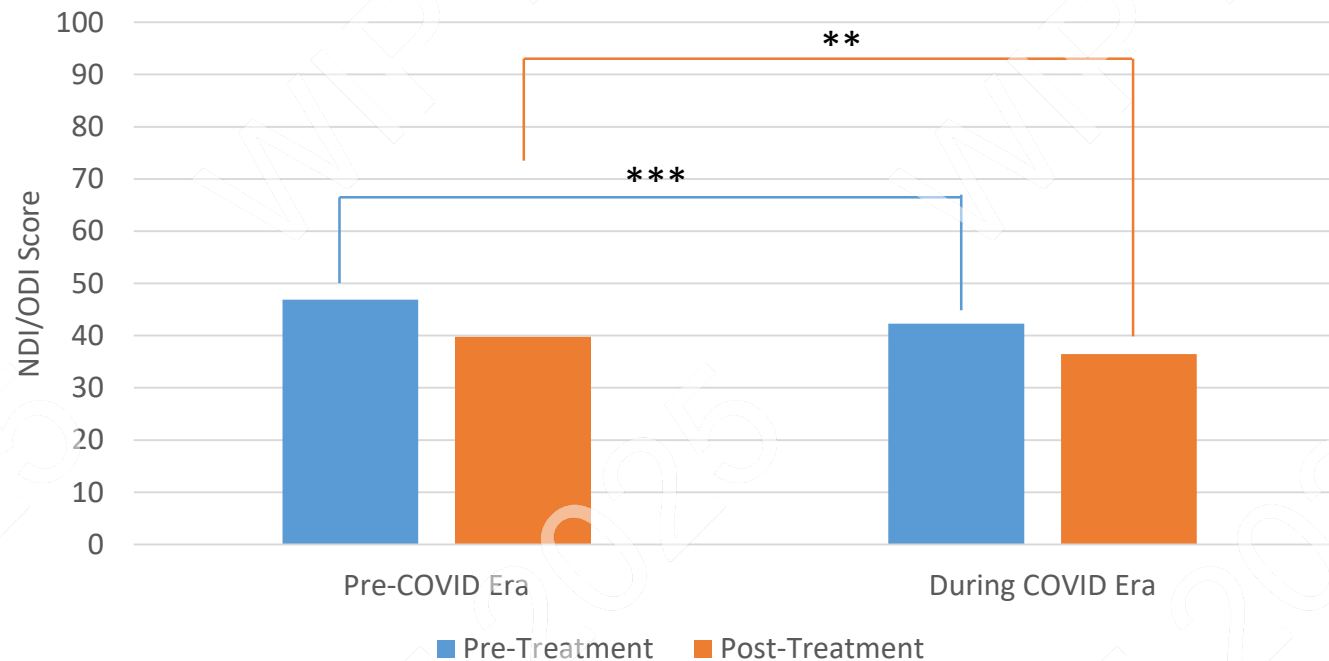
INCREASING ACTIVE PATIENT PARTICIPATION IN REHABILITATION

- The weighted aggregate dropout rate in ACT was 15.8%.
- Dropout in ACT was not significantly different from that in other therapies.
- Master's-level clinicians had higher dropout rates in ACT than psychologists.
- Behaviour Research and Therapy, Volume 104, 2018, Pages 14-33, ISSN 0005-7967,
- preprogram interventions targeting kinesophobia for individuals who are precontemplative and
- self-efficacy for others may be important to facilitate patient engagement.
- Can J Pain. 2019 Apr 12;3(1):70-78

Patient-Reported Outcomes in an Interdisciplinary Pain Program Before and During the COVID-19 Pandemic

Avaneesh Rade, BS, Karen J. Meltzer, PhD, Robin B. Jarrett, PhD, ABPP, Jason A. Zafereo, PT, PhD, Carl E. Noe, MD

Average Pre vs. Post Treatment NDI/ODI Scores Before and During COVID



- The Pre and During-COVID cohorts showed statistically significant improvements in pain and disability scores after program completion, albeit in an uncontrolled design.
- The groups did not differ in the *amount* of improvement between the two eras ($p > .05$).
- These equivalent outcomes are clinically significant given the program adaptations necessary during COVID. Adaptations included delivering psychology services via telehealth and continuing with modified, in-person physical therapy.

INCREASING SHOW RATE

- PHYSICIAN REFERRAL FROM ANOTHER SPECIALTY
- COMPLETING PREAPPOINTMENT SURVEY

MESSAGES

- PATIENT ENGAGEMENT IS **NOT HIGHLY PREDICTABLE**-SITE VARIATION
- EDUCATION AND MOTIVATIONAL INTERVEIWING **EARLY**
- TECHNOLOGY –SCHEDULING AND APPOINTMENT REMINDERS, COMMUNICATIONS, EDUCATION, TEST RESULTS, MONITORING, MEDICATION SAFETY, DIAGNOSIS, TREATMENTS

“It is clear to me that AI will never replace physicians — but physicians who use AI will replace those who don’t,”

Jesse Ehrenfeld
AMA President

WIP

13TH WORLD CONGRESS

2026

 21 - 23 September 2026

 Hilton Mexico City Reforma

 wipcongress.com



Scan the
QR Code to
register your
interest

The first few sessions are critical for engaging patients in treatment, and a significant number of dropouts may occur early on.

Approximately two-thirds of first-time patients do not return to the same practice due to a lack of follow-up communication. When follow-ups are overlooked, patients may feel unimportant, increasing their likelihood of switching providers for better engagement

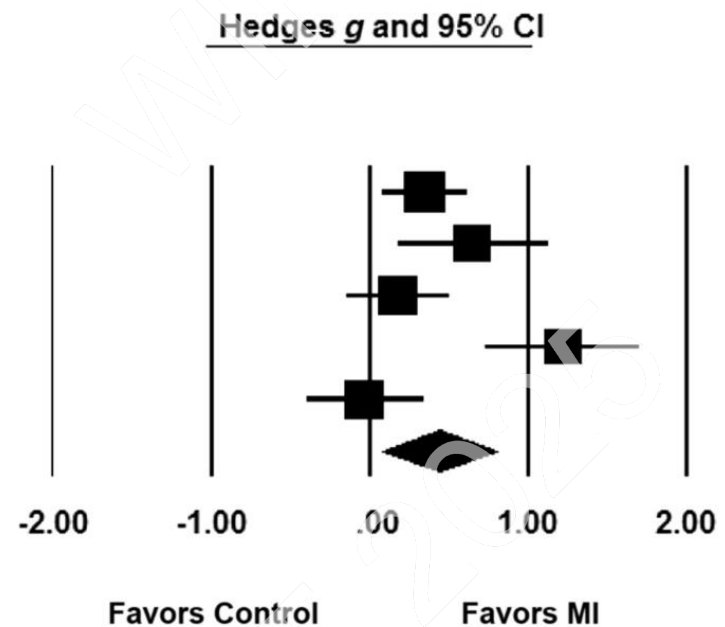
If patients don't believe in the effectiveness of a treatment or have negative expectations, they may be less likely to adhere to it.

Engaged staff who feel valued are more likely to provide quality care.

MOTIVATIONAL INTERVIEWING

improve individual's readiness to change their behavior by endorsement of a person-centered approach to resolve their ambivalence about behavior change and strengthen their own motivation and commitment to change, to result in increased adherence to available treatment.

Study name	Statistics for each study						
	Hedges <i>g</i>	Standard error	Variance	Lower limit	Upper limit	Z-Value	P-Value
Ang et al ²	.339	.137	.019	.071	.607	2.482	.013
Habib et al ¹⁶	.649	.241	.058	.177	1.120	2.696	.007
Basler et al ³	.177	.164	.027	-.146	.499	1.073	.283
Vong et al ⁴³	1.216	.248	.061	.731	1.701	4.912	.000
Zwicker et al ⁴⁷	-.034	.186	.035	-.398	.331	-.180	.857
	.438	.184	.034	.078	.798	2.385	.017



Alperstein D, Sharpe L. The Efficacy of Motivational Interviewing in Adults With Chronic Pain: A Meta-Analysis and Systematic Review. J Pain. 2016 Apr;17(4):393-403. doi: 10.1016/j.jpain.2015.10.021. Epub 2015 Nov 27. PMID: 26639413.

Engage

- Ask permission
- Express empathy
- Ask open-ended questions
- Use affirmations
- Support autonomy

Focus

- Agreeing on an agenda
- Reflecting
- Summarizing
- Developing discrepancies

Evoke

- Motivation
- Concerns

Plan

- Raise the subject
- Support self-efficacy
- Address elements of change

Provider specialty					
Radiation oncology	1.76 (1.00–3.09)	.05	1.66 (0.96–2.88)	.07	INCREASE patients who are offered an intervention
Plastic surgery	1.31 (0.94–1.82)	.11	1.46 (1.06–2.01)	.020	
General surgery	1.26 (1.07–1.49)	.006	1.29 (1.10–1.51)	.002	
Dermatology	1.17 (1.01–1.34)	.03	1.22 (1.06–1.39)	.004	DECREASE Poor prognoses ineffective treatment options associated psychological characteristics acute or chronic pain provider personality / empathy patient wait time provider time spent with the patient access parking denial of requested services complex comorbidities worse disease severity functional status, and/or prognosis worse psychiatric health are less likely to give perfect patient satisfaction scores.
Family medicine	1.00 (0.88–1.14)	.97	1.16 (1.02–1.31)	.02	
Obstetrics and Gynecology	0.90 (0.78–1.04)	.15	1.12 (0.97–1.29)	.13	
Internal medicine	Reference	--	Reference	--	
Otolaryngology	0.89 (0.74–1.07)	.22	0.97 (0.81–1.16)	.73	
Neurosurgery	0.98 (0.77–1.24)	.84	0.96 (0.76–1.21)	.74	
Physical medicine and rehab	0.87 (0.70–1.08)	.20	0.92 (0.75–1.14)	.47	
Ophthalmology	0.92 (0.79–1.06)	.25	0.92 (0.80–1.06)	.274	
Pediatric surgery	0.63 (0.49–0.79)	<.001	0.82 (0.64–1.05)	.11	
Urology	0.81 (0.63–1.05)	.11	0.80 (0.63–1.03)	.08	
Radiology	0.62 (0.26–1.46)	.27	0.65 (0.28–1.53)	.32	
Orthopaedic surgery	0.82 (0.69–0.96)	.01	0.85 (0.73–1.00)	.05	
Pediatric medicine	0.56 (0.48–0.64)	<.001	0.71 (0.60–0.84)	<.001	
Pediatric neurology	0.50 (0.36–0.68)	<.001	0.63 (0.46–0.87)	.005	
Neurology	0.58 (0.47–0.71)	<.001	0.57 (0.47–0.69)	<.001	
Pain management	0.50 (0.31–0.82)	.006	0.51 (0.31–0.83)	.006	

Stephens AR, Presson AP, Chen D, Tyser AR, Kazmers NH. Inter-specialty variation of the Press Ganey Outpatient Medical Practice Survey. *Medicine (Baltimore)*. 2021 Mar 26;100(12):e25211. doi: 10.1097/MD.00000000000025211. PMID: 33761706; PMCID: PMC9281982.

TABLE 1 National Health Interview Survey 2019 sample characteristics (survey-weighted).

		Number	Percent
Mean age (years)		47.8	
Sex	Male	117,777,685	48.4
	Female	125,598,919	51.6
Chronic pain	Yes	49,880,875	79.5
	No	193,495,728	20.5
Depression (PHQ-8)	None/Minimal	198,296,192	81.5
	Mild	28,153,505	11.6
	Moderate	10,169,680	4.2
	Severe	6,757,226	2.8
Anxiety (GAD-7)	None/Minimal	205,450,624	84.4
	Mild	23,125,804	9.5
	Moderate	8,246,458	3.4
	Severe	6,611,119	2.7

TABLE 2 Comparison of depressive and anxiety symptoms among adults with or without chronic pain (survey weighted).

		No chronic pain	95% CI	Chronic pain	95% CI	p-Value
Depression (PHQ-8)	None/Minimal	87.6	87.0–88.2	57.6	56.1–59.2	0.001
	Mild	8.8	8.3–9.3	22.3	21.1–23.5	
	Moderate	2.3	2.1–2.6	11.4	10.5–12.3	
	Severe	1.2	1.1–1.4	8.7	7.9–9.6	
Take medication for depression		6.6	6.2–7.0	22.4	21.2–23.7	0.001
Anxiety (GAD-7)	None/Minimal	89.0	88.5–89.6	66.4	64.9–67.8	0.001
	Mild	7.5	7.1–8.0	17.1	16.1–18.2	
	Moderate	2.1	1.9–2.3	8.5	7.7–9.4	
	Severe	1.4	1.2–1.6	8.0	7.2–8.9	
Take medication for anxiety		8.5	8.0–8.9	24.5	23.2–25.8	0.001

How to say no (without losing the patient)

- Establishing Rapport
- Elicit the Patient's Perspective
- Empathy
- Acknowledging Difficulties, Being Flexible, and Setting Boundaries
- Invest in the End

One should aim not at being possible to understand, but at being impossible to misunderstand.

Quintillian, 35–96 AD, Roman teacher of Rhetoric

Wang E, Golden A, Butterworth PJ. How to Say No. Perm J. 2002 Fall;6(4):70–1. PMCID: PMC6220644.

MANAGEING EXPECTATIONS

1. Active Listening and Communication:

- **Give your full attention:**
- **Ensure understanding:**
- **Communicate in an understandable way:**
- **Provide realistic timeframes:**
- **Encourage questions:**

2. Setting Realistic Expectations:

- **Be transparent about potential risks and side effects:**
- **Address preconceived notions:**
- **Discuss treatment options:**
- **Be honest about limitations:**

3. Building Trust and Rapport:

- **Show empathy and understanding:**
- **Establish clear boundaries:**
- **Be respectful and professional:**
- **Encourage feedback:**

4. Addressing Frustration and Dissatisfaction:

- **Acknowledge the patient's feelings:**
- **Provide options and solutions:**
- **Consider referral:**

WHEN TO REFER

- SCOPE OF PRACTICE
- DUAL DIAGNOSIS
- PATIENT ABANDONMENT
- **ANGRY PATIENTS**
- NOT MAKING PROGRESS
- LACK OF RESOURCES FOR NECESSARY CARE
- CONFLICTING OPINIONS
- NO DIAGNOSIS
- BETTER FIT
- PATIENT REQUESTS SECOND OPINION
- BETTER ACCESS
- CHRONICALLY DISSATISFIED WITH CARE
- PATIENTS WHO ARE SKEPTICAL ABOUT OUR INTENTION TO HELP
- SELF DIRECTS CARE
- UNABLE TO ESTABLISH OR MAINTAIN WORKING RELATIONSHIP



Medication Adherence Technologies

Smart technology-based adherence products, often called smart medication dispensing and adherence products (SMAPs) contain sensors and processors that can track and record real-time medication intake. SMAPs capture medication intake data through a human-initiated action such as opening a pill bottle, puncturing a blister pack, or pressing a button on an automated dispensing device.¹⁵

A scoping review from 2023 identified 114 SMAPs, including 80 marketed and 34 prototypes. Among the marketed products, 78% were available for consumer purchase, with a total of 42 SMAPs in North America.¹⁵

The review concluded that with the market expanding for SMAPs with features specific to at-home patient use, healthcare professionals can select and suggest products that meet their patients' unique requirements.

Medication Adherence and Chronic Pain Management: Treatment Strategies

WIP

13TH WORLD CONGRESS

2026

 21 - 23 September 2026

 Hilton Mexico City Reforma

 wipcongress.com



Scan the
QR Code to
register your
interest



28th Annual Gabor Racz
Advanced Interventional
Pain Conference and Workshop

Budapest, Hungary **August 25-27, 2025**



Psychogenic (nociplastic) pain: Current state of diagnosis, treatment options, and potentials of neurosurgical management

**Emil D. Isagulyan^{a,*}, Elizaveta S. Makashova^a, Lyubov' K. Myasnikova^b,
Elizaveta V. Sergeenko^a, Karina S. Aslakhanova^a, Alexey A. Tomskiy^a,
Alexey G. Voloshin^b, and Alexey A. Kashcheev^c**

^a*Department of Functional Neurosurgery, Burdenko National Medical Research Center of Neurosurgery, Moscow, Russian Federation*

^b*Pain Clinic, Center of Endosurgery and Lithotripsy, Moscow, Russian Federation*

^c*Department of Neurosurgery, Research Center of Neurology, Moscow, Russian Federation*

*Corresponding author: e-mail address: emisagulyan@gmail.com

Table 2. Hazard ratio of opioid-related overdose (fatal or non-fatal) within 12 months between patients with newly prescribed long-term high-dose opioids with or without tapering initiation within 3 months.

	Overdose event within 12 months			
	Number of Patients	Number of Event	Incident rate (N/1,000 person-years)	HR (95% CI)
No Tapering initiation within 3 months	5,494	42	0.0218	Reference
Tapering initiation within 3 months	7,372	33	0.0129	0.52 (0.33-0.82)
10 - <20%	1,860	10	0.0154	0.61 (0.31-1.23)
20 - <40%	3,218	12	0.0107	0.40 (0.21-0.78)
40 - <50%	1,091	4	0.0105	0.43 (0.15-1.23)
≥50%	1,203	7	0.0172	0.77 (0.35-1.70)

Association Between Opioid Dosage Tapering and Opioid Overdose Among Long-Term Higher-Dose Opioid Users Hui Zhou PhD , Katherine J Pak MS , Fagen Xie PhD , Craig K Chang MD , Patricia L. Gray PharmD , Deborah S. Ling Grant PhD , Joanna L. Barreras PhDMSW , Steven G. Steinberg MD , Rulin C. Hechter MDPhD PII: S2773-0654(25)00087-2 DOI: <https://doi.org/10.1016/j.focus.2025.100399>

Among 7,372 patients who initiated tapering, 903 (12.2%) started tapering with a dosage reduction rate ≥ 50% and 290 (4.0%) discontinued opioids within 3 months. In the secondary analysis examining the association between tapering rate and the risk for opioid overdose, an initial tapering rate between 20-40% appeared to be associated with a reduced risk for opioid overdose (HR: 0.40; 95% CI: 0.21-0.78) (Table 2). A trend appeared showing reduced risk of overdose within 12 months with any tapering initiated within 3 months after meeting criteria for long-term higher dose opioid use.

1.Efficacy of the Opioid Compliance Checklist to Monitor Chronic Pain Patients Receiving Opioid Therapy in Primary Care

2.Jamison, Robert N. et al.

3.The Journal of Pain, Volume 17, Issue 4, 414 - 423

fewer reported running out of their medication early (16.9 down to 8.7%) and using their medication other than how it was prescribed (13.5 down to 11.6%)

Table 2. Comparison of Original Sample (n = 157) and Primary Care Sample (n = 177) on Baseline OCC Items With AUC Analyses on the Basis of Positive DMI and Study Site Variance

OCC QUESTION	ORIGINAL STUDY			CURRENT STUDY		
	% ANSWERED "YES"	TEST-RETEST RELIABILITY†	AUC‡	% ANSWERED "YES"	TEST-RETEST RELIABILITY†	AUC‡
OVER THE PAST MONTH HAVE YOU:						
1. Taken your opioid medication other than the way it was prescribed?	22.3	.24*	.558	13.5	.26*	.548
2. Used more than one pharmacy to fill your opioid prescriptions?	9.9	.35*	.543	11.8	.39*	.529
3. Received opioid prescriptions from more than one provider?	6.4	.14	.548	5.6	.15‡	.511
4. Lost or misplaced your opioid medications?	6.4	.01	.541	1.7	.01	.517
5. Run out of your pain medication early?	17.6	.34*	.595	16.9	.37*	.606
6. Missed any scheduled medical appointments?	12.8	.39*	.539	14.6	.31*	.607
7. Borrowed opioid medication from others?	6.3	.19‡	.469	1.1	.34*	.492
8. Used any illegal or unauthorized substances?	11.6	.52*	.535	5.6	.65*	.532

Table3. Multivariate AUCs With 95% Confidence Intervals From OCCs Taken at Baseline and After 3 Sequential Administrations

VARIABLE	BASELINE MULTIVARIATE AUC	VARIABLE	3 OCCs MULTIVARIATE AUC
Q5, Q6	.657 (.602–.711)	Q1, Q5, Q6*	.681 (.608–.748)
All 8 Qs	.645 (.562–.721)	All 8 Qs	.650 (.567–.727)

Non-adherence rates to pain prescriptions ranged from 8% to 62% with a weighted mean of 40%.

Underuse of pain medication was more common than overuse in most studies

pharmacological therapy should not only be based upon pain diagnosis but should also take the risks of non-adherence into account

Timmerman L, Stronks DL, Groeneweg JG, Huygen FJ. Prevalence and determinants of medication non-adherence in chronic pain patients: a systematic review. *Acta Anaesthesiol Scand*. 2016 Apr;60(4):416-31. doi: 10.1111/aas.12697. Epub 2016 Feb 9. PMID: 26860919.

high depression scores to be predictive for noncompliance (odds ratio 2.12).

Under-reporting of non-opioid analgesics is the main type of noncompliance

Kipping K, Maier C, Bussemas HH, Schwarzer A. Medication compliance in patients with chronic pain. *Pain Physician*. 2014 Jan-Feb;17(1):81-94. PMID: 24452648.

Factors/Approaches	Components
Advocacy	Cap on out-of-pocket spending on prescription drugs. Educate elected officials on the health and economic implications of improving patients' outcomes.
Communication	Adoption of consented reminders to use medications via text messages, emails, automated calls, and mailed letters. Empathy and respect. Good communication and interpersonal skills. Strong patient-provider relationship.
Medication adaptation	Adaptation of different formulations for each drug when possible. Adaptation of medications' strength, bioavailability, and dosage regimens that accommodates a less frequent administration. Improve existing medications to include fewer side effects. Universal/global adaptation of medication synchronization programs, medication packaging, and delivery services.
Patients' education	One-on-one interaction with healthcare professionals Handouts or pamphlets. Word-of-mouth dissemination of information.
Mass communication using social and digital media	Free digital media materials. Printed media, social networking sites, text messages, and mobile applications. Refute miscommunication and conspiracy theories.
Community and faith-based organizations	Adoption of active collaboration between the providers' associations/bodies and community (and faith-based) organizations.
Providers' education	Adoption of care protocol that includes the pros and cons of each drug option. Provider study guide consisting of cost of brand vs. generic, dosage, mechanism of action, and side effects of medications.

Table 1. Factors Modulating Adherence

Positive	Negative
• Basic knowledge of the disease and the nature of chronic noncancer pain • Clearly perceived analgesic benefits and improvement in well-being • Realistic treatment expectations • Patient's faith in their ability to manage the therapeutic regimen • Low dosing frequency • Good mood • Low levels of emotional and psychosocial distress and/or positive active coping • Positive doctor-patient relationship and trust in the health services • Solid economic background • Positive family and/or friend relationships • Coping attitude toward side effects • Positive cultural or religious beliefs about the right to control pain	• Ignorance about the disease and/or the characteristics of chronic nociceptive and/or neuropathic pain • No perceived, or only marginally perceived, personal benefit or greater physical or psychological well-being compared with not taking the medicine perceived • Unrealistic expectations for pain relief • Patient's lack of faith in their ability, or fear they will be unable to manage, the therapeutic regimen • Frequent daily dosing • Anxiety and/or depression • High levels of emotional and psychosocial stress • Lack of faith in the doctor and/or health services • Financial problems • Loneliness, or confrontational and/or unsupportive relationships • Fear of adverse effects • Negative cultural or religious beliefs about pain control

Table 3. Recommendations to Improve Adherence with Opioid Therapy for Chronic Pain

A good patient-doctor relationship

The doctor should base the treatment strategy on the requirements and wishes of the patient, allowing the patient to participate in the therapeutic choice; a low-literacy opioid contract between the doctor and patient may be useful. An empathic attitude toward the intrusiveness of the pain and its meaning in the patient's life is key in improving the dialog and ensuring that the patient feels fully understood and supported

Defined treatment objectives

The doctor and patient should discuss the achievable objectives and the time needed to achieve them

Tools for disease prognosis

Tools involving prognosis, such as the DIRE-score, can facilitate the decision to initiate, or withdraw, long-term treatment with opioid analgesics

Simple treatment regimens

Treatment regimens that have a low dosing frequency of medication and fit into the daily routine should be used

Identification of patients at higher risk of side effects or drug abuse

Detailed questioning on predisposing, precipitating, or maintaining factors for severe constipation and/or for drug abuse should be routinely included in the history taking and decision-making process

Management of side effects

Possible side effects should be fully explained to the patient and treated pro-actively

Monitoring treatment success

Satisfaction with analgesics is associated with the perception of a specific improvement, ie, a reduction in pain or an increase in well-being; increased perception of satisfaction of use may motivate the patient to continue therapy

Antidepressant management

Depression should be carefully monitored and treated appropriately

Support within the community

Family members or friends can remind the patient to take their medication and/or assist with preparing dosage receptacles to enhance compliance

Educational program for patients and carers

Improving the understanding of the benefits and side-effects of the treatment regimen may help to motivate patients to follow the therapy correctly. Educating relatives and/or caregivers in understanding chronic pain and being positive and proactive about analgesics and other pain management strategies will increase the overall adherence to achieve effective pain control

Baseline cognitive domain predictors of strong E-health engagement

Factor	Domain	Wald	OR (95% CI)
2	Selective Attention	7.46**	1.84 (1.19–2.84)
10	Response Inhibition & Speed	6.41*	1.57 (1.11–2.23)
6	Working Memory	3.37	1.40 (0.98–2.01)
7	Sustained Attention 1 (Accuracy & False Alarms)	2.84	0.72 (0.50–1.05)
1	Planning & Learning	2.35	1.30 (0.93–1.80)
3	Controlled Attention 1 (Incongruent Trials)	1.80	0.77 (0.53–1.13)
8	Sustained Attention 2 (RT & Misses)	0.95	0.84 (0.60–1.19)
5	Cognitive Flexibility	0.68	1.12 (0.82–1.77)
9	Motor Coordination	0.21	0.93 (0.68–1.27)
4	Controlled Attention 2 (Congruent Trials)	0.19	1.08 (0.76–1.53)

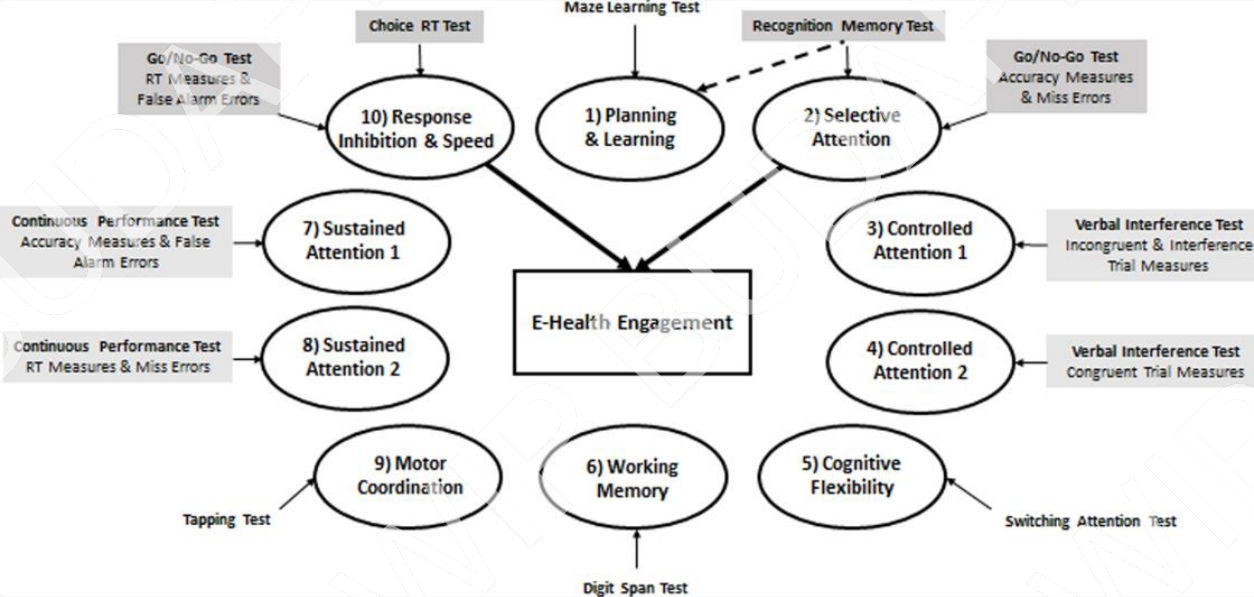
Note.

** = p < 0.01
* = p < 0.05, OR = odds ratio, CI = confidence interval.

The strongest predictors of E-health engagement were **selective attention**, and **response inhibition** and **speed domains**.

The results suggest that cognition, especially **selective attention**, **inhibitory control**, and **processing speed**, is predictive of online chronic pain self-management program engagement

Fleck DE, Wilson M, Lewis D, Welge JA, Arya G, Sathyan A, Cohen K, Winhusen TJ. Neurocognitive predictors of adherence to an online pain self-management program adjunct to long-term opioid therapy. J Clin Exp Neuropsychol. 2023 May;45(3):242-254. doi: 10.1080/13803395.2023.2221396. Epub 2023 Jun 6. PMID: 37278690; PMCID: PMC10526690.



WHY DO PATIENTS DROP OUT OF TREATMENT FOR CHRONIC PAIN

External Factors:

- Lack of Support Systems:**

- Social support from family and friends can be crucial for adherence to treatment, and a lack of support can increase the likelihood of dropping out.

- Transportation Barriers:**

- Difficulties with transportation to and from treatment appointments can be a significant barrier, particularly for those with limited mobility or financial resources.

- Financial Costs:**

- High costs of treatment, medications, or other related services can be a barrier for some patients.

Other Considerations:

- Expectation Mismatch:**

- When patients' expectations about treatment don't align with reality, they may become frustrated and stop attending.

- Communication Breakdown:**

- Lack of effective communication between patients and healthcare providers can lead to misunderstandings and a decline in treatment adherence.

- Patient Motivation:**

- A lack of motivation to actively participate in treatment can also lead to dropout.

- Early Dropouts:**

- Some studies suggest that **the first few sessions are critical for engaging patients in treatment, and a significant number of dropouts may occur early on.**

1. Poor Patient Experiences

Research shows that a significant percentage of patients, about 36%, have left their healthcare providers in the last two years due to negative experiences. Long wait times, inadequate communication, and a perceived lack of compassion from healthcare professionals are key concerns. For example, nearly 30% of patients have walked out of appointments because of excessive waiting, emphasizing that operational inefficiencies can lead to dissatisfaction.

2. Ineffective Communication

Communication barriers are a major factor in patient turnover. About 46% of patients report that healthcare providers often lack compassion and do not take the time to explain their health conditions. Effective communication ensures that patients understand their treatment plans, medications, and post-treatment care. Without clear communication, patients may feel neglected and frustrated, leading them to seek care elsewhere.

3. Missed Follow-Ups

Approximately two-thirds of first-time patients do not return to the same practice due to a lack of follow-up communication. When follow-ups are overlooked, patients may feel unimportant, increasing their likelihood of switching providers for better engagement.

4. No-Shows and Their Impact

The effect of missed appointments or “no-shows” goes beyond immediate financial losses. Research indicates that patients who have one or more no-show appointments are nearly 70% more likely to leave their provider. About 32% of patients who miss appointments do not return to the same practice within 18 months. These patterns highlight the need for healthcare providers to improve their appointment management processes.

5. Financial Considerations

Many patients evaluate the costs associated with healthcare against their experiences. High out-of-pocket expenses or dissatisfaction with the value received can lead to a decline in patient loyalty. If healthcare practices fail to demonstrate the value of their services through quality care and engagement, patients may find better value with competitors.

6. Difficulties in Accessing Care

Patients are increasingly seeking convenience and reliability in their healthcare interactions. Long wait times for

WHY DO PATIENTS DROP OUT OF TREATMENT FOR CHRONIC PAIN

Treatment-Related Factors:

- **Lack of Improvement/Treatment Efficacy:**

- When patients don't experience the desired level of pain relief or functional improvement, they may become discouraged and stop attending treatment.

- **Dissatisfaction with Treatment:**

- This can include dissatisfaction with the specific therapies (e.g., physical therapy, medication, or psychological interventions) or the therapist themselves.

- **Adverse Effects of Treatment:**

- Some patients may drop out due to negative side effects of medications or other interventions, even if they are experiencing some pain relief.

Patient-Related Factors:

- **Mental Health Issues:**

- Chronic pain can lead to or exacerbate mental health conditions like stress, depression, and anxiety, which can impact a patient's ability to adhere to treatment.

- **Pain Catastrophizing:**

- The tendency to excessively focus on and exaggerate pain can predict dropout from pain management programs.

- **Treatment Beliefs:**

- **If patients don't believe in the effectiveness of a treatment or have negative expectations**, they may be less likely to adhere to it.

- **Lifestyle and Work Constraints:**

- Job responsibilities, time constraints, or other life circumstances can make it difficult to attend scheduled treatment sessions.

Strategies for Enhancing Patient Retention

1. Implement Comprehensive Follow-Up Protocols

Establishing clear follow-up protocols after patient visits can greatly improve retention rates. Automated reminders, thank-you messages, and routine check-ins are effective ways to maintain connection and engage patients after their visits. Following up based on patient recovery metrics can help them feel valued.

2. Invest in Patient-Centric Communication

Healthcare providers should prioritize personalized communication. Understanding patient preferences for the mode and frequency of communication can lead to improved satisfaction. Timely information and proactive addressing of concerns can significantly enhance the patient experience. Automated messaging tools can help engage patients without overwhelming administrative staff.

3. Enhance Accessibility Through Digital Tools

Integrating digital solutions can streamline patient interactions and reduce scheduling delays. Automated scheduling systems allow patients to book, reschedule, or cancel appointments easily, minimizing administrative burdens. Additionally, telehealth platforms can improve access to care and help practices maintain patient engagement between visits.

4. Establish Feedback Mechanisms

Collecting feedback from patients can provide insights into areas for improvement. Regularly requesting and analyzing patient reviews can help refine services and practices. Implementing survey tools after appointments can help gather meaningful insights to enhance care and engagement strategies.

5. Leverage Predictive Analytics

Healthcare providers can utilize predictive analytics to identify patients at risk of disengagement. Recognizing patterns, such as missed appointments or complaints, can help staff intervene proactively. By tailoring health programs and interventions based on these insights, practices can reduce patient turnover.

6. Create a Positive Practice Culture

The culture within healthcare practices influences patient experiences. **Engaged staff who feel valued are more likely**

Expectation management

- Before 1st visit-
- Physician referral- reason for referral
- Self referral -evaluation only
- Opioid policy- informed consent, medication agreement
- Introduce interdisciplinary model
- Procedure information

5 Top Reasons Patients Leave Your Practice

You don't offer convenient technological tools.

Patients spend too much time waiting.

Patients feel like they're just another number.

You're not staying top of mind.

Your patients are surprised when they see their bill.

Reasons patients leave their pain doctor include

1. Poor experiences with providers who rush and lack listening skills.
2. Lack of convenient technological tools.
3. Long wait times and issues securing appointments.
4. Fear of treatment and loss of medical licenses for prescribing opioid medication.

The Role of AI and Workflow Automation in Patient Retention

Streamlining Communication and Administrative Tasks

AI technologies and workflow automation can address challenges in patient retention. By automating tasks like appointment reminders and follow-ups, practices can allow healthcare professionals more time to focus on care. Automation ensures timely communication with patients without overwhelming staff.

Enhancing Appointment Management

AI algorithms can optimize scheduling by analyzing historical data to predict busy periods. This reduces wait times and improves the overall patient experience. Additionally, AI can help identify patients likely to miss appointments, allowing practices to reach out proactively.

Supporting Personalized Care

Artificial intelligence can analyze data to better understand individual patient needs, enabling more tailored care approaches. Integrating predictive analytics with patient data allows providers to create targeted interventions and follow-up plans, strengthening the patient-provider relationship.

Improving Patient Engagement through Digital Tools

AI applications and telehealth platforms can boost patient engagement by offering convenient access to information and care. These tools facilitate easy communication between providers and patients, keeping patients informed and engaged throughout their healthcare journey.

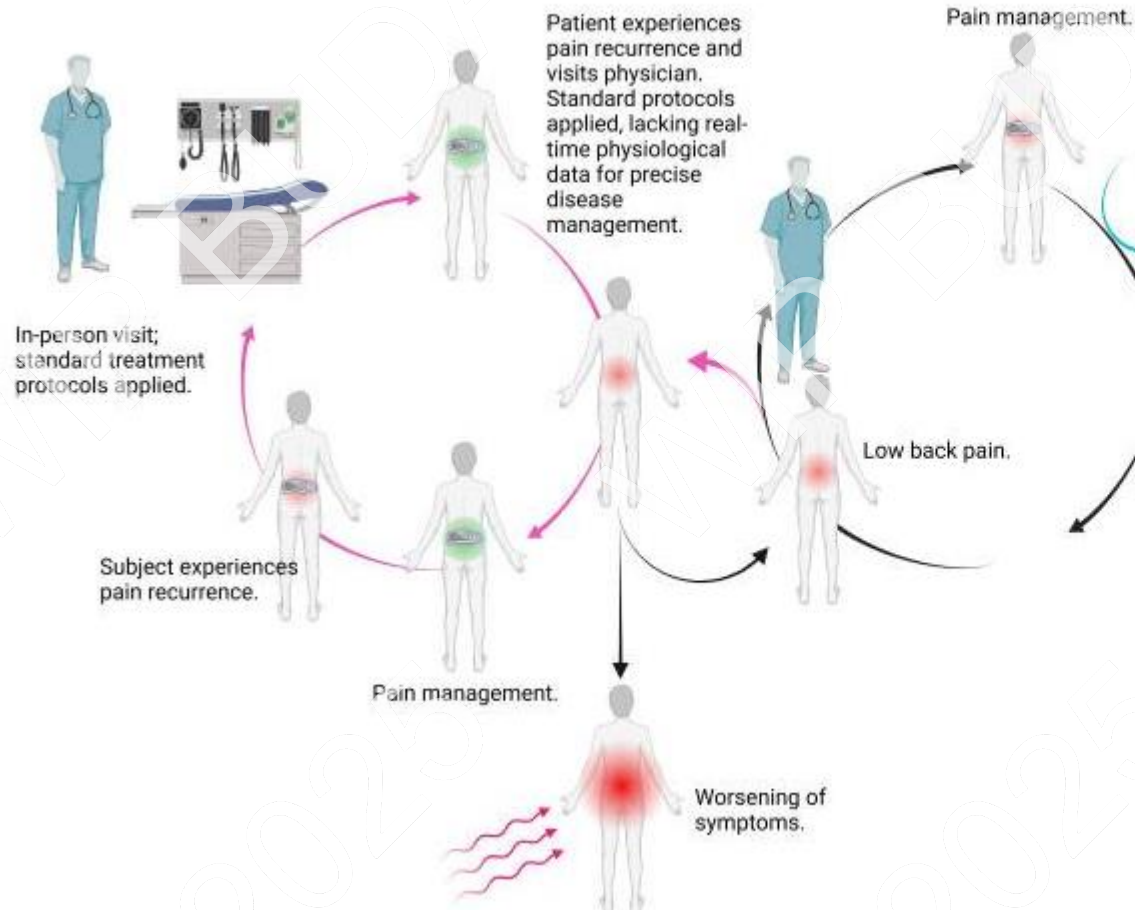
Monitoring Patient Satisfaction in Real Time

Using AI for real-time feedback helps practices assess patient satisfaction promptly. Automated sentiment analysis on patient feedback can identify trends that may signal emerging issues, allowing administrators to address concerns early.

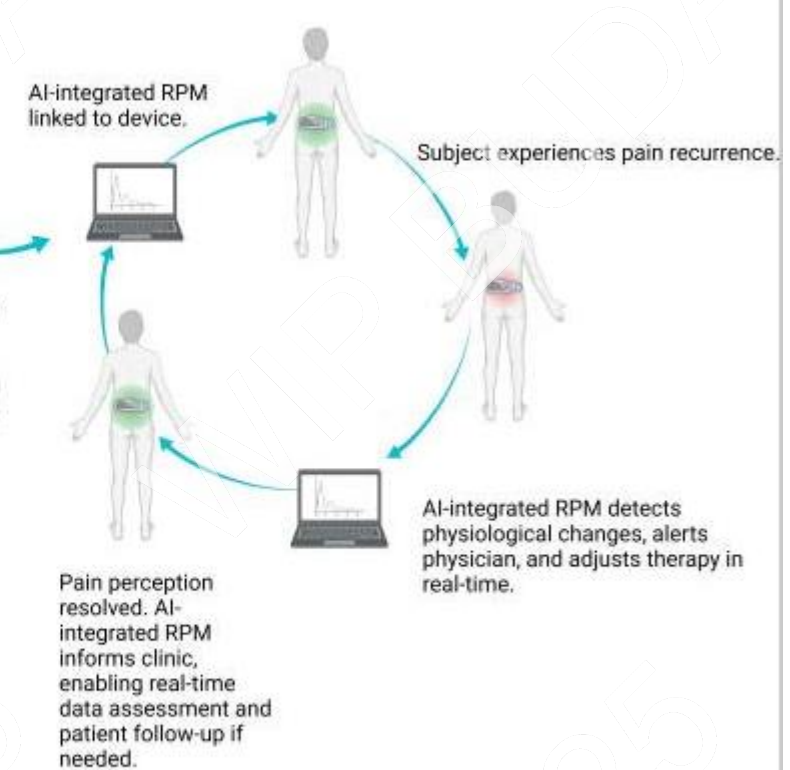
Lowering Administrative Costs

Automation relieves administrative staff, allowing them to focus on tasks that improve patient experiences. By reducing human errors and streamlining processes, practices can achieve operational efficiency and better use their resources.

STANDARD 'ONE-SIZE-FITS-ALL' TREATMENT



AI ASSISTED PERSONALIZED TREATMENT



TECHNOLOGY AND ADHEARANCE

- REMOTE MONITORING OF MEDICATIONS
- ACTIVITY
- PSYCHOLOGICAL
- FUNCTION

- DIAGNOSIS
- TREATMENT

Shi JL, Sit RW. Impact of 25 Years of Mobile Health Tools for Pain Management in Patients With Chronic Musculoskeletal Pain: Systematic Review. J Med Internet Res. 2024 Aug 16;26:e59358. doi: 10.2196/59358. PMID: 39150748; PMCID: PMC11364951.

Michael E. Schatman, PhD, CPE

Institute of Medicine Report on Relieving Pain in America's -100 million Americans suffer from chronic pain.

One interdisciplinary program for every 670,000 people with chronic pain in the United States

UTSW 4 patients per month

7:1

Baylor 6 patients per month

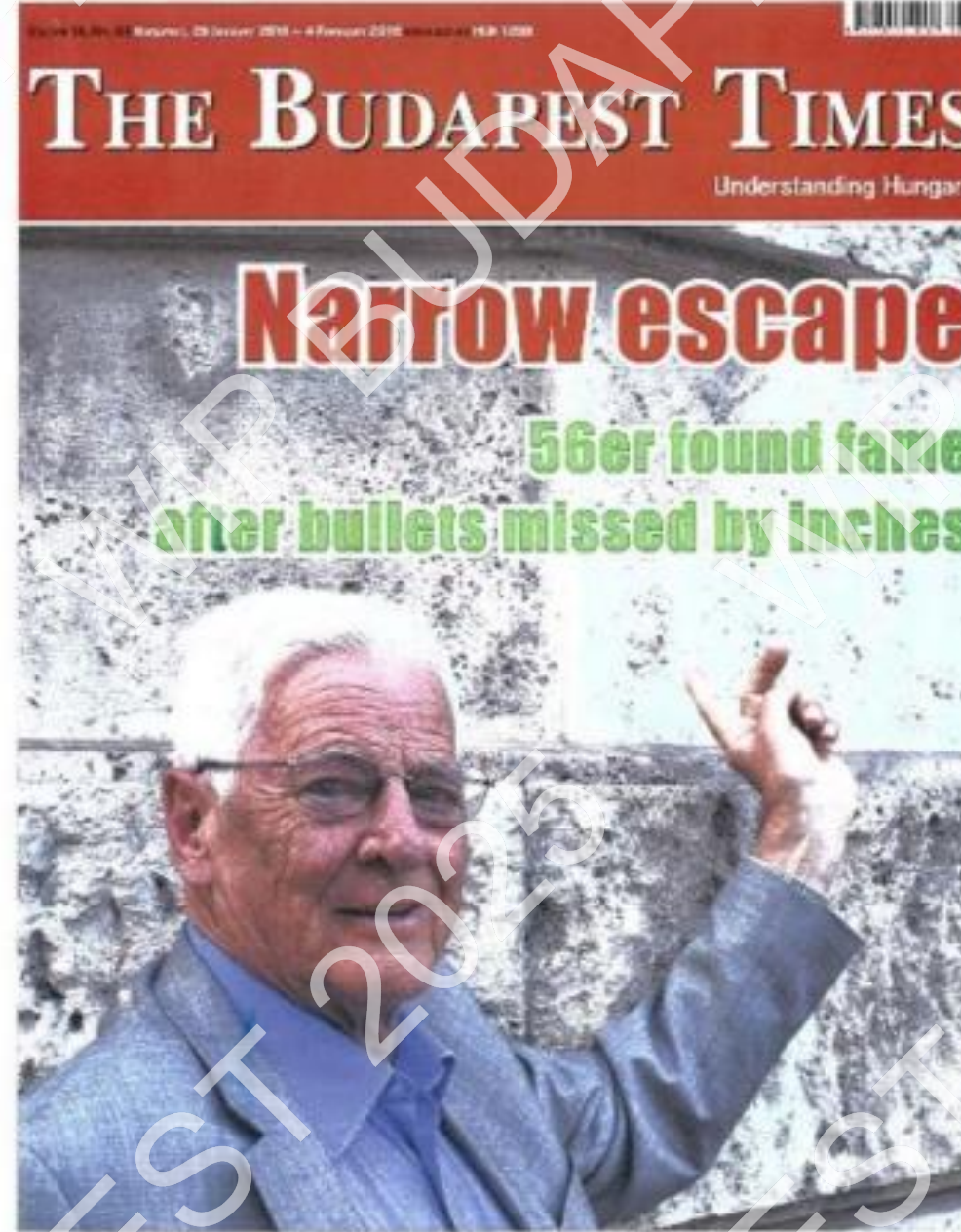
10:1

Wait list 1-2 months



Examples of non-reflective listening:

- Ordering, directing, commanding
 - Warning, cautioning, threatening
 - Giving advice, making suggestions, providing solutions
 - Persuading with logic, arguing, lecturing
 - Telling what to do, preaching
 - Disagreeing, judging, criticizing, blaming
-
- Agreeing, approving, praising
 - Shaming, ridiculing, blaming
 - Interpreting or analyzing
 - Labeling
 - Reassuring, sympathizing, consoling
 - Questioning, probing
 - Withdrawing, distracting, humoring, changing the subject



1) I believe I am receiving enough medication to relieve my pain.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

2) My doctor spends enough time talking to me about my pain medication during appointments.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

3) I believe I would feel better with a higher dosage of my pain medication.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

4) In the past, I have had some difficulty getting the medication I need from my doctor(s).

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

5) I wouldn't mind quitting my current pain medication and trying a new one, if my doctor recommends it.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

6) I have clear preferences about the type of pain medication I need.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

7) Family members seem to think that I may be too dependent on my pain medication.

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

8) It is important to me to try ways of managing my pain in addition to the medication (such as relaxation, biofeedback, physical therapy, TENS unit, etc.)

Disagree Somewhat Disagree Neutral Somewhat Agree Agree

9) At times, I take pain medication when I feel anxious and sad, or when I need help sleeping.

Never Occasionally Sometimes Often Always

10) At times, I drink alcohol to help control my pain.

Never Occasionally Sometimes Often Always

11) My pain medication makes it hard for me to think clearly sometimes.

Never Occasionally Sometimes Often Always

12) I find it necessary to go to the emergency room to get treatment for my pain.

Never Occasionally Sometimes Often Always

13) My pain medication makes me nauseated and constipated sometimes.

Never Occasionally Sometimes Often Always

14) At times, I need to borrow pain medication from friends or family to get relief.

Never Occasionally Sometimes Often Always

15) I get pain medication from more than one doctor in order to have enough medication for my pain.

Never Occasionally Sometimes Often Always

16) At times, I think I may be too dependent on my pain medication.

Never Occasionally Sometimes Often Always

17) To help me out, family members have obtained pain medications for me from their own doctors.

Never Occasionally Sometimes Often Always

18) At times, I need to take pain medication more often than it is prescribed in order to relieve my pain.

Never Occasionally Sometimes Often Always

19) I save any unused pain medication I have in case I need it later.

Never Occasionally Sometimes Often Always

20) I find it helpful to call my doctor or clinic to talk about how my pain medication is working.

Never Occasionally Sometimes Often Always

21) At times, I run out of pain medication early and have to call my doctor for refills.

Never Occasionally Sometimes Often Always

22) I find it useful to take additional medications (such as sedatives) to help my pain medication work better.

Never Occasionally Sometimes Often Always

23) How many painful conditions (injured body parts or illnesses) do you have?

1 painful conditions 2 painful conditions 3 painful conditions 4 painful conditions 5+ painful conditions

24) How many times in the past year have you asked your doctor to increase your prescribed dosage of pain medication in order to get relief?

Never 1 time 2 times 3 times 4+ times

25) How many times in the past year have you run out of pain medication early and had to request an early refill?

Never 1 time 2 times 3 times 4+ times

26) How many times in the past year have you accidentally misplaced your prescription for pain medication and had to ask for another?

Never 1 time 2 times 3 times 4+ times

An odds ratio revealed that those in the **H-PMQ scoring group were 2.3 times more likely to terminate from treatment for noncompliance** (95% CI 1.03–5.02) as compared to the L-PMQ scoring group.

PMQ specificity 93% sensitivity 74%

Holmes CP, Gatchel RJ, Adams LL, Stowell AW, Hatten A, Noe C, Lou L. An opioid screening instrument: long-term evaluation of the utility of the Pain Medication Questionnaire. Pain Pract. 2006 Jun;6(2):74-88. doi: 10.1111/j.1533-2500.2006.00067.x. PMID: 17309714.

CAP-POD items, factor loadings, and coefficient alphas.

Scale (coefficient alpha reliability)	Loading
Desire to treat (.87)	
My team wants to work with patients with opioid use disorders	.89
My team wants to work with patients with chronic pain	.85
I want to work with patients who have opioid use disorders	.80
I want to work with patients who have chronic pain	.79
Assessing risk (.82)	
I have the ability to assess risk for opioid use disorder in my chronic pain patients	.90
I assess risk for opioid use disorder in my chronic pain patients	.89
Trust in evidence (.87)	
I trust research evidence related to chronic pain	.94
I trust research evidence related to opioid use disorder	.93
Patient access (.79)	
My patients can afford the recommended therapies for chronic pain	.91
My patients can afford the recommended treatments for opioid use disorder	.90

Varley AL, Goodin BR, Copes H, Kertesz SG, Fontaine K, Cherrington AL, Hendricks PS. Development and validation of the Capacity to Treat Chronic Pain and Opioid Use Disorder (CAP-POD) questionnaire. *Implement Res Pract*. 2020 Sep 15;1:2633489520948859. doi: 10.1177/2633489520948859. PMID: 37089127; PMCID: PMC9978608.

Methods: Consecutive outpatients at their first visit to the pain clinic (PG, n = 243) and pre-surgical control patients (SG, n = 100) suffering from pain reported on their current pain medication. The patients' reports were verified in serum and urine using specific toxicological methods. Two types of noncompliance were defined: **under-reporting (detection of non-reported substances)** and **over-reporting (reported substances undetectable)**. The impact of clinical parameters on compliance was investigated using binary logistic regression.

Results: The incidence of noncompliance was significantly **higher in the PG (43.3%) than in the SG (24%; P < 0.05)**. Under-reporting occurred similarly in both groups (31% PG; 23% SG), whereas over-reporting predominantly appeared in the PG (11% vs. 2%; P < 0.05). Opioids were not most frequently under-reported, but the highest proportion of under-reported drugs (under-reported in relation to detection incidence) was found for non-opioid analgesics (NSAIDs: 29% PG; 25% SG; other: 42% PG; 32% SG) and psychotropic drugs (35% PG; 53% SG). In the PG, logistic regression revealed **high depression scores to be predictive for noncompliance (odds ratio 2.12)**.

Limitations: Due to lack of a structured follow-up interview motives of under- and over-reporting stay speculative.

Conclusions: **Under-reporting of non-opioid analgesics is the main type of noncompliance**, a disquieting fact in light of their toxicity and adverse effects. Further research is required in terms of drug assessment and compliance improvement strategies in pain clinics; therefore, toxicological monitoring is indispensable.

Kipping K, Maier C, Bussemas HH, Schwarzer A.
Medication compliance in patients with chronic pain. Pain
Physician. 2014 Jan-Feb;17(1):81-94. PMID: 24452648.

This cohort study included adults (≥ 18 years) without cancer who were newly prescribed a long-term high-dose opioid, i.e., daily dose ≥ 50 morphine milligram equivalents (MME) for ≥ 183 days, between 2013 and 2018 in Kaiser Permanente Southern California.

Opioid tapering within the evaluation period (3-months after being prescribed long-term high-dose opioid) was defined as a reduction of $\geq 10\%$ in monthly MME for at least two consecutive months compared to baseline MME.

The association of opioid tapering with incident opioid overdose within 12 months was examined separately using multivariable Cox proportional hazard models with inverse probability of treatment weight.

Sensitivity analyses were performed to differentiate the association by tapering rates.

Results: Among 12,866 eligible individuals, 7,372 (57.3%) initiated tapering within 3 months. Seventy-five patients had a documented opioid overdose event within 12-months during follow-up, resulting in an incidence rate of 0.022 or 0.013 event/1,000 person-years respectively among the non-tapered and tapered cohorts.

Tapering within the evaluation period was associated with a 0.48 (HR: 0.52; 95% CI: 0.33-0.82) reduction in risk of overdose in the subsequent 12- months.

Sensitivity analyses suggested a tapering rate of 20-40% reduction monthly was associated with lower risk.

Conclusion: Among patients newly prescribed long-term high-dose opioids, initiating tapering within 3 months was shown associated with reduced short-term risk of opioid overdose.

Association Between Opioid Dosage Tapering and Opioid Overdose Among Long-Term Higher-Dose Opioid Users Hui Zhou PhD , Katherine J Pak MS , Fagen Xie PhD , Craig K Chang MD , Patricia L. Gray PharmD , Deborah S. Ling Grant PhD , Joanna L. Barreras PhDMSW , Steven G. Steinberg MD , Rulin C. Hechter MDPHD PII: S2773-0654(25)00087-2 DOI: <https://doi.org/10.1016/j.focus.2025.100399>

Non-adherence rates to pain prescriptions ranged from 8% to 62% with a **weighted mean of 40%**.

Underuse of pain medication was more common than overuse in most studies.

Factors that were commonly positively associated with non-adherence were dosing frequency, polymedication, pain intensity, and concerns about pain medication.

Factors negatively associated with non-adherence were age, again pain intensity and quality of the patient-caregiver relationship.

Underuse was positively associated with active coping strategies and self-medication, and negatively associated with perceived need for analgesic medication.

Overuse was positively associated with perceived need, pain intensity, opioid use, number of prescribed analgesics, a history of drug abuse, and smoking.

Conclusion: Non-adherence to analgesic medication use is very common in the chronic pain population. The choice for **pharmacological therapy should not only be based upon pain diagnosis but should also take the risks of non-adherence into account**. The value of adherence monitoring or adherence enhancing interventions has to be investigated in future studies.

Timmerman L, Stronks DL, Groeneweg JG, Huygen FJ. Prevalence and determinants of medication non-adherence in chronic pain patients: a systematic review. *Acta Anaesthesiol Scand*. 2016 Apr;60(4):416-31. doi: 10.1111/aas.12697. Epub 2016 Feb 9. PMID: 26860919.

RESULTS: Ongoing pain, travel distance, and lack of transportation were common barriers while being given a choice in rehabilitation activities, regular assessments of progress and function, and regular goal setting with the physician were common facilitators. Living in rural areas and the belief that rehabilitation is important were associated with both higher barrier and facilitator scores.

CONCLUSION: A patient-centred approach to physical therapy, effective pain management, and regular evaluation of functional progress can increase adherence to physiotherapy. These findings have implications for physiotherapy providers, policymakers, and patients in promoting adherence to treatment for improved functional outcomes, reduced pain, and increased patient satisfaction.

Results: The participants' mean age was 54.1 ± 15.8 years (females = 133 (65.5%)). Of 203 participants, 99 (48.8%) adhered to HEP, 56 (27.6%) partially adhered, and 48 (23.6%) did not adhere. One hundred eighty-seven (92.1%) participants reported receiving adequate instructions, and 175 (86.2%) reported receiving instructional materials. **Older Age and "sufficient instructions" were found to be significant determinants of adherence** ($p < 0.05$), while gender and handouts were not ($p > 0.05$). Pain in more than one body part was significantly ($p < 0.05$) associated with motivational barriers for non-adherence.

Conclusion: Age and participants' perception of sufficient instructions were significant factors for non-adherence. These results emphasize the importance of therapist-provided instructions to overcome barriers to adherence.

Petrosyan H, Leonardi C, Thakral A, Roth J, Russoniello N, Goldin Y, Parikh S. Barriers and factors associated with adherence to a home exercise program of adults with musculoskeletal pain. *J Back Musculoskelet Rehabil.* 2024;37(2):473-485. doi: 10.3233/BMR-230178. PMID: 38108342.

Results: The patients ($n = 1,626$, mean age: 51 years) were primarily women (95%) with a 21.8-year mean pain duration and 12.7 years in pain before diagnosis. **One-third did not understand why they had pain**, and **56.6% did not know how to get better**. More than half had not received satisfactory information on their pain cause from a physician, and guidance on how to improve was reported below medium. Patients regretted a lack of medical specialized competence on muscle pain and reported **many unmet needs, including regular follow-up and pain assessment**. **Physician-mediated pain relief was low, and guideline adherence was deficient**. Only 14.8% were satisfied with non-physician health providers evaluating and treating their pain, and 21.5% were satisfied (46.9% dissatisfied) with their **global pain-related healthcare**. Patients' knowledge of their condition, physicians' pain competence and provision of information and guidance, agreement in explanations and advice, and the absence of unmet needs significantly increased the odds of both healthcare satisfaction and pain relief.

Conclusions: Our survey describes deficiencies in FM patients' pain-related healthcare and suggests areas for improvement to increase healthcare satisfaction and pain relief.

Wigers SH, Veierød MB, Mengshoel AM, Forseth KØ, Dahli MP, Juel NG, Natvig B. Healthcare experiences of fibromyalgia patients and their associations with satisfaction and pain relief. A patient survey. Scand J Pain. 2024 Apr 16;24(1). doi: 10.1515/sjpain-2023-0141. PMID: 38625666.

RELAPSE AFTER TREATMENT

- The incidence of **relapse following initially successful treatment** of persistent pain also appears to be high, ranging from 30% to 60%. Studies on arthritis and heterogeneous pain clinic populations suggest that **noncompliance and relapse are related**; however, this association is less well established for headache patients.
- Pain. 1991 Jan;44(1):5-28. doi: 10.1016/0304-3959(91)90142-K. PMID: 2038489.

DISCREPANCIES BETWEEN PATIENTS AND PROVIDERS

- Health care providers (HCPs) reported making more recommendations than patients reported hearing.
- Patients rated themselves as more compliant than did HCPs.
- Overall compliance rates at a >6-month follow-up were 89% from the patients' perspective and 70% from the HCPs' perspective.
- HCPs rated compliance specific to psychological care as more related to positive outcomes than did patients.
- Participants' pain and anxiety ratings at a >6-month follow-up and satisfaction with treatment were significantly associated with patients' compliance ratings.
- For HCP-rated compliance, only HCPs' perceived benefit and interference from compliance were associated.
- **Conclusion.** Results suggest important disparities between HCPs and patients on remembered recommendations, levels of compliance, and health-related importance of complying with recommendations.
- Michael E. Robinson, Bernard Bulcourn, James W. Atchison, Jerry Berger, Ann Lafayette-Lucy, Adam T. Hirsh, Joseph, L. Riley, Compliance in Pain Rehabilitation: Patient and Provider Perspectives, *Pain Medicine*, Volume 5, Issue 1, March 2004, Pages 66–80,

DOSE

- 120 h, 72 h, and 24 h of treatment
patients with higher dysfunction pretreatment (*i.e.*, greater number of hours resting a day and high levels of pain) profited more with high intensity treatment, whereas persons with lower dysfunction did not respond differentially to levels of intensity of treatment
- Oslund S.R. Predictors of Success Across Differing Interdisciplinary Pain Programs: Who Benefits from Which Treatment?

Increasing program completers

- Engagement with case manager at referral visit
- Education
- Telehealth individual psychotherapy
- Encouragement from most influential physician, family
- Optimize depression
- Vocational rehabilitation
- Give examples of success stories

Criteria for interdisciplinary pain program

- Appropriate for group
- English speaking
- Cognitive ability to participate in cognitive behavioral therapy
- Able to verbalize goal
- Medically stable
- Chronic pain
- High risk acute or subacute pain
- Rehabilitation potential

Cost

Transportation

Time

7:1 referral: completer at Baylor

10:1 referral: completer at UTSW

KÖSZÖNÖM

