NICE National Institute for Health and Care Excellence

Putting NICE guidance into practice

Resource impact report:
Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain (NG193)

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Summary

This report focuses on the recommendations from NICE's guideline on Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain that we think will have the greatest resource impact nationally for England, and will need the most additional resources to implement or potentially generate the biggest saving. They are:

- offer a supervised group exercise programme to people aged 16 years and over to manage chronic primary pain **(recommendation 1.2.1)**
- consider acceptance and commitment therapy (ACT) or cognitive–behavioural therapy (CBT) for pain for people aged 16 years and over with chronic primary pain **(recommendation 1.2.3)**
- consider a course of acupuncture or dry needling for people aged 16 years and over to manage chronic primary pain **(recommendation 1.2.5)**
- consider an antidepressant, for people aged 16 years and over to manage chronic primary pain, after a full discussion of the benefits and risks **(recommendation 1.2.7)**
- do not initiate certain pharmacological interventions to people aged 16 years and over to manage chronic primary pain **(recommendation 1.2.10)**
- if a person with chronic primary pain is already taking any of the medicines from recommendation 1.2.10, review the prescribing as part of shared decision making **(recommendation 1.2.11)**

Financial impact

The net financial impact will be determined by the resources required to support the management of chronic primary pain which may be needed as a result of the recommended changes for pharmacological interventions. Based on the assumptions currently used in the financial model, the net estimated financial impact of implementing the guideline per 100,000 population in the next 5 years is a saving of around £200 in year one rising to a saving of around £1,100 in year five as set out in table 1 and figure 1 below. The resource impact results from:

- not starting a range of pharmacological interventions for chronic primary pain, and a shift in the interventions for existing patients with primary chronic pain. This results in cash savings for primary care providers, commissioned by clinical commissioning groups
- increased costs of offering a single course of acupuncture per person, this results in cash costs for community services commissioned by clinical commissioning groups
- increased costs from considering psychological interventions such as ACT or CBT for people with chronic primary pain commissioned by clinical commissioning groups
- increased costs from offering a supervised group exercise programme for people with chronic primary pain. Group exercise programmes will result in cash costs for community services commissioned by clinical commissioning groups.

The cash saving for clinical commissioning groups per 100,000 population is estimated to be around £83,000 by year 5, with £31,000 attributable to the incident population and £52,000 attributable to the prevalent population. This is due to the reduced use of higher cost pharmacological interventions for people with chronic primary pain.

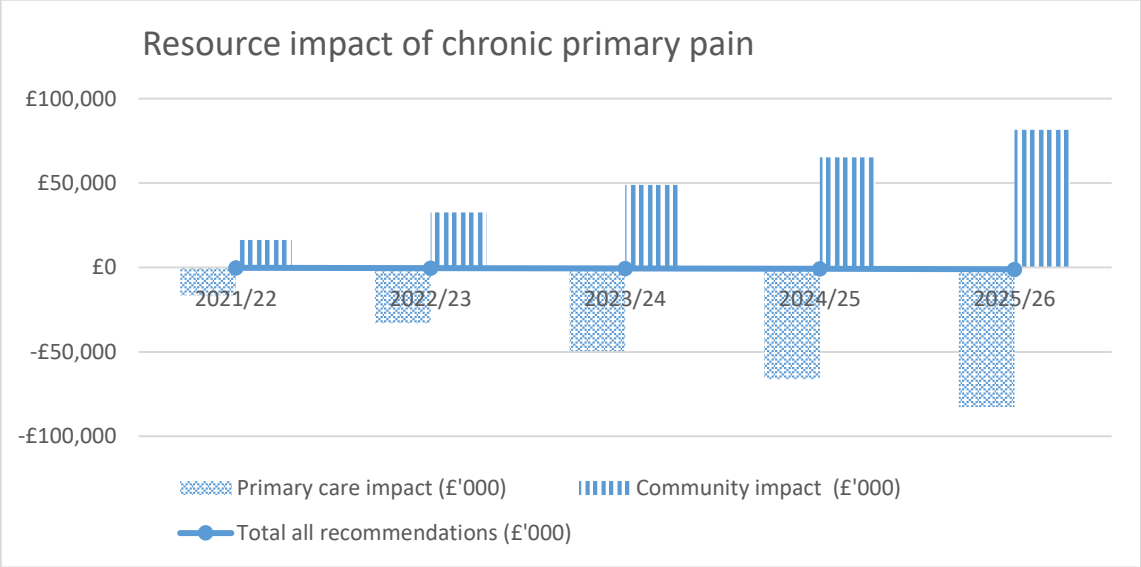
Investment will be required at a local level to generate these savings from a shift in prescribing patterns. The cash costs for community service providers per 100,000 population, commissioned by clinical commissioning groups, are estimated to be around £82,000 by year 5, with around £9,000 attributable to the incident population and around £73,000 attributable to the prevalent population. This results from increases in psychological services, acupuncture and group exercise programmes.

This report is supported by a resource impact template which may be used to calculate the resource impact of implementing the guidance by amending the variables.

Table 1 Estimated annual saving of implementing the guideline per 100,000 population

	2021/22	2022/23	2023/24	2024/25	2025/26
Implementation rate of guideline (%)	20%	40%	60%	80%	100%
Cash cost for recommendations 1.2.1, 1.2.3 and 1.2.5 incident (£000)	2	4	5	7	9
Cash cost for recommendations 1.2.1, 1.2.3 and 1.2.5 prevalent (£000)	14	29	43	58	73
Cash saving for recommendations 1.2.7 and 1.2.10 (£000)	-6	-12	-18	-25	-31
Cash saving for recommendation 1.2.11 (£000)	-10	-21	-31	-42	-52
Total cash saving per 100,000 population (£000)	**0**	**0**	**-1**	**-1**	**-1**

Figure 1 Estimated resource impact of implementing the guideline per 100,000 population



Chronic pain services are commissioned by clinical commissioning groups; in some areas this will be through Integrated Care Systems and NHS England. Providers are NHS hospital trusts, primary care providers and community services.

1 Introduction

1.1 The guideline offers evidence-based advice on chronic pain (primary and secondary) in over 16s.

1.2 This report discusses the resource impact of implementing our guideline on chronic pain (chronic primary pain and chronic secondary pain) in over 16s: assessment and management in England. It aims to help organisations plan for the financial implications of implementing the NICE guideline.

1.3 A resource impact template accompanies this report to help with assessing the resource impact at a local level in England, Wales or Northern Ireland.

1.4 We have considered direct costs and savings to the NHS (and local authorities if applicable) and not those for the individual, the private sector or the not-for-profit sector. Any cost savings arising from a change in practice have been offset against the cost of implementing the change.

1.5 Chronic pain services are commissioned by clinical commissioning groups; in some areas this will be through Integrated Care Systems and NHS England. Providers are NHS hospital trusts, primary care providers and community services.

2 Background

2.1 Chronic primary pain has no clear underlying condition or is out of proportion to any observable injury or disease. The mechanisms underlying chronic primary pain are only partially understood and the definitions are fairly new. All forms of pain can cause distress and disability, but these features are particularly prominent in presentations of chronic primary pain. This guideline is consistent with the ICD-11 definition of chronic primary pain:

Chronic primary pain is chronic pain that has persisted for more than 3 months and is associated with significant emotional distress (anxiety, anger, frustration or depressed mood) or functional disability (interference in daily life activities and participation in social roles), and the pain is not better accounted for by another condition.

2.2 Fibromyalgia (chronic widespread pain) is a type of chronic primary pain. ICD-11 also categorises complex regional pain syndrome, chronic primary headache and orofacial pain, chronic primary visceral pain and chronic primary musculoskeletal pain as types of chronic primary pain.

3 Significant resource impact recommendations

There are 6 guideline recommendations that are likely to lead to a significant resource impact (cost or savings) when implemented. Three of these are considered together in section 3.1, a further two are considered together in section 3.2 and one is considered in section 3.3. The recommendations are grouped together where they affect similar parts of the population with chronic primary pain.

3.1 **Offer a supervised group exercise programme to people aged 16 years and over to manage chronic primary pain. Take people's specific needs, preferences and abilities into account (recommendation 1.2.1).**

Consider acceptance and commitment therapy (ACT) or cognitive–behavioural therapy (CBT) for pain for people aged 16 years and over with chronic primary pain, delivered by healthcare professionals with appropriate training (recommendation 1.2.3).

Consider a single course of acupuncture or dry needling, within a traditional Chinese or Western acupuncture system,

for people aged 16 years and over to manage chronic primary pain, but only if the course:

- **is delivered in a community setting, and**
- **is delivered by a band 7 (equivalent or lower) healthcare professional with appropriate training, and**
- **is made up of no more than 5 hours of healthcare professional time (the number and length of sessions can be adapted within these boundaries), or**
- **is delivered by another healthcare professional with appropriate training and/or in another setting for equivalent or lower cost (recommendation 1.2.5).**

Background

3.1.1 Exercise, or physical activity, is an important part of a healthy lifestyle. A growing body of research shows exercise has an impact on many biological systems, including the nervous system, leading to a focus on exercise as a means to pain reduction. Supervised exercise can often be delivered in group settings. The emphasis is usually on encouraging and supporting the person to carry out the exercise independently and regularly.

3.1.2 There is significant variation in the psychological interventions that are currently provided. Where the current provision is not in line with the recommendations there may be an increase in costs. The template models a 5% increase in psychological interventions for the incident and prevalent populations. This can be adjusted to reflect local situations, in the resource impact template.

3.1.3 Currently most people with chronic primary pain are not able to access acupuncture services because these services are only available in a small number of areas.

Assumptions made

3.1.4 Group exercise programmes, psychological interventions and acupuncture are used to treat people with chronic primary pain alongside pharmacological treatments.

3.1.5 There is significant variability around the availability and uptake of group exercise programmes for people with chronic primary pain. It has been assumed in the template that there will be an increase of 5% of people having group exercise programmes by year 5 across both the incident and prevalent populations. Local organisations can adjust current and future uptake of group exercise programmes in the template to reflect local provisions.

3.1.6 Group exercise programs are delivered by a band 6 and a band 4 healthcare professional. In the template it is assumed that each group exercise programme is delivered equally by a band 6 and band 4 healthcare professional. The cost of group exercise programs includes management supervision of the healthcare professionals delivering the programme (24.5% of patient facing time) and some non-patient facing time to support the programme (37% of patient facing time). Local organisations can adjust who is delivering the group exercise program in the accompanying template.

3.1.7 The template models a 5% increase in use of psychological interventions in the incident and prevalent populations. There is significant regional variation in the provision of psychological interventions, local organisations are advised to adjust the template to reflect local practice. Increase in use of group exercise programmes and psychological interventions is reflected in table 2.

Table 2 Change in practice for people receiving group exercise programmes and psychological interventions for chronic primary pain per 100,000 population

Population	Current practice		Future practice	
	%		%	
People in the incident population (435) who have group exercise programmes	0.00	0	5.00	22
People in the incident population (435) who have psychological interventions	0.00	0	5.00	22
People in the prevalent population (3,918) who have group exercise programmes	0.00	0	5.00	196
People in the prevalent population (3,918) who have psychological interventions	0.00	0	5.00	196

3.1.8 Based on expert clinical opinion, it is assumed that 0.4% of people in the incident and prevalent population with chronic primary pain currently receive treatment with acupuncture.

3.1.9 Expert clinical opinion is that around 5% of the incident population and 3% of the prevalent population with chronic primary pain will have acupuncture in future practice.

3.1.10 Current and future practice for people receiving acupuncture for chronic primary pain is summarised in table 3.

Table 3 Current and future practice for people receiving acupuncture for chronic primary pain per 100,000 population

Population	Current practice		Future practice	
	%		%	
People in the incident population (435) who are treated with acupuncture	0.40	2	5.00	22
People in the prevalent population (3,918) who are treated with acupuncture	0.40	16	3.00	118

Costs

3.1.11 The cost of group exercise programmes is based on the cost of the time of the healthcare professional who would provide the programme. This is adjusted for the number of people who would be in the group, the time of the sessions and the number of sessions per course. In the template we have assumed a band 6 and a band 4 healthcare professional would provide the group exercise programme at a cost of around £140 per person per course.

3.1.12 The cost of psychological interventions are estimated to be around £165 per person per course, this is based on a band 7 healthcare professional providing group cognitive behaviour therapy (CBT).

3.1.13 The estimated cost used in the template for acupuncture is based on treatment provided by a band 6 healthcare professional providing a course of acupuncture over five hours. In the template it is possible to adjust the number of hours provided and to adjust the band of the healthcare professional to either a band 5 or a band 7. The banding and hours of acupuncture are based upon the recommendations in the guideline. In the template we have assumed that a course of acupuncture would cost £126.

3.1.14 Table 4 summarises the costs for courses of treatment per person of the non-pharmacological treatment options for people with chronic primary pain.

Table 4 Cost of group exercise programs, psychological interventions and acupuncture for people with chronic primary pain

Treatment	Duration	Reference	Cost £
People who receive acupuncture (typically 10 sessions of 30 minutes), cost includes a half pack of needles per session	5 hours	Agenda for change Band 6	126.00
People who have psychological interventions acceptance and commitment therapy (ACT) or cognitive–behavioural therapy (CBT)	24 weeks	Agenda for change Band 7	165.19
People who receive group exercise programmes, 12 people per group for 24, 1-hour sessions	24 weeks	Agenda for change Band 4 and 6	139.18

3.1.15 The impact on cost and activity of increasing uptake of psychological interventions by 5% is summarised in table 5.

Table 5 estimated annual increase in cost of recommendation 1.2.3 and number of people affected for 5% increasing uptake per 100,000 population

		Current	Future (year 5)	Change	Current	Future (year 5)	Change
Area costed	**Unit cost (£)**	**Number of people**	**Number of people**	**Number of people**	**Cost (£000)**	**Cost (£000)**	**Cost (£000)**
Incident population (435) treated with psychological intervention	165.19	0	22	22	0	4	4
Prevalent population (3,918) treated with psychological intervention	165.19	0	196	196	0	32	32
Total		0	**218**	**218**	0	**36**	**36**

3.1.16 The cost and associated activity of increasing acupuncture is summarised in table 6.

Table 6 Estimated annual cost of recommendation 1.2.5 and number of people affected per 100,000 population

		Current	Future (year 5)	Change	Current	Future (year 5)	Change
Area costed	**Unit cost (£)**	**Number of people**	**Number of people**	**Number of people**	**Cost (£000)**	**Cost (£000)**	**Cost (£000)**
Incident population treated with acupuncture	126	2	22	20	0	3	3
Prevalent population treated with acupuncture	126	16	118	102	2	15	13
Total		**18**	**140**	**122**	**2**	**18**	**16**

3.1.17 The cost of increasing the use of group exercise programmes is summarised in table 7.

Table 7 Estimated annual increase in cost of recommendation 1.2.1 and number of people affected for 5% increasing uptake per 100,000 population

		Current	Future (year 5)	Change	Current	Future (year 5)	Change
Area costed	**Unit cost (£)**	**Number of people**	**Number of people**	**Number of people**	**Cost (£000)**	**Cost (£000)**	**Cost (£000)**
Incident population (435) receiving group exercise programme	139.18	0	22	22	0	3	3
Prevalent population (3,918) receiving group exercise programme	139.18	0	196	196	0	27	27
Total		0	**218**	**218**	0	**30**	**30**

Benefits and savings

3.1.18 Acupuncture was found to improve quality of life for people with chronic primary pain in the short-term (3 months).

3.2 **Consider an antidepressant, either amitriptyline, citalopram, duloxetine, fluoxetine, paroxetine or sertraline, for people aged 18 years and over to manage chronic primary pain, after a full discussion of the benefits and harms (recommendation 1.2.7).**

Do not initiate certain pharmaceutical treatments, by any route, to people aged 16 years and over to manage chronic primary pain (recommendation 1.2.10)

Background

3.2.1 Some pharmacological treatments can be associated with dependence and can cause potential harm from sudden withdrawal from these medicines.

3.2.2 The committee agreed that the evidence showed that gabapentinoids antipsychotic drugs, benzodiazepines, corticosteroid trigger point injections, ketamine, local anaesthetics, NSAIDs, opioids and paracetamol did not improve chronic primary pain symptoms and they increased the risk of adverse events in the long term. Not all of these drugs are used widely in the treatment of chronic primary pain and therefore the template only models the impact of gabapentinoids, opioids, NSAIDs and paracetamol being replaced by antidepressants.

Assumptions made

3.2.3 It is assumed that 95% of people in the incident population with chronic primary pain will transfer to antidepressants when this guideline is fully implemented (after 5 years). The remaining 5% will

be split between alternative treatments based on current uptake levels.

3.2.4 Prescribed gabapentinoids will be either pregabalin or gabapentin. The split that is currently used and the dosages for each are detailed in table 15. The table is based on clinical expert opinion.

3.2.5 Prescribed opioids will be either co-codamol, tramadol, morphine sulfate, codeine phosphate, buprenorphine, oxycodone hydrochloride, co-dydramol, dihydrocodeine tartrate or fentanyl. The split that is currently used and the dosages for each are detailed in table 16. This is based on clinical expert opinion.

3.2.6 Prescribed anti-depressants will be either sertraline hydrochloride, citalopram hydrobromide, amitriptyline hydrochloride, fluoxetine hydrochloride, duloxetine hydrochloride or paroxetine hydrochloride. The split that is currently used and the dosages for each are detailed in table 17. This is based on clinical expert opinion.

3.2.7 Prescribed NSAIDs will be either naproxen, ibuprofen, diclofenac, etoricoxib or celecoxib. NSAIDs require gastric support from a proton pump inhibitor, we have modelled omeprazole in the template. The split that is currently used and the dosages for each are detailed in table 18. This is based on clinical expert opinion.

3.2.8 Expert clinical opinion is that currently 14% of people with chronic primary pain are treated with opioids only, 22% of people are treated with gabapentinoids only and 23% are treated with opioids and gabapentinoids.

3.2.9 In current practice 4% of people with chronic primary pain are treated with antidepressants only and 24% are treated with antidepressants and opioids (Tamblyn et al. 2019).

3.2.10 Expert clinical opinion is that currently 5% of people are treated with nonsteroidal anti-inflammatory drugs (NSAIDs) and 8% are treated with paracetamol.

3.2.11 Expert clinical opinion assumes that in future practice the use of opioids, gabapentinoids, NSAIDs and paracetamol by the incident population with chronic primary pain will reduce significantly. It is assumed that in future practice 95% of people will be treated with antidepressants.

3.2.12 It is assumed that all prescribing is in primary care, therefore no VAT has been added to drug costs.

3.2.13 Current and future practice for people receiving treatment for chronic primary pain is summarised in table 8.

Table 8 Current and future practice for incident population receiving treatment for chronic primary pain per 100,000 population

Population	**Current practice**		**Future practice**	
	%		%	
People who are treated with opioids	14	61	1.97	9
People who are treated with gabapentinoids	22	96	1.15	5
People who are treated with opioids and gabapentinoids	23	100	1.20	5
People who are treated with anti-depressants	4	17	95	414
People who are treated with anti-depressants and opioids	24	104	0	0
People who are treated with non-steroidal anti-inflammatory drugs (NSAIDS)	5	22	0.26	1
People who are treated with paracetamol	8	35	0.42	2
Total people treated for chronic primary pain	**100**	**435**	**100**	**435**

Costs

3.2.14 The cost for gabapentinoids, opioids, antidepressants and NSAIDs is the average cost of treatment based on the average uptake shown in tables 15, 16, 17 and 18.

3.2.15 Table 19 summarises the costs of treatment options for people with chronic primary pain.

3.2.16 The net saving and associated activity of changing pharmacological treatment to antidepressants in the incident population is summarised in table 9.

Table 9 Estimated annual saving of recommendations 1.2.7 and 1.2.10 and number of people affected for 100,000 population for the incident population

		Current	Future (year 5)	Change	Current	Future (year 5)	Change
Area costed	Unit cost (£)	Number of people	Number of people	Number of people	Cost (£000)	Cost (£000)	Cost (£000)
People treated with opioids	109.54	61	9	-52	7	1	-6
People treated with gabapentinoids	39.11	96	5	-91	4	0	-4
People treated with opioids and gabapentinoids	148.64	100	5	-95	15	1	-14
People treated with anti-depressants	17.62	17	414	396	0	7	7
People treated with anti-depressants and opioids	127.16	104	0	-104	13	0	-13
People treated with NSAIDs	27.83	22	1	-21	1	0	-1
People treated with paracetamol	11.97	35	2	-33	0	0	0
Total		**435**	**435**	**0**	**40**	**9**	**-31**

3.2.17 The net saving of changing pharmacological treatments for the incident population over the next 5 financial years is summarised in table 10.

Table 10 Estimated annual saving of recommendations 1.2.7 and 1.2.10 over time per 100,000 population

	2021/22	2022/23	2023/24	2024/25	2025/26
Cash saving for incident population (£000)	-6	-12	-18	-25	-31

Benefits and savings

3.2.18 Long term use of gabapentinoids and opioids can lead to an increase risk of misuse and dependence. This risk will be reduced with fewer people using these treatments. Public Health England has reviewed the use of these treatments and the difficulties of dependency and withdrawal.

3.3 **If a person with chronic primary pain is already taking any of the medicines in recommendation 1.2.10, review the prescribing as part of shared decision making:**

- **explain the lack of evidence for these medicines for chronic primary pain and**
- **agree a shared plan for continuing safely if they report benefit at a safe dose and few harms or**
- **explain the risks of continuing if they report little benefit or significant harm, and encourage and support them to reduce and stop the medicine if possible (recommendation 1.2.11).**

Background

3.3.1 Some prescription medicines can be associated with dependence and can cause potential harm from sudden withdrawal from these medicines. This can stop people from changing medicine even if they are not receiving significant benefits from them.

3.3.2 Clinical experts suggest that some people with chronic primary pain may have been on medication that has little benefits for a substantial period of time.

Assumptions made

3.3.3 The current uptake of medical treatment in the prevalent population is in the same proportion as in the incident population for people with chronic primary pain. It is assumed that the prevalent population remains the same size.

3.3.4 In the template it is assumed that the uptake of antidepressants for treating chronic primary pain in future practice will increase by 20%. The alternative pharmacological treatments are reduced in proportion to their current usage.

3.3.5 It is assumed that all prescribing is in primary care, therefore no VAT has been added to drug costs.

3.3.6 Current and future practice for people receiving treatment for chronic primary pain is summarised in table 11.

Table 11 Current and future practice for the prevalent population receiving treatment for chronic primary pain per 100,000 population

Population	**Current practice**		**Future practice**	
	%		**%**	
People who are treated with opioids	14	549	10.11	396
People who are treated with gabapentinoids	22	862	15.89	623
People who are treated with opioids and gabapentinoids	23	901	16.61	651
People who are treated with anti-depressants	4	157	24	940
People who are treated with anti-depressants and opioids	24	940	24	940
People who are treated with NSAIDs	5	196	3.61	141
People who are treated with paracetamol	8	313	5.78	226
Total people treated for chronic primary pain	**100**	**3,918**	**100**	**3,918**

Costs

3.3.7 The cost for gabapentinoids, opioids, antidepressants and NSAIDs is the average cost of treatment based on the average uptake shown in tables 15, 16, 17 and 18.

3.3.8 Table 19 summarises the costs of treatment options for people with chronic primary pain.

3.3.9 The net saving and associated activity of changing pharmacological treatments to antidepressants in the prevalent population is summarised in table 12.

Table 12 Estimated annual saving of recommendations 1.2.11 and number of people affected for the prevalent population per 100,000 population

		Current	Future (year 5)	Change	Current	Future (year 5)	Change
Area costed	**Unit cost (£)**	**Number of people**	**Number of people**	**Number of people**	**Cost (£000)**	**Cost (£000)**	**Cost (£000)**
People treated with opioids	109.54	549	396	-152	60	43	-17
People treated with gabapentinoids	39.11	862	623	-239	34	24	-9
People treated with opioids and gabapentinoids	148.64	901	651	-250	134	97	-37
People treated with anti-depressants	17.62	157	940	784	3	17	14
People treated with anti-depressants and opioids	127.16	940	940	0	120	120	0
People treated with NSAIDs	27.83	196	141	-54	5	4	-2
People treated with paracetamol	11.97	313	226	-87	4	3	-1
Total		**3,918**	**3,918**	**0**	**359**	**307**	**-52**

3.3.10 The net saving of changing pharmacological interventions for the prevalent population over the next 5 financial years is summarised in table 13.

Table 13 Estimated annual saving of recommendations 1.2.11 over time

	2021/22	2022/23	2023/24	2024/25	2025/26
Cash saving for prevalent population (£000)	-10	-21	-31	-42	-52

Other considerations

3.3.11 Clinical experts expect that there may be additional time needed for healthcare professionals to support people withdrawing from opioids and gabapentinoids. It is expected that there will need to be more appointments with GPs and that they may be of a longer duration. This has not been included in the resource impact template as GPs are funded to provide a service to a cohort of patients rather than for individual appointments.

4 Resource impact over time

4.1 The estimated annual saving of implementing this guideline per 100,000 population based on the uptake in the resource impact assumptions is shown in table 14.

Table 14 Estimated annual saving of implementing the guideline per 100,000 population

	2021/22	2022/23	2023/24	2024/25	2025/26
Implementation rate of guideline (%)	20%	40%	60%	80%	100%
Cash cost for recommendations 1.2.1, 1.2.3 and 1.2.5 incident (£000)	2	4	5	7	9
Cash cost for recommendations 1.2.1, 1.2.3 and 1.2.5 prevalent (£000)	14	29	43	58	73
Cash saving for recommendations 1.2.7 and 1.2.10 (£000)	-6	-12	-18	-25	-31
Cash saving for recommendation 1.2.11 (£000)	-10	-21	-31	-42	-52
Total cash saving per 100,000 population (£000)	**0**	**0**	**-1**	**-1**	**-1**

5 Implications for commissioners and providers

5.1 Chronic primary pain falls under programme budgeting category 07A Chronic pain.

5.2 It is expected that there will be savings for primary care providers and clinical commissioning groups from the reduction in use of pharmacological interventions.

5.3 Community services, commissioned by clinical commissioning groups are expected to have increased costs for the provision of psychological interventions, acupuncture and group exercise programmes.

6 Assumptions made

6.1 The prevalent population with chronic primary pain alone in England is estimated to be around 5.4% (2.4 million people), Jones et al 2015. This is equivalent to around 4,350 people per 100,000

population. There are people who will have chronic primary pain and chronic secondary pain, where the appropriate treatment for chronic secondary pain is on the do not initiate list. It is intended that these people are not included in the population considered in the template and this report. This can be adjusted in the template.

6.2 Based on clinical expert opinion, it is estimated that the incident population with chronic primary pain is around 10% of the prevalent population (246,000 people in England), equivalent to around 435 people per 100,000 population. It has been assumed that all of these people will receive some treatment, based on clinical expert opinion.

6.3 The resource impact template can be used to amend unit costs to account for any local costs.

7 Other considerations

7.1 The potential resource impact of treatment for people with chronic primary pain, for the withdrawal from their current pharmacological treatment has not been included in this analysis. There is a line in the template for the cost of this to be included locally. A piece of NICE guidance currently under development, Safe prescribing and withdrawal management of prescribed drugs associated with dependence and withdrawal, will look at the potential resource impact of withdrawal.

8 Sensitivity analysis

8.1 There are some assumptions in the model for which no empirical evidence exists, so we cannot be as certain about them. Appropriate minimum and maximum values of variables were used in the sensitivity analysis to assess which variables have the biggest impact on the net cost or saving. This enables users to identify the significant cost drivers.

Appendix A is a table listing all variables modified. The key conclusions are discussed below.

8.2 Varying the prevalent population with chronic primary pain from 5.4% in the base case to between 4.4% and 6.4% leads to an estimated saving of between £900 and £1,300 per 100,000 population.

8.3 Varying the incident population with chronic primary pain from 10% in the base case to between 7.5% and 12.5% leads to a resource impact of between a cost of £4,900 and a saving of £7,000 per 100,000 population.

Appendix A. Results of sensitivity analysis

Individual variable sensitivity

	Baseline value	Minimum value	Maximum value	Recurrent resource impact Baseline resource impact (£000s)	Recurrent resource impact Minimum resource impact (£000s)	Recurrent resource impact Maximum resource impact (£000s)	Change (£000s)	Sensitivity ratio
Prevalence of chronic primary pain	5.4%	4.4%	6.4%	-1	-1	-1	-0	0.05
Incident population of chronic primary pain	10%	7.5%	12.5%	-1	5	-7	-12	1.00

Appendix B. Results of sensitivity analysis

Table 15 Proportions of gabapentinoids used for treating chronic primary pain

Treatment	Average uptake
Pregabalin 2 x 75mg capsules twice daily	51%
Gabapentin 1 x 300mg capsules three times daily	49%

Table 16 Proportions of opioids used for treating chronic primary pain

Treatment	Average uptake
Co-codamol 2 x 30mg / 500mg tablets 4 times a day	38%
Tramadol 2x 50mg capsules 4 times a day	15%
Morphine sulfate 10g tablets every 4 hours	13%
Codeine phosphate 30-60 mg every 4 hours up to 240mg per day (1-2 tablets 4 times a day)	13%
Buprenorphine 200-400 micrograms tablets 4 times a day	6%
Oxycodone hydrochloride 10mg capsules 4 times a day	5%
Co-dydramol (dihydrocodeine/paracetamol) 2x 10mg/500mg 4 times a day	4%
Dihydrocodeine tartrate 2x 30mg tablets 4 times a day	4%
Fentanyl transdermal patches 12mg per 1 hour (72-hour patches)	3%

Table 17 Proportions of anti-depressants used for treating chronic primary pain

Treatment	Average uptake
Sertraline hydrochloride 2 x 50mg once daily	31%
Citalopram hydrobromide 1 x 20mg once daily	25%
Amitriptyline hydrochloride 1 x 25mg once daily	25%
Fluoxetine hydrochloride 1 x 20mg once daily	12%
Duloxetine hydrochloride 1 x 40mg once daily	5%
Paroxetine hydrochloride 2 x 20mg once daily	2%

Table 18 Proportions of NSAIDs used for treating chronic primary pain

Treatment	Average uptake
Naproxen 500mg 2 times a day[1]	70.6%
Ibuprofen 400mg 3 times a day	16.4%
Diclofenac sodium 50mg 3 times a day	5.8%
Etoricoxib 60mg once daily	4.0%
Celecoxib 100mg twice daily	3.2%
[1]Daily with a proton pump inhibitor such as Omeprazole 20mg once daily as gastric support	

Table 19 Cost of treatment options for people with chronic primary pain

Treatment	Duration	Reference	Cost £
People who receive opioids	365 days	eMIT database	109.54
People who receive gabapentinoids	365 days	eMIT database	39.11
People who receive opioids and gabapentinoids	365 days	eMIT database	148.64
People who receive anti-depressants	365 days	eMIT database	17.62
People who receive anti-depressants and opioids	365 days	eMIT database	127.16
People who receive NSAIDs	365 days	eMIT database	27.83
People who receive paracetamol	365 days	eMIT database	11.97

About this resource impact report

This resource impact report accompanies the NICE guideline on chronic primary pain and should be read in conjunction with it. Please visit the NICE website to view the terms and conditions.

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