

The patient burden of opioid-induced constipation: new insights from a large, multinational survey in 5 European countries

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Abstract:	Background: Despite its high prevalence, opioid-induced constipation (OIC) remains under-recognised and undertreated, and its true impact on patients' wellbeing and quality of life (QoL) may be underestimated. Methods: A quantitative, questionnaire-based international survey was conducted. Results: Weak-opioid users appear to be as bothered by constipation as strong-opioid users, despite it causing less-severe physical symptoms and impact on QoL. Strong-opioid users meeting the new Rome IV criteria for OIC appear to experience greater symptomatic and biopsychosocial burden from constipation than those who did not satisfy these criteria. A substantial proportion of respondents are dissatisfied with their current constipation treatment and find balancing the need for adequate pain relief with constipation side effects challenging. Consequently, many fail to adhere to their prescribed treatment regimens, or resort to using suboptimal strategies, e.g. reducing their opioid intake, to relieve constipation. Many healthcare professionals do not adequately counsel their patients about constipation as a common side effect of opioid use. Conclusions: Findings suggest that both weak- and strong-opioid users suffer comparable bother and decreased QoL, Rome IV criteria can identify patients with more-severe OIC, but may underdiagnose patients showing fewer symptoms, and increased education is needed to manage patients' expectations and enable improved OIC self-management.

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Disclosures

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Shionogi, Takeda and Wellspect; and has received research contracts from Coloplast, Ferring, GSK and Shire.

Abstract

Background: Despite its high prevalence, opioid-induced constipation (OIC) remains under-recognised and undertreated, and its true impact on patients' wellbeing and quality of life (QoL) may be underestimated. Methods: A quantitative, questionnaire-based international survey was conducted. Results: Weak-opioid users appear to be as bothered by constipation as strong-opioid users, despite it causing less-severe physical symptoms and impact on QoL. Strong-opioid users meeting the new Rome IV criteria for OIC appear to experience greater symptomatic and biopsychosocial burden from constipation than those who did not satisfy these criteria. A substantial proportion of respondents are dissatisfied with their current constipation treatment and find balancing the need for adequate pain relief with constipation side effects challenging. Consequently, many fail to adhere to their prescribed treatment regimens, or resort to using suboptimal strategies, e.g. reducing their opioid intake, to relieve constipation. Many healthcare professionals do not adequately counsel their patients about constipation as a common side effect of opioid use. **Conclusions:** Findings suggest that both weak- and strong-opioid users suffer comparable bother and decreased QoL, Rome IV criteria can identify patients with more-severe OIC, but may underdiagnose patients showing fewer symptoms, and increased education is needed to manage patients' expectations and enable improved OIC Review. self-management.

Key summary

1. Summarise the established knowledge on this subject

- Although constipation is a common side effect of opioid use, even with the concomitant use of laxatives, opioid-induced constipation (OIC) remains under-recognised and undertreated.
- There is evidence to suggest that the impact of OIC on patients' overall wellbeing and quality of life may be underestimated by healthcare professionals.
- The recently published Rome IV diagnostic criteria for OIC provide a valuable tool for use in clinical practice; however, data are awaited on the value of these new criteria in the assessment of patients with OIC in the real-life setting.
- A better understanding of the unmet needs of patients with OIC would be valuable to improve the recognition and management of this condition.

2. What are the significant and/or new findings of this study?

- Both weak- and strong-opioid users experience a considerable biopsychosocial burden caused by constipation, and the impact of OIC on users of weak opioids should not be underestimated.
- Findings from this survey suggest that the new Rome IV criteria can identify patients with more severe OIC, but may underdiagnose patients with fewer/milder symptoms.
- A substantial proportion of opioid users are not satisfied with their current constipation treatment
 and find balancing the need for adequate pain relief with constipation side effects challenging. This
 can lead to poor adherence with prescribed treatment regimens, or the use of suboptimal strategies
 to relieve constipation.
- This survey highlighted a need for improved counselling for strong-opioid users, particulars regarding constipation as a potential side effect of opioid use.

Introduction

In recent years, the worldwide use of opioids has increased significantly. Constipation is a common side effect of opioid use, and can affect up to 81% of patients, even with the concomitant use of laxatives.² Despite this, opioid-induced constipation (OIC) remains under-recognised and undertreated.³ Recently published Rome IV diagnostic guidance for functional gastrointestinal disorders now includes diagnostic criteria for OIC.⁴ While this is a much-needed step towards improving recognition of this condition, data are awaited on the value of these new criteria in the assessment of patients with OIC in real-life clinical practice. OIC has a negative impact on patients' wellbeing, affecting daily activities, work productivity and healthrelated quality of life,² and is also associated with increased utilisation of healthcare resources.⁵ Available laxative therapies for OIC leave the patient with significant residual symptoms, which may lead them to adjust or stop their opioid intake in order to have a bowel movement, unless effectively counselled.^{3, 6} The management of OIC is often hampered by factors including a lack of understanding and recognition among healthcare professionals (HCPs) of the potential morbidity associated with this condition. It is not clear whether there is any difference in the biopsychosocial disease burden of constipation in patients using either strong or weak opioids. There may also be a perception that strong-opioid use is associated with more severe side effects, and that these also occur at a higher frequency, compared with weak-opioid use, highlighting a need to further our understanding of the burden of OIC in users of strong or weak opioids. Poor communication between HCPs and patients may be a further potential barrier to the effective management of OIC. Current guidance recommends that in addition to laxative use, first-line therapy should include non-pharmacological approaches, such as lifestyle modification and consumption of fibre-rich food. Therefore, good communication between the patient and HCP is key, ⁷⁻⁹ to encourage uptake and adherence to these measures. Studies in a variety of chronic disease conditions have demonstrated a link between effective patient engagement, management of functional symptoms and positive health outcomes. 10 For example, an individualised self-care education programme, with and without peak flow monitoring, improved lung function in patients with asthma; ¹¹ patients on a group-based self-management programme for multiple sclerosis reported improvements in health-related quality of life, 12 and disease-specific self-help

groups were associated with improvements in self-reported general health status in patients with arthritis.¹³ It would be valuable to gain a better understanding of the information-seeking behaviour of patients with OIC, in order to determine the optimal approach to education and timely communication of appropriate information.

In an attempt to address some of the unmet needs in the management of OIC, this international survey was conducted to investigate whether long-term users of strong opioids (e.g. buprenorphine, fentanyl) with Rome IV-positive OIC differ in biopsychosocial disease burden versus those with constipation who do not satisfy the Rome IV criteria, and assess the impact of strong or weak (e.g. codeine, dihydrocodeine) opioids in patients with chronic pain who have constipation. The use of counselling resources, information seeking and sources of support in patients with constipation caused by the use of strong opioids was also explored.

Methodology

Two separate quantitative, questionnaire based, online surveys were conducted by Insight Dojo, Guildford, UK. One survey took place in France, Germany, Italy, Spain and the UK in respondents aged ≥40 years who were using strong opioids. A second survey was conducted in Germany, Spain and the UK in respondents aged ≥18 years who were using weak opioids.

Respondents were recruited using two different types of online panel: (1) a large panel representative of the population in each market, and (2) targeted chronic pain panels e.g. a 'rheumatoid arthritis' panel.

Respondents had largely non-cancer-related chronic pain that was being managed with opioids, and OIC (defined as having ≤2 bowel movements per week, and expressing bother from constipation or dissatisfaction with current treatments for constipation). All individuals who joined the panels consented to participate in the online survey. The International Chamber of Commerce/European Society for Opinion and Marketing Research (ICC/ESOMAR) International Code on Market, Opinion and Social Research and Data

Analytics, ¹⁴ and all local country codes of conduct for market research, were adhered to when conducting the survey. All respondents received a very small incentive for taking part in the survey, which ranged from €1.00–1.50 in France, Germany, Italy and Spain, and £0.75–1.00 in the UK. The survey questionnaires were

developed by Insight Dojo in collaboration with Shionogi and assessed past medical history, opioid use, treatment and treatment-seeking behaviour, symptoms, burden of disease, and effects of constipation on quality of life (see **Appendices 1 and 2**). The survey did not capture any self-reports of severity; rather, the analyses used objective measures of severity which were applied to self-reported symptoms and experiences.

To satisfy the Rome IV criteria for OIC, respondents who were users of strong opioids must have had new or worsening symptoms of constipation when initiating, changing or increasing opioid therapy plus 2 or more of the following symptoms defining functional constipation, with a frequency cut-off of 25%: straining, lumpy or hard stools, sensation of incomplete evacuation, sensation of anorectal blockage, use of manual manipulation to facilitate defaecation or <3 spontaneous bowel movements per week.¹⁵

To ensure comparability, only respondents aged ≥40 years from Germany, Spain and the UK were included in the analyses of strong- versus weak-opioid users. Analyses conducted to investigate approaches to the management of OIC, perceptions of treatment and counselling/information-seeking behaviour were conducted in the overall population of strong-opioid users.

Descriptive data were presented as proportions (%) of total subgroup populations, and Z-tests were performed to establish significance between subgroups. A p value <0.05 was defined as statistically significant.

Results

Analysis of Rome IV versus non-Rome IV subgroups of strong-opioid users

A total of 18,995 respondents from a nationally representative panel entered the survey from France, Germany, Italy, Spain and the UK, with 2016 eligible (*i.e.* overall strong-opioid population). Of these, 951 (47%) met the Rome IV diagnostic criteria for OIC.

Baseline demographics and characteristics of the Rome IV OIC and non-Rome IV subgroups are shown in **Table 1**. Compared with non-Rome IV respondents, significantly more respondents who satisfied the

Rome IV criteria reported physical effects of OIC, with the main symptoms being 'straining to pass stools', 'abdominal bloating' and 'sensation of blockage/bowel obstruction' (Figure 1A). A significantly greater proportion of Rome IV respondents felt emotional and psychological symptoms caused by OIC than did non-Rome IV respondents, with feelings of frustration, dependence and anxiety/worry being key (Figure 2A). While all respondents reported an impact of OIC on daily life/relationships, this was significantly greater in the Rome IV group who cited 'excessive time spent in bathroom', 'difficulty following normal routine' and 'difficulty being intimate with others' as key factors impacting on their wellbeing (Figure 3A).

Overall, significantly more Rome IV than non-Rome IV respondents experienced quite a lot/a great deal of bother from their OIC symptoms (42% *vs* 31%; p<0.0001).

Analysis of strong- versus weak-opioid users

For the strong-opioid population, a total of 13,641 respondents from a nationally representative panel entered the survey from Germany, Spain and the UK, with 545 eligible (equating to a response rate of 4.0%). The remaining 665 respondents for the strong-opioid analysis were sourced from a target panel. For the weak-opioid population, 3,856 respondents from a nationally representative panel entered the survey from Germany, Spain and the UK, with 663 included in the final analyses (for a response rate of 17.2%).

Baseline demographics and characteristics of the populations of strong- (n=1210) and weak- (n-663) opioid users aged ≥40 years are shown in **Table 1**. Compared with the weak-opioid population, more respondents in the strong-opioid population were male (48% *vs* 37%, respectively) and younger (81% *vs* 71% aged <60 years, respectively). The majority of strong-opioid users were taking opioids for chronic back pain, while weak-opioid users had a variety of reasons for requiring pain relief. In general, strong-opioid users had started taking opioids more recently than weak-opioid users, with 40% of the latter group receiving their first opioid prescription ≥5 years ago (*vs* 24% of strong-opioid users).

A comparable degree of bother from constipation symptoms was felt by both weak- and strong-opioid users, with 38% and 40% of respondents, respectively, stating that constipation bothered them quite a lot/a great

deal (between-group comparison, p=0.40). This pattern was reflected in the main psychological symptoms experienced due to constipation (*i.e.* frustration, dependence, anxiety) (**Figure 2B**).

The incidence of more-common physical symptoms (*i.e.* straining to pass stools, abdominal bloating, sensation of bowel blockage/obstruction) was similar in the strong- and weak-opioid groups. However, weak-opioid users experienced significantly fewer less-common physical symptoms of constipation compared with strong-opioid users, including stomach cramps, rectal burning and haemorrhoids (all p<0.02) (Figure 1B). Moreover, the impact of constipation on quality of life/social symptoms was felt significantly less by weak-opioid users compared with users of strong opioids (Figure 3B).

Approaches to the management of OIC and perceptions of treatment in strong-opioid users

Around one-third of respondents found it difficult to combine management of pain relief with constipation symptoms and disliked having to balance between them (32%) (Figure 4A). While 23% of respondents were neither satisfied nor dissatisfied and 46% were very or somewhat satisfied with the effectiveness of their current constipation treatment, nearly one-fifth (18%) were very or somewhat dissatisfied (data missing for 13% of respondents), and only 42% strictly adhered to prescribed treatment regimens, with 30% researching other treatment options (Figure 4A). A significant proportion of respondents (44%) admitted that their constipation becomes so bothersome that they have to combine different methods to relieve it, and 40% often cut down their opioid medication (Figure 4B) or even skip it entirely (9%) to relieve constipation (Figure 5A). This is despite more than half (57%) stating they would prefer not to reduce their opioid medication, if possible (Figure 4B). To manage their constipation, respondents regularly used a variety of approaches, including dietary measures (48%), exercise (23%) and single (32%) or multiple (15%) laxative treatments (Figure 5B).

Counselling and information-seeking behaviour among strong-opioid users

Only 41% of respondents reported that their HCPs had warned them about constipation as a potential side effect of opioid use (**Figure 6**). Almost two-thirds of respondents (64%) reported that their HCP was the main information source on OIC. Other common sources of information were online search engines (45%), health

forums (28%), blogs (12%) and other online resources (8%), as well as leaflets in their HCP's workplace (21%), television (20%) and newspapers/magazines (19%). Respondents also sometimes received advice from their partners, friends and family members (cited by 16%, 16% and 14% of respondents, respectively). Although 49% of respondents stated that they would have liked their HCP to provide more information about OIC, 48% preferred to deal with constipation on their own, rather than discuss it with their HCP (**Figure 4B**).

Discussion and conclusions

Despite its high prevalence among opioid users, OIC remains under-recognised and undertreated, and its true impact on patients' overall wellbeing and quality of life may be underestimated. This survey found that users of both weak and strong opioids experience a considerable biopsychosocial burden caused by constipation. Subjectively, weak-opioid users appear to be as bothered by their constipation as strong-opioid users, despite it causing less-severe physical symptoms and a less-drastic impact on quality of life. This may reflect strong-opioid users having more serious underlying pain conditions and/or requiring other concomitant therapies, which may cause debilitating side effects of greater concern than constipation, compared with weak-opioid users.

To our knowledge, the present analysis is the first time that the Rome IV criteria for OIC have been evaluated in a real-world setting. Findings showed that compared with strong-opioid users who did not satisfy the Rome IV criteria, those who did meet Rome IV criteria appeared to experience greater symptomatic and biopsychosocial burden from their constipation. This suggests that Rome IV criteria can identify patients with more severe OIC, but may underdiagnose patients with constipation who do not demonstrate the full scale of symptoms. Further investigation of these preliminary findings is needed.

Overall, 18% of strong-opioid users who participated in this survey are not satisfied with their current constipation treatment and 32% report that they find it challenging to balance the need for adequate pain relief with constipation side effects. Consequently, many fail to adhere to their prescribed treatment regimens, or resort to using suboptimal strategies, such as reducing their opioid intake, to relieve constipation. Similarly, patients with cancer pain using opioids frequently experience burdensome

constipation.¹⁶ Poor adherence with opioid analgesic regimens has been reported in 49–70% of patients,¹⁷ with some stating that they would rather endure pain than experience the constipation associated with their opioid treatment.¹⁶

Opioids are prescribed for the management of pain by different types of clinicians across both primary and secondary care, and approaches to counselling and follow-up of patients may be very different. Research shows that patients who understand more about their disease often have improved health outcomes and use fewer healthcare resources. These benefits are even greater when patients are empowered and feel responsible for self-managing their condition. The initial contact with an HCP provides an opportunity for patients to ask questions, while also allowing the HCP to identify the patient's individual needs in terms of education. This may be influenced by the patient's perceptions, expectations and concerns, as well as factors affecting adherence with the prescribed treatment. This survey highlighted that patients' expectations with regard to the provision of information are not being met, with almost half stating that they would have liked their HCP to provide more information about OIC. Advice and information should be tailored appropriately for patients initiating opioids versus those already established on treatment, and should address all biopsychosocial aspects of the burden of OIC.

While most respondents would like more support from their HCP, a substantial proportion prefer to deal with constipation on their own, perhaps due to embarrassment or resignation to the symptoms of OIC.

Previous research has found that over one-third of patients do not raise the subject of OIC with their HCP, ²¹ and one-fifth feel uncomfortable talking about their condition with an HCP, most often due to embarrassment. ²² Therefore, HCPs should proactively raise the topic of OIC rather than wait for patients to initiate discussions, and should be attentive to how patients express the physical, psychological and practical impact of OIC. ⁵

A recent observational study showed that drug safety is a major focus of patients who are prescribed new medicines for the long-term treatment of chronic conditions. This is particularly important, given that a substantial proportion of patients cite safety issues as a reason for discontinuing treatment.²⁰ The present survey found that many HCPs are not counselling patients adequately about constipation as a common

potential side effect of opioid use, highlighting the need for increased education to manage patients' expectations and enable improved self-management of their condition. The presentation of repeat-opioid users at pharmacies may provide a valuable opportunity for patient engagement, reinforcing information provided by the physician, and for counselling patients who are non-adherent with optimal treatment regimens.²³

Digital technologies are increasingly being used to support patient care in the management of chronic diseases such as asthma, chronic obstructive pulmonary disorder, diabetes, heart failure and hypertension. They can provide education to improve self-management, enable monitoring, and facilitate contact with HCPs (*e.g.* via telephone support and follow-up). ²⁴ In this survey, patients reported using online search engines and online health forums as common sources of information, suggesting this group may be an appropriate target for digital educational interventions.

This survey had several limitations. The information provided by participants was self-reported and was not verified from medical records or by their HCP. As such, it may have been subject to recall bias. There is also a possibility that patients unhappy with their OIC treatment may have been more motivated to participate in the survey than those who were satisfied. Any potential impact of the strong- and weak-opioid users being recruited via two different surveys is not known. Panel respondents were offered a financial incentive to participate in the survey; however, given the small monetary amount, it is not expected that this would be associated with any significant bias.

In conclusion, the increasing use of opioids globally means that a growing number of patients will experience OIC, driving the need for improved recognition and management of this condition. HCPs should not underestimate the morbidity associated with OIC, in particular the degree of bother caused by constipation in users of weak opioids, which is comparable to that of strong-opioid users. Approaches to counselling should be tailored to the individual patient's needs and preferences, and should include education on constipation as a common potential side effect of opioid use and how this can be effectively managed, as well as addressing the biopsychosocial aspects of the burden of constipation. The recently published Rome IV diagnostic criteria provide a valuable tool for use in clinical practice. However, findings from this survey

suggest that these criteria may be more effective in diagnosing patients with severe OIC, compared with those showing fewer symptoms.

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Figure legends

Figure 1. Physical symptoms of constipation experienced by patients using opioids, stratified by Rome IV with OIC vs non-Rome IV with constipation (A) and weak- vs strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.02 versus weak-opioid users

OIC, opioid-induced constipation

Figure 2. Emotional and psychological symptoms of constipation experienced by patients using opioids, stratified by Rome IV with OIC *vs* non-Rome IV with constipation (A) and weak- *vs* strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.05 versus weak-opioid users

OIC, opioid-induced constipation

Figure 3. Impact of constipation on quality of life and social interactions experienced by patients using opioids, stratified by Rome IV with OIC vs non-Rome IV with constipation (A) and weak- vs strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.05 versus weak-opioid users

OIC, opioid-induced constipation

Figure 4. Respondents' approaches to the management of constipation and perceptions of treatment (strong-opioid users; N=2016)

HCP, healthcare professional

Figure 5. Analgesia-related (A) and other (B) approaches used regularly by respondents to manage their constipation (strong-opioid users; N=2016)

Figure 6. Counselling provided by HCPs when prescribing an opioid to respondents (strong-opioid users; N=2016)

HCP, healthcare professional

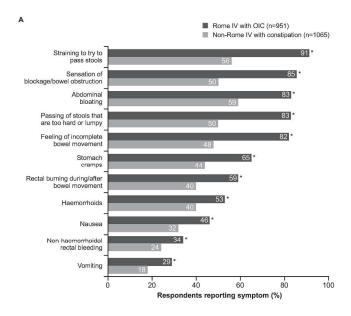
Table
Table 1. Survey respondents' baseline demographics and characteristics

Parameter, n (%)	Overall strong-opioid population (5 countries) (N=2016)	Strong-opioid population (3 countries) (n=1210)	Weak-opioid population (3 countries) (n=663)	Rome IV OIC subgroup (strong-opioid users) (n=951)	Non-Rome IV with constipation subgroup (strong-opioid users) (n=1065)
Age group, years					
40–49	928 (46)	544 (45)	210 (35)	443 (47)	485 (46)
50–59	713 (35)	433 (36)	218 (36)	313 (33)	400 (38)
60–69	312 (15)	194 (16)	140 (23)	158 (17)	154 (14)
≥70	63 (3)	39 (3)	37 (6)	37 (4)	26 (2)
Gender					
Male	976 (48)	576 (48)	224 (37)	467 (49)	509 (48)
Female	1040 (52)	634 (52)	381 (63)	484 (51)	556 (52)
Employment status					
Full-time/part-time/ self- employed	1443 (72)	818 (68)	324 (54)	680 (72)	763 (72)
Unemployed	198 (10)	125 (10)	83 (14)	81 (9)	117 (11)
Semi-retired/retired	372 (18)	265 (22)	198 (33)	188 (20)	184 (17)
Student/in full-time training	3 (<1)	2 (<1)			1 (<1)
Single underlying condition that causes the most pain					
Chronic back pain	586 (29)	391 (32)	160 (26)	295 (31)	291 (27)
Migraine	342 (17)	178 (15)	43 (7)	141 (15)	201 (19)
Rheumatoid arthritis	255 (13)	155 (13)	43 (7)	136 (14)	119 (11)
Osteoarthritis	154 (8)	60 (5)	40 (7)	80 (8)	74 (7)
Fibromyalgia	142 (7)	109 (9)	44 (7)	63 (7)	79 (7)
Joint pain	101 (5)	67 (6)	76 (13)	47 (5)	54 (5)
Pain relating to cancer (not prostate cancer)	34 (2)	22 (2)	4 (1)	21 (2)	13 (1)

Neuropathic pain related to diabetes	24 (1)	16 (1)	-	8 (1)	16 (2)
Other	13 (<1)	9 (<1)	195 (32)	5 (<1)	8 (<1)
Duration of underlying condition					
>3 months but <1 year	167 (8)	87 (7)	30 (5)	85 (9)	82 (8)
1 to <3 years	455 (23)	223 (18)	91 (15)	224 (24)	231 (22)
3 to <5 years	450 (22)	253 (21)	101 (17)	207 (22)	243 (23)
5 to <10 years	480 (24)	312 (26)	142 (23)	221 (23)	259 (24)
≥10 years	464 (23)	335 (28)	241 (40)	214 (23)	250 (23)
Current opioid use					
(multiple responses					
possible)					
Morphine	683 (34)	449 (37)	_	324 (34)	359 (34)
Fentanyl	634 (31)	253 (21)	_	310 (33)	324 (30)
Oxycodone	576 (29)	271 (22)	_	294 (31)	282 (26)
Oxycodone + naloxone	273 (14)	192 (16)	_	118 (12)	161 (15)
Buprenorphine	213 (11)	120 (10)	_	91 (10)	122 (11)
Tapentadol	178 (9)	108 (9))	79 (8)	99 (9)
Methadone	159 (8)	63 (5)	- // -	78 (8)	81 (8)
Meperidine	137 (7)	137 (11)	10-	62 (7)	75 (7)
Hydromorphone	131 (6)	83 (7)		61 (6)	70 (7)
Diamorphine	50 (2)	50 (4)	<u> </u>	30 (3)	20 (2)
Opium + acetaminophen	37 (2)	_	_	18 (2)	19 (2)
Piritramide	18 (1)	18 (1)	_	10 (1)	8 (1)
Levomethadone	16 (1)	16 (1)	_	7 (1)	9 (1)
Co-codamol	_	_	323 (53)	_	_
Tramadol	_	_	236 (39)	_	_
Tilidine	-	-	77 (13)	-	_
Tramadol +	-	-	53 (9)	-	_
acetaminophen					
Dihydrocodeine	-	_	34 (6)	_	_
Codeine	-	_	33 (5)	_	_
Ketamine	_	_	11 (2)	_	_

Pethidine	_	-	14 (2)	_	_
Promethazine	_	-	<1 (1)	_	_
Current laxative use					
(multiple responses possible)					
Stimulant laxative	867 (43)	470 (39)	86 (14)	434 (46)	433 (41)
Osmotic agent	830 (41)	467 (39)	92 (15)	448 (47)	382 (36)
Saline laxative	322 (16)	78 (6)	19 (3)	161 (17)	161 (15)
Bulk-forming laxative	146 (7)	44 (4)	7 (1)	71 (7)	75 (7)
Other (potentially non-	125 (6)	76 (6)	9 (1)	58 (6)	67 (6)
laxative)		, ,	, ,	, ,	, ,
Emollient laxative	86 (4)	76 (6)	4 (1)	36 (4)	50 (5)
Lubricant laxative	60 (3)			30 (3)	30 (3)
Combination of laxatives	307 (15)	264 (22)	33 (5)	140 (15)	167 (16)
Guanylate cyclase 2C	20 (<1)	16 (1)	3 (<1)	9 (1)	11 (1)
agonist					
Serotonin agonist	9 (<1)	7 (1)	_	2 (<1)	7 (1)
None	254 (13)	187 (15)	10 (2)	91 (10)	163 (15)
Time of first opioid		16	71.		
prescription					
In the last ≤3 months	204 (10)	8 (8)	27 (4)	101 (11)	103 (10)
>3 months but <1 year	432 (21)	228 (19)	61 (10)	205 (22)	227 (21)
1 to <3 years	632 (31)	364 (30)	150 (25)	301 (32)	331 (31)
3 to <5 years	359 (18)	234 (19)	125 (21)	157 (17)	202 (19)
≥5 years	389 (19)	292 (24)	242 (40)	187 (20)	202 (19)
Constipation prior to					
opioid use					
Much/slightly better	1158 (57)	654 (54)	348 (58)	951 (100)	207 (19)
The same	515 (26)	322 (27)	213 (35)	0 (0)	515 (48)
Much/slightly worse	343 (17)	234 (19)	44 (7)	0 (0)	343 (32)

Total percentages for each parameter may not equal 100 due to rounding.



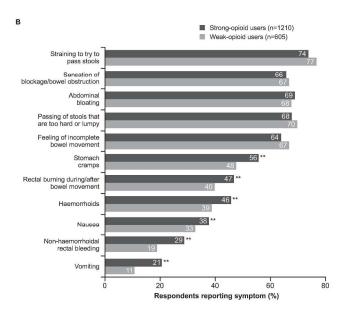
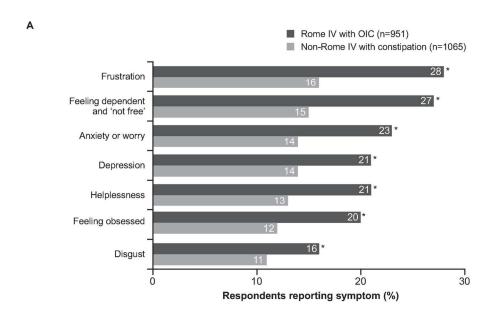


Figure 1. Physical symptoms of constipation experienced by patients using opioids, stratified by Rome IV with OIC vs non-Rome IV with constipation (A) and weak- vs strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.02 versus weak-opioid users

OIC, opioid-induced constipation

163x312mm (300 x 300 DPI)



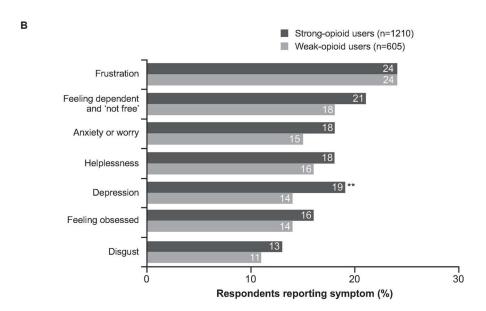
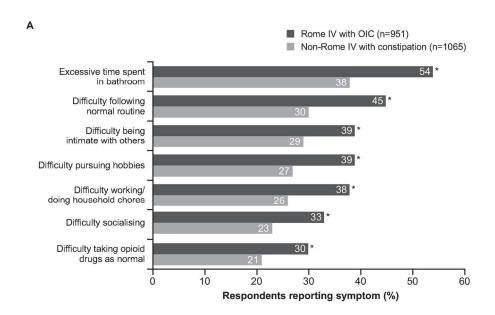


Figure 2. Emotional and psychological symptoms of constipation experienced by patients using opioids, stratified by Rome IV with OIC vs non-Rome IV with constipation (A) and weak- vs strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.05 versus weak-opioid users

OIC, opioid-induced constipation

115x156mm (300 x 300 DPI)



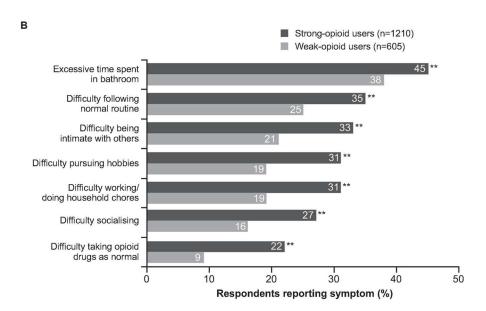


Figure 3. Impact of constipation on quality of life and social interactions experienced by patients using opioids, stratified by Rome IV with OIC vs non-Rome IV with constipation (A) and weak- vs strong-opioid use (B) subgroups

*p<0.05 versus non-Rome IV with constipation subgroup; **p<0.05 versus weak-opioid users

OIC, opioid-induced constipation

115x156mm (300 x 300 DPI)

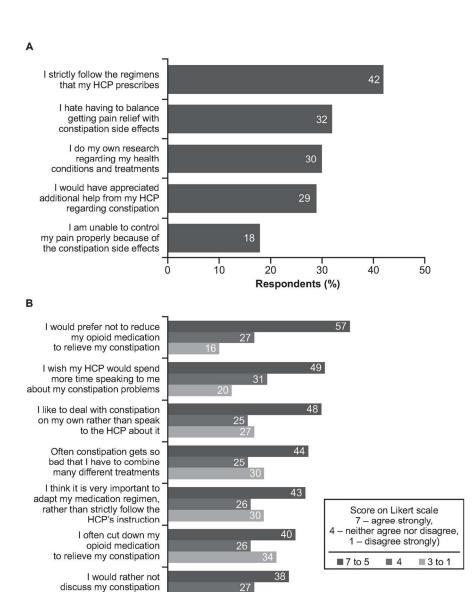


Figure 4. Respondents' approaches to the management of constipation and perceptions of treatment (strong-opioid users; N=2016)

Respondents (%)

with my HCPs

HCP, healthcare professional

112x153mm (300 x 300 DPI)

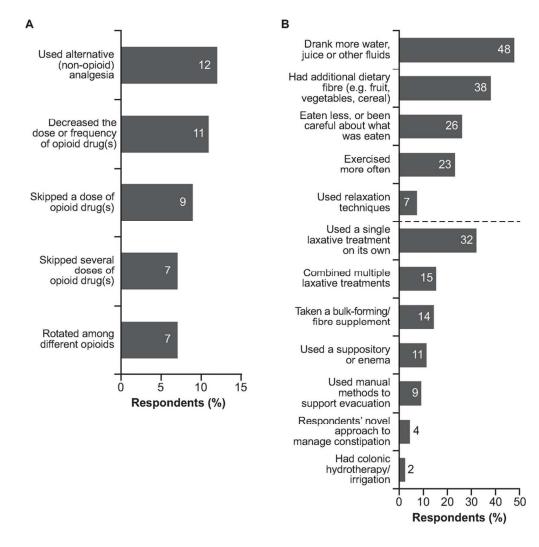


Figure 5. Analgesia-related (A) and other (B) approaches used regularly by respondents to manage their constipation (strong-opioid users; N=2016)

85x86mm (300 x 300 DPI)

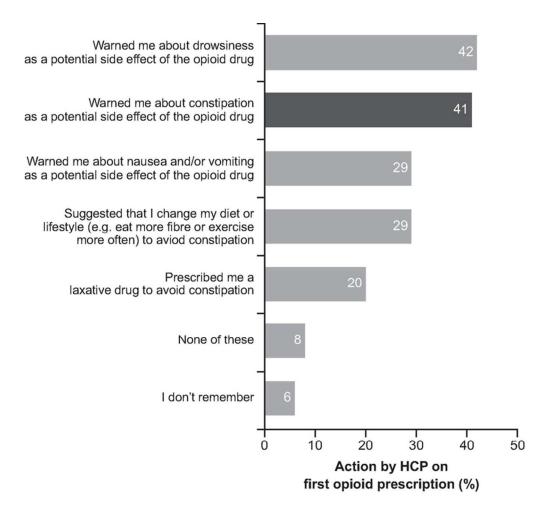


Figure 6. Counselling provided by HCPs when prescribing an opioid to respondents (strong-opioid users; N=2016)

HCP, healthcare professional

67x63mm (300 x 300 DPI)

Strong-opioid use questionnaire	
Country	
O UK	O Germany
O France	O Spain
O Italy	
This section includes a number of basic questions approximately 5 minutes to complete, but all que	s about your health and medication. This section will take estions must be filled in in order to progress.
Q1	
Do you, or any members of your immediate family	, work for any of the following industries?
☐ Advertising	
☐ Market research	
☐ PR or marketing industry	
☐ Healthcare or medical industry	
Manufacture or sale of pharmaceutical producNone of these	ts
• None of these	
Q2	
How old are you?	
Q3	
Which, if any, of the following conditions do you s	uffer from?
Select all that apply	
☐ Chronic back pain	☐ Shoulder pain/ stiffness
☐ Rheumatoid Arthritis	☐ Neck pain
Osteoarthritis	Hip/ pelvic pain
Psoriatic Arthritis	☐ Carpal tunnel syndrome
☐ Joint pain☐ Fibromyalgia	☐ Dental pain ☐ Tendonitis
Reuropathic pain relating to diabetes	Pain from broken bones
☐ Neuropathic pain not relating to diabetes	☐ Menstrual pain
☐ Post herpetic neuralgia	☐ Plantar fasciitis
☐ Non herpetic neuralgia	☐ Sprains or strains
☐ Migraine	Other pain condition (please specify)
☐ Headache	O Prefer not to say
Pain relating to cancer (excluding prostate cancer)	O None of these
(excluding prostate cancer)	

Q3a		
Which of the following types of cancer do you have? Select al	l th	at apply
□ Anal □ Bladder □ Bone □ Bowel/Colon/Colorectal □ Brain □ Breast □ Cervical □ Esophageal □ Hodgkin Lymphoma □ Kidney (incl renal cell) □ Leukemia □ Liver □ Lung □ Melanoma □ Mouth		Multiple Myeloma Non Hodgkin Lymphoma Ocular (eye) Ovarian Pancreatic Penile Prostate Skin (Non-Melanoma) Squamous cell cancer (head or neck) Stomach Testicular Thyroid Uterine Other type of cancer Prefer not to say
Q4		•
Which of these chronic pain conditions causes you the most s strongest pain treatment? Note that this list might not include all of the conditions that y		
 Chronic back pain Rheumatoid Arthritis Osteoarthritis Joint pain Neuropathic pain relating to diabetes Post herpetic neuralgia Migraine Fibromyalgia Pain relating to cancer (excluding prostate cancer) Shoulder pain/ stiffness Neck pain 		
When did you first begin to experience In the last 3 months More than 3 months, but less than one year ago 1 year or more, but less than 3 years 3 years or more, but less than 5 years 5 years or more, but less than 10 years 10 years or more	_?	

Q6a Given below is a list of opioid dr	ugs that people take for pain relief.	
Part 1 - Could you please select t	he ones that you are currently taking	
Part 2 - Could you please select t	the ones that you have tried before, bu	it are not currently taking
□ Physeptone □ Methadone □ Oramorph □ MST continus □ Zomorph □ Oxynorm □ Oxycontin □ Morphine Sulphate □ Longtec □ Sevredol □ Morphgesic □ Butrans □ Palexia □ Shortec □ Temgesic □ Lynlor □ Targinact	☐ Tephine ☐ Reltebon ☐ Pethidine ☐ Oxylan ☐ Diamorphine ☐ Fencino ☐ Transtec ☐ Actiq ☐ Palladone ☐ Fentanyl ☐ Abstral ☐ Targin ☐ Palexia ☐ MST continus ☐ Yantil ☐ Durogesic ☐ Oxycontin	Pecfent Transtec Fentanilo Oxynorm Effentora Jurnista Feliben Metasedin Instanyl Fendivia Oramorph Oxicodona sandoz Cloruro morfina Zomorph Breakyl Matrifen Fentanilo
■ Matrifen■ Durogesic Dtrans■ Oxycodone	☐ Abstral☐ Actiq☐ Sevredol	☐ Morfina clorhide☐ Dolantina
Q6b	d nor have I ever tried, any of these dru	ıgs
	The state of the s	the one you use most routinely to help
In the rest of the survey, when and not any others.	we mention opioid drugs we would lik	e you to think of only the ones on this l
Q7		
Now I would like to ask you a few stomach or bowels. Let us start w	· · · · · · · · · · · · · · · · · · ·	h e.g., pain or discomfort related to your
Over the past ONE week, on ho	w many days did you have bowel move	ements?
 Every day Almost every day (5-6 days) Every other day (3-4 days) 2 days over the past 7 days 		over the past 7 days not move my bowels at all over the past s

Q8		
	owels bothersome for you e.g. because you rience pain, discomfort, or difficulties with d	
Not at allA littleA moderate amountQuite a lotA great deal		
Q9a		
Given below is a list of treatmen	ts that people typically take to help with the	eir bowel movements.
Could you please select the one	s that you are currently taking	
□ Bisacodyl □ Capsuvac □ Celevac □ Co-Danthramer □ Co-Danthrusate □ Constella □ Dioctyl □ Docusol □ Duclcolax Perles □ Dulcolax □ Duphalac □ Galulose □ Lactuflave □ Lactuflave □ Lactulose □ Laevolac □ Lecicarbon A □ Lecicarbon C □ Manevac	to help with my bowel movements Movicol Movicol-half Norgalax Norgalax Micro-enema Phospho-Soda Regulose Resolor Senna Senokot Sodium Picosulfate Strong Co-Danthramer Adulax Belmalax Constella Dulcolax Duphalac EvacuolEnema Casen Fave de fucaEvacuol GutalaxFave de fuca	□ LactuloseLactulosa □ LaxonolLactulose □ MicrolaxLaxonol □ MovicolMicrolax □ PicosalaxMovicol □ PlantabenPicosalax □ ResolorPlantaben □ SennaResolor □ Senna □ Agiolax □ Arkogelules Sene □ Auxitrans □ Bebegel □ Boldoflorine □ Chlorumacene □ Dragees □ Dulcolax □ Duphalac
☐ Micolette Q9b	☐ LactulosaGutalax	
Which of these treatments do yo	ou rely on the most to help with your bowel bowel movements)? Select one drug from th	
Q10		
	you with in terms of creasing regularity, relieving pain or discomf	
Very dissatisfiedSomewhat dissatisfiedNeither dissatisfied or satisfied	O Somewhat O Very satisf	

Q11	
How dissatisfied or satisfied are you witheasy to prepare, it had no inconvenient side effects)?	in terms of how convenient it is to use (e.g. it was
O Very dissatisfied	O Somewhat satisfied
O Somewhat dissatisfied	O Very satisfied
O Neither dissatisfied or satisfied	
Thank you very much for taking the time to look at this sh general. The aim of the study is to learn about your health treatments or services. The survey is being conducted by I	n, and not to advertise or promote any particular Insight Dojo, an independent research company based
in the UK, and is being sponsored by a pharmaceutical cor some of them are of a sensitive nature. The research is en be passed on to the pharmaceutical company that is spon	tirely confidential, meaning that no individual data will

By entering the survey, you consent to the collection of your data for research purposes. All data will be processed in adherence to the Market Research Society's Code of Conduct and the Data Protection Act 1998.

Now we will ask you further details about your chronic pain, opioid drugs and digestive health. Often, we will use the term constipation to describe difficulties in bowel movements such as irregular movements, discomfort or pain.

Q12a

The table below lists the different preparations ((e.g. tablets,	oral liquids,	injections) t	that are ava	ilable for	the
opioid drugs that you are currently taking.Please	indicate wh	nich preparat	tion of the d	rug(s) you o	currently t	ake.

	St. It were the
Ч	Diamorphine INJECTION
	Diamorphine TABLETS/ CAPSULES
	Diamorphine POWDER
	Morphine sulphate ORAL LIQUID
	Morphine sulphate INJECTION
	MST continus TABLETS/ CAPSULES
	MST continus POWDER
	Oxycodone TABLETS/ CAPSULES
	Oxycodone ORAL LIQUID
	Oxynorm TABLETS/ CAPSULES
	Oxynorm ORAL LIQUID
	Oxynorm INJECTION
	Palexia TABLETS/ CAPSULES Palexia SR prolonged-release tablets
	Palexia TABLETS/ CAPSULES Not prolonged release
	Palladone TABLETS/ CAPSULES Palladone SR prolonged-release capsules
	Palladone TABLETS/ CAPSULES Capsules
	Physeptone ORAL LIQUID
	Physeptone INJECTION

☐ Physeptone TABLETS/ CAPSULES

Oxynorm LÍQUIDO ORAL

☐ Oxynorm COMPRIMIDOS/CÁPSULAS

combined results across all respondents (or large groups of respondents).

Metasedin COMPRIMIDOS/CÁPSULASMetasedin LÍQUIDO ORAL	
☐ Methadone AP HP COMPRIMÉS/GÉLULES	
Methadone AP HP LIQUIDE ORAL	
Oramorph LIQUIDE ORAL	
Oramorph LIQUIDE ORAL	
Oramorph ORAL LIQUID	
☐ Oramorph ORAL LIQUID	
☐ Metadone Molteni ORAL LIQUID ☐ Metadone Molteni ORAL LIQUID	
Temgesic INJECTION	
Temgesic TABLETS/ CAPSULES	
Morphin TABLETS/ CAPSULES	
Morphin INJECTION	
☐ Palladon TABLETS/ CAPSULES prolonged-release capsules	
☐ Palladon TABLETS/ CAPSULES not prolonged-release capsules	
☐ Palladon INJECTION	
☐ MST TABLETS/ CAPSULES	
☐ MST POWDER	
☐ M-stada TABLETS/ CAPSULES	
☐ M-stada INJECTION	
☐ Temgesic TABLETS/ CAPSULES sublingual tablets	
☐ Temgesic INJECTION	
Buprenorphine TABLETS/ CAPSULES sublingual tablets	
Buprenorphine TRANSDERMAL (SKIN) PATCH	
☐ Oramorph ORAL LIQUID Pre-measured vial, ampoule or pot of liquid	
☐ Oramorph LIQUID DROPS	
Q12b	•
The table below lists the different strengths that are available for your cumost recent day when you had opioid drugs to relieve pain. Which of the	
of the listed items did you take that day?	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 100 micrograms	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 200 micrograms	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 300 micrograms	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 400 micrograms	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 600 micrograms	
☐ Abstral TABLETS/ CAPSULES Sublingual tablets 800 micrograms	
☐ Actiq OTHER Lozenges 200 micrograms	
☐ Actiq OTHER Lozenges 400 micrograms	
☐ Actiq OTHER Lozenges 600 micrograms	
☐ Actiq OTHER Lozenges 800 micrograms	
☐ Actiq OTHER Lozenges 1200 micrograms	
☐ Actiq OTHER Lozenges 1600 micrograms	
☐ Butrans TRANSDERMAL (SKIN) PATCH 5 micrograms/hour	
Butrans TRANSDERMAL (SKIN) PATCH 10 micrograms/hour	
☐ Butrans TRANSDERMAL (SKIN) PATCH 15 micrograms/hour	
☐ Butrans TRANSDERMAL (SKIN) PATCH 20 micrograms/hour	

☐ Diamorphine INJECTION 5mg
☐ Diamorphine INJECTION 10mg
☐ Diamorphine INJECTION 30mg
☐ Diamorphine INJECTION 100mg
☐ Diamorphine INJECTION 500mg
☐ Diamorphine TABLETS/ CAPSULES 10mg
☐ Diamorphine POWDER 5mg
☐ Diamorphine POWDER 10mg
☐ Diamorphine POWDER 30mg
☐ Diamorphine POWDER 100mg
☐ Diamorphine POWDER 500mg
☐ Durogesic Dtrans TRANSDERMAL (SKIN) PATCH 12 micrograms/hour
☐ Durogesic Dtrans TRANSDERMAL (SKIN) PATCH 25 micrograms/hour
☐ Durogesic Dtrans TRANSDERMAL (SKIN) PATCH 50 micrograms/hour
☐ Durogesic Dtrans TRANSDERMAL (SKIN) PATCH 75 micrograms/hour
☐ Durogesic Dtrans TRANSDERMAL (SKIN) PATCH 100 micrograms/hour
☐ Fencino TRANSDERMAL (SKIN) PATCH 12 micrograms/hour
☐ Fencino TRANSDERMAL (SKIN) PATCH 25 micrograms/hour
☐ Fencino TRANSDERMAL (SKIN) PATCH 50 micrograms/hour
☐ Fencino TRANSDERMAL (SKIN) PATCH 75 micrograms/hour

Note: if you currently take an oral liquid, or use a nasal spray, we will ask about these separately.

Q12c

Roughly how many sprays did you take on that day for each of the nasal sprays you took?

Pecfent OTRO FORMATO Aerosol nasal 100 microgramos/ dose Pecfent OTRO FORMATO Aerosol nasal 400 microgramos/ dose Instanyl OTRO FORMATO Aerosol nasal 50 microgramos/dose Instanyl OTRO FORMATO Aerosol nasal 100 microgramos/dose Instanyl OTRO FORMATO Aerosol nasal 200 microgramos/dose Instanyl AUTRE Spray nasal 50 microgrammess/dose Instanyl AUTRE Spray nasal 100 microgrammess/dose Instanyl AUTRE Spray nasal 200 microgrammess/dose Pecfent AUTRE Spray nasal 100microgrammes/ dose Pecfent AUTRE Spray nasal 400microgrammes/dose Pecfent ALTRO Spray nasale 100 microgrammi/ dose Pecfent ALTRO Spray nasale 400 microgrammi/ dose Instanyl ALTRO Spray nasale 50 microgrammi/dose Instanyl ALTRO Spray nasale 100 microgrammi/dose Instanyl ALTRO Spray nasale 200 microgrammi/dose Instanyl NASAL SPRAY 50 Mikrogramms/dose Instanyl NASAL SPRAY 100 Mikrogramms/dose Instanyl NASAL SPRAY 200 Mikrogramms/dose Pecfent NASAL SPRAY 100 Mikrogramm/dose

Pecfent NASAL SPRAY 400 Mikrogramm/ dose

Q12u	Q1	.2d
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Roughly how many mililitres did you take on that day for each of the oral liquids you took?

Please write your answer in milliletres (ml)

Methadone ORAL LIQUID 1mg/1ml

Methadone ORAL LIQUID 10mg/1ml

Methadone ORAL LIQUID 20mg/1ml

Morphine sulphate ORAL LIQUID 10mg/5ml

Morphine sulphate ORAL LIQUID 20mg/ml

Oramorph ORAL LIQUID 10mg/5ml

Oramorph ORAL LIQUID 20mg/1ml

Oxycodone ORAL LIQUID 10mg/ml

Oxycodone ORAL LIQUID 5mg/5ml

Oxynorm ORAL LIQUID 10mg/ml

Oxynorm ORAL LIQUID 5mg5/ml

Physeptone ORAL LIQUID 1mg/1ml

Oxynorm LÍQUIDO ORAL Botella de líquido 10mg/ml

Oxynorm LÍQUIDO ORAL Botella de líquido 5mg/5ml

Oramorph LÍQUIDO ORAL Botella de líquido 2mg/ml

Oramorph LÍQUIDO ORAL Botella de líquido 6mg/ml

Oramorph LÍQUIDO ORAL Botella de líquido 20mg/ml

Methadone AP HP LIQUIDE ORAL Pré-mesurée flacon, ampoule ou un pot de liquide 5mg/3.75ml

Methadone AP HP LIQUIDE ORAL Pré-mesurée flacon, ampoule ou un pot de liquide 1.33 mg/ml

Oramorph LIQUIDE ORAL drops oral 20mg/1ml

Q12e

So, your total dose of each drug was	
• Yes, the doses are correct (continue to the next question)	
O No, one or more of the doses are incorrect (re-enter the co	rrect amount)

Q12f

You indicated that the dose for one or more of your medications was incorrect. Please enter the correct dose, together with the unit of measurement (milligrams, micrograms, milliletres), if you know it, in the box next to the relevant drug.

Note, if all of the doses are, in fact, correct, select 'Next'

Q13

Now, I would like you to think back to when you were first prescribed opioid drugs. When I say opioid drugs, I mean the drugs we have shown you before.

Click here for a reminder.

Roughly, how long ago were you first prescribed opioid drugs?

Please choose one option only

O In the last 3 months	O 3 years or more, but less than 5 years
O More than 3 months, but less than one year ago	O 5 years or more, but less than 10 years
O 1 year or more, but less than 3 years	O 10 years or more

Q14a	
Thinking back to the time before you started to	aking opioid medications:
How was your experience of constipation then	?
Please choose one option only	
It was much betterIt was slightly betterIt was the same	It was slightly worseIt was much worse
Q14b	
Could you roughly tell us how many days in a vopioid medications?	veek did you have bowel movements before you started taking
Every dayAlmost every day (5-6 days)Every other day (3-4 days)	2 days per week1 day per week or less
Q15	
Thinking about the first time you were prescrib prescribed an opioid drug to you?	ped an opioid drug, which of the following medical professionals first
Please choose one option only	
 GP Anaesthetist Neurologist Rheumatologist Psychiatrist Orthopaedist 	 Oncologist Nurse specialist Pain specialist doctor Pharmacist Internist Other
Q16	
	ersation that you had with the doctor. Which, if any, of the following do when prescribing the opioid drug to you for the first time?
Select all that apply	
 □ Warned me about drowsiness as a potentia □ Warned me about nausea and/or vomiting □ Warned me about constipation as a potent □ Suggested that I change my diet or lifestyle constipation □ Prescribed me a laxative drug to avoid cons ○ Did none of these ○ I don't remember 	as a potential side effect of the opioid drug ial side effect of the opioid drug (e.g. by eating more fibre or exercising more often) to avoid

Q17	
Which of the followinfag medical professionals is primarily remedications?	sponsible for repeat prescription of your opioid
Please select one option only	
 GP Anaesthetist Neurologist Rheumatologist Psychiatrist Orthopaedist 	 Oncologist Nurse specialist Pain specialist doctor Pharmacist Internist Other
Q18	
Whom do you look to for help with managing constipation?	
Select all that apply	
☐ GP ☐ Anaesthetist ☐ Neurologist ☐ Rheumatologist ☐ Psychiatrist ☐ Orthopaedist ☐ Oncologist ☐ Nurse specialist ☐ Pain specialist doctor	 □ Pharmacist □ Internist □ Members of my family □ My friends □ Other constipation sufferers ○ I do not look for help, I manage constipation myself □ Other
Q19a	
Thinking about your opioid drug usage over the years:	
How has your opioid drug usage changed, if at all?	
It has increased a lotIt has increased slightlyIt has been the same	It has decreased slightlyit has decreased a lot
Q19b	
Thinking back to the last time when there was an increase in on your constipation?	your total dosage of opioid drugs, what was the effect
O My constipation became much betterO My constipation became slightly betterO My constipation remained the same	O My constipation became slightly worseO My constipation became much worse
Q20	
Thinking about the future, how do you expect your opioid dr	ug usage to change?
 I expect it to increase a lot I expect it to increase slightly I expect it to be the same as now 	O I expect it to decrease slightly O I expect it to decrease a lot

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Thinking about your opioid drug usage over the years: Has there been a change in the specific opioid drug you were	e taking?
O Yes	O No
Q21b	
The last time there was a change in the specific opioid drug(sconstipation?	s) that you were taking, what was the effect on
 My constipation became much better My constipation became slightly better My constipation remained the same 	O My constipation became slightly worseO My constipation became much worse

This section asks about your experience of constipation, and measures that you have taken to help with this.

Q22

How much do you disagree or agree that the following caused you discomfort over the past TWO weeks?

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly	
Incomplete bowel								
movement, like you	?	?	?	?	?	?	?	
didn't "empty" yourself								
Passing of stools that	[-					-	
were too hard or lumpy	?	?	?	?	?	?	?	
Straining to try	?	?	[?]		[?]	[?]	?	
to pass stools		[2]	E)	?	Ľ	Ľ	Ľ	
Sensation of a blockage								
or obstruction in your	?	?	?	?	?	?	?	
bowel movements								
Bloating in	?	?	?	?	[?]	?	?	
your abdomen	E	E	[1]	1	ш	ы	Ē	
Stomach cramps	?	?	?	?	?	?	?	
Rectal burning								
(during or after a	?	?	?	?	?	?	?	
bowel movement)								
Hemorrhoids (also	?	?	?	?	?	?	?	
known as 'piles')	Ŀ	Ŀ	Ŀ	Ŀ	Ŀ	Ŀ	Ľ.	
Other								
(non-hemorrhoidal)	?	?	?	?	?	?	?	
rectal bleeding								
Nausea	?	?	?	?	?	?	?	
Vomiting	?	?	?	?	?	?	?	

Q23

Over the past TWO weeks, to what extent did your constipation symptoms cause you to feel each of the following:

	1			4			7
	Not at			A moderate			A great
	all	2	3	amount	5	6	deal
Disgusted	?	?	?	?	?	?	?
Frustrated	?	?	••	?	?	••	?
Helpless	?	?	?	?	?	?	?
Depressed	?	?	?	?	?	?	?
Dependant and "not free"	?	?	?	?	?	?	?
Obsessed i.e. not being able to get it out of your mind	?	?	?	?	?	?	?
Anxious or worried	?	?	?	?	?	?	?

Q24

	1			4			7
	Not at			A moderate			A great
	all	2	3	amount	5	6	deal
Spend excessive time in the bathroom	?	?	?	?	?	•	?
Have difficulty socialising	?	?	?	?	?	?	?
Have difficulty working (including both paid work	?	?	?	?	?	?	?
and household chores)	≗	Ŀ	Ŀ	Ŀ	Ŀ	Ŀ	Ŀ
Have difficulty pursuing hobbies	?	?	?	?	?	?	?
Have difficulty being intimate with others	?	?	?	?	?	•	?
Have difficulty following your normal routine	?	?	?	?	?	?	?
Have difficulty taking your opioid drugs as normal	?	?	?	?	?	?	?

Q25a

Given below are a number of approaches that people use to relieve constipation.

which of these approaches do you use on a regular basis, if any? There a	are n	io rigni or	wrong answers.
☐ Used a single laxative treatment on its own			
Used a single laxative treatment on its own			

Combined multiple laxative treatments
☐ Rotated among different opioid drug treatments
☐ Decreased the dose or frequency of your opioid drug treatment(s)
☐ Skipped a dose of your opioid drug treatment(s)
☐ Skipped several doses of your opioid drug treatment(s)
☐ Used an alternative (non opioid) painkiller

☐ Used manual methods (e.g. using your fingers) to support evacuatio
Drank more water juice or other fluids

Drank more water, juice, or other fluids

	Eaten	less,	or	been	careful	about	what	you	ate
_									

Obtained additiona	I fibre through	your diet	(e.g. by e	eating more	fruit, ve	getables, c	r cereal)?

☐ Exercised more often

☐ Used a suppository or enema (a solid or liquid preparation inserted into the rectum)

		-			-		-
Used re	laxation	techniques	(e.g.	deep b	reathir	ηg,	meditation)

☐ An approach I devised myself to deal with constipation

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1	5
1	6
1	7
1	8
1	9
2	0
2	1
2	2
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2	5
2	6
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3	2
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5	9
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	•	٠,	n

use to manage your constipation then?	
☐ Used a single laxative treatment on its own	
☐ Combined multiple laxative treatments	
☐ Rotated among different opioid drug treatments	

Now think back to the last time you experienced severe constipation. Which of the following approaches did you

Decreased the dose or frequency of your opioid drug treatment(s)Skipped a dose of your opioid drug treatment(s)

☐ Skipped several doses of your opioid drug treatment(s)

☐ Used an altenative (non opioid) painkiller

☐ Used manual methods (e.g. using your fingers) to support evacuation

☐ Drank more water, juice, or other fluids

☐ Eaten less, or been careful about what you ate

Obtained additional fibre through your diet (e.g. by eating more fruit, vegetables, or cereal)?

☐ Taken a fibre supplement product (e.g. Fybogel, or a psyllium or methylcellulose product)

☐ Exercised more often

☐ Had colonic hydrotherapy (also known as 'irrigation')

☐ Used a suppository or enema (a solid or liquid preparation inserted into the rectum)

☐ Used relaxation techniques (e.g. deep breathing, meditation)

☐ An approach I devised myself to deal with constipation

This section asks for further information about the constipation treatments (laxative drugs) that you currently use most often.

Q26

To what extent do you disagree or agree with the following statements regarding the laxative drug

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
Taking everything into consideration, I am very satisfied with the laxative drug	?	?	?	2	?	?	?
It allows me to move my bowels more easily	?	?	?	?	?	?	?
It relieves any pain I experience in moving my bowels	?	?	?	?	?	?	?
It has no inconvenient or problematic side effects	?	?	?	?	?	?	?
It is easy to prepare and administer	?	?	?	?	?	?	?
It is discreet and easy to carry around	?	?	?	?	?	?	?
It works rapidly to control my constipation	?	?	?	?	?	?	?

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
symptoms							
It is affordable	?	?	?	?	?	?	?
It works predictably	?	?	?	?	?	?	?
It represents good value for money	?	?	?	?	?	?	?
It is available on the National Health Service – or the cost is reimbursed	?	?	?	?	?	?	?

This section asks about your attitudes on a variety of issues relating to opioid drugs, constipation, and your health in general.

Q27a

Given below are a number of statements related to your attitudes and beliefs about pain and opioids. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
I feel really overwhelmed by my pain	?	?	?	?	?	?	?
I am the type of person who likes to get on with my life despite my pain	?	?	?	?	?	?	?
I would rather suffer a little from pain rather than take pain medications	?	?	?	2	?	?	?
My opioid drugs have allowed me to live a fuller life	?	?	?	?	?	?	?
I find it difficult to cope without my opioid drugs	?	?	?	?	?	?	?
I don't like my opioid drugs and have them only if it is absolutely necessary	?	?	?	?	?	?	?
I believe my health will improve and I will be able to discontinue my opioid drugs in the future	?	?	?	?	?	?	?
I often feel guilty when I take opioid drugs	?	?	?	?	?	?	?
I think doctors must be more careful than they are while prescribing opioid drugs	?	?	?	?	?	?	?
I feel that pharmaceutical companies that manufacture	?	?	?	?	?	?	?

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
opioid drugs are really							
improving the lives of patients							
My experience of pain has							
helped me realise what is	?	?	?	?	?	?	?
truly important							
Because of my pain I no	_	_	_	_	_	_	_
longer take people or things	?	?	?	?	?	?	?
for granted							
My experience of pain has							
helped me appreciate the	?	?	?	?	?	?	?
value of living everyday to the							
full							
My experience of pain has		_	_	_	_	_	_
made me question who I am	?	?	?	?	?	?	?
as a person							
I wish I could keep using my							
opioid pain medication	?	?	?	?	?	?	?
without having the							
constipation side effects							
While opioid drugs relieve							-
pain, the side effects make it	?	?	?	?	?	?	?
difficult to do daily activities							
I hate having to balance							-
getting pain relief with	?	?	?	?	?	?	?
constipation side effects							
I am unable to control my		-			-	-	6
pain properly because of the	?	?	?	?	?	?	?
constipation side effects							
I have a group of supportive		-			-	-	6
people who make it easier to	?	?	?	?	?	?	?
cope with pain							
People suffering from pain							
and other health conditions	?	?	?	?	?	?	?
frequently reach out to me							
for support							

Given below are a number of statements related to your attitudes and beliefs about constipation, stomach health, and its impact on your life. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

	Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
I feel upset if I cannot move my bowels every day	?	?	?	?	?	?	?
My constipation is awful and overwhelms me	?	?	?	?	?	?	?
At the back of my mind, I'm always thinking of constipation	?	?	?	?	?	?	?
After pain, constipation is one of my most bothersome problems	?	?	?	?	?	?	?
I often cut down my opioid medication to relieve my constipation	?	?	?	?	?	?	?
I would prefer not to reduce my opioid medication to relieve my constipation	?	2	?	?	?	?	?
I often worry that my bowels will lose their ability to function normally	?	?	?	?	?	?	?
Constipation prevents me from doing things that I really want	?	?	2	?	?	?	?
I take extreme measures to get relief from constipation that might not be good for me in other ways	?	?	?	2	?	?	?
Often constipation gets so bad, that I have to combine many different treatments	?	?	?	?	?	?	?
It bothers me that I spend so much time in the bathroom because of my constipation	?	?	?	?	?	?	?
Often I am afraid that I will fall in the bathroom and injure myself	2	2	?	2	?	?	?

Q29a

Given below are a number of statements related to your attitudes and beliefs about treatments that you use for constipation. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

To what extent do you disagree of	Disagree strongly	Disagree quite a lot	Disagree quite little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
I would much prefer to take natural (non pharmaceutical)	?	?	?	?	?	?	?
treatments for my constipation							
I would much prefer to change							
my diet, or some other aspect of							
my lifestyle, rather than taking	?	?	?	?	?	?	?
pharmaceutical treatments for							
constipation							
I would much rather take a							
constipation treatment as and	?	?	?	?	?	?	?
when the need arises rather		_	_	_	_	_	_
than take it continuously							
I would much prefer a							
constipation treatment that							
I could use continuously, over	?	?	?	?	?	?	?
the long term, as opposed to	Ŀ		Ŀ	Ŀ	ы	Ŀ	Ŀ
one that could only be taken							
when required							
For me, it is very important							
that a constipation treatment	?	?	?	?	?	?	?
works fast							
For me, it is very important that							
a constipation treatment works	?	?	?	?	?	?	?
predictably and not at random							
For me, it is very important that				. ~/			
a constipation treatment can be	?	?	?	?	?	?	?
taken at any time of the day							
For me, it is very important that							
I can take my constipation	?	?	?	?	?	?	?
treatment with or without food							
For me, it is very important that							
my constipation treatment does			-		-		
not affect the pain relief that	?	?	?	?	?	?	?
I get from my opioid drugs							
For me, it is very important that							
my constipation treatment does							
not affect the way that I take my	?	?	?	?	?	?	?
opioid drugs (e.g. the timing, the				_		_	
dosage of my opioids)							
For me, it is very important that							
a constipation treatment has no	?	?	?	?	?	?	?
bad side effects	٢	2	ك		ك	ك	
If I were to try a new treatment	?	?	?	?	?	?	?
in a were to try a new treatment	_ <u>_</u>		l ⁼	l ⁼		l ^u	

	Disagree strongly	Disagree quite a lot	Disagree quite little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
for constipation, I would rather not have to immediately give up using laxative drugs							
Having to prepare laxatives is not inconvenient for me	?	?	?	?	?	?	?
I would much prefer to take an oral pill rather than a liquid treatment to help manage my constipation	?	?	?	?	?	?	?
I am constantly on the look out for new treatments for constipation	?	?	?	?	?	?	?

Q30

Given below are a number of statements related to your attitudes and beliefs about the way you manage your health. There are no right or wrong answers. We are interested only in your opinions. To what extent do you disagree or agree with the following statements?

	Disagree	Disagree	Disagree	Neither agree nor	Agree	Agree quite a	Agree
	strongly	quite a lot	a little	disagree	a little	lot	strongly
I consider myself more							
knowledgeable than most	?	?	?	?	?	?	?
about my health conditions							
I do my own research							
regarding my health	?	?	?	?	?	?	?
condition(s) and treatments							
I strictly follow the regimens	-	2	0	[?]	[?]	-	[
that my doctor(s) prescribe	?	?	?	E	Ľ	?	?
I think it is very important to							
adapt one's medication		-			-	-	
regime oneself rather than	?	?	?	?	?	?	?
follow the doctor's instruction							
I would have appreciated							
additional help from my	_	_	_	_	_	_	_
doctor or medical professional	?	?	?	?	?	?	?
regarding constipation							
I like to deal with constipation							
on my own rather than speak	[?]	[?]	?	[?]	?	?	?
to the doctor about it		1					
I wish my doctor would							
spend more time speaking							
to me about my constipation	?	?	?	?	?	?	?
problems							
I would rather not discuss my							
constipation with my doctors	?	?	?	?	?	?	?
consupation with my doctors							

This section asks about your personal characteristics and circumstances, and your health.								
Q34								
Are you male or female?								
O Male O Female								
Q35								
Please indicate your employment status:								
Working full-timeWorking part-timeSelf-employedUnemployed	O Retired	Student or in full-time trainingRetiredSemi retired						
Q36								
To what extent does your work require extensive p	hysical activity (e.g. extens	sive wa	lking, tra	evelling)?				
	4	_		7				
Not at all 2 3 A m	noderate amount	5 ?	6	A great deal				
	_	, –	, – ,	_				
Q36b								
How long, on average, does your regular commute	to work take?							
 Less than 15 minutes 15 minutes but less than 30 minutes 30 minutes or more but less than one hour 		or mor	e but les	than 90 minutes ss than two hours				
Q37								
What is your total household income (£)? Your hou who you live with.	sehold income includes th	e total	income (of all of the people				
O 0-9,999	O 70,000-84,9	70,000-84,999						
O 10,000-24,999		O 85,000-99,999						
O 25,000-39,999 O 40,000-54,999	•	O 100,000 or more O Prefer not to say						
O 55,000-69,999	• Freier not t	Trefer not to say						
Q38								
Which of the following best represents your relatio	nship status?							
O Single (i.e. not currently in a relationship rather	O Separated							
than legal status)	O Divorced	·						
O In a relationshipO Civil PartnershipO Prefer not to say								
O Civil Partnership O Married Prefer not to say								
Q39								
Do you have any children?								
O Yes	O No							
	2							

Q40								
Are your child	en still at hon	ne or independent?						
O Under 18 a O Adult child		=		Mix of inde Independer	pendent and st nt	till at home		
Q41								
In a typical we	ek, how many	hours per day do you	spend readin	g/listening/w	atching the foll	lowing?		
	Not at all	Less than an hour	1-2 hours	3-5 hours	6-10 hours	More than 10 hours		
TV	?	?	?	?	?	?		
Radio	?	?	?	?	?	?		
Magazines	?	?	?	?	?	?		
Newspapers	?	?	?	?	?	?		
Internet	?	?	?	?	?	?		
Q41a At what time of day do you typically watch TV? Select all that apply Morning Afternoon Q41b How do you typically watch TV? Select all that apply Live (as it happens) Catch-up (via a set top Box)								
What technolous Select all that a A regular T A laptop co	apply V set omputer	oically use to watch TV		A desktop o	•			

Q41d	
Which of the following newspapers do you read on a re	gular basis (e.g. at least once per week)?
Select all that apply.	
☐ The Guardian ☐ The Times ☐ The Daily Telegraph ☐ The Financial Times ☐ The i (concise newspaper) ☐ Metro ☐ The Daily Mail	☐ The Daily Express ☐ The Sun ☐ The Daily Mirror ☐ The Daily Star ☐ The Daily Record ☐ Evening Standard ☐ Other (please specify)
Q42	
Which of the following social networking platforms and	sites do you use on a regular basis?
Select all that apply	
☐ Facebook ☐ Copains d'Avant ☐ Tuenti ☐ LinkedIn ☐ Viadeo ☐ XING ☐ Twitter	☐ Instagram ☐ WhatsApp ☐ Google+ ☐ Snapchat ☐ Other (please specify) ☐ None of these
Q43	
Where do you get information and advice regarding hea	alth issues/concerns?
Select all that apply	
 ☐ Healthcare professionals (including doctors and nurses) ☐ Your partner ☐ Other family member(s) ☐ My friend(s) ☐ Leaflets in my doctor's surgery ☐ Library / books / literature ☐ Newspaper/ Magazines 	☐ Television ☐ Radio ☐ Online search engines like Google ☐ Online health forums ☐ Online blogs ☐ Other online sources ☐ None of the these
Q44	
Please indicate which, if any, of the following conditions	s you have?
Select as many as apply	
☐ Diabetes ☐ Diverticulosis ☐ Thyroid disturbance ☐ Stroke ☐ Multiple Sclerosis ☐ Spinal injury ☐ Anxiety ☐ Depression	 ☐ Heart Disease ☐ Osteoporosis ☐ Arthritis/ Rheumatism ☐ Respiratory diseases (e.g. asthma, COPD, emphysema, chronic bronchitis) ☐ Cancer ☐ None of the above ☐ Prefer not to say

()	۰.

Do you have a full-time carer?

O Yes

O No

Q46

To what extent does your carer help you to manage your constipation?

1			4			7
Not at all	2	3	A moderate amount	5	6	A great deal
 ?	?	?	?	?	?	?

Q47

To what extent do you see yourself as:

	1			4			7
	Not at all	2	3	A moderate amount	5	6	A great deal
Extraverted, enthusiastic	?	?	?	?	œ.	?	?
Critical, quarrelsome	?	œ.	?	?	œ.	?	?
Dependable, self-disciplined	?	œ.	?	?	œ.	?	?
Anxious, easily upset	?	?	?	?	?	?	?
Open to new experiences, complex	?	?	?	?	œ.	?	?
Reserved, quiet	?	œ.	?	?	œ.	?	?
Sympathetic, warm	?	?	?	?	?	?	?
Disorganized, careless	?	?	?	?	?	?	?
Calm, emotionally stable	?	?	?	?	?	?	?
Conventional, uncreative	?	?	?	?	?	?	?

Q48

Which of the following options best describes the effect of your chronic pain on your daily life?

Select one option only.

)	am f	ull	y active	just li	ike I	was	bef	ore t	the	onset	of o	chroni	c pain
--	---	------	-----	----------	---------	-------	-----	-----	-------	-----	-------	------	--------	--------

- O I'm restricted in physically strenuous activity but can walk around, and able to carry out work of a light or sedentary nature, e.g., light house work, office work
- O I can walk around, and am capable of taking care of myself. I am unable to carry out any work activities, and be up and about more than 50% of waking hours
- O I am completely disabled. I cannot look after myself and I am confined to a bed or chair all of the time.

Q49

Which of the following activities do you do to help distract you from your pain, or to cope better with it?

Select all that apply.

Ш	Wa	tching	TV	progr	ammes
---	----	--------	----	-------	-------

- ☐ Meeting friends and family socially
- ☐ Connecting with friends on social networks (e.g., Whatsapp, Facebook)
- Connecting with other people who are suffering from similar health conditions either in person or through social networks
- Practising an art (e.g., drawing, photography, singing, playing and instrument)
- ☐ Playing a sport (football, tennis, etc.)

 □ Playing an indoor game □ Watching movies □ Watching sports events □ Do research and learn new things (e.g., learn a new language, take an online course) □ Doing cardiovascular exercises (running, aerobics, etc.) □ Doing mind-body exercises (e.g., Yoga, Tai-Chi, Alexander Technique) □ Physiotherapy □ Going for walks □ Spending time with nature □ Going to watch music events □ Going to the museum □ Doing shopping
☐ Writing about my experience (e.g., writing a blog or a diary)
Meeting a counsellor, a mentor or a coach
None of these None of these

Are you ...

1. Male

2. Female

How old are you?

Age

- 1. 16 24
- 2. 25 34
- 3. 35 44

- 4. 45 54
- 5. 55 64
- 6. 65+

In which region do you live?

IF Country=1 (UK)

- North East
- 2. North West
- 3. Yorkshire & the Humberside
- 4. East Midlands
- 5. West Midlands
- 6. East of England
- 7. London inside M25

- 8. South East
- 9. South West
- 10. Wales

9

16

- 11. Scotland
- 12. Northern Ireland
- 13. Channel Islands

IF Country=5 (GERMANY)

1	Baden-Wurttemberg	
2	Bayern	
3	Berlin	
4	Brandenburg	
5	Bremen	
6	Hamburg	
7	Hessen	

Mecklenburg-Vorpommern

Nordrhein-Westfalen
Rheinland-Pfalz
Saarland
Sachsen
Sachsen-Anhalt
Schleswig-Holstein

Thüringen

Niedersachsen

IF Country=6 (SPAIN)

1	Navarra	11	Ceuta
2	Aragón	12	Com. Madrid
3	Cataluña	13	Cantabria
4	Baleares, Islas	14	Asturias
5	Com. Valenciana	15	Rioja, La
6	Reg.Murcia	16	Euskadi
7	Andalucía	17	Galicia
8	Canarias, Islas	18	Castilla La Mancha
9	Melilla	19	Castilla y León

10 Externadura

Q1

8

Do you, or any members of your immediate family, work for any of the following industries?

- 1= Advertising
- 2 =Market research
- 3= PR or marketing industry
- 4= Healthcare or medical industry
- 5= Manufacture or sale of pharmaceutical products
- 99= None of these

For the next question we'd like to understand a bit about your general health.

Q3a

Which, if any, of these do you ever suffer from?

1	Any type of pain (please consider all pains from something mild, like a headache, to something more chronic, such as pain caused by arthiritus or cancer)
2	Insomnia
3	Problems with your sight
4	Vertigo/dizziness
5	Problems with your digestive system, such as IBS
99	None of these

Q3

Which, if any, of the following chronic pain conditions do you suffer from?

1=Chronic back pain	13=Pain relating to cancer
2=Rheumatoid Arthritis	14=Shoulder pain/ stiffness
3=Osteoarthritis	15=Neck pain
4=Psoriatic Arthritis	16=Hip/ pelvic pain
5=Joint pain	17=Carpal tunnel syndrome
6=Fibromyalgia	18=Dental pain
7=Neuropathic pain relating	19=Tendonitis
to diabetes	20=Broken bones
8=Neuropathic pain not relating	21=Menstrual pain
to diabetes	22=Plantar fasciitis
9=Post herpetic neuralgia	23=Sprains or strains
10=Non Herpetic neuralgia	98=Other pain condition
11=Migraine	96=Prefer not to say
12=Headache	99=None of these

Q4

Which of these pain conditions cause you the most severe pain i.e., the one for which you need the strongest pain treatment?

Q5

When did you first begin to experience chronic pain relating to ______?

1=In the last 3 months

2=More than 3 months, but less than one year ago

3=1 year or more, but less than 3 years

4=3 years or more, but less than 5 years

5=5 years or more, but less than 10 years

6=10 years or more

Thanks for your response so far. We would now like to understand a bit more about the pain that you experience and the treatments that you use.

Given below is a list of opioid drugs that people take for pain relief.

Could you please select the ones that you are currently taking

Q6a2

Could you please select the ones that you have tried before, but are not currently taking

h	

Which if these drugs do you rely on the most for pain relief (i.e. select the one you use most routinely to help manage your pain)? Select one drug from the list

You mentioned above that you are currently taking ______ for pain relief. Drugs like these are part of the opioid family - that is, they are medications derived from opium that help relieve pain. For the rest of the study when we refer to 'opiods' we would like you to think only about these specific types of medication (ie drugs like ______), rather than other treatments you might take.

Q7a

Taking opioids drugs can have various side-effects. Which of the following, if at all, have you ever suffered from?

1	Nausea
2	Dizziness
3	Vomiting
4	Constipation (infrequent bowel movments causing pain/discomfort in your bowels)
5	Sedation
6	Physical dependence
7	Tolerance
8	Respiratory depression
99	None of these

Q7

Now I would like to ask you a few questions about your digestive health e.g., pain or discomfort related to your stomach or bowels. Let us start with your bowel movements.

Over the past ONE week, on how many days did you have bowel movements?

1=Every day

2=Almost every day (5-6 days)

3=Every other day (3-4 days)

4=2 days over the past 7 days

5=1 day over the past 7 days

6= I did not move my bowels at all over the past 7 days

Q8

To what extent is moving your bowels bothersome for you e.g. because you cannot use the toilet as often as you would like, or because you experience pain, discomfort, or difficulties with daily activities?

1=Not at all 4=Quite a lot 2=A little 5=A great deal

3=A moderate amount

Q8b

Which of these have you ever done to help with infrequent/painful/difficult bowel movements?

1	Taken laxatives
2	Made changes to your diet (eg introducing more fibre)
3	Increased the amont of caffeine you drink
4	Made other changes to your lifestyle, such as increasing the amount of exercise you do
5	Used a suppository or enema (a solid or liquid preparation inserted into the rectum)
98	Other (specify)
99	None of the above (either have not experienced an issue with bowel movement or haven't taken any
99	of the above courses of action)

Q9c

Are you currently taking laxatives?

1	Yes
2	No

Q10

How dissatisfied or satisfied are you with ______ the laxatives you are currently taking in terms of how much it helps you to improve your bowel movements (e.g., increasing regularity, relieving pain or discomfort)?

1=Very dissatisfied 2=Somewhat dissatisfied 4=Somewhat satisfied 5=Very satisfied

3=Neither dissatisfied or satisfied

Thank you very much for taking the time to look at this short survey about chronic pain and your health in general. The aim of the study is to learn about your health, and not to advertise or promote any particular treatments or services. The survey is being conducted by Insight Dojo, an independent research company based in the UK, and is being sponsored by a pharmaceutical company.

The research is entirely confidential, meaning that no individual data will be passed on to the pharmaceutical company that is sponsoring the study.

Please be completely honest in your responses. Based on our knowledge of likely patterns within the data, it will be easy to detect any dishonest or misleading responses.

Now we will ask you further details about your chronic pain, opioid drugs and digestive health.

Often, we will use the term of constipation to describe difficulties in bowel movements such as irregular movements, discomfort or pain.

Q12g

You mentioned earlier that the treatment you take most often to help with your pain is _____. Which form do you currently take this in?

1	A tablet/capsule/caplet (not effervescent or soluable)
2	An effervescent or soluable tablet/capsule/caplet
3	A liquid
4	An injection
5	A patch
6	A powder
98	Other (specify)

Q12h

How often do you take this treatment?

1	More than once a day
2	Every day (but only once)
3	Almost every day
4	About 3 or 4 times a week
5	About 1 or 2 times a week
6	Less than once a week but more than once a month
7	About once a month
8	Less often

Now, I would like you to think back to when you were first prescribed opioid drugs. When I say opioid drugs, I mean the drugs we have shown you before. <u>Click here for a reminder</u>.

Roughly, how long ago were you first prescribed opioid drugs? Please choose one option only.

1=In the last 3 months4=3 years or more, but less than2=More than 3 months, but less
than one year ago5 years3=1 year or more, but less than
3 years10 years3 years6=10 years or more

Q14a

Thinking back to the time before you started taking opioid medications:

How was your experience of constipation then?

1=It was much better

2=It was slightly better

3. It was slightly better

5. It was much worse

Q14b

Could you roughly tell us how many days in a week did you have bowel movements before you started taking opioid medications?

1=Every day 4=2 days per week 2=Almost every day (5-6 days) 5=1 day per week or less 3=Every other day (3-4 days)

Q15

Thinking about the first time you were prescribed an opioid drug, which of the following medical professionals first prescribed an opioid drug to you?

Please choose one option only

7=Oncologist

1=GP8=Nurse specialist2=Anaesthetist9=Pain specialist doctor3=Neurologist10=Pharmacist4=Rheumatologist11=Internist5=Psychiatrist98=Other6=Orthopaedist

Q16a

Now I would like you to think back to the conversation that you had with the doctor. Which, if any, of the following did your doctor (or other medical professional) do when prescribing the opioid drug to you for the first time?

Select all that apply

- Warned me about drowsiness as a potential side effect of the opioid drug
- 2. Warned me about nausea and/or vomiting as a potential side effect of the opioid drug
- 3. Warned me about constipation as a potential side effect of the opioid drug
- 99. Did none of these
- 96. I don't remember

Q16b

And once the doctor had warned you about constipation as a potential side effect, which of the following did your doctor suggest?

Select all that apply

- 1. Suggested that I change my diet or lifestyle (e.g. by eating more fibre or exercising more often) to avoid constipation
- 2. Prescribed me a laxative drug to avoid constipation
- 3. Recommended a specific treatment I could try such as a laxative but did not physically write a prescription
- 99. Neither of the above they just warned me that it might be a side effect, but did not make any recommendations

Q16c

Have you had any subsequent conversations with your doctor (after the first time you were prescribed opioids) about constipation?

	1	Yes – the doctor has brought it up /asked me about the symptoms on subsequent visits
Γ	2	Yes - I have brought up the topic on subsequent visits
	3	No – we have not spoken about it since

Q16d

You mentioned that you have never spoken to your doctor about your constipation symptoms. Why it this? Please select all that apply

1	I feel too embarassed to bring the topic up with my doctor
2	I don't feel my constipation symptoms are severe enough to warrant a discussion
3	I don't want to distract my doctor from helping me with pain relief
4	I get the advice I need elsewhere (eg by browsing the internet, talking to friends etc)
5	I don't think the doctor will be able to help me so I don't bother bringing it up
6	I feel confident managing the condition myself
7	Other (please specify)

Q16e

Have you subsequently been prescribed a laxative for your opioid induced constipation symptoms?

1	Yes
2	No

Q17

Which of the following medical professionals is primarily responsible for repeat prescription of your opioid medications?

Please select one option only

1=GP
2=Anaesthetist
3=Neurologist
4=Rheumatologist
5=Psychiatrist
6=Orthopaedist
7=Oncologist

8=Nurse specialist 9=Pain specialist doctor 10=Pharmacist 11=Internist 98=Other

Whom do you look to for help with managing constipation?

Select all that apply

1=GP10=Pharmacist2=Anaesthetist11=Internist

3=Neurologist 12=Members of my family

4=Rheumatologist 13=My friends

5=Psychiatrist 14=Other constipation sufferers 6=Orthopaedist 15=I do not look for help,

7=Oncologist I manage constipation myself

8=Nurse specialist 98=Other

9=Pain specialist doctor

Q19a

Thinking about your opioid drug usage over the years: How has your opioid drug usage changed, if at all?

1=It has increased a lot
2=It has increased slightly
3=It has been the same
4=It has decreased slightly
5=it has decreased a lot

Q19b

Thinking back to the last time when there was an increase in your total dosage of opioid drugs, what was the effect on your constipation?

1=My constipation became much better

2=My constipation became slightly better

3=My constipation remained the same

4=My constipation became slightly worse

5=My constipation became much worse

Q20

Thinking about the future, how do you expect your opioid drug usage to change?

1=I expect it to increase a lot

2=I expect it to increase slightly

3=I expect it to be the same as now

4=I expect it to decrease slightly

5=I expect it to decrease a lot

Q21a

Thinking about your opioid drug usage over the years:

Has there been a change in the specific opioid drug you were taking?

1=Yes 2=No

Q21b

The last time there was a change in the opioids, what was the effect on constipation?

1=My constipation became much better

2=My constipation became slightly better

3=My constipation remained the same

4=My constipation became slightly worse

5=My constipation became much worse

This section asks about your experience of constipation, and measures that you have taken to help with this.

Q22 How much do you disagree or agree that the following caused you discomfort over the past TWO weeks?

RATING:

Disagree	Disagree	Disagree a	Neither	Agree a little	Agree quite a	Agree
strongly	quite a lot	little	agree nor		lot	strongly
			disagree			
1	2	3	4	5	6	7

STATEMENTS

- 1. Not being able to have bowel movements as often as I would like to
- 2. Incomplete bowel movement, like you didn't "empty" yourself
- 3. Passing of stools that were too hard or lumpy
- 4. Straining to try to pass stools
- 5. Sensation of a blockage or obstruction in your bowel movements
- 6. Bloating in your abdomen
- 7. Stomach cramps
- 8. Rectal burning (during or after a bowel movement)
- 9. Hemorrhoids (also known as 'piles')
- 10. Other (non-Hemorrhoidal) rectal bleeding
- 11. Nausea
- 12. Vomiting

Q23

Over the past TWO weeks, to what extent did your constipation symptoms cause you to <u>feel</u> each of the following:

RATING:

Not at all			A moderate amount			A great deal
1	2	3	4	5	6	7

STATEMENTS

- 1. Disgusted
- 2. Frustrated
- 3. Helpless
- 4. Depressed

- 5. Dependant and "not free"
- 6. Obsessed i.e. not being able to get it out of your mind
- 7. Anxious or worried

Q24

Over the past TWO weeks, to what extent did your constipation symptoms cause you to <u>do</u> each of the following:

RATING:

Not at all			A moderate amount			A great deal
1	2	3	4	5	6	7

STATEMENTS

- 1. Spend excessive time in the bathroom
- 2. Have difficulty socialising
- 3. Have difficulty working (including both paid work, and household chores)
- 4. Have difficulty pursuing hobbies
- 5. Have difficulty being intimate with others
- 6. Have difficulty following your normal routine
- 7. Have difficulty taking your opioid drugs as normal

Q25a
Given below are a number of approaches that people use to relieve constipation.

Which of these approaches do you use on a regular basis, if any? There are no right or wrong answers.

1.	Used a single laxative treatment on its own
2.	Combined multiple laxative treatments
3.	Rotated among different opioid drug treatments
4.	Decreased the dose or frequency of your opioid drug treatment(s)
5.	Skipped a dose of your opioid drug treatment(s)
6.	Skipped several doses of your opioid drug treatment(s)
7.	Used an alternative (non opioid) painkiller
8.	Used manual methods (e.g. using your fingers) to support evacuation
9.	Drank more water, juice, or other fluids
10.	Eaten less, or been careful about what you ate
11.	Obtained additional fibre through your diet (e.g. by eating more fruit, vegetables, or cereal)?
12.	Taken a fibre supplement product (e.g. Fybogel, or a psyllium or methylcellulose product)
13.	Exercised more often
14.	Had colonic hydrotherapy (also known as 'irrigation')
15.	Used a suppository or enema (a solid or liquid preparation inserted into the rectum)
16.	Used relaxation techniques (e.g. deep breathing, meditation)
17.	An approach I devised myself to deal with constipation

Q25b Now think back to the last time you experienced severe constipation. Which of the following approaches did you use to manage your constipation then?

1.	Used a single laxative treatment on its own
2.	Combined multiple laxative treatments
3.	Rotated among different opioid drug treatments
4.	Decreased the dose or frequency of your opioid drug treatment(s)
5.	Skipped a dose of your opioid drug treatment(s)
6.	Skipped several doses of your opioid drug treatment(s)
7.	Used an altenative (non opioid) painkiller
8.	Used manual methods (e.g. using your fingers) to support evacuation
9.	Drank more water, juice, or other fluids
10.	Eaten less, or been careful about what you ate
11.	Obtained additional fibre through your diet (e.g. by eating more fruit, vegetables, or cereal)?
12.	Taken a fibre supplement product (e.g. Fybogel, or a psyllium or methylcellulose product)
13.	Exercised more often
14.	Had colonic hydrotherapy (also known as 'irrigation')
15.	Used a suppository or enema (a solid or liquid preparation inserted into the rectum)
16.	Used relaxation techniques (e.g. deep breathing, meditation)
17.	An approach I devised myself to deal with constipation

This section asks for further information about the constipation treatments (laxative drugs) that you currently use most often.

O9a

Given below is a list of treatments that people typically take to help with their bowel movements.

Could you please select the ones that you are currently taking?

I do not take any treatments to help with my bowel movements

INSERT LAXATIVE LIST

Q9b

Which of these treatments do you rely on the most to help with your bowel movements (i.e. select the one you use most routinely to help with bowel movements)? Select one drug from the list

INSERT LAXATIVE LIST

Q26

To what extent do you disagree or agree with the following statements regarding the laxative drug,

RATING

Disagree	Disagree	Disagree a	Neither	Agree a little	Agree quite a	Agree
strongly	quite a lot	little	agree nor		lot	strongly
			disagree			
1	2	3	4	5	6	7

STATEMENTS

- 1. Taking everything into consideration, I am very satisfied with the laxative drug
- 2. It allows me to move my bowels more easily
- 3. It relieves any pain I experience in moving my bowels
- 4. It has no inconvenient or problematic side effects
- 5. It is easy to prepare and administer
- 6. It is discreet and easy to carry around
- 7. It works rapidly to control my constipation symptoms
- 8. It is affordable
- 9. It works predictably
- 10. It represents good value for money
- 11. It is available on the National Health Service or the cost is reimbursed

This section asks about your attitudes on a variety of issues relating to opioid drugs, constipation, and your health in general.

Given below are a number of statements related to your attitudes and beliefs about pain and opioids. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

RATING:

Γ	Disagree	Disagree	Disagree a	Neither	Agree a little	Agree quite a	Agree
	strongly	quite a lot	little	agree nor		lot	strongly
				disagree			
	1	2	3	4	5	6	7

STATEMENTS

- 1. I feel really overwhelmed by my pain
- 2. I am the type of person who likes to get on with my life despite my pain
- 3. I would rather suffer a little from pain rather than take pain medications
- 4. My opioid drugs have allowed me to live a fuller life
- 5. I find it difficult to cope without my opioid drugs
- 6. I don't like my opioid drugs and have them only if it is absolutely necessary
- 7. I believe my health will improve and I will be able to discontinue my opioid drugs in the future
- 8. I often feel guilty when I take opioid drugs
- 9. I think doctors must be more careful than they are while prescribing opioid drugs
- I feel that pharmaceutical companies that manufacture opioid drugs are really improving the lives of patients
- 11. My experience of pain has helped me realise what is truly important
- 12. Because of my pain I no longer take people or things for granted
- 13. My experience of pain has helped me appreciate the value of living everyday to the full
- 14. My experience of pain has made me question who I am as a person
- 15. I wish I could keep using my opioid pain mediation without having the constipation side effects
- 16. While opioid drugs relieve pain, the side effects make it difficult to do daily activities
- 17. I hate having to balance getting pain relief with constipation side effects
- 18. I am unable to control my pain properly because of the constipation side effects
- 19. I have a group of supportive people who make it easier to cope with pain
- 20. People suffering from pain and other health conditions frequently reach out to me for support

Q28

Given below are a number of statements related to your attitudes and beliefs about <u>constipation</u>, <u>stomach</u> <u>health</u>, <u>and its impact on your life</u>. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

RATING:

Disagree strongly	Disagree quite a lot	Disagree a little	Neither agree nor disagree	Agree a little	Agree quite a lot	Agree strongly
1	2	3	4	5	6	7

STATEMENTS

- 1. I feel upset if I cannot move my bowels every day
- 2. My constipation is awful and overwhelms me
- 3. At the back of my mind, I'm always thinking of constipation

- 4. After pain, constipation is one of my most bothersome problems
- 5. I often cut down my opioid medication to relieve my constipation
- 6. I would prefer not to reduce my opioid medication to relieve my constipation
- 7. I often worry that my bowels will lose their ability to function normally
- 8. Constipation prevents me from doing things that I really want
- 9. I take extreme measures to get relief from constipation that might not be good for me in other ways
- 10. Often constipation gets so bad, that I have to combine many different treatments
- 11. It bothers me that I spend so much time in the bathroom because of my constipation
- 12. Often I am afraid that I will fall in the bathroom and injure myself

Given below are a number of statements related to your attitudes and beliefs about <u>treatments that you use</u> <u>for constipation</u>. There are no right or wrong answers. We are interested only in your opinions.

To what extent do you disagree or agree with the following statements?

RATING:

Disagree	Disagree	Disagree a	Neither	Agree a little	Agree quite a	Agree
strongly	quite a lot	little	agree nor		lot	strongly
			disagree			
1	2	3	4	5	6	7

STATEMENTS

- 1. I would much prefer to take natural (non pharmaceutical) treatments for my constipation
- 2. I would much prefer to change my diet, or some other aspect of my lifestyle, rather than taking pharmaceutical treatments for constipation
- 3. I would much rather take a constipation treatment as and when the need arises rather than take it continuously
- 4. I would much prefer a constipation treatment that I could use continuously, over the long term, as opposed to one that could only be taken when required
- 5. For me, it is very important that a constipation treatment works fast
- 6. For me, it is very important that a constipation treatment works predictably and not at random
- 7. For me, it is very important that a constipation treatment can be taken at any time of the day
- 8. For me, it is very important that I can take my constipation treatment with or without food
- 9. For me, it is very important that my constipation treatment does not affect the pain relief that I get from my opioid drugs
- 10. For me, it is very important that my constipation treatment does not affect the way that I take my opioid drugs (e.g. the timing, the dosage of my opioids)
- 11. For me, it is very important that a constipation treatment has no bad side effects
- 12. If I were to try a new treatment for constipation, I would rather not have to immediately give up using laxative drugs
- 13. Having to prepare laxatives is not inconvenient for me
- 14. I would much prefer to take an oral pill rather than a liquid treatment to help manage my constipation
- 15. I am constantly on the look out for new treatments for constipation

Q30

Given below are a number of statements related to your attitudes and beliefs about the <u>way you manage</u> <u>your health</u>. There are no right or wrong answers. We are interested only in your opinions. To what extent do you disagree or agree with the following statements?

RATING:

Disagree	Disagree	Disagree a	Neither	Agree a	Agree	Agree
strongly	quite a lot	little	agree nor	little	quite a lot	strongly
			disagree			
1	2	3	4	5	6	7

STATEMENTS

- 1. I consider myself more knowledgeable than most about my health conditions
- 2. I do my own research regarding my health condition(s) and treatments
- 3. I strictly follow the regimens that my doctor(s) prescribe
- 4. I think it is very important to adapt one's medication regime oneself rather than follow the doctor's instruction
- 5. I would have appreciated additional help from my doctor or medical professional regarding constipation
- 6. I like to deal with constipation on my own rather than speak to the doctor about it
- 7. I wish my doctor would spend more time speaking to me about my constipation problems
- 8. I would rather not discuss my constipation with my doctors

This section asks about your personal characteristics and circumstances, and your health.

Q35

Please indicate your employment status:

1=Working full-time 5=Student or in full-time training 2=Working part-time 6=Retired 7=Semi retired

4=Unemployed

Q36

To what extent does your work require extensive physical activity (e.g. extensive walking, travelling)?

Not at all			A moderate amount			A great deal
			amount			
1	2	3	4	5	6	7

Q36b

How long, on average, does your regular commute to work take?

1=Less than 15 minutes
2=More than 15 minutes but less than 30 minutes
5=More than 90 minutes but less than 40 minutes

3=More than 30 minutes but less than one hour 6=More than two hours

Q37

What is your total household income (£)? Your household includes all of the people who you live with.

 1=0-9,999
 6=70,000-84,999

 2=10,000-24,999
 7=85,000-99,999

 3=25,000-39,999
 8=100,000 or more

 4=40,000-54,999
 96 – Prefer not to say

5=55,000-69,999

Q38

Which of the following best represents your relationship status?

1=Single (i.e. not currently in a
relationship rather than legal
status)4=Married
5=Separated
6=Divorced2=In a relationship7=Widowed

3=Civil Partnership 96 – Prefer not to say

Q39

Do you have any children?

1=Yes 2=No

Are your children still at home or independent?

1=Under 18 and still at home 3=Mix of independent and still at home 2=Adult children still at home 4=Independent

Q41

In a typical week, how many hours per day do you spend reading/listening/watching the following...?

RATING

1=Not at all4=3-5 hours2=Less than an hour5=6-10 hours3=1-2 hours6=More than 10 hours

STATEMENTS

- TV
 Radio
 Magazines
 Newspapers
 Internet
- Q41a

At what time of day do you typically watch TV? Select all that apply

1=Morning 3=Evening/ night 2=Afternoon

Q41b

How do you typically watch TV? Select all that apply

1=Live (as it happens)
2=Catch-up (via a set top Box)
3=Online via TV channel website

Q41c

What technology do you typically use to watch TV? Select all that apply

1=A regular TV set
2=A laptop computer
3=An ipad or tablet

4=A desktop computer
5=A smartphone

Q41d

Which of the following newspapers do you read on a regular basis (e.g. at least once per week)? Select all that apply.

COUNTRY SPECIFIC LIST e.g.

1=The Guardian8=The Daily Express2=The Times9=The Sun3=The Daily Telegraph10=The Daily Mirror4=The Financial Times11=The Daily Star5=The i (concise newspaper)12=The Daily Record6=Metro13=Evening Standard7=The Daily Mail98=Other (please specify)

Q42

Which of the following social networking platforms and sites do you use on a regular basis? Select all that apply

- 1. Facebook
- 2. Copains d'Avant SHOW IN FRANCE ONLY
- 3. Tuenti SHOW IN SPAIN ONLY
- 4. LinkedIn
- 5. Viadeo SHOW IN FRANCE ONLY
- 6. XING SHOW IN GERMANY ONLY
- 7. Twitter

- 8. Instagram
- 9. WhatsApp
- 10. Google+
- 11. Snapchat

98 – other (please specify)

99 - None

Where do you get information and advice regarding health issues/concerns? Select all that apply

- 1. Healthcare professionals (including doctors and nurses)
- 2. Your partner
- 3. Other family member(s)
- 4. My friend(s)
- 5. Leaflets in my doctor's surgery
- 6. Library / books / literature
- 7. Newspaper/ Magazines
- 8. Television
- 9. Radio
- 10. Online search engines like Google
- 11. Online health forums
- 12. Online blogs
- 13. Other online sources
 - 99. None of these

Q44

Please indicate which, if any, of the following conditions you have?

Select as many as apply

1=Diabetes

2=Diverticulosis

3=Thyroid disturbance

4=Stroke

5=Multiple Sclerosis

6=Back pain or spinal injury

7=Anxiety

8=Depression

9=Heart Disease 10=Osteoporosis

11=Arthritis/Rheumatism

12=Respiratory diseases (e.g. asthma, COPD, emphysema, chronic bronchitis)

13=Cancer

96=Prefer not to say

99=None of the above

Q45

Do you have a full-time carer?

1=Yes

2=No

Q46

To what extent does your carer help you to manage your constipation?

Not at all			A moderate amount			A great deal
1	2	3	4	5	6	7

Q47

To what extent do you see yourself as:

RATING

Not at all			A moderate			A great deal
			amount			
1	2	3	4	5	6	7

STATEMENTS

- 1. Extraverted, enthusiastic
- 2. Critical, quarrelsome
- 3. Dependable, self-disciplined
- 4. Anxious, easily upset
- 5. Open to new experiences, complex

- 6. Reserved, quiet
- 7. Sympathetic, warm
- 8. Disorganized, careless
- 9. Calm, emotionally stable
- 10. Conventional, uncreative

Which of the following options best describes the effect of your chronic pain on your daily life? Select one option only.

- 1. I am fully active just like I was before the onset of chronic pain
- 2. I'm restricted in physically strenuous activity but can walk around, and able to carry out work of a light or sedentary nature, e.g., light house work, office work
- 3. I can walk around, and am capable of taking care of myself. I am unable to carry out any work activities, and be up and about more than 50% of waking hours
- 4. I am completely disabled. I cannot look after myself and I am confined to a bed or chair all of the time.

Q49

Which of the following activities do you do to help distract you from your pain, or to cope better with it? Select all that apply.

- 1. Watching TV programmes
- 2. Meeting friends and family socially
- 3. Connecting with friends on social networks (e.g., Whatsapp, Facebook)
- 4. Connecting with other people who are suffering from similar health conditions either in person or through social networks
- 5. Practising an art (e.g., drawing, photography, singing, playing and instrument)
- 6. Playing a sport (football, tennis, etc.)
- 7. Playing an indoor game
- 8. Watching movies
- 9. Watching sports events
- 10. Do research and learn new things (e.g., learn a new language, take an online course)
- 11. Doing cardiovascular exercises (running, aerobics, etc.)
- 12. Doing mind-body exercises (e.g., Yoga, Tai-Chi, Alexander Technique)
- 13. Physiotherapy
- 14. Going for walks
- 15. Spending time with nature
- 16. Going to watch music events
- 17. Going to the museum
- 18. Doing shopping
- 19. Writing about my experience (e.g., writing a blog or a diary)
- 20. Meeting a counsellor, a mentor or a coach
- 99. None of these