ePPOC

electronic persistent pain
outcomes collaboration

Patient outcomes 2023 Annual report

Enterprise One Pain Management Service

UNIVERSITY OF WOLLONGONG

Background

The electronic Persistent Pain Outcomes Collaboration (ePPOC) is a program which aims to improve services and outcomes for people experiencing chronic pain. It involves the collection of a standard set of data items and assessment tools by specialist pain services throughout Australia and New Zealand, allowing measurement of patient outcomes as a result of treatment. The information collected is also used to develop an Australasian benchmarking system for the pain sector, facilitating better outcomes and best practice interventions for people experiencing chronic pain.

ePPOC is a sub-centre of the Australian Health Services Research Institute at the University of Wollongong. Further information about ePPOC is available at https://ahsri.uow.edu.au/eppoc. Other enquiries can be directed to eppoc@uow.edu.au or (+61) 2 42214020.

Acknowledgements

We acknowledge the Traditional Custodians of the lands on which the University of Wollongong is situated. We pay our respects to Aboriginal Elders past and present, who are the knowledge holders and teachers. We acknowledge their continued spiritual and cultural connection to Country. As we share knowledge, teaching, learning and research within this University we also pay respect to the knowledge embedded forever within the Aboriginal Custodianship of Country.

We also want to acknowledge the valuable contribution made by:

- The many staff from pain management services who have spent considerable time collecting, collating and correcting the data and without whose effort this report would not be possible
- Members of the ePPOC Clinical and Management Advisory Committee

Disclaimer

ePPOC has made every effort to ensure that the data used in this report are accurate. Data submitted to ePPOC are checked for anomalies and services are asked to review and re-submit their corrected data prior to the production of the ePPOC report suite if necessary. We would advise readers to use their professional judgement in considering all information contained in this report.

Contents

The ePPOC report suite

ePPOC produces a report suite for your service every six months which includes the following components:

- a **Dashboard:** a one-page infographic presenting information about your patients, the treatments you provided and the outcomes your patients achieved.
- an **Executive Summary:** a summary of your service data, presented alongside data from all services for comparative purposes, and includes benchmark and indicator information.
- this **Report:** a detailed report presenting data and information on your service's patient profile, episodes of care and patient outcomes, alongside that for all services.

The dashboard and executive summary are stand-alone documents available from the ePPOC Online Portal (EOP).

This report

Participating pain management services

Eighty-six pain management services provided data for this report. These services are located across Australia and New Zealand (Figure 1) and listed in Appendix D.

Figure 1 – Location of participating pain services
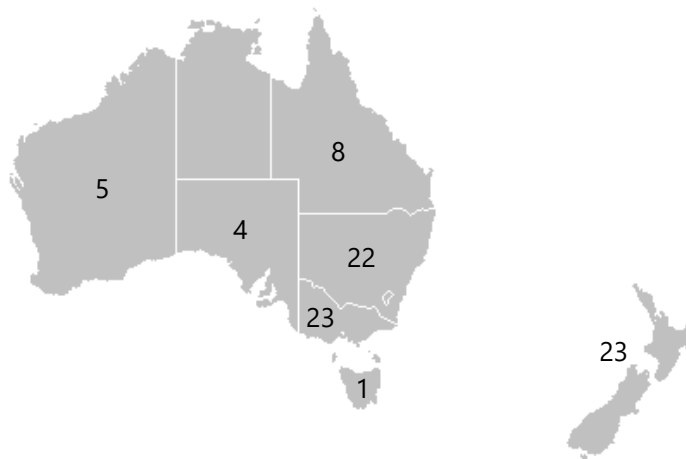
Report period and scope

This report provides information about pain service activity that occurred during the period 1 January to 31 December 2023. Sections of the report describe:

- The **profile of patients** who began their engagement with the pain service during this period (i.e. completed a referral questionnaire)
- The **episodes of care** that began, services that were provided and the episodes that ended during this period
- **Patient outcomes at the end of the episode** for the patients who completed the relevant patient-reported outcome questionnaire during the period
- **Post-episode patient outcomes** for the patients who completed the relevant patient-reported outcome questionnaire during the period

This information and the report section in which it is presented is depicted in Figure 2.

Note that the same individuals may not be represented in each section of the report.

Figure 2 – The information described in each (colour coded) section of the report

| Patients referred in 2023 | — n=213 → | Patients who completed a referral questionnaire in 2023 (n=264) | → | Patient profile |

| Patients referred in another period | — n=51 → |

| Patients who completed a referral questionnaire in another period | — n=10 → | Episodes that started in 2023 (n=288) | Pathways started in 2023 (n=245) | → | Episode of care |

| Patients who have not completed a referral questionnaire | — n=32 → |

n=246

| Episodes started in another period | — n=31 → | Episodes that ended in 2023 (n=146) | Pathways ended in 2023 (n=191) |

n=115

| Episodes ended in another reporting period | — n=1 → | Questionnaires completed at episode end in 2023 (n=123) | → | Episode outcomes |

n=122

| Episodes ended in another period | — n=18 → | Post-episode questionnaires completed in 2023 (n=41) | → | Post-episode outcomes |

n=23

Patient profile

This section provides socio-demographic and clinical information about the people who completed an ePPOC Referral Questionnaire during the 1 January 2023 to 31 December 2023.

Socio-demographic details

Table 1 – Sex	Enterprise One		All services	
	Number	%	Number	%
Male	105	39.8	8247	38.5
Female	152	57.6	12661	59.1
Sex not stated/described	7	2.7	527	2.5
Total	**264**	**100.0**	**21435**	**100.0**

Table 2 – Age (years)	Enterprise One		All services	
	Average	Median	Average	Median
All patients	45.8	47.0	50.9	51.0
- Male	44.9	45.0	51.4	52.0
- Female	46.9	48.0	51.0	52.0
- Sex not stated/described	34.9	23.0	43.4	43.0

Figure 3 – Age group by sex
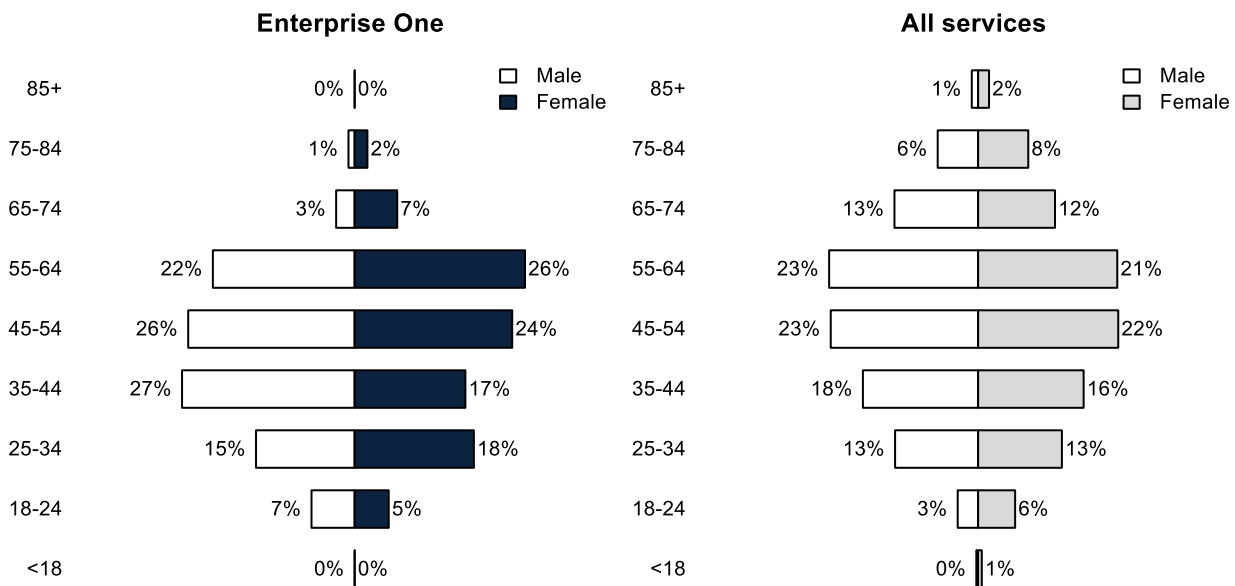
Table 3 – Indigenous status	Enterprise One		All services	
	Number	%	Number	%
Aboriginal but not Torres Strait Islander	14	5.4	798	5.5
Torres Strait Islander but not Aboriginal	0	0.0	23	0.2
Both Aboriginal & Torres Strait Islander	0	0.0	19	0.1
Neither Aboriginal nor Torres Strait Islander	246	94.6	13617	94.2
Total	**260**	**100.0**	**14457**	**100.0**

Table 4 – Country of birth	Enterprise One		All services	
	Number	%	Number	%
Australia	197	75.2	11039	51.7
New Zealand	11	4.2	5502	25.8
Other	54	20.6	4793	22.5
Total	**262**	**100.0**	**21334**	**100.0**

Figure 4 – Socioeconomic area disadvantage based on patient postcode
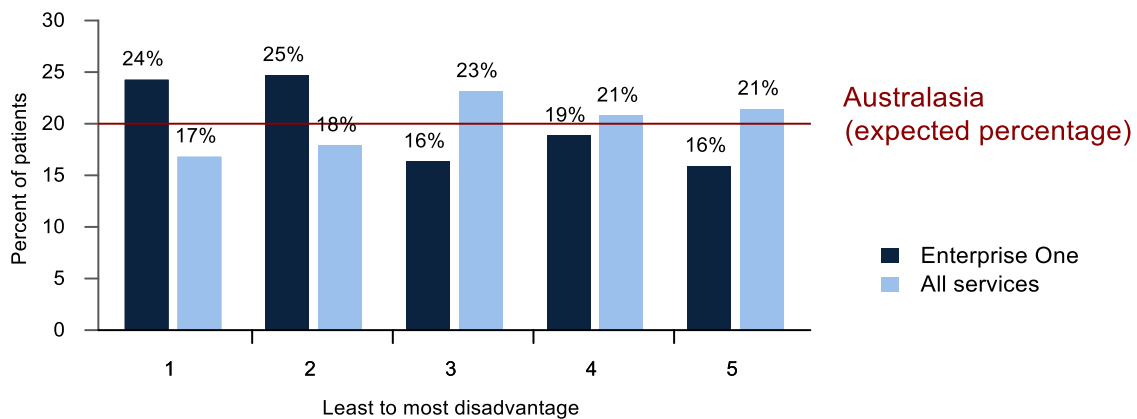
This chart shows patient residential area grouped into five disadvantage quintiles (from least to most disadvantage) such that across the Australian and New Zealand populations, 20% of people live in each disadvantage quintile. It is important to note that the level of disadvantage relates to the *area* the patient lives in rather than the patient.

The chart compares the proportion of your patients who live in each disadvantage quintile to the population of all people seeking pain management in Australasia (*All services*).

The red line shows the expected distribution of disadvantage – Australasia (*expected percentage*).

Table 5 – Referral source	Enterprise One		All services	
	Number	%	Number	%
General practitioner/nurse practitioner	65	24.6	12846	59.9
Specialist practitioner	178	67.4	2645	12.3
Other pain management service	0	0.0	708	3.3
Public hospital	0	0.0	1452	6.8
Private hospital	0	0.0	34	0.2
Rehabilitation provider/private insurer	1	0.4	2331	10.9
Other	20	7.6	1419	6.6
Total	**264**	**100.0**	**21435**	**100.0**

Table 6 – Did the patient require an interpreter?	Enterprise One		All services	
	Number	%	Number	%
Yes	3	1.2	657	3.1
No	255	98.8	20476	96.9
Total	**258**	**100.0**	**21133**	**100.0**

Table 7 – Was the patient hearing or sight impaired?	Enterprise One		All services	
	Number	%	Number	%
Yes	17	6.5	2925	13.9
No	243	93.5	18170	86.1
Total	**260**	**100.0**	**21095**	**100.0**

Table 8 – Was assistance required with written or spoken communication?	Enterprise One		All services	
	Number	%	Number	%
Yes	8	3.1	1652	7.9
No	250	96.9	19312	92.1
Total	**258**	**100.0**	**20964**	**100.0**

Table 9 – Did the episode of care involve a compensation case?	Enterprise One		All services	
	Number	%	Number	%
Yes	154	59.9	2263	15.6
No	103	40.1	12261	84.4
Total	**257**	**100.0**	**14524**	**100.0**

Table 10 – Is the patient a previous or serving member of the Australian Defence Force?	Enterprise One		All services	
	Number	%	Number	%
Yes	12	4.6	476	3.3
No	251	95.4	14047	96.7
Total	263	100.0	14523	100.0

Table 11 – Is the patient a client of the Department of Veterans' Affairs?	Enterprise One		All services	
	Number	%	Number	%
Yes	11	4.2	301	2.1
No	253	95.8	14166	97.9
Total	264	100.0	14467	100.0

Table 12 – Is the episode of care for the management of cancer pain?	Enterprise One		All services	
	Number	%	Number	%
Yes	0	0.0	54	0.3
No	264	100.0	21381	99.7
Total	264	100.0	21435	100.0

Clinical characteristics

Health and comorbidities

Figure 5 – Distribution of Body Mass Index
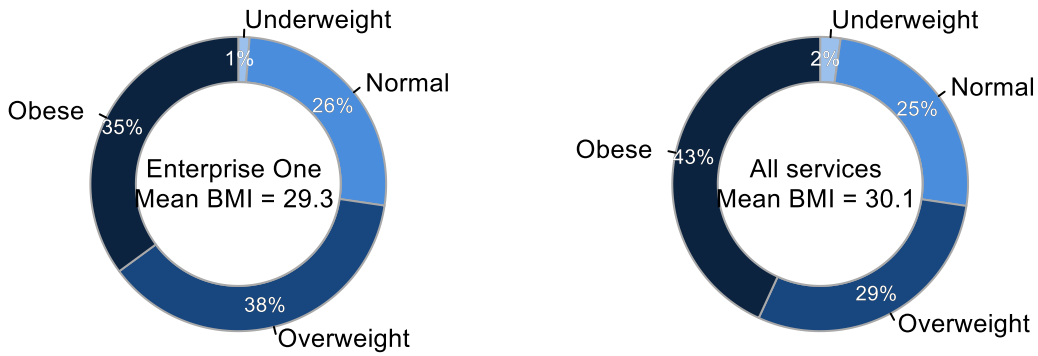
Table 13 – Pain-related health service use in the past 3 months (average number of times used)	Enterprise One	All services
General practitioner	3.8	4.3
Medical specialist	1.6	1.2
Other health professionals	8.1	4.4
Emergency department presentations	0.3	0.6
Hospital admissions	0.1	0.2
Diagnostic tests	1.1	1.4

Table 14 – Comorbid conditions*	Enterprise One		All services	
	Number	%	Number	%
Mental health condition	125	47.3	9857	46.0
- PTSD	*42*	*15.9*	*3499*	*16.3*
- Anxiety	*98*	*37.1*	*7313*	*34.1*
- Depression	*97*	*36.7*	*7513*	*35.1*
Arthritis	61	23.1	8060	37.6
Muscle, bone and joint problems (other than arthritis)	66	25.0	7805	36.4
Heart and circulation problems	19	7.2	4491	21.0
- High Blood Pressure	*14*	*5.3*	*2751*	*12.8*
- High Cholesterol	*2*	*0.8*	*1660*	*7.7*
Diabetes	13	4.9	2828	13.2
Digestive problems	53	20.1	6182	28.8
Respiratory problems	34	12.9	5586	26.1
Neurological problems	13	4.9	2013	9.4
Cancer	1	0.4	905	4.2
Liver, kidney, and pancreas problems	5	1.9	1649	7.7
Thyroid problems	15	5.7	1883	8.8
Other medical conditions	61	23.1	5519	25.7

* Comorbidities are patient reported

Pain characteristics

Table 15 – How the main pain began (the precipitating event)	Enterprise One		All services	
	Number	%	Number	%
Injury at home	10	3.8	2419	11.5
Injury at work/school	149	56.7	4748	22.5
Injury in another setting	9	3.4	1843	8.7
After surgery	11	4.2	1636	7.8
Motor vehicle crash	31	11.8	1772	8.4
Related to cancer	0	0.0	322	1.5
Related to another illness	15	5.7	3179	15.1
No obvious cause	24	9.1	2840	13.5
Other	14	5.3	2342	11.1
Total	**263**	**100.0**	**21101**	**100.0**

Table 16 – Pain duration – how long the main pain has been present	Enterprise One		All services	
	Number	%	Number	%
Less than 3 months	2	0.8	336	1.6
3 to 12 months	62	23.7	3379	16.0
12 months to 2 years	75	28.6	3475	16.5
2 to 5 years	72	27.5	4846	23.0
More than 5 years	51	19.5	9058	42.9
Total	**262**	**100.0**	**21094**	**100.0**

Table 17 – Main pain area	Enterprise One		All services	
	Number	%	Number	%
Head	13	6.2	813	4.6
Neck	20	9.5	1249	7.0
Chest	2	1.0	330	1.9
Back	97	46.2	7326	41.3
Leg	6	2.9	1216	6.9
Arm/shoulder	29	13.8	2051	11.6
Abdomen	2	1.0	841	4.7
Hands	7	3.3	485	2.7
Feet	4	1.9	846	4.8
Groin/pubic area	5	2.4	363	2.0
Buttocks	0	0.0	0	0.0
Knee	11	5.2	941	5.3
Hip	14	6.7	1285	7.2
Total	**210**	**100.0**	**17746**	**100.0**

Table 18 – Number of pain areas	Enterprise One		All services	
	Number	%	Number	%
1	32	12.2	2497	11.8
2-3	93	35.5	6807	32.1
4-6	99	37.8	7661	36.2
7-9	31	11.8	3413	16.1
10+	7	2.7	797	3.8
Total	**262**	**100.0**	**21175**	**100.0**

Symptom severity

Table 19 – Assessment tool scores	Enterprise One	All services
	Mean (std. deviation)	Mean (std. deviation)
Pain severity	5.6 (1.7)	6.2 (1.7)
Pain interference	6.5 (2.1)	6.9 (2.0)
Depression	17.5 (12.3)	18.8 (12.3)
Anxiety	11.0 (9.8)	12.9 (10.1)
Stress	18.7 (10.4)	19.8 (10.8)
Pain catastrophising	24.4 (12.4)	28.2 (13.4)
Pain self-efficacy	22.2 (12.2)	21.0 (12.6)

Note: Pain severity is an average of the four Brief Pain Inventory severity items. For pain self-efficacy, higher scores reflect greater confidence in ability to perform activities despite the pain.

The proportion of patients who reported moderate or worse symptom severity on each of the domains measured in the assessment tools is shown in Figure 6[1].

Figure 6 – Patients with moderate or worse symptom severity (%)

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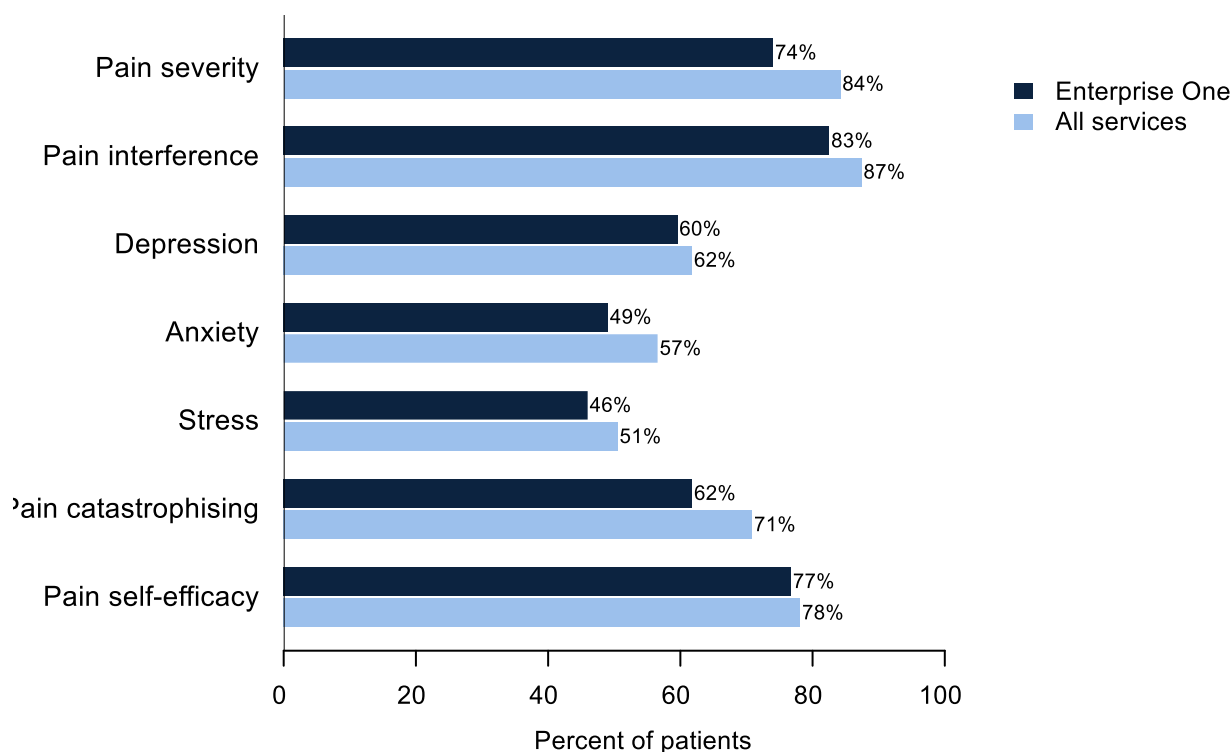
[1] Note that the ePPOC benchmarks (shown in later sections of this report) include only those patients who report moderate or worse severity on the clinical domain at referral.

Medication use

The following information refers to the patients who reported medication information at referral, and for whom staff recorded details of medication use in epiCentre. Patient numbers at your service and at all services are shown in Figure 7. This figure also shows the major drug groups used by patients for whom medication use has been reported.

Figure 7 – Medication use by type of drug
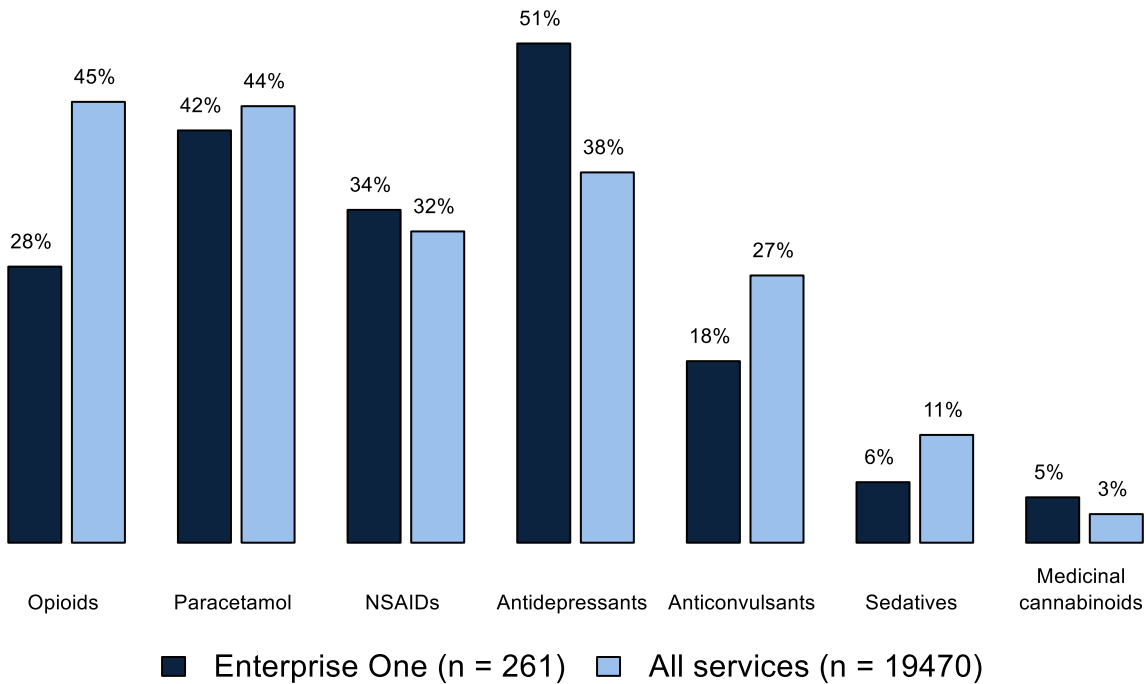
The proportion of patients who were using opioid medications on more than 2 days per week is shown in Table 20. The average and median oral morphine equivalent daily dose (oMEDD) is shown in Table 21 for the patients who were taking opioid medications, and for whom an oMEDD was reported.

Table 20 – Frequency of use of opioid medication	Enterprise One	All services
People using opioid medications >2 days per week (%)	25.3	40.0

Table 21 – oMEDD at referral	Enterprise One n = 73	All services n = 8156
Average (mg)	31.4	44.3
Median (mg)	21.0	30.0

Employment status and productivity

Information about work status is shown in Table 22. For patients who reported that they were working full- or part-time, additional information was collected (Table 23). This information allowed calculation of:

- The percent of time missed from work due to pain (absenteeism)
- The percent of work impairment while working due to pain (lost productivity)
- Overall work impairment due to pain, reported as a percentage. Overall work impairment takes into account both absenteeism and lost productivity.

Table 22 – Employment status	Enterprise One	All services
	n (%)	n (%)
Working full-time	67 (26.1)	3289 (16.7)
Working part-time	50 (19.5)	2724 (13.8)
Unable to work due to pain	97 (37.7)	7300 (37.1)
Unable to work due to a condition other than pain	25 (9.7)	2802 (14.2)
Not working by choice	18 (7.0)	3317 (16.8)
Seeking employment	0 (0.0)	259 (1.3)
Total	**257 (100.0)**	**19691 (100.0)**

Table 23 – Work productivity and impairment (%) for people working full- or part-time	Enterprise One	All services
Work time missed due to pain	20.9%	25.1%
Pain affected work productivity	57.0%	55.4%
Overall work impairment	63.6%	65.8%

The episode of care

An episode of care is a continuous period of care for a person in one pain management service. An episode begins with the first clinical contact with the patient and ends when active treatment at the pain service is completed. This section of the report provides a description of waiting time, how episodes started and ended, and the services provided to patients.

Waiting time

Wait time is measured from:

- referral to the start of the episode (i.e. the date the referral is received at the pain management service to the first clinical contact); and
- referral to the start of the first treatment pathway (i.e. the date the referral is received at the pain management service to the date that active treatment begins, e.g. a group pain program, procedure, series of individual appointments)

Table 24 – Waiting time	Enterprise One	All services
Time from referral to the start of the episode		
– average (days)	57.7	99.3
– median (days)	51.5	54.0
Time from referral to the start of the first treatment pathway		
– average (days)	92.8	166.2
– median (days)	82.0	94.0

Figure 8 – Time from referral to episode start, shown as a percent of people in each time category
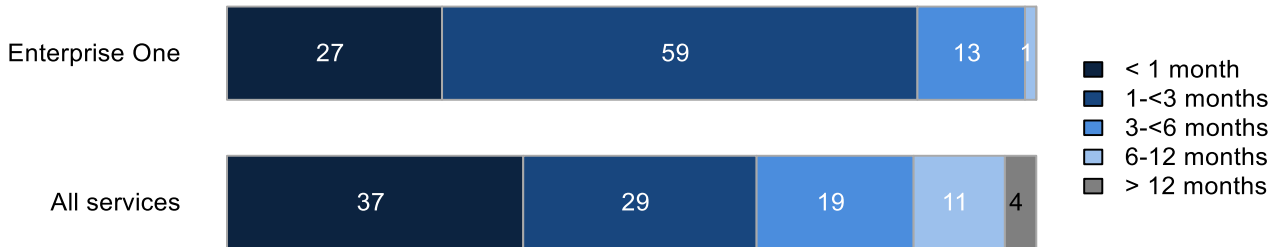
Figure 9 and Figure 10 show the position of your service compared to other pain management services based on median wait time from referral to episode start, and referral to treatment pathway start.

Figure 9 – Median number of days from referral to episode start
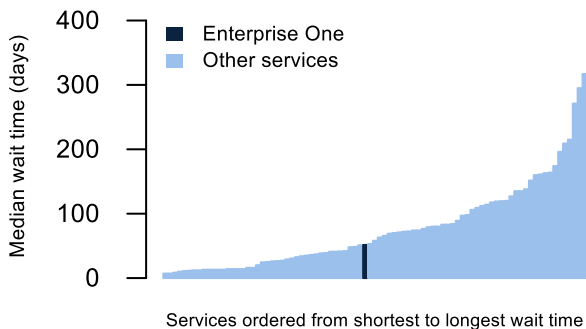
Figure 10 – Median number of days from referral to first treatment pathway
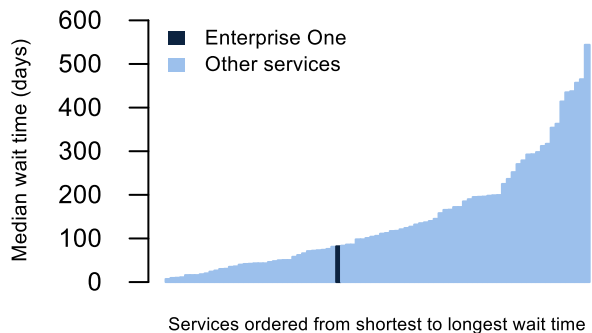
Figure 11 and Figure 12 compare the proportion of patients at your service who were seen within three months and eight weeks, compared to all services. The time series charts show change in these measures over the past five years.

Figure 11 – Indicator 1: Wait time, patients seen within 3 months – service level results and time series

Percentage of episodes started
within 3 months (92 days) of receiving referral

Enterprise One   All services
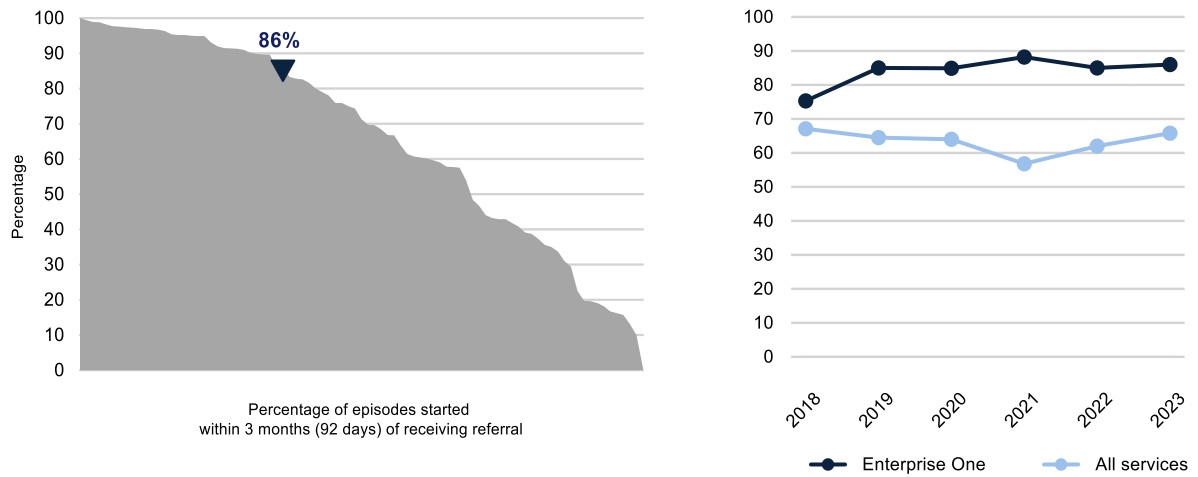
Figure 12 – Indicator 2: Wait time, patients seen within 8 weeks – service level results and time series

Percentage of episodes started
within 8 weeks (56 days) of receiving referral

Enterprise One   All services
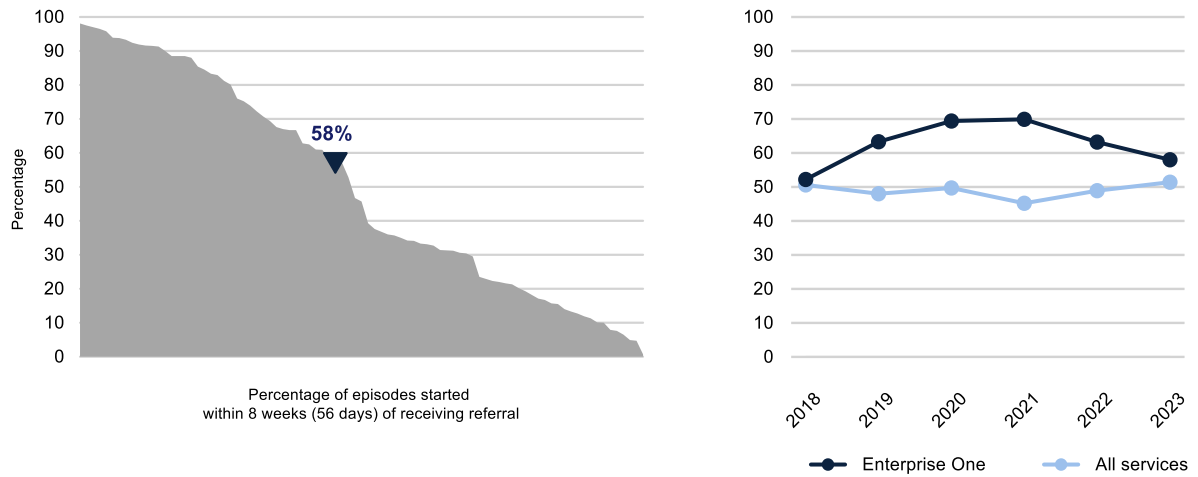
Episode start

During the period 1 January to 31 December 2023, 288 patients started an episode of care at your service.

Table 25 – How the episode started	Enterprise One		All services	
	Number	%	Number	%
Multidisciplinary assessment/treatment	215	74.7	6517	37.4
Single clinician assessment/treatment	73	25.3	6944	39.8
Education/orientation Program	0	0.0	3968	22.8
Total	**288**	**100.0**	**17429**	**100.0**

Services provided

Table 26 – Service events provided at your service (total hours)	Total hours	Via telehealth[2]
Individual appointment with ….		
– medical practitioner	1.5	0.0
– physiotherapist	8.0	1.0
– psychologist	594.8	231.0
– occupational therapist	5.5	0.0
– nurse	0.0	0.0
– one or more clinicians	130.5	0.0
– other	9.0	0.0
Multidisciplinary team assessment	0.0	0.0
Multidisciplinary panel discussion	0.0	0.0
Telephone/email consultation with patient/carer	0.0	0.0
Telephone/email consultation with another clinician	0.0	0.0
Pain management program – group	6281.0	96.0
Pain management program – individual	71.5	0.0
Procedural intervention – implant (drug delivery/refill)	0.0	0.0
– implant (neurostimulation/trial)	0.0	0.0
– non-implant (for therapeutic intent)	0.0	0.0
– cancer block	0.0	0.0
– other (for diagnostic intent)	0.0	0.0
Education/orientation program	72.0	3.0
Other	0.0	0.0
Total	**7173.8**	**331.0**

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[2] Telehealth hours are a subset of total hours

Figure 13 – Service events, percentage by type
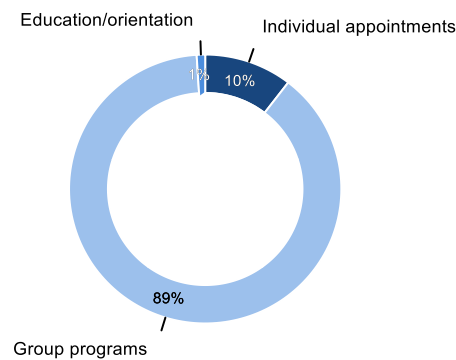
Treatment pathways

245 treatment pathways were started during the period 1 January to 31 December 2023. The number and proportion of each type are shown in Table 27.

Table 27 – Treatment pathways	Enterprise One		All services	
	Number	%	Number	%
Group pain program	122	49.8	3046	25.2
Individual appointments	98	40.0	6243	51.6
Concurrent (group and individual)	25	10.2	1942	16.0
Other	0	0.0	879	7.3
Total	**245**	**100.0**	**12110**	**100.0**

Table 28 – Average pathway length (lapsed days) by pathway type	Enterprise One	All services
Group pain program	36.1	67.3
Individual appointments	119.8	266.6
Concurrent (group and individual)	124.8	230.4
Other	-	122.6

Episode end

During this period, 146 patients completed an episode of care at your service.

Table 29 – How the episode ended	Enterprise One		All services	
	Number	%	Number	%
Treatment complete – self management/referral to primary care	125	85.6	6470	57.9
Referral to another pain service	1	0.7	257	2.3
Patient discontinued by choice	15	10.3	2110	18.9
Died	0	0.0	35	0.3
Active treatment complete – ongoing review	4	2.7	1372	12.3
Lost to contact/Not to follow-up	1	0.7	900	8.1
Other	0	0.0	35	0.3
Total	**146**	**100.0**	**11179**	**100.0**

Table 30 – Length of the episode (lapsed days)	Enterprise One	All services
Average	116.2	291.3
Median	31.0	197.0

Table 31 – Length of the episode (lapsed days) distribution	Enterprise One		All services	
	Number	%	Number	%
Less than 1 month	4	2.7	1328	11.9
1 to 2 months	77	52.7	833	7.5
3 to 6 months	37	25.3	2981	26.7
7 to 9 months	12	8.2	1630	14.6
10 to 12 months	10	6.8	1780	15.9
More than 12 months	6	4.1	2627	23.5
Total	**146**	**100.0**	**11179**	**100.0**

Table 32 shows the average service events (total and by type) delivered for an episode of care.

Table 32 – Service duration (average hours)	Enterprise One		All services	
	Total	Telehealth	Total	Telehealth
Individual appointment with … – medical practitioner	0.0	0.0	1.1	0.2
– physiotherapist	0.0	0.0	2.2	0.1
– psychologist	1.2	0.4	1.1	0.2
– occupational therapist	0.1	0.0	0.5	0.0
– nurse	0.0	0.0	0.2	0.0
– one or more clinicians	0.8	0.0	0.2	0.0
– other	0.0	0.0	0.3	0.0
Multidisciplinary team assessment	0.0	0.0	0.4	0.0
Multidisciplinary panel discussion	0.0	0.0	0.1	0.0
Telephone/email consultation with patient/carer	0.0	0.0	0.1	0.0
Telephone/email consultation with another clinician	0.0	0.0	0.0	0.0
Pain management program – group	44.9	0.9	9.4	0.6
Pain management program – individual	0.7	0.0	0.4	0.0
Procedural intervention – implant (drug delivery/refill)	0.0	0.0	0.0	0.0
– implant (neurostimulation/trial)	0.0	0.0	0.0	0.0
– non-implant (for therapeutic intent)	0.0	0.0	0.0	0.0
– cancer block	0.0	0.0	0.0	0.0
– other (for non-therapeutic intent)	0.0	0.0	0.2	0.0
Education/orientation program	0.4	0.1	0.7	0.1
Other	0.0	0.0	0.1	0.0
Total	**48.1**	**1.4**	**17.0**	**1.5**

Patient outcomes at the end of the episode

During the period 1 January to 31 December 2023, 123of your patients completed an ePPOC questionnaire at the end of their episode of care. This section shows the outcomes for these patients, reported as change from referral to the end of the episode.

Patient impression of change

The ePPOC Patient Impression of Change (ePIC) tool (formerly referred to as the global rating of change) captures the person's perception about how their condition has changed (both overall and in respect to physical functioning) compared to before receiving treatment at the pain service.

Figure 14 – Patient impression of change at episode end
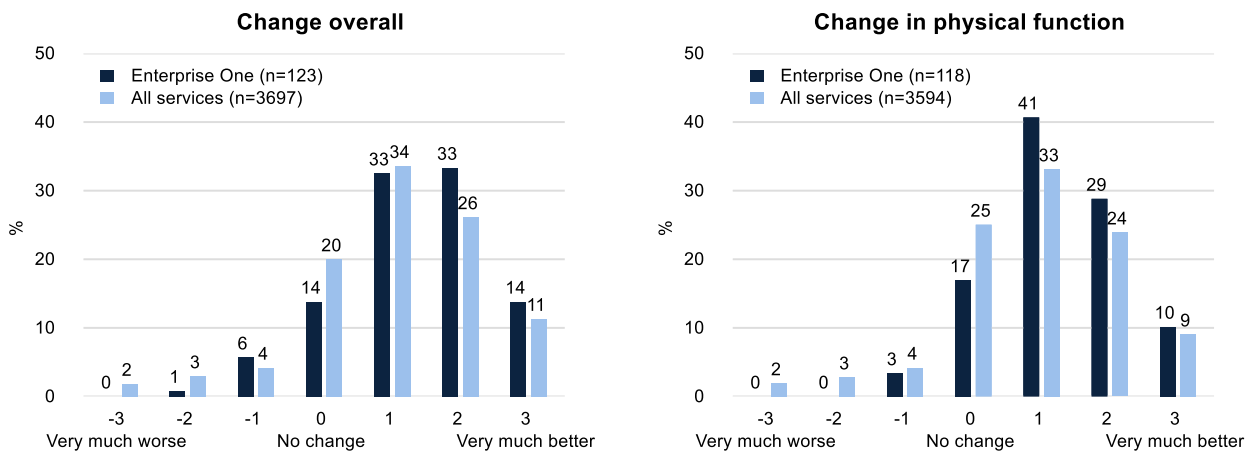
79.7% of these patients reported making at least some overall improvement[3], and 79.7% reported an improvement in their physical abilities (71% and 66.1% at all services – see Figure 14).

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[3] The sum of responses 1, 2 and 3

Pain

Pain severity

The severity of pain is measured using the Brief Pain Inventory (BPI). Average scores on the BPI at referral and at episode end are shown in Table 33. The proportion of people in each severity category at referral and episode end is shown in Figure 15.

Table 33 – Pain at referral and episode end	Enterprise One n = 110		All services n = 3453	
	Referral	Episode end	Referral	Episode end
Pain severity	5.2	4.4	6.0	5.0
- Worst pain	7.3	6.3	7.8	6.7
- Least pain	3.3	2.7	4.3	3.5
- Average pain	5.3	4.3	5.9	5.0
- Pain now	4.9	4.2	5.9	4.8

Figure 15 – 'Average pain' severity categories at referral and episode end
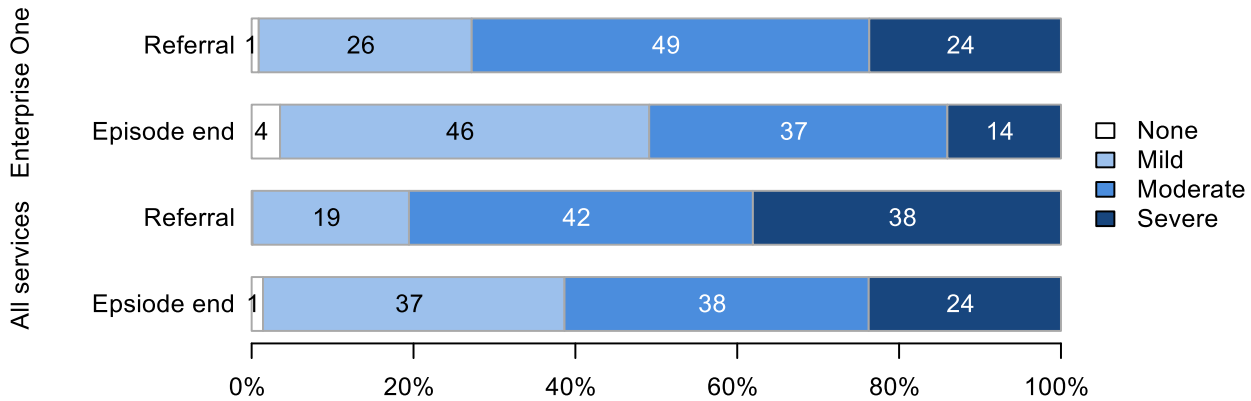
Figure 16 – Average pain benchmark, profile of service level results and time series

Percentage of patients with at least moderate 'average pain' at referral who made a clinically significant improvement at episode end
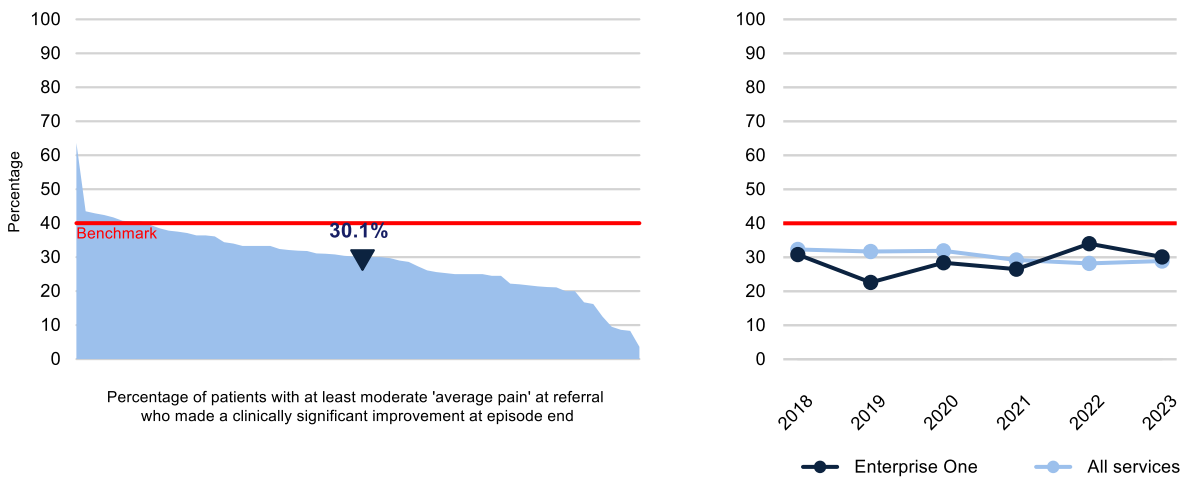
The benchmark chart above (see Appendix C for tips on interpretation) shows the percentage of patients reporting moderate or worse pain at referral who made a clinically significant improvement at episode end.	Enterprise One: 25 of 83 (30.1%) All services: 831 of 2876 (28.9%)

Pain interference

The interference of pain in activities is measured using the Brief Pain Inventory (BPI). Average scores on the BPI at referral and episode end are shown in Table 34. The proportion of people in each severity category at referral and episode end is shown in Figure 17.

Table 34 – Pain interference at referral and episode end	Enterprise One n = 119		All services n = 3658	
	Referral	Episode end	Referral	Episode end
Pain Interference	6.0	4.5	6.8	5.2

Figure 17 – Pain interference severity categories at referral and episode end
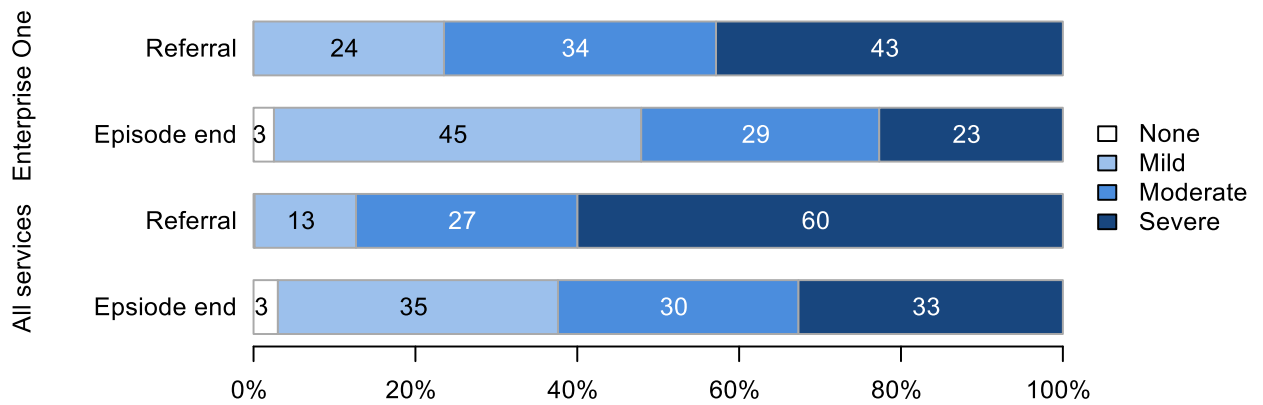
Figure 18 – Pain interference benchmark, profile of service level results and time series
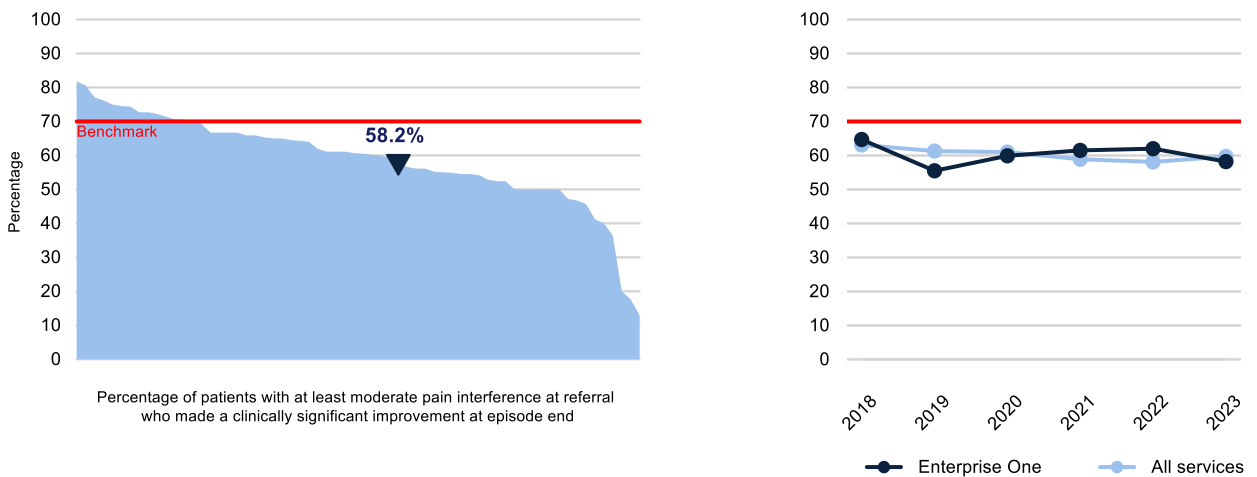
Percentage of patients with at least moderate pain interference at referral who made a clinically significant improvement at episode end

| The benchmark chart above shows the percentage of patients reporting moderate or worse pain interference at referral who made a clinically significant improvement at episode end. | Enterprise One: 53 of 91 (58.2%)

All services: 1909 of 3195 (59.7%) |
|---|---|

Pain frequency

Table 35 and Figure 19 report the percent of patients reporting the frequency at which pain is experienced, at referral and at the end of the episode.

Table 35 – Pain frequency at referral and episode end (%)	Enterprise One n = 116		All services n = 3546	
	Referral	Episode end	Referral	Episode end
Always present (same intensity)	2.6	4.3	10.0	6.3
Always present (varying intensity)	75.9	56.0	75.0	60.0
Often present	14.7	19.8	11.3	16.0
Occasionally present	5.2	11.2	2.9	10.7
Rarely present	1.7	8.6	0.8	6.4
Pain no longer present	0.0	0.0	0.0	0.6
Total	**100.0**	**100.0**	**100.0**	**100**

Figure 19 – Pain frequency – distribution at referral and episode end
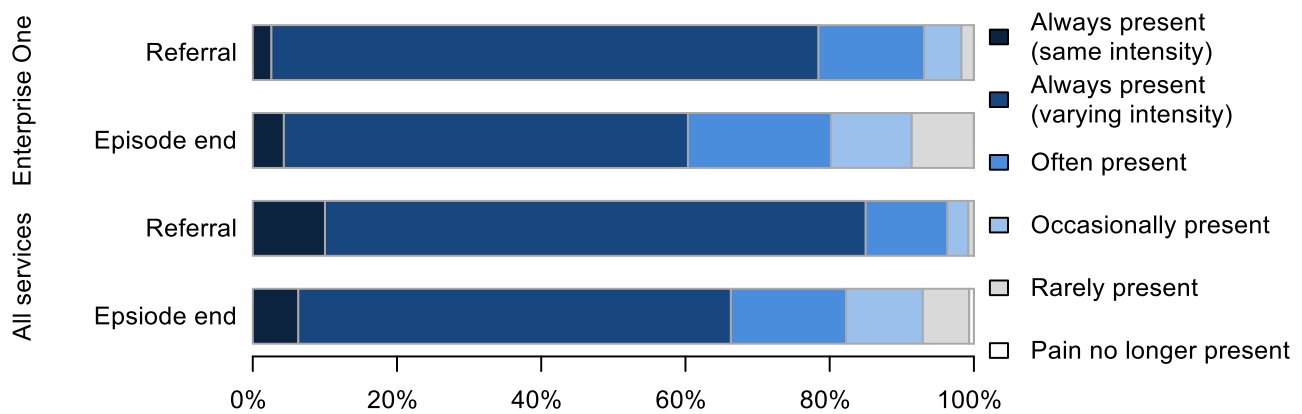
Depression

Depression is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average depression scores at referral and episode end are shown in Table 36. The proportion of people in each severity category at referral and episode end is shown in Figure 20.

Table 36 – Depression at referral and episode end	Enterprise One n = 119		All services n = 3605	
	Referral score	Episode end	Referral score	Episode end
Depression	15.4	11.4	18.0	13.2

Figure 20 – Depression severity categories at referral and episode end
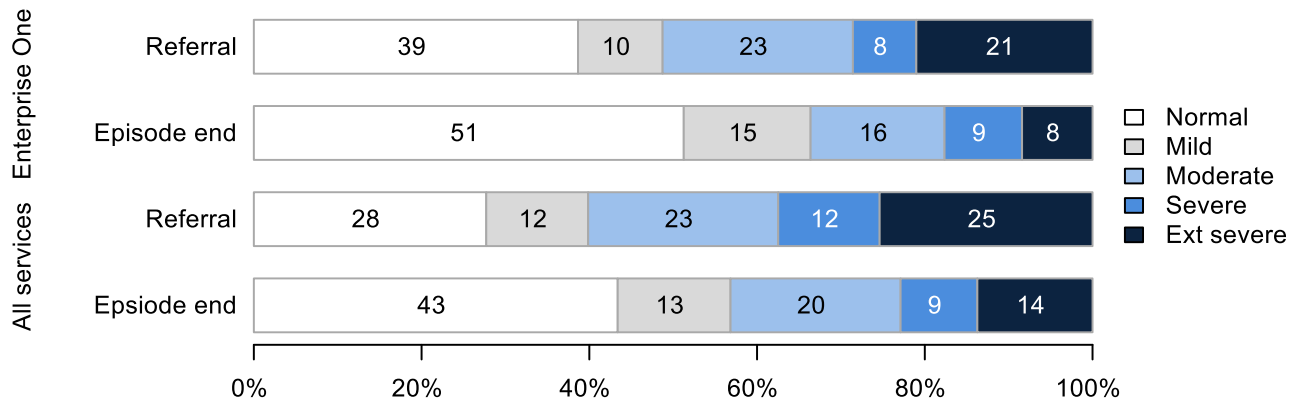
Figure 21 – Depression benchmark, profile of service level results and time series

Percentage of patients with at least moderate depression at referral who made a clinically significant improvement at episode end
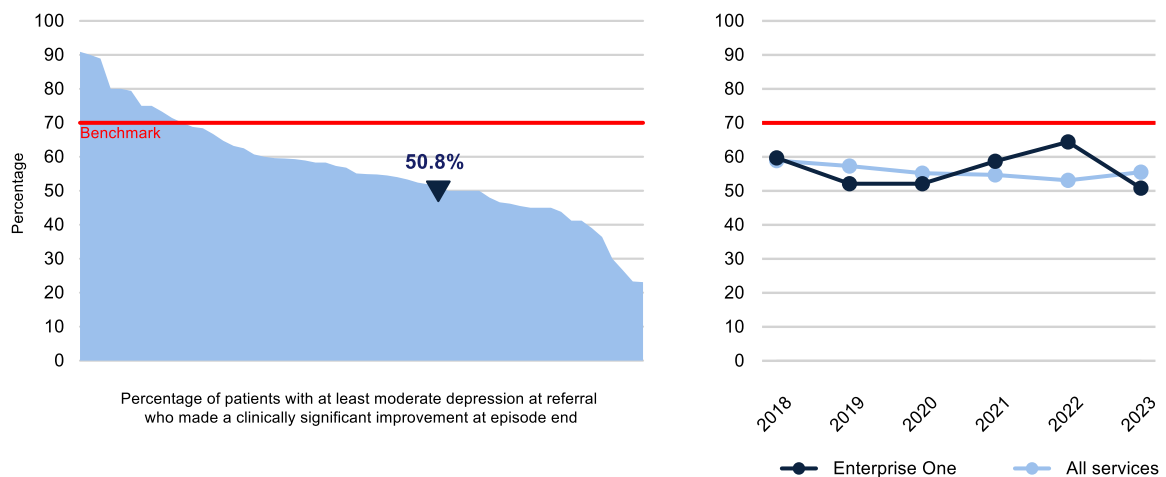
The benchmark chart above shows the percentage of patients reporting moderate or worse depression at referral who made a clinically significant improvement at episode end.	Enterprise One: 31 of 61 (50.8%) All services: 1203 of 2168 (55.5%)

Anxiety

Anxiety is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average anxiety scores at referral and episode end are shown in Table 37. The proportion of people in each severity category at referral and episode end is shown in Figure 22.

Table 37 – Anxiety at referral and episode end	Enterprise One n = 118		All services n = 3599	
	Referral score	Episode end	Referral score	Episode end
Anxiety	9.7	8.5	12.0	10.0

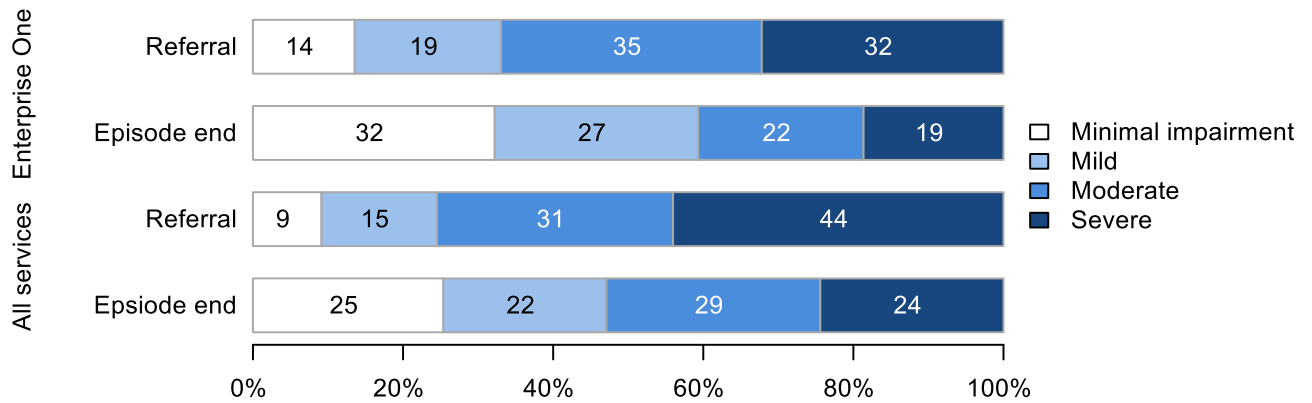**Figure 22 – Anxiety severity categories at referral and episode end**
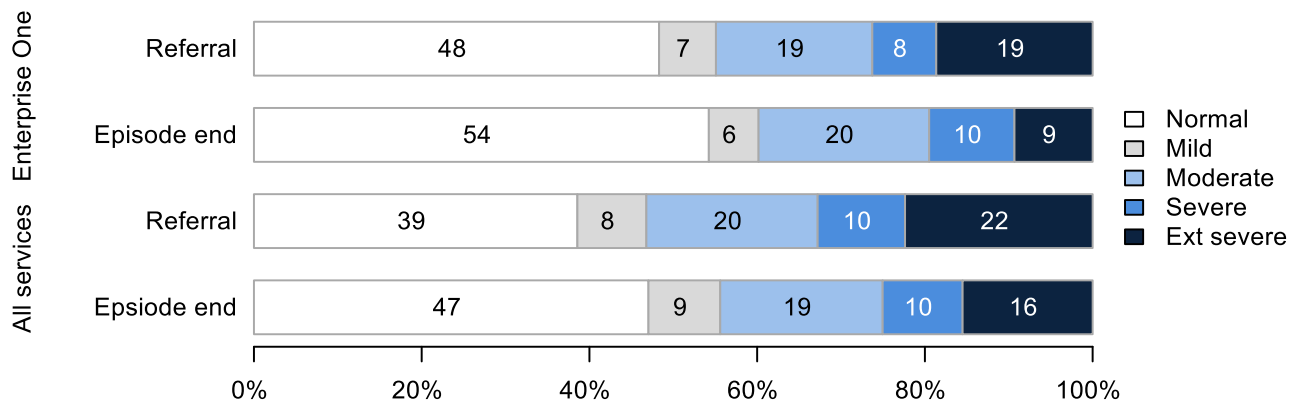
**Figure 23 – Anxiety benchmark, profile of service level results and time series**
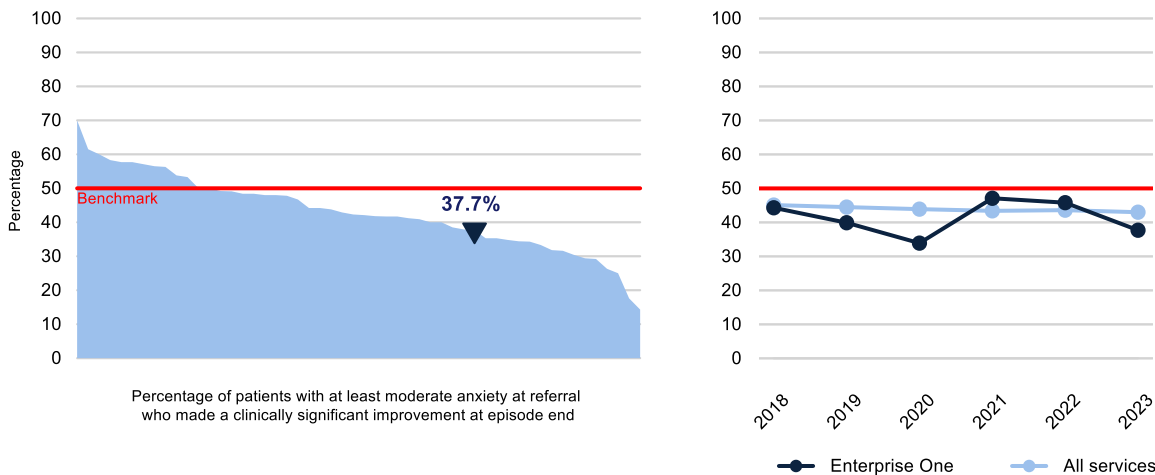
The benchmark chart above shows the percentage of patients reporting moderate or worse anxiety at referral who made a clinically significant improvement at episode end.	Enterprise One: 20 of 53 (37.7%) All services: 824 of 1915 (43.0%)

Stress

Stress is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average stress scores at referral and episode end are shown in Table 38. The proportion of people in each severity category at referral and episode end is shown in Figure 24.

Table 38 – Stress at referral and episode end	Enterprise One n = 118		All services n = 3600	
	Referral score	Episode end	Referral score	Episode end
Stress	17.3	14.6	19.2	15.5

Figure 24 – Stress severity categories at referral and episode end
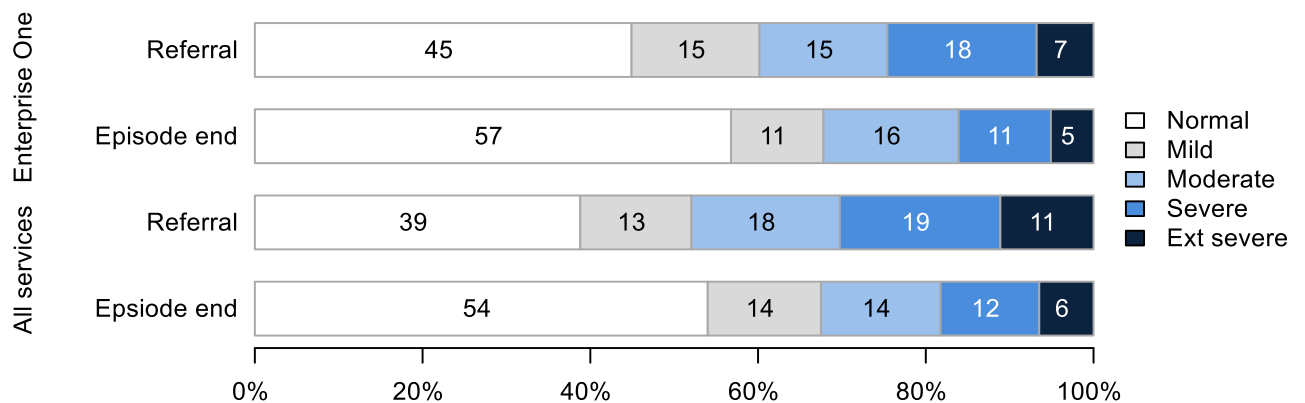
**Figure 25 – Stress benchmark, profile of service level results and time series**
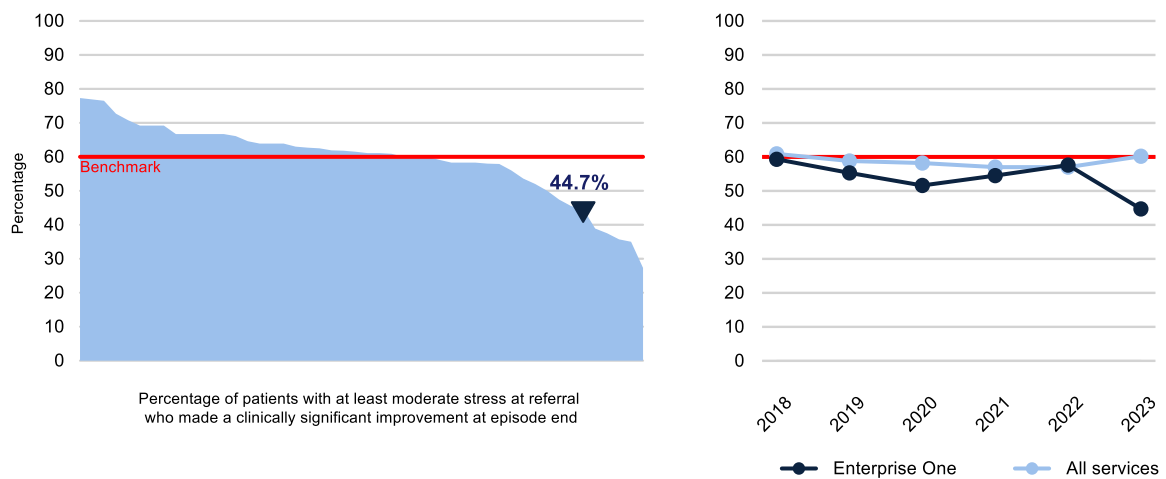
The benchmark chart above shows the percentage of patients reporting moderate or worse stress at referral who made a clinically significant improvement at episode end.	Enterprise One: 21 of 47 (44.7%) All services: 1039 of 1726 (60.2%)

Pain catastrophising

Pain catastrophising is measured using the Pain Catastrophising Scale. Average subscale and total scores at referral and episode end are shown in Table 39. The proportion of people in each severity category at referral and episode end is shown in Figure 26.

Table 39 – Pain catastrophising at referral and episode end	Enterprise One n = 119		All services n = 3592	
	Referral score	Episode end	Referral score	Episode end
Total score	21.8	15.2	26.4	18.6
- Rumination	7.5	5.3	8.9	6.3
- Magnification	4.2	3.1	5.3	3.8
- Helplessness	10.2	6.9	12.3	8.4

Figure 26 – Pain catastrophising severity categories at referral and episode end
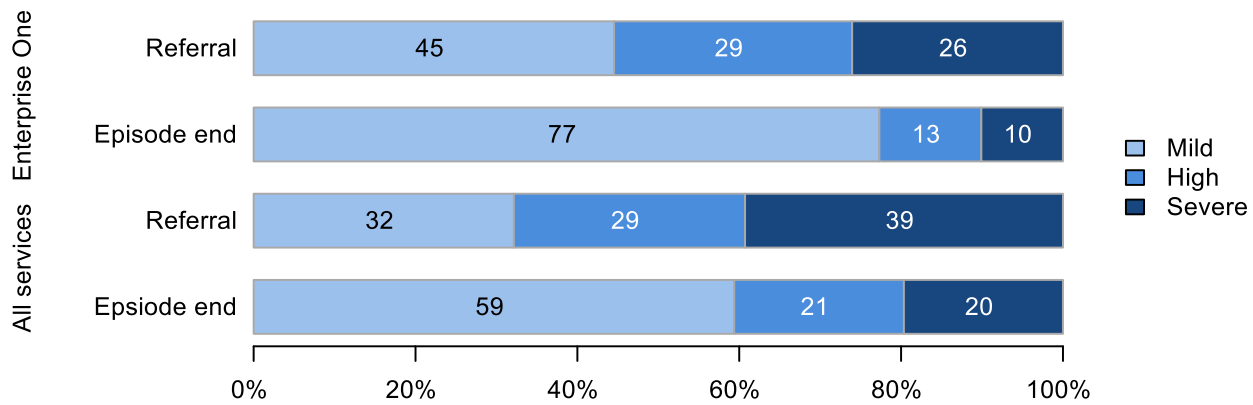
Figure 27 – Pain catastrophising benchmark, profile of service level results and time series
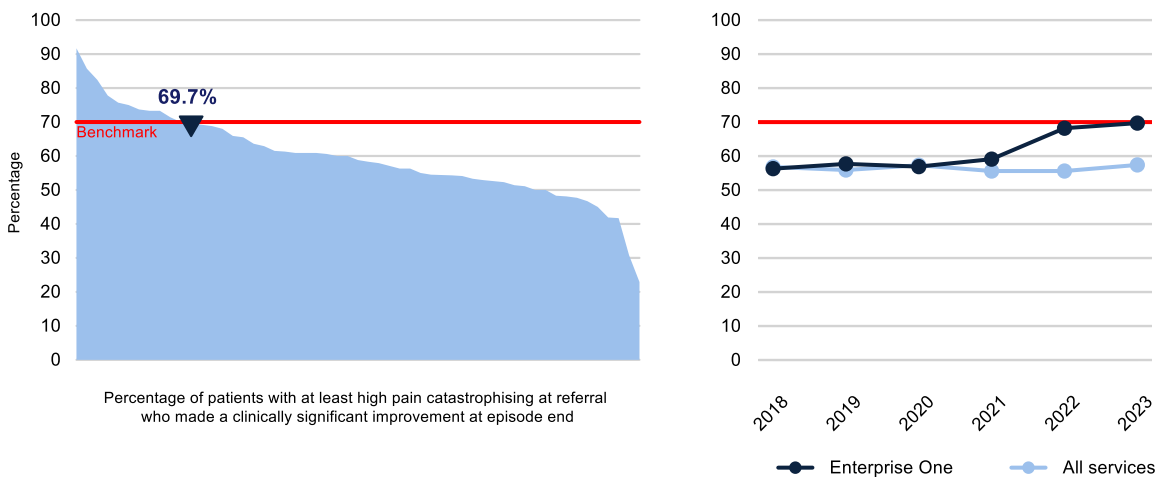
Percentage of patients with at least high pain catastrophising at referral who made a clinically significant improvement at episode end

The benchmark chart above shows the percentage of patients reporting moderate or worse pain catastrophising at referral who made a clinically significant improvement at episode end.	Enterprise One: 46 of 66 (69.7%) All services: 1400 of 2437 (57.4%)

Pain self-efficacy

Pain self-efficacy is measured using the Pain Self-Efficacy Questionnaire. Average scores at referral and episode end are shown in Table 40. The proportion of people in each severity category at referral and episode end is shown in Figure 28.

Table 40 – Self-efficacy at referral and episode end	Enterprise One n = 118		All services n = 3614	
	Referral score	Episode end	Referral score	Episode end
Pain self-efficacy	25.8	32.6	22.4	30.1

Figure 28 – Pain self-efficacy severity categories at referral and episode end

Figure 29 – Pain self-efficacy benchmark, profile of service level results and time series
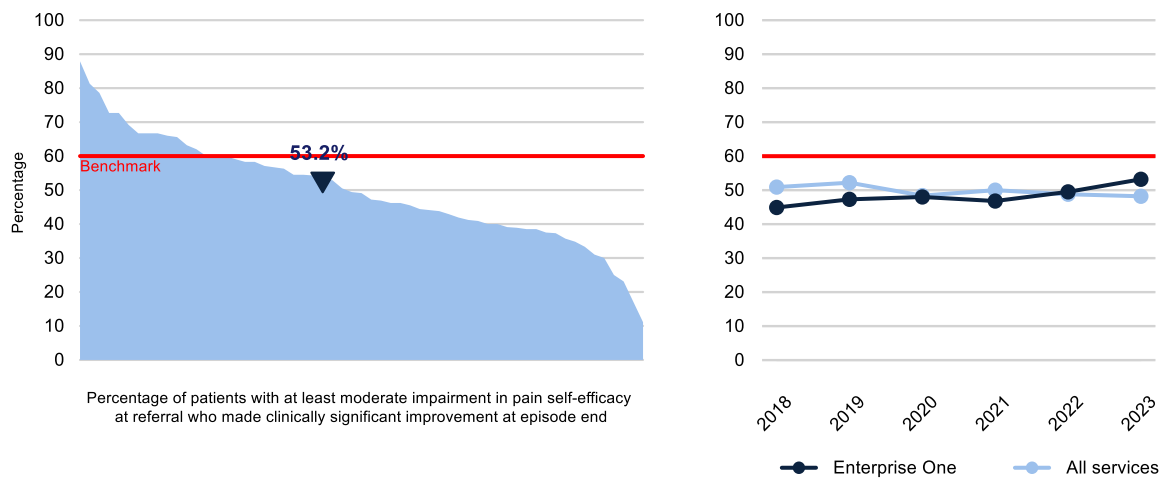
Percentage of patients with at least moderate impairment in pain self-efficacy at referral who made clinically significant improvement at episode end

The benchmark chart above shows the percentage of patients reporting moderate or worse pain self-efficacy at referral who made a clinically significant improvement at episode end.	Enterprise One: 42 of 79 (53.2%) All services: 1314 of 2728 (48.2%)

Medication use

The following information relates to the patients who completed an episode, and for whom medication information was recorded. Figure 30 shows the change in use of the main types of drugs from referral to episode end for these patients.

Figure 30 – Medication use by drug type at referral and episode end
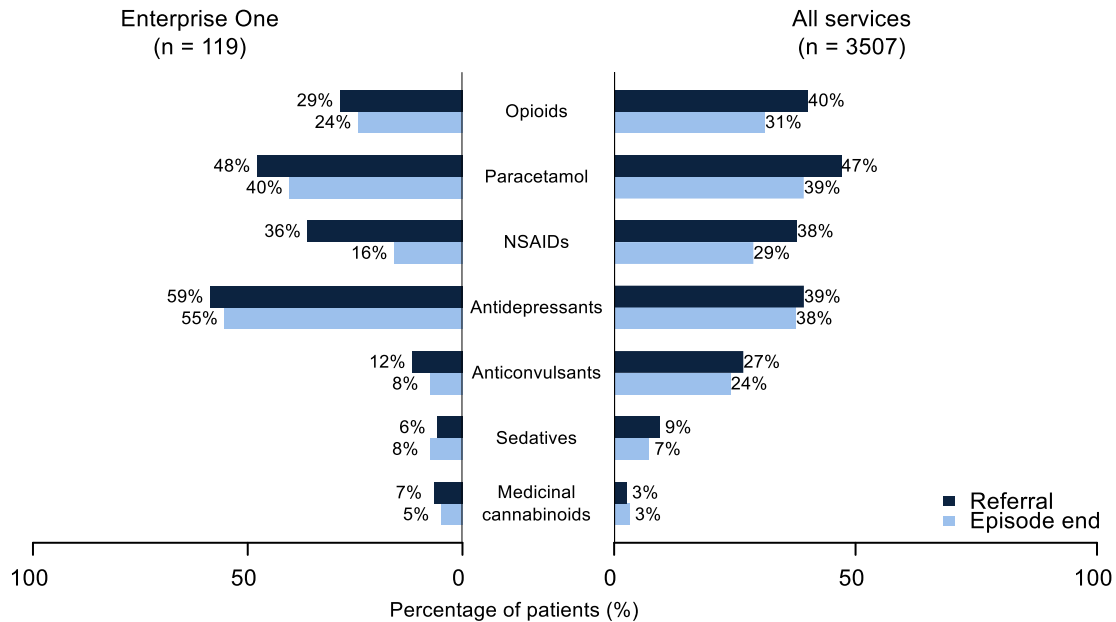
For the patients who were taking opioid medication at referral, the average and median oMEDD at referral and at the end of the episode is shown in Table 41. Table 42 shows change in the frequency of use of opioid medications.

Table 41 – oMEDD at referral and episode end	Enterprise One n = 34		All services n = 1295	
	Referral	Episode end	Referral	Episode end
Average (mg)	22.0	20.9	34.7	21.8
Median (mg)	13.5	11.0	22.0	7.8

Table 42 – Frequency of use of opioid medication	Enterprise One		All services	
	Referral	Episode end	Referral	Episode end
Using opioids >2 days per week (%)	21.0	19.3	34.6	26.2

Figure 31 – Opioid use benchmark (all doses), profile of service level results and time series

Percentage of patients taking opioids (oMEDD > 0mg) at referral
who report a reduction in their oMEDD of at least 50% at episode end
(NB. The benchmark has been raised to 60% from the 2022 mid-year report onwards)

38.2%
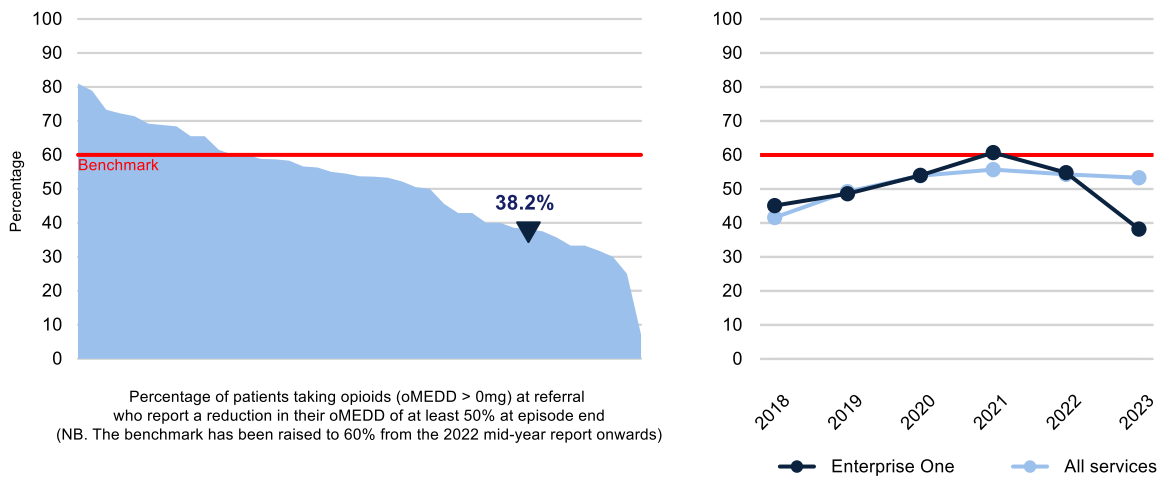
The benchmark chart above shows the percentage of patients taking opioid medications at referral who reported a reduction in their oMEDD of at least 50% at episode end.	Enterprise One: 13 of 34 (38.2%) All services: 690 of 1295 (53.3%)

Figure 32 – Opioid use benchmark (high dose), profile of service level results and time series

Percentage of patients on 40mg or more oMEDD at referral
who report a reduction of at least 50% at episode end
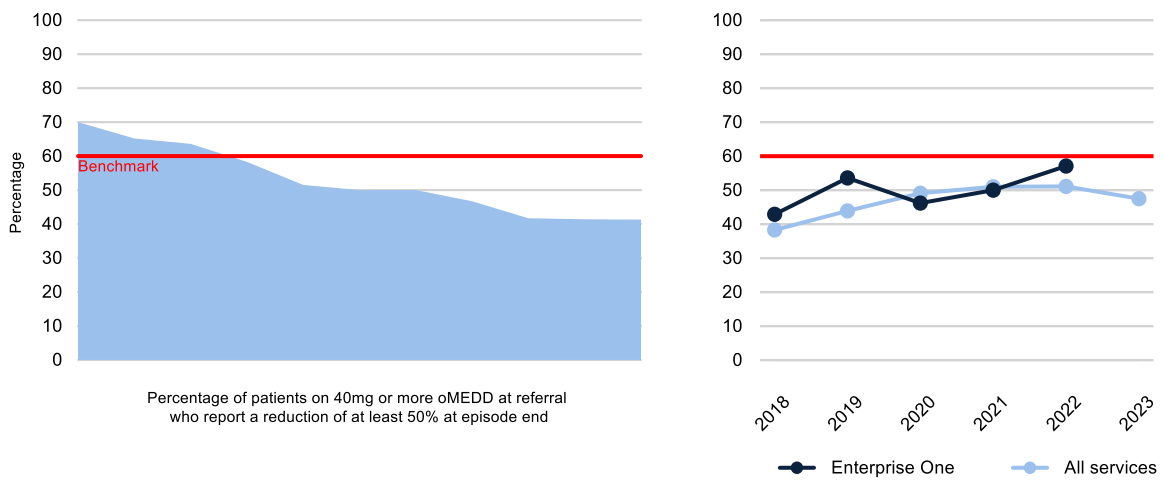
The benchmark chart above shows the percentage of patients with an oMEDD of 40mg or more at referral who reported a reduction of at least 50% at episode end.	Enterprise One: 2 of 6 (33.3%) All services: 205 of 432 (47.5%)

Work status and productivity

The following information relates to the patients who completed an episode and reported work status and productivity information. Table 43 shows the work status for these patients at referral and episode end.

Table 43 – Work status at referral and episode end	Enterprise One n (%)		All services n (%)	
	Referral	Episode end	Referral	Episode end
Working full-time	26 (23.2)	26 (23.2)	568 (17.6)	495 (15.3)
Working part-time	30 (26.8)	33 (29.5)	516 (16.0)	554 (17.2)
Unable to work due to pain	38 (33.9)	33 (29.5)	1305 (40.4)	1234 (38.2)
Unable to work due to a condition other than pain	9 (8.0)	9 (8.0)	393 (12.2)	409 (12.7)
Not working by choice	9 (8.0)	10 (8.9)	402 (12.5)	426 (13.2)
Seeking employment	0 (0.0)	1 (0.9)	43 (1.3)	109 (3.4)
Total	**112 (100.0)**	**112 (100.0)**	**3227 (100.0)**	**3227 (100.0)**

For the patients who reported that they were working full- or part-time at referral and episode end, additional information relating to work hours missed due to pain and lost productivity while at work was collected (Table 44).

Table 44 – Work productivity and impairment (%) for patients working full- or part-time	Enterprise One		All services	
	Referral	Episode end	Referral	Episode end
Work time missed due to pain	25.2	19.7	34.0	25.6
Pain affected work productivity	55.6	39.4	45.5	34.3
Overall work impairment	62.8	44.0	65.3	52.5

Health service utilisation

Table 45 reports the average number of times patients used each health service type in the last three months for pain-related reasons.

Table 45 – Pain-related health service use in the past 3 months, reported at referral and episode end	Enterprise One		All services	
	Referral	Episode end	Referral	Episode end
General practitioner	3.1	2.5	3.6	2.4
Medical specialist	1.3	1.1	1.2	0.8
Other health professionals	7.6	5.1	5.8	4.7
Emergency department presentations	0.2	0.1	0.3	0.2
Hospital admissions	0.1	0.0	0.1	0.1
Diagnostic tests	0.8	0.6	1.2	0.6

Patient outcomes at post-episode follow-up

During the period 1 January to 31 December 2023, 41 of your patients completed a post-episode follow-up ePPOC questionnaire three to six months after the end of their episode of care.

Patient impression of change

The ePPOC Patient Impression of Change (ePIC) tool (formerly referred to as the global rating of change) captures the person's perception about how their condition has changed (both overall and in respect to physical functioning) compared to before receiving treatment at the pain service.

Figure 33 – Patient impression of change at post-episode follow-up
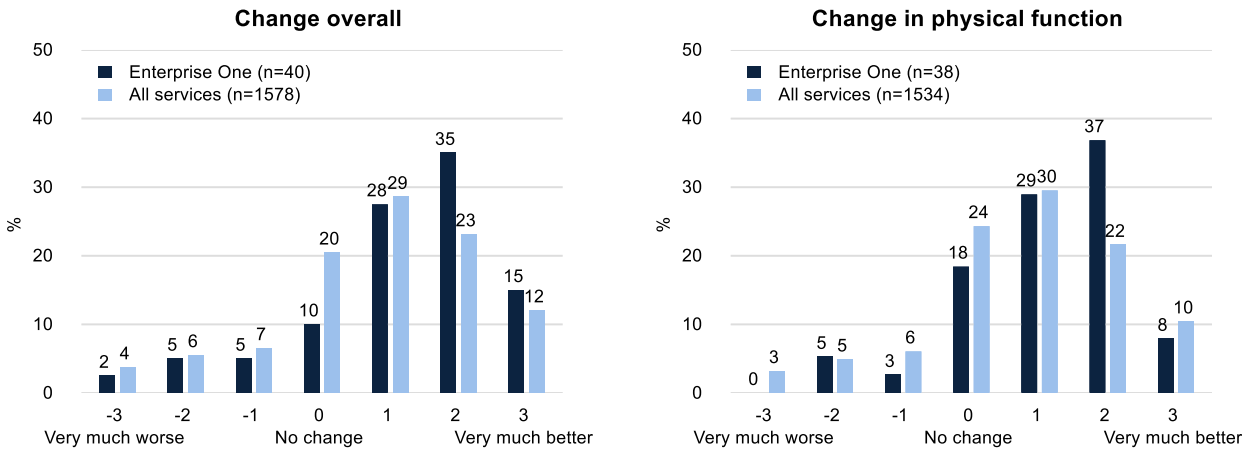
77.5% of these patients reported making at least some overall improvement[4], and 73.7% reported an improvement in their physical abilities (63.8% and 61.5% for all services – see Figure 33).

The following information in this section reports change from referral to episode end and post-episode follow-up for the patients who completed questionnaires at all three time points.

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[4] The sum of responses 1, 2, and 3.

Pain

Pain severity

Pain severity is measured using the Brief Pain Inventory (BPI). Average scores on the BPI at referral, episode end and post-episode follow-up are shown in Table 46. The proportion of people in each severity category at each time point is shown in Figure 34.

Table 46 – Pain severity at referral, episode end and post-episode follow-up	Enterprise One n = 38			All services n = 1186		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Pain severity	5.3	3.6	4.2	6.0	4.9	4.9
- Worst pain	7.6	5.6	6.2	7.7	6.6	6.6
- Least pain	3.6	2.1	2.8	4.3	3.5	3.5
- Average pain	5.2	3.6	4.1	6.0	4.9	4.8
- Pain now	5.0	3.2	3.8	5.9	4.7	4.6

Figure 34 – Average pain category at referral, episode end and post-episode follow-up
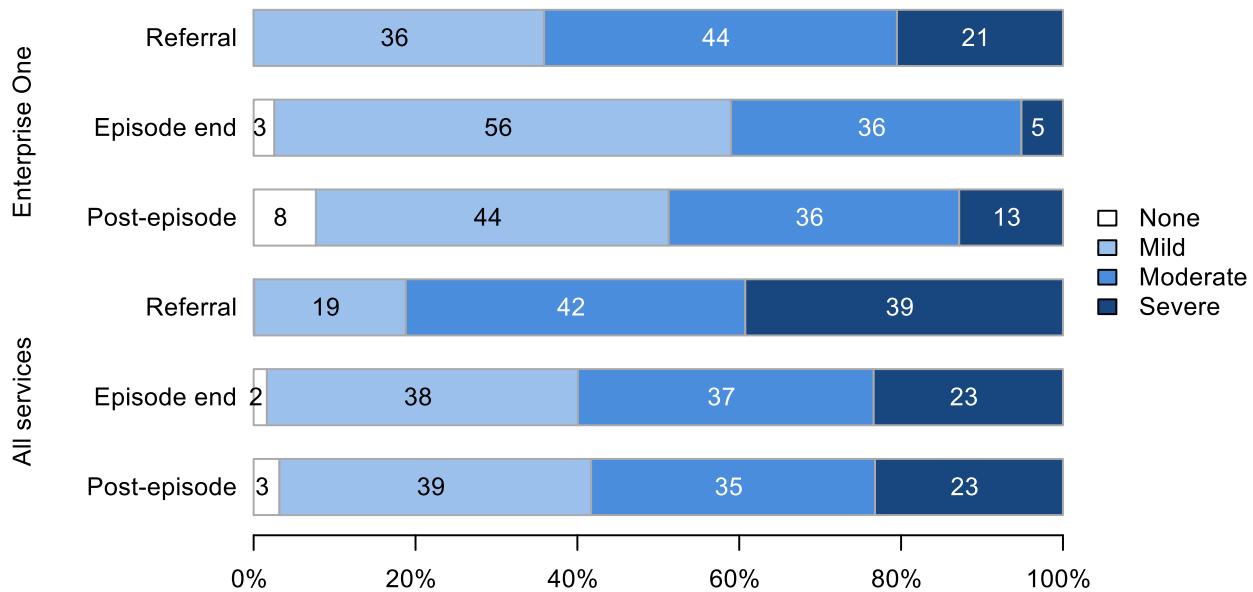
Table 47 – Proportion of patients making clinically significant improvement in average pain	Episode end	Post-episode
Enterprise One	12 (48.0%)	12 (48.0%)
All services	308 (31.0%)	335 (33.7%)

Pain interference

The interference of pain in activities is measured using the Brief Pain Inventory (BPI). Average scores on the BPI at referral, episode end and post-episode follow-up are shown in Table 48. The proportion of people in each severity category at each time point is shown in Figure 35.

Table 48 – Pain interference at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1264		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Pain interference	6.1	3.8	4.7	6.7	5.0	5.0

Figure 35 – Pain interference severity category at referral, episode end and post-episode follow-up
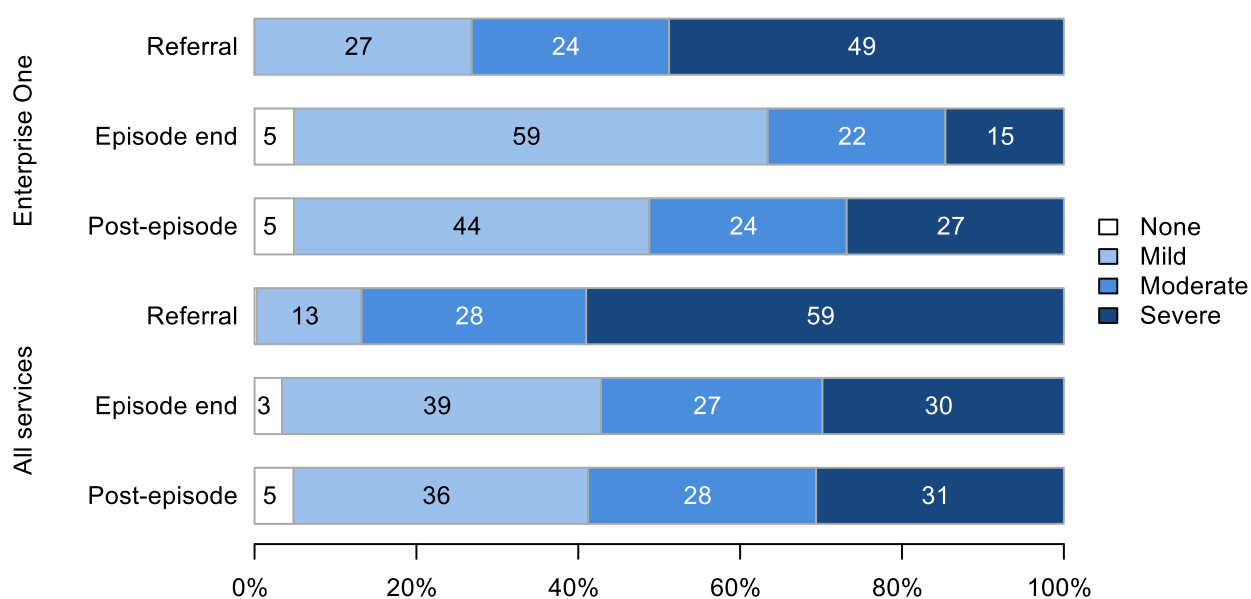
Table 49 – Proportion of patients making clinically significant improvement in pain interference	Episode end	Post-episode
Enterprise One	22 (73.3%)	21 (70.0%)
All services	691 (63.0%)	678 (61.8%)

Pain frequency

Table 50 and Figure 36 report the percent of patients reporting the frequency at which pain is experienced at referral, end of the episode and post-episode follow-up.

Table 50 – Pain frequency at referral, episode end and post-episode follow-up	Enterprise One n = 40			All services n = 1243		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Always present (same intensity)	2.5	0.0	2.5	10.0	6.3	7.2
Always present (varying intensity)	82.5	50.0	55.0	75.6	59.5	54.9
Often present	10.0	10.0	22.5	10.3	15.4	16.4
Occasionally present	5.0	20.0	10.0	3.2	11.6	11.7
Rarely present	0.0	20.0	10.0	0.9	6.7	8.4
Pain no longer present	0.0	0.0	0.0	0.0	0.6	1.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Figure 36 – Pain frequency at referral, episode end and post-episode follow-up
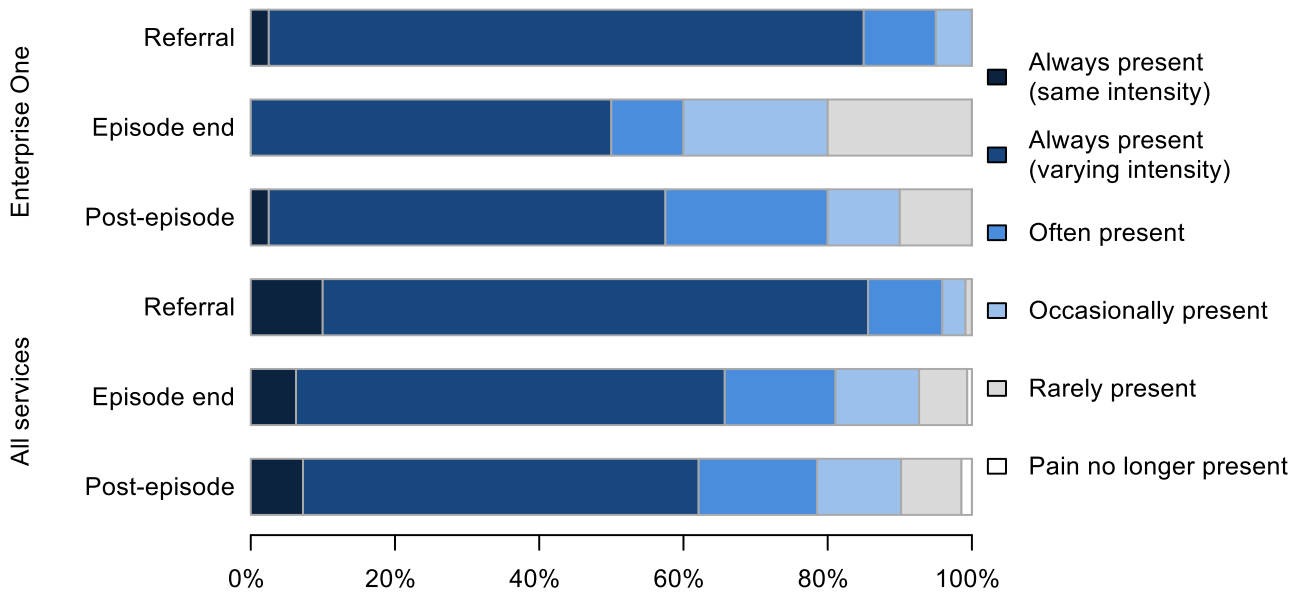
Depression

Depression is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average depression scores at referral, episode end and post-episode follow-up are shown in Table 51. The proportion of people in each severity category at each time point is shown in Figure 37.

Table 51 – Depression at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1246		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Depression	15.5	9.5	11.7	18.1	12.7	13.3

Figure 37 – Depression severity category at referral, episode end and post-episode follow-up
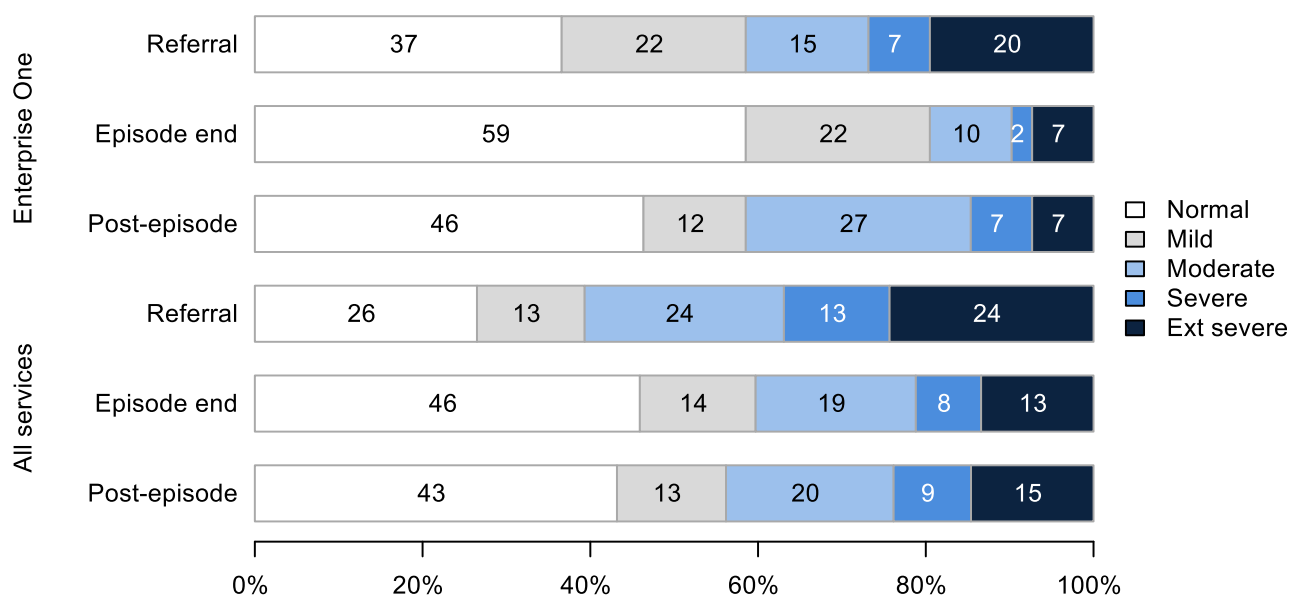
Table 52 – Proportion of patients making clinically significant improvement in depression	Episode end	Post-episode
Enterprise One	12 (70.6%)	12 (70.6%)
All services	447 (59.1%)	425 (56.2%)

Anxiety

Anxiety is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average anxiety scores at referral, episode end and post-episode follow-up are shown in Table 53. The proportion of people in each severity category at each time point is shown in Figure 38.

Table 53 – Anxiety at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1241		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Anxiety	10.3	6.7	8.4	11.8	9.3	9.7

Figure 38 – Anxiety severity category at referral, episode end and post-episode follow-up
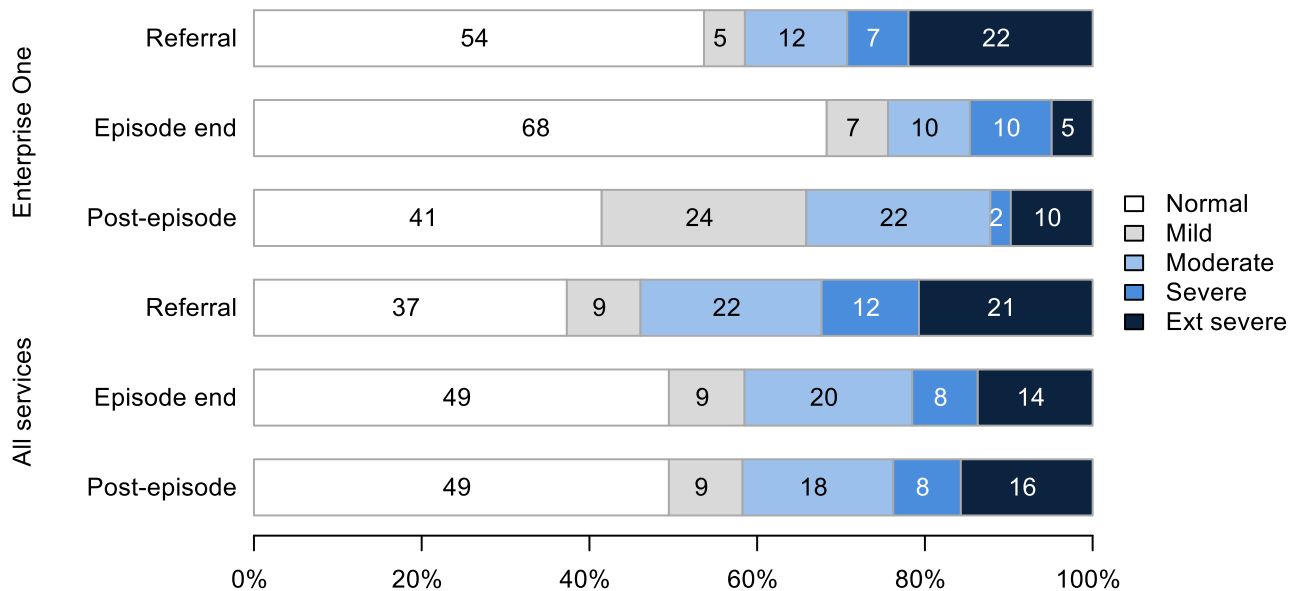
Table 54 – Proportion of patients making clinically significant improvement in anxiety	Episode end	Post-episode
Enterprise One	9 (52.9%)	11 (64.7%)
All services	319 (47.7%)	299 (44.7%)

Post-episode outcomes

Stress

Stress is measured using the Depression, Anxiety and Stress Scale (DASS 21). Average stress scores at referral, episode end and post-episode follow-up are shown in Table 55. The proportion of people in each severity category at each time point is shown in Figure 39.

Table 55 – Stress at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1244		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Stress	18.0	12.6	14.7	19.2	15.0	15.2

Figure 39 – Stress severity category at referral, episode end and post-episode follow-up
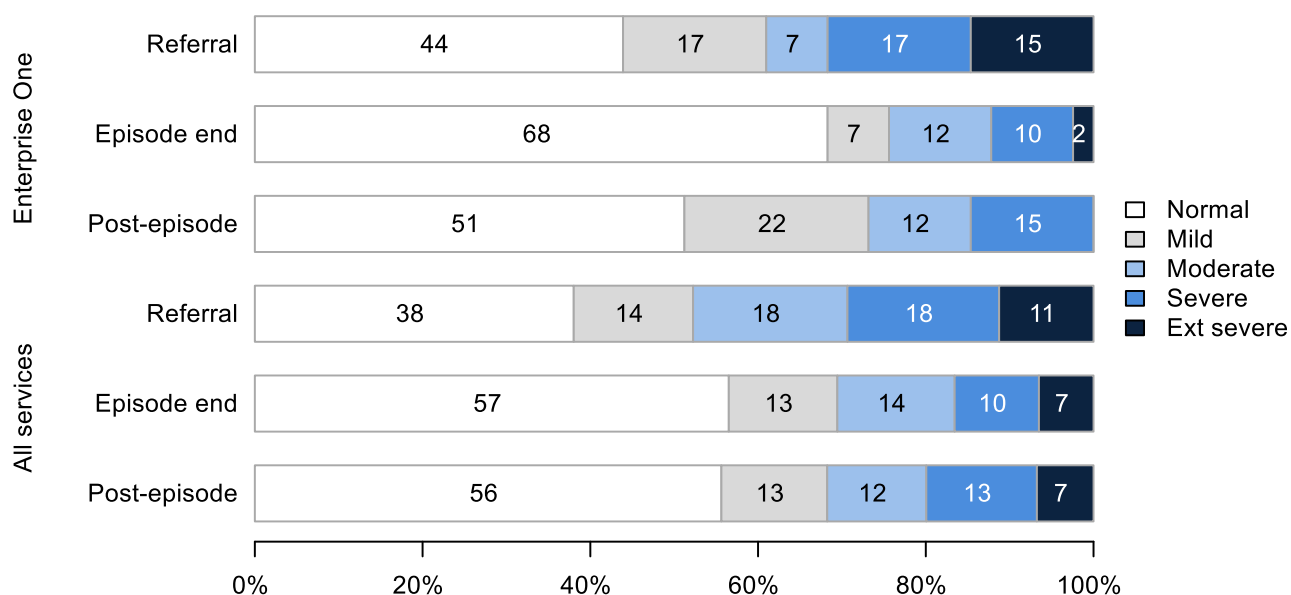
Table 56 – Proportion of patients making clinically significant improvement in stress	Episode end	Post-episode
Enterprise One	11 (68.8%)	10 (62.5%)
All services	374 (63.0%)	366 (61.6%)

Post-episode outcomes

Pain catastrophising

Pain catastrophising is measured using the Pain Catastrophising Scale. Average subscale and total scores at referral, episode end and post-episode follow-up are shown in Table 57. The proportion of people in each severity category at each time point is shown in Figure 40.

Table 57 – Pain catastrophising at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1233		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Total score	24.5	12.2	16.0	26.6	17.9	17.8
- Rumination	8.3	4.2	5.4	8.9	6.1	6.0
- Magnification	5.3	2.8	3.7	5.3	3.6	3.6
- Helplessness	11.0	5.3	6.9	12.4	8.1	8.2

Figure 40 – Pain catastrophising severity category at referral, episode end and post-episode follow-up
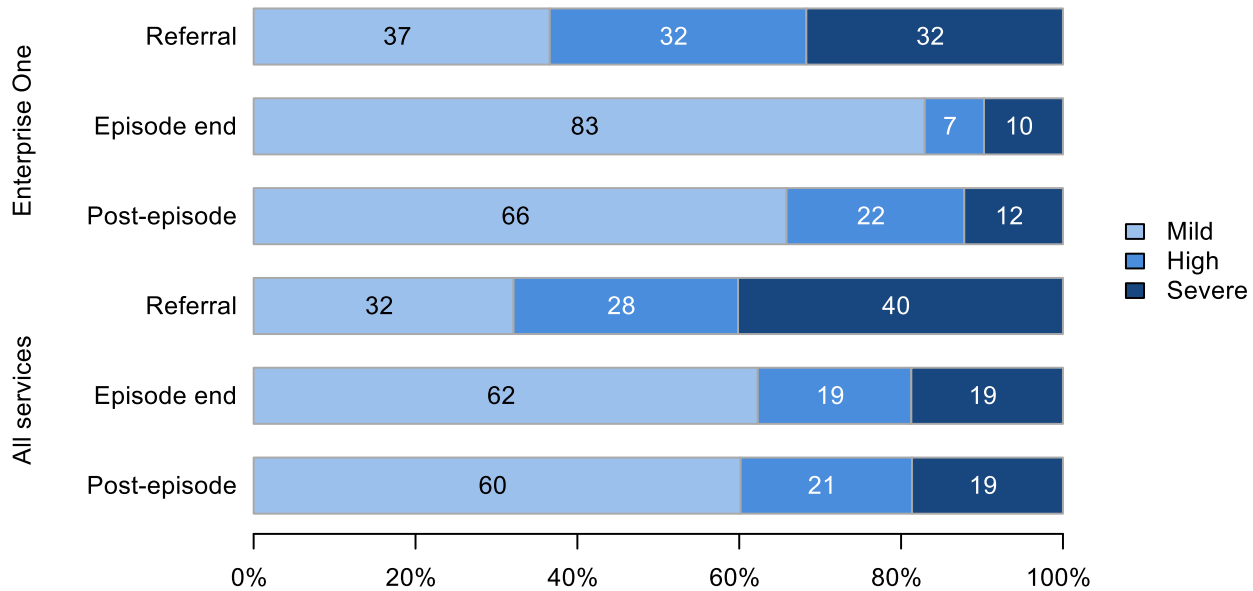
Table 58 – Proportion of patients making clinically significant improvement in pain catastrophising	Episode end	Post-episode
Enterprise One	21 (80.8%)	15 (57.7%)
All services	496 (59.3%)	501 (59.9%)

Pain self-efficacy

Pain self-efficacy is measured using the Pain Self-Efficacy Questionnaire. Average scores at referral, episode end and post-episode follow-up are shown in Table 59. The proportion of people in each severity category at each time point is shown in Figure 41.

Table 59 – Pain self-efficacy at referral, episode end and post-episode follow-up	Enterprise One n = 41			All services n = 1250		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Pain self-efficacy	27.3	37.0	33.6	22.8	31.7	31.3

Figure 41 – Pain self-efficacy severity category at referral, episode end and post-episode follow-up
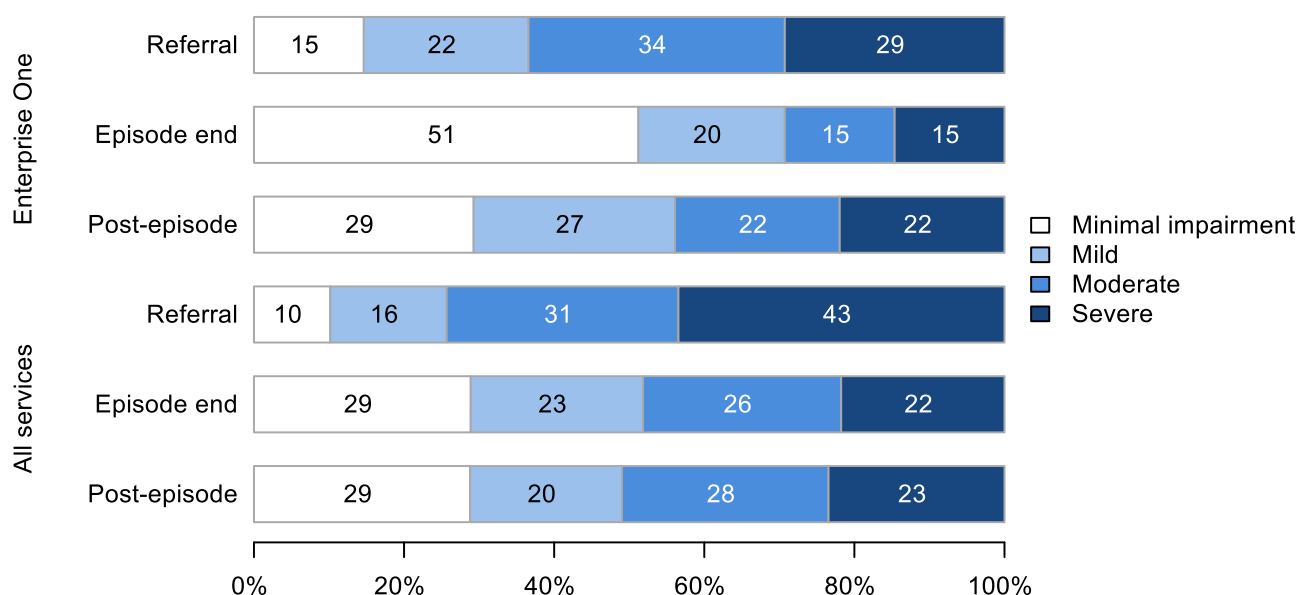
Table 60 – Proportion of patients making clinically significant improvement in pain self-efficacy	Episode end	Post-episode
Enterprise One	17 (65.4%)	13 (50.0%)
All services	494 (53.2%)	487 (52.4%)

Medication use

Of the patients who completed a referral, episode end and post-episode follow-up questionnaire at your service and for whom medication information has been recorded. Figure 42 shows the change in use of the main types of drugs at these time points.

Figure 42 – Medication use by drug type at referral, episode end and post-episode follow-up
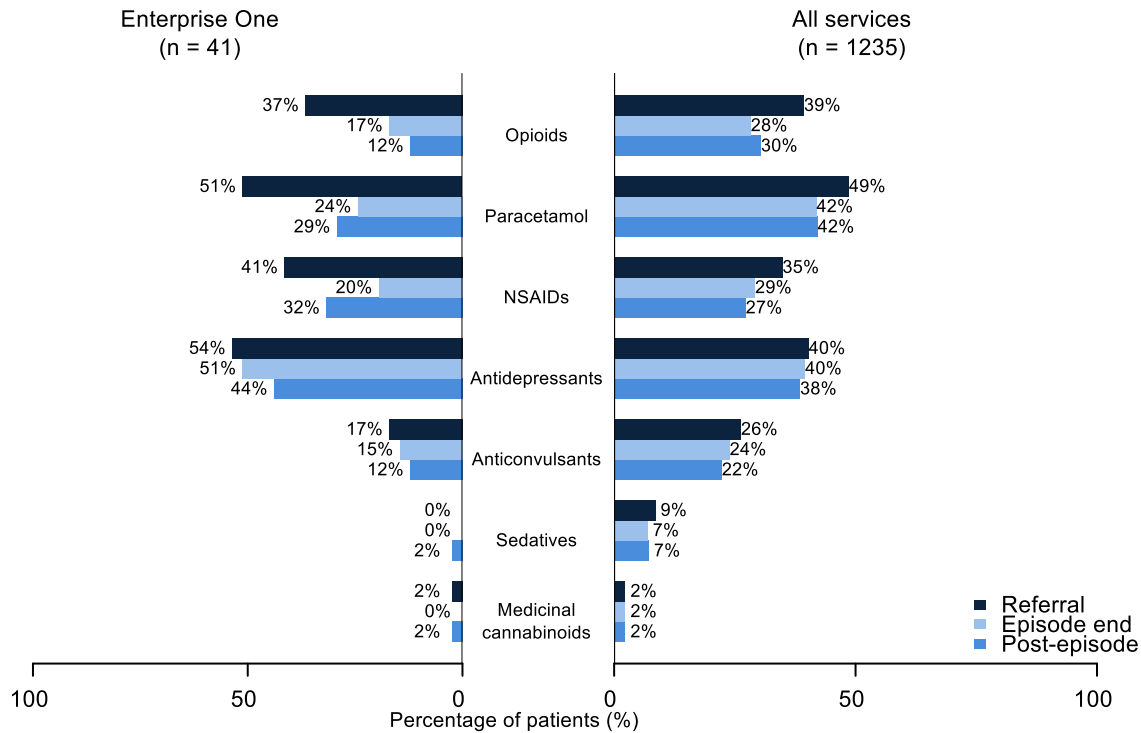
For the patients who were taking opioid medication at referral, the average and median oMEDD at referral, episode end and at post-episode follow-up is shown in Table 61. Table 62 shows change in the frequency of use of opioid medications.

Table 61 – oMEDD at referral, episode end and post-episode follow-up	Enterprise One n = 12			All services n = 441		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Average (mg)	16.2	8.1	2.8	32.4	18.6	18.8
Median (mg)	6.5	0.5	0.0	20.0	4.0	4.0

Table 62 – Frequency of use of opioid medication	Enterprise One			All services		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Using opioids >2 days per week (%)	15.0	10.0	5.0	34.0	23.0	26.0

Work status and productivity

The following information relates to patients who completed work status and productivity questions at referral, episode end and post-episode follow-up. Table 63 shows work status at the three time points, and for the patients who were working. Table 64 shows information relating to work time missed due to pain and productivity.

Table 63 – Work status at referral, episode end and follow-up (%)	Enterprise One n = 39			All services n = 1055		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Working full-time	23.1	23.1	30.8	16.8	14.5	14.5
Working part-time	28.2	33.3	28.2	15.4	15.1	14.2
Unable to work due to pain	25.6	23.1	15.4	38.2	36.7	36.1
Unable to work due to a condition other than pain	10.3	2.6	5.1	11.1	12.1	12.0
Not working by choice	12.8	15.4	15.4	17.3	18.4	19.3
Seeking employment	0.0	2.6	5.1	1.2	3.2	3.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 64 – Work productivity and impairment (%) for patients working full- or part-time	Enterprise One			All services		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
Work time missed due to pain	10.7	5.8	7.9	37.2	25.6	23.8
Pain affected work productivity	44.5	23.6	35.5	47.8	34.6	33.7
Overall work impairment	52.5	25.3	39.9	67.7	50.7	49.9

Health service utilisation

Table 65 reports the average number of times patients used each health service type in the last three months for pain-related reasons.

Table 65 – Average number of pain-related health service use in the past 3 months, reported at referral, episode end and follow-up	Enterprise One			All services		
	Referral	Episode end	Post-episode	Referral	Episode end	Post-episode
General practitioner	3.0	2.0	1.8	3.7	2.3	2.3
Medical specialist	2.2	1.0	0.5	1.2	0.7	0.7
Other health professionals	10.0	5.8	4.6	6.3	3.8	3.7
Emergency department presentations	0.1	0.1	0.0	0.2	0.2	0.2
Hospital admissions	0.0	0.0	0.0	0.1	0.1	0.1
Diagnostic tests	0.9	0.6	0.4	1.1	0.7	0.6

Appendix A – Additional patient outcomes

Change from referral to first pathway start

Table 66 reports scores on the assessment tools at referral and the start of the first treatment pathway. This information may be used to assess the effectiveness of interventions delivered prior to treatment pathways (e.g. education/orientation programs).

Table 66 – Mean scores at referral and first pathway start	Enterprise One			All services		
	n	Referral	Pathway start	n	Referral	Pathway start
Pain severity	7	6.8	6.3	1512	6.2	5.9
Pain interference	7	7.4	7.0	1617	7.1	6.5
Depression	7	16.0	18.0	1582	19.7	17.4
Anxiety	7	7.1	9.4	1584	13.4	12.5
Stress	7	16.4	15.4	1576	20.2	18.9
Pain catastrophising	7	23.1	25.0	1565	28.9	25.2
Pain self-efficacy	7	22.6	23.3	1589	20.7	23.5

Change from pathway start to pathway end

Measuring change from the beginning to the end of a treatment pathway allows pain services to compare change by pathway type. Services may use this information when reviewing the types of treatments they provide, for example, to determine the relative effectiveness of treatment pathways.

154 patients completed a questionnaire at the end of their treatment pathway at your service during the period 1 January to 31 December 2023, (all services, n = 4395). This section reports change from pathway start to pathway end for these patients.

Global rating of change

Figure 43 – Global rating of change at pathway end
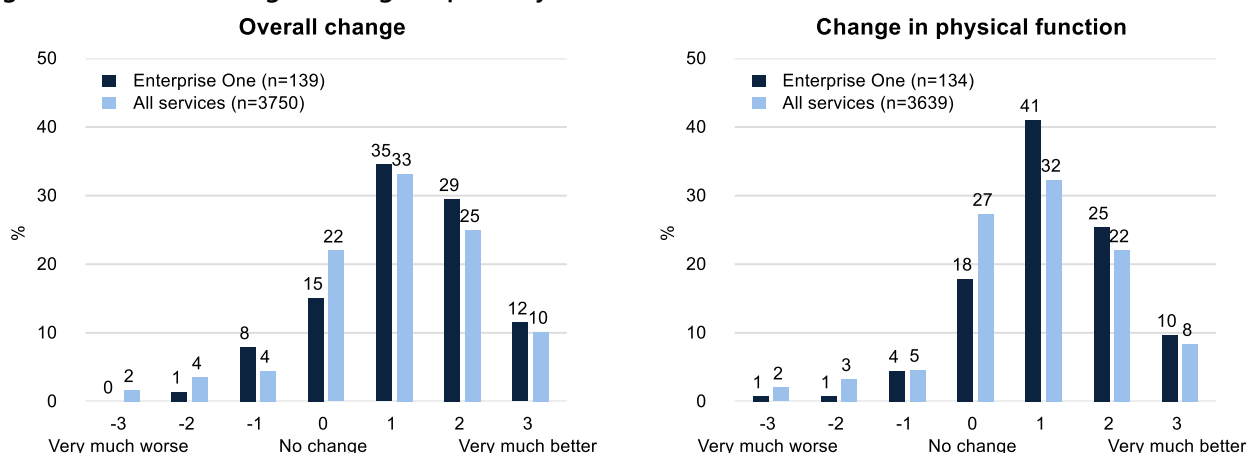
75.5% of your patients reported making at least some improvement overall[5], and 76.1% reported an improvement in their physical abilities (68.3% and 62.7% at all services – See Figure 43).

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[5] The sum of 1, 2 and 3.

Pain severity

Table 67 – Pain severity at pathway start and end	Enterprise One n = 125		All services n = 3662	
	Pathway start	Pathway end	Pathway start	Pathway end
Pain severity score	5.4	4.7	5.9	5.1
- Worst pain	7.5	6.5	7.7	6.8
- Least pain	3.5	3.0	4.2	3.5
- Average pain	5.5	4.6	5.8	5.0
- Pain now	5.1	4.6	5.8	4.9
Patients reporting clinically significant improvement, n (%)	25 (25.0%)		742 (24.8%)	

Figure 44 – Average pain at pathway start and end
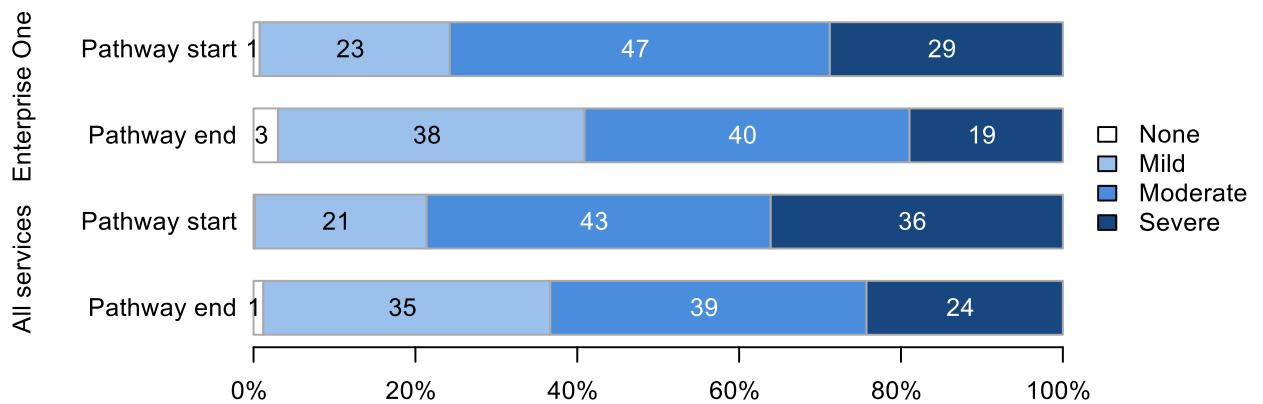
Pain interference

Table 68 – Pain interference at pathway start and end	Enterprise One n = 138		All services n = 3911	
	Pathway start	Pathway end	Pathway start	Pathway end
Pain interference score	6.3	4.8	6.6	5.3
Patients reporting clinically significant improvement, n (%)	67 (61.5%)		1796 (54.3%)	

Figure 45 – Pain interference at pathway start and end
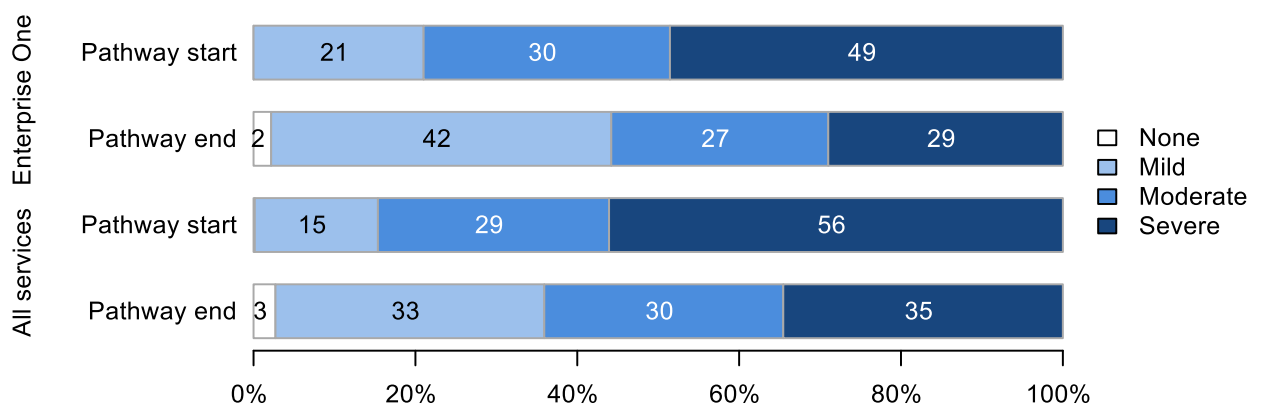
Pain frequency

Table 69 – Pain frequency at pathway start and pathway end	Enterprise One n =135		All services n = 3775	
	Pathway start	Pathway end	Pathway start	Pathway end
Always present (same intensity)	2.2	3.7	9.6	6.4
Always present (varying intensity)	79.3	62.2	75.2	62.5
Often present	12.6	16.3	10.9	15.2
Occasionally present	4.4	10.4	3.4	9.8
Rarely present	1.5	7.4	0.8	5.4
Pain no longer present	0.0	0.0	0.0	0.6
Total	**100.0**	**100.0**	**100.0**	**100**

Figure 46 – Pain frequency – distribution at pathway start and pathway end
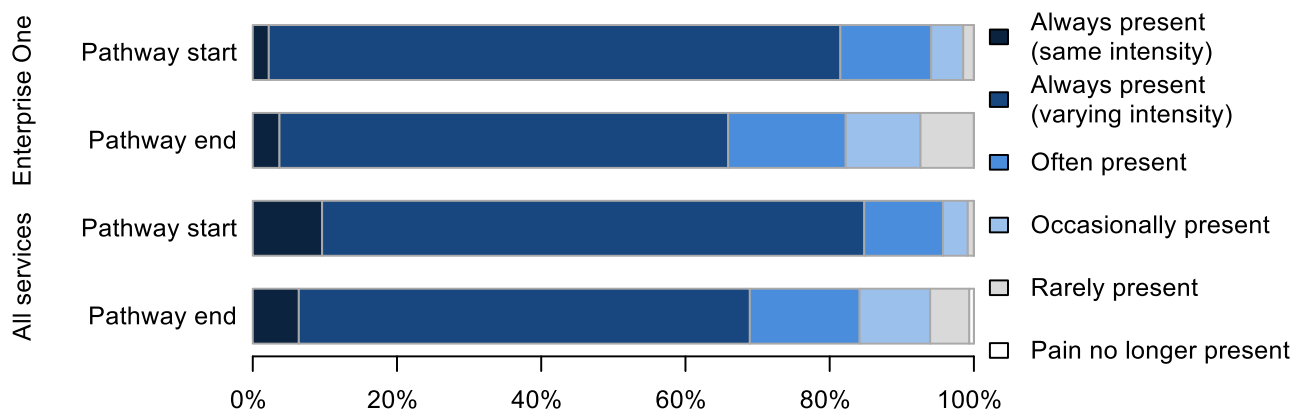
Depression

Table 70 – Depression at pathway start and end	Enterprise One n = 139		All services n = 3861	
	Pathway start	Pathway end	Pathway start	Pathway end
Depression score	16.3	13.0	17.5	13.7
Patients reporting clinically significant improvement, n (%)	35 (45.5%)		1124 (50.2%)	

Figure 47 – Depression at pathway start and end
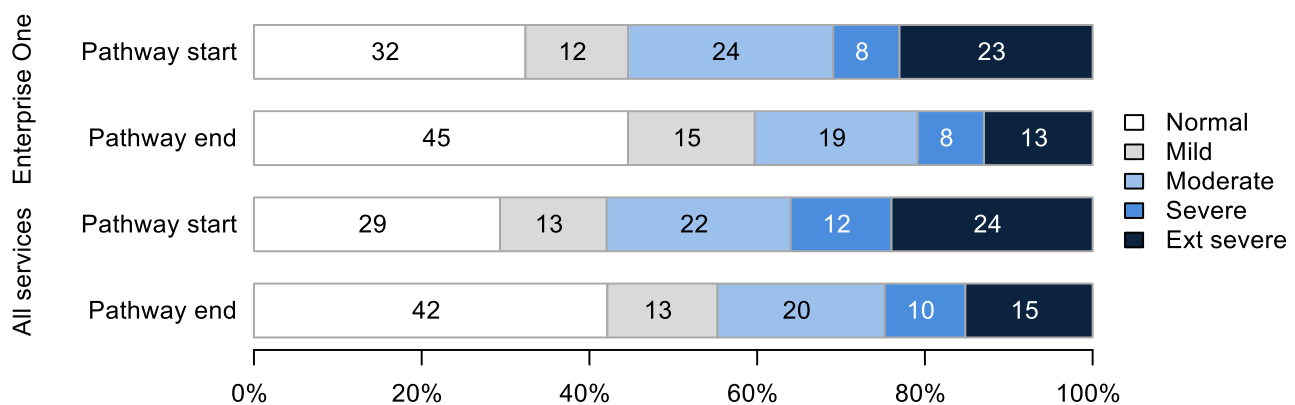
Anxiety

Table 71 – Anxiety at pathway start and end	Enterprise One n = 138		All services n = 3851	
	Pathway start	Pathway end	Pathway start	Pathway end
Anxiety score	10.0	9.0	11.9	10.2
Patients reporting clinically significant improvement, n (%)	23 (35.9%)		777 (38.5%)	

Figure 48 – Anxiety at pathway start and end
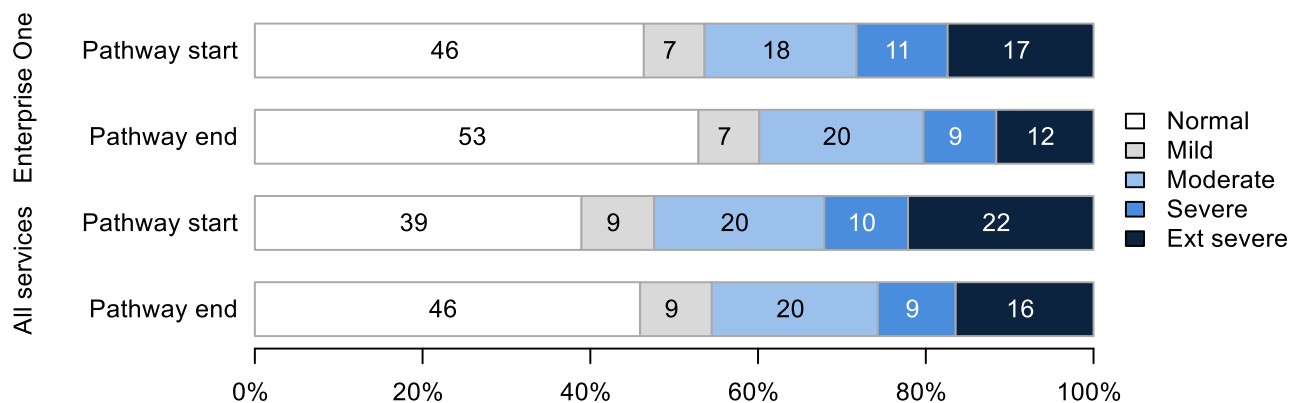
Stress

Table 72 – Stress at pathway start and end	Enterprise One n = 138		All services n = 3858	
	Pathway start	Pathway end	Pathway start	Pathway end
Stress score	17.4	15.4	18.9	15.9
Patients reporting clinically significant improvement, n (%)	20 (35.7%)		953 (53.3%)	

Figure 49 – Stress at pathway start and end
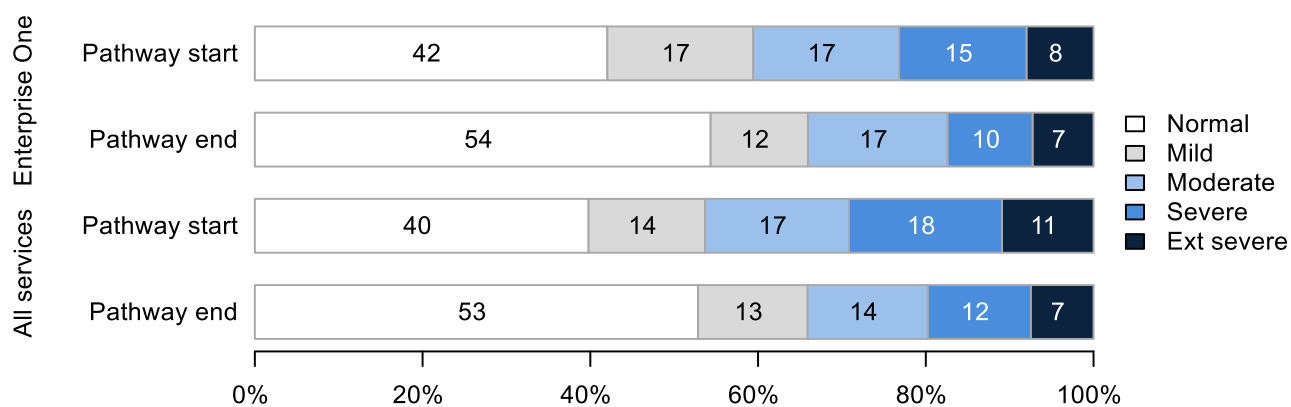
Pain catastrophising

Table 73 – Pain catastrophising at pathway start and end	Enterprise One n = 139		All services n = 3839	
	Pathway start	Pathway end	Pathway start	Pathway end
Pain catastrophising score	23.0	17.3	25.4	19.2
- Rumination	7.9	6.0	8.5	6.5
- Magnification	4.4	3.6	5.1	3.9
- Helplessness	10.6	7.7	11.8	8.7
Patients reporting clinically significant improvement, n (%)	50 (59.5%)		1276 (51.5%)	

Figure 50 – Pain catastrophising at pathway start and end
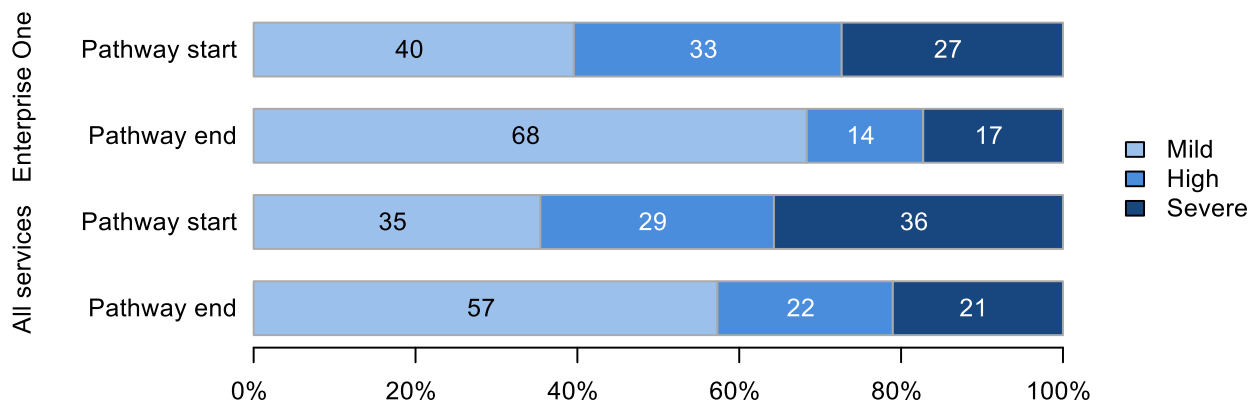
Pain self-efficacy

Table 74 – Pain self-efficacy at pathway start and end	Enterprise One n = 137		All services n = 3875	
	Pathway start	Pathway end	Pathway start	Pathway end
Pain self-efficacy score	24.7	30.8	23.3	29.4
Patients reporting clinically significant improvement, n (%)	45 (46.4%)		1217 (42.9%)	

Figure 51 – Pain self-efficacy at pathway start and end
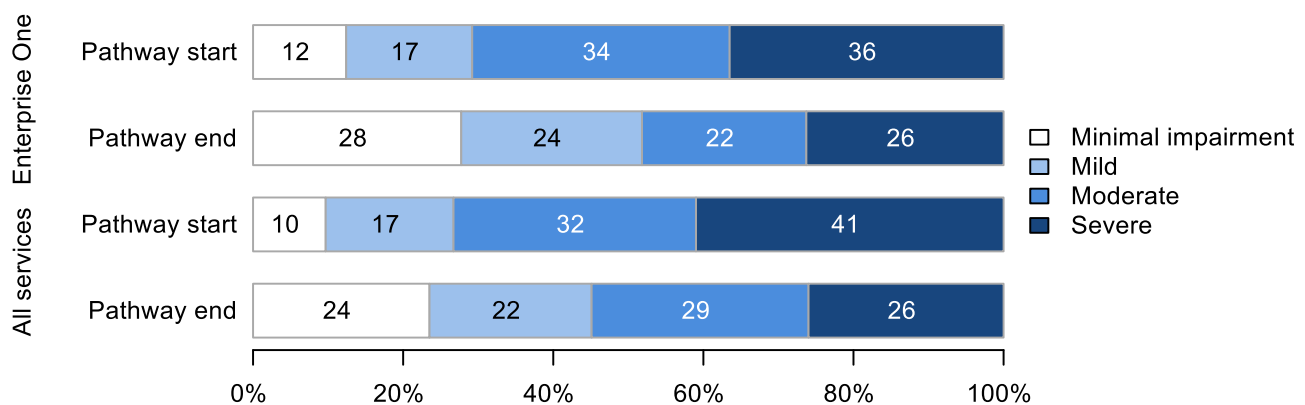
Outcomes by treatment pathway(s)

The tables below show average scores on the assessment tools at pathway start and pathway end by the treatment pathway(s) type, for your service (Table 75) and all services (Table 76).

Table 75 – Scores at pathway start and end by pathway type(s) – Enterprise One	Enterprise One							
	Group program		Individual appointments		Concurrent (group and individual)		Other	
	95		26		19		0	
	Start	End	Start	End	Start	End	Start	End
Pain severity	5.3	4.7	5.9	5.1	5.2	3.8	-	-
Pain interference	6.3	5.0	6.8	5.3	5.5	3.3	-	-
Depression	16.5	13.7	17.5	14.1	14.1	8.0	-	-
Anxiety	10.0	9.3	11.1	8.3	8.2	8.4	-	-
Stress	17.6	16.5	19.6	15.4	13.8	10.1	-	-
Pain Catastrophising	23.3	18.3	25.2	18.1	18.4	11.4	-	-
Pain Self-Efficacy	24.5	29.6	22.5	29.6	28.3	38.5	-	-

Table 76 – Scores at pathway start and end by pathway type(s) - All services	All services							
	Group program		Individual appointments		Concurrent (group and individual)		Other	
	1509		1726		464		259	
	Start	End	Start	End	Start	End	Start	End
Pain severity	5.8	5.2	5.8	4.9	6.0	5.2	6.1	5.1
Pain interference	6.5	5.3	6.6	5.2	6.8	5.5	6.4	5.3
Depression	18.2	14.2	16.8	13.4	18.9	14.5	15.5	12.0
Anxiety	12.7	10.8	11.1	9.7	13.0	11.0	10.3	9.0
Stress	19.3	16.3	18.5	15.6	19.4	16.4	18.0	14.5
Pain Catastrophising	25.6	19.3	25.2	18.9	26.0	20.0	23.9	19.0
Pain Self-Efficacy	23.8	29.9	23.1	29.2	22.1	29.1	23.7	28.5

Appendices

Outcomes by group program hours

The tables below show average scores on the assessment tools at pathway start and pathway end by group program intensity, for your service (Table 77) and all services (Table 78).

Table 77 – Scores at pathway start and end by group program hours – Enterprise One	Enterprise One					
	6 to < 24 hours		24 to <60 hours		60+ hours	
	0		77		12	
	Start	End	Start	End	Start	End
Pain severity	-	-	5.1	4.4	6.2	5.8
Pain interference	-	-	5.9	4.6	7.4	6.2
Depression	-	-	14.1	12.2	22.5	18.4
Anxiety	-	-	9.0	8.9	11.5	10.5
Stress	-	-	16.9	15.3	16.8	17.8
Pain Catastrophising	-	-	21.5	16.2	27.7	26.3
Pain Self-Efficacy	-	-	26.4	31.7	18.1	23.4

Table 78 – Scores at pathway start and end by group program hours – All services	All services					
	6 to < 24 hours		24 to <60 hours		60+ hours	
	481		498		212	
	Start	End	Start	End	Start	End
Pain severity	5.8	5.2	5.8	5.1	6.2	5.7
Pain interference	6.5	5.4	6.5	5.1	7.0	5.7
Depression	17.0	13.4	19.0	13.9	23.3	17.3
Anxiety	12.2	10.5	13.5	11.0	15.9	13.0
Stress	18.3	15.3	20.3	16.6	22.7	18.6
Pain Catastrophising	24.1	18.6	26.8	18.8	30.6	23.0
Pain Self-Efficacy	25.4	30.6	23.1	30.8	19.7	28.9

Appendix B – Data quality and completeness

This section provides information about the number and type of questionnaires returned, questionnaire response rates and individual item completion. Response rate refers to the number of questionnaires returned as a percent of the number sent.

Table 79 – Response rate by questionnaire type	Enterprise One		All Services	
	Number Sent (n)	Response rate (%)	Number Sent (n)	Response rate (%)
Referral	324	85.2	27770	78.7
Pathway start	43	79.1	3441	69.8
Group program start (concurrent pathways only)	5	100.0	141	86.5
Pathway review	52	73.1	1053	54.4
Group program end (concurrent pathways only)	9	100.0	253	70.0
Pathway end	148	94.6	5850	69.6
Post-episode	111	36.0	3950	43.2
Ad hoc	30	80.0	1447	71.9

Table 80 – Item completion rates (%)	Enterprise One	All Services
Indigenous status	98.5	98.4
Country of birth	99.2	99.5
Interpreter required	97.7	98.6
Communication assistance	97.7	97.8
Hearing or sight impaired	98.5	98.4
Sex	100.0	100.0
Height	93.9	86.1
Weight	95.5	89.5
Postcode	91.3	88.1
Main pain site	79.5	82.8
How main pain began	99.6	98.6
Pain duration	99.6	98.7
Health service use		
- General practitioner	96.2	96.2
- Medical specialist	97.0	92.4
- Other health professionals	96.6	92.7
- Hospital emergency department	93.2	91.2
- Admitted to hospital	93.6	90.2
- Diagnostic tests	95.8	93.2
Pain frequency	99.6	99.9

Table 81 – Assessment tool validity and completion	Validity – number of items that must be completed	Enterprise One		All Services	
		Average number of completed items	% of validly completed questionnaires	Average number of completed items	% of validly completed questionnaires
Brief Pain Inventory - Worst pain	1/1	-	98.9	-	98.5
- Least pain	1/1	-	97.3	-	97.3
- Average pain	1/1	-	96.6	-	96.7
- Pain now	1/1	-	98.4	-	97.2
Pain severity	4/4	-	93.3	-	94.3
Pain interference	4/7	7.0	99.6	6.9	98.9
Depression, Anxiety, Stress Scale - Depression	6/7	7.0	99.6	6.8	97.4
- Anxiety	6/7	7.0	99.5	6.8	97.4
- Stress	6/7	7.0	99.5	6.8	97.4
Pain Catastrophising Scale - Rumination	4/4	4.0	98.9	3.9	96.9
- Magnification	3/3	3.0	98.6	2.9	96.7
- Helplessness	6/6	5.9	96.4	5.9	95.6
- Total	12/13	12.9	98.9	12.7	97.1
Pain Self-Efficacy Questionnaire	9/10	9.9	99.6	9.8	97.7
Global Rating of Change - Overall	1/1	-	99.2	-	96.2
- Physical	1/1	-	94.9	-	93.4

Table 82 – Collection of patient outcomes at episode end, by episode end mode	Enterprise One			All services		
	Episodes ending (n)	Outcomes recorded (n)	Data available (%)	Episodes ending (n)	Outcomes recorded (n)	Data available (%)
Treatment complete – self-management/referral to primary care	125	117	93.6	6470	2667	41.2
Referral to another pain service	1	0	0.0	257	57	22.2
Patient discontinued by choice	15	0	0.0	2110	149	7.1
Died	0	0	-	35	2	5.7
Active treatment complete – ongoing review	4	4	100.0	1372	966	70.4
Lost to contact/Not to follow-up	1	0	0.0	900	46	5.1
Other	0	0	-	35	3	8.6
Total	**146**	**121**	**82.9**	**11179**	**3890**	**34.8**

NOTE: The episode end outcomes information included in this table corresponds to episodes ending during the current reporting period. Data available is the number of outcomes recorded, divided by the number of episodes which ended.

Table 83 – Collection of patient outcomes at post-episode follow up, by episode end mode	Enterprise One			All services		
	Episodes ending (n)	Outcomes recorded (n)	Data available (%)	Episodes ending (n)	Outcomes recorded (n)	Data available (%)
Treatment complete – self-management/referral to primary care	211	48	22.7	9865	1167	11.8
Referral to another pain service	1	0	0.0	367	34	9.3
Patient discontinued by choice	17	0	0.0	3343	71	2.1
Died	0	0	-	56	0	0.0
Active treatment complete – ongoing review	5	1	20.0	2073	607	29.3
Lost to contact/Not to follow-up	1	0	0.0	1472	5	0.3
Other	0	0	-	58	2	3.4
Total	**235**	**49**	**20.9**	**17234**	**1886**	**10.9**

NOTE: The post-episode follow-up outcomes information included in this table corresponds to a six month longer time-period before the current reporting period; 01 July 2023 – 31 December 2023. This is because it is possible for episodes that have ended in a previous reporting period to have a post-episode follow up questionnaire fall into the current reporting period. Data available is the number of post-episode outcomes recorded, divided by the number of episodes which ended.

Appendix C – Tips for interpreting the report

How information is presented in this report

In this report we have attempted to report information in a way that puts the patient at the centre of care and provides a sense of flow that mirrors the patient journey.

Information describing the people attending pain services is found in the Patient Profile section and includes socio-demographic details and clinical characteristics at referral. A description of typical episodes of care, including wait time, length and services provided are shown in the Episode Details section. Outcomes for the patient, at both the end of the episode and 3-6 months after the episode has ended are shown in the Episode Outcomes and Post-episode Outcomes sections, respectively.

The benchmarks and indicators

There are nine ePPOC clinical benchmarks and two wait time indicators. The benchmarks show the percent of patients experiencing a clinically significant improvement or meeting predetermined conditions (see Appendix E – Assessment tools for more details). This report also includes time series graphs, which show change in performance on each of the benchmarks at 12-month intervals over a five year period for either Mid-Year or Annual reports.

Interpreting the graphs

Benchmarks and indicators – profile of service level results
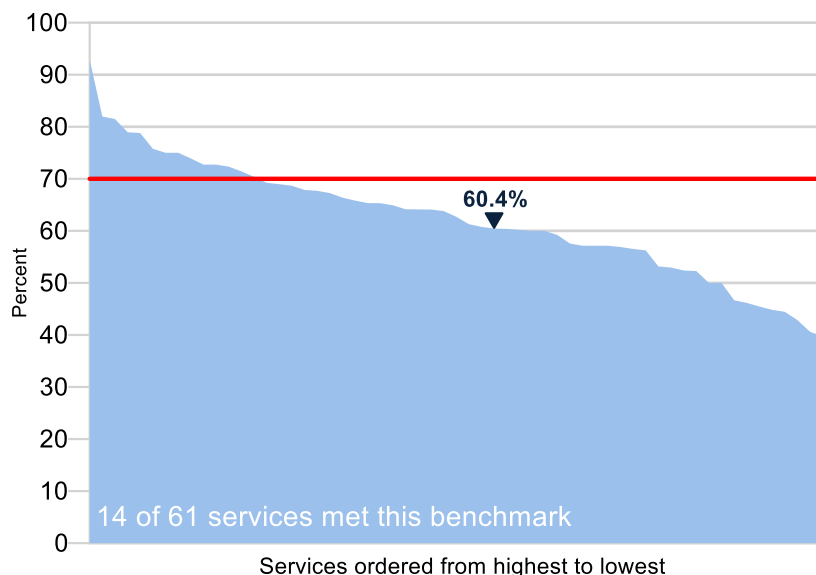
- The vertical axis shows the % of patients experiencing a clinically significant improvement
- The red line indicates the current benchmark level
- The light blue region shows the Australasian profile for this benchmark. It contains all services that contributed to this benchmark, ordered from the highest to the lowest level of achievement
- The blue triangle highlights your service's score relative to the benchmark and other contributing services. If there is no triangle on your graph this indicates that your service reported less than 10 outcomes for this benchmark

Benchmarks and indicators – time series
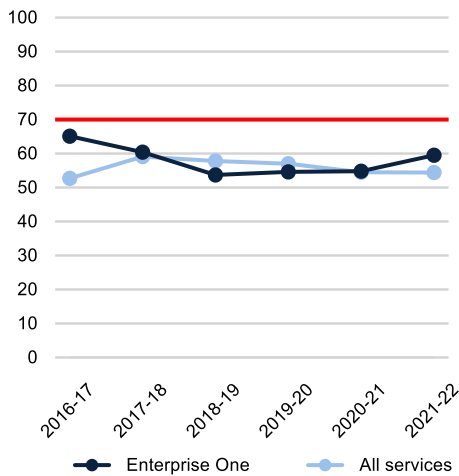
- Results are reported at 12 month intervals over a 6 year period with either mid-year (financial year) or annual (calendar year) results, corresponding to the current report

- Results are based on the current benchmark/ indicator definition and may not precisely match previously reported results due to a change in definition and/or updated data

- The darker line indicates the result for your service

- The lighter line indicates the average for All services

- The red line indicates the threshold at which the benchmark/indicator is currently set

- If there is no dot for your service for any period, this indicates that your service reported less than 10 outcomes for this benchmark during that period.

Socioeconomic disadvantage

These charts show the relative socioeconomic disadvantage of your patient population based on residential address at referral. The information uses the Socio-Economic Index for Areas – Index of Relative Disadvantage, and the New Zealand Index of Relative Socioeconomic Deprivation. These indices group residential area into five disadvantage quintiles (from least to most disadvantage) such that across the national Australian and New Zealand populations, 20% of people live in each disadvantage quintile. It's important to note that the level of disadvantage relates to the *area* the person lives in rather than the person.

The chart compares the proportion of your patients who live in each disadvantage quintile to the:

- population of all people seeking pain management in Australasia (*All services*)
- expected distribution of disadvantage (*Australasian expected %*)
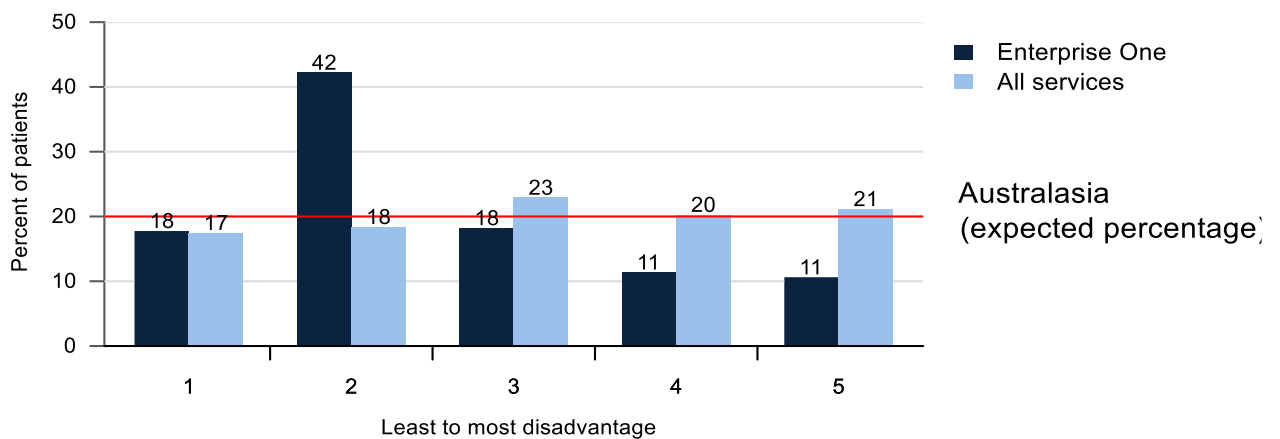
Appendix D – Pain services that submitted data for this report

New South Wales: Central Coast Integrated Pain Service | Coffs Harbour Chronic Pain Service | Concord Repatriation General Hospital (Multidisciplinary Pain Clinic) | Department of Pain Management, Prince of Wales Hospital | Far West Local Health District | Hunter Integrated Pain Service | Illawarra Shoalhaven Chronic Pain Service | Lismore Hospital Pain Clinic | Liverpool Hospital Chronic Pain Services | Marathon Health CCPMP | Nepean Blue Mountains PHN | Nepean Pain Unit | Orange Health Service Chronic Pain Clinic | Royal North Shore Hospital Pain Management and Research | Royal Prince Alfred PMC | South Eastern NSW PHN | St George Hospital Pain Management Unit | St Vincent's Hospital Sydney Pain Clinic | Sydney Spine and Pain Rehab | Tamworth Integrated Pain Service (TIPS) | Westmead Pain Management Centre | Sydney Pain Management Centre

Queensland: Gold Coast Interdisciplinary Persistent Pain Centre | Metro South Health Persistent Pain Management Service | North Queensland Persistent Pain Management Service | Reforge Veteran Care | St Vincent's Private Hospital Brisbane - Adults | Sunshine Coast Persistent Pain Management Service | Tess Cramond Pain and Research Centre | Wesley Pain and Spine Centre

South Australia: CALHN Pain Management Unit | Flinders Pain Management Unit | Living Well with Persistent Pain Centre North | Living Well with Persistent Pain Centre West

Tasmania: Persistent Pain Service, Royal Hobart Hospital

Victoria: Advance Healthcare | Austin Health Pain Service | Bairnsdale Regional Health Service, Pain Management Clinic | Barbara Walker Centre for Pain Management | Caulfield Pain Management and Research Centre, Alfred Health | Dorset Rehabilitation Centre | Eastern Health Ambulatory Pain Management Service | Empower Rehab | Epworth Healthcare | GVH Chronic Pain Clinic | Latrobe Regional Hospital | Merri Health | Monash Health | Northern Health Service | Outpatient Rehabilitation Services, Bendigo Health | Peninsula Health Integrated Pain Service | Precision Ascend Rehabilitation Centre | Royal Melbourne Hospital | Royal Women's Hospital - Chronic Pelvic Pain Clinic | South West Healthcare Chronic Pain Clinic | The Victorian Rehabilitation Centre | University Hospital Geelong Pain Management Unit | Western Health |

Western Australia: 360 Health + Community | Arche Health Limited | Black Swan Health - Midland | Black Swan Health - Wanneroo | Fiona Stanley Hospital

New Zealand: Active+ Pain Management Service | Advantage South | APM NZ | Australis Specialist Pain Clinic | Body in Motion | Canterbury District Health Board - Pain Management Centre | CCDHB Pain Service | Futureproof Rehab Ltd | Habit Rehabilitation | HVDHB ACC pain team | Occupational Health Canterbury | Pain Management & Rehabilitation Services | Pain Management Service, Waikato DHB | Pain Rehabilitation Christchurch Ltd | Proactive Rehab | QE Health| South Canterbury DHB Persistent Pain Service | Southern DHB Persistent Pain Service Dunedin | Southern Physiotherapy Ltd | Sports & Spinal Physiotherapy Ltd | TBI Health Group Ltd | The Auckland Regional Pain Service | Women's Health Pain Service, Auckland City Hospital

A list of all services participating in ePPOC can be found on the ePPOC web site: ahsri.uow.edu.au/eppoc

Appendix E – Assessment tools

The assessment tools used in ePPOC are:

- Brief Pain Inventory (BPI)
- Depression, Anxiety, Stress Scale (DASS)
- Pain Catastrophising Scale (PCS)
- Pain Self-Efficacy Questionnaire (PSEQ)
- ePPOC Patient Impression of Change (formerly referred to as the Global Rating of Change (GRC))
- Work Productivity and Impairment (WPAI)
- CARRA Body Chart.

Each of these assessment tools are briefly described below.

Brief Pain Inventory[6]

The BPI items used in the ePPOC dataset measure the severity of pain and the degree to which the pain interferes with common activities of daily living. Pain severity questions are rated on a scale of 0 to 10, where 0 = 'No pain' and 10 = 'Pain as bad as you can imagine', with patients asked to rate their pain in four items including, average, worst and least pain over the last week, and their pain right now. Pain severity is then calculated as an average of these four items. Whereas the benchmark for average pain is based on the single average pain item only.

The IMMPACT group's recommendations for assessing clinical significance for 0-10 numeric pain scales are that a change of:

≥ 10% represents minimally important change

≥ 30% represents moderate clinically important change (ePPOC uses this category to identify clinically significant improvement for average and worst pain)

≥ 50% represents substantial clinically important change.

The interference questions are rated on a scale of 0 to 10, where 0 = 'Does not interfere' and 10 = 'Completely interferes'. The interference subscale is an average of the seven interference questions. At least 4 of 7 questions must be completed for this subscale to be valid. The IMMPACT recommendation for assessment of clinically significant change on the BPI interference scale is a change of 1 point over the average of the 7 items[7].

Updated BPI severity bands

From the 2022 mid-year report onwards, ePPOC had implemented a modified version of the previously reported severity bands: 0 = none | 1-4 = mild | 5-6 = moderate | 7-10 = severe

A score of 0 – no pain (or 0 – no interference) was previously included in the mild category, but is now reported separately[8].

The above severity bands can be applied directly to the individual items reported on the integer scales (e.g. the 'average pain' item). When applied to the sub-scale scores for pain severity and interference, the mean values are rounded to the closest integer before the severity ranges are applied. The 'none' category should be interpreted as 'no or negligible pain' or 'no or negligible interference' for the pain severity and pain interference subscales respectively.

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[6] Modified Brief Pain Inventory, reproduced with acknowledgement of the Pain Research Group, University of Texas, MD Anderson Cancer Centre, USA

[7] Dworkin, RH, et al 2008, 'Interpreting the Clinical Importance of Treatment Outcomes in Chronic Pain Clinical Trials: IMMPACT Recommendations.' *The Journal of Pain*, vol. 9, no. 2, pp 105-121.

[8] Palos, GR, et al 2006, 'Asking the community about cutpoints used to describe mild, moderate, and severe pain.' *Journal of Pain*, vol. 7, no. 1, pp 49–56

Depression Anxiety Stress Scales[9]

The DASS measures the negative emotional states of depression, anxiety and stress. Due to the large number of questions in the full DASS (42 questions), the DASS21 is administered. This comprises 21 questions which are rated on a scale of 0 to 3, where 0 = 'did not apply to me at all', 1 = 'applied to me to some degree, or some of the time', 2 = 'applied to me to a considerable degree, or a good part of the time', or 3 = 'applied to me very much, or most of the time'. Scores are multiplied by 2 to enable comparison with the full-scale DASS42 for which norms exist.

For each subscale (Depression, Anxiety and Stress), the 7 items are summed and then multiplied by 2. The test developers suggest that at least 6 of 7 items should be complete for each subscale to be considered valid. Table 84 shows the range of scores associated with severity categories for each subscale.

Table 84 – DASS severity ratings	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

Clinical significance on each of the DASS subscales requires a change of 5 or more points coupled with a move to a different severity category.

Pain Catastrophising Scale[10]

The PCS measures a patient's thoughts and feelings related to their pain. This includes three subscales measuring the dimensions of Rumination, Magnification and Helplessness. The PCS comprises 13 questions (Rumination – 4 items, Magnification – 3 items, Helplessness – 6 items) which are rated on a scale of 0 to 4, where 0 = 'not at all', 1 = 'to a slight degree', 2 = 'to a moderate degree', 3 = 'to a great degree' and 4 = 'all the time'. For each subscale, all items must be completed to be valid. For the total to be valid, at least 12 of 13 items must be completed.

Severity bands for the PCS are:
- <20 = mild
- 20 to 30 = high
- >30 = severe.

Clinically significant change requires a change in score of 6 or more points, combined with movement to a different severity category[11].

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[9] Lovibond, SH and Lovibond, PF 1995, *Manual for the Depression Anxiety Stress Scales*, Psychology Foundation Monograph, Sydney, Australia.
[10] Sullivan, MJL, et al 1995, 'The Pain Catastrophizing Scale: Development and Validation', *Psychological Assessment*, vol. 7, num. 4, pp 524-532.
[11] Sullivan, MJL, personal communication with Nicholas, MK July 2014.

Pain Self-Efficacy Questionnaire

The PSEQ measures how confident a patient is that he or she can do a range of activities despite their pain. The PSEQ Total is a sum of scores from 10 questions which are rated on a scale from 0 = 'Not confident at all' to 6 = 'Completely confident'. At least 9 of 10 items must be complete for the PSEQ Total to be valid. Increases in score represent an improvement in self-efficacy.

Severity bands for the PSEQ are:
- <20 = severe
- 20 to 30 = moderate
- 31 to 40 = mild
- >40 = minimal impairment.

Clinically significant change requires a change in score of 7 or more points, combined with movement to a different severity category[12].

ePPOC Patient Impression of Change (ePIC)[13]

The ePPOC Patient Impression of Change questions were included in Version 2 of the ePPOC dataset. They are asked in follow-up questionnaires only. The two questions are "Compared with before receiving treatment at this pain management service, how would you describe yourself now overall?" and "Compared with before receiving treatment at this pain management service, how would you describe your physical abilities now?" Participants answer by indicating their response on a Likert scale from -3 (very much worse) to +3 (very much better). This will provide an overview of how participants perceive their condition has changed overall as well as with respect to their physical functioning.

Work Productivity and Impairment (WPAI)[14]

WPAI outcomes are expressed as impairment %s, with higher numbers indicating greater impairment and less productivity. The work status of all patients is collected using the International Consortium for Health Outcomes Measurement (ICHOM) categories. For patients who are employed, the WPAI items allow calculation of the following outcomes:

- % of time missed from work due to pain (absenteeism)
- % work impairment while working due to pain (lost productivity)
- % overall work impairment due to pain (taking into account absenteeism and lost productivity).

For more information on the calculations used please see the ePPOC Australian and New Zealand data dictionaries on the ePPOC website https://ahsri.uow.edu.au/eppoc/forms/index.html.

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[12] Nicholas, MK, personal communication, July 2014.

[13] Bartlett, A, Flett, P, Tardif, H and Hush, J 2017, *Introducing a global measure of function and change in NSW pain services*, 37th ASM of the Australian Pain Society, Adelaide, Australia.

[14] Reilly MC, Zbrozek AS, Dukes E 1993, 'The validity and reproducibility of a work productivity and activity impairment measure', *PharmacoEconomics*, vol. 4, num. 5, pp 353-365.

CARRA Body Chart[15]

Patients identify the site/s they feel pain using body maps. For reporting, pain sites are categorised into pain areas as follows:

Table 85 – Pain area categories	Pain sites
Head	head and face
Neck	neck
Chest	chest
Back	upper back, mid back, and low back
Leg	left and right thighs, left and right calves, left and right ankles
Arm/shoulder	left and right shoulders, left and right upper arms, left and right elbows, left and right forearms, left and right wrists
Abdomen	abdomen
Hands	left and right hands
Feet	left and right feet
Groin/pubic area	groin/pubic area
Knee	left and right knees
Hip	left and right hips

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[15] Von Bayer CL, et al. 2011, 'Pain charts (body maps or manikins) in assessment of location of paediatric pain', *Pain Management*, vol. 1 num. 1, pp 61-68. (Source: Childhood Arthritis and Rheumatology Research Alliance, www.carragroup.org)

Appendix F – List of figures

Appendices

Appendix G – List of tables

Appendices

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