# Short acting opioid utilization patterns can aid in clinical program development

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No external funding provided for this research

## Background

- More than half of drug overdose deaths involve prescription drugs with the majority being opioid painkillers.[1]
- American Academy of Neurology 2014 position paper on opioids for chronic noncancer pain states there is no substantial evidence for maintenance of pain relief over longer periods of time (average duration of trials is 5 weeks with a range of 1 to 16 weeks). Chronic opioid therapy risks likely outweigh the benefits for some chronic conditions, such as headache, fibromyalgia and chronic low back pain.[2]
- The American Society of Interventional Pain Physicians (ASIPP) Guidelines for Responsible Opioid Prescribing in Chronic Non-Cancer Pain states long acting opioids in high doses are recommended only in specific circumstances with severe intractable pain that is not amenable to short acting or moderate doses of long acting opioids, as there is no significant difference between long acting and short acting opioids for their effectiveness or adverse effects.[3]
- Insurers have started limiting quantities dispensed and days supply to address the opioid abuse epidemic. For example, coverage of short acting opioids may be limited to a maximum of 30 days supply in a 60 day period and long acting opioids are limited to appropriate use (e.g., cancer pain).[4]
- It is important for each insurer to understand their own opioid utilization patterns so that the right members are targeted and successful clinical programs are developed.
- The goal of this analysis was to provide information to guide program development and determine feasibility.

## Objective & Purpose

- To describe utilization patterns, quantities, morphine equivalent dose and diagnosis among three mutually exclusive opioid use groups; 1) short acting only, 2) long acting only, and 3) short and long acting opioid users to guide clinical program development.

## Methods

- We queried administrative pharmacy claims data for commercial BCBS members among 14 different plans 7/1/2013 through 9/30/2014.
- Members were included in the analysis if they had an opioid claim in 2H2013 (7/1/2013 through 12/31/2013) and were continuously enrolled from 120 days prior to their index claim (1st claim found in 2H2013) through 9/30/2014.
- Members were placed into one of three mutually exclusive groups 1) short acting opioid only utilizers, 2) long acting only utilizers, and 3) short and long acting utilizers. Opioids given one or two times per day were classified as long acting opioids.
- All buprenorphine containing products were excluded from the analysis because they are considered long acting opioids and are used for opioid dependence treatment, not pain control.
- Members were considered a new start to opioid therapy if they did not have a claim for any opioid in the 120 days prior to their index date.
- Opioid pharmacy claims were queried from index claim in 2H2013 through 9/30/2014 to identify the following within each mutually exclusive opioid use group:
  - opioid total paid (defined as member paid plus health plan paid),
  - average and median sum of days supply and weighted claim counts,
  - percentage of members who had an opioid refilled between 75% and 85% of previous claim supply,
  - Members with a morphine equivalent dose (MED) >120 and >100 for at least 90 consecutive days between 7/1/2013 and 12/31/2013.
- The sum of opioid supply (liquids excluded) in a 90 day period was calculated for all and new start short acting only utilizers starting at a member's index date.
- Medical claims were queried during a member's continuous enrollment period for all members.
  - The presence of the following diagnoses was determined using ICD-9 diagnosis codes found on medical claims: cancer, low back pain, joint pain, abdominal pain, neck pain, headache, arthritis, anxiety disorders, depression, fibromyalgia, opioid dependence or abuse, non-opioid dependence or abuse, bipolar disorder, hepatitis C, schizophrenia, alcohol related psychiatric disorder, or neurologic related pain.
  - If a member had at least one cancer or neuropathic pain diagnosis code they were forced into those groups, cancer first. If a member did not have cancer or neuropathic pain diagnosis coded claim, they were placed into the diagnosis group that was most common in their medical claims history. A hierarchy was created for any ties.

## Results

- 1,057,278 (8.8%) members among approximately 12 million (or 88 per 1,000) of all ages had at least one opioid claim in 2H2013 and were continuously enrolled from their index claim through 9/30/2014.
  - Members were followed on average for 12 months (average 391 days, standard deviation 56 days)
  - Total paid for all opioids was $225,954,284 (average of $214 per member)
  - 587,840 (55.5%) members were female with an average age of 44 (standard deviation 15) and 469,438 (44.5%) members were male with an average age of 45 (standard deviation 16).

### Short acting only utilizers

- 990,682 (93.7%) members had only short acting opioid claims during the study period with $71,356,944 (31.6%) total paid and a $72 average total paid per member.
- Figure 1 shows 60,888 (6.1%) members had 16 or more short acting opioid claims during the average 12 month follow up indicating these members are using short acting opioids for chronic opioid therapy.
- Table 2 shows 89,347 (9.3%) members had more than 60 days supply of short acting opioids in their first 90 days (index date+90 days) and 16,531 (2.2%) new start members had more than 60 days supply.
- Table 3 shows less than 0.1% of members using only short acting opioids had high morphine daily doses (>100/>120) for 90 consecutive days during a 6 month time period. Of these members, 16 (1.8%) of 913 with MED >100 also had 4 or more prescribers and 4 or more pharmacies. 9 (1.3%) of the 702 with MED >120 had 4 or more prescribers and 4 or more pharmacies.

### Long acting only utilizers

- 10,345 (1.0%) members had only long acting opioid claims during the study period with $9,385,698 (4.2%) total paid and a $907 average total paid per member.
- 62% of long acting only users were new starts (no opioid claim in previous 120 days). The ASIPP Guidelines[3] states long acting opioids should be reserved for pain that is not amenable to short acting or moderate doses of long acting opioids.
- Figure 1 shows 948 (9.2%) members had 16 or more long acting opioid claims during the average 12 month follow up indicating these members are on chronic opioid therapy with only long acting opioids.
- Table 3 shows less than 5% of members using only long acting opioids had high morphine daily doses (>100/>120) for 90 consecutive days during a 6 month time period. Only 1 member in each of the groups had 4 or more prescribers and 4 or more pharmacies.

### Short and long acting utilizers

- 56,251 (5.3%) members had both short and long acting opioid claims during the study period with $145,211,642 (64.3%) total paid and a $2,581 average total paid per member.
- Figure 1 shows 30,447 (54.1%) members had 16 or more long acting opioid claims during the average 12 month follow up indicating these members are on chronic opioid therapy.
- Table 3 shows approximately 1 out of every 8 members using both short and long acting opioids also had high morphine daily doses (>100/>120) for 90 consecutive days during a 6 month time period. Of these members, 150 (2.0%) of 7,530 with MED >100 also had 4 or more prescribers and 4 or more pharmacies. 112 (1.8%) of the 6,216 with MED >120 had 4 or more prescribers and 4 or more pharmacies.

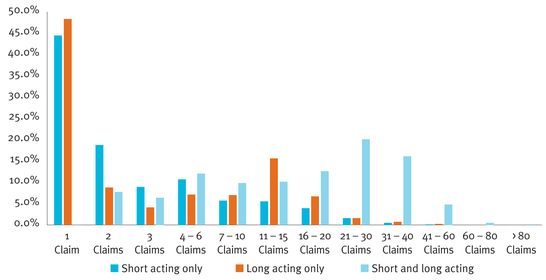
### Medical claims diagnoses – Table 4

- Cancer ICD9 diagnosis code was found on at least one claim during the follow-up for 44,918 (4.2%) members. Consider excluding these members from opioid utilization management programs or ensuring they require active pain control.
- American Academy of Neurology position on pain states "Chronic opioid therapy risks likely outweigh the benefits for some chronic conditions, such as headache, fibromyalgia and chronic low back pain."
  - Low back pain was the most common diagnosis for 17.6% in short acting only users, 22.2% long acting only users and 27.6% short and long acting users.
- The increasing rate of low back pain found for short and long acting opioid users compared to members using only short or only long acting opioids are concerning.
- Fibromyalgia and headache were found at similar rates for each opioid use group.

## Limitations

- Pharmacy claims have the potential to be miscoded and include assumptions of members' drug utilization and medication taking behaviors.
- Cash paid opioid prescriptions will generally not have been submitted to the Pharmacy Benefit Manager (PBM) and will be missing in a member's PBM opioid utilization history.
- A more stringent look at cancer diagnosis to include pharmacy claims or specific cancers could be warranted to ensure those members require active pain control prior to excluding them from clinical programs.
- The data used in this study is limited to the commercial population, primarily in the central and southern regions of the United States, and therefore may not be generalizable to Medicare and Medicaid or to commercially insured individuals residing in other regions of the US.
- This analysis focused on percentages of claims and patterns of claims. A more in depth analysis at the member level may be necessary to guide clinical programs.

**Figure 1.** Percentage of members by the sum of weighted* count of opioid claims index date through 9/30/2014 (Average follow-up: 12 months) in three opioid use groups




*Weighted claims defined as counting claims based on 30 days supply. Therefore, a 90 day supply claim equals three 30 day supply claims.

**Table 1.** Opioid utilization across ~12 million commercially insured members continuously enrolled from index date through 9/30/2014 (Average follow-up: 12 months)

| | Short acting only members n=990,682 | Long acting only utilizers n=10,345 | Short and long acting utilizers n=56,251 |
|---|---|---|---|
| **New Starts, N** | 769,561 | 6,434 | 16,722 |
| % | 77.7% | 62.2% | 29.7% |
| **Claims between 75–85% supply, N** | 41,706 | 784 | 15,507 |
| % members | 4.2% | 7.6% | 26.8% |
| % claims between 75-85% supply | 1.9% | 2.4% | 3.1% |
| **Weighted claims, average** | 4.1 | 5.7 | 18.7 |
| Median | 2 | 2 | 17 |
| **Sum days supply, average** | 61 | 142 | 432 |
| Median | 9 | 30 | 386 |

Weighted claims defined as counting claims based on 30 days supply. Therefore, a 90 day supply claim equals three 30 day supply claims.

**Table 2.** Distribution of members by sum of short acting opioid days supply in first 90 day period (index date+90 days)

| | Overall | | | New Starts | | |
|---|---|---|---|---|---|---|
| **Sums of Short Acting Opioid Days Supply** | **N=961,642*** | **%** | **Cumulative %** | **N=741,883*** | **%** | **Cumulative %** |
| **1–10** | 637,431 | 66.3 | 66.3 | 581,677 | 78.4 | 78.4 |
| **11–20** | 105,481 | 11.0 | 77.3 | 78,929 | 10.6 | 89.1 |
| **21–30** | 61,515 | 6.4 | 83.7 | 37,606 | 5.1 | 94.1 |
| **31–40** | 26,418 | 2.8 | 86.4 | 13,209 | 1.8 | 95.9 |
| **41–50** | 18,770 | 2.0 | 88.4 | 7,073 | 1.0 | 96.9 |
| **51–60** | 22,680 | 2.4 | 90.7 | 6,858 | 0.9 | 97.8 |
| **61–70** | 12,859 | 1.3 | 92.1 | 3,081 | 0.4 | 98.2 |
| **71–80** | 12,804 | 1.3 | 93.4 | 2,601 | 0.4 | 98.5 |
| **81–90** | 27,641 | 2.9 | 96.3 | 6,036 | 0.8 | 99.4 |
| **90 or More** | 36,043 | 3.8 | 100.0 | 4,813 | 0.7 | 100.0 |

*Claims for liquids and solutions excluded – 29,040 members overall and 27,678 new start members

**Table 3.** Members with high morphine equivalent daily dose for at least 90 consecutive days between 7/1/13 and 12/31/13

| | Short acting only members n=990,682 | Long acting only utilizers n=10,345 | Short and long acting utilizers n=56,251 |
|---|---|---|---|
| **MED >100 for 90 consecutive days** | 913 (0.09%) | 485 (4.7%) | 7,530 (13.4%) |
| **MED >120 for 90 consecutive days** | 702 (0.07%) | 378 (3.7%) | 6,216 (11.1%) |

MED = morphine equivalent dose based on the measurement period of 7/1/13 through 12/31/13. All claims with a date of service within the measurement period were used for the calculation.

**Table 4.** Distribution of Members based on most common medical Claim ICD9 codes found by opioid use group

| Diagnosis | Short acting only members n=990,682 | Long acting only utilizers n=10,345 | Short and long acting utilizers n=56,251 |
|---|---|---|---|
| **Cancer** | 2.6% | 2.5% | 4.7% |
| **Neurologic pain** | 2.4% | 3.4% | 3.3% |
| **Arthritis** | 6.7% | 9.7% | 11.5% |
| **Joint pain** | 13.5% | 12.2% | 12.4% |
| **Low back pain** | 20.1% | 25.7% | 37.2% |
| **Neck pain** | 3.6% | 4.1% | 5.4% |
| **Abdominal pain** | 10.6% | 7.1% | 6.7% |
| **Headache** | 4.8% | 4.9% | 3.4% |
| **Fibromyalgia** | 1.3% | 2.3% | 2.1% |
| **Hepatitis C** | 0.2% | 0.5% | 0.4% |
| **Opioid dependence or abuse** | 0.1% | 0.3% | 0.7% |
| **Non-opioid dependence or abuse** | 2.4% | 2.0% | 1.9% |
| **Anxiety disorders** | 3.7% | 3.4% | 2.3% |
| **Depression** | 2.2% | 2.1% | 1.7% |
| **Bipolar disorder** | 0.3% | 0.3% | 0.3% |
| **Alcohol related psychiatric disorder** | 0.4% | 0.4% | 0.3% |
| **No medical claims found** | 4.5% | 3.5% | 2.7% |
| **Schizophrenia** | 0.02% | 0.04% | 0.02% |

ICD9 = International classification of diseases, ninth revision. Medical claim diagnoses were queried during a members continuous enrollment period. An ICD9 code could have been located in any of the 5 diagnosis fields. If a member had at least one diagnosis code for cancer or neuropathic pain they were forced into those groups, cancer first.

## Conclusions

- In this commercial population, 88 per 1,000 members had at least one opioid claim in 2H2013 and were continuously enrolled for approximately 12 months following that claim. The vast majority of these members (94%) used only short acting opioids.
- New opioid clinical program development should be aimed at long acting opioid utilizers, large supply of opioid in a short amount of time, and members without evidence of diagnoses to support chronic opioid therapy (e.g., cancer, neuropathic pain).
- A prior authorization program could have assessed a member's appropriateness for newly initiating only long acting opioids. Long acting only utilizers had on average a total paid amount of $907 per member or $157 per claim and a median of 2 claims. Potential savings of a new start PA program could reach 6,430 members x 2 claims x $157 per claim = $2,019,020/12 million members x 12 months or $0.01 per member per month.
- As of 2015, Minnesota Medicaid is requiring 85% of supply used up (compared to 75%) of the opioid prior to the next fill. A program change like this in our commercial population has the potential to impact 57,547 (5.4%) members and 109,398 (2.1%) claims across ~12 million members. This change could affect the number of claims a member fills over a 1 year period and potentially result in plan savings.
- Additional research could focus on prescriber disciplines, a more in-depth look at short vs long term use, and concurrent treatments — e.g., benzodiazepines and multiple opioid prescriptions at once.
- It is important for each insurer to understand their own opioid utilization patterns so that the right members are targeted and successful clinical programs are developed.

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4085-D © Prime Therapeutics LLC 03/15
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