Outcomes of an opioid overutilization pharmacist consultation program

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Background

- Prescription drug abuse is an epidemic. In 2012, the Centers for Medicare and Medicaid Services (CMS) first released guidance on identifying and intervening upon high risk controlled substance (CS) utilizers. The guidance was updated in 2013 and continues to focus on high daily doses of opioids along with high numbers of pharmacies and prescribers.[1]
- More than 12 million people reported using prescription painkillers non-medically in 2010, that is, using them without a prescription or for the feeling they cause.[2]
- Nearly three out of four prescription drug overdoses are caused by prescription painkillers — also called opioid pain relievers. These drugs were involved in 16,651 overdose deaths in 2010, more than cocaine and heroin combined.[3]
- These epidemic rates of opioid morbidity and mortality have prompted initiatives to identify members at high risk of adverse events from opioid use and health plans have administrative claims data available to identify CS use patterns indicating potential prescription CS abuse and/or dependence. However, there is a paucity of research showing the outcomes of any interventions.
- One study, of a prescriber mailing program, demonstrated decreased CS claims and costs over a six month period compared to a control group.[4]
- It is important to understand what programs aimed at CS misuse/abuse are available, the impact on CS prescribing, and what it means for the health plan and possibly improving member safety.

Objective & Purpose

Identify members potentially inappropriately overutilizing CS and measure the pre and post impact of a pharmacist consultation program.

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Methods

- A Medicare Part D administrative pharmacy claims dataset with ~1.1 million eligible members was used for the analysis.
- Members were required to be continuously enrolled from 12/1/2012 through 9/29/13 (end of post period for measurement).
- Members for prescriber intervention were identified using an internally defined CS score and a daily morphine equivalent dose (MED) calculation. MED is calculated by multiplying: number of dosage units per day (i.e., quantity dispensed divided by days supply) X Mg of opioid in each dose X conversion factor. MED is calculated for all opioid claims in the measurement period and added together if claims overlap.
- The CS score (Table 1) is calculated using three months of pharmacy claims data as follows:
  - *Claims* – Add up each unique CS claim from Drug Enforcement Administration (DEA) classes II-V. Assign 0.5 points for the first eight claims, and then assign one point for each claim thereafter.
  - *Unique Pharmacies and Prescribers* – Add up the total number of unique pharmacies and prescribers associated with all the member's CS claims. Assign one point for the first two unique (based on combined total), then assign 1.5 points for each unique thereafter.
  - *Utilization* – Add up the number of CS claims in month two and month three. If the number of claims in month three minus the number of claims in month two is two or more, then add one point.
- Other CS criteria includes: age over 16 and no claims for an antiretroviral or an antineoplastic drug in past three months.

Pharmacist consultation

- During the pre period of 12/1/12 through 3/1/13, member's pharmacy claims were assessed for a CS score of 20 or higher and daily MED greater than 120 for at least one day.
- Once members were identified, four attempts (one fax, three calls) were made to contact all of their prescribers to determine if therapy was appropriate, or if changes were warranted.
- Changes in therapy may have been: 1) approving only certain medications going forward, 2) blocking all access to CS, or 3) quantity limits on certain CS.
- If prescribers did not respond after the fax and three phone calls, the plan sponsor notified the member they had 30 days to take action or their CS claims would no longer be paid. In these instances, the prescriber had to appeal the decision by submitting coverage determination for that member.

Outcome measures

- Members with prescriber directed changes or no prescriber response were defined as the analyzable cohort. Then, controlled substance claims were assessed again in the post period from 7/1/13 to 9/29/13.
- Pre and post period (both 90 days) opioid and CS measures included: opioid claims, CS claims, total paid, number of unique pharmacies and prescribers and overall CS score.
- Student's t test was used for testing statistical significance ($p<0.05$).
- For descriptive purposes, we also reported out the same measures for the group of members whose prescribers responded that therapy was appropriate and made no change.

Results

- Out of approximately 1.1 million Medicare Part D members, 192 (2 per 10,000) were identified in the pre period (12/1/12 through 3/1/13) as having a CS score of 20 or higher and high daily MED for at least one day.
- 158 of 192 (82.3%) members who met the intervention criteria were continuously enrolled (Figure 1).
- Prescribers verified therapy for 50.6 percent (80) of the members, saying no change in therapy was warranted.
- Table 2 shows results for the 78 (49.4%) members where prescribers directed changes (n=77) or there was no response (n=1).
  - For 27 members, all of their CS prescriptions were stopped, 31 members had some stopped but not all and 20 members had some CS prescriptions stopped but had an additional CS added to therapy.
  - The average CS score for the 78 members, decreased from 24.7 to 14.6, $p<0.01$; CS claims decreased from 18 to 12, $p<0.01$. CS total paid was statistically lower in the post period, decreasing from $1,492 to $1,272 ($p<0.01$).
  - For opioids, total paid decreased from $928 to $822, $p=0.09$ and opioid claims decreased from 12.9 to 7.9, $p<0.01$.
  - The number of unique pharmacies significantly decreased for both CS and opioids (CS: 3.1 pre and 2.2 post; opioid 2.8 pre and 1.8 post, both $p<0.01$).
  - Prescribers decreased by 1.9 and 1.8 for CS and opioids, respectively, $p<0.01$.
- Table 3 shows results of the 80 members with no prescriber directed changes made to their therapy (prescriber said therapy was appropriate).
  - The average CS score for the 80 members, decreased from 24.2 to 17.7, $p<0.01$; CS claims decreasing from 22 to 16, $p<0.01$.
  - CS total paid was statistically lower in the post period, decreasing from $2,351 to $1,906 ($p<0.01$) and opioid claims total paid also significantly decreased, moving from $1,717 down to $1,407.
  - The average number of pharmacies utilized was not significantly different in the post period for CS claims or opioid claims.

Figure 1. Flow of members in analysis

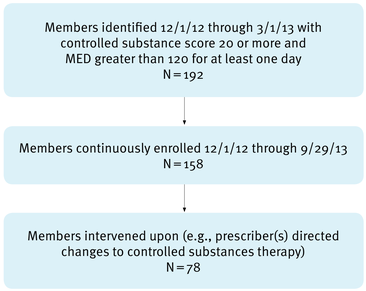

Table 1. Controlled substance score calculation

Source of information	Weight
Volume of controlled substance claims	Assign half a point to the individual for each of their first 8 claims for a controlled substance; assign 1 point for each additional controlled substance claim thereafter.
Number of unique pharmacies and prescribers	Based on the combined total of unique pharmacies and prescribers, assign 1 point for the first two unique entities; assign 1.5 points for each unique entity thereafter.
Rate of utilization of controlled substances	Assign 1 point if the number of claims for controlled substances in the 3rd month of the 90-day pre-intervention is two or more than the number of claims in the 2nd month of the pre-intervention period.

Table 2. Outcomes for members with prescriber directed changes to controlled substances therapy after pharmacist consultation intervention (n=78)

Prescriber-directed changes group

Outcome measure per member	Three months pre mean (SD)	Three months post mean (SD)	p value
Controlled substance score	24.7 (4.5)	14.6 (7.5)	<.0001
Controlled substance claims	17.9 (5.4)	11.8 (7.0)	<.0001
Opioid claims	12.9 (5.7)	7.9 (6.5)	<.0001
Controlled substance dispensing pharmacies	3.1 (1.4)	2.2 (1.2)	<.0001
Opioid dispensing pharmacies	2.8 (1.3)	1.8 (1.1)	<.0001
Controlled substance prescribers	4.6 (1.9)	2.7 (1.5)	<.0001
Opioid prescribers	3.8 (1.9)	2.0 (1.5)	<.0001
Controlled substance claims total paid	$1,492 ($1,727)	$1,272 ($1,648)	0.0433
Opioid claims total paid	$928 ($1,311)	$822 ($1397)	0.0926

SD = Standard deviation

Table 3. Outcomes for members with no changes to controlled substance therapy after pharmacist consultation intervention (n=80)

No changes group

Outcome measure per member	Three months pre mean (SD)	Three months post mean (SD)	p value
Controlled substance score	24.2 (5.4)	17.7 (9.6)	<.0001
Controlled substance claims	21.5 (6.2)	16.2 (8.9)	<.0001
Opioid claims	15.6 (7.3)	11.9 (8.2)	<.0001
Controlled substance dispensing pharmacies	2.0 (1.1)	1.8 (1.3)	0.1849
Opioid dispensing pharmacies	1.8 (1.0)	1.6 (1.1)	0.1713
Controlled substance prescribers	2.9 (1.5)	2.2 (1.3)	0.0002
Opioid prescribers	2.1 (1.2)	1.7 (1.1)	0.0048
Controlled substance claims total paid	$2,351 ($2,562)	$1,906 ($2,547)	<.0001
Opioid claims total paid	$1,717 ($2,253)	$1,407 ($2,195)	<.0001

SD = Standard deviation

Limitations

- Administrative pharmacy claims have the potential for miscoding and include assumptions of member actual medication use, therefore the data may represent information that is false-positive or -negative.
- Members may have paid for CS claims out-of-pocket or obtain them through friends and family. This could have resulted in misclassification of members as meeting the intervention criteria.
- Data are limited to Medicare Part D members; therefore findings may not be generalized to commercial populations.
- This analysis lacked a comparison group and therefore all findings should be considered descriptive.

Conclusions

- This pharmacist consultation program was associated with half of targeted member's prescribers responding with changes to be made to their CS therapy. These changes resulted in significant decreases in the CS score, CS and opioid claim count, cost, and utilization of unique pharmacies and prescribers.
- Over three months, there was a significant controlled substance claims savings of $17,160 (average $220 per member among 78 members).
- This study was limited by lack of a comparison group which is important as there is considerable regression to the mean when identifying potential CS abuse members and following them over time. Therefore, it is essential that these findings be viewed as descriptive and future analyses should include a control group.

References

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