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Overlapping buprenorphine, opioid, and benzodiazepine prescriptions among Veterans dually enrolled in VA and Medicare Part D

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Abstract

Background—Buprenorphine is a key tool in the management of opioid use disorder, but there are growing concerns about abuse, diversion and safety. These concerns are amplified for the Department of Veterans Affairs (VA), whose patients may receive care concurrently from multiple prescribers within and outside VA. To illustrate the extent of this challenge, we examined overlapping prescriptions for buprenorphine, opioids, and benzodiazepines among Veterans dually enrolled in VA and Medicare Part D.

Methods—We constructed a cohort of all Veterans dually enrolled in VA and Part D who filled an opioid prescription in 2012. We identified patients who received tablet or film buprenorphine products from either source. We calculated the proportion of buprenorphine recipients with any overlapping prescription (based on days supply) for a non-buprenorphine opioid or benzodiazepine, focusing on Veterans who received overlapping prescriptions from a different system than their buprenorphine prescription (Part D buprenorphine recipients receiving overlapping opioids or benzodiazepines from VA and vice versa).

Results—We identified 1,790 dually enrolled Veterans with buprenorphine prescriptions, including 760 (43%) from VA and 1,091 (61%) from Part D (61 Veterans with buprenorphine from both systems were included in each group). Among VA buprenorphine recipients, 199 (26%) received an overlapping opioid prescription and 11 (1%) received an overlapping benzodiazepine prescription from Part D. Among Part D buprenorphine recipients, 208 (19%) received an

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overlapping opioid prescription and 178 (16%) received an overlapping benzodiazepine prescription from VA. Among VA and Part D buprenorphine recipients with cross-system opioid overlap, 25% (49/199) and 35% (72/208), respectively, had >90 days of overlap.

Conclusions—Many buprenorphine recipients receive overlapping prescriptions for opioids and benzodiazepines from a different health care system than the one in which their buprenorphine was filled. These findings highlight a previously undocumented safety risk for Veterans dually enrolled in VA and Medicare.

Introduction

Although buprenorphine has emerged as a key tool in the management of opioid use disorder,(1-4) there are growing concerns about abuse and diversion.(5, 6) Buprenorphine is not typically co-prescribed with other opioids for more than a short period of time; it has much greater affinity for the mu opioid receptor, rendering other opioids less effective when used concurrently for pain control.(7) Thus, the long-term co-administration of buprenorphine and opioid pain medications may be a sign of abuse or diversion. Similarly, co-administration of buprenorphine with benzodiazepines is often discouraged, given an increased risk of adverse events, including emergency department visits and accidental injuries.(8-13) Benzodiazepines may interfere with the protective ‘ceiling effect’ on respiration typically seen with buprenorphine, and benzodiazepines have been implicated in overdoses associated with buprenorphine.(8, 14-16) Moreover, benzodiazepines have their own high risk of dependence and addiction, and co-occurring use of buprenorphine with benzodiazepines, when prescribed, must be closely monitored.

Ensuring safe buprenorphine prescribing is especially challenging for the Department of Veterans Affairs (VA), which faces a substantial burden of chronic pain and opioid use disorder among its patient population, as well as an increasing number of patients who receive concurrent health care in the private sector, disconnected from VA's robust electronic medical record. For example, any Veteran who is over the age of 65 or eligible for Medicare for other reasons (e.g. disability, end-stage renal disease) may also enroll in Part D prescription drug coverage through Medicare and receive prescriptions from both VA and non-VA providers. This ‘dual use’ of VA and non-VA health care makes management of opioid use disorder with buprenorphine difficult to monitor. For example, patients receiving buprenorphine from VA may also be receiving opioids or benzodiazepines from non-VA sources (cross-system use), with little coordination between systems.

To illustrate the extent of these challenges in managing buprenorphine use, we examined cross-system overlapping prescriptions for buprenorphine, opioids, and benzodiazepines among Veterans dually enrolled in Medicare Part D and VA in 2012.

Methods

We linked national patient-level data from 2012 from VA and the Centers for Medicare and Medicaid Services (CMS). VA data sources included the Corporate Data Warehouse for VA inpatient stays, outpatient encounters, and demographic data, as well as Pharmacy Benefits Management data for VA-dispensed outpatient prescriptions. CMS data sources included the

beneficiary annual summary file for enrollment and socio-demographic information on Veterans also enrolled in Medicare, Part D event files for prescription drugs dispensed through Medicare, and hospice claims.

Using these merged VA and Medicare research files, we constructed a national cohort of all Veterans who were dually enrolled in VA and Part D and filled an opioid prescription in 2012, excluding hospice recipients. We identified patients who received tablet or film buprenorphine products, whether from VA or Part D. For each individual, we identified whether they were receiving buprenorphine, a non-buprenorphine opioid, or a benzodiazepine on each day of the year, based on the dispensing date and days supply of each prescription from both VA and Part D. We then calculated the proportion of buprenorphine recipients who had any overlapping prescription (based on days supply) for a non-buprenorphine opioid or benzodiazepine from a different system than their buprenorphine prescription (i.e., Part D buprenorphine recipients receiving overlapping benzodiazepines or opioids from VA, and vice versa). All analyses were carried out using SAS version 9.3 (SAS Institute Inc, Cary, NC).

Results

In total, there were 9,753 VA enrollees who received buprenorphine in 2012, 1,790 of whom were dually enrolled in VA and Part D and not receiving hospice care. Of the 1,790 dually enrolled Veterans, 760 (43%) received buprenorphine from VA and 1,091 (61%) from Part D (61 Veterans with buprenorphine from both systems were included in each group). Buprenorphine recipients had a mean age of 56 years, with 79% under age 65, 95% male, 75% non-Hispanic white, and 46% enrolled in Medicaid (**Table 1**). Almost one-third (30%) were enrolled in Medicare Advantage (managed care) plans.

Of the 760 patients receiving buprenorphine from VA, 199 (26%) received an overlapping opioid prescription and 11 (1%) received an overlapping benzodiazepine prescription from Part D (**Table 2**). Of the 1,091 receiving buprenorphine from Part D, 208 (19%) received an overlapping opioid prescription and 178 (16%) received an overlapping benzodiazepine prescription from VA. Among VA and Part D buprenorphine recipients with cross-system opioid overlap, 25% (49/199) and 35% (72/208), respectively, had more than 90 days of overlap. (**Table 2**). Among Part D buprenorphine recipients with overlapping VA benzodiazepines, 42% (75/178) had more than 90 days of overlap.

Discussion

More than one in four VA buprenorphine recipients and one in five Part D buprenorphine recipients had an overlapping opioid dispensed from a different health care system than the one in which their buprenorphine was filled. One in six Part D buprenorphine recipients received an overlapping benzodiazepine from VA. These findings highlight a previously undocumented phenomenon that presents significant safety risks for Veterans, and for any patient who receives care in multiple systems that do not regularly communicate.

Within VA, there are robust decision support tools connected to the electronic medical record that alert providers when overlapping opioids are prescribed or drug-drug interactions

are present. The process is automated, with backup from dispensing pharmacists. No such system is in place that includes both VA and non-VA prescriptions. There is a mechanism for VA clinicians to enter non-VA medications into the electronic record when patients report their use. However, this system relies on clinician documentation, and the specifics needed to identify truly overlapping prescriptions – such as the date of the fill and the quantity dispensed – are missing. Within Part D, beneficiaries commonly receive prescriptions from multiple physicians, but these prescriptions are paid by the same insurer and thus available to decision support tools that use payer data. This is not the case when physicians within VA and outside VA prescribe medications simultaneously.

One option for capturing data both within and outside the VA is through state Prescription Drug Monitoring Programs (PDMPs), which collect dispensing data on opioid medications and other controlled substances from all pharmacies, including VA. While PDMPs are a step in the right direction, they are voluntary in most states(17, 18) and will not likely be the sole mechanism whereby VA or Medicare fully mitigates the risks of dual system opioid use. PDMPs require someone to log in and query the state system, which is prone to error when compared to the system within VA in which overlapping opioids or drug-drug interactions are automatically queried. Under the Consolidated Appropriations Act of 2016, VA providers are now required to follow CDC guidelines for prescribing opioids,(19) which recommend checking the state PDMP, and the new Comprehensive Addiction and Recovery Act of 2016 (CARA) recently passed by Congress requires VA providers to check PDMP data in some form before starting opioid therapy.(20) However, there are no requirements for PDMP checks before every prescription. Moreover, there are no similar national requirements for non-VA providers, who are subject to varying state laws that govern their use of PDMPs. It remains to be seen what impact PDMPs will have on dual use of opioids in general, and buprenorphine/opioids specifically.

Our analysis is subject to important limitations. First, our data are from 2012 and do not necessarily represent the current state of buprenorphine use across VA and Medicare. However, given lags in data availability in VA and Medicare, these are the most recent data available and represent the first comprehensive effort to merge these data to evaluate buprenorphine use. It will be important to re-evaluate this use in 2013, when restrictions on benzodiazepine prescriptions in Part D were removed.(21) Second, we are unable to identify the specific reason for overlapping prescriptions and thus cannot comment on the clinical justification, or lack thereof, for each prescription. However, it is difficult to justify buprenorphine and opioid prescriptions that overlap for more than 90 days, especially when prescribed in different health systems and by different doctors. As noted, a large percentage of buprenorphine recipients with cross-system overlap had more than 90 days of overlapping prescription. Finally, as in any claims-based analysis, we are unable to capture prescriptions paid for in cash.

As the prevalence of dual use and buprenorphine use increases, it is incumbent on both Medicare and VA to find ways to share data in real time so that prescribers in one system can identify the medications being prescribed in the other system. This mandate must also extend to other insurers beyond Medicare. Unfortunately there are no mechanisms in place to ensure this communication happens, which relies now on clinicians to search a PDMP or

communicate with other clinicians. Initiatives to expand automated communication and real-time data-sharing between VA and other health systems and insurers must accelerate alongside the ongoing efforts to expand the use of private care by VA enrollees.

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Table 1

Characteristics of buprenorphine users dually enrolled in VA and Medicare Part D in 2012, by source of buprenorphine.

Characteristic	Buprenorphine Source		All ^a n (%)	P-Value ^b
	VA n (%)	Part D n (%)		
	760 (42.5)	1,091 (60.9)	1,790	
Age, years, mean (SD)	55.3 (10.9)	56.6 (11.0)	56.1 (10.9)	<0.01
Age, years				
18-39	74 (9.7)	93 (8.5)	156 (8.7)	0.1
40-64	546 (71.8)	754 (69.1)	1,263 (70.6)	
65+	140 (18.4)	244 (22.4)	371 (20.7)	
Gender, male	720 (94.7)	1,030 (94.4)	1,692 (94.5)	0.76
Race and ethnicity^c				
Hispanic	83 (11.0)	67 (6.2)	144 (8.1)	<0.01
Non-Hispanic White, single race	514 (68.1)	855 (78.9)	1,325 (74.6)	
Non-Hispanic Black, single race	147 (19.5)	146 (13.5)	283 (15.9)	
Non-Hispanic Other	11 (1.5)	15 (1.4)	25 (1.4)	
Medicare Advantage^d in 2012	213 (28.0)	346 (31.7)	544 (30.4)	0.09
Medicaid coverage in 2012				
Overall	381 (50.1)	466 (42.7)	819 (45.8)	<0.01
Age < 65 ^e	315 (50.8)	396 (46.8)	688 (48.5)	0.12
Age ≥ 65 ^e	66 (47.1)	70 (28.7)	131 (35.3)	<0.01
Low-income subsidy^f				
Not eligible	311 (40.9)	482 (44.2)	768 (42.9)	<0.01
Fully subsidized	404 (53.2)	483 (44.3)	856 (47.8)	
Partially subsidized	45 (5.9)	126 (11.5)	166 (9.3)	
Urban/Rural^g				
Urban	555 (73.0)	772 (70.7)	1,283 (71.6)	0.29
Rural	205 (27.0)	319 (29.2)	507 (28.3)	

^aThere were 61 individuals receiving buprenorphine in both VA and Part D in 2012. These individuals were included in both user groups.

^bP-value for comparing patient characteristics across the 2 groups of buprenorphine users from Chi-Square or ANOVA tests.

^cRace missing for 13 subjects.

^dMedicare Advantage plans are managed care plans within Medicare.

^eNumbers represent the percent of the cohort in the given age group enrolled in Medicaid in 2012. For example, among VA buprenorphine users under age 65, 315 (50.8%) were enrolled in Medicaid.

^fLow income subsidy is available in Medicare Part D to assist low-income individuals with coverage.

^gUrban/Rural defined based on county of residence.

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Table 2

Overlapping opioid and benzodiazepine prescriptions among users of buprenorphine dually enrolled in VA and Medicare Part D in 2012.

Days of Overlap	<u>VA Buprenorphine^a n=760^b</u>	<u>Part D Buprenorphine n=1,091^b</u>	
	<u>Part D Opioid</u>	<u>VA Opioid</u>	<u>VA Benzodiazepine</u>
	n (%)	n (%)	n (%)
Any days	199 (26.2)	208 (19.1)	178 (16.3)
1-7 days	53 (7.0)	34 (3.1)	14 (1.3)
8-30 days	60 (7.9)	45 (4.1)	49 (4.5)
31-90 days	37 (4.9)	57 (5.2)	40 (3.7)
91+ days	49 (6.4)	72 (6.6)	75 (6.9)

^aThere were 11 (1%) VA buprenorphine users who received overlapping Part D benzodiazepines. However, data on days of overlap was excluded in compliance with CMS restrictions on minimal sample size. Medicare Part D had restrictions on benzodiazepine coverage during the study period.

^bThere were 61 individuals receiving buprenorphine in both VA and Part D in 2012. These individuals were included in both user groups.