Analysis

The Current State of Opioid Prescribing and Drug Enforcement Agency (DEA) Action Against Physicians: An Analysis of DEA Database 2004-2017

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Background: Prescribing opioids has become a challenge. The US Drug Enforcement Agency (DEA) and Centers for Disease Control and Prevention (CDC) have become more involved, culminating in the March 2016 release of the CDC's "Guidelines for Prescribing Opioids for Chronic Pain."

Objectives: Given the new guidelines, we wanted to see if there have been any changes in the numbers, demographics, physician risk factors, charges, and sanctions involving the DEA against physicians who prescribe opioids, when compared to a previous DEA database review from 1998 to 2006.

Study Design: This study involved an analysis of the DEA database from 2004 to 2017.

Setting: The review was conducted at the Henry Ford Health System Division of Pain Medicine.

Method: After institutional review board approval at Henry Ford Health System, an analysis of the DEA database of criminal prosecutions of physician registrants from 2004-2017 was performed. The database was reviewed for demographic information such as age, gender, type of degree (doctor of medicine [MD] or doctor of osteopathic medicine [DO]), years of practice, state, charges, and outcome of prosecution (probation, sentencing, and length of sentencing). An internet-based search was performed on each registrant to obtain demographic data on specialty, years of practice, type of medical school (US vs foreign), board certification, and type of employment (private vs employed).

Results: Between 2004 and 2017, Pain Medicine (PM) had the highest percentage of in-specialty action at 0.11% (n = 5). There was an average of 18 prosecutions per year vs 14 in the previous review. Demographic risk factors for prosecution demonstrated the significance of the type of degree (MD vs. DO), gender, type of employment (private vs. employed), and board certification status for rates of prosecution. Having a DO degree and being male were associated with significantly higher risk as well as being in private practice and not having board certification ($P < .001$). In terms of type of criminal charges as a percent of cases, possession with intent to distribute (n = 90) was most prevalent, representing 52.3% of charges, with new charges being prescribing without medical purpose outside the usual course of practice (n = 71) representing 41.3% of charges. Comparison of US graduates (MD/DO) vs. foreign graduates showed higher rates of DEA action for foreign graduates but this was of borderline significance ($P = .072$).

Limitations: State-by-state comparisons could not be made. Specialty type was sometimes self-reported, and information on all opioid prosecutions could not be obtained. The previous study by Goldenbaum et al included data beyond DEA prosecution, so direct comparisons may be limited.

Conclusion: The overall risk of DEA action as a percentage of total physicians is small but not insignificant. The overall rates of DEA prosecution have increased. New risk factors include type of degree (DO vs. MD) and being in private practice with a subtle trend toward foreign graduates at higher risk. With the trend toward less prescribing by previously high-risk specialties such as Family Medicine, there has been an increase in the relative risk of DEA action for specialties treating patients

with pain such as PM, Physical Medicine and Rehabilitation, neurology, and neurosurgery bearing the brunt of prosecutions. New, more subtle charges have been added involving interpretation of the medical purpose of opioids and standard of care for their use.

Key words: Certification, CDC, criminal, DEA, opioid, prescribing, prosecution, sanctions

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Prescribing opioids in the current legal environment has become a contentious issue for many physicians. It is what Dineen et al (1) in the American Journal of Law and Medicine described as being caught "between a rock and a hard place" with greater scrutiny from law enforcement, regulatory agencies, and state medical boards. Physicians' concerns about prescribing opioids are not unfounded, given data showing opioid-prescribing physicians being scrutinized with greater intensity (2,3). The Medical Board of California reported a 195% increase in disciplinary actions related to controlled substances in the years studied, 2009-2010 and 2014-2015 (2,3). The data on actual legal jeopardy from opioid-prescribing has been limited, with the most thorough analysis performed by Goldenbaum et al (4), in which the authors reviewed criminal and administrative cases against opioid-prescribing physicians from 1998-2006. Their information was gathered from the United States (US) Drug Enforcement Agency (DEA) database of registrants but also from available public records of criminal court cases through Lexis/Nexis, online searches of cases, and telephone contact with Attorney Generals of 43 states. A total of 725 physicians were identified and 335 were criminal cases with 126 involving DEA action. Their conclusion was that the risk of criminal or administrative charges was rare at 0.1% of all physicians in the Unites States. The specialties with the highest risk for prosecution were Family Medicine (FM) followed by Physical Medicine and Rehabilitation (PMR). Surprisingly, Pain Medicine (PM) was only third in rates of sanction. Another paper by Jung et al (5) in 2006 reviewed DEA sanctions in 2003-2004 and found 47 arrests and 56 revocations, but their analysis did not report any other information beyond the actual charges. Although the rates of prosecution were low per the authors, this does not mitigate the twin pressures of regulatory bodies like the Joint Commission calling on pain to be taken seriously (6) and the knowledge of increased regulatory scrutiny driven by an increase in overdose deaths from legal and illegal opioids (7). According to the Centers for Disease Control (CDC), there were 70,237 fatal drug overdoses in 2017, with prescription opioids representing 17,029 (24.2%) of these (8). Given these startling numbers, various specialty societies have put forward at least 13 guidelines for prescribing opioids, disseminated the year after Goldenbaum's and Jung's studies (9). Since that time, state and federal agencies including the DEA and CDC have become more involved, culminating in the March 2016 release of the CDC's "Guidelines for Prescribing Opioids for Chronic Pain" (10). The data indicates that these efforts have succeeded to some degree with annual opioid-prescribing rates remaining stable from 2006 to 2010 and then declining 41% from 2010 to 2015 (11). Given the new guidelines and increased regulatory scrutiny, our present study aimed to see if there have been any changes in the numbers, demographics, specific physician risk factors, types of charges, and sanctions involving legal actions specifically by the DEA against physicians who prescribe opioids.

Methods

After institutional review board approval by the Henry Ford Health System, an analysis of the DEA online database of criminal prosecutions of physician registrants from 2004-2017 was performed (Table 1). Only those registrants charged with opioid-based crimes were reviewed. The database was reviewed for demographic information such as age, gender, type of degree (doctor of medicine [MD] or doctor of osteopathic medicine [DO]), years of practice, state, charges, and outcome of prosecution (probation, sentencing, and length of sentencing). An internet-based search was performed on each registrant to obtain demographic data on specialty, years of practice, type of medical school (US vs foreign), board certification, and type of employment (private vs employed). Besides a general Google search, specific Web sites used included healthgrades.com (www.healthgrades.com), vitals.com (www.vitals.com), and Zocdoc.com (www.zocdoc.com). Medical specialties and board certification were

Table 1. *DEA Registrant Demographics*.

	US	% in US	DEA	% in DEA	*P* Value
Degree*					< .001
Doctor of Medicine (MD)	870,312	91.47	139	80.81	
Doctor of Osteopathic Medicine (DO)	81,115	8.53	33	19.19	
Medical School**					.072
US and Canadian Graduates (MD or DO)	724,640	77.02	122	70.93	
International Graduates	216,182	22.98	50	29.07	
Gender***					< .001
Male	617,186	65.92	152	88.37	
Female	319,145	34.08	20	11.63	
Certified by an ABMS/AOA specialty board					< .001
Yes	752,558	78.90	43	25.00	
No	201,137	21.10	129	75.00	
Age****					
Less than 50 yrs	454,775	47.97	66	38.37	
50+ yrs	493,261	52.03	106	61.63	
Practice type*****					< .001
Private		42.00	159	92.40	
Employed		58.00	13	7.60	

*Numbers of licensed physicians by state were obtained from Young A, Chaudhry HJ, Pei X, Arnhart K, Dugan M, Snyder GB. A census of actively licensed physicians in the United States, 2016. *J Med Regul* 2017; 103:7-21. *2268 physicians with Degree NA were not included in calculating %. **Physicians with Medical School NA were not included to calculate %. ***17,364 physicians with Gender NA were not included to calculate %. ****5659 physicians with Age NA were not included to calculate %. *****Total numbers of private practice doctors vs employed unknown.
Abbreviations: ABMS/AOA, American Board of Medical Specialties/American Osteopathic Association; DEA, Drug Enforcement Agency

cross-referenced with individual specialty boards, the American Board of Medical Specialties (www.abms.org), and the Web site certificationmatters.org (www.certificationmatters.org). Only those physicians who had all the previously mentioned data were included in the study. Comparisons of physicians with DEA action were performed using general demographic data for all physicians in the US in 2016 published by Young et al (12). Categorical variables were summarized in frequency and percentage. One-sample proportion tests were used to compare physicians in the DEA database to active actively-licensed physicians in the US. *P* values < .05 were considered statistically significant. All statistical analyses were performed using the software R Version 3.6.0 (R Foundation for Statistical Computing, Vienna, Austria).

Results

Between 2004-2017, there were 276 prosecutions of health professionals by the DEA with 252 being physicians. This represented 0.02% of all physicians in 2016 (n=951,427) with a average of 18 prosecutions per year. Of the 252 prosecutions, full data was obtainable on 173. Eighty-eight percent (n = 153) were male with a mean age of 53.3 years and mean length of practice of 23.54 years. As a percentage of physicians with DEA action by specialty, PM had the highest percentage of in-specialty action at 0.11% (n = 5). The rest of the top 5 specialties with DEA action were as follows in descending order: FP, 0.068% (n = 77); PMR, 0.054% (n = 5); and neurology, 0.036% (n = 5) tied with neurosurgery, 0.036% (n = 2). In terms of locations with the 5 highest rates of prosecution, West Virginia was the highest at 0.101% (n = 8). The rest of the states with the next highest percentages of physicians under DEA action were as follows in descending order: Pennsylvania, 0.036% (n = 20); Kansas, 0.031% (n = 3); Florida (n = 3), Louisiana (n = 5), and Maine (n = 2) tied at 0.03%; and Michigan (n = 13) and New Jersey (n = 10) tied at 0.027%. Calculation of *P* values using one-sample proportion test to show the statistical significance for location and specialty could not be performed because of the large number of many states and specialties. A review of other demographic risk factors for prosecu-

tion demonstrated the significant effects of type of degree (MD vs DO), gender, type of employment (private vs employed), and board certification status on rates of prosecution. Having a DO degree and being male was associated with significantly higher risk as well as being in private practice and not having board certification ($P < .001$). A comparison of US graduates (MD/DO) vs foreign graduates showed higher rates of DEA action for foreign graduates, but this difference was of borderline significance ($P = .072$). In terms of type of criminal charges as a percent of cases, possession with intent to distribute (n = 90) was most prevalent, representing 52.3% of illegal distribution charges. The rest of the top 10 most frequent charges in descending rank order were as follows: prescribing without medical purpose not in the usual course of practice, 41.3% (n = 71); obtaining controlled substances by fraud, 20.3% (n = 35); no examination/no physician-patient relationship/lack of monitoring, 18.6% (n = 32); self-use, 11% (n = 19); insurance fraud, 11% (n = 19); selling drugs, 9.3% (n = 16); internet prescribing, 8.7% (n = 15); prescribing to addicted person, 7.6% (n = 13); and aiding and abetting another, 5.8% (n = 10). The charge of opioid-prescribing that caused the death of patients was not insignificant, representing 5.2% of charges (n = 9). The vast majority of prosecuted physicians had 1 or 2 charges: 36.6% (n = 63) had 2 charges, and 34.9% (n = 60) had one charge. Eighty-two percent (n = 141) pleaded guilty while the rest went to trial, 67.44% (n = 116) were sentenced to jail time, and 31.98% (n = 55) were placed on probation. The average sentence was 6.8 years.

Discussion

Trends in DEA Action

The total number of DEA actions against registrants from 1998-2006 was 126, amounting to an average rate of 14 per year (4). Our present study demonstrated an increased rate of action from 2004-2017, averaging 18 per year. This increase is in line with increased government concern about the current opioid crisis and increased law enforcement action. The charges appeared to be different, however, from the Goldenbaum et al study (4), in which the charges involved fraud or direct drug dealing. In their study, the most prevalent charges in descending order were drug trafficking/selling/illegally distributing/racketeering (77.9%); fraud: prescription, healthcare, wire/mail, other (33.9%); illegally obtaining drugs/conspiracy to obtain (27%); money laundering (8%); other nonspecific drug act violation (7.3%); violating standards of medical care/practice (6.1%); murder/manslaughter (5.8%); records falsifying, failure to maintain records (5.8%); inappropriate/illegal/harmful relationship with patients (4.5%); obstruction of justice/making false statements (2.7%); prescribing illegally (2.7%); and unlicensed activity (1.8%). Our study showed a change in the types of charges, from direct drug-selling to more nuanced charges of "possession with intent to distribute" and "prescribing without medical purpose outside the usual course of practice." Direct fraud charges still rounded out the top 3 charges, as before, but actual direct selling of drugs dropped in frequency. New types of charges involving actual clinical care of patients not seen previously included prescribing opioids over the internet and no examination/no physician-patient relationship/lack of monitoring as well as prescribing to an addicted patient. Opioid-prescribing leading to patient death remained steady at 5.2%-5.8%. There was an interesting new charge of overprescribing by a pain physician who did not offer or pursue non-opioid interventional procedures that he was capable of performing. The seriousness of DEA prosecution is sobering given its consequences. This is the first study to report the outcomes of DEA actions with the majority of the accused pleading guilty and being sentenced to an average of over 6 years in jail.

Demographic Trends

As in Goldenbaum's survey, those prosecuted tended to fit the profile of nonboard-certified older male physicians (4). The important correlation between board certification and clinical competence has been borne out by multiple studies and is summarized nicely in a review by Lipner et al (13). The results of their review confirmed patients', physicians', and hospitals' perceived value of board certification was high and certification performance related to nonclinical measures such as disciplinary action. They also reported generally better patient care, but the results had modest effect sizes and were not unequivocal. The lack of board certification may have other financial and practice-related consequences such as exclusion from insurance panels, hospital privileges, and ability to obtain a referral base. The fact that the older age of disciplined physicians was not surprising either. In a systematic review by Choudhry et al (14) of the relationship between clinical experience and quality of health care, 52% of studies reported decreasing performance with increasing years of practice. Heins et al (15) reported that providers with > 3 years of experience were 2.3 times more likely to give opioid prescriptions

Table 2. *Physician specialty and DEA action.*

Specialty	Total Active Physicians*	# Physicians in DEA	% Physicians in DEA
Pain Medicine and Pain Management	5,345	5	0.094 (i.e., 5/5,345 = 0.094)
Family Medicine/General Practice	113,514	77	0.068
Physical Medicine and Rehabilitation	9,343	5	0.054
Neurology	13,717	5	0.036
Neurological Surgery	5,531	2	0.036
Dermatology	12,051	4	0.033
Anesthesiology	41,762	12	0.029
Internal Medicine	115,557	33	0.029
Psychiatry	38,205	10	0.026
Urology	9,921	2	0.020
Emergency Medicine	42,348	6	0.014
Plastic Surgery	7,142	1	0.014
General Surgery	25,042	3	0.012
Orthopedic Surgery	19,001	2	0.011
Obstetrics and Gynecology	41,656	3	0.007
Ophthalmology	18,817	1	0.005
Pediatrics	58,435	1	0.002
Palliative Care**		1	

*The number of active physicians by specialty in the US is taken from www.aamc.org/data/workforce/reports/492558/1-2-chart.html. **Total # for Palliative Care specialty in the United States is not available.

than those less experienced in the emergency room. This is contradicted, however, by another study by Larue et al (16), which reported that older oncologists (> 45 years) prescribed opiods less frequently than younger oncologists (< 45 years). The predominance of male physicians prosecuted correlates with the higher proportions of male physicians in higher-risk specialties such as PM (81.6%), FP (60%), PMR (64.7 %), neurology (70.6%), and neurosurgery (91.6%) (17) (Table 2) . Deepmala et al (18), in their review of the literature on provider characteristics influencing prescription of analgesics, reported some studies showing either no difference in prescribing or more subtle gender-based differences, with male physicians more likely to give opioids to male patients and female physicians more likely to prescribe to female patients. The predominance of physicians in private practice who are prosecuted vs those who are employed probably makes sense in the light of differences in incentives and administrative constraints in employed situations.

Trends by Specialty, Type of Degree, Type of Medical School, and Geography (State)

A big difference between Goldenbaum's study and the present study is the change in risk by specialty, with PM rising from third highest risk to the highest, followed by FP (previously the highest) and PMR remaining the third highest. The previously fourth (psychiatry) and fifth (internal medicine) highest-risk specialties have been replaced by specialties more likely to treat pain, such as neurology and neurosurgery. These findings are consistent with prescribing trends reported by Levy et al (19), who reported drops in opioid prescriptions by FP, internal medicine, emergency medicine, and surgery, but continued increased prescribing by PMR and PM. With PM, PMR, neurology, and neurosurgery being specialties with more advanced knowledge in managing pain, it is hard to argue that this trend may be due to gaps in knowledge. Given the opioid-prescribing trends by the specialties mentioned previously, it is more likely a transfer of risk associated with opioid-prescribing from some specialties to others. The higher risk of DO vs MD had not been looked at in the past, but given the higher rates of DO graduates in higher-risk specialties such as PMR and FP, this finding was not surprising. Goldenbaum et al (4) did not find any significant difference in rates of sanctions between foreign graduates and

Table 3. *States and DEA action*.

State	# Licensed Physicians*	# Physicians in DEA	% Physicians in DEA
West Virginia	7,943	8	0.101 (i.e., 8/7,943 = 0.101)
Pennsylvania	56,337	20	0.036
Kansas	9,566	3	0.031
Florida	74,012	22	0.030
Louisiana	16,894	5	0.030
Maine	6,779	2	0.030
Michigan	47,284	13	0.027
New Jersey	37,181	10	0.027
Wyoming	3,775	1	0.026
South Dakota	3,806	1	0.026
Oklahoma	13,141	3	0.023
Delaware	5,269	1	0.019
Colorado	21,897	4	0.018
Indiana	28,251	5	0.018
Washington	28,747	5	0.017
Tennessee	23,039	4	0.017
Idaho	5,969	1	0.017
Georgia	35,951	6	0.017
Illinois	49,513	6	0.012
Texas	77,894	9	0.012
Massachusetts	34,847	4	0.011
Nevada	8,861	1	0.011
New Mexico	9,235	1	0.011
Kentucky	18,526	2	0.011
Ohio	46,631	5	0.011
Hawaii	9,464	1	0.011
South Carolina	18,999	2	0.011
Mississippi	10,249	1	0.010
Minnesota	23,494	2	0.009
District of Columbia	12,520	1	0.008
Virginia	37,820	3	0.008
Missouri	25,763	2	0.008
New York	93,951	7	0.007
Connecticut	17,414	1	0.006
California	149,283	7	0.005
Wisconsin	26,755	1	0.004
North Carolina	38,716	1	0.003
Alabama	15,947	0	0
Alaska	4,049	0	0
Arizona	25,344	0	0
Arkansas	9,967	0	0
Iowa	11,931	0	0
Maryland	30,188	0	0
Montana	5,244	0	0
Nebraska	9,316	0	0
New Hampshire	7,262	0	0
North Dakota	3,895	0	0
Oregon	15,165	0	0
Rhode Island	5,432	0	0
Utah	10,751	0	0
Vermont	3,540	0	0
Puerto Rico**	NA	1	NA

*Numbers of licensed physicians by state were obtained from Young A, Chaudhry HJ, Pei X, Arnhart K, Dugan M, Snyder GB. A census of actively licensed physicians in the United States, 2016. *J Med Regul* 2017; 103:7-21. **The number of licensed physicians in Puerto Rico was not available.

US graduates. This was partially seen in the present study, in that foreign graduates had higher rates of prosecution, but this difference was of borderline significance. Previous studies did not break down the risk of DEA action by state. The present study found the highest rates of DEA action to be in West Virginia, followed by Pennsylvania, Kansas, Florida, Louisiana, Maine, and Michigan tied with New Jersey. That West Virginia leads in the number of prosecutions should not be surprising, given the recently updated summary of state opioid-prescribing and opioid-related deaths from the National Institute on Drug Addiction (NIDA) (20). West Virginia leads the nation in reported opioid deaths at 49.6 per 100,000, with upper-tier opioid prescriptions at 81.3 per 100,000 (20). The NIDA opioid deaths report did not include the rest of the top states for opioid prosecution. On cursory review of rankings of states by opioid-prescribing, there does not seem to be a straight correlation between the opioid-prescribing rates in each state and DEA prosecution rates. An example of this was the fact that the top 5 prescribing states (Alabama, Arkansas, Tennesee, Mississippi, and Louisiana) did not match the top 5 states for DEA action (West Virginia, Pennsylvania, Kansas, Florida, Louisiana, Maine, and Michigan) (Table 3). The rank order of opioid-related deaths is incomplete, but

Table 4. *Types of criminal charges*.

Charge	# DEA Action	Prevalence Among Sanctions List (n = 172 physicians)	Rank
Possession with intent to distribute illegal distribution	90	52.3	1
Prescribing without medical purpose not in usual course of practice	71	41.3	2
Obtained controlled substances by fraud	35	20.3	3
No examination/no physician-patient relationship/lack of monitoring	32	18.6	4
Self-use	19	11.0	5
Insurance fraud	18	10.5	6
Sell drugs	16	9.3	7
Internet prescribing	15	8.7	8
Prescribing to addicted person	13	7.6	9
Aiding and abetting another	10	5.8	10
Death of patient	9	5.2	11
Money laundering	7	4.1	12
Sex for drugs	5	2.9	13
License suspended	5	2.9	14
False DEA registration	4	2.3	15
Criminal possession	4	2.3	16
Failure to keep medical records	3	1.7	17
Drug trafficking	2	1.2	18
Narcotics to every patient	2	1.2	19
Witness Tampering	1	0.6	20
Alternatives not tried	1	0.6	21

Table 5. *Number of charges*.

# Charges	# Physicians	%
5	9	5.2
4	11	6.4
3	29	16.9
2	63	36.6
1	60	34.9

Table 6. *Outcome of DEA action*.

Group	Frequency	Proportion
Guilty plea	141	82.0
Verdict	30	17.4
Arrest Warrant	1	0.6
Outcome	**Frequency**	**%**
Probation	55	31.98
Sentenced	116	67.44
Fled	1	0.58

the top 5 states were West Virginia, Ohio, District of Columbia, New Hampshire, and Maryland; this only partially matched the top 5 states for DEA prosecution (20). It is difficult to say why certain states have higher risk based on opioid-prescribing and opioid deaths alone; that is beyond the scope of the current study (Tables 4-6).

Conclusions

This overall risk of DEA action as a percentage of total physicians is small but not insignificant. The consequences of DEA action can be devastating for the accused with lengthy jail sentences. The overall rates of DEA prosecution have increased. The types of charges previously seen have broadened outside of direct selling of drugs and drug dealing toward more nuanced charges of "possession with intent to distribute" and "prescribing without medical purpose outside the usual course of practice" being the most prevalent. New charges have been added as physicians become more involved in prescribing over the internet. No change has been found in physician demographic risk factors such as being male,

older, and without board certification. New risk factors found include type of degree (DO vs MD) and being in private practice, with a subtle trend toward foreign graduates being at higher risk. There was a geographical component to risk based on the state in which each physician practices. With the trend toward less prescribing by previous high-risk specialties such as FP, there has been an increase in the relative risk of DEA action for specialties treating patients with pain, such as PM, PMR, neurology, and neurosurgery; these specialties bear the brunt of prosecutions.

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