Characteristics of Opioid Prescriptions in 2009

To the Editor: Opioid analgesics, while important for the treatment of pain, are associated with high rates of abuse. Most abusers report they obtained prescriptions on their own or medications from friends and relatives who had been prescribed opioids. We analyzed prescription practices in the United States to identify possible contributors to the high rate of opioid analgesic abuse. We paid particular attention to prescription practices in youth, for whom prescriptions of controlled medications, including opioids, have nearly doubled between 1994 and 2007.1

Methods. The data were acquired through the Vector One: National (VONA) database from SDI Health (Plymouth Meeting, Pennsylvania). SDI receives prescription data from 35 015 of the 62 132 retail pharmacies in the United States. These pharmacies dispense nearly half of all retail prescriptions nationwide. Detailed information about SDI’s coverage statistics is proprietary. SDI receives 1.4 billion prescription claims per year representing 121 million unique patients. The sample is nationally representative. More detailed information about VONA can be obtained elsewhere.2 We analyzed opioid prescriptions in 2009 as a function of physician specialty (using SDI descriptors), patient age, duration of prescription, and whether the patient had filled a prior prescription (from the same or a different provider) for an opioid analgesic within the past month. We compared differences between prescriptions by age groups and by medical specialty using 2-sample t tests (SAS version 9.1; SAS Institute, Cary, North Carolina). To avoid a potential type I error when making multiple comparisons, we applied a Bonferroni correction and a more conservative significance level of P < .001. This research was exempt from 45 CFR part 46 requirements under 45 CFR 46.101(b)(4).

Results. There were 79.5 million prescriptions for opioid analgesics captured (39% of the estimated projection of 201.9 million opioid prescriptions dispensed in the US in 2009). Most prescriptions were for hydrocodone- and oxycodone-containing products (84.9%, 67.5 million) and issued for short treatment courses (19.1% for <2 weeks, 65.4% for 2-3 weeks). The percentage of prescriptions dispensed increased with age, from 0.7% in those aged 0 to 9 years to 28.3% in those 60 years and older. Of all opioid prescriptions, 11.7% (9.3 million) were for patients between 10 and 29 years old, while 45.7% (36.4 million) were for those between 40 and 59 years old. Overall, the main prescribers were primary care physicians (general practitioner/family medicine/osteopathic

Conflict of Interest Disclosures: Both authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

Letters

Figure 1. Percentage of Prescriptions Dispensed for Opioid Analgesics From Outpatient US Retail Pharmacies by Age and Physician Specialty, 2009

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dentists</th>
<th>Emergency Medicine</th>
<th>GP/FM/DO</th>
<th>Orthopedic Surgery</th>
<th>Pediatrician</th>
<th>OB/GYN</th>
<th>Orthopedics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 0-9 y</td>
<td>14.5%</td>
<td>9.5%</td>
<td>23.5%</td>
<td>38.5%</td>
<td>11.5%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Age 10-19 y</td>
<td>11.5%</td>
<td>9.5%</td>
<td>23.5%</td>
<td>38.5%</td>
<td>11.5%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Age 20-29 y</td>
<td>11.5%</td>
<td>9.5%</td>
<td>23.5%</td>
<td>38.5%</td>
<td>11.5%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Age 30-39 y</td>
<td>11.5%</td>
<td>9.5%</td>
<td>23.5%</td>
<td>38.5%</td>
<td>11.5%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Age ≥40 y</td>
<td>11.5%</td>
<td>9.5%</td>
<td>23.5%</td>
<td>38.5%</td>
<td>11.5%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

These unprojected data include new and refill prescriptions. Top 5 prescribers for each age group are shown. Age groups for individuals 40 years and older were combined because they shared the same top 5 prescribers. Note that percentages in each group do not sum to 100 because prescriptions from specialties other than the main prescribers are not shown. Opioids included codeine and combination noninjectable (USC 02232), morphine and opium noninjectable (USC 02222), morphine and opium injectable (USC 02221), codeine and combination injectable (USC 02231). ENT indicates ear, nose and throat; GP/FM/DO, general practitioner/family medicine/osteopathic physicians; IM, internal medicine; and OB/GYN, obstetrics/gynecology. Included as primary care physicians are general practitioners, family practitioners, and osteopathic physicians; descriptors of the roles are those used by SDI Health.

Figure 2. New vs Continuing or Switch/Add-on Opioid Prescriptions Dispensed by US Retail Pharmacies as a Function of Specialty, 2009

<table>
<thead>
<tr>
<th>Specialty</th>
<th>New</th>
<th>Filled in the past month</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>Dentists</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>GP/FM/DO</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>IM</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
<td>40%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Shown are unprojected data. Prior prescriptions (dispensed within the past month) could be from the same or a different prescriber or specialty. GP/FM/DO indicates general practitioner/family medicine/osteopathic physicians; IM, internal medicine.

Physician Specialty, 2009

Analgesics From Outpatient US Retail Pharmacies by Age and Specialty

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CORRECTIONS

Incorrect Sentence: In the Editorial titled “Antihypertensive Therapy for Prehypertension: Relationship With Cardiovascular Outcomes,” published in the March 2, 2011, issue of JAMA (2011;305[9]:940-941), the word “not” was missing, resulting in an incorrect sentence. On the first page, the end of the last sentence in column 2 should have read, “all-cause mortality compared with those not receiving antihypertensive therapy.” This article was corrected online.

Incorrect Values: In the Original Contribution entitled “Change in Disability After Hospitalization or Restricted Activity in Older Persons,” published in the November 3, 2010, issue of JAMA (2010;304[17]:1919-1928), incorrect values were reported in some instances. Errors in calculations led to inflated values for absolute risk, primarily for the transition from no disability to mild disability in the presence of physical frailty, and were discussed in the results section of the abstract, the “Results” and “Comment” sections of the text, Table 3, and the eTable. These errors did not affect the conclusions or implications of the report. The article and supplemental material have been corrected online.

The most stimulating challenge is one of mean degree between an excess of severity and a deficiency of it, since a deficient challenge may fail to stimulate the challenged party at all, while an excessive challenge may break his spirit.

—Arnold J. Toynbee (1889-1975)