Brief Report

Prescription Drug Use and Self-prescription Among Resident Physicians

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Context.—Self-prescription is common among practicing physicians, but little is known about the practice among resident physicians.

Objective.—To determine prescription drug use and self-prescription among US resident physicians.

Design and Setting.—Anonymous mail survey of all resident physicians in 4 US categorical internal medicine training programs in February 1997.

Main Outcome Measures.—Self-reported use of health care services and prescription medications and how they were obtained.

Results.—A total of 316 (83%) of 381 residents responded; 244 residents (78%) reported using at least 1 prescription medicine and 162 residents (52%) reported self-prescribing medications. Twenty-five percent of all medications and 42% of self-prescribed medications were obtained from a sample cabinet; 7% of all medications and 11% of self-prescribed medications were obtained directly from a pharmaceutical company representative.

Conclusions.—Self-prescription is common among resident physicians. Although self-prescription is difficult to evaluate, the source of these medications and the lack of oversight of medication use raise questions about the practice.

To determine prescription drug use, we asked residents, “Since beginning your PGY [postgraduate year]–1 year, have you taken any prescription medications, whether prescribed to you or not (eg, antibiotics, contraceptives, antihypertensives, prescription-dose antihyperglycemic drugs, prescription-strength topical steroids and/or prescription inhalers)?” For each medication, we asked residents to indicate the medication’s duration, frequency, and indication. In asking about who prescribed each medication, we were careful to distinguish between recommending a medication and the various activities related to obtaining it. For example, a physician caring for a medical resident might order or recommend a medication, yet that resident might write the prescription, call it in to a pharmacy, or obtain samples directly from a sample cabinet. Because we were interested in learning about prescription medications that residents decided to take on their own, we first asked, “Who provides you with care for the condition indicated?” and we provided possible responses of (1) no one (self); (2) fellow resident; (3) personal physician who sees me in an office or a clinic; (4) other physician who gives me advice outside an office visit or clinic; or (5) other. We then asked, “How did you obtain the medication?” and provided possible responses of (1) clinician other than self wrote or called in prescription to pharmacy or provided a sample; (2) self wrote or called in prescription to pharmacy; (3) sample obtained personally from sample cabinet; (4) sample obtained directly from pharmaceutical company representative; or (5) other. Finally, to determine the prescriber of each medicine, we asked, “Regardless of how this medication was obtained, who prescribed the medication?” with possible responses of (1) individual listed in the first question; (2) self; or (3) other.

We also asked residents to respond to several statements about self-prescription and self-care using 5-point scales from strongly disagree to strongly agree.
We also invited any other comments. All responses were read by 3 physicians to categorize medications and indications and to verify that the medication was not otherwise available without a prescription at that dose.

The protocol was approved by the human subjects committees at all 4 participating institutions.

RESULTS

A total of 389 instruments were mailed; 8 were undeliverable because of bad addresses and 316 completed instruments were returned for a response rate of 83%. The response rates across the 4 institutions ranged from 61% to 84%. Three subjects were excluded from further analysis, 2 because they indicated they were PGY-4 without providing an explanation and 1 who reported being a fellow, leaving a total of 313 subjects.

A total of 244 residents (78%) reported using at least 1 prescription drug since beginning their PGY-1 year, and in aggregate, they reported taking 605 prescription medications. Among PGY-1, PGY-2, and PGY-3 residents, 69%, 84%, and 84% reported using prescription medications ($P < .01$). The mean number of such medications used by these residents was 1.6, 2.1, and 2.3, respectively ($P = .01$ by analysis of variance). Table 1 shows the classes of drugs used by residents, their frequency, and examples of their indications. The most common source of self-prescription was the sample cabinet. This mechanism was popular even for medications prescribed by others. In addition, a substantial minority of all prescription medications were provided to residents directly from pharmaceutical company representatives.

A total of 152 residents (49%) indicated that they had no primary care physician (n = 116) or they were their own primary care physician (n = 36). These residents were no more likely to self-prescribe than the 157 residents who indicated they had a primary care physician. Residents who reported self-prescribed medicines were also more likely to agree with the statement, “It is reasonable for physicians to prescribe medications for themselves if they are knowledgeable about the clinical condition they are treating” (3.6 vs 3.3 on a 5-point scale; $P = .004$) and to disagree with the statement, “Physicians should not treat their own medical problems or conditions” (2.9 vs 3.3 on a 5-point scale; $P < .001$). Residents who self-prescribed were also more likely to agree that “Many of the attending physicians I know treat their own medical problems or conditions” (3.5 vs 3.3 on a 5-point scale; $P = .02$). Many residents provided handwritten comments such as the following: “In general, I disagree with self-diagnosis and prescription, but it is tempting for minor complaints, especially when busy.” “I believe physicians can perform maintenance therapy on themselves—eg, medical residents treating their own allergies, hypertension, hypercholesterolemia—but must be aware of problems that they cannot self-treat or do not have the training to treat.” “Many problems can be addressed by oneself. Of course I did not use to think that. I draw the line at antibiotics and narcotics—but there is nothing wrong with a little H$_2$ blocker or NSAIDs [nonsteroidal anti-inflammatory drugs].”

COMMENT

Self-prescription among internal medicine residents is common. We are unaware of prior studies of resident physician self-prescribing practices. In a study of 247 established physicians in the United Kingdom, 84% of all medications taken during a 5-year period were self-prescribed. In another study of 306 physicians in Rhode Island, 61% reported self-prescribing during a 3-year period. These and other findings support the notion that self-prescribing is common among physicians. Our study demonstrates that this practice is also common among residents. The similar frequency of self-prescription among internal medicine residents across the 4 programs strongly suggests that self-prescription is a general phenomenon among internal medicine residents rather than a reflection of the culture of one particular institution.

The most common source of self-prescribed medicines was the sample closet (26% of all medications and 42% of all self-prescribed medications). This finding is consistent with a recent study in which 51 of 53 physicians, residents, nurses, and staff in a family practice group reported taking pharmaceutical samples for personal and family use. Additionally, we found that 7% of all medications and 10% of those self-prescribed were obtained directly from pharmaceutical company representatives. We are unaware of other systematic studies of this practice.

The most commonly self-prescribed medications used by residents in our study were antibiotics, allergy medicines, and contraceptives. Previous studies suggest antibiotics are the most commonly self-prescribed medicines among established US and United Kingdom physicians. Of our 313 resident physician respondents, only 7 (2%) reported the use and self-prescription of psychotropic medicines. In contrast, McCauliffe and colleagues reported that 25% of 342 prac-

### Table 1.—Prescription Drugs Used by Residents

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>No. of Times a Member of This Class Was Used</th>
<th>No. of Times a Member of This Class Was Self-prescribed</th>
<th>Examples</th>
<th>Typical Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotics</td>
<td>232</td>
<td>128</td>
<td>Clarithromycin, azithromycin, trimethoprim-sulfamethoxazole, acyclovir, fluconazole</td>
<td>Sinusitis, pharyngitis, urinary symptoms, vaginitis</td>
</tr>
<tr>
<td>Allergy and asthma medications</td>
<td>150</td>
<td>84</td>
<td>Loratadine, astemizole, albuterol MDI, fluticasone</td>
<td>Rhinitis, sinusitis, asthma</td>
</tr>
<tr>
<td>Contraceptives</td>
<td>49</td>
<td>11</td>
<td>Norethindrone-ethinyl estradiol</td>
<td>Contraception, mood alteration</td>
</tr>
<tr>
<td>Gastrointestinal medications</td>
<td>40</td>
<td>20</td>
<td>Ranitidine, omeprazole, prochlorperazine</td>
<td>Dyspepsia, GERD, nausea</td>
</tr>
<tr>
<td>Analgesics</td>
<td>38</td>
<td>21</td>
<td>Naproxen (prescription dose), ketorolac, oxycodone</td>
<td>Back pain, musculoskeletal injuries, migraine</td>
</tr>
<tr>
<td>Psychotropic medications</td>
<td>25</td>
<td>7</td>
<td>Sertraline, fluoxetine, lorazepam</td>
<td>Depression, anxiety, sleep disturbances</td>
</tr>
<tr>
<td>Cardiovascular medications</td>
<td>17</td>
<td>4</td>
<td>Metoprolol, enalapril, furosemide, lovastatin</td>
<td>Hypertension, hyperlipidemia</td>
</tr>
<tr>
<td>Other</td>
<td>34</td>
<td>8</td>
<td>Prenatal vitamins, tretinoin, vaccines</td>
<td>Travel prophylaxis, acne, wrinkles</td>
</tr>
<tr>
<td>Total</td>
<td>265</td>
<td>185</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*MDI indicates metered dose inhaler; GERD, gastroesophageal reflux disease.

\(x^2\)
ticing physicians from New England surveyed had treated themselves with a psychotropic drug within the previous 12 months. This difference might be explained by differences in disease incidence between our resident physicians and more senior physicians, differences in comfort with prescribing these medicines, differences in access to these medications, or differences in reporting.

This study is subject to several limitations. First, we surveyed residents at only 4 US internal medicine training programs, all based at university teaching hospitals. Second, our results are based on self-reports in the setting of an anonymous mail survey. Our instrument was pilot tested to judge completeness, readability, and accuracy, but, in the end, the validity of these results depends on respondents’ comprehension, recall, and honesty. Recall bias would likely result in underreporting the number of self-prescribed medications. Similarly, despite anonymity, residents might be reluctant to report use or prescription of certain classes of medications.

There are many ways to view these results. One view recognizes self-prescription among residents as a reaction to the intense time pressures residents face and their difficulties receiving medical care. Many of the residents we surveyed remarked that their busy and unpredictable schedules made it difficult to arrange care for acute conditions and arrange appointments for disease prevention or management of more chronic conditions. However, internal medicine residents are not alone in being busy. Residents differ because in addition to being busy, they also have knowledge of health conditions and easy access to medications. In addition, their close working relationships with other physicians may create barriers to privacy and make it difficult to identify physicians with whom they can comfortably assume patient roles.

A second way to view these results is to ask whether they reveal problems in professional behavior and, if so, what practical solutions such problems might suggest. Our results probably reflect a wide range of circumstances; it may be difficult to identify clear boundaries that separate inappropriate self-prescription from more acceptable examples. Distinctions might be made according to the type of medication; for example, perhaps it is acceptable for a physician to self-prescribe prescription-dose antitussive drugs but not antidepressants, particularly since antitussive drugs, in lower doses, are available without prescription. Distinctions might be made according to the indication for the medication; for example, perhaps it is inappropriate for a physician to self-prescribe β-blockers for treatment of hypertension but acceptable if the same drug is used occasionally to reduce the symptoms of stage fright when giving public presentations. Distinctions might be made according to the monitoring a drug requires; for example, self-prescription of lipid-lowering drugs requires laboratory monitoring of serum lipids and other biochemical parameters and so invokes another element of self-treatment that the self-prescription of a nonsedating antihistamine does not. Distinctions might be made according to past medical care as well; for example, perhaps it is inappropriate for a physician to self-initiate inhaled bronchodilators to treat asthma but more acceptable if the physician continues the same therapy prescribed in the past by another physician no longer seen. Although it is easy to identify extremes of behavior as either inappropriate or acceptable, many examples of self-prescription probably fall in between and, moreover, might be judged by any of these different standards.

Although the personal use of pharmaceutical samples raises ethical concerns, the difficulty presented by self-prescription is more a question of clinical judgment. Based on our survey, we cannot evaluate the clinical outcomes attained by residents who self-prescribe. Although we believe that many examples of self-prescription are tolerable, it remains reasonable to question behavior that lacks the objectivity and professional distance crucial to the assurance of quality in any medical encounter.

If self-prescription is a problem, this study suggests that the problem starts early in physicians’ careers and may remain hidden unless specifically addressed. For these reasons, we believe that medical schools, residency programs, and professional societies should discuss the issue of self-prescription openly. These discussions may help resident and practicing physicians evaluate their own self-treatment practices more closely and may lead to more practical standards for appropriate behavior. These discussions are important given that the common practice of obtaining these medications from a sample closet or directly from a pharmaceutical company representative challenges professional standards of behavior. Although not all cases of self-prescription demand the same moral or policy response, the profession of medicine must remain vigilant about this practice to ensure that convenience and easy access do not undermine professionalism in the prescription and use of medications.

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