Patient-Reported Medication Symptoms in Primary Care

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Background: Little is known about the prevalence and character of medication-related symptoms in primary care and their relationship to adverse drug events (ADEs) or about factors that affect patient-physician communication regarding medication symptoms.

Methods: The study included 661 patients who received prescriptions from physicians at 4 adult primary care practices. We interviewed patients 2 weeks and 3 months after the index visit, reviewed patients' medical records, and surveyed physicians whose patients identified medication-related symptoms. Physician reviewers determined whether medication symptoms constituted true ADEs. We used multivariable regression to examine factors associated with patients' decision to discuss symptoms with a physician and with physicians' decision to alter therapy.

Results: A total of 179 patients identified 286 medication-related symptoms but discussed only 196 (69%) with their physicians. Physicians changed therapy in response to 76% of reported symptoms. Patients' failure to discuss 90 medication symptoms resulted in 19 (21%) ameliorable and 2 (2%) preventable ADEs. Physicians' failure to change therapy in 48 cases resulted in 31 (65%) ameliorable ADEs. In multivariable analyses, patients who took more medications (odds ratio [OR]=1.06; 95% confidence interval [CI]=1.04-1.08; \( P < .001 \)) and had multiple medication allergies (OR=1.07; 95% CI=1.03-1.11; \( P = .001 \)) were more likely to discuss symptoms. Male physicians (OR=1.20, 95% CI=1.09-1.26; \( P = .002 \)) and physicians at 2 practices were more likely to change therapy (OR=1.24; 95% CI=1.17-1.28; \( P < .001 \); and OR=1.17; 95% CI=1.08-1.24; \( P = .002 \)).

Conclusion: Primary care physicians may be able to reduce the duration and/or the severity of many ADEs by eliciting and addressing patients' medication symptoms.

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which focused on the epidemiology of ADEs, we found that 25% of 661 patients experienced an ADE. Consistent with the results of the Ambulatory Quality Improvement Project, we found that 92% of ADEs confirmed by physician reviewers were identified from patient surveys, 28% by chart review, and 19% by both methods. Importantly, 28% of ADEs could have been mitigated with better patient-physician communication.

The goal of the present study was to understand the medication-related symptoms experienced by members of this patient cohort as well as the contribution of poor patient-physician communication to ADEs. We theorized that if patients and physicians communicated more effectively about medication-related symptoms, then the intensity or duration of symptoms could be mitigated. Specifically, we sought to answer the following questions: (1) What are the frequency, type, and severity of patient-identified medication symptoms? (2) How often do clinicians agree with patients’ attribution of symptoms to their medications? (3) What factors are associated with patients’ decisions to tell physicians about symptoms? (4) What factors are associated with physicians’ decisions to address patient-reported medication symptoms?

STUDY SITES

We studied patient-reported medication symptoms at 4 adult primary care practices in Boston. We selected each location based on the presence or absence of computerized prescribing and by practice type. All sites were affiliated with an academic medical center. Two sites were hospital-based clinics with full-and part-time teacher-clinicians; 2 sites were community-based practices with full-time physicians. One hospital-based and 1 community-based practice used rudimentary computerized prescription writing (ie, without decision support).

STUDY SUBJECTS

We studied all patients aged 18 years and older who received a prescription from participating physicians in an office visit during the study period. Patients were excluded at their physicians’ request if they were too ill or hearing impaired to participate or if they were unable to speak English or Russian (a Russian-speaking pharmacist interviewed Russian speakers).

We included all 18 physicians at sites 1 through 3 and 6 of 25 physicians selected at random from site 4. Physicians agreed to participate and were not blinded to study purpose. Once the study began, a seventh physician was added to site 4 to augment the total. Physicians were all board-certified internists with a mean of 12.5 years (range, 2-28 years) of experience since residency; 11 (46%) were female.

STUDY PROTOCOL

Data were collected between September 1999 and March 2000, following institutional review board approval. One day after the index visit, we sent each patient a letter that described the project and requested the patient’s participation in a telephone survey. Patients could decline to participate by postcard or telephone. Ten to 14 days after their visit, we surveyed patients about problems with sleep, changes in mood, gastrointestinal problems, dizziness and problems with balance, headache, fatigue, muscular aches, incontinence, sexual problems, and rash or itching. The symptom list was developed for a previous study of medication symptoms in primary care and was used to permit ready comparison with published results. We also asked patients to specify any other symptoms they experienced besides those listed. Next, we asked the patients who reported any symptom to indicate if they believed the symptom was medication related and defined this subset as patient-reported medication symptoms. We also asked about adherence to physician recommendations and over-the-counter medication use.

Three months after the index visit, a nurse reviewed the medical records of the patients who participated in the survey to identify ADEs, medication allergies, and comorbidities. For all patient reports of a medication-related symptom, we asked the physicians whether they were aware of the symptom, whether they thought that the symptom was clinically significant, and whether information about the symptom changed their management of the case. Physicians were surveyed after all patient interviews were completed. They were permitted to review their medical records.

CASE REVIEW AND CLASSIFICATION

Study pharmacists reviewed patient-reported medication symptoms and carried out chart reviews to screen for possible ADEs, defined as an injury related to use of a drug. Two board-certified internists reviewed each screened event independently using interviews, chart reviews, and medication references to determine the likelihood that the event identified by patient report or chart review was in fact an injury and was related to the use of a medication (and hence an ADE). Differences were resolved by discussion. Events were judged to be ADEs if the confidence level of the consensus judgment was 4 or greater on a 6-point scale, signifying greater than 50% certainty that an ADE had occurred. The ADEs were classified by level of severity (ie, life-threatening, serious, or significant) and as nonpreventable, preventable, or ameliorable. Serious events affected end-organ function and produced symptoms that required timely medical evaluation or treatment, such as sexual dysfunction, symptomatic hypotension, and gastrointestinal bleeding. Significant events, in contrast, caused symptoms that were more often annoying or uncomfortable but were judged less dangerous, such as dyspepsia, dizziness, cough, insomnia, or rash. Preventable events were defined as those attributable to errors that could have been avoided entirely given what was known at the time. An example of a serious preventable ADE was an allergic rash in a patient for whom an antibiotic had been prescribed despite a documented allergy. Ameliorable ADEs were defined as those in which the severity or duration could have been reduced substantially had different actions been taken.

An example of a serious ameliorable ADE was months of sexual dysfunction in a patient whose physician failed to discontinue treatment with a selective serotonin reuptake inhibitor after the patient reported the adverse effect of the drug. We assumed that preventable and ameliorable ADEs could result from decisions of either physicians or patients and asked reviewers to identify the party whose behavior (action or inaction) was most responsible for the event. Interrater agreement (determined before consensus) for the presence of ADEs...
(κ=0.89), severity (κ=0.72), and preventability or ameliorability (κ=0.70) was high.

STATISTICAL ANALYSIS

Of the 1202 patients enrolled, 661 (55%) completed the 2-week interview and 600 (50%) completed the 3-month interview. The mean age of the patients was 53 years (age range, 19-100 years); 66% were female; 8% were non-English speaking; 18% were nonwhite; and 17% had completed 12 or fewer years of school. We completed chart reviews for 653 patients (99%). Physicians completed surveys for 213 (74%) of 286 patient-reported medication symptoms.

We tabulated the number and type of patient-identified medication symptoms, the frequency and duration of the symptoms, and the patients’ medication adherence and use of medical care. We also tabulated the results of a clinician survey that characterized physicians’ awareness and confirmation of medication symptoms and their intent to change therapy. We tabulated the number, severity, preventability, and ameliorability of ADEs identified among the patient-reported medication symptoms, and confirmed by physician-investigators.

We also identified factors associated with patient notification of physicians about medication symptoms and physician decisions to address patient-reported medication symptoms using multivariable logistic regression models with forward selection (P<.05). The models adjusted for patient attributes (ie, age, sex, race, years of education, and primary language other than English), clinical characteristics (ie, number of prescriptions, number of allergies, and 1-year mortality risk [Charlon Index]), and type of patient-identified symptom. We also included physician attributes (ie, sex, sex concordance with the patient, years in practice, and practice site) that we hypothesized might influence clinical communication.14-16 We adjusted variances using the generalized estimating equation to account for clustering of patients at the physician level and clustering of physicians at the practice level. Because the incidence of patient-reported medication symptoms exceeded 10% in the study cohort, we report corrected odds ratios using the method described by Zhang and Yu17 to estimate the true relative risk. Statistical analyses were performed using SAS software (version 8.0; SAS Institute, Cary, NC).

PATIENT-REPORTED MEDICATION SYMPTOMS

Of the 661 primary care patients in the study, 179 (27%) reported 286 symptoms that they related to medications (Table 1). Thirty-seven percent of symptoms occurred with every dose, and 93% persisted for 1 month or more. The most frequently identified medication symptoms were gastrointestinal problems, fatigue, dizziness and problems with balance, and rash or itching. Patients continued to take drugs that accounted for 55% of medication symptoms.

Patients discussed 196 (69%) of their 286 medication symptoms with a physician. Patients discussed fatigue, gastrointestinal problems, sexual problems, and mood changes more often (81%, 76%, 76%, and 71%, respectively) than headache and incontinence (52% and 40%). Twenty-two percent of symptoms were serious enough to require a visit to a medical facility (eg, physician’s office, clinic, or emergency department).

On multivariable analysis, patients who took multiple medications and who had multiple medication allergies were more likely to discuss medication symptoms with a physician (OR=1.06 for each additional medication; 95% CI=1.04-1.08; P<.001) (OR=1.07 for each additional allergy; 95% CI=1.03-1.11; P=.001).

PHYSICIAN RESPONSE TO PATIENT-REPORTED MEDICATION SYMPTOMS

Patients reported that physicians changed therapy in response to their complaints for 148 (76%) of the 196 medication symptoms that were reported to the physician (Table 2). Physicians were more likely to change therapy when patients reported muscular aches (86%), problems with sleep (85%), gastrointestinal problems (83%),
and rash or itching (81%) than when patients reported fatigue (66%) or sexual problems (50%). The most frequent physician action was to discontinue treatment with the offending drug.

We also surveyed physicians about their assessment of and response to the medication symptoms that patients reported to investigators (Table 3). Among the completed surveys, physicians indicated that they were aware of 213 (74%) of 286 patient-reported medication symptoms in this group of patients. Responding physicians confirmed that 184 (86%) of the 213 symptoms were due to use of a drug. Physicians were most likely to attribute sexual problems (100% confirmed), gastrointestinal problems (95%), and problems with sleep (93%) to the use of a medication and least likely to attribute rash or itching (77%) and dizziness or difficulty with balance (70%). Among physician-confirmed medication symptoms, physicians reported that they had changed or planned to change therapy in 74% of cases.

The multivariable model showed that male physicians were more likely than female physicians to address medication symptoms (OR=1.20; 95% CI=1.09-1.26; \( P=.002 \)). Physicians at site 2 (a hospital-based practice with no electronic prescribing) and at site 3 (a community-based site with electronic prescribing) were more likely to respond to medication symptoms than physicians at the other sites (site 2, OR=1.24; 95% CI=1.17-1.28; \( P<.001 \)) (site 3, OR=1.17; 95% CI=1.08-1.24; \( P=.002 \)), suggesting the presence of practice-level effects.

### Table 2. Patient Characterization of Physician Response to Medication Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No. of Patients Who Discussed Med. Symtoms With Physicians</th>
<th>Physicians Who Changed Therapy After Patient Discussed Med. Symtoms, No. (%)</th>
<th>Discontinued Drug</th>
<th>Changed Dosage</th>
<th>Changed Drug</th>
<th>Other Actions</th>
<th>No Response Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems with sleep</td>
<td>13</td>
<td>11 (84.6)</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Changes in mood</td>
<td>17</td>
<td>12 (70.6)</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Gastrointestinal problems</td>
<td>40</td>
<td>33 (82.5)</td>
<td>12</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Dizziness and problems</td>
<td>22</td>
<td>17 (77.3)</td>
<td>9</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>with balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>13</td>
<td>10 (76.9)</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Fatigue</td>
<td>29</td>
<td>19 (65.5)</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Muscular aches</td>
<td>7</td>
<td>6 (85.7)</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Incontinence</td>
<td>4</td>
<td>3 (75.0)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Sexual problems</td>
<td>16</td>
<td>8 (50.0)</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Rash or itching</td>
<td>21</td>
<td>17 (81.0)</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>12 (85.7)</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>148 (75.5)</td>
<td>60</td>
<td>19</td>
<td>20</td>
<td>25</td>
<td>24</td>
</tr>
</tbody>
</table>

### Table 3. Physician Assessment of and Response to Patient-Reported Medication Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No. of Physicians Who Were Aware of Patient-Reported Medication Symptoms</th>
<th>Physicians Who Confirmed Symptoms Were Related to a Medication, No. (%)</th>
<th>Physicians Who Did or Planned to Do Something About Medication Symptoms, No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems with sleep</td>
<td>15</td>
<td>14 (93.3)</td>
<td>11 (78.6)</td>
</tr>
<tr>
<td>Changes in mood</td>
<td>15</td>
<td>12 (80.0)</td>
<td>9 (75.0)</td>
</tr>
<tr>
<td>Gastrointestinal problems</td>
<td>38</td>
<td>36 (94.7)</td>
<td>26 (72.2)</td>
</tr>
<tr>
<td>Dizziness and problems</td>
<td>23</td>
<td>16 (69.6)</td>
<td>15 (93.8)</td>
</tr>
<tr>
<td>with balance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>19</td>
<td>15 (78.9)</td>
<td>10 (66.7)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>34</td>
<td>29 (85.3)</td>
<td>17 (58.6)</td>
</tr>
<tr>
<td>Muscular aches</td>
<td>10</td>
<td>8 (80.0)</td>
<td>5 (62.5)</td>
</tr>
<tr>
<td>Incontinence</td>
<td>10</td>
<td>8 (80.0)</td>
<td>6 (75.0)</td>
</tr>
<tr>
<td>Sexual problems</td>
<td>12</td>
<td>12 (100.0)</td>
<td>11 (91.7)</td>
</tr>
<tr>
<td>Rash or itching</td>
<td>13</td>
<td>10 (76.9)</td>
<td>10 (100.0)</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>24 (100.0)</td>
<td>16 (66.7)</td>
</tr>
<tr>
<td>Total</td>
<td>213</td>
<td>184 (86.4)</td>
<td>136 (73.9)</td>
</tr>
</tbody>
</table>

### Table 4. Patient-Reported ADEs

Physician-reviewers analyzed patient interviews to ascertain independently whether patient-reported medication symptoms represented ADEs, and if so, whether the ADEs were preventable or ameliorable. Of 286 medication symptoms reported by 179 patients, 166 (58%) among 153 patients were identified by reviewers as ADEs. Of the ADEs, 18 (11%) were preventable and 50 (30%) were ameliorable. Of all medication symptoms, 7% were serious ADEs, and 4% were both serious and preventable or ameliorable. Reviewers judged the remaining 120 symptoms as non-ADEs because the symptoms could not be linked with confidence to the use of a medication or because the injury was insignificant.

Two preventable ADEs occurred because patients failed to tell their physicians about the symptoms. In one case, the patient developed gastrointestinal symptoms as a result of using a lipid-lowering medication that had produced similar symptoms in the past; the patient had not
informed the physician about the previous incident. In the other case, the patient experienced fatigue due to antihypertensive therapy after increasing the dosage of the medication without consulting or informing the physician. Nineteen ameliorable ADEs resulted from failure of patients to inform their physicians. In each case, the patient experienced months of symptoms that could have been reduced in severity or duration had the physician been notified.

Sixteen preventable and 31 ameliorable ADEs occurred because physicians failed to respond to patients’ reported symptoms. The most frequent cause of preventable ADEs was the prescription of an inappropriate drug. For example, a physician prescribed an α-adrenergic blocker (resulting in syncopal episodes) as first-line antihypertensive therapy. Two preventable ADEs occurred when physicians responded inappropriately to patient-reported medication symptoms. In one case, the patient’s symptoms of fatigue worsened when the physician decreased the dosing interval of an antidepressant medication (mirtazapine). In the other case, the physician increased the dosage of nifedipine when the patient complained of peripheral edema. All of the 31 ameliorable ADEs attributed to physicians occurred because the physicians failed to respond to patient-reported medication symptoms.

The Figure illustrates the relationship between medication symptoms and ADEs and the consequences of ineffective patient-physician communication. Twenty-three percent of patients’ unreported medication symptoms led to preventable or ameliorable ADEs. Also, 65% of the cases involving physicians’ failure to act on a patient-reported symptom led to ameliorable ADEs. Adverse drug events rarely occurred (1%) when physicians changed therapy in response to a patient-reported medication symptom.

In this study of primary care practices, 27% of patients reported medication-related symptoms. Symptoms affected a variety of organ systems and often persisted for more than 1 month, and 22% required additional medical care. Patients discussed two thirds of symptoms with a physician. Physicians, in turn, confirmed most patient-reported medication symptoms but failed to address 26% of confirmed symptoms. Extrapolating to the 98.9 million annual visits to US internists by patients who received a medication or for whom a medication was prescribed during the visit, as many as 7.8 million ADEs could be prevented or ameliorated if patients and their physicians communicated better and if physicians acted more reliably to address medication symptoms.

Given the frequency and severity of medication symptoms, why is it that patients do not report them to a physician? Patients were least likely to report incontinence, tinnitus, and hypotension. Patients who took more medications and had more drug allergies were more likely to report medication symptoms. Patients who take many medications are more likely to have had a prior experience of an ADE and thus may be more aware of the risks. They may also have more physician encounters and more opportunities to report symptoms. Those with multiple allergies may have a height-
enanced awareness because of prior bad experiences. Thus, a combination of exposures, experience, and access to medical care could increase patient reporting.

There are other important factors that we did not measure. Patients may not understand the significance of medication-related symptoms. They may be unsure if use of the medication in fact caused the symptom and may not want to seem like a hypochondriac. Patients may not want to bother the physician or to communicate disappointing news about their failure to tolerate the therapy. In fact, a recent study of older patients in ambulatory care showed that nonadherence contributed to 21% of preventable ADEs. Patients may encounter obstacles to communication, such as delays on the telephone, difficulty in transmitting messages, or problems in scheduling timely office visits.

Some physicians do not solicit patient complaints. Sleath et al found that 47% of primary care patients asked no medication questions during office visits. Beckman reported that family physicians solicited patients’ concerns in only 75% of 264 office interviews and that patients’ initial statements were completed only 28% of the time because physicians interrupted the patient on average after 23 seconds. Also, pressure to maximize physician productivity results in brief encounters, with a mean duration in internal medicine of 19.7 minutes. Communication outside of visits is difficult, because of poor telephone messaging systems and reliance on nonphysician office staff.

Physicians may underestimate patients’ desire to be informed about potential adverse effects of medications. Ziegler et al reported that 76% of 2500 adult primary care patients wanted to be informed about all possible adverse effects and that 73% of respondents believed that physicians should never withhold such information from patients. Physicians may erroneously believe that giving patients information about the possible adverse effects of a medication will increase the possibility that the patients will experience symptoms. In fact, Ambulatory Quality Improvement Project investigators found that patients reported fewer problems with medications when they were told in advance about potential adverse effects.

Why do physicians fail to address 1 in 4 patient-reported medication symptoms? Physicians may not appreciate the impact of the symptom on the patient’s daily life or may not understand the medication–adverse effect relationship. Some physicians may be more likely to discount symptoms that are reported by patients whom they judge to be somatically preoccupied, but we have little evidence with which to judge the psychological characteristics of patient or provider. It is difficult to reconcile the responsiveness of our male physicians to patient symptoms with existing literature that describes sex differences in practice styles, in which female physicians provide more emotional support, spend more time with patients, and engage in more collaborative decision making. Perhaps male providers’ practice styles resulted in earlier, decisive interventions regarding medication symptoms. It is also possible, given a wide confidence interval, that the relationship is spurious. The practice site effect suggests that cultural differences or more effective messaging, coverage, and prescription renewal systems lead to better physician identification and mitigation of patient-reported symptoms. Further investigation is needed to understand the significance of these differences between physician practice sites.

Continuing medications despite adverse effects is not necessarily wrong, and may indicate sound medical judgment by the physician and mutual agreement with the patient about the best course of action. For example, the patient might accept decreased libido if the treatment of depression is effective, or tolerate fatigue in order to manage chronic pain. Mild medication-related symptoms may be more tolerable than severe symptoms associated with untreated underlying disease or with alternate therapies. Reviewers took such factors into consideration in judging the presence of ADEs, but few clinicians documented the basis for these clinical decisions in the medical record.

Our findings argue for a more mindful and consistent approach to medication symptom surveillance by primary care clinicians. They underscore why physicians routinely need to inquire about medication-related symptoms and to discuss potential adverse effects explicitly with each patient. Providing patients with printed information about medications and their adverse effects and about online resources that provide information about medications can enhance communication and set expectations. Strategies that make it easy for patients to communicate by e-mail and practice Web sites may also be beneficial. Further study is needed to understand whether approaches aimed at improving communication and access to information will result in early identification and mitigation of ADEs in primary care. Patients clearly have a role to play in this partnership. Patients and their families as well as other caregivers need to inform their physicians about medication safety, volunteering information about medication symptoms so that the best possible outcomes can be achieved.

Our study had several limitations. First, only 4 primary care practices were included, so the findings may not be generalizable to other settings. Second, we acknowledge the possibility of response bias, in which close-ended symptom categories may have narrowed the type of symptoms that patients reported. We attempted to minimize this possibility by eliciting additional symptoms with open-ended questions and by using a symptom list that permitted comparisons with previous studies. Also, about 55% of the patients who received prescriptions were available and agreed to be interviewed. If patients with medication symptoms were more likely to participate, then we may have overestimated the incidence of medication symptoms in the study cohort. Third, we did not control for the number of health care encounters. Barriers to access might decrease the chances for conversations about medication symptoms to occur. Fourth, we were unable to evaluate many dimensions of clinical practice that may have had an impact on patients’ willingness to report and physicians’ willingness to address medication symptoms. For example, we had little information about physicians’ productivity demands and time per encounter, and whether this affected communication. Many other factors may affect communication about medications, including the number and complexity of problems addressed, the interval since the patient’s last visit,
and language and cultural barriers, as well as patient and physician styles of dealing with somatic complaints. For these reasons, reviewers gave the physician the benefit of the doubt regarding selection of the appropriate medication and application of clinical judgment. Finally, our survey did not ask patients to explain why they failed to inform their physicians about medication symptoms or ask physicians to explain the rationale for their clinical decisions. Further research is needed to understand the role of access to care, patient education about medications, and patient-physician communication in preventing ADEs in primary care.

In conclusion, patient-reported medication symptoms represent a valuable source of information about medication safety. Many ADEs in primary care occur as a result of failures in patient-physician communication. Physicians may be able to mitigate ADEs in primary care by eliciting patients’ medication symptoms routinely and effectively, and then acting on them.

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