Investigation of Simulated Pharmacist Decision Making Involving Prescriptions With a High Probability of Causing Patient Harm

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Abstract

Background: Medication errors pose a significant risk to patients, resulting in morbidity, mortality, and unnecessary health care utilization. Pharmacists, using their professional judgment, have an important role as a final check for identifying and resolving these problems. Little is known, however, about pharmacist perspectives and experiences with dispensing or withholding potentially dangerous prescriptions. **Objectives:** To (a) evaluate the extent to which pharmacists would not dispense a likely harmful prescription which has been confirmed by the prescriber and (b) assess pharmacist attitudes and experiences with dispensing likely harmful prescriptions. **Methods:** An anonymous, self-administered, 25-item survey was emailed to members of a state pharmacy association and a pharmacy college alumni list. A series of static prescription vignettes (1 reasonable and 4 likely dangerous doses) were presented and asked if they would fill each prescriber-confirmed prescription. Pharmacists also were asked a series of Likert-type, open-ended, multiple choice, and demographic items regarding their professional experiences and role perceptions. **Results:** There were 497 usable responses. Three of the 4 dangerous prescriptions were withheld by the majority of pharmacists (sumatriptan as the exception). No demographic variable was universally associated with filling dangerous vignette prescriptions; rather, there were vignette-specific differences. The majority of pharmacists reported refusing to fill a potentially harmful prescription during their career. **Conclusions:** There appears to be meaningful variation in how pharmacists react when presented with likely harmful prescriptions. More research is needed to better understand this role, its determinants, and the potential effects on patient safety.

Keywords

pharmacy ethics, medication errors, pharmacy education

Introduction

In 1969, a small secret shopper experiment revealed that community pharmacists, even with the aid of prescription dispensing records, commonly missed dangerous drug interactions.¹ Medication prescribing errors remain a significant threat to patient safety despite years of interventions and research inspired by the 1999 report by the Institute of Medicine, *To Err Is Human*.^{2,3} This report noted that 44 000 to 98 000 people die in hospitals annually due to medication errors. Preventable prescribing errors also occur in ambulatory patients, which can result in side-effects, hospitalization, emergency room utilization, and even death.⁴

While definitions of a medication error vary, the National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as “any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer.”⁵ Clearly

preventable prescribing errors, such as an excessive initial dose of a narcotic in an opiate naive patient, are estimated to represent an important 25% of medication-related problems resulting in negative consequences such as emergency room utilization and hospitalization.^{6–8} Fortunately, health care providers, such as pharmacists, and delivery processes already are in place to identify and address errors in initial prescribing before they result in patient harm.

Pharmacists are commonly recognized as the final safeguard in the medication use process to protect against medication-related problems.^{9,10} One study found 2% of

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new prescriptions presented in community pharmacies contained at least one error. Of these, 28% could be harmful to the patient if not addressed.¹⁰ It is a standard expectation that a pharmacist will contact the prescriber on discovery of an inappropriate prescription (eg, improper dose or interaction) to resolve the drug therapy problem.^{9,11} Most often, this leads to a mutually acceptable resolution of the problem. Alternatively, a prescriber may be contacted, but choose not to modify the prescription, despite concern from the pharmacist. This latter scenario may produce a difficult decision for the dispensing pharmacist.

Pharmacists have a legal and ethical duty to warn patients about a dangerous dose and to refuse to fill a prescription they feel is unsafe based on professional judgment.¹² Research has investigated pharmacists refusing to fill emergency contraceptive prescriptions based on personal objections¹³; however, little is known about the extent to which pharmacists exercise the ability to refuse to fill prescriptions based on a perceived threat to patient safety based on an identified medication-related problem.

Pharmacists differ in their perception of responsibility for patients' drug therapy outcomes,¹⁴ which suggests there may be variation in how pharmacists approach the dispensing of potentially inappropriate medications where the prescriber has confirmed the prescription details. We report the results of a survey assessing pharmacist likelihood to dispense a series of likely dangerous prescriptions after the prescriber verified and approved the prescription. Pharmacist attitudes and experiences related to responsibility for refusing potentially inappropriate prescriptions also are presented.

Methods

A self-administered, 25-item, anonymous, cross-sectional online survey was used to assess the reaction of pharmacists to likely harmful prescription orders. The survey was sent via email to pharmacist members of 2 organizations—a Midwestern state pharmacy association and an alumni group list for a pharmacy college located in the same state. These organizations distributed the survey to their members to minimize investigators obtaining identifying information. The survey was sent to approximately 2500 pharmacists. The number of unique pharmacists contacted was appreciably lower as there was known membership overlap between organizations. The survey was conducted through the Web software, Survey Monkey and accessible for 1 month, starting on February 10, 2011. To increase response, pharmacists completing the survey could enter a drawing for one of four \$50 gift cards. Reminder emails were sent 2 and 3 weeks after the survey opened. Respondents were informed that the purpose of the study was to better understand pharmacist views and actions when they are processing prescriptions. Consent for

participation was assumed by completion of the survey. The study was approved by the Wheaton Franciscan Healthcare Institutional Review Board.

The first survey section contained 5 prescription vignettes (see the appendix). The first vignette (lithium) used a reasonable dose whereas the next 4 contained doses, dosing frequencies, or drug-disease contraindications likely to result in patient harm. Respondents were instructed that “you have already personally called the prescribing physician and received direct verbal confirmation that the physician wants the medication dispensed as they prescribed it.” For each vignette, respondents were given the dichotomous option to fill or not fill the prescription. Each vignette was presented individually, on a single page, in a uniform order, and participants could not go back after submitting an answer. The vignette medications were selected because they commonly are used in the community setting, are listed on the Institute for Safe Medication Practices High-Alert Medication List, have an established history of causing adverse events in patients when used inappropriately, and adjustment should not be a significant factor based on differences in patient physiology or pharmacokinetics.

The first prescription, designed to serve as a control vignette, was lithium carbonate 600 mg twice daily. While lithium has a narrow therapeutic index and is dosed based on serum drug levels, this dose is well within a normal range.¹⁵ The second prescription was for a 30-day supply of digoxin 250 µg 3 tablets daily with 1 refill. This dose is well above the normal range for a 68-year-old male.¹⁶ The third prescription was for methotrexate 2.5 mg 3 tablets prescribed daily instead of weekly. The fourth prescription was for a fentanyl 100 µg patch for a patient with a prior 7-day history of hydrocodone/acetaminophen 7.5/500 three times daily following a total knee replacement. Fentanyl has a black box warning that fatal respiratory depression could occur in patients who are not opioid-tolerant,¹⁷ which clearly is not the case in this vignette. The fifth prescription was for sumatriptan 50 mg for a patient who recently had a myocardial infarction. Per the manufacturer, sumatriptan should not be given to patients with a history of ischemic cardiovascular syndromes.¹⁸

Next, pharmacists were asked a series of questions regarding their professional experiences and responsibility for medication-related problems (see the appendix). Pharmacists were asked the frequency of dispensing potentially harmful medication orders in the past 2 weeks as well as other questions related to their decision to dispense or not dispense a potentially harmful medication. Gender, number of years in the profession, primary work environment, and work status (ie, full-time, part-time, or retired) were collected as demographic variables.

Descriptive statistics were calculated for variables. Chi-squared tests were performed to identify variation in the percentage of respondents reporting they would fill the

Table 1. Demographics and Percentage of Respondents That Would Fill the Vignette Prescription (N = 497)^a.

	Demographics	Lithium	Digoxin	Methotrexate	Fentanyl	Sumatriptan
Overall		93.9	18.8	16.3	40.0	56.2
Gender						
Female	58.1	94.8	16.9	16.8	32.8**	57.6
Male	41.4	92.7	21.3	15.9	50.0**	53.9
Work status						
Part-time	12.3	98.4	25.8	19.4	63.9**	50.8
Full-time	87.7	93.3	17.7	15.8	36.6**	56.8
Number of years in profession						
<5	26.6	92.4	18.2	19.7	35.6	56.1
5-10	20.9	95.2	22.1	17.5	31.1	58.3
11-15	8.5	95.2	25.6	18.6	47.6	58.1
16-20	6.6	100	25.0	21.2	39.4	63.6
>20	37.4	93.1	14.9	12.1	46.3	53.5
Primary work setting						
Independent	27.8	95.7**	20.3*	19.4	36.7**	58.7
Chain	40.0	97.0**	23.2*	16.7	48.5**	60.7
Hospital	32.2	88.6**	11.9*	13.8	32.7**	48.7

^a χ^2 calculated to test the difference in the proportion of respondents that would fill each vignette prescription based on gender, work status, years in practice, and work setting. Totals may not equal 100% due to missing data.

* $\chi^2 < .05$. ** $\chi^2 < .01$.

vignette prescriptions. Binary logistic regression was performed using the 4 demographic questions as independent variables and if the respondent would fill the particular vignette prescription as the dichotomous dependent variable. Poorly fitting models, as evident by χ^2 tests, and negligible changes in predictive probability are not reported. Analyses were run using SPSS v.21.

Respondents also could provide open-ended comments or examples related to the survey. These comments were coded descriptively by 2 members of the research team (CS, MW) for the purpose of clustering responses.¹⁹ Variation in coding was resolved using a consensus approach. Following consensus, codes were counted to provide an approximate weighting of the participant ideas. Coded segments were sorted using Microsoft Excel, summaries were generated, and representative quotes were selected.

Results

A total of 713 surveys were submitted. Responses less than 50% complete (n = 56) were excluded. To allow more interpretable comparison, responses with a primary work environment of "other" (n = 105), omission of work environment (n = 37) or with work status of retired (n = 17) or omitted (n = 1) were excluded. The remaining 497 responses were used for the analyses. Females comprised 58.1% of responses and the majority (67.8%) practiced in the community setting (Table 1). Pharmacists early and late in their careers were most likely to respond, and most reported working full-time (87.6%). Most respondents would

dispense the control, lithium prescription (93.9%). Less than 20% of respondents would fill the digoxin or methotrexate prescriptions while higher proportions would fill the fentanyl (40%) and sumatriptan (56.2%) prescriptions (Table 1). Chi-squared tests revealed statistically significant variation in the percentage of respondents reporting they would dispense the vignette prescriptions based on the 4 pharmacist characteristics (Table 1).

The logistic regression modeling was useful for the fentanyl vignette (Table 2) but not for the other vignettes. The logistic regression for the fentanyl vignette was a significant improvement, correctly predicting 65.9% of decisions, compared to 60.0% for the null model. Keeping other variables constant, males were significantly more likely than females to dispense the fentanyl prescriptions (odds ratio [OR] = 2.308); full-time pharmacists were significantly less likely to report dispensing the fentanyl prescriptions compared to part-time pharmacists (OR = 0.277). Chain pharmacists had twice the odds of dispensing the vignette fentanyl prescription compared to independent pharmacists (OR = 2.168). To illustrate the 2 most disparate predicted probabilities of the sample using the model, a male, part-time, chain pharmacist with 15 to 20 years of experience dispensing the fentanyl prescription is estimated at 85.0%, and the predicted probability of a female, full-time, independent community pharmacist with 5 to 10 years of experience is 21.6%.

In the 2 weeks prior to completing the survey, 88.7% of respondents indicated they had contacted a prescriber or prescriber representative at least once about a prescription

Table 2. Logistic Regression for Likely Harmful Fentanyl Vignette Prescription (N = 497).

Variable	Odds Ratio e ^(B)	Significance	95% CI e ^(B)
Constant	0.992	—	
Female ^a	1.000	—	
Male	2.308	P < .001	1.535, 3.470
Part-time ^a	1.000	—	
Full-time	0.277	P < .001	0.150, 0.510
Years in Practice (Overall)		NS ^b	
<5 ^a	1.000	—	
5-10	0.783	NS	0.441, 1.389
11-15	1.496	NS	0.704, 3.177
16-20	0.919	NS	0.398, 2.125
>20	1.139	NS	0.686, 1.893
Primary Work Setting (Overall)	—	P = .001	
Independent ^a	1.000	—	
Chain	2.168	P = .002	1.339, 3.512
Hospital	1.029	NS	0.614, 1.727

^aReference group.^bNS denotes P value of .05 or greater.**Table 3.** Responses to Likert-Type Items (N = 497)^a.

Item	Mean (SD)
It is acceptable for a pharmacist not to fill a prescription because of significant concerns for <i>patient safety</i> .	4.41 (0.744)
If I receive direct physician approval for a prescription dosage in question and document this approval, the physician is ultimately responsible for any outcome the patient experiences from the medication.	3.81 (1.128)
A pharmacist should not fill a prescription that has a high likelihood for causing patient harm even if the physician verifies the dosage.	3.65 (0.913)
I was adequately trained in my pharmacy education on how to deal with prescriptions where I had significant patient safety concerns if they were to be filled.	2.78 (1.098)
Even if I have significant concerns for patient safety, I will fill a prescription (when I have prescriber verification of the dosage) because of concern of how the <i>PATIENT</i> will react if I do not fill the prescription.	2.31 (0.993)
Even if I have significant concerns for patient safety, I will fill a prescription (when I have prescriber verification of the dosage) because of concern of how the <i>PRESCRIBER</i> will react if I do not fill the prescription.	2.22 (0.973)

^aScale: 1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neither agree nor disagree*; 4 = *Agree*; 5 = *Strongly agree*.

that was seemingly incorrect because of dose, frequency, or indication with 30% of respondents indicating this occurred 6 times or more. Clarifying patient information or suggesting alternative options usually solved the issue; however, the majority (68.4%) of responders indicated they had refused to fill a prescription due to concerns of patient harm, even after verification, at some point in their career. Almost half of respondents (45.3%) reported filling a prescription where they had significant concern that it was likely to cause a bad outcome for the patient. Of these pharmacists, 75.5% said they did so because they felt the prescriber knew the medical history or clinical situation better than they did. When faced with a hypothetical prescription where the dose seemed excessive, and the pharmacist confirmed the dose, pharmacists perceived the responsibility for any adverse

outcomes should primarily be apportioned to the physician (82.3%) rather than shared equally or primarily attributed to the pharmacist. Likert-type responses showed almost half (48.5%) of pharmacists disagreed that they were adequately trained in pharmacy school to deal with prescriptions for which they had significant safety concerns if they were to be filled (Table 3). Respondents also disagreed that concerns over patient and provider reactions would influence their decision to not fill a dangerous prescription (Table 3).

Open-ended comments were submitted by 142 of the 497 surveys included in the overall analysis (28.6%). The most commonly applied codes, in order, were *Consultation*, *Communicate with prescriber*, *Lack info*, and *Document* (Table 4). The code *consultation* referred to the pharmacist's practice of ensuring the patient was counseled in great

Table 4. Codes Applied to Open-Ended Comments^a.

Code	Count	Representative Quote
CONSULTATION	64	I would only dispense with great patient counseling and letting them know [signs and symptoms] to watch for before a major adverse outcome could occur. I would not dispense if I felt enough or clear enough [signs and symptoms] before major ADR.
COMMUNICATE WITH PRESCRIBER	28	Usually if you discuss your concerns with the prescriber (and back it up your information with facts) the prescriber will either change the rx or be able to explain his/her reason for prescribing outside the box. Many times if it was an unintentional error, they are very grateful for you catching their mistake.
LACK INFO	13	I think in some cases the prescriber has more info and we should dispense, but it is our job to duly counsel pt on our concerns about potential major ADRs and make sure what to do if [signs and symptoms] occur.
DOCUMENT	12	I will always discuss my concerns with the rx and dose with the patient. I then document on the rx that the patient was informed of my concerns along with Dr verification. If the patient confirms they are aware of risk and still want it filled, I will fill it. I also instruct the patient on signs and symptoms to watch for based on my concerns.

Abbreviation: ADR, adverse drug reaction.

^aComments were provided by 142 of the 497 respondents (28.6%). Comments could be assigned multiple codes.

depth when being dispensed a medication where there was a concern about safety. Pharmacists stressed they would gather more information about the patient's medical condition to better understand how the medication was being used and provide extra information about potential adverse reactions anticipated with the dose in question. Several pharmacists also mentioned they would monitor the patient by checking in at a later time. Multiple pharmacists also expressed they would go beyond verifying questionable doses to ensure they understood the physicians reasoning and engage in a meaningful dialogue about the medication in question (*Communicate with prescriber*). In doing so, a scenario such as those presented in the survey was argued to be unlikely. However, a potential barrier to such communication was not being able to speak directly with the prescriber and instead communicating through an agent. Related to both of these codes, many pharmacists reported they would be certain to *document* details of their interactions with prescribers and patients, both to serve as a future information source in the care of the patient and for liability purposes. Pharmacists also reported a desire for more information, such as the condition being treated (*Lack info*) and a perception this would improve safety and potentially decrease the need to call and verify the dose in question.

Several noteworthy concepts were voiced by seven or fewer pharmacists each. Pharmacists used information such as the prescriber's specialty (eg, psychiatrist vs general practitioner) when considering doses outside the normal range. Electronic prescribing also was an area of concern as it can be a source of additional errors. Last, excessive dosing of controlled substances appeared to be a unique phenomenon as several pharmacists reported refusing to fill prescriptions for known drug seekers or for patients of physicians the pharmacist expects are prescribing inappropriately.

Discussion

Contacting a prescriber about a potentially inappropriate dose is a common weekly, if not daily, occurrence for the pharmacists completing this survey, as well as pharmacists in other studies.^{10,11} These instances usually resolve with the prescriber and pharmacist reaching a mutually acceptable solution. The present study is the first to address a less common, but important occurrence in the career of many pharmacists—the acts of withholding and dispensing prescriptions where the pharmacist has real concerns about a prescription resulting in patient harm.

Pharmacists commonly refused the clearly inappropriate digoxin and methotrexate vignette prescriptions without the aid of computerized high-dose notice. Fentanyl, another high-dose vignette, was hypothetically dispensed by over twice as many pharmacists as the digoxin and methotrexate vignettes. This may relate to other research demonstrating variation in counseling rates depending on medication class. Those authors speculated that low rates of psychoactive medication counseling could relate to the specialized and patient-specific nature of indications and dosing associated with specific drug classes.²⁰ Alternatively, pharmacists could be less familiar with the dosing, interactions, and contradictions of certain medications and more familiar with others.^{21,22} These reasons also could be potential explanations of the relatively high likelihood to dispense the sumatriptan vignette prescription (ie, lack of knowledge of this particular drug-disease interaction). In addition, pharmacists may be less likely to act on drug-disease interactions compared to high doses because they are not accustomed to having such information about the patient medical history, in this case, presence of ischemic heart disease.

The different rates of dispensing the vignette prescriptions are further contextualized by other qualitative and

quantitative findings. One prominent view from respondents was that since the prescriber confirmed the prescription, the prescriber must have more information which justifies the decision, and such patient-specific decisions place most responsibility for bad outcomes on the prescriber. Using the model of perceived responsibility for drug therapy outcomes,¹⁴ one might hypothesize that pharmacists, unclear of the standards of what to do in such a scenario and feeling they do not have control since the prescriber confirmed the dose, would not feel responsible for a negative outcome. Also, according to open-ended responses, the process of discussing a dose with a physician is more nuanced than the vignettes presented in this study and respondents were confident that withholding a dangerous prescription would be rare based on the communication skills of the pharmacist. That being said, if the pharmacist cannot speak directly to the prescriber to engage in such a discussion, such dispensing scenarios may present. In addition, some pharmacists expressed their responsibility in such situations was to educate the patient about their concerns with the dose and possible complications to monitor. Prescription education and counseling is a well-established role for pharmacists from both the perspectives of the pharmacist and patient.²³

Research has shown students may not receive sufficient knowledge and training handling medication errors in a patient's medication order.²⁴ The legal, ethical, and practical aspects of this role as final safeguard could be a target for training both students and practicing pharmacists. Such education efforts to improve medication safety ideally would involve an interprofessional approach.²⁵ Future research could examine the effect of pharmacy practice act variation on pharmacist dispensing behavior. At least one state has specific practice act language that holds pharmacists immune from civil liability or criminal prosecution if they were to not fill a prescription using professional judgment.²⁶ Also, this study did not examine the role of technological supports in the decision making of the pharmacist.

Limitations

As with all research, this study has limitations. There was no mechanism to prevent respondents from submitting multiple surveys or to ensure the person submitting the survey was a licensed pharmacist. The vignettes were hypothetical scenarios, and the extent they parallel actual behavior has not been established. In this exploratory analysis, adjustments based on the number of statistical tests were not made. An exact response rate was not calculable and persons not completing the survey, or not submitting open-ended comments, may have unvoiced perspectives and experiences. We did not assess whether respondents consulted drug information resources as they completed the survey. Many hospital pharmacists responding to this survey do not dispense 30-day

supplies of medications, so the vignettes may not have resonated as well with this group.

Conclusion

Pharmacist, patient, and prescription characteristics were associated with variation in the extent to which pharmacists reported they would dispense a series of likely dangerous vignette prescriptions. Pharmacists appeared more aligned with a patient counseling and prescriber consulting role than with withholding likely dangerous prescriptions which have been verified by the prescriber. Regardless, pharmacists have an important role as a final safeguard in the medication use process and further optimization of this role should be advocated.

Appendix

Complete Survey

A standard part of pharmacy practice is clarifying prescription orders with prescribers. For the next 5 questions you will be asked to respond, yes or no, whether you would fill and dispense a specific prescription.

Important: As you answer these questions you are to assume that YOU HAVE ALREADY PERSONALLY CALLED THE PRESCRIBING PHYSICIAN AND RECEIVED DIRECT VERBAL CONFIRMATION THAT THE PHYSICIAN WANTS THE MEDICATION DISPENSED AS THEY PRESCRIBED IT. THE PHYSICIAN SHARED THE DIAGNOSIS WITH YOU WHEN YOU CONTACTED THEM ABOUT THE PRESCRIPTION.

ALL PATIENTS HAVE NO KNOWN DRUG ALLERGIES.

1. A 30-year-old, 100 kg male recently diagnosed with Bipolar I Disorder comes into the pharmacy with a prescription for: Lithium carbonate 300 mg, Sig: 2 capsules twice daily #120 with 1 refill. Would you fill this prescription? (Reminder, you have already called the prescriber and he/she verified this is the intended medication and dose)

A. Yes B. No

2. A 68-year-old male with a new diagnosis of atrial fibrillation comes into the pharmacy with a prescription for: Digoxin 0.25 mg, Sig: 3 tablets daily #90 with 1 refill. Would you fill this prescription? (Reminder, you have already called the prescriber and he/she verified this is the intended medication and dose)

A. Yes B. No

3. A 76-year-old female recently hospitalized with a rheumatoid arthritis flare comes into the pharmacy with a prescription for: Methotrexate 2.5 mg, Sig: 3 tablets daily #90 with 1 refill. Would you fill this prescription? (Reminder, you have already called the prescriber and he/she verified this is the intended medication and dose)
- A. Yes B. No
4. A 72-year-old male who had a recent knee replacement comes into the pharmacy with a prescription for: Duragesic (fentanyl) patch 100 µg, Sig: Q72 hours #10 with 0 refills. He has used Vicodin 7.5/500 three times daily for the past 7 days with modest relief. Would you fill this prescription? (Reminder, you have already called the prescriber and he/she verified this is the intended medication and dose)
- A. Yes B. No
5. A 52-year-old male comes into the pharmacy with a new prescription for: Imitrex 50 mg, Sig: Take one tablet at the onset of migraine, may repeat in 2 hours if needed #9 with 1 refill. You also recall that the patient had a myocardial infarction 6 months ago. Would you fill this prescription? (Reminder, you have already called the prescriber and he/she verified this is the intended medication and dose)
- A. Yes B. No
6. Assume you were presented with a prescription where the dosage seemed “excessive” (ie, much higher than the usual dosage) and you were concerned it could lead to direct patient harm. You then contacted the prescriber who verified the dosage was the intended dosage. Which of the following steps would you take next? (choose only one)
- A. Document the prescriber verification and fill the prescription
B. Refuse to fill the prescription and return the prescription to the patient
C. Refuse to fill the prescription and keep it so they do not present it elsewhere
7. Assume that you filled this prescription (ie, very high dosage, but prescriber verified it) and the patient experienced a major adverse effect. How do you think responsibility for this bad outcome SHOULD be apportioned?
- A. Prescriber 100%
B. Prescriber 75%, pharmacist 25%
C. Prescriber 50%, pharmacist 50%
D. Prescriber 25%, pharmacist 75%
E. Pharmacist 100%
8. Have you ever felt pressured by a prescriber or a prescriber’s representative (ie, nurse) to fill a prescription which you felt was unsafe for the patient to take?
- A. Yes B. No
9. If yes to the previous question, then: During the past TWO years, about how many times have you felt pressured by a prescriber or a prescriber’s representative (ie, nurse) to dispense a medication that you felt was unsafe for the patient to take? (Enter a number below)
10. If I receive direct prescriber approval for a prescription dosage in question and document this approval, the prescriber is ultimately responsible for any outcome the patient experiences from the medication.
- A. Strongly Disagree
B. Disagree
C. Neither Agree nor Disagree
D. Agree
E. Strongly Agree
11. A pharmacist should not fill a prescription that has a high likelihood for causing patient harm even if the prescriber verifies the dosage.
- A. Strongly Disagree
B. Disagree
C. Neither Agree nor Disagree
D. Agree
E. Strongly Agree
12. Even if I have significant concerns for patient safety, I will fill a prescription (when I have prescriber verification of the dosage) because of concern of how the PRESCRIBER will react if I do not fill the prescription.
- A. Strongly Disagree
B. Disagree
C. Neither Agree nor Disagree
D. Agree
E. Strongly Agree
13. Even if I have significant concerns for patient safety, I will fill a prescription (when I have

prescriber verification of the dosage) because of concern of how the PATIENT will react if I do not fill the prescription.

- A. Strongly Disagree
- B. Disagree
- C. Neither Agree nor Disagree
- D. Agree
- E. Strongly Agree

14. It is acceptable for a pharmacist not to fill a prescription because of significant concerns for patient safety.

- A. Strongly Disagree
- B. Disagree
- C. Neither Agree nor Disagree
- D. Agree
- E. Strongly Agree

15. I was adequately trained in my pharmacy education on how to deal with prescriptions where I had significant patient safety concerns if they were to be filled.

- A. Strongly Disagree
- B. Disagree
- C. Neither Agree nor Disagree
- D. Agree
- E. Strongly Agree

16. Can you recall an instance when you filled a prescription where you also had significant concern that it was likely to cause a bad outcome for the patient?

- A. Yes B. No

17. If yes to the previous question, then: Why did you ultimately fill that prescription when you had significant concern? (choose one only)

- A. Prescriber pressured me
- B. Patient pressured me
- C. Concern about repercussions from employer if Rx was not filled
- D. I felt the prescriber knew the medical history/situation better than I did
- E. Lack of necessary information available to me at the time (eg, guidelines, max dosages, etc)

18. How many times in the past TWO weeks have you contacted a prescriber or prescriber's representative

(ie, nurse) about a prescription which was seemingly incorrect because of dose, frequency, or indication?

- A. None
- B. 1-2 times
- C. 3-5 times
- D. 6-10 times
- E. >10 times

19. During your professional career, have you ever NOT filled a prescription because of concerns of patient harm even if you verified with the prescriber the prescription was indeed written correctly?

- A. Yes B. No

20. If yes to the previous question, then: Enter the approximate number of times in your career when you did not fill a prescription because of concerns of patient harm even if you verified with the prescriber the prescription was indeed written correctly. (Enter a number below)

21. Optional: Please add any additional comments or examples which you would like to share related to the topic discussed in this survey.

22. Gender

- A. Male
- B. Female

23. Number of years in the profession

- A. <5 years
- B. 5-10 years
- C. 11-15 years
- D. 16-20 years
- E. >20 years

24. Primary Work Environment

- A. Community—Independent
- B. Community—Chain
- C. Hospital
- D. Other

25. Do you work?

- A. Full-time (>20 hours/week)
- B. Part-time (<20 hours/week)
- C. Retired or not actively working

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