Improving Public Health by Advancing a Multicomponent Approach to Increasing Prescription Dispensing Safety in U.S. Outpatient Pharmacies

5   **Policy Date:** October 29, 2024

6   **Policy Number:** 20247

7   *Note: Line numbers are included along the left to help quickly identify specific text within the*
8   *policy brief.*

Abstract

10 This policy statement addresses one component of medication safety: the safety of prescription
11 dispensing within outpatient pharmacies. In 2022, nearly 4.5 billion prescriptions were dispensed from
12 these pharmacies, yet limited data exist about the types and rate of dispensing errors, the impact of
13 factors such as work pressures and staff training on errors, and the extent to which pharmacies prioritize
14 safety and invest resources to improve safety. While prescriptions should be dispensed without errors,
15 national surveys and media reports indicate that dispensing errors may be increasing because of a lack
16 of organizational commitment to the personnel and resources needed to ensure patient safety. This
17 weak culture of safety may reflect the relative lack of external accountability placed upon pharmacies
18 to ensure that prescriptions are dispensed without error. Three avenues for lowering the risk of
19 dispensing errors are proposed: (1) additional research and practice-based data to determine error types,
20 rates and costs, pharmacy-based factors contributing to errors, and the effectiveness of continuous
21 quality improvement efforts to prevent future errors; (2) further research into defining and measuring
22 the culture of safety within pharmacies and effective ways to strengthen that culture; and (3) increased
23 external accountability for pharmacies to maintain a culture of safety. Prescription dispensing safety is
24 likely to be clearly assessed and continuously improved if a multicomponent, collaborative approach
25 brings together the innovation, support, and accountability needed to address this key component of

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medication safety. Undertaking the recommended action steps within the selected sector of pharmacies

can serve as a springboard for expanding prescription dispensing safety in all pharmacies.

Key words: patient safety; public safety; safety culture; prescription safety

Relationship to Existing APHA Policy Statements

No active APHA policy statement addresses this public health problem. The APHA policies

listed below discuss problems, strategies, or action steps that lay a foundation for this proposed

statement. APHA Policy Statement 20109 cites low health literacy as a contributing factor to

medication errors. Interdisciplinary education and patient-centered care are supported by Policy

Statements 200614, 20088, 202011, and #20215. Policy Statements 20068 and 20223 are

foundational for our action step related to organized labor as a means of addressing workplace

issues that affect the culture of safety within pharmacies.

- APHA Policy Statement 20109: Health Literacy: Confronting a National Public Health Problem
- APHA Policy Statement 200614: The Role of the Pharmacist in Public Health
- APHA Policy Statement 20088: Promoting Interprofessional Education
- APHA Policy Statement 201011: Reforming Primary Health Care: Support for the Health Care Home Model
- APHA Policy Statement 20215: A Call to Improve Patient and Public Health Outcomes of Diabetes through an Enhanced Integrated Care Approach
- APHA Policy Statement 20068: Resolution on the Right For Employee Free Choice to Form Unions
- APHA Policy Statement 20223: Support Decent Work for All as a Public Health Goal in the United States

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Problem Statement

This policy statement addresses prescription dispensing safety within outpatient pharmacies including chain, grocery store, mass merchandiser, independent, and mail order pharmacies. From 2015 to 2018, nearly half of U.S. residents reported using at least one prescription medication in the past 30 days, with 24.0% using three or more medications.[1] In 2022, an estimated 4.5 billion prescriptions were dispensed from these pharmacies,[2] resulting in $64 billion in retail out-of-pocket prescription expenditures.[3] Private insurers and the Centers for Medicare & Medicaid Services (CMS), through Medicare Part D and Medicaid programs, each accounted for about 40% of retail prescription expenditures.[4]

The safety of outpatient pharmacy prescription dispensing practices is a public health concern. The high number of prescriptions dispensed means that even a low dispensing error rate can affect millions. If the commonly cited 1.5% dispensing error rate is applied to 2022 prescription data, an estimated 67.5 million dispensing errors occurred that year.[2] Alarmingly, reports by pharmacists [5] and the media [6,7] suggest that dispensing errors are rising.

Dispensing errors include prescriptions dispensed to the wrong person, incorrect medications or strengths dispensed, incorrect prescription label information, dispensing medications that could lead to drug-drug or drug-disease interactions, and failure to provide adequate patient/caregiver counseling.[8–11] The multiple steps involved in prescription dispensing create error opportunities at any point during prescription preparation, review of medication records for therapeutic concerns, and patient counseling.[8] Errors can result in drug-drug interactions, adverse events, hospital admissions, increased health care utilization, and increased risk of death.[9]

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A focus on dispensing errors within outpatient pharmacies is warranted because they lack key safety features that exist within inpatient (hospital/long-term care) pharmacies.[10] Safety differences include the following: (1) outpatient prescriptions are dispensed directly to patients; (2) few outpatient pharmacies face external regulatory pressures that promote a culture of safety[12]; (3) outpatient pharmacies are not required to obtain accreditation approval from organizations such as The Joint Commission[13] or URAC (formerly known as the Utilization Review Accreditation Commission)[14] that provide external verification of prescription safety procedures; and (4) while parent institutions of inpatient pharmacies promote their safety to the public, outpatient pharmacy corporations emphasize fast receipt of prescriptions, prioritizing consumer demand over dispensing safety.[15]

This policy lays out three problem areas that cloud or add to dispensing error concerns. First, we lack a clear understanding of the types, frequency, and associated costs of dispensing errors and their impact on patient health; the degree to which system-mediated factors, such as pharmacy staffing, impact errors; and the interplay of these factors within specific outpatient pharmacy environments. Second, the culture of safety appears to be eroding in a growing number of pharmacies. Third, there is little external pressure to hold back that decline.

Paucity of outpatient pharmacy dispensing safety data

The Institute of Medicine report To Err Is Human: Building a Safer Health System[16] ushered in an era of medication safety research; however, little research has focused on outpatient pharmacy prescription dispensing.[8,17] A 2024 international systematic review of both hospital and community pharmacy dispensing error studies from 2010 to 2023 included only 15 U.S. studies.[18]

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102 Outpatient pharmacy dispensing error studies report significant variations in error rates due to

103 differences in medication error definitions, pharmacy inclusion criteria, study sample sizes,

104 methodologies (e.g., direct observation, mystery shoppers [i.e., individuals hired to pose as

105 shoppers], surveys, claim data analysis), and error reporting metrics.[10] Some studies have

106 defined an error as occurring only when undetected, while others have included errors detected

107 and remedied during the dispensing process (i.e., "near misses").[19] A 2018 meta-analysis of

108 medication error studies reported dispensing error rates ranging from 0.00003% to 52%, with an

109 overall estimated rate of 1.5%.[19] The lowest error rate was reported from a claims database

110 analysis of selected medications. The highest rate resulted from direct observations related to

111 selected prescriptions requiring patient consultation.

112

113 Reported percentages of dispensing errors causing patient harm range from 4% to 52%.[17,20]

114 An observational study of 50 pharmacies showed that 6.5% of dispensing errors had the potential

115 to cause patient harm,[21] while a mystery shopper study of 255 pharmacies revealed that 52%

116 of pharmacies dispensed two prescriptions that, if taken together, could result in a life-

117 threatening drug interaction.[20] The degree to which harm from dispensing errors contributes to

118 health care expenditures is unknown. The authors of a 2024 systemic review of medication errors

119 called for a common data reporting and analysis framework to determine the financial impact of

120 those errors.[22] Similarly, adoption of common data collection, reporting, and analytical

121 approaches is needed to determine the financial impact of dispensing errors in outpatient

122 pharmacies.[22]

123

124 Certain individuals may be at high risk for error harm, including children, pregnant persons,

125 elderly persons, and those who have multiple or complex health conditions, mental health illness,

126 or developmental or intellectual disabilities; take multiple medications; or take medications with

127 a high potential for serious adverse reactions.[23,24] Individuals with low vision and hearing

128 impairment and those with low health literacy or English as a second language may face

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129   challenges in reading prescription labels necessary to detect dispensing errors.[25–29] People

130   with fragmented health care; who face barriers to care (e.g., those residing in rural or

131   underserved areas and those with inadequate health insurance) and/or discrimination within

132   health care settings due to race, ethnicity, gender identity, or mental health illness; or who live in

133   stressful socioeconomic conditions (e.g., homelessness) may face barriers to error

134   remediation.[30,31]

135

136   Data on root causes of dispensing errors are key to prevention. Associations have been found

137   between dispensing errors and high prescription volumes, inadequate staffing levels and

138   education, workplace disruptions, and lack of patient counseling.[11,21,32] Pharmacists

139   consistently report that performance metrics drive work overload, work-related stress, burnout,

140   and moral injury and thus contribute to errors and increased patient safety issues.[33]

141   Technology use lowers dispensing errors, but they still occur as a result of human error and

142   technology limitations.[10] Key questions remain about the impact and interaction of these

143   factors in causing dispensing errors and the interventions that best alleviate their impact on error

144   occurrence and patient safety.

145

146   Understanding dispensing safety is complicated by the lack of public sources of error data. Food

147   and Drug Administration (FDA) MedWatch,[34] the FDA and the Centers for Disease Control

148   and Prevention (CDC) Vaccine Adverse Event Reporting System (VAERS),[35] and the Institute

149   for Safe Medication Practices (ISMP) consumer and health professional reporting systems [36]

150   collect dispensing error reports but do not publicly share such data or allow access to databases.

151   Most outpatient pharmacies do not report dispensing error rates to state boards of pharmacy, and

152   dispensing safety is rarely discussed in corporate annual reports.[37] A growing number of

153   outpatient pharmacies use patient safety organizations (PSOs) that shield error data from public

154   and legal disclosure.[38] While data confidentiality is thought to enhance error reporting,[16]

155   this also means that the public cannot choose pharmacies and payers cannot build pharmacy

156　networks based on dispensing safety criteria. Only crude indicators of pharmacy dispensing

157　safety are publicly available: state data on lack or loss of licensure, lawsuits, whistleblower

158　reports, and media reports. [6,7]

159

160　***Eroding culture of safety within outpatient pharmacies***

161　Dispensing safety within outpatient pharmacies must be supported by an organizational culture

162　that acknowledges medication risks, strives to protect patient safety, values communication,

163　fosters shared trust, and believes in the value of preventive measures.[10] According to the 2022

164　National Pharmacist Workforce Study, 82% of pharmacists indicated that patient medication

165　safety is being "reduced" or "significantly reduced" as a result of increasing practice-related

166　activities.[5] Pharmacists' frustrations may arise from their lack of legal authority over system-

167　mediated causes of errors such as staffing levels and staff education.[5]

168

169　The linchpin to a culture of safety is continuous quality improvement (CQI), in which a systems

170　approach is used to improve safety through ongoing error data gathering, assessments, and

171　system improvements. While medication safety is a required component of pharmacist

172　education, pharmacy staff may not have the requisite reporting and communication skills needed

173　for CQI initiatives.[39] A growing number of pharmacies use PSOs approved by the Agency for

174　Healthcare Research and Quality (AHRQ) to collate their error data and recommend safety

175　initiatives.[38] The impact of PSOs on dispensing safety practices is unknown but requires

176　examination because pharmacists practicing at pharmacies affiliated with PSOs report fear of

177　reprisal for reporting errors and state that they do not receive feedback about reported errors[6]—

178　two hurdles to improving medication safety that PSOs were created to overcome.

179

180　Collaboration between pharmacists and prescribers and their staffs is essential to prevent

181　dispensing errors; however, the "siloed" nature of pharmacies within the health care system

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182 hinders the prescriber-pharmacist communications and collaborations needed to prevent, detect,

183 and remedy prescription errors. Lack of pharmacy access to electronic health record information

184 prevents detection of errors such as drug-disease interactions and incorrect patient or medication

185 names on prescriptions.[32,40] A Qualtrics survey of 204 pharmacists and 200 physicians

186 revealed that while nearly all believed collaboration between physicians and pharmacists is

187 important, both physicians and pharmacists reported that collaboration was hindered by lack of

188 time and communication challenges.[41]

189

190 *Lack of external accountability for dispensing safety*

191 State boards of pharmacy have a duty to hold pharmacies and pharmacists accountable for

192 prescription safety through enforcement of pharmacy laws and regulations. However, most state

193 boards of pharmacy do not require outpatient pharmacies to report dispensing errors or undertake

194 CQI activities.[12] A survey of state boards of pharmacy showed that only 16 state boards

195 mandated that community pharmacies implement some component of CQI.[12] Of those, three

196 required complete audits related to medication safety and only one required documentation of

197 quality improvements made. Few state boards take actions to address workplace factors known

198 to influence dispensing error rates or cite pharmacies for neglecting to counsel patients as

199 required by law.[11]

200

201 Despite significant prescription expenditures and interest in preventing unnecessary health care

202 costs, health care payers rarely hold pharmacies accountable for dispensing errors. Payer

203 medication safety quality measures do not assess pharmacies' culture of safety or CQI

204 initiatives.[42] Neither CMS nor private payers require outpatient pharmacies to attain national

205 accreditation approval from organizations that assess patient safety practices.[12]

206

207   Outpatient pharmacies and their corporate owners face little market pressure to improve

208   prescription dispensing safety. Based on corporate annual report content, shareholders appear to

209   have little interest in prescription dispensing practices, dispensing error rates, or their impact on

210   patient health and liability costs.[37]

211

Evidence-Based Strategies to Address the Problem

213   This policy statement focuses on the following three strategies to protect the public against

214   outpatient pharmacy dispensing errors: (1) increasing research and practice-based analysis to

215   characterize dispensing errors, their impact on patient safety and financial costs, the patient

216   populations affected, and system-mediated factors that are the root cause of errors to inform CQI

217   efforts; (2) strengthening the culture of safety through CQI initiatives and pharmacist, patient,

218   and interprofessional collaboration; and (3) encouraging health care payers, patients and

219   caregivers, and the general public to hold pharmacies accountable for dispensing safety.

220

Increase research and practice-based analysis

222   Data-driven interventions to improve dispensing safety are needed. Meaningful safety data

223   requires consistent use of standardized definitions and reporting elements.[10] Government

224   resources and established public databases can provide direction for the development of

225   sustainable surveillance models. While researcher access to established data repositories can

226   inform an understanding of dispensing errors, limitations commonly seen with error reporting

227   platforms include voluntary error reporting, potential reporter bias, lack of root cause analysis of

228   errors, and data limitations.[43]

229

230   ***One source for data standardization is publicly available***

231   AHRQ Common Formats for Event Reporting-Community Pharmacy Version.[44] By offering a

232   unifying approach to data reporting, this tool encourages data sharing that can lead to early alerts

233   for needed interventions to protect patient safety.

234

235   FDA MedWatch,[34] VAERS,[35] and ISMP professional and consumer reporting portals [36] also

236   provide insight into error data collection processes and translation into error prevention actions.

237   Together, the FDA and the ISMP identify root causes of common and dangerous dispensing errors and

238   apply this information to improve pharmaceutical product labeling and issue safety alerts.[36] The

239   addition of artificial intelligence (AI) decision support tools holds potential to improve the speed of

240   MedWatch data reviews, leading to better and faster decisions.[45] The VAERS database provides

241   early alerts to health professionals about vaccine administration errors.[46] Increased voluntary

242   reporting participation and deidentified data availability to researchers and analysists could increase the

243   value of these useful databases to outpatient pharmacy CQI efforts.

244

245   Another data resource may be outpatient pharmacy error data held within PSOs. PSOs are established

246   through AHRQ,[38] and thus this agency's support of deidentified data access for research purposes is

247   essential. Finally, an evaluation of dispensing safety within outpatient pharmacies by the Office of the

248   Inspector General might be insightful given that a 2018 evaluation of hospital-based medication

249   adverse events conducted by the office produced valuable recommendations.[47]

250

251   The Ontario, Canada Assurance and Improvement in Medication Safety (AIMS) program

252   provides a standardized data reporting platform supported by mandatory anonymous dispensing

253   error reporting with data used to support CQI initiatives.[48] AIMS offers educational programs

254   and has a safety interest group and interactive tool that allow pharmacies and other stakeholders

255   to view aggregated AIMS data.[48]

Strengthen the culture of safety within outpatient pharmacies

256

257 Strengthening the culture of safety within outpatient pharmacies first requires that a culture of

258 safety be defined and measured. The AHRQ Community Pharmacy Survey on Patient Safety

259 Culture, an online pharmacy-administered survey, provides an initial step toward this goal.[49] It

260 encompasses 11 selected patient safety components including communications, patient

261 counseling, work environment, and staff training. Researchers have used this tool to characterize

262 pharmacy practice environments.[32]

263

264 The importance of CQI is illustrated in the creation of a joint patient safety reporting system by

265 the Department of Defense and the Veterans Administration.[50] Both agencies can report

266 incidents and near misses, including those related to prescription dispensing errors, via a

267 standardized methodology for data input, incident investigation, and root cause analysis.

268

269 When educated, outpatient pharmacists respond positively to CQI initiatives.[51] A

270 communication network established to support CQI efforts in rural Nebraska pharmacies found

271 that pharmacists valued shared error reports and used them to increase safety vigilance within

272 their pharmacies.[52] Designation of a corporate medication safety officer can facilitate CQI

273 participation, supporting communication among all levels of organizational management and

274 ensuring that pharmacy staff receive intentional, ongoing education regarding medication safety

275 and CQI implementation.[53]

276

277 A culture of safety links patient care responsibilities among pharmacists, patients/caregivers,

278 prescribers, and other health care providers. Intentional linking of patient care services and

279 electronic health records between pharmacies and patient-centered medical care homes improves

280 coordination of care. [40,54,55] Shared electronic health records help in coordinating care and

281 identifying prescription errors before prescriptions are dispensed. The Office of the National

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282 Coordination for Health Information Technology (ONC) has proposed a rule that e-prescriptions

283 include the indication for use, thus providing information that could prevent incorrect patient,

284 medication, and dose dispensing errors.[56]

285

286 Professional collaborations are essential for meeting the needs of those with barriers to

287 understanding prescription vial information. Pharmacies offer large-print and alternative

288 language prescription labels, but pharmacists often lack adequate skills and time to counsel

289 patients with visual or hearing impairments or those with low proficiency in English. [57,58]

290 Partnerships with public health nurses or community health workers who possess unique

291 knowledge, skills, and community ties may be useful. Cross training of pharmacy technicians as

292 community health workers holds promise, but this model of care is limited by time and financial

293 requirements.[59]

294

295 A culture of safety supports a work environment that provides adequate resources. As

296 employees, pharmacy staff can take actions to address workplace conditions that negatively

297 affect patient safety. The Occupational Safety and Health Administration enforces federal laws

298 related to employee rights and recognizes the links among an organizational culture of safety,

299 worker rights, and patient safety.[60] Collective bargaining gives employees a voice in decisions

300 related to work issues, such as working conditions that affect employee and patient safety.[61]

301 Drawing on lessons learned from the nursing profession,[62] pharmacy professional associations

302 could play a key role in pharmacy staff efforts to engage in collective bargaining.

303

304 ### *Increase pharmacy accountability for maintaining a strong culture of safety*

305 State boards of pharmacy-mandated pharmacist-patient/caregiver counseling can significantly decrease

306 dispensing errors.[63,64] State laws have mandated error reporting and CQI processes, provided

307 pharmacists legal authority to adequately staff pharmacies, and given pharmacy staff break times.[65–

308 67] While the effect of these mandates is unknown, research on the Omnibus Reconciliation Bill of

309 1990 pharmacy practice requirements suggests that, without financial incentives, the intended benefits

310 may be muted.[68] Irrespective of the laws' impact, their passage suggests that the political will to

311 address system-mediated causes of dispensing errors exists.

312

313 Historically, outpatient pharmacy corporations have responded to financial incentives. In

314 response to health plan requirements, corporations have expanded pharmacist responsibilities to

315 include performance metrics linked to health plan quality measures.[33] When the federal

316 government offered pharmacies reimbursement for COVID-19 vaccine administration, many

317 pharmacies prioritized vaccine administration.[6] Establishing private and public payer financial

318 incentives for pharmacy CQI efforts may be reasonable given that dispensing errors can result in

319 increased health care costs.

320

321 Some state boards of pharmacy are combining a system-mediated approach to error prevention

322 with financial disincentives by fining outpatient pharmacy corporations, rather than pharmacists,

323 for prescription errors and failure to counsel patients.[6] CMS could build on this approach by

324 requiring that outpatient pharmacies attain national accreditation status to receive Medicare and

325 Medicaid prescription reimbursements.

326

327 As financial awards related to dispensing error lawsuits grow,[69] investors may raise concerns

328 about legal expenditures. Requiring corporations to report information about CQI practices, their

329 impact on prescription dispensing safety, and overall prescription safety expenditures may

330 incentivize them to establish stronger cultures of safety within their outpatient pharmacies.

331

332 Increasing public awareness, interest, and education in dispensing errors could engage patients,

333 caregivers, and the public in taking actions to detect and/or prevent errors.[43] Public

prescription dispensing safety programs could empower patients to request pharmacist counseling when receiving a prescription and to check the prescription label and vial contents before leaving the pharmacy.[70] One effective public medication safety program is the Drug Enforcement Agency's Prescription Take Back Day, which teaches the public how to safely dispose of unused medication to prevent unintentional medication use or poisonings. Between 2018 and October 2023, the program collected 8,950 tons of medications through its twice-yearly events.[71]

Alternative Strategies

An alternative strategy is continued passive surveillance of dispensing errors. Instead of taking the best practices proactive approach to error prevention,[55] this strategy takes a reactive approach that fails to address preventive measures and blames pharmacy staff without any root cause analysis of the contribution of the pharmacy system. This approach thwarts efforts to prevent dispensing errors and their associated patient harm.

Increasing medication safety training sessions and continuing education programs for pharmacy staff might be proposed as sufficient for addressing error concerns. However, limited educational sessions are often insufficient to address system-mediated medication safety.[72] To be effective, personnel training needs to be one component of a comprehensive safety strategy that builds on a culture of safety.

Human errors may lead to a desire to rely totally on technology (e.g., robots, AI-driven assessments and counseling) to prevent dispensing errors. While technology does lower rates of some types of errors,[43] those requiring complex decision making based on knowledge and experiential skills may not be reliably prevented with today's AI capabilities.

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	Evidence-Based Strategy		Action Steps
1	Increase research and practice-based analysis to characterize dispensing errors, their impact on patient safety, the patient populations impacted, and the system-mediated factors that contribute to errors as a means to inform CQI efforts.	1a	CDC, AHRQ, and the Health Resources and Service Administration, in partnership with researchers and medication safety stakeholders, should conduct and/or fund research related to prescription dispensing errors, the factors that influence their occurrence and prevention, and their effect on patient safety and health care costs. Such work should focus on those most at risk of harm and the culture of safety within outpatient pharmacies and seek to develop common data elements and analytical frameworks. This research should build upon and coordinate with the efforts of the FDA, CDC, and ISMP.
		1b	The Department of Health and Human Services (DHHS) secretary should direct federal health agencies to develop and implement a system for collective reporting of dispensing errors.
		1c	AHRQ should support collaborative research between outpatient pharmacies and researchers on the structure, use, and impact of its Community Pharmacy Survey on Patient Safety Culture and Common Formats for Event Reporting-Community Pharmacy Version. Also, the agency should build on its current work related to pharmacy safety to assist outpatient pharmacies in using data to effectively support CQI initiatives. This effort

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			should include tactics for broadly sharing lessons learned with other pharmacies and key stakeholders. Partners in this effort could include the FDA, CDC, ISMP, outpatient pharmacies, pharmacy professional associations, medication safety experts, health informatics experts, health care payers, and consumer advocates. Finally, the agency should examine the effectiveness of PSOs in supporting CQI efforts within pharmacies and support researcher access to deidentified PSO data.
		1d	Congress should request that the DHHS Office of Inspector General assess outpatient pharmacies' CQI programs and their impact on dispensing errors and patient safety.
2	Strengthen the culture of safety within community pharmacies.	2a	Outpatient pharmacies and their corporate owners should do the following: Create a culture of safety that guides pharmacy dispensing activities. Establish medication safety leadership positions to promote a culture of safety from top management to the individual pharmacy level. Provide intentional training and ongoing education to all pharmacy staff regarding prescription dispensing error prevention, detection, and mitigation with an emphasis on team contributions to CQI.

			Appropriately staff and resource pharmacies to ensure adequate time for prescription review, patient counseling, and meaningful involvement in CQI initiatives. Collaborate with prescribers, other health professionals, community advocates, patients, and caregivers to ensure that dispensing safety policies and practices are responsive to community needs.
		2b	OHSA should partner with national and state pharmacy associations to educate pharmacists and pharmacy technicians about their right to safe working environments and their right to lawfully organize.
		2c	OSHA should conduct and/or fund research on the impact of CQI program requirements on outpatient pharmacy staff health and safety.
		2d	ONC should expand the availability of electronic health record content and communication processes between outpatient pharmacies and other network partners to foster the detection, prevention, and mitigation of dispensing errors through noncommercial, patient-centered communications. Partners in this effort should include outpatient pharmacy corporations, health care systems, health professionals, health informatics experts, health information exchanges, and consumer advocates.
		2e	The FDA, ISMP, outpatient pharmacies, health professional associations, and consumer advocacy groups should

			coordinate an orchestrated effort to enhance consumer interest, awareness, and education about outpatient pharmacy dispensing errors and empower patients and their caregivers to take actions to prevent, detect, and mitigate error-related harm and to report errors.
3	Incentivize health care payers, patients/caregivers, and the general public to hold pharmacies accountable for dispensing safety.	3a	State boards of pharmacy should require and enforce regulations that: Prohibit pharmacy policies, practices, and workplace conditions that contribute to dispensing errors. Require outpatient pharmacy CQI initiatives related to dispensing errors. Mandate the provision and documentation of oral patient counseling for every prescription dispensed. Hold outpatient pharmacies and their corporate owners accountable for consistently following laws and regulations intended to prevent dispensing errors.
		3b	CMS, in partnership with national accreditation organizations, pharmacies, pharmacy professional associations, and consumer advocates, should develop conditions of participation and conditions for coverage that outpatient pharmacies must meet to begin and continue participation in the Medicare and Medicaid programs.
		3c	Private and public health care payers should work with AHRQ, outpatient pharmacies, pharmacy professional

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		3d	Shareholders should call for publicly traded pharmacy corporations to include information related to their outpatient pharmacy dispensing safety practices in their annual corporate reports.

361

Opposing Arguments

Dispensing safety data should be confidential and proprietary

Dispensing error reporting may raise concerns that public sharing of patient and pharmacist personal identifying information within error data may violate patient confidentiality laws and thus dampen error reporting efforts. For this reason, release of deidentified data only is encouraged with an emphasis on their educational use for error prevention.[16] As businesses concerned about their public image and subject to shareholder concerns about liability, pharmacy corporations may argue that even deidentified aggregate dispensing error data are proprietary and should not be publicly available. However, state boards of pharmacy have a duty and health care payers, and the public have a vested interest in being able to review and assess prescription safety information.[55]

Error increases are a temporary effect of the COVID-19 pandemic

Another opposing argument is that prescription dispensing errors are a result of staffing shortages exacerbated by the COVID-19 pandemic.[73] Some may state that as the impact of the pandemic subsides, pharmacy workplace issues will resolve, and workloads will decline.

378   However, responsibilities related to COVID testing and immunizations remain. Staffing

379   shortages were problematic prior to the pandemic.[33]

380

Errors should be addressed through a focus on individual workers

382   Some may suggest that individuals rather than systems are the cause of prescription errors.[74]

383   Pharmacists are liable for the errors they cause, but this viewpoint ignores the prevailing

384   perspective that individual sanctions for human errors discourage error reporting and that a

385   systems approach to assessing and improving safety is more effective in preventing recurrent

386   errors.[55,74]

387

Safety regulations and accountability may lead to unintended negative consequences

389   Two unintended negative consequences of promoting CQI initiatives may occur. CQI initiatives

390   themselves may add to pharmacy staff responsibilities and, if staff resources are not increased,

391   will contribute to errors by further overwhelming the system.[75] Pharmacy corporations may

392   decide that the costs of safety changes are too high and exit the market, thus limiting public

393   access to pharmacies and increasing workloads for remaining pharmacy staff. They may also

394   adopt dispensing models that complicate external accountability for safety. It may be difficult to

395   prevent such reactions, but the benefits of improving prescription safety and preventing patient

396   harm support the action steps presented.

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