
Drug Shortages: A Stepwise Approach

Drug shortages are time-consuming, can negatively impact patients, increase healthcare costs, and increase med errors.² Use the steps outlined below to minimize negative impacts during drug shortages.

Step 1: Investigate the Shortage

- What is the reason for the shortage and how long is the shortage expected to last?^{1,2} In addition to contacting the manufacturer and/or your wholesaler, consider these websites during your research:
 - **U.S.:** ASHP: Current Drug Shortages (<https://www.ashp.org/Drug-Shortages/Current-Shortages>) and FDA Drug Shortages (<https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm>)
 - **Canada:** Drug Shortages Canada (<https://www.drugshortagescanada.ca>) and University of Saskatchewan Drug Shortages (<https://medsask.usask.ca/professional-practice/drug-shortages.php> [provides suggestions for alternative medications])
- Which patients will be affected by the shortage?²
 - Be proactive. Do a search for active prescriptions or run usage reports for the specific medication and dosage form. This will help identify the patients BEFORE they request their refill. It also provides an organized approach (i.e., upcoming fill dates) to addressing affected prescriptions.

Step 2: Identify Alternatives

- Can you get the medication on shortage from another source (e.g., different wholesaler, direct from the manufacturer, borrow from another location)?^{1,2}
- How critical is the medication?^{1,2} Here are some questions to think about to help answer this:
 - What is the med used for?¹ How essential is the med in management of the disease?¹
 - What is the impact of missed doses?¹ Is it safe for the med to be abruptly stopped?¹
 - How long can the medication be missed without serious harm to the patient?¹
- Can a brand or generic be **automatically substituted** for the medication on shortage?¹
- Can the dose be achieved in another way?¹ For example, if a 20 mg tablet is on shortage:
 - Can a 40 mg tablet be cut in half? Can patients use two of the 10 mg tablets?
 - Does the medication come in another dosage form (e.g., liquid) that can be temporarily substituted for the tablet?
- Can an alternate medication be used?^{1,2} Here are some questions to help identify possible substitutes:
 - Does the medication belong to a drug class that is thought to have a class effect (e.g., angiotensin-receptor blockers [ARBs], proton pump inhibitors [PPIs], statins)?¹
 - Are there other options from a different class that could be used instead? For example, can a PPI be used temporarily in place of an H2-blocker or vice-versa?

Step 3: Plan to Transition Patients to the Alternative

- Does the old medication need to be tapered when stopped?¹
 - Stopping certain medications abruptly can lead to unwanted effects or serious problems (e.g., clonidine, steroids, venlafaxine).
- Does the new medication need to be titrated when started and/or should the old and new medications be overlapped as part of the transition?¹
 - For example, seizure meds may need to be overlapped and many should be titrated up slowly.
- Is monitoring required (e.g., adverse effects, renal function, drug levels)?¹
- Is a new prescription required?^{1,2}
- Is there a new way to take the medication?
 - For example, *ProAir Respiclick* is breath-actuated, while *Ventolin HFA* and its generics are used in “puffs.”

More . . .

Step 4: Error Prevention

- Be aware of new look-alike/sound-alike potential when purchasing and dispensing alternative medications during a shortage.³
- Be vigilant with calculations, Rx verification, and patient education, especially if different medication strengths are used to meet patient needs.³ Ask patients to repeat the new directions back to you to make sure they have it right.
- Provide product-specific education to ensure appropriate use of new medication (e.g., review inhaler technique [U.S. subscribers; Canadian subscribers] if switching patient to a new type of inhaler).⁴
- Do a double check when things don't make sense. Drug shortages can mean that prescribers, pharmacists, and patients are using medications they are not as familiar with when substitutes are needed.³
- Discontinue old Rxs when transitioning, to prevent doubling-up if the shortage med becomes available again.

Step 5: Communicate

- Communicate drug shortage issues with other pharmacy staff, prescribers, nurses, medical assistants, and patients to help save time and avoid confusion.
 - Consider how patients and prescribers will be informed about the shortage and any transitions to substitute medications.^{1,2}
- Reassure patients that you will work with their prescriber to address their needs.
- Encourage patients to reorder maintenance meds when they have about five to seven days' worth left, to reduce the chance they will run out.¹ Offer auto-refill and medication synchronization, if available.

Step 6: Implement Ways to Minimize the Impact of Future Drug Shortages

- Avoid hoarding or stockpiling.^{1,2} This can lead to artificial shortages and a possible increase in expired drugs if you are not able to use them in a timely manner.
- Create a drug shortage team. Certain staff members should be responsible for staying up-to-date on drug shortages.⁶
- Watch for communication from wholesalers (on invoices or via fax or email), manufacturers, and professional organizations about shortages so you can plan ahead.⁵ You can consider things like:
 - purchasing of alternative options before you run out. This will allow you to convert patients to the alternate therapy BEFORE they run out of medication, rather than AFTER and prevent lapses in therapy.
 - limiting fill quantities to allow a larger number of patients to have access to the medication, rather than 90-day supplies for a few and none for others.
- Develop an out of stock communication template to use for future out of stocks.
- Keep an updated list of prescriber contact information and preferred methods for contact (i.e., fax, phone, etc), so you don't have to look for this information with each shortage.

Step 7: Make the Most of the Situation

- Use drug shortages as an opportunity to review med lists and refill history.
 - Unnecessary meds may be able to be discontinued.
 - Therapies may be able to be streamlined.
 - Nonadherence may be identified. Use our toolbox, *Medication Adherence Strategies*, our chart, *Medication Adherence Apps*, or our conversation starter, *Med Adherence Quick Guide*, if adherence is a concern.

More . . .

Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.

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References

1. Canadian Pharmacists Association. Drug shortages: a guide for assessment and patient management. 2001. <https://www.pharmacists.ca/cpha-ca/assets/File/cpha-on-the-issues/DrugShortagesGuide.pdf>. (Accessed April 14, 2020).
2. Fox ER, McLaughlin MM. ASHP guidelines on managing drug product shortages. *Am J Health Syst Pharm* 2018;75:1742-50.
3. Fox ER, Sweet BV, Jensen V. Drug shortages: a complex health care crisis. *Mayo Clin Proc* 2014;89:361-73.
4. Rodriguez T. Inhaler misuse in asthma and COPD: undoing 40 years of incorrect technique. September 2019. <https://www.pulmonologyadvisor.com/home/topics/asthma/inhaler-misuse-in-asthma-and-chronic-obstructive-pulmonary-disease/>. (Accessed April 16, 2020).
5. Institute for Safe Medication Practices. Drug shortages continue to compromise patient care. January 2018. <https://www.ismp.org/resources/drug-shortages-continue-compromise-patient-care>. (Accessed April 16, 2020).
6. Gaunt MJ. Drug shortages raise critical safety concerns. August 25, 2019. <https://www.pharmacytimes.com/publications/issue/2019/August2019/drug-shortages-raise-critical-safety-concerns>. (Accessed April 16, 2020).

Cite this document as follows: Clinical Resource, Drug Shortages: A Stepwise Approach. Pharmacist's Letter/Prescriber's Letter. May 2020.

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