

How Do Drug Shortages Affect Dermatologists?

Wasim Haidari, BS, BA; Sree S. Kolli, BA; Steven R. Feldman, MD, PhD

The frequency of drug shortages in the United States has considerably increased over the last decade, affecting different areas of health care practice.^{1,2} Basic products needed to care for patients in hospitals and clinics are many of the same drugs that are in short supply.³ This issue has become an ongoing public health concern that directly affects health care providers and their patients.⁴ In dermatology, similar to other specialties, success often is influenced by the efficacy of medications used to treat patients, and lack of appropriate medications has the potential to diminish health outcomes. Therefore, it is imperative for dermatology providers to recognize the factors that contribute to this issue, understand the effects of drug shortages on patients, and learn how they can improve stewardship of scarce resources and contribute to the solution.

Causes of Drug Shortages

Drug shortages can occur due to discontinuations, delays, or manufacturing and quality problems.⁵ Shortages of the most basic hospital products represent market failure.¹ In such cases, a small number of manufacturers supply these products, and if a manufacturer discontinues a particular product—as in the case of lidocaine with epinephrine—a shortage results, as the current system does not have the capacity to deal with such an issue.^{1,6}

An important playmaker affecting the market for medical supplies and drugs are group purchasing organizations (GPOs). The 4 largest GPOs in the United States account for 90% of the medical supply market.⁷ Although they have simplified the process for hospitals to purchase

supplies by taking on the work and expense of dealing with hundreds of manufacturers, GPOs have considerable power to affect the supply chain. By allowing certain manufacturers to become the sole suppliers of products in return for premium fees, GPOs have narrowed the supply chain of key products to sometimes only 1 or 2 manufacturers.⁷ This practice may lead to decreased capacity of regional and national supply chains, setting up the system to eventual product shortage in scenarios of production problems or a decrease in the already limited number of manufacturers.

The US Food and Drug Administration (FDA) works closely with manufacturers to prevent or reduce the impact of drug shortages. Although the FDA recently has taken more action to address the issue, solutions such as allowing imported products and underlying or approving new suppliers are only temporary fixes.¹ The root of the problem needs to be dealt with by ensuring there is a broad competitive supply chain.

Impact on Dermatologists

The nationwide shortage of lidocaine with epinephrine that occurred in 2017 is a specific example of how drug shortages affect dermatologists.⁶ This product is used in the typical dermatology clinic on a daily basis for biopsies. Possible solutions to decrease usage include drawing up 1.5 mL lidocaine with epinephrine instead of 3 mL and mixing readily available normal saline with lidocaine to produce a 1:200,000 mixture to yield a 0.5% concentration that still maintains good vasoconstrictor effects. Options for dermatologists who run out of lidocaine

From the Center for Dermatology Research, Department of Dermatology, Wake Forest School of Medicine, Winston-Salem, North Carolina. Dr. Feldman also is from the Departments of Pathology and Social Sciences & Health Policy.

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Correspondence: Wasim Haidari, BS, BA, Department of Dermatology, Wake Forest School of Medicine, Medical Center Blvd, Winston-Salem, NC 27157-1071 (haidari.wasim@gmail.com).

with epinephrine are to either use lidocaine without epinephrine, which disrupts optimal patient care, or to purchase 1% lidocaine with epinephrine at a much higher cost.⁶ A study that analyzed changes in drug pricing following shortages in the United States indicated that prices of drugs facing a shortage increased more than twice as quickly as expected between 2015 and 2016 vs those that were not in shortage, which may reflect opportunistic behaviors of drug manufacturers during shortages.⁸

The American Academy of Dermatology Association has created a letter and encouraged patients to notify their lawmakers about the severity of the drug shortage issue. Given the shortage of local anesthetics and their importance to the practice of dermatology, the American Academy of Dermatology Association also has created guidelines discussing local anesthetics that could be an alternative to lidocaine for office-based dermatologic surgery.⁹

Final Thoughts

Dermatology practitioners should be aware of current shortages impacting their practice and address the potential shortage proactively. We propose that dermatology clinics should keep an emergency reservoir of products routinely used in practice that currently are on the FDA drug shortage list, particularly lidocaine hydrochloride (with and without epinephrine) and sodium bicarbonate,¹⁰ which may diminish the negative impact a shortage

may have on the high quality of health care we strive to provide. On a bigger scale, providers should be more proactive to have their voices heard and get involved with policymaking given the potential for patient harm and suboptimal care associated with drug shortages.

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