

Mail-order Medications Often Exposed to Unsafe Temperatures, Study Shows

Published: December 10, 2020



Drug effectiveness could be impacted by storage and transit conditions

Mail-order prescriptions shipped in standard bubble-padded envelopes during winter and summer months are likely to spend a substantial portion of time outside the recommended safe temperature range for most medications, according to research presented at the American Society for Health-System Pharmacists (ASHP) Midyear Clinical Meeting and Exhibition.

“If a medication is stored improperly during the mailing process, and subsequently arrives to the patient altered, either chemically or physically, then patient safety could be at risk,” said Karlee Paloukos, a pharmacy student at University of Utah and researcher on the study. “Patients should be warned of these risks and have the option to fill their prescriptions at a local pharmacy, where temperature storage logs are meticulously tracked to ensure the integrity of the dispensed medications, at the exact same cost.”

Most medications should be stored at room temperature, between 68 and 77 degrees Fahrenheit. When exposed to temperatures outside this range they can be altered and lose effectiveness.

“Increased regulation of mail-order pharmacies to ensure appropriate storage conditions are maintained throughout transit is paramount,” Paloukos said.

To test whether mailed prescriptions fall outside recommended ranges in transit, Paloukos shipped a total of 48 non-refrigerated packages containing a temperature data logger to six locations through the U.S. Postal Service. Packages were shipped four times to each location in winter and four more times to each location in summer. Seven out of eight shipments were included in the analysis; data from one summer mailing was excluded because it was lost due to COVID-19-related delays.

Every shipment was exposed to temperatures outside the recommended range at some point during transit, with the percentage of time spent out of those temperatures ranging from 68% to 87% in the winter and 27% to 54% in summer.

“This study highlights an important consideration as mail-order pharmacy continues to evolve to meet the growing prescriptions needs of Americans,” said Mary Ann Kliethermes, Pharm.D., ASHP director of medication safety and quality, who was not involved in the study. “We must ensure appropriate storage and transit conditions are maintained, especially for medications that are most impacted by temperature changes. The round of lost packages raises another concern about mail-order drugs, as medications should make their way to patients who need them.”



Packages were mailed to Baltimore, Chicago, Tucson, Arizona; Palo Alto, California; Largo, Florida; and Katy, Texas; from December 2019 to February 2020 and again from June 2020 to August 2020.

The research entitled *Assessment of non-refrigerated shipping methods used by mail-order pharmacies and exposure of medications to unsafe temperatures* will be presented at the 2020 ASHP [virtual Midyear Clinical Meeting](#) and Exhibition on Thursday, December 10, at 11 a.m. EDT.

About the [ASHP Midyear Clinical Meeting & Exposition](#)
ASHP's Midyear Clinical Meeting and Exhibition is the largest gathering of pharmacy professionals in the world. Attended by more than 25,000 pharmacy professionals from across the globe, the Midyear meeting provides opportunities for professional development, networking, enhancing practice skills, and staying current with the latest products and innovations. Tag and follow ASHP and the meeting on social media, #ASHP20 and [@ASHPOfficial](#).

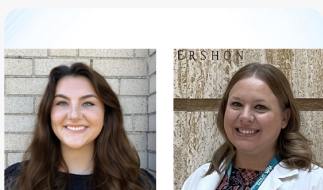
About ASHP
ASHP represents pharmacists who serve as patient care providers in acute and ambulatory settings. The organization's more than 55,000 members include pharmacists, student pharmacists, and pharmacy technicians. For more than 75 years, ASHP has been at the forefront of efforts to improve medication use and enhance patient safety. For more information about the wide array of ASHP activities and the many ways in which pharmacists advance healthcare, visit ASHP's website, [ashp.org](#), or its consumer website, [SafeMedication.com](#).

Posted December 10, 2020

Medication Safety

Recent Articles

 Pharmacy Technician Steps In to Save a Life
August 29, 2024

 Nontraditional Pharmacy Students Find Opportunities in ASHP Summer Internship
August 28, 2024

 ASHP Opposes Manufacturer's Attempt to Undercut 340B Program
August 23, 2024

ADVERTISEMENT



Popular Topics

[View All Topics](#) →

Drug Shortages

Advocacy

Pharmacy Workforce

ADVERTISEMENT



Recommended Articles

[View All](#) →



Pharmacy Technician Steps In to Save a Life

August 29, 2024



Experimental AI Chatbot Tackles Pharmacogenomics Questions

August 19, 2024



In Memory of Denise M. Frank

August 15, 2024



Advocate Health Works Toward Shared Vision of Pharmacy Practice

July 30, 2024

Advance Your Professional Development

[View Other Products](#) →

FREE BOARD EXAM PREP RESOURCES

The Review & Recertification Reward Program (RRRP) includes free access to exam preparation material + enrollment in a recertification plan billed monthly (\$10) during your initial recertification cycle. For ASHP members only.

[Learn More](#)



NEW EDITION AVAILABLE TO ORDER

AHFS Drug Information® 2024 contains the most dependable drug information available—all in one place. It is the most comprehensive evidence-based source of drug information complete with therapeutic guidelines and off-label uses.

[Order Today](#)

