

# Reducing Waste to Create a Sustainable Supply and usage of Pharmaceuticals

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**Abstract:** *Both the environment and the healthcare budget are negatively impacted by medication waste. Therefore, one intriguing strategy to promote sustainable medicine supply and utilization is to stop the medication from going unused along the pharmaceutical chain. The goal of this scoping assessment is to determine how interested parties might work together to stop the waste of potentially useful medications. Manufacturers may help ensure a sustainable supply and usage of drugs by increasing the shelf life of their products, selecting the most environmentally friendly storage options, and modifying the size of their packaging. Distributors are responsible for optimizing stock management and relaxing shelf-life regulations. Prescribers can respond by agreeing to sensible prescribing practices, which may include taking prescription quantity and shorter length into account. Pharmacists can help by dispensing, improving pharmaceutical preparation procedures, streamlining the dispensing process, and maintaining proper stock management.*

**Keywords:** Medication waste, Unused medication, Sustainability, Pharmacy.

## REFERENCES

- [1]. Reitsma M, Brabers A, Korevaar J, et al. One-third of the medicine users have medicines left unused [Dutch]. NIVEL.
- [2]. Trueman P, Lowson K, Blighe A, et al. Evaluation of the Scale, Causes and Costs of Waste Medicines: London
- [3]. Bekker CL, Melis EJ, Egberts ACG, et al. Quantity and economic value of unused oral anti-cancer and biological disease-modifying anti-rheumatic drugs among outpatient pharmacy patients who discontinue therapy. *Res Social Adm Pharm.*
- [4]. Mackridge AJ, Marriott JF. Returned medicines: waste or a wasted opportunity? *J Public Health* 2007;29:258–62
- [5]. Abbasi, G., Gay, E., 2017. Impact of sterile compounding batch frequency on pharmaceutical waste. *Hosp. Pharm.* 52 (1), 60–64. <https://doi.org/10.1310/hpj5201-60>.
- [6]. Afanasjeva, J., Gruenberg, K., 2019. Pharmacists as environmental stewards: strategies for minimizing and managing drug waste. *Sustainable Chemistry and Pharmacy* 13, 100164. <https://doi.org/10.1016/j.scp.2019.100164>.
- [7]. Alhamad, H., Patel, N., Donyai, P., 2018a. Beliefs and intentions towards reusing medicines in the future: a large-scale, cross-sectional study of patients in the UK. *Int. J. Pharm. Pract.* 26 (Suppl. 1), 12–13. <https://doi.org/10.1111/ijpp.12442>
- [8]. Alhamad, H., Patel, N., Donyai, P., 2018b. How do people conceptualize the reuse of medicines? An interview study. *Int. J. Pharm. Pract.* 26 (3), 232–241. <https://doi.org/10.1111/ijpp.12391>.
- [9]. Ferguson, R.W.; Mickalide, A.D. An In-Depth Look at Keeping Young Children Safe Around Medicine. Available online: <http://www.safekids.org/medsreport>.
- [10]. Consumer Product Safety Commission. CPSC warns that 9 out of 10 unintentional child poisonings occur in the home. News from CPSC, 18 March 2009. Available online:
- [11]. <http://www.cpsc.gov/cpscpub/prerel/prhtml09/09159.html>

- [12]. National Institutes of Health. Monitoring the future. January 2015. Available online:  
<http://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future>.