Hussnia Metezai, University Hospitals Dorset NHS Foundation Trust

Insight Into Patient Medication Disposal

Background

UK patients should return all unwanted medication to a Pharmacy. A recent Organisation for Economic Cooperation & Development (OECD)[1] report showed that globally, patient waste disposal patterns vary by medication source and formulation. Improper disposal can lead to environmental harm via pharmaceutical molecular pollution. Medicines returned to a pharmacy can also help identify non-adherence, improve patient care and reduce the financial implications of drug waste.

Objectives

Determine patient medicine disposal habits according to:
- Medicine formulation e.g. tablets/capsules, liquids
- Medication source e.g. Hospital, GP, Pharmacy

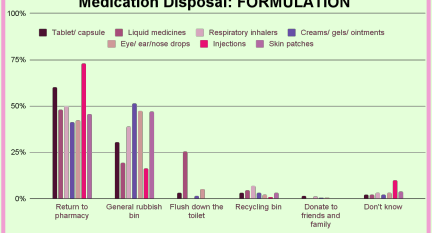
Method

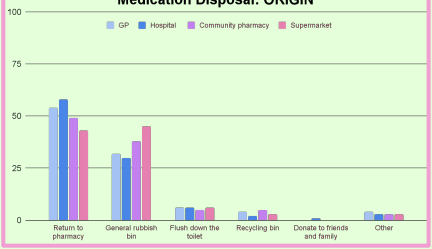
Survey, written in patient-appropriate language, collecting:

- Age, gender.
- Disposal habits as per drug formulation.
- Disposal habits as per medication source.

Including a 5-patient pilot, data was collected from 56 adult patients with clinically determined cognitive ability over 7 days (December 2022).
Results were analysed using Google sheets®.
This study did not require ethics approval.

Results





Conclusion and Discussion

Results show patient medication disposal behaviours do indeed vary by formulation and medication origin.

Formulation

'Pharmacy return' was first choice for all formulations except topicals, drops and patches which primarily went into rubbish. Post-survey patient conversations highlighted views that these drugs were 'less harmful' or 'not real medicine'. Conversations also highlighted that disposal is influenced by pharmacotherapeutic group e.g. antibiotics would be returned to pharmacy more commonly than simple analgesia, possibly due to dedicated national antimicrobial stewardship campaigns. Liquids had the highest response to being flushed down the toilet (26%) suggesting patients underestimate their pharmaceutical value, whilst inhalers had the highest likelihood of being recycled: patients referenced inhaler recycling schemes. Injections were most often identified for 'return to pharmacy' possibly due to better healthcare professional counselling for high-risk or sharp items.

Origin

'Pharmacy return' was the primary disposal route for all medications except those bought from non-Pharmacy locations; these were predominantly placed in rubbish. Possibly they are not seen as pharmaceuticals, as opposed to hospital drugs which had the highest chance of 'Pharmacy' return.

Next Steps

This study should be replicated with a larger number of participants to give insight into wider UK population behaviours. Education programmes may benefit from focus on drug pharmacology or environmental impacts. Additionally, sub-analysis found patients over the age of 65 would more likely return medicines to pharmacy compared to younger patients, suggesting awareness campaigns could be tailored to cohorts for maximum effectiveness. Future public health campaigns need to focus on medicines disposal in order to contribute towards environmentally positive waste management behaviours.

References

1. OECD. Management of Pharmaceutical Household Waste: *Limiting Environmental Impacts of Unused or Expired Medicine*. May 2022.

NHS
University Hospitals Dorset
NHS Foundation Trust