



THE IMPACT OF TYPE OF DELIVERY METHOD ON MEDICINE WASTE IN HOUSEHOLDS: A QUESTIONNAIRE-BASED STUDY ON OUTPATIENTS RECEIVING COST-FREE MEDICINE

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Background

The increasing number of patients is challenging the healthcare system thus driving the demand for more home-based medical treatments. In the North Denmark Region, patients in hospital treatment at home (outpatients) can acquire their hospital medication “cost-free medicine” either through home delivery or medication pickup lockers. The region aims to transition more patients to medication pickup lockers, as it eases access to necessary treatments. Given the current focus on home-based treatments and the limited tracking of medications in households, it is crucial to investigate the extent of medicine waste to optimize resources.

Aim and Objectives

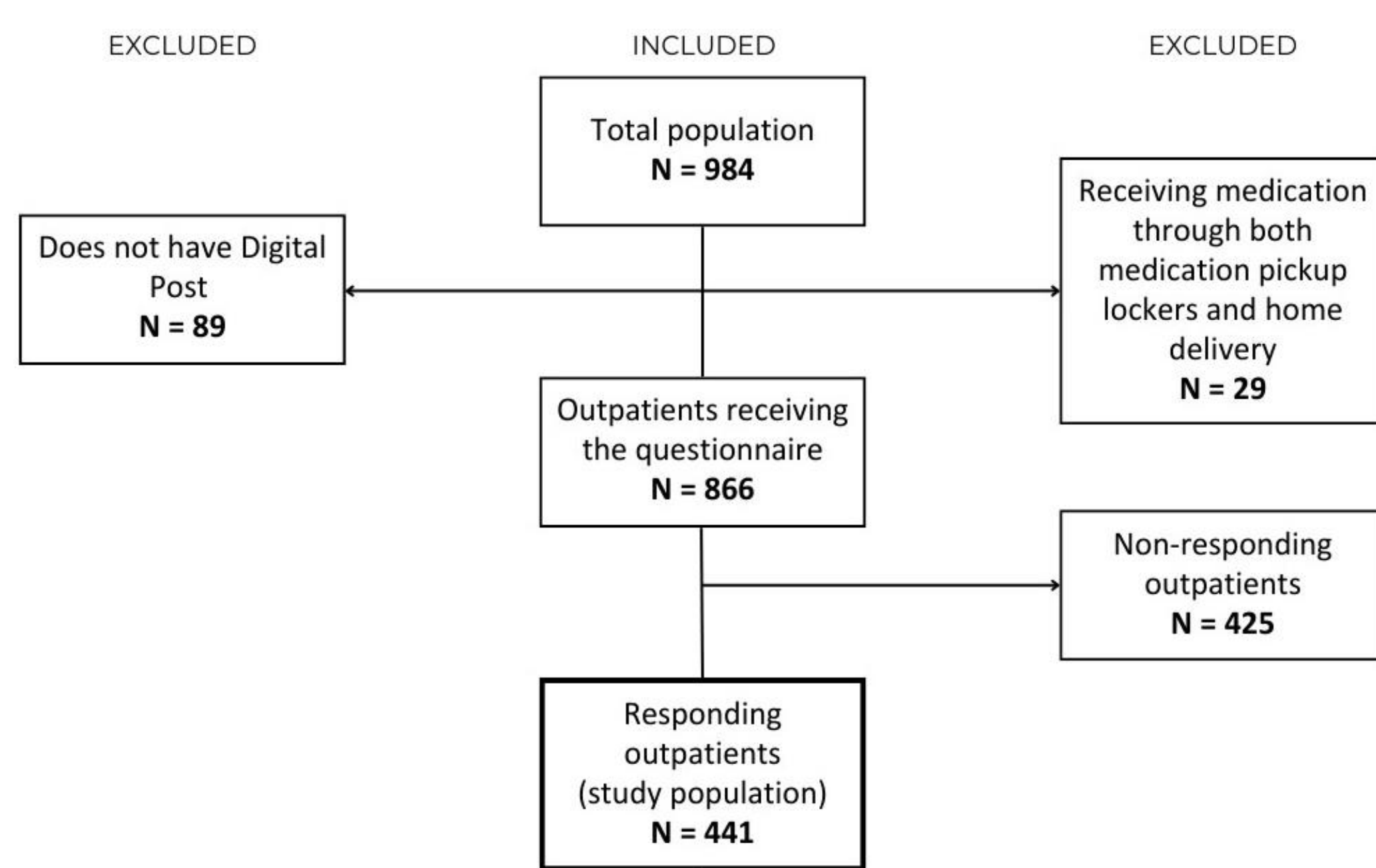
This study aimed to investigate whether there was an association between excess cost-free medicine and type of delivery method to outpatients in the North Denmark Region.

Methods

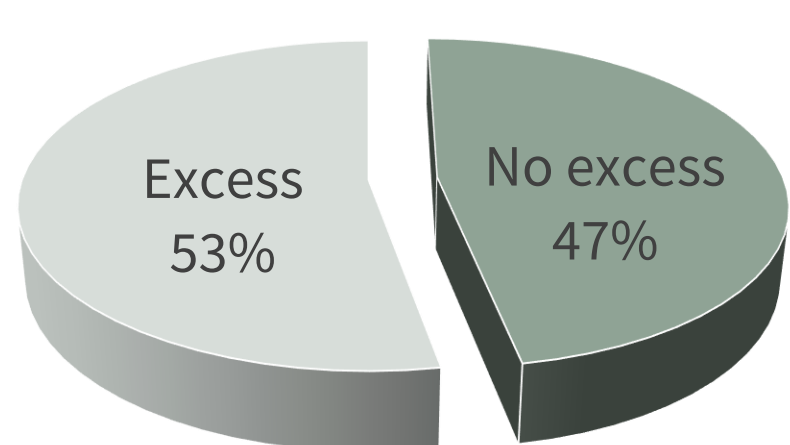
This study included outpatients receiving cost-free medication from March to October 2023 affiliated with either Department of Neurology or Department of Gastroenterology at Aalborg University Hospital. Outpatients meeting inclusion and exclusion criteria were selected to receive a questionnaire through a Danish electronic platform used by the government to securely send official messages, Digital Post.

As medicine waste is difficult to measure, the questionnaire uses excess of cost-free medication as a surrogate measure for medicine waste. Excess medication was defined as cost-free medications present in the patients’ home at the time they received a new supply. Data from outpatients receiving the questionnaire was acquired through Apovision and subsequently stored and managed in REDCap. Pearson’s chi-square test was performed to investigate differences between home delivery and medication pickup lockers.

Results



Prevalence of excess cost-free medicine

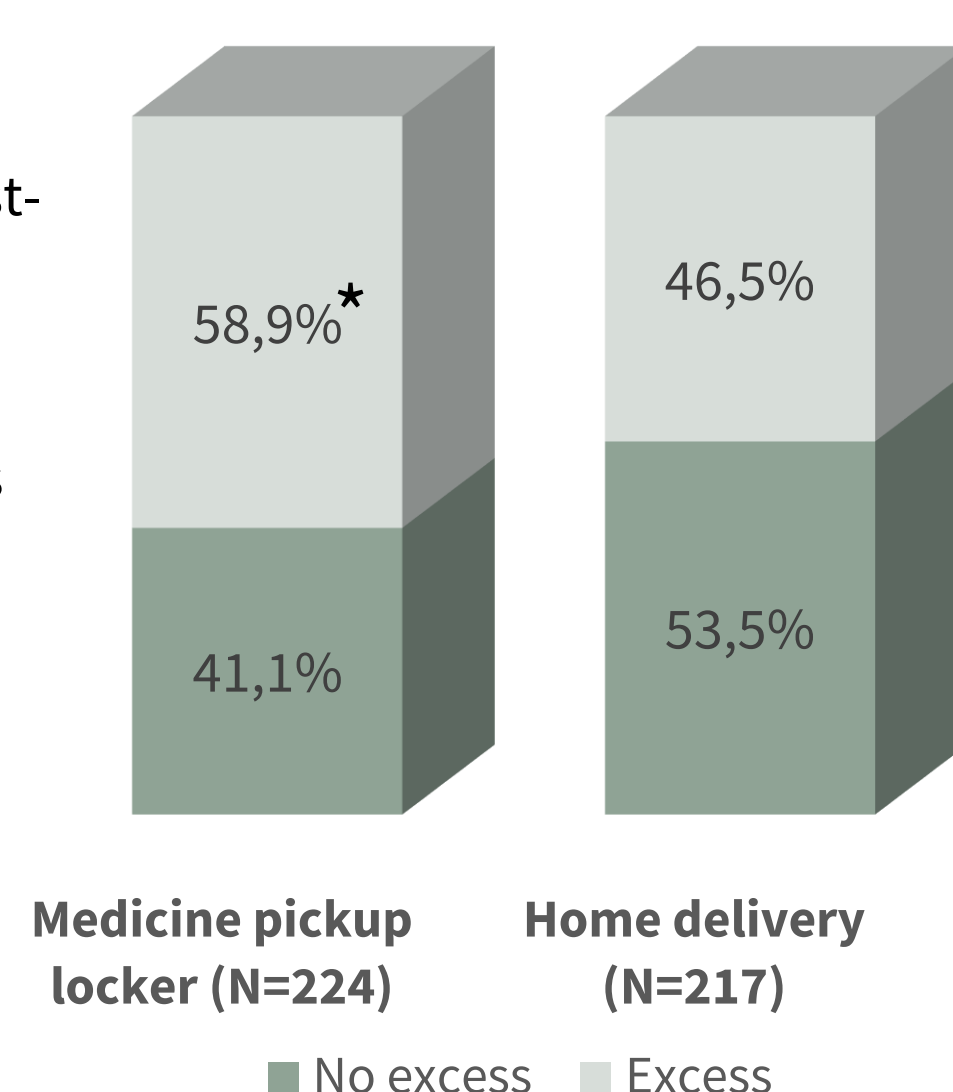


Of the 441 responding outpatients, 53% (N=233) had excess cost-free medicine at home when receiving a new supply, while 47% (N=208) did not have excess cost-free medicine at home.

Association between excess medication and delivery type

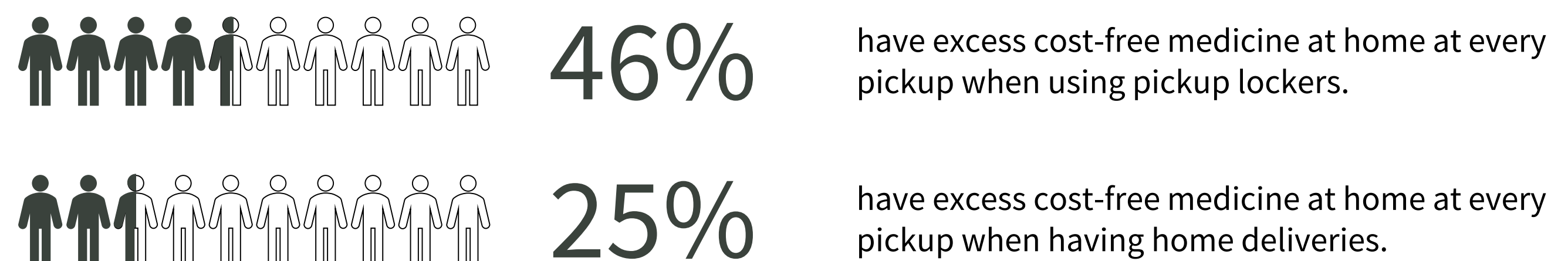
Significantly more outpatients receiving cost-free medicine through medication pickup lockers had accumulated medicine at home (58.9%, N=132) compared to outpatients receiving medicine through home deliveries (46.5%, N=101).

*indicates p = 0.009, Pearsons chi-square test.

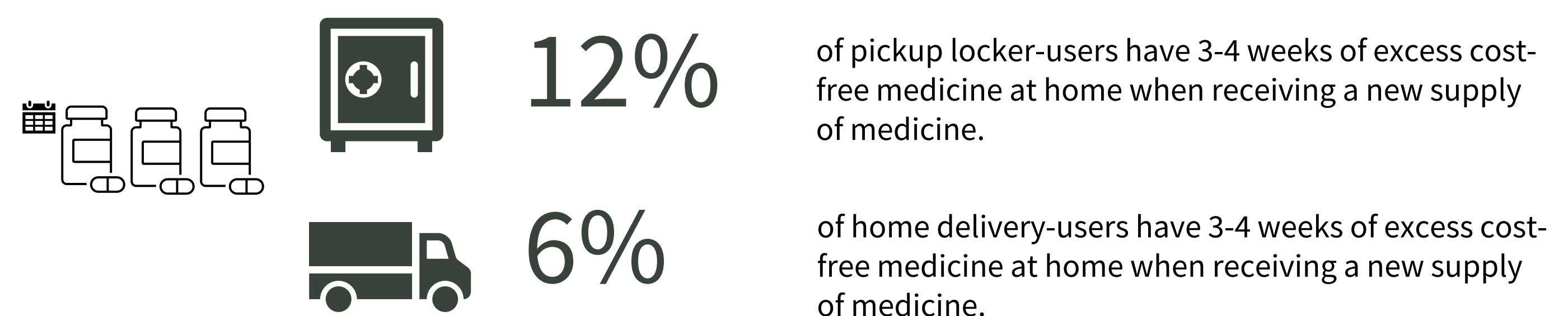


Results

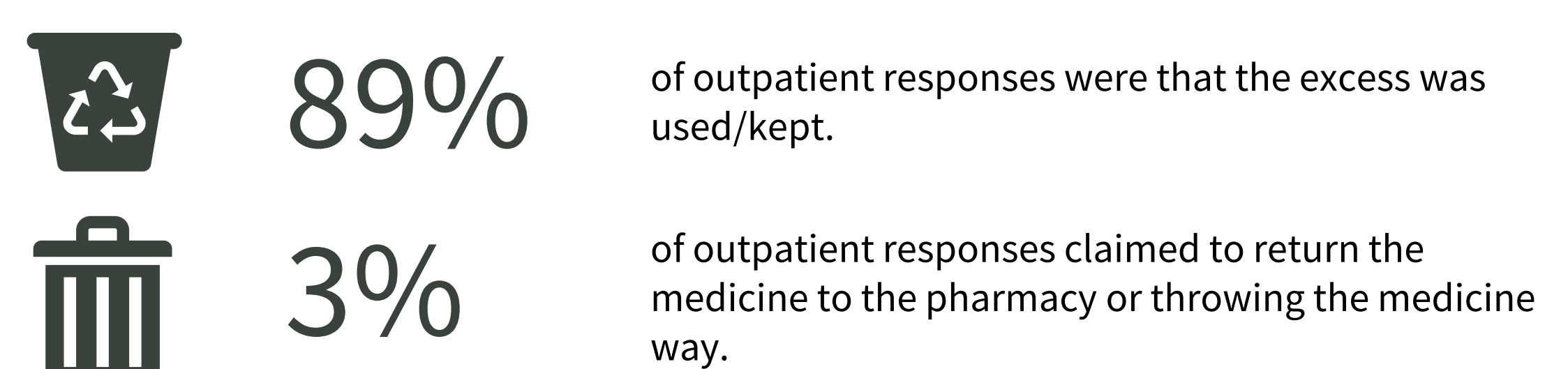
How often do you have excess cost-free medicine?



How much cost-free medicine do you have in excess?



What did you do with the excess of cost-free medicine?



Conclusion

More than half of the study population had excess cost-free medication, with the largest surplus linked to medication pickup lockers meaning that patients managing their own pickup tend to accumulate more. Even though the answers do not indicate medicine waste, it is possible that medication kept with the intention of using it, ends as household stockpiling, which, if unused, becomes medicine waste. It may thus be worth investigating whether deliveries through medication pickup lockers should be scheduled at fixed intervals to prevent excessive surplus.

6ER-005

