Waste Not, Want Not

Medication wastage

www.bpac.org.nz keyword: medicinewaste

Medication wastage is estimated to cost billions of dollars per annum worldwide.[1] Factors such as poor compliance, discontinuation of medication, adverse effects and dose changes have led to an ongoing issue of unused or expired medicines being hoarded in some households.[2]

Clearly we need to consider solutions to this problem, but care needs to be taken that any intervention reaps more benefit than the cost of the wastage itself. Throwing out perfectly good medicine seems wrong, but is the alternative more costly? One argument for this is stat dispensing, where the likelihood of the medicine being wasted may be offset by the saved dispensing fee, which can then be used to create health gain elsewhere.

In a recent survey of 452 individuals across New Zealand, 56% reported that they collected all of their prescribed medications from a pharmacy, even if they did not intend to take them. Just over 25% said they collect all of their medication prescription repeats, even if the medications are no longer needed. Over 60% of respondents indicated that there were leftover, or unwanted prescription medications present in their house, at the time of completing the questionnaire.[3]

Investigations into returns of unused medication to community pharmacies in Otago have highlighted the potential significance and volume of these unused medications.[4, 5] One individual return had over 70 different medications, which included cardiovascular, nervous system, musculoskeletal, diabetic and infection medications totalling over $14,500.[4] Another individual returned items worth only $350 but this included 1557 paracetamol/codeine tablets, 1198 paracetamol tablets, 468 doxepin capsules, 362 warfarin tablets and seven 100 g hydrocortisone-17-butyrate creams.[5]

Larger studies have been conducted in Taranaki and Hutt Valley where it was found that inhalers accounted for 20% of the total cost of returned medications, a large proportion of which (69%) were preventer inhalers (unpublished data).

International studies have shown:

- 65% of returned items to pharmacy contained greater than 65% of the original content.[6]
- 66% of returned items to a pharmacy were medications that had been dispensed for greater than a one month period.[7]

Treatment change and bereavement are the most commonly reported reasons for returning medications.[4,7–9] Other reasons include; medicines no longer needed or expired, adverse drug reactions and oversupply.[4, 7–9] Approximately 50% of patients will discontinue using their medications within a few months for reasons which include; forgetting to follow the dosing instructions, adverse effects, inefficacy or condition resolving.[10] Resentment about the need for treatment and secondary gain from persistent symptoms (i.e. sympathy, benefits) may be factors in non-adherence to treatment in some cases.[11]

How can medicine wastage be addressed?

A collaborative approach to reducing medicine wastage is needed. Patient education should focus on addressing the reasons why medicines are wasted in the first place. Amnesties for returning medicines and established collection processes in pharmacies are good ideas, but they only address correct disposal of medicines, rather than reducing the amount that is unused.

At an individual level, medicine wastage should be addressed before it begins. Ask patients regularly if they are using the medicines you are prescribing. Communication skills are important as many patients may be reluctant to confess that they have a stock pile. Ask open questions rather than make assumptions.

Prescribing tips to reduce medicine wastage:

- Treatment change is one of the most common reasons for unused medications. Changes often occur in the early phase of treatment,[8] therefore it may be prudent to prescribe a smaller initial amount of medication or “close control” for the first month of a three month prescription, if it is anticipated that the dose may need to be changed.
- The large number of “as required” medications being returned[4, 9] may indicate oversupply. Specifying an appropriate quantity may reduce wastage and allow better monitoring of the condition.
- There is often a temptation to “give the patient a good deal” and prescribe a bulk amount of medication, but this must be weighed up against the cost to the tax payer and healthcare system. Having a large amount of medications stockpiled is a safety concern and may also create confusion about what is supposed to be taken.

Approximately 50% of patients will discontinue using their medications within a few months

How to correctly dispose of unwanted medicines

There is currently no mechanism for re-using returned medication that is unexpired and in original packaging. The main reason for this is that it cannot be guaranteed that optimal storage of the medicine occurred. The following advice can be given to patients:

- Do return unwanted medicines to a community pharmacy
- Do keep medicines in original containers and packaging (so they are not mistaken for anything else)

- Don't flush
- Don't pour down the sink
- Don't throw in the rubbish
- Don't give to other people

For example; what tablets are you taking, when and how often? Do you know what they are for? Are you experiencing any adverse effects? Do you want to carry on with your current medications?

Check at appropriate times that the medication regimen is clinically appropriate. Ideally this should be a consultation without any other agenda but this often is not realistic. One way to address this is to allow only a certain number of phone repeats for a medication. For example, after every third telephone medication repeat, encourage the patient to attend a consultation for a medicine review. This may also provide a chance to discuss preventative health care.

Acknowledgements:
Thank you to Dr Rhiannon Braund, Lecturer, School of Pharmacy, University of Otago, for contribution to this article.

References:

1. Daughton CG. Cradle-to-cradle stewardship of drugs for minimizing their environmental disposition while promoting human health. II. Drug disposal, waste reduction, and future directions. Environ Health Perspect 2003;111(5):775-85.
2. Ruhoy IS, Daughton CG. Beyond the medicine cabinet: an analysis of where and why medications accumulate. Environ Int 2008;34(8):1157-69.
3. Braund R, Peake BM, Shieffelbien L. Disposal practices for unused medications in New Zealand. Environ Int 2009.
4. Braund R, Chuah F, Gilbert R, et al. Identification of the reasons for medication returns. N Z Fam Physician 2008;35(4):248-52.
5. Braund R, Yuen Y, Jung J. Identification and quantification of medication returned to Otago pharmacies. N Z Fam Physician 2007;34:258-62.
6. Ekedahl A, Wergeman L, Rydberg T. Unused drugs in Sweden measured by returns to pharmacies. J Soc Admin Pharm 2003;20(1):26-31.
7. Daniszewsi R, Langley C, Marriott J, et al. An investigation of medicines returned to general practitioners and community pharmacies. Int J Pharm Prac 2002;10(S):R42.
8. Langley C, Marriott J, Mackridge A, Daniszewski R. An analysis of returned medicines in primary care. Pharm World Sci 2005;27(4):296-9.
9. Ekedahl AB. Reasons why medicines are returned to Swedish pharmacies unused. Pharm World Sci 2006;28(6):352-8.
10. Hugtenburg JG, Blom AT, Kisoensingh SU. Initial phase of chronic medication use; patients' reasons for discontinuation. Br J Clin Pharmacol 2006;61(3):352-4.
11. Currie GP, Douglas JG, Heaney LG. Difficult to treat asthma in adults. BMJ 2009;338:b494.

CVD Screening

In New Zealand, one person dies from heart disease every ninety minutes.

(National Heart Foundation of New Zealand)

CVD Quick Screen

The *bestpractice* **CVD Quick Screen** module requires only the minimal number of parameters to calculate CVD risk. As most of this information is pre-populated by the PMS, a CVD Risk can be determined very quickly.

You can make a difference

bestpractice
DECISION SUPPORT FOR HEALTH PROFESSIONALS

For more information call Jamie on: **03 479 2816**