

## 3<sup>rd</sup> International Conference on **Clinical Pharmacy**

December 07-09, 2015 Atlanta, USA

### **The economic burden of medicinal waste: The cost of patients' unwanted medications**

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**Background:** The cost of providing drug treatments is not only the price paid to pharmaceutical companies. There is a lot of medicinal waste that also costs governments, and/or patients. This study aimed to estimate the cost of unwanted medicines and to describe pharmaceutical waste at the homes of elderly patients.

**Methods:** Outreach pharmacists collected the medicines that have expired or are no longer needed by patients, during their routine home visits to assess medication management. Collected medicines were assigned to therapeutic groups and the number of medication packs in each group recorded. The main outcome measures were the number of medicines collected in each therapeutic group, and an estimate of their monetary value.

**Results:** Medicines belonged to 11 therapeutic groups, the largest being cardiovascular. There were 293 packs of medicines collected from 40 patients over a 2 months period. Each patient had an average of 7.3 medication packs that were either expired or unnecessary. The estimated value of medicinal waste per patient is about AU\$ 1308, annually.

**Discussion:** The cost of drug waste is important to estimate, so policy makers can consider the measures necessary to reduce it. Subsidising medicines may promote the accumulation of medicines, beyond patients' needs. Poor prescribing habits may also play a role in wasting medicines. However, as patients get older, many find managing medications more challenging, and accumulating drug waste could be a logical outcome. Further studies are needed to educate on the prudent use of government subsidy and the appropriate dispensing of prescriptions.

#### **Biography**

Kyrillos Guirguis is a Consultant Pharmacist with extensive experience in pharmacotherapy and chronic disease management. He works mainly at St Vincent's Hospital, but also directs a private pharmaceutical care business. He was admitted to his Master's in Clinical Pharmacy at the University of Tasmania in 2012, and is accredited with the Australian Association of Consultant Pharmacy (AACP). He is a Published Author and a Reviewer with international peer-reviewed journals. His research interests include pharmacist prescribing and heart failure.

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