Correspondence

Response to ‘Returned medicines: waste or a wasted opportunity?’

Sirs,

The study by Mackridge and Marriott1 addresses an important Public Health issue regarding the possible use of unused medicines. The authors can be congratulated for their investigation of this under-studied topic in the UK, in which there appears to be extensive waste occurring with unused medicines.

However, we suggest that there are two particular notes of caution that should be highlighted. First, the sample study represented the population characteristics of the UK regarding age and sex but due to the location of the study, a larger proportion of ethnic minority individuals, about 20%, were involved compared to that in the UK population, 7.9% in 2001.2 This limits the generalizability of the results to the UK, a point that was not raised in the paper.

Secondly, we consider that the potential financial benefits to be gained by reusing returned medicines should be more thoroughly investigated before such optimistic conclusions may be drawn. Of the £75 million of potential value from returned medicines, the study identifies ~25%, about £18 million, that could be reused. However, the costs of additional protection for medicines and stability testing of returned medicines would reduce this figure.

As their study occurred in the absence of extra publicity or promotions to encourage the return of unused medicines, the authors appropriately identify that there is scope for more returned medicines to be of a suitable standard for reuse. This study is therefore an excellent initiating tool for further research that could assess the likely impact of increased publicity. Future research could investigate in detail the reasons for the return of medicines including gathering age-specific data to further direct this effort.

References


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doi:10.1093/pubmed/fdn006
Advance Access Publication 15 February 2008

Reply to: Returned medicines: waste or wasted opportunity?

Sirs,

Thank you for the opportunity to respond to the comments made regarding our paper Returned medicines: waste or wasted opportunity? The correspondents highlight two main points, concerning the representativeness of the ethnic minority population in the study region and the costs associated with the re-use of medicines.

We are in full agreement with the suggestion that potential over-representation of ethnic minorities in the region studied may call into question the generalizability of the data to the UK population and would advise caution regarding the extrapolations, as we mentioned in the limitations section of the original paper. However, further analysis of the data at administrative ward level shows no correlation between ethnicity and average number of items returned per research site (Table 1), thus

| Table 1 Pearson correlation and associated p values for percentage ethnicity and mean numbers of items or return events per site at ward level |
|---|---|---|
| Return events at GP surgeries | −0.105 | 0.787 |
| Items returned to GP surgeries | −0.044 | 0.910 |
| Return events at pharmacies | −0.243 | 0.528 |
| Items returned to pharmacies | −0.089 | 0.820 |
| Return events at all sites | −0.495 | 0.175 |
| Items returned to all sites | −0.360 | 0.341 |

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there is no reason to suspect that the high ethnic minority population in the region studied would bias the data substantially.

The correspondents are also correct to highlight the costs associated with re-using medicines and the £18 million saving suggested would be somewhat reduced by the costs of sorting and assessing medicines. However, tamper evident seals are already commonplace on many medicines packets and their use is increasing, as is the use of other packing technologies. We do not suggest that returned medicines be directly tested for their stability as this approach would clearly not be feasible. It is possible that smart label technologies that indicate when a medicine has been stored at temperatures or humidities that may have caused it to become unstable might be employed by manufacturers in the future to help guarantee the quality of their products during normal use by the initial recipient. Our suggestion was that if such technologies were introduced for this purpose, they would also be of benefit in deciding whether a pack of medicines could be re-issued.

It is clear that there is a need for further study of this issue to better understand the true nature of unused medicines, and develop strategies to both reduce unnecessary waste and avoid the expensive high temperature incineration of potentially useful products.

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doi:10.1093/pubmed/fdn007
Advance Access Publication 7 February 2008