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*Primary Care Respiratory Journal* (2010); **19**(2): 189-191

Primary Care
RESPIRATORY JOURNAL
www.thepcrj.org

LETTER TO THE EDITOR

# Asthma: time for a change?

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27th December 2009

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## Dear Sir,

We read with interest Schafheutle's report of the impact of prescription charges on the use of asthma medication, published in the December 2009 issue of this journal.[1]

Poor compliance with treatment is one of the main reasons for therapeutic failure and is an important cause of hospitalisation. Reasons for non-compliance are manifold and often interrelated: underestimation by the patient of the severe consequences of the disease; complex polypharmacy; or, as Schafheutle demonstrates, financial disincentives which limit patients' access to medication. Everybody agrees that this is a public health problem. However, there are few healthcare programmes which assure fully-inclusive free medication. Consequently many patients cannot afford the price of treatment, or they economise with their dosage administration, leading to complications and hospitalisations. In Romania, for instance, the prevalence of asthma in the general population is about 5-7%, and patients have a mean of two exacerbations per year requiring hospitalisation and three exacerbations per year requiring ambulatory treatment. Approximately 30% of patients with asthma require hospital admissions, thus incurring higher costs for the Romanian health system.[2] Paradoxically, for the Romanian patient, it is cheaper to be admitted to hospital than it is to buy regular medication.

In Romania there is also another reason for the poor compliance shown by patients with asthma: the bureaucratic aspect of getting a reduced charge prescription. Despite evidence-based data and the existence of generally accepted international guidelines,[3] Romanian GPs are not allowed to initiate some of the drugs recommended for the modern treatment of asthma; rather, they have to refer the patient to a pneumonologist, who recommends the medication, and then the patient returns to the GP with a letter from the pneumonologist so that the treatment can eventually be prescribed. Because this process is time consuming, many patients abandon the process and treat themselves with aminophylline or theophylline which they can buy over the counter from any pharmacy.

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In this context we appreciate the message of this paper,[1] but we believe that it would be relevant to extend the study to observe complications that occur when treatment cannot be followed because of financial reasons. In this way, data could be added to the evidence from other countries – such as Finland[4,5] – which might convince health authorities about the need for a change of attitude in the treatment of asthma.

### Conflict of interest declaration

None.

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### Acknowledgment

We acknowledge Dr Hilary Pinnock, Senior Clinical Research Fellow, Allergy and Respiratory Research Group, Center for Population Health Sciences: GP Section, University of Edinburgh, who kindly assisted us in editing the English version of this letter.



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## Author's reply

I thank Drs Panaitescu and Oana for their interest in my recent paper which reported insights gained from qualitative interviews into the impact of prescription charges on asthma patients.[1] I agree wholeheartedly with them when they emphasise the importance of adherence to asthma treatment, and indeed that reduced or non-adherence is an important contributor to treatment failure.[2] I also agree that it would be useful to conduct a study to show that the cost borne by asthma patients does not only have a negative impact on adherence, but that this directly affects health outcomes.

However, pieces of this jigsaw puzzle are already available, since a number of studies have indeed shown that the cost borne by patients, in the form of prescription charges or co-payments, impacts negatively on adherence with asthma treatment.[3-5] Furthermore, the findings presented in my paper,[1] which suggest a differential effect of cost on adherence to different types of asthma medication,[3,4] are compatible with studies exploring patients' views of these and their differential effect on adherence – where inhaled corticosteroids (ICS) appear particularly affected.[6-9] Other studies have shown that lower use of ICS is associated with poor asthma control and an increased risk of asthma-related hospital admissions.[10,11] Yet further studies have shown that poor adherence to ICS for asthma (whether cost-related or not) does indeed have a negative impact on health outcomes.[12] And finally, there is some evidence that poor asthma control is associated with high direct medical expenditure and indirect costs.[13]

However, these are still individual jigsaw pieces which have not yet been linked or put together. What is required is that a causal link be established between the cost of asthma medication borne by patients and its negative impact on adherence, which then in turn has a negative impact on asthma control and health outcomes. The final piece that needs to be linked (causally) is that this cost-related negative impact on health outcomes leads to an increased use of health service resources – such as increased asthma-related consultations with primary care professionals and/or asthma clinics, emergency department (casualty) visits, hospital admissions, and mortality. This kind of link has, thus far, only been established in more general terms, where ICS were one amongst a whole host of medicines defined as 'essential.'[14]

Studies which have the potential to establish these causal links would need to be large, and would have to involve very large asthma patient populations. The countries that have been able to produce some of the above mentioned findings are those which have large insurance claims databases, which lend themselves to secondary data analysis. Besides prescribing and dispensing patterns (linked with information on the individual's co-payment or prescription charge requirements and other insured entitlements) these databases need to allow a link to individual patients' health outcomes, and ideally other clinical metrics. These kinds of databases do not exist in many countries, including the UK, thus making these data less easily accessible.

Nevertheless, being able to prove these causal links between cost, adherence, health outcomes and (ultimately) healthcare resource use, would be a most powerful set of data. It is the cost implications of the need for additional healthcare resources which are most likely to attract the attention of healthcare policymakers. In terms of setting up a study to show this, it would be crucial to ensure that clinical and cost outcomes data are collected, which would require a team of researchers with expertise in clinical, health services and health economics research.

In fact, my recently published study aimed to do something different. Even though the different jigsaw puzzles have not yet been clearly linked, we do already have a relatively large international body of literature which has explored individual pieces and links. These studies do suggest strongly that medication cost borne by patients in general, and asthma patients in particular, does have an impact on adherence – and that this is likely to impact on health outcomes and thus resource use. What the recent study[1] did was to help understand, in more depth and detail, and from the asthmatic's perspective, how the cost of prescribed medication affects asthma patients' management decisions. It does this by offering some explanations for the findings of quantitative studies which have, for example, linked cost and a reduction in medication use. This study further suggests a differential impact on the use of different types of inhalers – where ICS would be most affected – and a related impact on asthma control. It also offers insights into why the existence of systems such as pre-payment certificates (a scheme which is in place to protect English patients against high medication cost burden) may not work as intended for all asthma patients. It is these kinds of more detailed and qualitative insights which can inform the design of interventions which are likely to work in the way they are intended; or conversely, they can provide explanations as to why certain policies may not work as they were intended, or may have unintended consequences, such as the observations which Panaitescu and Oana describe from Romania.[2]

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doi:10.4104/pcrj.2010.00003

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