

Clinical and cost effectiveness of different prescription lengths for patients with stable chronic conditions in primary care in England. A systematic review and economic modelling.

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Background

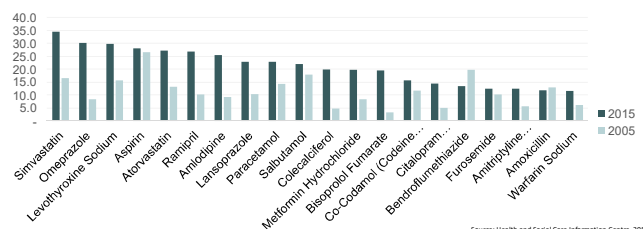
Problem: In England, the National Health Service (NHS) spends >£9 billion each year on prescription medicines dispensed in the community; equivalent to ~7% of its total budget.

The number of items dispensed has increased by 50.4% since 2005. In 2015, 19 of the 20 most commonly prescribed medicines were for chronic conditions (Figure 1).

It has been estimated that between £100 and £300 million is wasted in the form of unused or partially used medications.

To avoid dispensing drugs that patients do not use (drug waste), GPs have been encouraged to prescribe medication for no longer than 28-days. However, it is uncertain what evidence there is to support this policy.

Figure 1: Twenty most commonly prescribed medicines dispensed in the community in England in 2015 and 2005 (number of items in millions)



Study description

Objectives: To assess the impact of differing prescription lengths on:

- patients' health outcomes
- adherence to treatment
- drug waste
- patient experience
- dispensing costs
- cost effectiveness

Methods:

1. Systematic review of comparative studies of 28-day prescriptions to longer prescription lengths in patients with any stable chronic condition being treated in primary care, evaluating any relevant outcome(s).

2. Cost analysis of medication wastage, dispensing fees and prescriber time associated with shorter (< 60-day) and longer (> 60-day) prescription lengths, for five patient cohorts using a national longitudinal primary care dataset over an 11-year period.

3. Decision modelling combined evidence from the systematic review and cost analysis to model to predict the longer term costs to the NHS and the health effects of differing adherence levels associated with 28-day versus 3-month prescriptions in three clinical scenarios.

Key messages: Current recommendations promoting shorter prescriptions are not supported by our study's findings.

- There was consistent evidence across the systematic review and cost analysis that longer prescription lengths were associated with modest improvements in adherence to treatment and increased waste.
- Despite increased waste, switching to longer prescriptions could potentially result in substantial short term savings as the biggest impact on costs was prescriber time. The majority of savings would be realised as freed up GP time.
- Based on the wider literature that medication adherence is positively correlated with health outcomes, longer prescriptions were found to result in long-term cost savings to the NHS due to reductions in healthcare use.

Findings

1. Systematic review:

Included 16 observational studies: 11 retrospective cohorts; 3 cross-sectional surveys; 2 cost studies. All studies conducted in US among a variety of patient groups.

No study measured direct **health outcomes**; 1 study found longer prescription lengths associated with statistically significantly lower final mean serum cholesterol values due to increased adherence.

Longer prescription lengths associated with....

- better adherence
- increased waste
- net savings in costs

....compared to shorter prescriptions.

No studies looked at **patients' perspective**

Limitations: Majority of studies at moderate to serious risk of bias. Outcomes measured based on secondary analysis of pharmacy refill data.

2. Cost analysis:

Analyses run over an 11-year period and incorporated prescriptions from 250,000 patients.

Longer prescriptions associated with:

- increased waste per prescription..
- Taking waste, dispensing fees and administrative time required to issue a prescription into account, **cost saving..**

....compared to shorter prescriptions for all five scenarios

Savings ranged from £6.33 - £9.07 per prescription. Majority of savings will be realised as savings in GP time.

Limitations: Based on administrative data of when prescription issued; it assumes that the patient collected the prescription and took the medication as prescribed (i.e. was adherent).

3. Decision model:

Models adapted using results on adherence from systematic review, estimated dispensing fees (from NHS drug tariffs), prescriber time (from the cost analysis), costs of wastage (from the CPRD analysis) and data on the relationship between treatment and no treatment (from the NICE models or reports associated with them).

Longer prescription lengths associated with....

- lower costs and
- higher Quality Adjusted Life Years.

....compared to shorter prescriptions for all three clinical scenarios.

Limitations: Validity of the finding is underpinned by the assumption that improved adherence is associated with improved health outcomes.

Conclusions and recommendations

If medication adherence is positively correlated with health outcomes, as seems to be suggested by the wider literature, there may be clinical benefits to increasing the length of repeat prescriptions for patients with chronic conditions. Based on the reported cost savings associated with longer prescription lengths in our study extrapolating the mean values to populations with stable chronic conditions in the UK could result in substantial savings to the NHS.

The priority should be to identify patients with particular conditions or characteristics who should receive shorter or longer prescriptions.