



Introduction

When a drug first comes into use, there is a relative lack of clinical evidence and experience. This presents a challenge for QUM.

Some new drugs are adopted into practice quickly by many prescribers, e.g. celecoxib.¹ However, there is considerable variation in adoption behaviour from one drug to another, and from one prescriber to another.²

This poster presents selected results from a narrative review of the quantitative literature on the influences on new drug adoption. Understanding these influences is a first step towards predicting new drug adoption and prioritising QUM activities accordingly.

Methods

- Studies were identified in reference lists of key publications and by searching in the PubMed database.
- Additional non-medical and grey literature was identified using Google search.
- Only quantitative studies were considered. Studies that analysed aggregate prescribing of a single drug, or self-reported prescribing behaviour or intention were excluded.

Conclusions

- New drugs with an extensive marketing campaign are more likely to be adopted quickly and by a large number of prescribers.
- Conventional wisdom about “diffusion of innovation” does not always apply to new drugs.
- Monitoring new drug marketing may assist in predicting adoption and prioritising activities to promote QUM.

References

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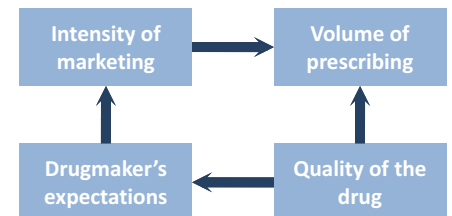
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Results

Studies have found a relationship between marketing intensity and volume of prescribing (see Key findings on influences). However, the correlation may be confounded.

One confounder is the acceptability (“quality”) of the drug. This is because drugmakers will spend more on marketing if they expect a new drug to be readily accepted by prescribers (see Figure 1). Studies have found evidence for this confounding effect, but also a direct effect of marketing on prescribing.

Figure 1. Direct and confounded relationship between marketing intensity and volume of prescribing

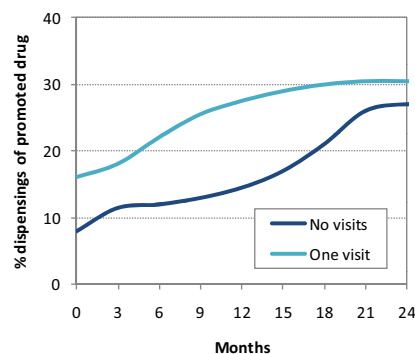


Key findings on influences

Category	Example	Key result
GP characteristics	Attitude to new drugs	GPs with a generally positive attitude towards new drugs were 70% more likely to prefer a new drug over an old one when prescribing (NL). ³ Early adoption of one type of drug was not associated with early adoption of another, across 4 new drug classes (DK). ⁴
Social context	Specialist prescribing	Proportion of specialist-initiated prescriptions varied 23–60% between 5 new drugs (NL). ³ Prescriptions for new drugs not more likely to be specialist-initiated than prescriptions for older drugs (AU). ⁵
	Peer prescribing	Promotion had a stronger effect on adoption than peer influence for the first 3 months of sales of an unnamed new drug; peer influence had a greater effect after that (US). ⁶
Information/communication	Use of professional information sources	Frequent use of medical journals, continuing education or other professional information sources had no significant relationship with likelihood of adopting angiotensin-II receptor antagonists (NL). ⁷
	Commercial promotion	Preference for budesonide/efomoterol relative to fluticasone/salmeterol increased 140% after first pharmaceutical sale representative visit (see Figure 2) (DK). ⁸ The rate of adoption of ranitidine was proportional to the amount of detailing (US). ⁹ Drugmakers increased detailing and journal advertising intensity in response to positive trial results and product improvements (US) (see Figure 1). ¹⁰
Drug characteristics	Number of tablets per day	H2RAs requiring fewer doses per day were adopted more quickly than their competitors (US). ¹⁰

Categories follow Groves¹¹ and are derived from Rogers¹²

Figure 2. Preference for a marketed drug after a pharmaceutical sales representative visit.



Percentage of dispensings of the marketed drug among all dispensings from the same class, aggregated across practices. Time after marketing in months. Based on results from (8).

Challenges to conventional wisdom about new drug adoption

Concept	Caveats
Early adopter	• Few prescribers are consistent early adopters • Early adopters of one drug may be late adopters of another
Opinion leader	• Some new drugs are adopted as quickly by GPs as by specialists
Word of mouth	• Significant adoption can occur before word of mouth exerts an influence • Not all graphs of cumulative new drug adoption have the “S” shape that suggests a strong word of mouth effect.