

# Substantial variation in uptake of new prescribing guidance by GPs

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Substantial variation exists between general practices in uptake of new prescribing guidance, with important implications for patient care and health expenditure, finds the largest analysis of its kind published by *The*

*BMJ* today.

The findings show that most practices changed their behaviour, but some changed much later than others, leading to avoidable health service costs and poorer [patient care](#).

Adopting new evidence into clinical practice is critical in a well performing healthcare system. The speed of uptake ("diffusion of change") is thought to vary over time, but previous work has focused on small samples, narrative descriptions, or analysis at only one time point.

To investigate this gap between evidence and practice further, researchers based in the UK and Canada, set out to determine how clinicians vary in their response to new treatment guidance, using an automated change detection technique.

Their results are based on data from OpenPrescribing.net, an open database of all primary care prescribing by more than 8,000 general practitioners in England, and used data on two treatment switches over a five year period.

The first was a switch to generic oral contraceptive desogestrel from the branded form (Cerazette) in 2012, and the second was to change the first line antibiotic choice for treating uncomplicated urinary tract infection (UTI) from trimethoprim to nitrofurantoin at various time points after 2014.

While most practices eventually showed a substantial change in clinical practice, considerable variation (heterogeneity) was found between practices in both the timing and slope of change (how rapidly change was implemented once it had begun).

For example, while a large proportion of practices showed a significant

shift away from Cerazette in early 2013, a quarter did not show their most substantial change for 14 months, with the slowest 10% changing at least a further 6 months later, exposing the health system to substantial avoidable costs.

For antibiotics, a quarter of practices did not make their largest change until 29 months after the guidance was released and 10% did not change until at least 32 months after the release, exposing patients to suboptimal care.

However, the authors say this could be because the antibiotic guidance was less clear, with some clinical judgment involved, rather than "always prescribe the generic," as was the case with desogestrel.

Variation was also seen in the slope of change. For example, the highest quarter of practices reduced Cerazette prescribing swiftly, by at least 26% in one month, while the lowest quarter of practices reduced it gradually, by less than 2% per month.

This is an observational study, and as such, can't establish cause, but the authors point out that the underlying data are highly accurate, covering the complete prescribing data for all practices in England.

Using automated change detection methods also creates new opportunities to improve [clinical practice](#) by better identifying, understanding, and reducing unwarranted variation in care, they conclude.

The OpenPrescribing platform "has great potential to inform and encourage change," writes Emma Wallace from the Royal College of Surgeons in Ireland, in a linked editorial.

She says having a clear and consistent message across clinical guidelines

is important to support the uptake of new practice. But points to barriers such as lack of access to the relevant evidence, concerns about its quality and applicability, patient related factors, and [time constraints](#).

Future research "should now focus on why this variation is so large, and how open data can help to drive timelier uptake," she concludes.

**More information:** Variation in responsiveness to warranted behaviour change among NHS clinicians: novel implementation of change detection methods in longitudinal prescribing data, *BMJ* (2019). DOI: [10.1136/bmj.15205](https://doi.org/10.1136/bmj.15205) , [www.bmj.com/content/367/bmj.15205](http://www.bmj.com/content/367/bmj.15205)

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