OpenPrescribing: simplifying comparison of prescribing data

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Each month, the NHS in England publishes anonymised data on the drugs prescribed by GPs. OpenPrescribing.net is a new website that allows easier comparison of this data at both practice and CCG level.

A new website has been developed to allow for easier comparison of NHS prescribing data between CCGs across England. The data platform is designed to deliver the best patient care and drive down costs in the NHS. OpenPrescribing.net presents GP prescribing patterns in England. The website turns data that is, theoretically, publicly available but very difficult to access, into graphs that are easy to interpret. OpenPrescribing shows the quantity of every drug that is prescribed at both the practice level and the CCG level, and demonstrates trends in prescribing over time.

Pioneered by Dr Ben Goldacre, a doctor and senior clinical research fellow at the Centre for Evidence-Based Medicine at the University of Oxford, the platform has been co-developed by Anna Powell-Smith, a computer programmer specialising in data analysis and visualisation.

“I’ve been trying to get this project funded for four years, because it’s clear that good data is key to driving up standards and driving down waste in the NHS,” said Dr Goldacre.

“It’s the first project from our new EBM Data Lab in Oxford. We wanted to launch with something that gives useful insights into health data for everyone, whether they’re doctors, patients, prescribing advisors, policymakers or journalists.

“We want to make prescribing data accessible and easy to use, but we also want to show people how much can be done with NHS data when you bring academics, coders and great ideas together.”

He added: “I’m sad to see so much money being hosed down the drain on terrible NHS IT projects. OpenPrescribing.net was built in its entirety for just £50 000.”

Reducing prescribing costs

The NHS spends billions of pounds each year on prescribing drugs. According to the Health and Social Care Information Centre (HSCIC), the fourth quarter of 2014/2015 saw 260 463 536 prescription items dis-
sensed in England. The cost of this was over £2 billion.

Prescribing data has been publicly available through the HSCIC, who publish the information on a monthly basis. The data amounts to 100GB with around four million rows for each data file, making it both time consuming and challenging to dissect the information.

Other data systems such as ISP and ePACT have been described as “clunky” and require you to filter out practices. The systems provide detailed bespoke data for the relevant practices, but it must be manipulated in order for it to be easily understood. Medical professionals say the systems only become easy to navigate with regular or specialist use.

In an era when the NHS is under permanent financial strain, prescribing costs need to be kept as low as possible. There is a strong imperative to make use of generic drugs instead of brands to keep costs down.

**Improving quality, efficiency and safety**

Peter Brindle from the West of England Academic Health Science Network (AHSN) provided support to the OpenPrescribing programme. The GP and Commissioning Evidence-Informed Care Lead for the network said there were three key areas they want to improve on: quality, efficiency and safety.

NICE recommends certain drugs because they are safer, more clinically effective and cost-effective. OpenPrescribing can help to improve quality as it highlights where these recommended drugs are being taken up and prescribed, and where they are not. The website can also improve efficiency by preventing waste and saving money – which can then be spent on benefiting patients through other means.

OpenPrescribing can be used to highlight the number of drugs prescribed that are no longer completely safe to use and indicate where other drugs would be more suitable. GPs, CCGs and academics can see what these drugs are and be encouraged to prescribe them less and to use alternatives where possible. For example, diclofenac has been linked to cardiac side-effects so may be less safe to use. OpenPrescribing can therefore help to improve the safety of prescribing.

“OpenPrescribing can save the NHS money in two important ways. Firstly, it helps identify where people are prescribing wastefully. Secondly, it helps prescribing advisors and medicines optimisation staff,” explained Dr Goldacre.

“Across the country, people are wasting endless hours manually generating data tables and graphs on tiny lists of drugs for their local teams. With our site, you can do that in seconds, on any drug you want.

“I have huge respect for medicines optimisation staff, and I’m appalled to see their time wasted. People should do what people do best – talk to other people – and leave number crunching to machines!”

**Variation in prescribing**

“The most important thing is to make it easy for anybody, particularly CCGs and practices, to compare prescribing in other practices,” said Dr Brindle.

“It makes it easy to reduce waste in this light, to know a good clear reason for prescribing a drug like rosuvastatin, for example. Another example is the use of sleeping tablets. It is possible that prescribing is higher where there are a higher number of drug users in that area. OpenPrescribing makes it very easy to spot variation in practice. If some practices or CCGs are prescribing much more or less of a particular drug than other areas, it makes this very clear,” Dr Brindle added.

“While the site does not give any reasons for the variation, it triggers the CCG or practice to investigate why they are prescribing differently to other areas. For some medicines there may be entirely valid reasons due to their population, but for others, it may highlight an opportunity to improve their practice.

“I am hoping it gives GPs a hands-on interest in their own prescribing. I really want it to be a versatile and flexible tool.”

**Making use of the site**

The site’s designers believe it will throw up all kinds of unexpected and interesting patterns over time.

“There have been lots of people finding fascinating patterns of variation in care. Also, there are curios. For example, there’s one lucky person getting powdered opium on the NHS,” remarked Dr Goldacre.

The site took three to four months to make. It is still in its experimental beta stages, but has already had 215 000 users since the beginning of December. A week after its launch, an NHS technical specialist used the code to build a website for Welsh data. The Scottish government will also be making their data available soon.

“I’m already making use of it for secondary prescribing. It’s a challenge to work out who is using it for what; in a way we have used it as a model for the power of open data,” said Dr Brindle.

“It’s not quite user friendly for the public. There is not quite enough context yet – but that is something we want to improve that will drive quality and proficiency in prescribing. The more eyes that look at the data, the more good will come of it.”

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