

# Online-only pharmacies that don't require prescriptions could fuel antibiotic resistance

February 16 2017

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Pills. Credit: Public Domain

The researchers from Imperial College London analysed 20 pharmacies that were available for UK citizens to access online. This is one of the few studies to have examined the online availability of antibiotics and to have explored the potential effects on public health. The research is published in *Journal of Antimicrobial Chemotherapy*.

Antibiotics are classed as prescription only medicines in the UK, meaning they cannot legally be sold to consumers without a valid prescription. In the study, the researchers found that although online versions of UK high street pharmacies were compliant with prescription regulations, 80 per cent of the online pharmacies surveyed let customers choose their dosages, the duration and choice of antibiotic treatments. This can lead to serious side effects in patients and increases the risk of [antimicrobial resistance](#).

Antimicrobial resistance is one the biggest threats to global health, food security, and development today, according to the World Health Organization (WHO). The study was carried out by academics from Imperial College London's NIHR Health Protection Research Unit for Healthcare Associated Infections and Antimicrobial Resistance, and Imperial College Healthcare NHS Trust.

The team carried out their research by entering the search term 'buy antibiotics online' into Google and Yahoo. The team recognise that the study is a 'snapshot' of the online pharmacy industry, but it does provide insights into how it operates. The 20 pharmacies at the top of the search were analysed by the team.

Dr Sara Boyd, a co-author and NIHR Academic Clinical Fellow in Infectious Diseases and Microbiology at Imperial, said: "These findings are a real concern, and raise several important issues regarding antibiotic resistance and [patient safety](#) with online pharmacies."

All online medicine vendors selling to UK consumers must by law register with both the Medicines and Healthcare products Regulatory Agency (MHRA) and the General Pharmaceutical Council (or the Pharmaceutical Society of Northern Ireland). However, the researchers found that 75 per cent of online pharmacies included in the study lacked evidence of the appropriate registration status required by law.

In other findings, the researchers discovered that 45 per cent of the online pharmacies analysed did not require a prescription from the patient.

Only 30 per cent of websites in the survey asked consumers to complete a health questionnaire prior to purchase.

Seventy per cent of the websites provided information on the safe usage of prescription medications, including potential side effects or adverse reactions when combined with other drugs.

Professor Alison Holmes, of Imperial's Department of Medicine, added: "Improper use of antibiotics can mean that infections are not being treated appropriately, or that people are being unnecessarily exposed to antibiotics. This allows bacteria to become resistant to drugs that once killed them. As a result, it is essential that antibiotics are prescribed only when they are needed."

Although a small study, the authors say that the research offers insight into the increasing use of the internet for a variety of purposes, including buying antibiotics. Dr Boyd said: "The way patients interact with

healthcare is constantly evolving, and shifts in consumer behaviour mean more people are purchasing their goods online. Our study paves the way for larger, more thorough research into this worrying new trend so that we can ensure patient safety and promote the responsible use of antibiotics in all areas of healthcare provision."

Martin Astbury, President of the Royal Pharmaceutical Society, said: "Unnecessary antibiotic use can result in serious side effects in individuals and has a major impact on wider public health by increasing [antibiotic resistance](#). We cannot support access to antibiotics through a web form until the standards for prescribing by private providers reflect the standard of face to face consultations in the NHS. Those involved in supplying medicines online should ensure their processes are as robust as possible."

All [online pharmacies](#) identified as illegally selling [antibiotics](#) to patients within the UK were reported to the Medicines and Healthcare products Regulatory Agency (MHRA), who promptly responded. The researchers are working together with numerous stakeholders to improve patient safety and antibiotic stewardship in this area. Anyone with a concern concerns about an online pharmacy should contact the MHRA directly.

**More information:** *Journal Of Antimicrobial Chemotherapy* (2017). [academic.oup.com/jac/article-1 ... i/10.1093/jac/dkx003](https://academic.oup.com/jac/article-1...i/10.1093/jac/dkx003)

Provided by Imperial College London

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