

Don't Be an Antibiotic Resistance Vigilante



By *Stephanie Bloom* — July 10, 2018



Credit: Pixabay [1]

Even with the advent of the antibiotic era, infectious diseases are a [global health](#) [2] concern. In part, disparate public health infrastructures, barriers to accessing medical care and regions with poor sanitation can be contributing factors. But, another worrisome trend that could represent a huge step back in medical advancement is the [surge](#) [3] in antibiotic resistance. Should this pattern continue, many treatments that rely on antibiotics to eliminate harmful bacteria could become inviable options.

Efforts to educate the public on appropriate antibiotic use and to curtail overprescribing, in general, are already underway. The challenge of striking the right balance between proper treatment and resolution of disease can be tricky - not uniform between individuals, infection or medication type. As a result, some suggestions by a team of researchers led by Martin Llewelyn to combat the issue are problematic. They posit in [The British Medical Journal](#) [4] that “in many situations, stopping antibiotics sooner is a safe and effective way to reduce antibiotic overuse,” advising that it would be best for people to stop taking their prescribed antibiotics when they feel better.

They argue that reducing unnecessary antibiotic use in this manner is essential to fighting antibiotic resistance and the conversation about doing so needs to start. In reality, with indiscriminate early cessation given the little data known, patients can put themselves and others at risk of antibiotic resistance when they fail to complete their prescribed antibiotic course.

Yes, the overuse of antibiotics greatly contributes to antibiotic resistance, and the [Centers for Disease Control and Prevention](#) [5] (CDC) found in 2016 that 1 in 3 antibiotic prescriptions are unnecessary. However, CDC researchers also found that most unnecessary antibiotic prescriptions were for respiratory conditions caused by viruses, for which antibiotics are ineffective. We don't need to be cutting our individual antibiotic courses short; rather, health

professionals and hospitals need to be prescribing antibiotic courses appropriately and the public needs to be better informed about their correct use.

Llewelyn's recommendation also assumes that an improvement of symptoms means that an infection has been eradicated—which is not always the case and a potentially dangerous assumption. If treatment is cut short, the antibiotic may not kill all the bacteria, possibly causing the patient to fail to recover or to become sick again. Upon recurrence, remaining bacteria may be resistant to the antibiotic taken previously. Numerous organizations recommend completing antibiotic courses, for the benefit of the individual and to battle antibiotic resistance.

Organizations that recommend finishing a prescribed antibiotic course:

- [World Health Organization \(WHO\)](#) [6]
- [US Centers for Disease Control and Prevention \(CDC\)](#) [7]
- [Food and Drug Administration \(FDA\)](#) [8]
- [National Institutes of Health \(NIH\)](#) [9]
- National campaigns in [Australia](#) [10], [Canada](#) [11], the [United States](#) [12], and Europe
- Countless others (e.g. [UK](#) [13])

Organizations that recommend shortening a prescribed antibiotic course:

- [Martin Llewelyn and Colleagues](#) [4]

Within the *BMJ* analysis, *Llewelyn et al* do recommend more clinical trials are needed to update guidelines, which the CDC is doing. Once they are completed, all new evidence must be considered, but until that happens, it would be reckless and irresponsible to advise patients to ignore their prescribed instructions, as Llewelyn has done.

Fortunately, physicians have specified that they will not advise their patients to shorten their prescribed antibiotic course once they feel better because it would confuse people and could cause patients harm. So, please listen to your doctor—who has extensive training, knows your clinical status and complete medical history, and has access to the latest evidence—and take your antibiotics as prescribed.

And while you may still be concerned about antibiotic resistance (we all should be), the White House and Congress are enacting science-based plans to reduce inappropriate antibiotic use. The White House announced [The National Action Plan for Combating Antibiotic-Resistant Bacteria \(CARB\)](#) [14] in 2015 to reduce inappropriate antibiotic use by 50% by 2020. Congress increased CDC funding by \$160 million in 2016 to implement CARB by:

- Accelerating outbreak detection and prevention in every state.
- Enhancing tracking of antibiotic use and resistance mechanisms and resistant infections.
- Supporting innovative research to address gaps in knowledge.
- Informing providers and the general public about antibiotic resistance and appropriate antibiotic use.
- Improving antibiotic use by supporting expansion and development of new programs and activities at the local level.

Actions to thwart antibiotic resistance are being taken. Let researchers, doctors, and policymakers do their jobs, and don't try to combat a global health issue by yourself, like some kind of antibiotic resistance vigilante.

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Links

- [1] <https://pixabay.com/en/addiction-antibiotic-capsule-care-71575/>
- [2] <http://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death>
- [3] <https://www.ncbi.nlm.nih.gov/pubmed/28302376>
- [4] <https://www.bmj.com/content/358/bmj.j3418>
- [5] <https://www.cdc.gov/media/releases/2016/p0503-unnecessary-prescriptions.html>
- [6] <http://www.who.int/features/qa/stopping-antibiotic-treatment/en/>
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