

Study: How people access and use antibiotics in low-and-middle-income countries

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It is often assumed that people use antibiotics inappropriately because they don't understand enough about the spread of drug resistant superbugs, and closing the knowledge gap will change this behaviour.

A new study led by Warwick University Assistant Professor Marco J Haenssger challenges this view. The study, published in the medical journal *BMJ Open*, reveals that basic understanding of [drug resistance](#) is in fact widespread in Southeast Asia but that higher levels of awareness are actually linked to higher antibiotic use in the general population.

The researchers conducted a large-scale survey among a representative sample of the rural population of 69 villages in northern Thailand and 65 villages in southern Lao PDR.

The survey found that:

- people's awareness of drug resistance was similar to that of many industrialised countries—three in four villagers in Thailand and six in ten in Laos had heard about "drug resistance," although the term was usually interpreted as a change in the [human body](#) rather than as the evolution of bacteria to withstand antibiotic medicine.
- people's attitudes in rural Thailand and Laos were often consistent with recommendations from the World Health Organization to not buy antibiotics without prescription. However, such attitudes were linked to disproportionately and potentially problematically [high rates](#) of prescribed antibiotics from public clinics and hospitals—up to 0.5 additional antibiotic courses per illness on average when controlling for other drivers of antibiotic use.
- people who obtained antibiotics from informal sources, such as the village shop, were just as aware of drug resistance as people who relied on public healthcare channels.
- patients receiving antibiotics from informal sources had no less wealth or formal education than users of public healthcare. Indeed, wealthier and more educated individuals in Chiang Rai were significantly associated with receiving antibiotics from

informal sources, showing that it is not just people on low incomes who obtain antibiotics from informal sources.

Project leader Asst Prof Marco J Haenssger interprets these results as a sign that the conventional public health model of behaviour change is failing: "Too many arguments in public health behaviour change rest on a model of 'information deficits.' This idea that people behave irrationally because they don't have the right information finds little support in our research."

"Basic awareness about drug resistance and [antibiotics](#) is widespread but does not contribute to better behaviour. New information can be empowering in principle, but people themselves decide how they will use this new 'power' in their daily lives. Unnecessary antibiotic use may then rather reflect privilege, resistance to patronising norms, or interference between local and Western ideas of what good care ought to be."

Thailand and Laos were selected for this study because of their traditionally high rates of antibiotic use and busy international travel patterns, which predispose these countries to the development and spread of [drug](#) resistance. The survey involved 2,141 adults from more than 130 villages who represent a rural population of 712,000 villagers in Thailand and Laos. Dr. Haenssger argues that the findings have a wider relevance, however.

"Ours is not an isolated case. Colleagues in China found for instance that more educated people were more likely to buy non-prescription medicine from unregistered stores, and the behavioural sciences have long established that information alone only accounts for a fraction of healthcare decisions. Public health has to catch up! To tackle the superbug crisis, we need to shift our attention to human decision-making processes and to people's behavioural responses to local contexts."

The survey was part of the Antibiotics and Activity Spaces project, a study of antibiotic-related health behaviour in rural Thailand and Lao PDR.

More information: Marco J Haenssger et al. Antibiotic knowledge, attitudes and practices: new insights from cross-sectional rural health behaviour surveys in low-income and middle-income South-East Asia, *BMJ Open* (2019). [DOI: 10.1136/bmjopen-2018-028224](https://doi.org/10.1136/bmjopen-2018-028224)

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