

The cost of antibiotic drugs for children—a comparison of two countries

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The 2009 costs of antibiotics covered by private insurance companies in the U.S. for children younger than 10 years old were estimated to be more than five times higher than the costs in the United Kingdom (U.K.), which are covered by a government universal health plan. These results, from Boston University's Boston Collaborative Drug Surveillance Program, are a follow up of an ongoing comparison of prescription drug costs between the U.S. and U.K. The initial results reported on relative drug costs in 2005. The current updated results appear online in the journal *Pharmacotherapy*.

The implementation of the Affordable Care Act (ACA) has led to renewed attention and debate on U.S. [health care costs](#) and the cost of [prescription drugs](#) continues to be a major burden to the U.S. economy, particularly those paid by [private insurance companies](#) through higher insurance premiums.

The researchers identified 160,000 children younger than 10 years who were prescribed at least one or more drugs in 2009 in both the U.S. and the U.K. Rates of prescribed antibiotics—75 percent of children in the U.S. compared to 50 percent in the U.K., were calculated by dividing the number of children who received at least one prescription for an oral antibiotic by the total number of children in each database in 2009. Similarly, they estimated the rate of use of each antibiotic separately.

In the U.S., the cost of each prescription was ascertained directly from a random sample of users derived from the original electronic records. In

the U.K., the duration and cost of each prescription was derived from the electronic medical record and based on the 2009 Prescription Cost Analysis reported by the National Health Service and converted to dollars. Total annual cost for each antibiotic was estimated by multiplying the dollar cost per prescription by the number dispensed.

As was the case in the three prior studies, the annual [costs](#) in the U.S., estimated to be more than \$2.4 million, were dramatically higher than those in the U.K., estimated to be less than \$480,000. Although all of the antibiotics were available in generic formulation in both countries, the percentage of children prescribed an antibiotic was far higher in the U.S. The particular antibiotics commonly prescribed in the U.S. were regularly more costly and prescribed for longer durations.

According to the authors, a reliable comparison of relative costs between countries requires large, continuous and standardized recording systems of data that take into account age, gender, calendar time and geography among other necessary variables. "Unlike the variability in factors related to the cost of medical procedures and hospitalizations, prescription drugs have the unique advantage in that they are typically produced by a single or relatively few international pharmaceutical companies. Furthermore, a particular drug has the same chemical structure wherever it is produced," explained lead author Hershel Jick, MD, director emeritus of the Collaborative Drug Surveillance Program and associate professor of medicine at Boston University School of Medicine.

"Information on a substantial majority of drugs, including those prescribed primarily for children, can be derived from continuous reliable electronic data resources such as the ones utilized in this study. They yield critical insight into the difference in drug costs between the U.S. private sector compared to the U.K. government that can lead to creation of policy that provides greater efficiency and large cost

savings," he added.

"The impact of the ACA on private insurance prescription drug use and cost through enrollment in health care insurance exchanges can be followed in real time at modest expense using existing reliable electronic resources. Since more insurers are now participating it may be expected that the prior extraordinary high costs relative to other countries would be reduced as a result of increased market competition," said Jick.

Provided by Boston University Medical Center

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