

# An empirical analysis of habit and addiction to antibiotics

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## Abstract

To some extent, antibiotics are similar to addictive goods. Because of bacterial resistance, current antibiotic consumption is reinforced by past use and future utility is lower. The purpose of this article is to provide evidence on habit and addictive behaviour towards antibiotics by exploring variations in the average consumption of antibiotics across Italian regions. Using a balanced panel dataset (2000-2009) for 20 Italian regions, we estimate a dynamic model where antibiotic consumption depends upon demographic and socioeconomic characteristics of the population, the supply of health care in the community, antibiotic price, and the ‘capital stock’ of endogenous bacterial resistance measured by past and future consumption. Our empirical evidence shows that past antibiotic consumption stimulates current consumption and is also consistent with the rational addiction hypothesis.

**Keywords:** Antibiotic consumption, bacterial resistance, dynamic model, rational addiction.

**Jel classification:** C21, C23, I1