

Antibiotic Resistance, Drug Prices, and Entry

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Abstract

Antibiotic drug resistance is modeled by an increase in future drug cost (or equivalently a decrease in drug quality) due to current consumption. Competition in the medicine market leads to maximum consumption, and results in inefficiency. A single consumer cannot affect future drug cost, so might as well choose to consume; a free-riding, inefficient outcome. Drug plans with a centralized way to ration medicine can alleviate free riding. A monopoly will dampen the market failure because the monopolist internalizes cost increase. However, consumers may not benefit from a monopoly; prices remain high despite reduction of cost increase due to internalization. If innovation is possible, a potential entrant must consider competing with an incumbent upon entry. Under Cournot competition, entry deterrence occurs when the incumbent restricts consumption to reduce its own future cost so the entrant cannot earn enough post entry. Entry deterrence by the incumbent can happen; this results in lower drug consumption and reduces resistance. Entry accommodation may actually exacerbate drug resistance because the incumbent has less incentive to internalize the cost increase.

Keywords: antibiotic resistance, drug prices, pharmaceuticals, entry

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