Delinkage for antibiotics

Aidan Hollis
University of Calgary
Antibiotics are special because

- Everyone recognizes that the business model needs fixing
  - Commercial success requires high volume; preserving the effectiveness of the drug requires low utilization.
  - Davos Declaration: delinkage is “needed”
- Many countries have very poor quality usage of antibiotics, leading to increased resistance
- Externalities occur across borders
- There are externalities across products as well, when different products have a similar mechanism of action
A framework for paying for innovation with delinkage

1. Governments just fund R&D directly
2. Private sector innovates
   1. Rewards based on cost
      • Eg: patent buyout based on estimated “average” cost of innovation; tax credits
   2. Rewards based on value
      • Eg: Sanders bills, Health Impact Fund
   3. Rewards based on hypothetical profitability
      • Eg: Kremer’s model - auction reveals expected profits
      • Doesn’t solve any of the problems for antibiotics
Rewards based on cost

• Rewards based on cost alone are likely to encourage products that are just adequate for approval
• These are the easiest to develop and the least useful
• So, there should almost certainly be a relationship to value
• Tax credits may help, but only if there is still some residual reward based on value.
Rewards based on value

• Rex and Outterson (2016) propose that payments should be based on technical characteristics of the product, with higher payments for products that
  • Address important needs
  • Have a new mechanism of action
  • Treat multiple pathogens
  • Feature oral dosing
• Similar in nature to the Advanced Markets pneumococcal vaccine mechanism
• Arguably the technical characteristics can’t be fully specified in advance. (side effects? Actual effectiveness?)
• Provide a market entry reward based on “value to society”
  • $0.8bn - $1.3bn - payment depends on level of unmet need, toxicity, efficacy, ability to counter resistance, etc
  • Measurement occurs ex post; rewards are staggered over time

• Product rights remain with developer

• Conditions for reward include an access scheme for low- and middle-income countries; commitment to responsible marketing by the seller.

• Essential to improve antimicrobial stewardship in all countries, but support for low- and middle-income countries is key
Challenges for delinkage in antibiotics

• Companies want rewards that are highly predictable (measuring technical innovation)

• Low prices to enable access

• Payers want rewards that motivate investment in the highest value innovations (measuring social value)

• Controls on access to prevent inappropriate use
Thanks!

- ahollis@ucalgary.ca