Antibiotic resistance

Pneumonia

MRSA

Gonorrhea

Tuberculosis
What happens when we use antibiotics?
Unnecessary Antibiotic Prescriptions

- Ear Infection: 30% (23 million)
- Common Cold: 100% (18 million)
- Bronchitis: 80% (16 million)
- Sore Throat: 50% (13 million)
- Sinusitis: 50% (13 million)

Totals prescribed per year (in millions)
Consequences of inappropriate use of antibiotics?

• Greater number of diseases that cannot be cured with known antibiotics.

• Resistant strains of normal gut bacteria can cause problems when immunocompromised.

• The diversity of microbes (or lack thereof) in our bodies can affect our health.
Richness of human gut microbiome correlates with metabolic markers


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Nature 500, 541–546 (29 August 2013) | doi:10.1038/nature12506
Received 10 April 2012 | Accepted 26 July 2013 | Published online 28 August 2013

All, n = 265  ♂, n = 122 ♀, n = 143

P = 0.006  P = 0.006  P = 0.013

All  LGC  HGC  LGC  HGC  LGC  HGC

Fraction

Lean
Obese
Ethical questions

• Is it ethical to produce antibacterial dishsoap and handsoap?
• Is it ethical to buy these products?
• Is it ethical to ask your doctor for an antibiotic for a cold?
• Is it ethical to use antibiotics in agriculture?