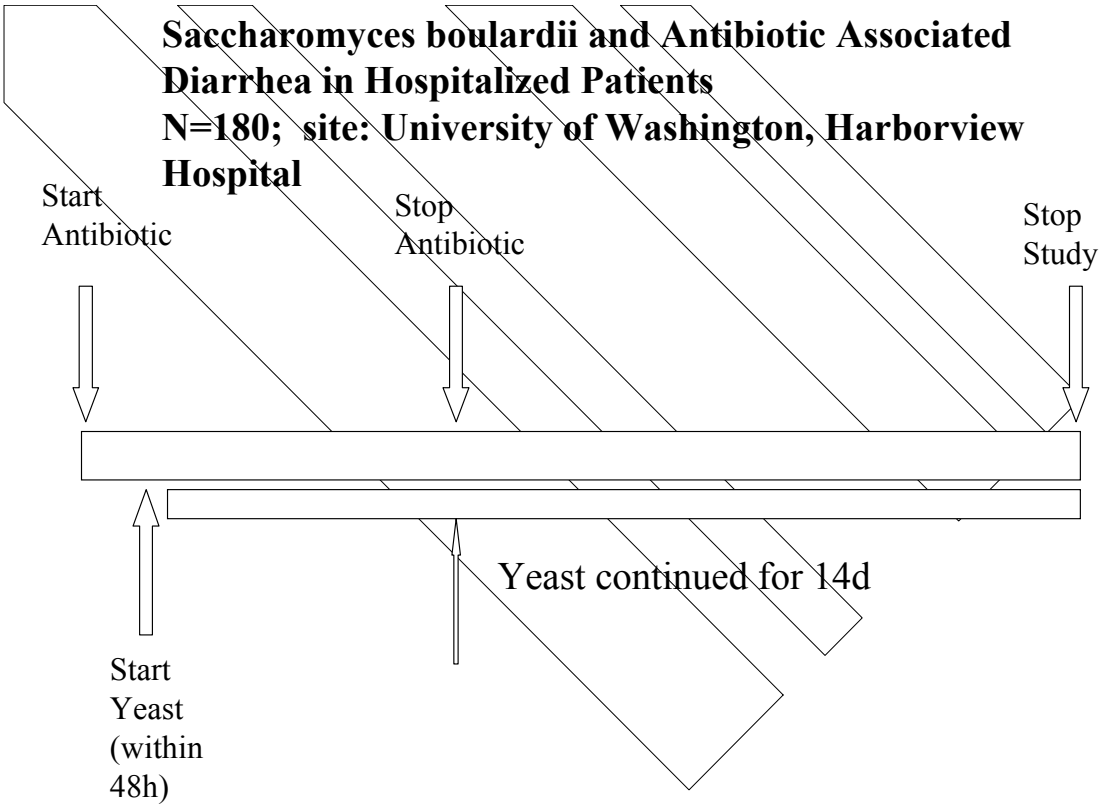
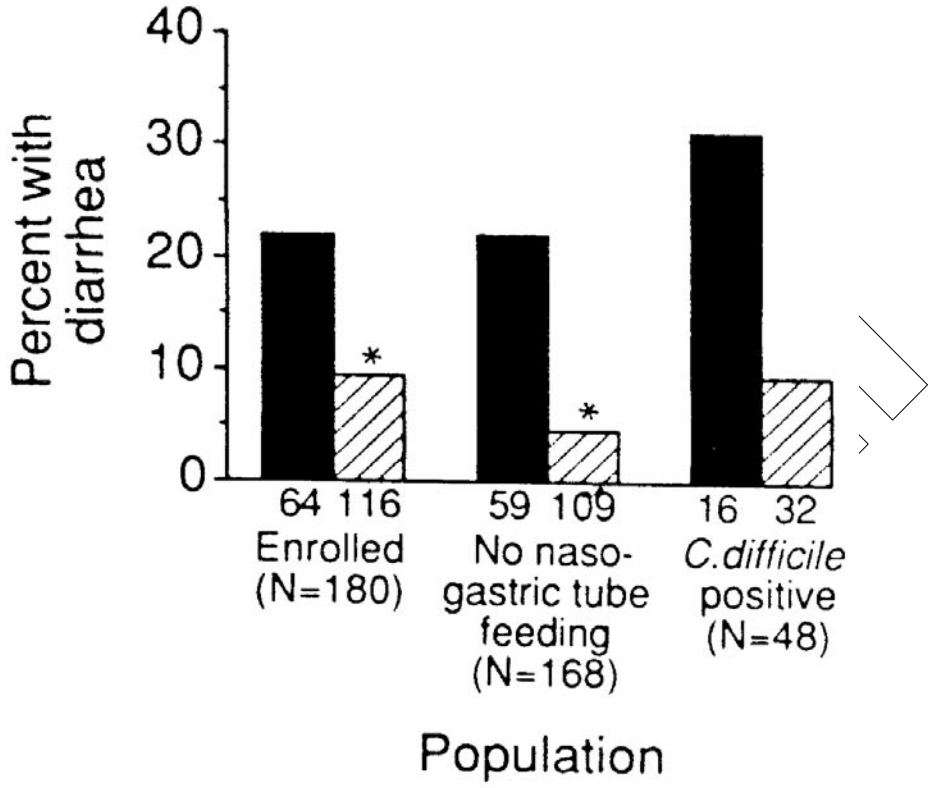
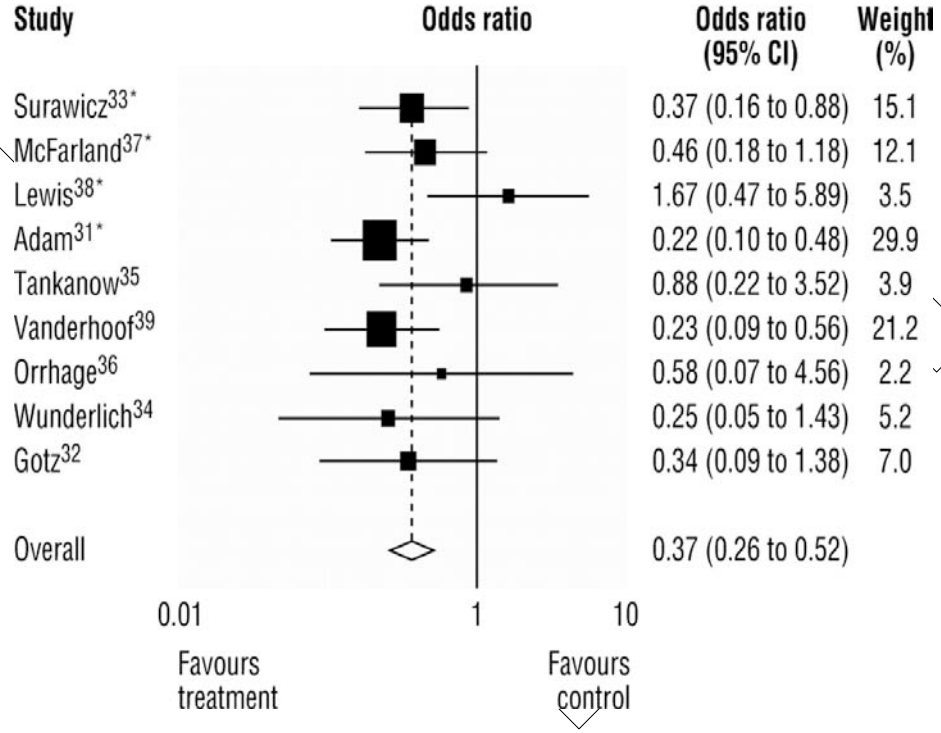
Antimicrobials and risks for antibiotic-associated diarrhea (AAD)

- **Antibiotic-associated diarrhea**
  - **5-30% risk**
  - **Higher with multiple IV drugs**
  - **Higher with broad spectrum antimicrobials**
  - **Higher with pediatric patients**
  - **High with oral beta lactams**
  - **Clostridium difficile may be involved**
  - **Big reason for lack of compliance with therapy**
  - **Big reason for need to switch and to increase patient**





Surawicz et al., Gastroenterol. 1989;96:981



AAD D'Souza et al., BMJ 2002;324:1361

Clostridium difficile disease (pseudomembranous colitis)(CDD)

is a spore former anaerobe resistant to most antimicrobials

•is held in check by the normal flora but can overgrow if flora is perturbed

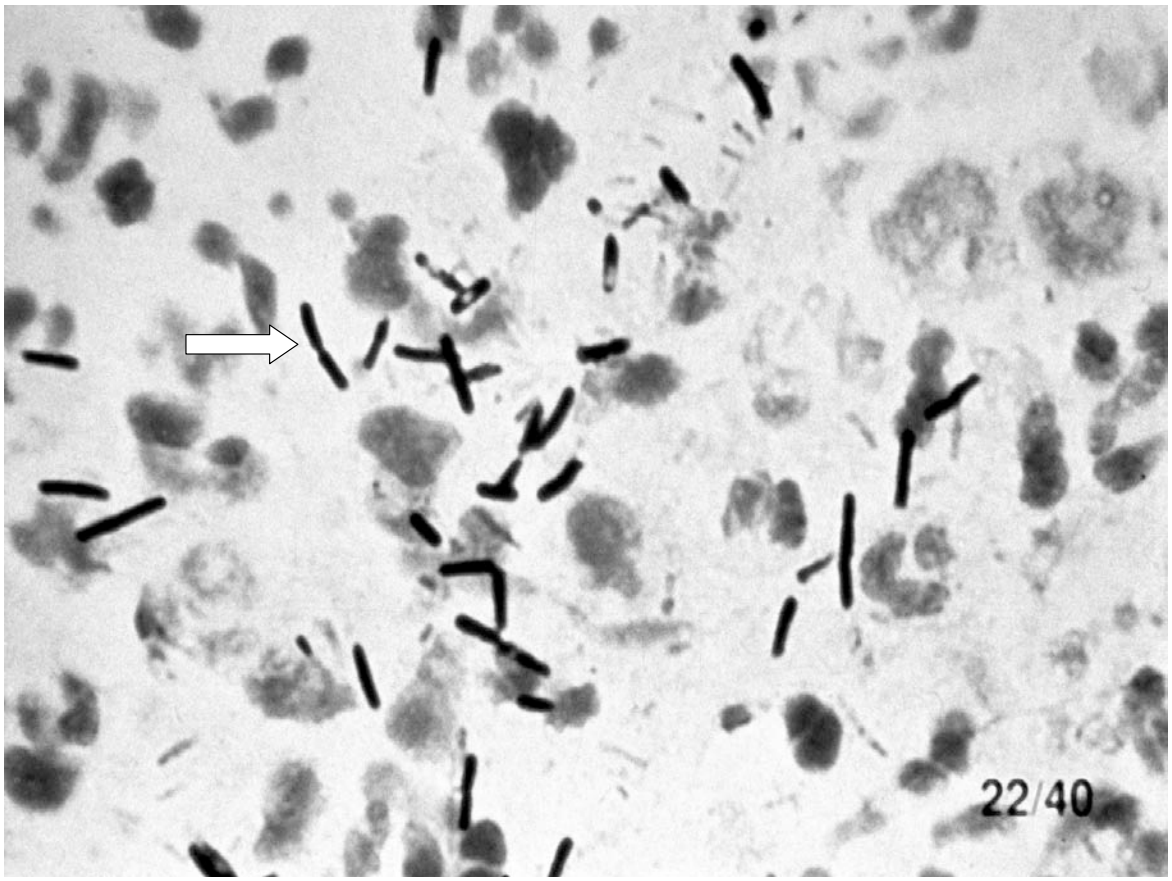
•any antimicrobial can initiate overgrowth; stomach acid suppression therapy can increase risk

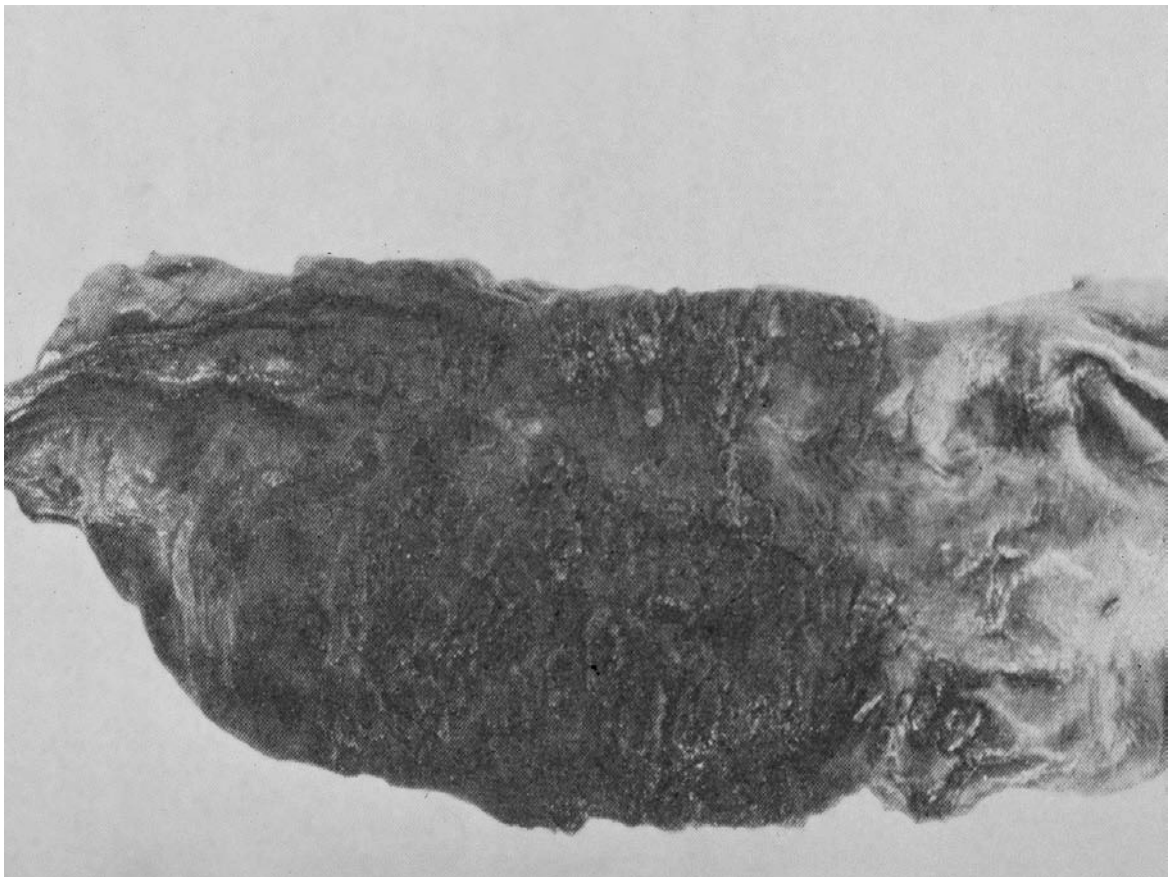
•C. difficle makes two toxins which cause diarrhea to colitis to pseudomembranous colitis to toxic megacolon to death

•Can be treated with metronidazole (250mg QID) or vancomycin PO (125mg QID or 500mg QID) but relapse rate is ~20%

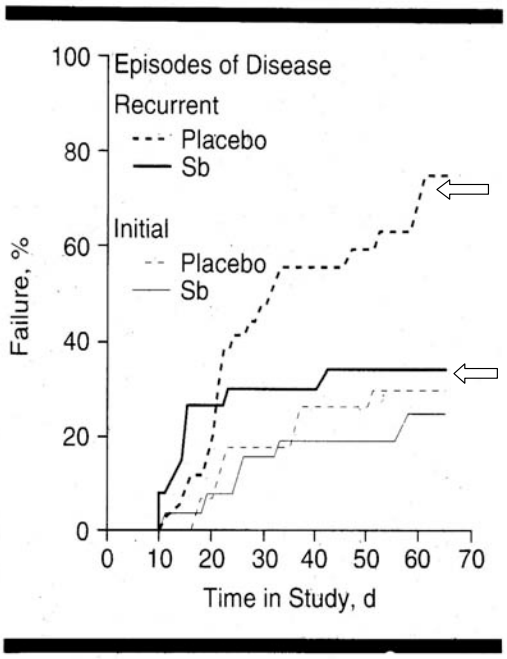
•Patients who relapse can have recalcitrant disease with ~50% relapse rate

•Probiotics can decrease rate of relapse but only Sacccharomyces boulardii has been tested and shown to help



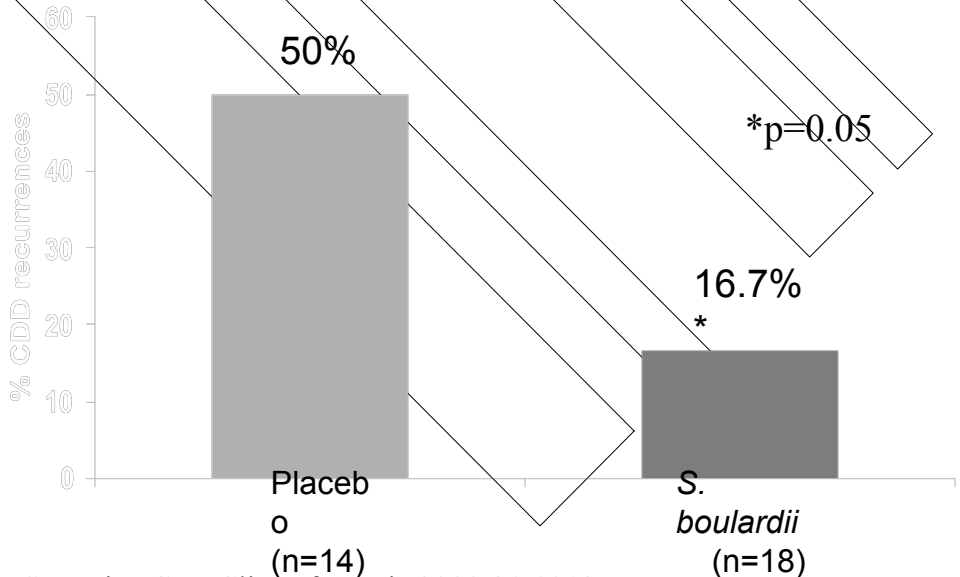


McFarland et al., JAMA; **271**, 1913-1918, (1994).



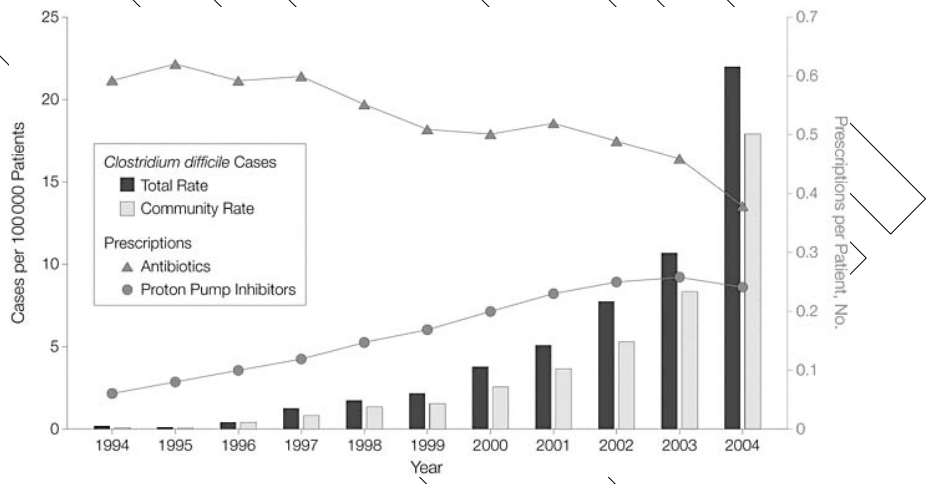
Kaplan-Meier failure curve for the probability of *Clostridium difficile* disease recurrence. Sb indicates *Saccharomyces boulardii*.

S. boulardii & High Dose Vancomycin for *C. difficile* Disease [Results]

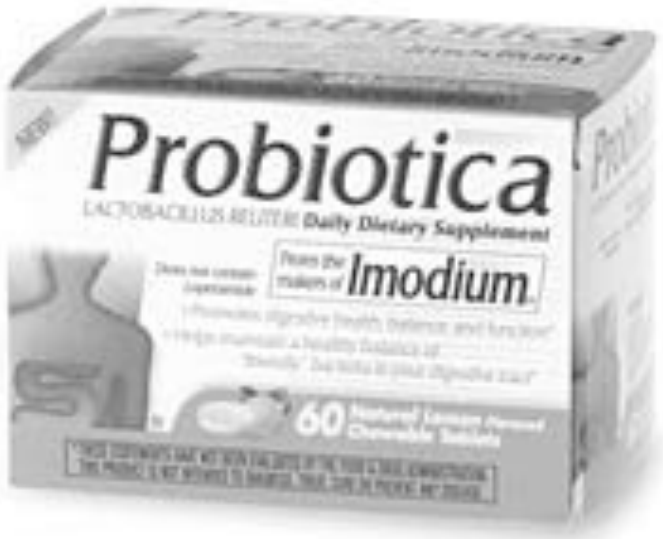


Surawicz CM. Clin Infect Dis 2000;31:1012-7.

Rates of Clostridium difficile per 100 000 Patients in the United Kingdom General Practice Research Database



Dial, S. et al. JAMA 2005;294:2989-2995.



Lactobacillus rhamnosus GG

Dietary Supplement: Culturelle

Saccharomyces boulardii Dietary Supplement: Florastor