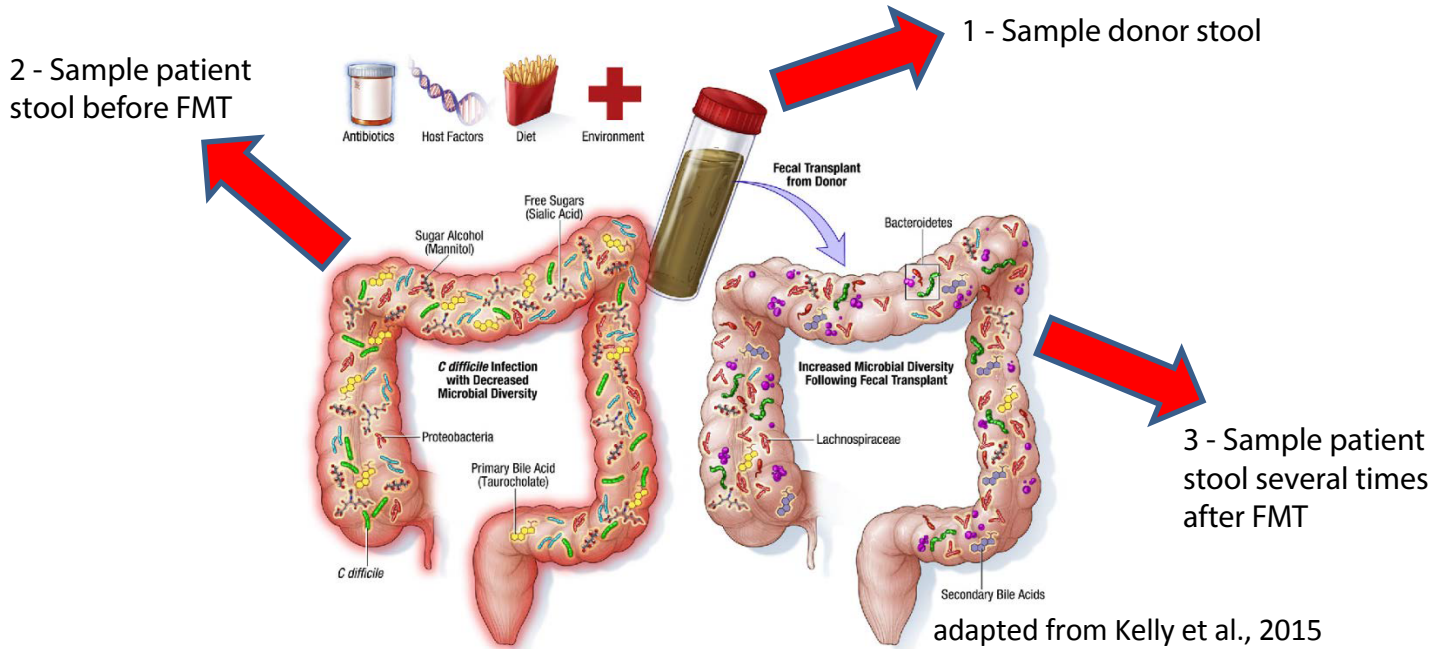


How does the gut microbiome change after fecal transplantation?

Fecal Microbiota Transplant (FMT) is a procedure in which fecal matter, such as stool, is collected from a healthy donor, and placed in a patient via colonoscopy, endoscopy, or enema.



In recent years, high-throughput sequencing technology has helped to gain a significant step toward our understanding of the changes in gut microbial communities by FMT. The data file (from [Hamilton et. al](#)) in this exercise shows the number of reads assigned to each bacterial taxon in both healthy donors and patients. In all three patients, colitis symptoms reduced quickly after FMT, with no subsequent *Clostridium difficile* infections for at least one year. To help visualize the bacteria composition, for each sample, the total numbers of reads for each bacterial taxon were converted to percentages and visualized as a bar graph.

Compare the bacteria community in the donors and the patients before and after FMT in the linked figure. What are the main changes in the gut flora after the patients received FMT? Which bacteria are responsible for the patients' improvement?