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## TRANSMISSION OF HUMAN BACTERIA TO WILD GREAT APES: ESCHERICHIA COLI AS A MODEL SYSTEM

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Infectious diseases pose a significant and growing threat to the health, well-being and long term viability of wild primate populations. *Escherichia coli* bacteria are used as the model bacterial system to examine whether habitat overlap influences rates and patterns of bacterial transmission between humans and apes. The *E. Coli* bacteria were genotyped with Rep-PCR fingerprinting and susceptibility to 11 antibiotics was measured with the disc-diffusion method. Population genetic analyses were conducted to examine genetic differences between (or among) populations of bacteria from different hosts and locations. Ape populations that overlapped at high rates with people and livestock harbored *E. coli* that was genetically similar to *E. coli* from those people and livestock. Humans had more clinically resistant isolates than livestock and apes. These results suggest that spatial and behavioral overlap between people, domestic animals, and apes can lead to the exchange of gastrointestinal bacteria through the environment. Strategies to limit environmental transmission would benefit human and ape health

Keywords: *Escherichia coli*, Antibiotic Resistance, Disease Ecology, Zoonoses