

S181

Abstract Withdrawn

Abstract Withdrawn

Can we decrease antibiotic-resistant UTIs by decreasing antibiotic use on the farm?

L.B. Price<sup>1</sup>

<sup>1</sup>Milken Institute School of Public Health, Washington- DC, USA

## Introduction

Antibiotic-resistant extraintestinal *E. coli* infections, including urinary tract infections (UTIs), are an increasing challenge in clinical medicine, and understanding the epidemiology of these infections is critical. Today there is substantial evidence linking foodborne *E. coli* to outbreaks of antibiotic-resistant UTIs. The goal of the current project is to quantify the proportion of sporadic UTIs arising from foodborne *E. coli* exposures.

## Methods

A prospective, citywide analysis of *E. coli* from retail meat and human UTIs was conducted in Flagstaff, AZ. All available brands of chicken, turkey and pork were purchased at retail twice per month for an entire calendar year (2012). Simultaneously *E. coli* isolates were collected from all UTIs and bloodstream infections. All isolates were genome sequenced and tested for their susceptibility to 12 commonly used antibiotics.

## Results

Among the 2482 retail meat samples tested, 81% were culture positive for *E. coli* (n = 2,010). Over the course of the year a total of 1,609 *E. coli* isolates were collected from clinically diagnosed UTIs and bloodstream infections. All 3,619 isolates were genome sequenced and the food and clinical isolates compared using a hierarchical phylogenetic approach to assess relatedness. Whole genome sequence-based phylogenetic analysis revealed that a substantial fraction of the UTI isolates, including antibiotic-resistant strains, were closely related to the foodborne *E. coli* isolates.

## Conclusions

The current study suggests that a substantial fraction of UTIs in the US may be caused by foodborne *E. coli*. These findings expand and highlight the public health risks associated with antibiotic use in food-animal production and raise the question whether better antibiotic stewardship on the farm could lead to decreased antibiotic resistance among community-acquired UTIs.