

# Kitchens are a source of multi-drug resistant bacteria

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After handling raw poultry, hands of food preparers and cutting boards remain a source of transmission for multi-drug resistant bacteria, such as *E. coli* that produce extended-spectrum beta-lactamases (ESBLs). The study of household and hospital kitchens was published in the May issue of *Infection Control and Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America.

"The spread of multi-drug resistant [bacteria](#) has been associated with the hospital setting, but these findings suggest that transmission of drug-resistant *E. coli* occurs both in the hospital and households," said Andreas Widmer, MD, lead author of the study. "Our findings emphasize the importance of hand hygiene, not only after handling raw poultry, but also after contact with cutting boards used in poultry preparation."

Researchers from University Hospital in Basel, Switzerland collected and examined 298 cutting boards (154 from University Hospital and 144 from private households) after preparation of various meats (i.e., poultry, beef/veal, pork, lamb, game and fish) and before being cleaned. They also collected 20 pairs of gloves from hospital kitchen employees after they handled raw poultry. These samples were tested for the presence of ESBL-producing Enterobacteriaceae, a family of [gram-negative bacteria](#) that includes *Salmonella*, *E. coli* and *Klebsiella*.

In testing the cutting boards, researchers found that 6.5 percent of hospital cutting boards used in preparation of poultry were contaminated

with ESBL-producing *E. coli*. For boards used in households, researchers found ESBL-producing *E. coli* on 3.5 percent of these surfaces. They also found that 50 percent of the [hospital](#) kitchen gloves were contaminated with this drug-resistant *E. coli*.

The researchers found that none of the cutting boards used in preparing beef/veal, pork, lamb, game or fish were contaminated with any ESBL-producing bacteria. They also found that the meat's country of origin did not play a factor in the presence of bacteria on any of the surfaces.

**More information:** Sarah Tschudin-Sutter, M.D.; MSc, Reno Frei M.D.; Roger Stephan, DVM, Herbert Hächler, PhD; Danica Nogarth, Andreas F. Widmer M.D., MSc. "Extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae – a threat from the kitchen." *Infection Control and Hospital Epidemiology* [35:5] (May 2014).

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