

Summary

Promoting the benefits to consumers of following food safety recommendations—through food safety education as well as through media coverage of foodborne illness outbreaks—appears to be influencing cooking and eating behavior.

For example, more Americans are eating their hamburgers more thoroughly cooked than before, according to several national surveys. Cooking and ordering hamburgers well-done reduces the risk of infection by *E. coli* O157:H7 and other pathogens. For example, the change in behavior reported in the 1996 Hamburger Preparation Quiz (HPQ), a national survey of hamburger cooking and ordering preferences, translates to an estimated 4.6-percent lower risk of *E. coli* O157:H7 infection and an estimated \$7.4-million annual reduction in medical costs and productivity losses as well as reductions in other foodborne illnesses associated with rare and medium-rare hamburger. Food safety messages about cooking and ordering hamburgers may encourage consumers to handle other foods more safely as well. While *E. coli* O157:H7 in hamburger is a small part of the burden of foodborne illness—estimated at 5,000 deaths and more than \$6.9 billion in medical costs and reduced productivity annually—these findings illustrate the potential benefits from encouraging consumers to follow food safety recommendations as part of an overall strategy to reduce the toll of foodborne illness.

Consumers make their decisions on how to cook and order foods based on several factors, including taste, palatability, and perceived food safety risk. Consumer behavior has changed over time, due in part to increased awareness of the risk of foodborne illness and the importance of thorough cooking in reducing that risk. Of respondents to the 1996 HPQ, 70 percent of those who had switched to more well-done hamburgers in the past 5 years reported they had done so out of fear of foodborne illness. Respondents with higher motivation to avoid foodborne illness were significantly less likely to cook or order hamburgers rare or medium-rare than those with less motivation, holding other factors constant.

Taste preferences, however, proved even more important than motivation to avoid foodborne illness. Thus, food safety education not only must convey the risk of lightly cooked hamburgers, but also should include information on how to retain juiciness and flavor in a thoroughly cooked hamburger.

Consumers in the South, Northeast, and in large cities were more likely to order hamburgers rare, medium-rare, or medium-pink, even after accounting for risk perceptions, tastes, and other factors. However, consumers in different regions and areas of different sizes reported similar doneness choices when cooking hamburgers for themselves. Only household size was significantly associated with how respondents say they cooked their own hamburgers, after accounting for risk perceptions and tastes. This suggests consumer education to encourage thorough cooking of hamburgers at home should be broadly dispersed rather than focused in certain regions.

White respondents, those with higher income, those with larger families, and those who had experienced foodborne illness had higher motivation to avoid foodborne illness, as did those whose main sources of food safety information were magazines, cookbooks, television, and government sources (such as hot-lines). Conveying the consequences of foodborne illness may help motivate consumers to follow food safety recommendations.