# User Guide for poultry QMRA model

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Date of last update: 08/06/2025

## Overview

In 2024, USDA-FSIS published risk assessments for *Salmonella* in raw poultry products. Their studies supported the implementation of final product standards targeting high-concentration *Salmonella* and highly prevalent high-virulence serotypes. However, the efficiency of such standards has not been proved. To assess the impact of more specific standards, we adapted our previous risk assessment for chicken parts to comminuted turkey, incorporating critical assumptions from FSIS risk assessments. We simulated the attributable fraction of illnesses from products contaminated over three level thresholds (0.0031 CFU/g, 1 CFU/g, and 10 CFU/g) and/or contained serotype in three lists (“Top 3 prevalent high-virulence serotypes”, “All high-virulence serotypes”, and “High-virulence proportion of each serotype”). Results showed that 87% of illnesses were attributed to the 0.56% of products with *Salmonella* exceeding 10 CFU/g. Under more specific criteria of level “AND” serotype, 60% of illnesses were attributed to the 0.14% of products contaminated with *Salmonella* exceeding 10 CFU/g and one of the three most prevalent high-virulence serotypes. Further, applying genomic-based clustering information, 75% of illnesses were attributed to slightly more of products (0.19%) contained *Salmonella* exceeding 10 CFU/g and high-virulence proportion of each serotype. Under the less specific standard, however, 99% of illnesses were attributed to the 5.7% of products contained *Salmonella* exceeding 10 CFU/g “OR” one of the three most prevalent high-virulence serotypes. Our study demonstrated that most salmonellosis risk is concentrated in comminuted turkey products with high levels of high-virulence contaminations. Importantly, more specifically targeting those products can efficiently reduce public health risk while minimizing products implicated.