Estimated burden of human *Salmonella, Shigella, and Brucella* infections in Jordan, 2003-2004

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Abstract

**Introduction:** Jordan was selected as the first WHO sentinel site in the Eastern Mediterranean Region to study the burden of illness due to *Salmonella, Shigella,* and *Brucella.*

**Methods:** Nationwide population and laboratory surveys were conducted during September 2003 and May 2004, and burden of illness estimates were calculated. A validation study was conducted prospectively from August 23 to September 23, 2003 to provide an estimate of the internal validity of burden estimates.

**Results:** Each year in Jordan there are about 4.4 million episodes of diarrhea among persons over >1 year and about 1.3 million persons seeking medical care for diarrhea. For each person with laboratory-confirmed *Shigella* or *Salmonella* infection there are about 273 infected persons in the community. There are approximately 1.1 million episodes of fever and 0.7 million persons over >1 year of age seeking medical care for fever each year in Jordan. For each person with serological confirmed *Brucella* infection there are about 31 infected persons in the community. There are at least 16,260 cases of *Shigella,* 6,612 *Salmonella,* and 6,912 *Brucella* cases yearly in Jordan.

**Conclusion:** This study provides baseline information of the burden of selected foodborne pathogens for one year in Jordan and indicates significant under-reporting and under-diagnosis of *Shigella* and *Salmonella.* Improving specimen transportation, laboratory capacity, reporting systems and linking the characterization of isolated pathogens with ill subjects and food items is recommended.