

Comparative Analysis of *Salmonella* Infantis Cases to Non-Infantis *Salmonella* Cases in Pennsylvania

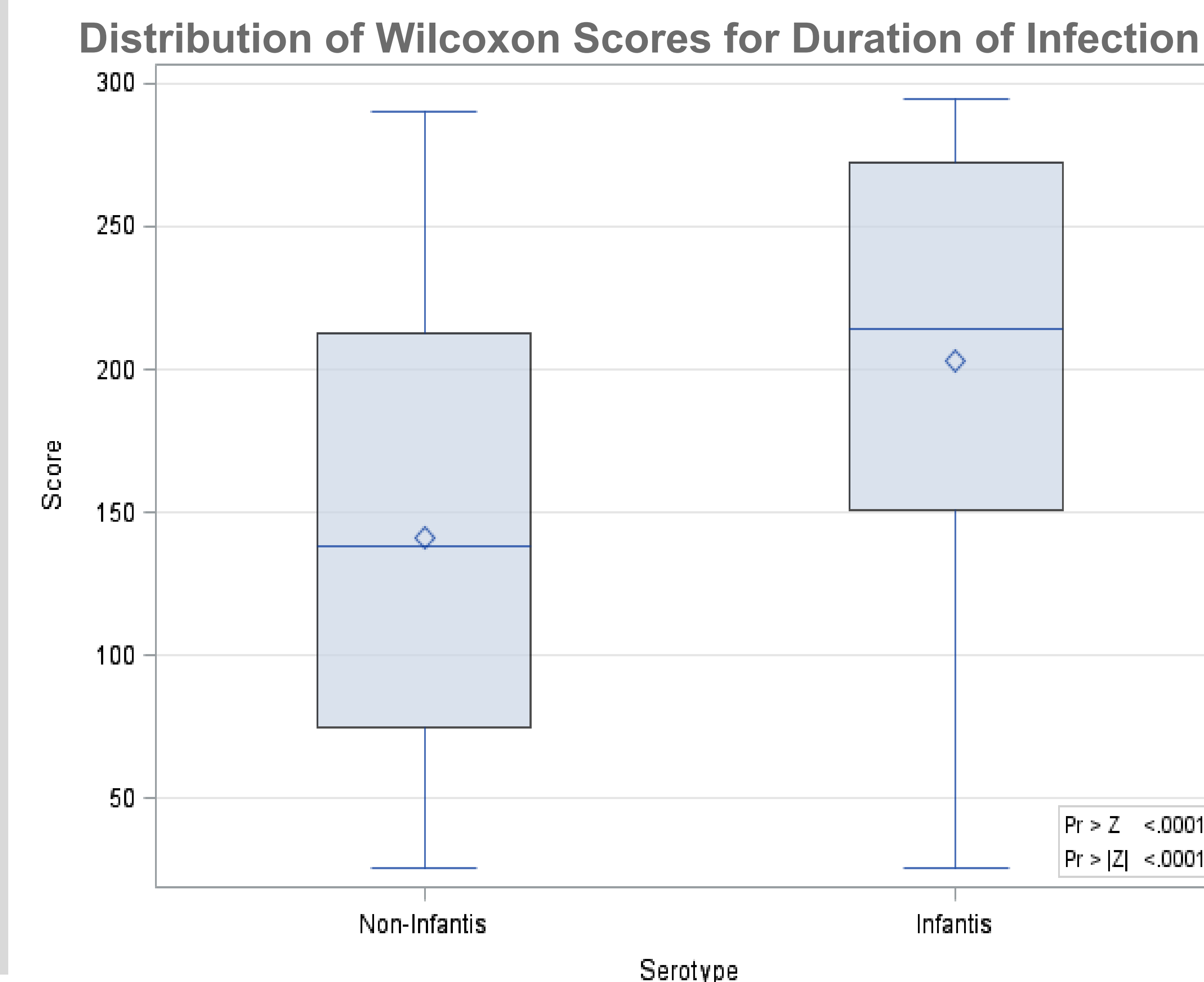
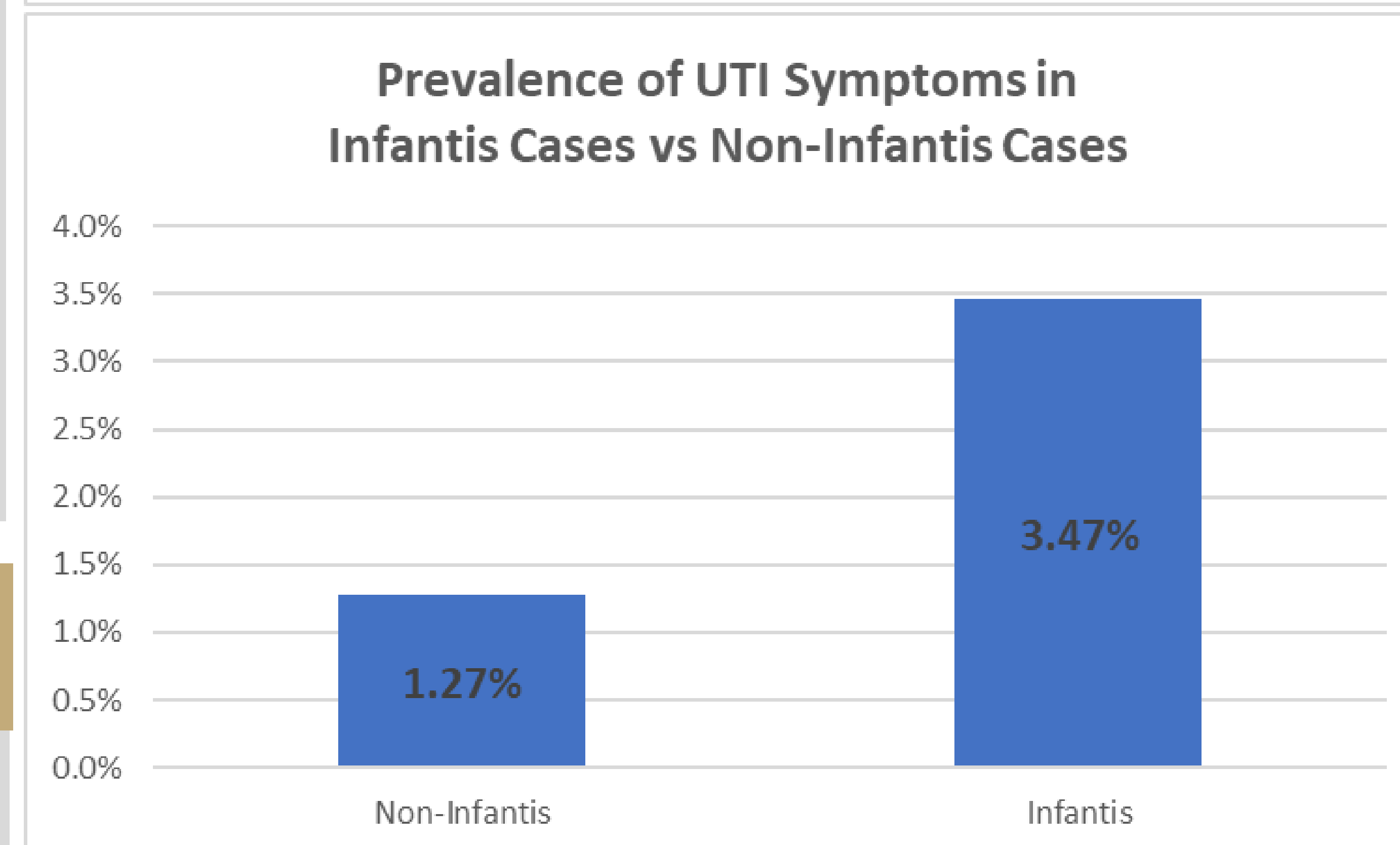
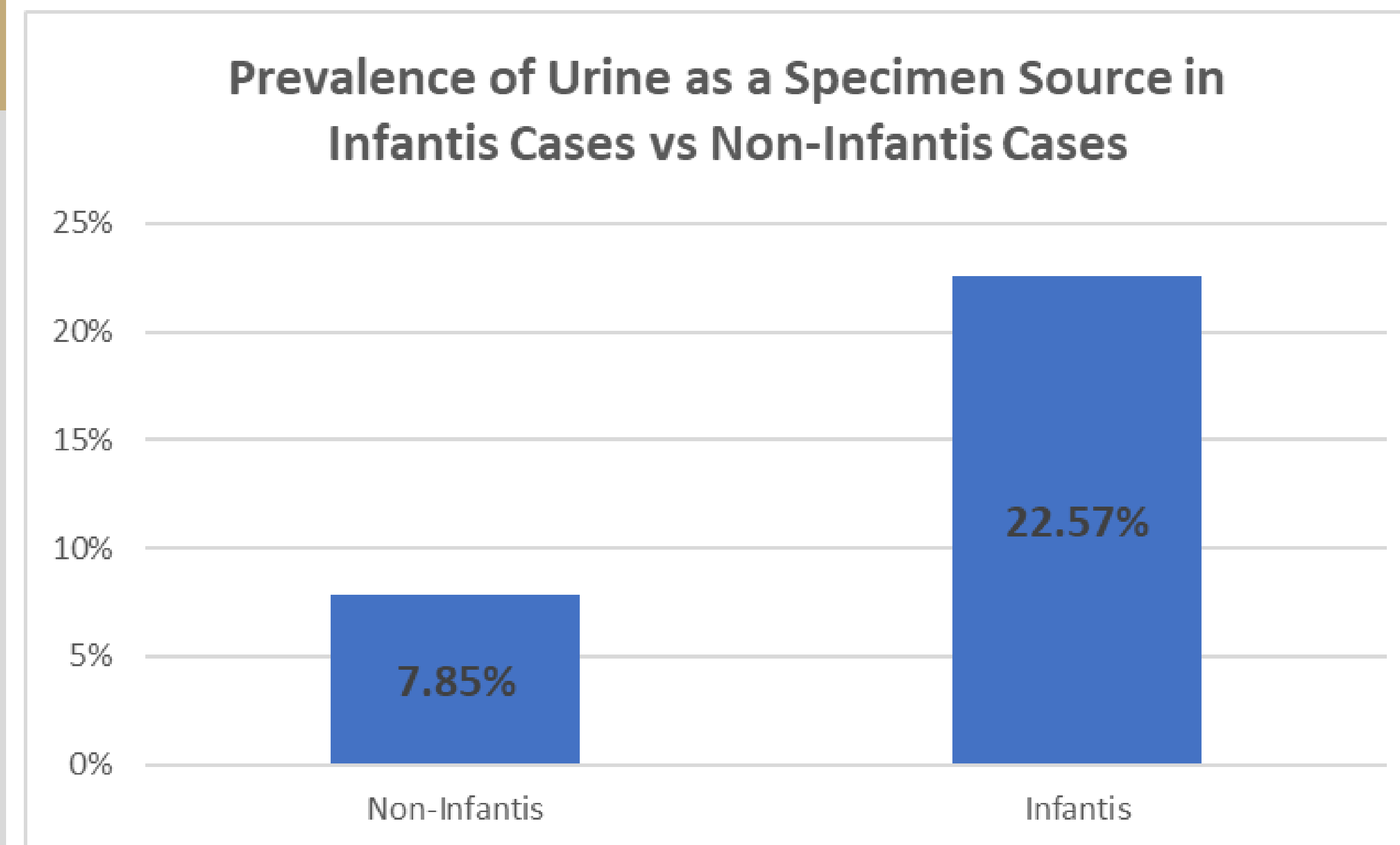
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Introduction

- Non-typhoidal *Salmonella* is a gram-negative bacterium that causes gastrointestinal illness that typically lasts up to 7 days.^{1,2} UTI symptoms are also seen but are rare.³
- There are over 2,500 serotypes of *Salmonella*. *S. Infantis* is one of the 10 most common serotypes causing human illness.⁴
- This serotype is more common in Europe than North America and more is known in a European context.⁴
- *S. Infantis* is found at high rates in chickens, turkeys, and pigs.⁴
- The objective of this study is to compare *Salmonella Infantis* trends to overall trends of non-*Infantis Salmonella* cases in Pennsylvania in 2015-2019 to determine key risk factors and clinical features of the infection.

Methods

- A cross-sectional study design was used to compare differences between key risk factors and clinical features.
- Key risk factors include food and animal exposures within 7 days before becoming ill. Clinical features include symptoms, specimen source, duration of infection, and hospitalization.
- Data was sourced from PA-NEDSS, Pennsylvania's electronic disease surveillance system, which includes information gathered by routine case investigations.
- Serotype was determined by serotyping or PFGE.
- Statistical analysis included Chi-square test and Wilcoxon Rank Sum test for differences, as well as logistic regression to determine the association between hospitalization and the *Infantis* serotype, controlling for sex and age.



Results

- *Infantis* cases had a higher prevalence of UTI symptoms than non-*Infantis* cases with a p-value of 0.0016.
- *Infantis* cases had a higher prevalence of urine as a specimen source than non-*Infantis* cases with a p-value of <.0001.
- The difference in mean duration of infection was statistically significant (p-value <.0001) with *Infantis* cases having a much longer duration on average, 143.3 days, compared to non-*Infantis* cases at 48.1 days.
- There were no statistically significant differences in food exposures.
- Contact with live poultry had a higher prevalence in *Infantis* cases with a p-value of .0025, while reptile contact was more prevalent in non-*Infantis* cases (p-value 0.0071).
- No significant associations between hospitalization rate and the *Infantis* serotype were found, even after controlling for sex and age.

Conclusion

- *Salmonella Infantis* is associated with urine as a specimen source and reporting of UTI symptoms.
- *Infantis* is also associated with a longer duration of infection.
- A notable risk factor for *Infantis* is contact with live poultry.
- This research will add beneficial information regarding risk factors and clinical features of the *Salmonella Infantis* strain.
- This information could impact future surveillance and prevention activities and will be useful for future outbreak investigations.

References

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