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## Response to Escobedo, *et al*

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To the Editor:

We were pleased to receive the response from Escobedo, *et al* to our recent manuscript describing giardiasis diagnosis and treatment patterns in the United States. They shared a summary of similar diagnosis and treatment patterns among giardiasis patients in Cuba, notably, that diagnoses are often delayed. They offer a framework for understanding and addressing these patterns based on surveys conducted among Cuban patients, caregivers and physicians. We wish to thank them for their insights, and highlight opportunities for US clinical and public health professionals to explore and address factors underlying delayed diagnoses and ineffective treatment in this country.

As in Cuba, giardiasis is the most common parasitic infection in the United States and is diagnosed by healthcare providers when symptomatic patients engage their services. Because giardiasis is nationally notifiable in the United States, the Centers for Disease Control and Prevention (CDC) uses passive laboratory surveillance to collect data on giardiasis cases (1) as well as surveillance for disease outbreaks associated with *Giardia* (2,3). These systems provide information on the incidence of giardiasis in the United States, and offer important feedback to public health practitioners who work to reduce the burden of this parasitic infection. However, they cannot provide granular insight into patterns of gastrointestinal illness care-seeking behavior, giardiasis diagnosis, and resultant treatment.

Giardiasis is difficult to diagnose for many reasons, as Escobedo *et al* remind us, and delayed or incorrect diagnoses have important implications for patients and for antimicrobial stewardship. This dilemma motivated our recent article, and we relied heavily on US studies that suggested diagnostic delays do occur, and that clinical suspicion among healthcare providers was low, as it appears to be in Cuba-based studies (4,5). Giardiasis studies

involving focus groups and knowledge-attitude-practice surveys in the United States are limited, however, and we appreciate Escobedo *et al*'s succinct summary of this work in Cuba, and the conclusion that many factors influence diagnostic and treatment patterns including the behavior of patients, caregivers and healthcare providers.

We suspect that the lessons learned from the work Escobedo *et al* describe will be broadly beneficial despite differences in population, socioeconomics and healthcare infrastructure among countries. We also believe that public health has a role to play in addressing the challenge of a common disease often mistaken for similar ones, with pressure to treat correctly in a short amount of time. This role involves characterizing giardiasis care and treatment patterns, and importantly, the subsequent application of these data. Application might include 1) designing additional studies such as clinician and patient focus groups to understand the motivating reasons behind patterns such as delayed diagnoses or age-specific care as we observed in our study (6), or 2) developing tailored communications products to assist those at risk of giardiasis and their caregivers, and clinicians who work with gastrointestinal illness. We look forward to reading and collaborating on additional studies like these in US populations.

## References

1. Painter JE , Gargano JW , Collier SA , Yoder JS . Giardiasis surveillance—United States, 2011–2012. *MMWR Morb Mortal Wkly Rep*. 2015;64(SS03):15–25.
2. Benedict KM . Surveillance for Waterborne Disease Outbreaks Associated with Drinking Water — United States, 2013–2014. *MMWR Morb Mortal Wkly Rep* [Internet]. 2017;66 Available from: <https://www.cdc.gov/mmwr/volumes/66/wr/mm6644a3.htm>
3. Adam EA , Yoder JS , Gould LH , Hlavsa MC , Gargano JW . Giardiasis outbreaks in the United States, 1971–2011. *Epidemiol Infect*. 2016 10; 144(13):2790–801.26750152
4. Cantey PT , Roy S , Lee B , Cronquist A , Smith K , Liang J , et al. Study of Nonoutbreak Giardiasis: Novel Findings and Implications for Research. *Am J Med*. 2011 12; 124(12):1175.e1–1175.e8.
5. Attias E , Czinn S , Harro C , Munoz F , Sockolow R , Black J . Emerging Issues in Managing Pediatric Parasitic Infections: An Assessment of Clinical and Epidemiological Knowledge of Giardiasis and Cryptosporidiosis. *Pediatr Ther* [Internet]. 2015; 05(03).
6. Beer KD , Collier SA , Du F , Gargano JW . Giardiasis Diagnosis and Treatment Practices Among Commercially Insured Persons in the United States. *Clin Infect Dis*. 2017 01;64(9):1244–50. 28207070