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2023 Texas Cyclospora Season and Restaurant Outbreak Investigation

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Discussion Topics

- Cyclospora Overview & Epidemiology
- Texas 2023 Cyclosporiasis Outbreaks
- Texas 2024 Season
- New Advances in Cyclospora Research



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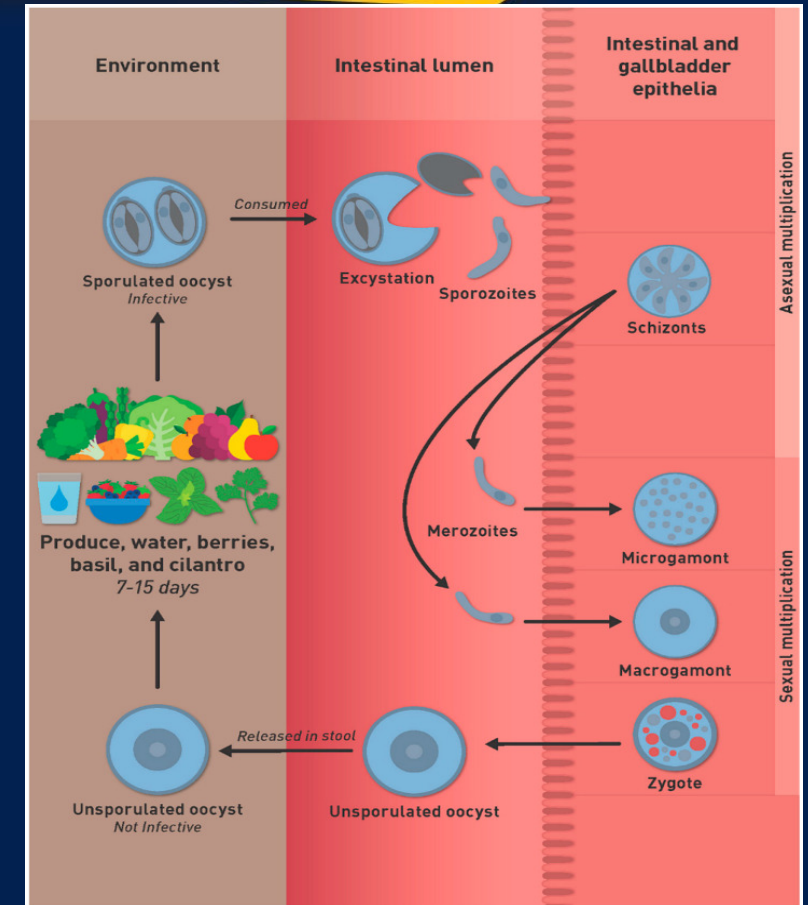
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What is Cyclosporiasis*?



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Cyclosporiasis	
Agent	<i>Cyclospora cayetanesis</i> , parasite
Symptoms	Watery diarrhea, nausea, anorexia, abdominal cramps, fatigue, myalgia, weight loss
Reservoir	Humans
Incubation period	2 days to ≥ 14 days (Avg. 7 days)
Transmission	Drinking (or swimming in) contaminated water or consumption of contaminated fruits and vegetables. Human-to-human transmission unlikely.

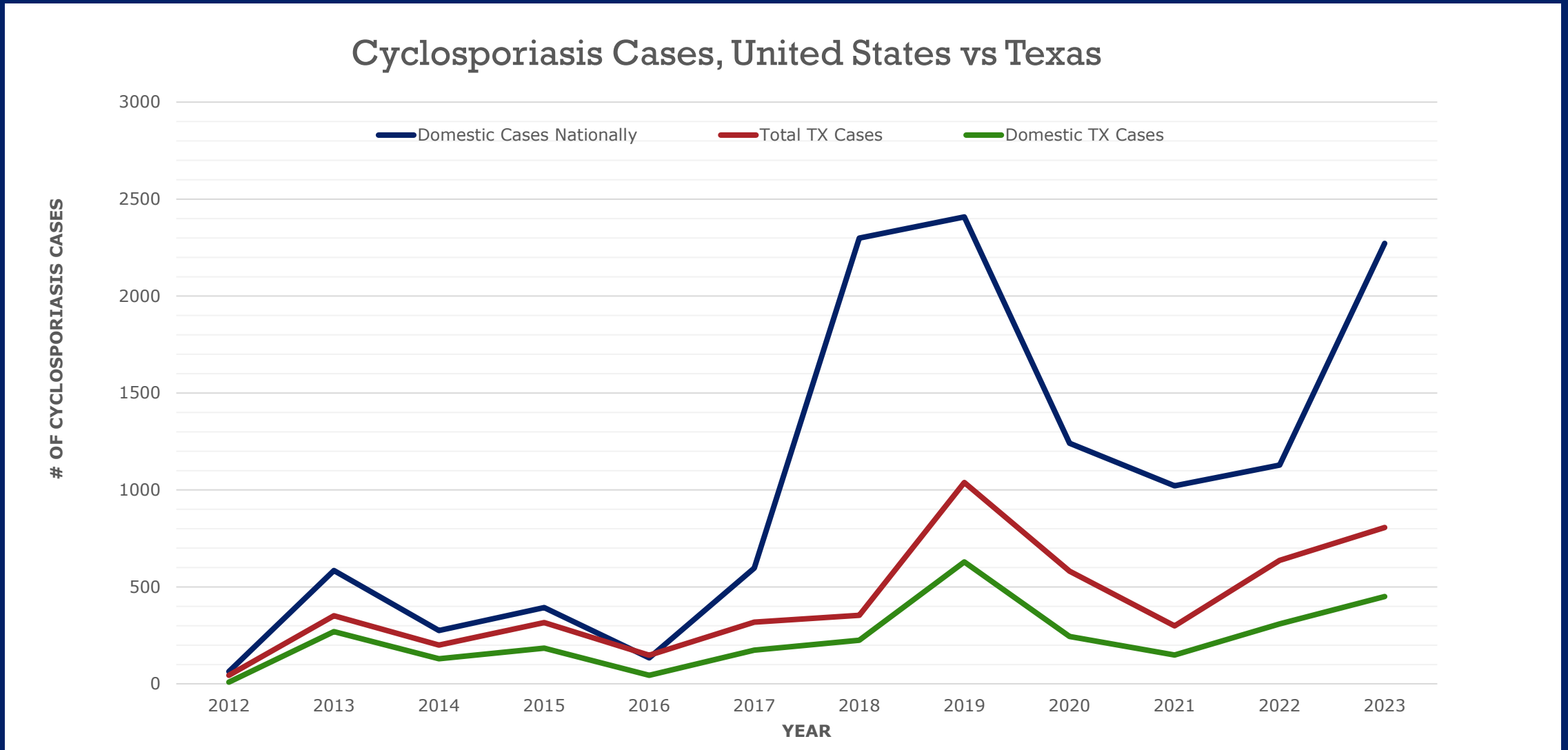


*Further reading available on reference slide 17 [1.2](#)

Available at: <https://www.mdpi.com/2076-2607/10/1/118>, accessed on January 8, 2024.

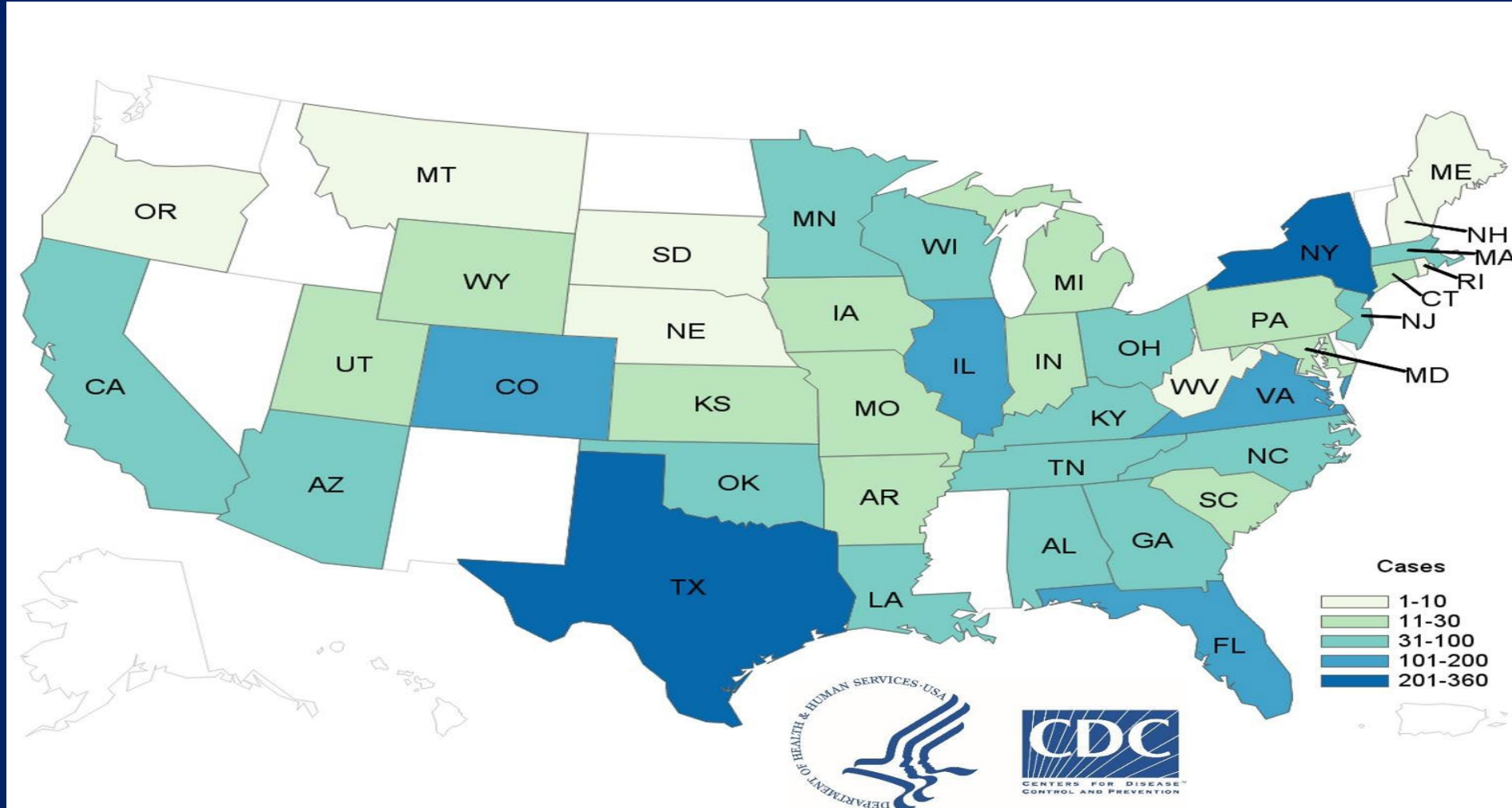
Available at: [CDC - DPDx - Cyclosporiasis](#), accessed on February 8, 2024.

Cyclosporiasis Cases, United States vs Texas 2012-2023*



*Data are preliminary and subject to change

Reported Cases of Laboratory Confirmed, Domestically Acquired Cyclosporiasis Cases April 1, 2023 – August 31, 2023, United States (n=2,272)



Available at: <https://www.cdc.gov/parasites/cyclosporiasis/outbreaks/2023/index.html> , accessed on January 8, 2024.

Cyclosporiasis, 2023*

Within the CDC's Seasonal Definition**

- Nationally: 2,272 cases
- Texas: **386** cases

TX 2023 Cases: 807

- Within the seasonal time frame: 785 cases
 - Cases with No Travel Reported: 451
(**386** confirmed, 65 probable)
 - LTFU: 194
 - Travel Associated: 140
- Outside of the seasonal time frame: 22 cases
 - January 1st - April 1st: 13
 - August 31st - December 31st: 9

*Data are preliminary and subject to change

**Lab-confirmed cases with no international travel (excluding Canada) or lost to follow-up (LTFU) between April 1st- August 31st, 2023

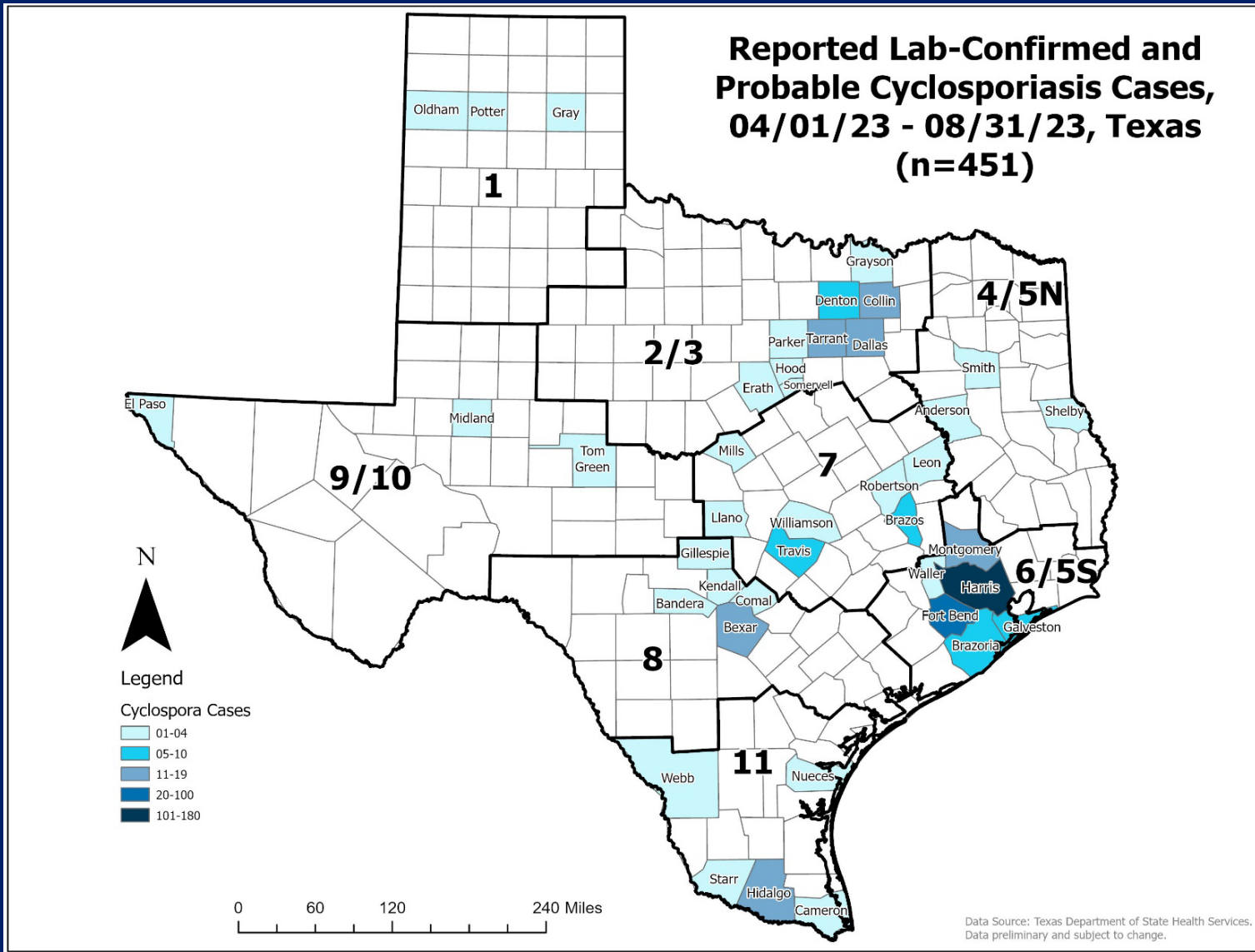


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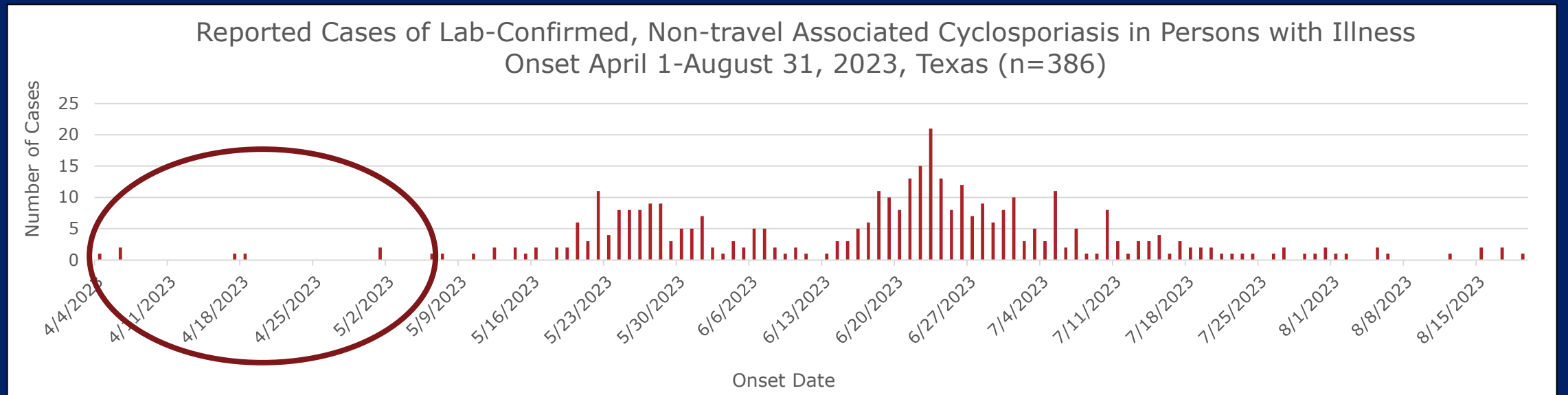
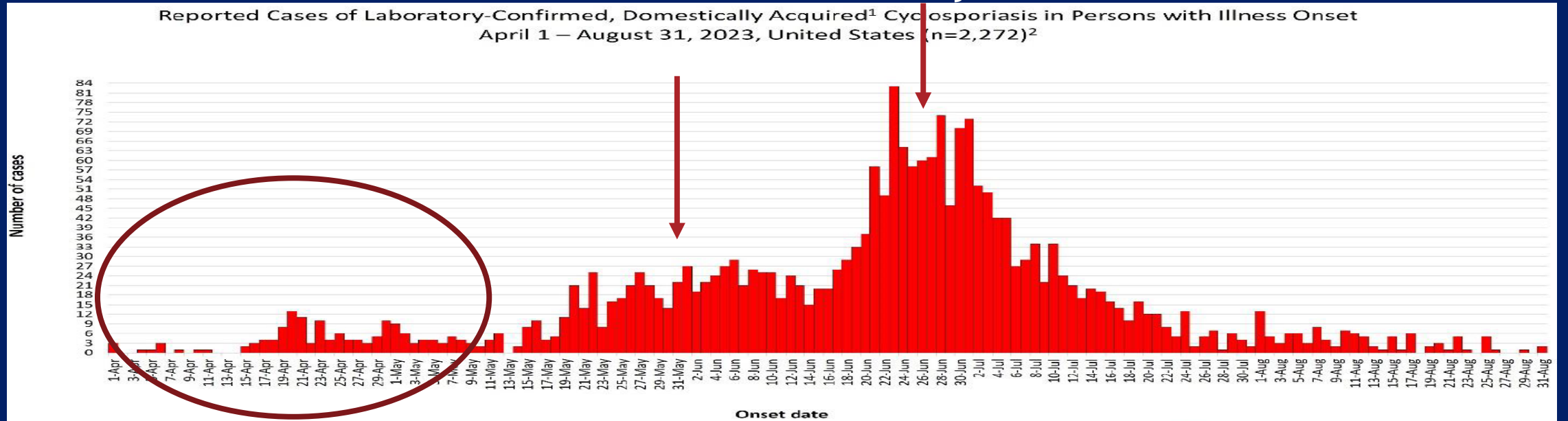
Cyclosporiasis Seasonal Outbreak 2023, Texas*



PHR	Cases
1	6
2/3	58
4/5N	5
6/5S	303
7	27
8	18
9/10	8
11	26

*Data are preliminary and subject to change.

Cyclosporiasis Lab - Confirmed cases National vs Texas*, 2023



*Data are preliminary and subject to change.

2023 Cyclospora Outbreaks and Clusters in Texas*

Outbreak/ Cluster	Outbreak Name	PHR	County	Suspect Produce	Confirmed Case	Probable Cases
Outbreak	Mediterranean A	6/5S	Harris	<u>Tabbouleh: Italian Parsley</u>	80	51
Outbreak	Grocery Store 1	6/5S	Multiple	<u>Cilantro or Strawberry</u>	111	1
Outbreak	Mediterranean B	6/5S	Harris	Unknown	5	0
Outbreak	Mediterranean C	6/5S	Harris	Unknown	7	0
Outbreak	Church Event	6/5S	Harris	Unknown	2	1
Outbreak	BBQ Event	2/3	Collin	<u>Broccoli Salad</u>	2	5
Cluster	Grocery Store 2	11	Hidalgo	Unknown	3	0
Cluster	Grocery Store 3	11	Hidalgo	Unknown	3	0

*Data are preliminary and subject to change.

Mediterranean Restaurant A Outbreak (n=181)

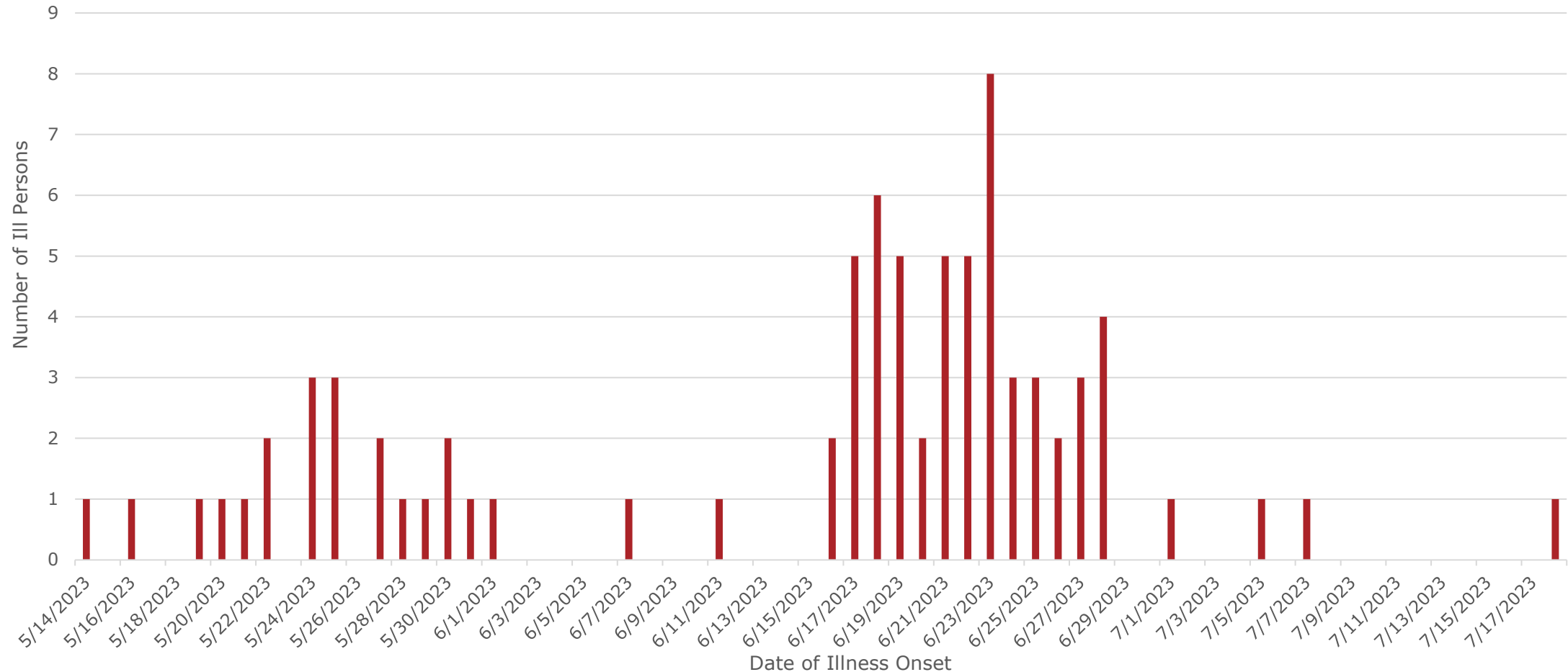
Cyclosporiasis Cases for Mediterranean Restaurant A in 2023*

Confirmed Texas Cases		80
Probable Texas Cases		51
Out-of-State Cases		10 (California, Washington, North Carolina, Massachusetts, Florida, Virginia, and Indiana)
Cases with Unknown Address		40
Median onset date (range)	n=80	6/20/2023 (5/14/2023 – 7/18/2023)
Number Hospitalized (%)	n=80	5 (6%)
Number female sex (%)	n=80	49 (61%)
Median age (range)	n=80	53 (15 – 91)
Counties reporting cases	n=13	Brazoria, Brazos, Galveston, Hidalgo, Nueces, Bexar, Collin, El Paso, Fort Bend, Harris, Montgomery, Potter, Travis
Public Health Regions (PHR)	n=6	PHR 1, PHR 2/3, PHR 6/5S, PHR 7, PHR 8, PHR 9/10

*Data are preliminary and subject to change.

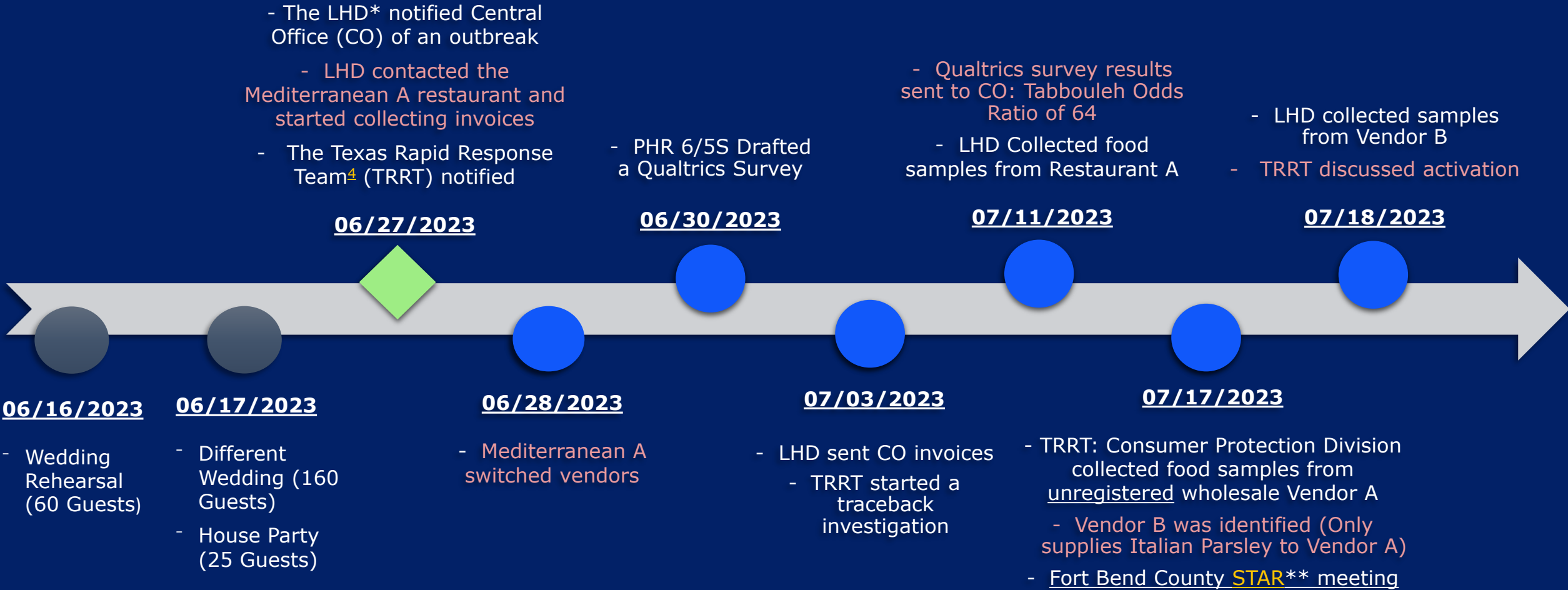
Cyclosporiasis Cases in Mediterranean Restaurant A Outbreak in Texas, 2023*

Reported Cases of Lab-Confirmed, Non-travel Associated Cyclosporiasis in Mediterranean A Cases with Illness Onset April 1, 2023-August 31, 2023, Texas (n=80)



*Data are preliminary and subject to change.

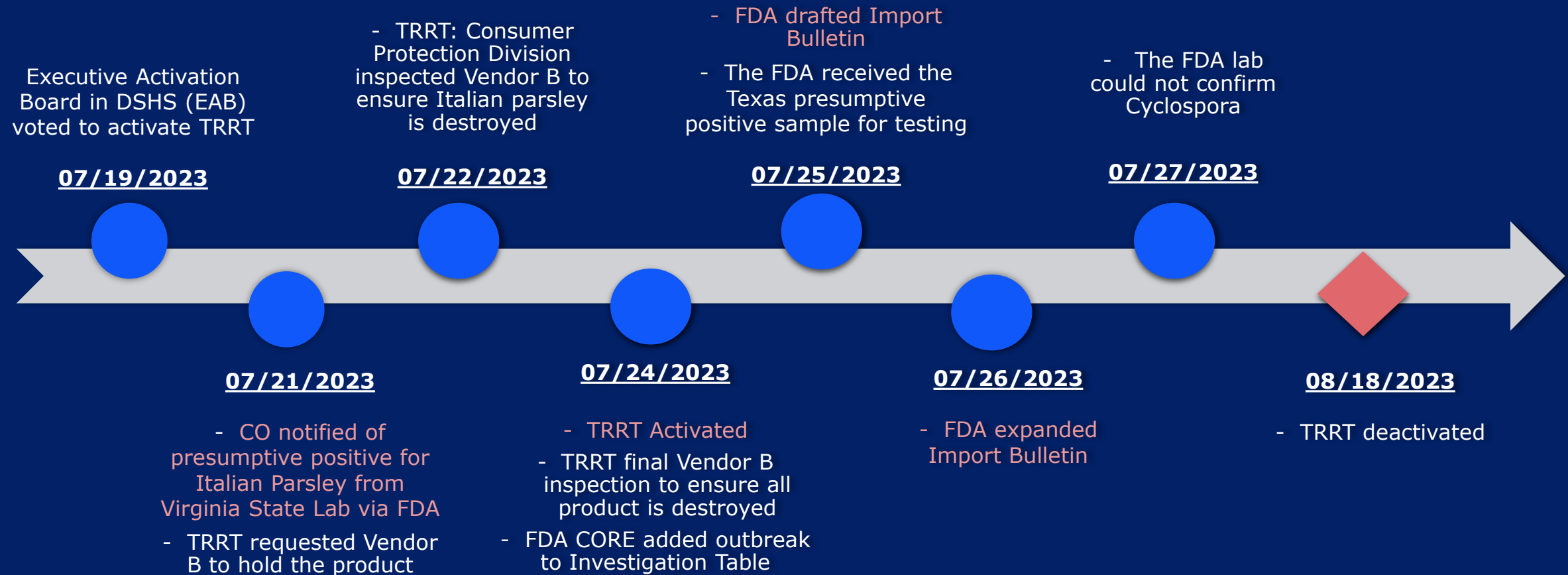
Mediterranean Restaurant A Outbreak, Texas, 2023



*Local Health Department (LHD)

**The State of Texas Assistance Request (STAR)³

Mediterranean Restaurant A Outbreak, Texas, 2023



Mediterranean Restaurant A Outbreak Lessons Learned

- **Successes**

- Communication
- Timely actions
- Collaboration between agencies
- Balancing workload

- **Recommended areas of improvement**

- Engage with PHR/LHD before cyclospora season starts to ensure preparedness
- Have logistical meetings between TRRT/PHR/LHD before conducting joint investigations of vendors/restaurants
- Work towards activating TRRT earlier
- Make sure surveys require, at least, a partial address before the case completes the survey (county, state, and zip codes)



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Looking Ahead - 2024 Cyclospora Season

- **New Updates**

- A pre-cyclospora seasonal kick-off meeting
- Potential DSHS food testing (Mitochondria PCR)

- **Important Dates**

- April 2024: Cyclosporiasis Health Advisory and Cyclospora specimen submission request letter will be sent out
- May 2024: CNHGQ* and the CNHGQ Quick Guide will be sent out

- **2024 Goal**

- More sample submissions to the DSHS lab



Image from Microsoft PowerPoint 365; last accessed 01/08/2024



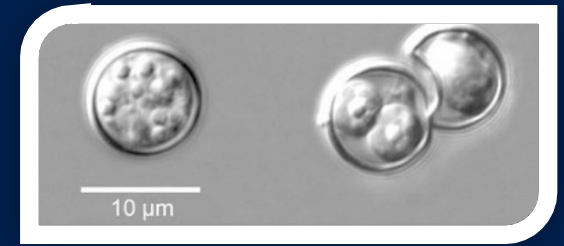
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* Cyclospora National Hypothesis Generating Questionnaire (CNHGQ)



Hot off the Press !



CDC: [Parasites - Cyclosporiasis \(Cyclospora Infection\)](#)

- Possible 2 new Cyclospora species that could infect humans!
 - *Cyclospora ashfordi*
 - *Cyclospora henanensis*
 - Present research shows *C. ashfordi* and *C. cayetanensis* might not reproduce with each other.
 - *C. henanensis* isolate is unique compared to the other Cyclospora species and the isolate is from China.
 - Present PCR and Oval & Parasite (O&P) testing can identify all the species of cyclospora that infect humans but can't speciate.

Available at: [Cyclospora cayetanensis comprises at least 3 species that cause human cyclosporiasis - PubMed \(nih.gov\)](#), accessed on February 8, 2024.

Available at: [Three of a Kind: CDC researchers find Cyclospora is not just a single species | Advanced Molecular Detection \(AMD\) | CDC](#), accessed on February 8, 2024.



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Additional Resources

1. [Life Cycle and Transmission of Cyclospora cayetanensis: Knowns and Unknowns](#)
2. [CDC: Cyclosporiasis](#)
3. [The State of Texas Assistance Request \(S.T.A.R.\)](#)
4. [Texas Rapid Response Team](#)
5. [Cyclospora cayetanensis comprises at least 3 species that cause human Cyclosporiasis](#)
6. [Three of a Kind: CDC researchers find Cyclospora is not just a single species](#)



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Appendix 1: STAR Request

State of Texas Assistance Request (Live)

[Return To List](#)[Print / PDF](#)[Follow](#)

Requestor Information

Request No: 16D-324179 (HOU)
Requestor Name:
Requestor Position: FB Fort Bend County HHS
Requestor Phone #:
Requestor Email:
Requestor Signature:
Initial Request Date: 7/06/2023 09:16:15
Incident Name: 23-0021 JUL03 DSHS Region 6/5s Cyclospora Outbreak
Requesting Entity: Fort Bend

Item/Mission Description

Item/Mission: Three (3) Epidemiologists for contact tracing assistance in Cyclospora investigation and one (1) Data Entry individual for assistance in Cyclospora contact tracing event
Qty: 4
Unit: OtherSpecify Unit Type:total individuals
When Needed? 07/06/2023 9:00 AM
For How Long? Demob Item (5 Days)
Mission Description: Three (3) Epidemiologist personnel to assist in contact tracing efforts in Cyclospora investigation & one (1) Data Entry personnel to assist in information collection and data processing efforts in same Cyclospora investigation.



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Q&A



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“The most important things to say are those which often I did not think necessary for me to say — because they were too obvious.” — André Gide

“There is no communication that is so simple that it cannot be misunderstood.” — Luigina Sgarro



“The only “bad” question, is the one left unsaid.”
—Samantha Spencer



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Thank you

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