

***E. coli* O157:H7**

Cluster 2403MLEXH-2

April 17, 2024

Outbreak Response and Prevention Branch

Cases of *E. coli* O157:H7 in cluster 2403MLEXH-2 as of April 17, 2024

State	No. of Cases
CA	6
WA	5

- **Case definition:**
 - Infection with *E. coli* O157:H7, AND
 - an isolate related within 0–3 alleles by cgMLST WITH
 - isolation dates from February 2, 2024 to present
- **11 cases from 2 states**
- **Isolation dates: 2/2/2024 – 4/5/2024**
- **Onset dates (n=11): 2/1/2024 – 4/2/2024**

Demographics in *E. coli* O157:H7 cluster 2403MLEXH-2 as of April 17, 2024

Demographics	
Age (n=11)	
Range (median)	6 – 84 (53)
Categories in years, n(%)	
<5	0 (0)
5 to 17	3 (27%)
18 to 64	5 (46%)
≥65	3 (27%)
Sex (n=11)	
Female, n(%)	7 (64)

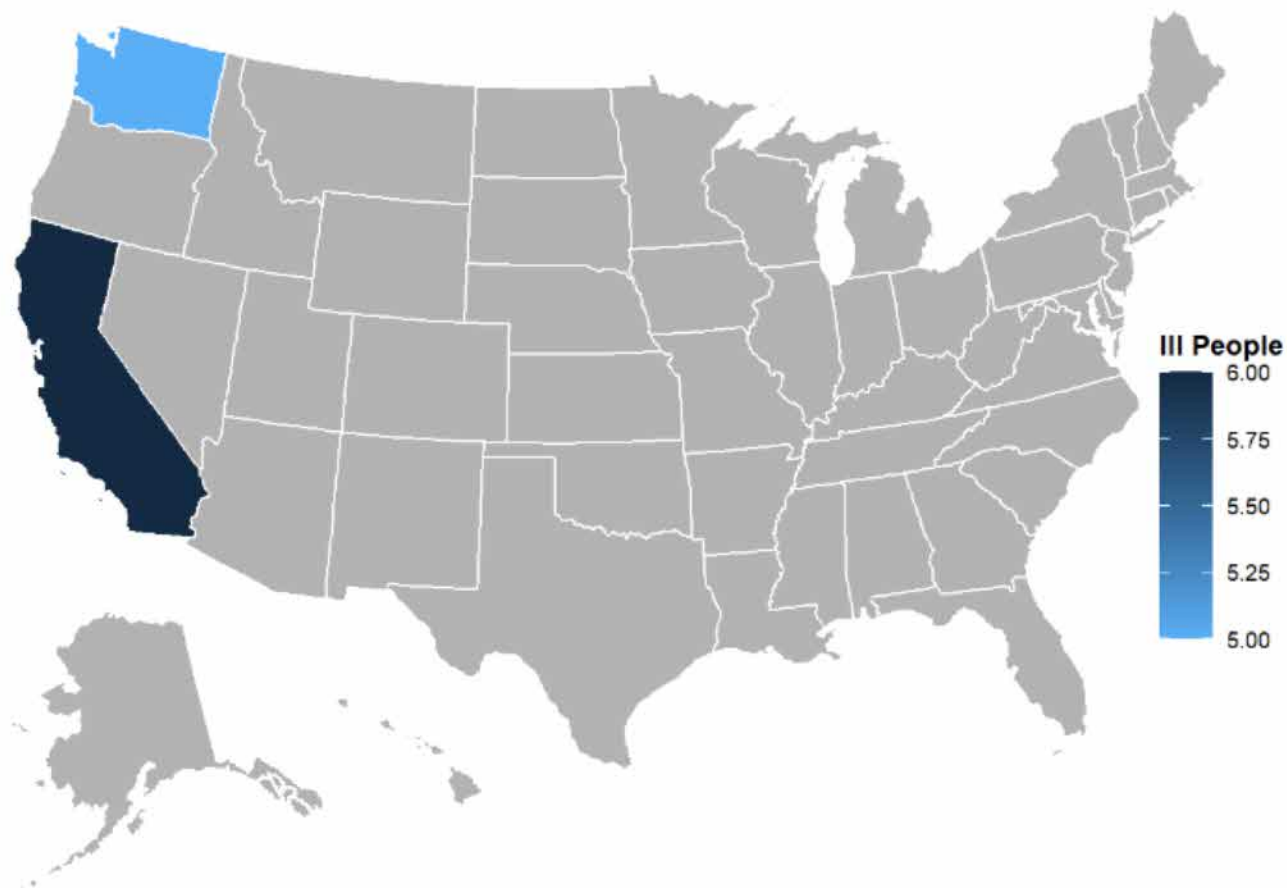
Most patients
are White
(non-Hispanic)
adult females.

Pathogen-associated outcomes in *E. coli* O157:H7 cluster 2403MLEXH-2 as of April 17, 2024

Pathogen-associated outcomes	n (%)
Hospitalized (n=10)	6 (60)
Died (n=10)	0 (0)
HUS (n=9)	2 (22)

6 hospitalizations and 2 HUS cases

State of residence of ill people in *E. coli* O157:H7 cluster 2403MLEXH-2 as of April 17, 2024



Information for internal use only; not for distribution. Data are preliminary and subject to change

Epidemic curve for *E. coli* O157:H7 cluster 2403MLEXH-2 by onset date as of April 17, 2024



*If onset date is not missing, onset date plotted. If onset date missing, isolation date - 3 days plotted as proxy.

3 illnesses
are still
within the
lag window.

Questionnaire (n=7) food exposure information in *E. coli* O157:H7 cluster 2403MLEXH-2 as of April 17, 2024

Exposure	No. of 'Yes'	No. of 'Maybe'	%	FoodNet
Walnuts	7		100%	25.6%
Avocado	5	1	86%	43.4%
Carrots	5	1	86%	62.8%
Apples	6		86%	59.5%
Eggs	6		86%	72.0%
Lemon	4	2	86%	-
Tomatoes	4	2	86%	71.7%
Chicken	4	2	86%	88.3%
Fresh ginger	5		71%	-
Bananas	4	1	71%	70.3%
Yogurt	4	1	71%	44.6%
Oats/oatmeal	4	1	71%	-
Bell pepper	3	2	71%	55.4%
Celery	3	2	71%	34.6%
Kale	3	1	57%	18.8%

Statistically elevated above general
population AND CA estimate

Statistically elevated above
general population estimate only

	WALNUT			AVOCADO		
ID	From	Details		From	Details	
(b)(6)	Costco; Maybe co-op (bulk)	Kirkland organic ; maybe bulk prepackaged in clear bag, organic , raw; whole (in shell) and halves?	from Peoples shopper card: organic walnuts ("NUT WALNUTS ORG") on 11/14, 12/14, 1/22; NOT on Costco records	Costco [definite]; Co-op [maybe]	in a bag and loose; organic ; unknown purchase date; yes receipt; yes packaging; outside of home: sandwich at Mendocino Farms	from Peoples shopper rec: 4 organic bacon avocado 1/2; 2 organic zutano avocado 1/30; NOT on Costco records
	Community Market; Oliver's Market	bulk, self-serve; organic ; halves; consumed raw; no purchased date	NA	Safeway; Oliver's Market; Community Market	case eats daily; individual/loose; non-organic ;	NA
	Clarks Nutrition	Self serve bulk, organic , raw, "whole not in shell"	NA	Clarks Nutrition	individual/loose; organic ; Hass; no receipt; no leftover packaging	NA
	Clarks Nutrition	3/12 purchase date; bulk self-serve; blanched, non- organic; halves & pieces; yes leftover	NA	NO	NO	NA
	PCC	Bulk. Per card: halves & pieces on 1/31 (unknown if organic)	Per PCC record: "Walnuts Halves & Pcs" 1.03lb on 1/31	PCC	Per card: Hass organic on 1/9	Per PCC record: "AVOCADO HASS ORGANIC" on 1/9.
	PTC	Bulk. Organic . Per card: 1/31, 1/19, 1/16	Per PTC record: "Walnuts_Org_bulk" on 1/31, 1/19, 1/16	PTC	Per card: Hass large organic on 2/4 and Hass small organic on 2/10, 2/4, 1/31, 1/27, 1/19, 1/13; [maybe] at home; outside of home in sushi roll	Per PTC card: Hass large organic on 2/4 and Hass small organic on 2/10, 2/4, 1/31, 1/27, 1/19, 1/13
	Sunny Farms	Self serve bulk on 2/2, English walnut halves, raw (unknown if organic)	NA	Safeway; Sunny Farms	individual/loose; organic and non-organic ; regular large; no receipt; no packaging; purchased 3/1 and 3/2	NA

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Investigation Next Steps



State Updates

FDA/USDA
Thoughts

Next Steps?

- Ad Hocs
- Shorten focused qx
- Product environmental testing?
- Cont. reinterviews

Open
Discussion

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



- 2403MLEXH-2 (EC1.0 - 9.1.3.28)_CDC_ O157:H7

Hello,

This cluster of *E. coli* O157:H7 has been given the cluster code 2403MLEXH-2. There are currently 7 clinical isolates from 2 states: WA(4), CA(3). cgMLST analysis shows these isolates are highly related within 0-2 alleles; isolation dates range from 02/02 to 03/09. Historical cluster codes 2303MLEXH-1 and 1912VTEXH-1 are within 12 alleles of this cluster. 2303MLEXH-1 was closed with no identified vehicle, and 1912VTEXH-1 was closed with the vehicle identified to be iceberg lettuce. There are a number of bison/ beef and manure samples in NCBI under 30 SNPs away from this cluster. The isolates in the cluster, line list, and bundle file can be found below:

Key	WGS_id
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(b)(6)

Thank you,

March 26

Hello,

Attached is the updated line list.

(b)(6)

Thank you,

PulseNet Data Analyst

PulseNet Management Team

April 22

Hello,

Attached is the updated line list.

(b)(6)

Thank you,

PulseNet Data Analyst

PulseNet Management Team

May 13

This cluster is now closed and will be taken off of SharePoint in 7 days. Please be sure to update any additions before then.

Thank you,

PulseNet Database Analyst

PulseNet Management Team

May 30

Key	WGS _id	Isolat Date	Source State	Outbreak	Allele Range	Allele_code	Serotype _wgs	Serotype	Source Country	Source Type	Source Site	Received Date	PulseNet_ UploadDate	Patho type	Toxin_wgs
b6	b6	2/7/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:H7	USA	Human	Stool	2/21/24	2/29/24	STEC	stx2a; stx2c
b6	b6	2/22/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157	USA	Human	Stool	2/28/24	3/5/24	STEC	stx2a; stx2c
b6	b6	2/2/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:Undet.	USA	Human	Stool	2/26/24	3/8/24	STEC	stx2a; stx2c
b6	b6	2/21/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157	USA	Human	Stool	3/4/24	3/8/24	STEC	stx2a
b6	b6	2/11/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:Undet.	USA	Human	Stool	3/4/24	3/14/24	STEC	stx2a; stx2c
b6	b6	2/17/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:NM	USA	Human	Stool	3/6/24	3/20/24	STEC	stx2a; stx2c
b6	b6	3/9/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:H7	USA	Human	Stool	3/18/24	3/22/24	STEC	stx2a; stx2c
b6	b6	3/8/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:Undet.	USA	Human	Stool	3/21/24	3/29/24	STEC	stx2a; stx2c
b6	b6	3/30/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. Coli O157: Undet.	USA	Human	Stool	4/8/24	4/11/24	STEC	stx2a; stx2c
b6	b6	3/24/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:Undet.	USA	Human	Stool	4/8/24	4/15/24	STEC	stx2a; stx2c
b6	b6	4/5/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157	USA	Human	Stool	4/9/24	4/15/24	STEC	stx2a; stx2c
b6	b6	4/7/24	WA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:H7	USA	Human		4/15/24	4/19/24	STEC	stx2a; stx2c
b6	b6	4/2/24	CA	2403MLEXH-2	0-3	EC1.0 - 9.1.3.28x	O157:H7	E. coli O157:Undet.	USA	Human	Stool	4/25/24	5/7/24	STEC	stx2a; stx2c