

**CDC's Emerging Infections Program
 CDC/USDA/FDA Foodborne Diseases Active Surveillance Network
 Steering Committee Conference Call**

Date: Tuesday Thursday, July 8th, 2004
 Time: 2:00-3:00 pm EST
 Numbers: Number: 877-601-3546 PassCode: 14349

A. Administrative

1. Status of manuscripts
2. Calendar of calls

B. Surveillance

1. Active surveillance data, 2004
2. HUS surveillance
3. Performance standards

C. Special studies

1. S. Newport, S. Enteritidis, Infant case-control studies
2. E. coli O157 cohort study
3. Long-term care facility survey

D. Proposals

1. Revision: Analysis of trends in listeriosis in the FoodNet sites, 1996-2003 (Drew Voetsch)
2. The economic cost of E. coli O157:H7 infections (Paul Frenzen)
3. E. coli O157 and HUS infections, 1997-2002 (Alison Drake)
4. A quantification of seasonality in the incidence of six selected foodborne pathogens (Andrew Billman)

E. Miscellaneous

1. University of Minnesota project
2. International FoodNet projects
3. EIP Steering Committee meeting

F. Upcoming FoodNet conference calls, meetings, and deadlines

1. Thursday	July 8 th	12:00-1:00 pm EST	HUS/STEC Working Group call
2. Thursday	July 8 th	1:00-2:00 pm EST	<i>Campylobacter</i> –Regional Differences
3. Wednesday	July 14 th	4:00-5:00 pm EST	Burden Working Group call
4. Thursday	July 15 th	1:00-2:00 pm EST	Antimicrobial Resistant Working Group call
5. Thursday	July 15 th	3:00-4:00 pm EST	Outbreak Working Group call- CANCELLED
6. Monday	July 19 th	3:00-4:00 pm EST	GBS Working Group call
7. Thursday	July 22 nd	8:00-9:00 am EST	Int'l Collaboration on Foodborne Disease call
8. Tuesday	July 27 th	2:00-3:00 pm EST	Interventions Working Group call
9. Thursday	July 29 th	2:00-3:00 pm EST	FoodNet Coordinators call
10. Thursday	July 29 th	3:00-4:00 pm EST	Infant Illness Working Group call
11. Wednesday	Aug. 4 th	11:00-12:00 pm EST	S. Kentucky Working Group call
12. Wednesday	Aug. 4 th	3:30-4:40 pm EST	Validation of Multipliers Working Group call
13. Thursday	Aug. 5 th	11:00-12:00 pm EST	Attribution Working Group call
14. Monday	Aug. 9 th	2:00-3:00 pm EST	Infant case-control study
15. Tuesday	Aug. 10 th	2:00-4:00 pm EST	August Update meeting
16. Thursday	Aug. 12 th	2:00-3:00 pm EST	August Steering Committee call

G. Data Submission Deadlines

1. Surveillance data transmission Friday, July 23rd
2. HUS data transmission Wednesday, August 4th

STATUS OF ACTIVE FOODNET Manuscripts

last updated: 07/02/2004

0=analysis, 1=writing, 2 draft being reviewed by coauthors, 3=incorporating comments, 4=NCID/CDC clearance, 5=at journal
PRELIMINARY INFORMATION: SUBJECT TO CHANGE: NOT FOR DISTRIBUTION

	Lead Investigator	Sr. Author/Authors	Proposal/Title	Abstract	Approved	Status	Journal	Date of last correspondence	Comments
1	Beach, Michael (CDC)		H2O manuscript			0			
2	Tim Jones	Yet to be determined	Infant Salmonella case-control study			0			
3	Snider, Cindi (CDC)	Fred Angulo	Descriptive Characterization of Adult HUS in FoodNet Sites, 1997-2002		Apr-03	0		2/9/2004	
4	Marcus, Ruthanne (CT)		Salmonella Enteritidis case-control study	ICEID, 2004		0		7/2/2004	
5	Shannon Majowicz (Health)	Elaine Scallan, Gillian Hall, Anyana Banerjee, Martyn D. Kirk, Fredrick Angulo	Respiratory symptoms among persos with gastrointestinal illness		Jun-04	0			
6	Tim Jones	Elaine Scallan, Marcy McMillian, Paul Frenzen, Nicole Ishill, Alicia Cronquist, Stepy Thomas, fred Angulo	Darrhoeal illness in FoodNet: Cycles 1-4 of the population survey		Seo-03	0			
7	Elaine Scallan	Tim Jones, Marcy McMillian, Paul Frenzen, Nicole Ishill, Alicia Cronquist, Stepy Thomas, fred Angulo	Respiratory symptoms among persos with diarrhea in FoodNet sites		Dec-03	0			
8	Kretsinger, Katrina (CDC)	J. Crump, K. Joyce, D. Vugia, M. Megginson, S. Segler, S. Hurd, J. Luedeman, B. Shiferaw, S. Hanna, J. Stevenson, F. Angulo	Clinical Consequences of Typhoid Fever due to Salmonella Typhi with Decreased Susceptibility to Ciprofloxacin	ICEID, 2004		0			
9	Varma, Jay (CDC)		Salmonella Newport case-control study	ICEID, 2004		0		6/8/2004	Anaylsis proceeding
10	Voetsch, Drew (CDC)		Listeria trends paper			1		2/9/2004	
11	Varma, Jay (CDC)		Listeria case-control study	ICEID, 2004		1		6/8/2004	Draft to Fred for review
12	Shauna Malone	Ruthanne Marcus, Jim Hadler, Shelley Zansky, Dina Hoefler,	Knowledge, Attitude, and Practice of the Use of Irradiation Among Respondents to the FoodNet Population Survey in Connecticut and New York	ICEID, 2004		2			
13	Green, Laura (CDC)	Paul Frenzen, Anyana Banerjee, and Fred Angulo	Beliefs about and Experiences with Foodborne Illness			2		6/8/2004	Should be submitted to CDC clearance by mid-July
14	Vugia, Duc (CA)	FoodNet Education Working Group	Foodborne Diseases in the United States: Lessons Learned from FoodNet, 1996-2002			2	MMWR supplement	6/8/2004	MMWR submission date 9/15/2004
15	Kennedy, Malinda (CDC)	Kennedy, M., Rabatsky-Her, T., Lance-Parker, S., Thomas, S., Smith, K., Mohle-Boetani, J., Keene, B., Mead, P.	E. coli O157 case-control study	ICEID, 2002		3		6/8/2004	Waiting on comments from Paul; should be submitted to clearance within the month of June
16	Patrick (Evans), M (DeKalb Co. Health Dept.)	Mary E. Patrick, Patricia M. Griffin, Paul S. Mead	The Effectiveness of Recall Notification: Community Response to a Nationwide Recall of Hot Dogs and Deli Meats		Jun-99	3		6/8/2004	Waiting on comments from Paul; should be submitted to clearance within the month of June
17	Samuel, Michael (CA)	Michael C. Samuel, Dr.P.H., Duc J. Vugia, M.D., M.P.H., Kathleen M. Koehler, Ph.D., M.P.H., Ruthanne Marcus, M.P.H., Alexander A. McNeas, M.P.H., Valerie Deneen, Barbara Damaske, Beletshachew Shiferaw, M.D., M.P.H., James Hadler, M.D., M.P.H., Fred Angulo, D.V.M., M.P.H.	Consumption of Risky Foods Among Adults at High Risk for Severe Foodborne Diseases: Room for Improved Targeted Prevention Messages			3		7/2/2004	Finalizing draft. Should be ready for CDC and state clearance shortly.

STATUS OF ACTIVE FOODNET Manuscripts

last updated: 07/02/2004

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PRELIMINARY INFORMATION: SUBJECT TO CHANGE: NOT FOR DISTRIBUTION

	Lead Investigator	Sr. Author/Authors	Proposal/Title	Abstract	Approved	Status	Journal	Date of last correspondence	Comments
18	Koehler, Kathleen (FDA)	Kathleen M. Koehler, Tamar Lasky, Sara B. Fein, Stephanie M. DeLong, Marguerite A. Hawkins, Therese Rabatsky-Ehr, Susan M. Ray, Beletshachew Shiferaw, Ellen Swanson, and Duc J. Vugia, for the EIP FoodNet Working Group	Population-Based Incidence of Infection with Selected Enteric Bacterial Pathogens for Children < 5 Years of Age, FoodNet, 1996-1998	ICEID, 2002	Sep-00	4	JID or PID	7/2/2004	Revised version is in CDC clearance.
19	Dunne, E (CDC)	E.F. Dunne, MD, MPH, J.C. Lay MPH, B. Shiferaw, J.B. Bender DVM, Z.F. Dembek, M.A. Davis, LG Wesolowski, S. Zansky, M. Carter, E.J. Boothe, S. Burnite, F. Hardnett PhD, J. Wells PhD, B. Bibb PhD, P.M. Griffin MD, P. Mead MD, MPH.	Results of Active Surveillance for Pediatric Hemolytic Uremic Syndrome (HUS) in the United States, 1997-1999	ICEID, 2002	Apr-00	4		6/8/2004	Through CDC clearance; will be submitted to journal in June
20	Watt, JP (CDC)	Michael Bales, MPH; Andrew L. Dannenberg, MD, MPH; Beth Imhoff, MPH; Scott R. Mullins; and Scott F. Dowell, MD, MPH	Impact of a Health-Related Internet Hoax on a Public Health Agency and the Public: Implications for Health Communication			4	AJPH	2/27/2004	
21	Schroder, Carl (USDA)	Schroder, C.M., Naugle, A.L., Schlosser, W.D., Hogue, A.T., Angulo, F.J., Ebel, E., Rose, J.S., Disney, W.T., Holt, K., Goldman, D.P.	Estimated Illnesses from <i>Salmonella</i> Enteritidis in Shell Eggs, United States, 2000			4	EID	6/8/2004	Submitted to EID on April 26, 2004. Under editorial review.
22	Jones, TF (TN)	Sharmeen Gettner, Robert L. Garman, Duc J. Vugia, David Blythe, Marguerite A. Hawkins, Steven S. Monroe, Fredrick J. Angulo, Umesh D. Parashar	Use of Stool Collection Kits Delivered to Patients Can Improve Confirmation of Etiology in Foodborne Disease Outbreaks			5	CID	6/8/2004	Submitted to CID
23	Green, Laura (CDC)	Laura Green, Carol Selman, Frederick J. Angulo, Vince Radke, Sharunda Buchanan and the EHS-Net Working Group	Restaurant Workers' Food Preparation Practices: An EHS-Net Study			5	International Journal of Hygiene and Environmental Health	6/8/2004	Has been requested for special issue; publication date unknown.
24	Lee, Robin (CDC)	Robin Lee, Mark E. Beatty, April K. Bogard, Michael-Peter Esko, Frederick J. Angulo, Carol Selman, EHS-Net Working Group	Prevalence of High-Risk Egg Preparation Practices in Restaurants That Prepare Breakfast Egg Entrees: An EHS-Net Study			5	Journal of Food Protection	6/8/2004	Accepted; Expected into print in July 2004 issue
25	Nelson, Jennifer (CDC)	Kirk E. Smith, Duc J. Vugia, Therese Rabatsky-Her, Suzanne Segler Heidi Kassenborg, Shelly Zansky, Kevin Joyce, Nina Marano, Mike Hoekstra, Frederick J. Angulo	Prolonged Duration of Diarrhea Associated with Fluoroquinolone-Resistant <i>Campylobacter</i> Infections			5	Journal of Infectious Diseases	6/8/2004	Accepted; Unknown publication date.
26	Elaine Scallan (CDC)	Shannon E. Majowicz, Gillian Hall, Anyana Banerjee, Cara L. Bowman, Leslie Daly, Timothy Jones, Martyn D. Kirk, Margaret Fitzgerald, Fredrick Angulo	Prevalence of diarrhea in the community in Australia, Canada, Ireland and the United States		Sep-03	5	International Journal of Epidemiology	6/1/2004	Accepted, with minor revisions
27	Roy, Sharon (CDC)	Jones, Jeff, et al.	FoodNet Cryptosporidium case-control study			5	J Clin Micro	7/2/2004	Has been accepted for publication.

CDC's Emerging Infections Program (EIP)
CDC/USDA/FDA Foodborne Diseases Active Surveillance Network (FoodNet)
Protocol Development and Publications Policy

Guidelines for publication of manuscripts, abstracts, or other external releases of scientific data: The FoodNet publication policy applies to all manuscripts, abstracts, or external releases of scientific data in which FoodNet collaborates or which are supported, in whole or in part, through CDC's EIP.

1. **Data from one site (site-specific projects or one site's data from a multi-site project):** Sites are encouraged to review their data frequently and to discuss interesting findings with the FoodNet Steering Committee. Although FoodNet Steering Committee approval is not required before a site (or a site and CDC) initiates an abstract, manuscript, or other external release of scientific data that is based on site-generated data, sites are strongly encouraged to inform the Steering Committee of such investigations prior to submission or external release. If the next FoodNet Steering Committee meeting is scheduled after the deadline for submission or external release of data, committee members may be contacted individually by telephone or e-mail. Sharing of such information will reduce duplicative efforts and may lead to useful additional collaborations.
2. **Aggregate data:** CDC, sites, USDA, and FDA are encouraged to review the aggregate data (defined as data from ≥ 2 sites) frequently and discuss interesting findings with the FoodNet Steering Committee. The FoodNet Steering Committee will ensure that aggregate data are analyzed and published in a timely and equitable manner, and will ensure high scientific standards.
 - a. Proposals for data analysis and external releases of scientific data may be initiated by individuals at CDC, any of the sites, USDA, or FDA. Such proposals should be made available to the FoodNet Steering Committee at least 1 week prior to the next Steering Committee call (usually the second Thursday of the month). Leadership of any given project is open to discussion by the Steering Committee.
 - b. The FoodNet Steering Committee will designate a "Study Team," usually of five or fewer (representing at least three sites) persons, to work on creating a study protocol. The person who presents the proposal to the FoodNet Steering Committee will usually be a member of the Study Team and, with FoodNet administrative support, will arrange the first meeting or conference call.
 - c. At the first meeting or conference call, the study team will determine the "Team Leader." The Team Leader, with FoodNet administrative support, must be willing and able to lead protocol and questionnaire development, and schedule and conduct meetings or conference calls. If the original Team Leader is unable to continue in a leadership role, or if another team member emerges as the leader (for example, by heading the protocol development), a leadership change may occur. If such a change is endorsed by the Study Team, the change may proceed. If there is disagreement within the Study Team about such a change, the matter will be resolved by the FoodNet Steering Committee. Other changes in Study Team personnel will be handled by the Study Team with the Steering Committee resolving any disagreements.
 - d. The Team Leader will be the principal investigator (PI). The decision of who is to be PI will be made no later than the initiation of the project or study. The PI will have the right of first refusal to be lead author or presenter of primary work (that is, publication or presentation).
 - e. The Study Team will select an "Analytic Team," which might be a subset of the Study Team

or might include other FoodNet staff from CDC, USDA, FDA, or the sites.

- f. The final study design and questionnaire will be made available to each site, CDC, FDA, and USDA for comment before the study or analysis proceeds.
3. **Dataset distribution:** Once a proposal has been approved by the steering committee, the appropriate dataset will be forwarded to each collaborator of the Analytical Team. A data release agreement must be signed at the time of receipt of the dataset and will be kept on file at CDC.
4. **Authorship:**
 - a. All manuscripts and abstracts that include unpublished data from FoodNet will include at least one author from CDC, unless CDC declines. All manuscripts and abstracts that include unpublished data from a site in FoodNet will include at least one author from that site, unless that site declines. Additional authors from a site or CDC should reflect significant contributions made by these persons, as described in the "Uniform requirement of manuscripts submitted to biomedical journals" (NEJM 1991;324:424-428). The Study Team will be the nucleus of the author list, unless a Team member declines. The lead author will determine the order of authorship. The Steering Committee will resolve any differences of opinion in this listing.
 - b. "FoodNet Working Group" will be included as the last entry on the authorship line in all publications and an asterisk or footnote will refer to "Foodborne Diseases Active Surveillance Network Working Group" and a listing of names.
 - c. Every publication in which FoodNet collaborates or which is supported wholly or in part through FoodNet should acknowledge the project name in the manuscript text. A sample sentence might be "This work was conducted by the FoodNet project of the Emerging Infections Program Network." Publications should also acknowledge financial support by referring to the CDC Emerging Infections Program cooperative agreement number and by acknowledging support from other agencies as appropriate.
 - d. All manuscripts or abstracts that include data from FoodNet will follow CDC clearance guidelines, which include that all authors have time to review and comment on manuscripts and abstracts before they are put into clearance, and all manuscripts or abstracts are cleared by CDC.
5. **Timelines:** Timelines for the development of major publications will be drafted by the PI and will be listed on

the Publications Spreadsheet. These timelines can include deadlines for analysis, abstract submission for a national meeting, outline of paper, first draft, draft acceptable for clearance, and final paper for submission. If deadlines are not met, the Steering Committee can open the paper to leadership by other investigators.

Bacterial Population size (millions) : Total 43,380,351 (15.0% of US population) (CA 3,228,717, CO 2,507,484, CT 3,460,503, GA 8,560,310, MD 5,458,137, MN 5,019,720, NM 1,855,059, NY 3,971,617, OR 3,521,515, TN 5,797,289)

FoodNet/NARMS Performance Standards, Year 2004 Data (thru April, 2004)

	Target	CA	CO	CT	GA	MD	MN	NM	NY	OR	TN	Overall
Cases with unknown hospitalization	≤ 50%	28.87	25.57	2.41	14.40	2.04	0	15.44	2.85	7.07	26.59	13.05
Outpatient/ER cases with unknown outcome	≤ 50%	65.45	0	48.99	45.67	0	0	1.82	1.82	0	12.90	21.64
Hospitalized cases with unknown outcome	≤15%	15.22	0	2.27	15.76	0	0	0	1.35	0	3.70	6.10
Median # of days from culture collection to data entry (range)	≤ 15 days	13	6	10	17*	8	10	36	8	6	14	10*
HUS surveillance: report at least monthly (8/8 months)	100%	100	100	100	100	100	100	100	100	100	100	100
Outbreak surveillance: reported at least monthly (8/8 months)	100%	100	100	100	100	100	100	100	100	100	100	100
Outbreaks: report within 2 weeks of first onset	≥ 85%	TBD										
Outbreaks: finalize reports within 2 months of first onset	≥ 70%	TBD										
100%Participation in steering committee calls	100%	100	100	100	100	100	100	100	100	100	100	100
# of <i>Vibrio</i> reported to FDDB on appropriate form	100%	TBD										
# of <i>Salmonella</i> Typhi reported to FDDB on appropriate form	100%	TBD										
<i>Listeria</i> serotype information in FN database	N %	0 0%	N/A	0 0%	0 0%	0 0%	0 0%	N/A	1 25%	2 100%	0 0%	3 12.5%
* Does not include GA outside of Atlanta												

	Target	CA	CO	CT	GA	MD	MN	NM	NY	OR	TN	Overall
Isolates from clinical labs received at state labs (based on presence of state lab id number)												
<i>E. coli</i>	≥85%	100	100	100	100	100	95.24	66.67	83.33	100	66.67	93.33
<i>Salmonella</i>	≥85%	73.64	97.22	95.79	60.08	82.35	94.67	93.48	96.36	100	79.47	83.05
<i>Listeria</i>	≥95%	100	n/a	100	100	100	100	n/a	100	100	100	100
<i>Vibrio</i>	≥90%	0	n/a	100	50	100	0	0	n/a	100	38.33	90.22
Isolates with serotype/species in FoodNet (<i>Listeria</i>, <i>Salmonella</i>, <i>Shigella</i>, <i>Vibrio</i>, <i>Yersinia</i>)												
	≥95%	85.79	95.56	94.26	83.30	87.12	97.70	92.77	96.97	100	87.24	90.22
NARMS isolates received												
	Cases	%	%	%	%	%	%	%	%	%	%	%
Non-typhoidal <i>Salmonella</i> (every 20th)	100%	N/A	100	100	44	100	75	33	0	100	100	62
<i>E. coli</i> O157 (every 20th)	100%	N/A	N/A	0	50	N/A	N/A	N/A	0	100	N/A	50
<i>Campylobacter</i> (1 per week)	100%	27	100	100	N/A	N/A	89	N/A	100	0	N/A	67
<i>Shigella</i> (every 20th)	100%	N/A	N/A	N/A	100	N/A	N/A	N/A	N/A	100	N/A	100
<i>Salmonella</i> Typhi (all)	100%	100	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	25
PulseNet patterns submit												
	Patterns	Timeliness factor will be added once standard is measurable										
<i>E. coli</i> O157	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
<i>Salmonella</i> Typhimurium	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
<i>Listeria monocytogenes</i>	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Bacterial Population size (millions) : Total 41,525,292 (14.4% of US population) (CA 3,228,717, CO 2,507,484, CT 3,460,503, GA 8,560,310, MD 5,458,137, MN 5,019,720, NY 3,971,617, OR 3,521,515, TN 5,797,289)

FoodNet/NARMS Performance Standards, Year 2003 Data

	Target	CA	CO	CT	GA	MD	MN	NY	OR	TN	Overall
Cases with unknown hospitalization	≤ 50%	11.33	11.27	1.39	8.56	5.93	0	0.89	4.75	6.38	6.01
Outpatient/ER cases with unknown outcome	≤ 50%	60.29	1.10	46.87	27.89	0.24	0	0.47	0	4.26	17.60
Hospitalized cases with unknown outcome	≤ 15%	6.98	1.68	0	10.65	0	0	0	0	1.77	3.96
Median # of days from culture collection to data entry (range)	≤ 15 days	14	7	11	18*	10	10	11	6	5	11*
HUS surveillance: report at least monthly (8/8 months)	100%	100	100	100	100	100	100	100	100	100	100
Outbreak surveillance: report at least monthly (8/8 months)	100%	100	100	100	100	100	100	100	100	100	100
Outbreaks: report within 2 weeks of first onset	≥ 85%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Outbreaks: finalize reports within 2 months of first onset	≥ 70%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Participation in steering committee calls	100%	100	100	100	100	100	100	100	100	100	100
Listeria serotype information in FN database		6 35.29%	6 100%	1 4.55%	0 0%	0 0%	0 0%	2 18.18%	5 100%	0 0%	20 14.39%
# of Vibrio reported to FDDB on appropriate form	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
# of Salmonella Typhi reported to FDDB on appropriate form	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

* Does not include GA outside of Atlanta

T
B
D

TBD

	Target	CA	CO	CT	GA	MD	MN	NY	OR	TN	Overall
Isolates from clinical labs received at state labs (based on presence of state lab id number)											
<i>E. coli</i>	≥85%	96.55	100	100	78.26	100	87.22	100	100	73.53	92.79
<i>Salmonella</i>	≥85%	93.67	95.56	98.25	83.94	90.85	92.23	97.97	100	80.37	89.31
<i>Listeria</i>	≥95%	76.47	100	95.45	66.67	92.86	100	100	100	72.73	84.89
<i>Vibrio</i>	≥90%	0	100	81.82	42.86	82.61	75.00	85.71	100	81.82	58.56
Isolates with serotype/species in FoodNet (<i>Listeria</i>, <i>Salmonella</i>, <i>Shigella</i>, <i>Vibrio</i>, <i>Yersinia</i>)											
	≥95%	92.69	94.62	95.19	87.79	91.72	97.59	98.20	99.60	84.33	91.15
NARMS isolates received* (2 month lag allowed)											
	Cases	%	%	%	%	%	%	%	%	%	%
Non-typhoidal <i>Salmonella</i> (every 20th)	100%	41	100	84	70	68	92	44	53	82	70
<i>E. coli</i> O157 (every 20th)	100%	50	100	67	65	75	83	50	0	67	60
<i>Campylobacter</i> (1 per week)	100%	43	89	94	82	94	98	94	0	84	78
<i>Shigella</i> (every 20th)	100%	0	100	100	81	85	100	93	0	88	86
<i>Salmonella</i> Typhi (all)	100%	50	100	41	83	0	100	100	50	75	53
*As of 3/24/04											
PulseNet patterns submit	Patterns	Timeliness factor will be added once standard is measurable									
<i>E. coli</i> O157	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
<i>Salmonella</i> Typhimurium	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
<i>Listeria monocytogenes</i>	100%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Proposal resubmission: Analysis of trends in listeriosis in the FoodNet sites, 1996-2003

Lead Investigators: Drew Voetsch (CDC), Matt Moore (CDC)

Study Team: TBD

Date Submitted: Approved June 2003, resubmitted for continuation July 1, 2004

Purpose: To describe trends of invasive listeriosis in FoodNet sites, 1996-2003.

Background: The incidence of invasive listeriosis has been declining in the US since 1989 (1, 2). From 1996 through 2002, the incidence decreased by 38% (95% CI = 52%--19% decrease) to 0.27 cases per 100,000 population in the FoodNet sites. The Healthy People 2010 objective for listeriosis is 0.25 cases/ 100,000 population. Epidemic and sporadic listeriosis has disproportionately affected Hispanic women in the US. Preliminary analysis of the FoodNet surveillance data did not show higher incidence among Hispanics (rate ratio =1.5, 95% CI=0.7--3.1), although ethnicity is not reported for 35% of the case-patients (3).

Proposal: To analyze FoodNet surveillance data on invasive listeriosis cases from 1996-2003. Regression analysis will be used to assess trends in incidence over time, including trends among different age and ethnic groups and serotype distribution. The resulting manuscript will serve as a companion paper to the *Listeria* case-control study.

Missing data priorities for the analysis:

- A. Reduce the number of cases with unknown serotype from 529 (74%) to 70 or less (<10%)
- B. Reduce the number of cases with unknown ethnicity from 255 (35%) to 70 or less (<10%)
- C. Reduce the number of female case patients 15-<40 years old with unknown pregnancy status from 28 (39%) to 0 and fetal outcome from 10 (35%) to 0.

1. Tappero JW, Schuchat A, Deaver KA, Mascola L, Wenger JD. Reduction in the incidence of human listeriosis in the United States. Effectiveness of prevention efforts? The Listeriosis Study Group. JAMA. 1995;273(14):1118-1122

2. CDC. [Preliminary FoodNet Data on the Incidence of Foodborne Illnesses - Selected Sites, United States, 2002](#). April 18, 2003 / 52(15);340-343

3. Lay J, Varma J, Vugia D, Jones T, Zansky S, Marcus R, Segler S, Medus C, Blythe D, and The EIP FoodNet Working Group. Racial and Ethnic Disparities in Foodborne Illness, 2000. Infectious Diseases Society of America. Chicago, IL, October 2002.

Proposal Title:

The Economic Cost of *E. coli O157:H7* Infections

Lead Investigator:

Paul D. Frenzen, Economic Research Service, USDA

Study Team:

Alison Drake, CDC, and others to be determined.

Date Submitted:

June 29, 2004

Purpose:

This project will use the 1999 *E. coli O157:H7* case control study, the 2002-2003 Population Survey, and the *E. coli O157:H7* surveillance data to update the existing ERS estimate of the annual economic costs due to this pathogen.

Timeline:

The update of the ERS cost estimate is almost complete. The FoodNet data will be incorporated during July, and a manuscript for publication will be prepared by August.

Proposal:

The previous ERS estimate of the economic costs of *E. coli O157:H7* is outdated, and relies on inaccurate assumptions. In addition to the FoodNet data, the updated estimate will incorporate hospital cost estimates from the Nationwide Inpatient Sample, and information about the medical costs of end-stage renal disease from the U.S. Renal Data System.

A paper describing the estimate and the methodology will be submitted for publication. A simplified version of the cost estimate will also be placed on the ERS website. This "*E. coli O157:H7* cost calculator" will allow users to change many of the estimate parameters to determine the effect on costs.

Proposal Title:

E. coli O157 and HUS infections, 1997-2002

Proposed by:

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Date Submitted:

July 1, 2004

Purpose:

To determine whether demographic characteristics and outcomes of *E. coli* O157 infection are associated with HUS.

Timeline:

FoodNet *E. coli* O157 and HUS data from 1997-2002 have already been linked. Timelines for analysis and preparation of a manuscript for publication are to be determined.

Proposal:

We will be able to more accurately determine the proportion of *E. coli* O157 cases that result in HUS by using integrated surveillance data. This integrated dataset will be used to explore possible associations of outcomes (i.e. hospitalization status, death) and demographic characteristics (e.g., age, sex, state) with HUS diagnosis.

Data sources:

E. coli O157 data from FoodNet and HUS surveillance

Publication:

To be determined.

A QUANTIFICATION OF SEASONALITY IN THE INCIDENCE OF SIX SELECTED FOODBORNE PATHOGENS

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Foodborne diseases are some of the most commonly encountered in public health.¹ In 1999, foodborne diseases were estimated to cause approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States annually.² From 1992 to 1996, the vast majority of foodborne diseases were either of viral or unknown etiology. Foodborne diseases of bacterial etiology were responsible for only 8.92% of the total number of hospitalizations due to foodborne illness, but they caused about twice that share (17.2%) of total foodborne deaths.²

The variation in the incidence of foodborne diseases has been shown to follow seasonal patterns. For example, incidence of infection with *E. coli* O157:H7 has been shown to exhibit a markedly seasonal pattern, with the greatest number of infections occurring in July.³ Salmonellosis exhibits a peak in incidence in September,⁴ and shigellosis is also more common in warmer months.⁵ The consistency of these findings suggests that seasonal factors may play an important role in determining the incidence of human infection with these and other foodborne pathogens.⁶

One seasonality study is currently underway with FoodNet data. Using meteorological data from NOAA, it seeks to determine whether the incidences of four bacterial pathogens are correlated with temperature and/or rainfall.

The study proposed here, however, is substantially different: Using data from FoodNet for the years 1996-2000, this study will analyze the incidence of six foodborne pathogens (*Campylobacter*, *E. coli* O157:H7, *Listeria*, *Salmonella*, *Shigella*, and *Yersinia enterocolitica*) to provide an accurate quantification of the seasonal component itself. Furthermore, this study will then compare these values as they differ in the FoodNet population by age group, gender, and geographic site. Since seasonal trends should be

evident in both incidence and incidence rate, population denominator data should be unnecessary; if needed, catchment data from FoodNet can be used.

Once obtained, incidence data will be analyzed using Statistical Applications Software (SAS), Version 8.2. Time series will be generated from the FoodNet data, and these will be analyzed using an Autoregressive Integrated Moving Average (ARIMA) Model. The autoregressive factors obtained from these analyses will then be used to provide an accurate quantification of the seasonality each pathogen exhibits over the course of a calendar year. After overall seasonality values for each pathogen have been obtained, the procedure will be repeated within each pathogen by age group, gender, and location, ultimately revealing what effects, if any, these factors have upon seasonality.

The desired end of this study is to assign discrete values to the seasonal incidence components of these six foodborne pathogens, and to compare these values as they occur among different demographic and geographic groups. If this method proves to be effective, perhaps it can be used by others to measure and compare the seasonalities of other diseases, foodborne or not. Ultimately, knowing which pathogens are more seasonal than others may help public health professionals in their efforts develop more efficient prevention and control measures in the future.

¹ Altekruze SF, Swerdlow DL. The changing epidemiology of foodborne diseases. *American Journal of the Medical Sciences*. 1996;311(1):23-29.

² Mead PS, Slutsker L, Dietz V, McCaig LF, Bresee JS, Shapiro C, Griffin PM, Tauxe RV. Food-related illness and death in the United States. *Emerging Infectious Diseases*. 1999;5(5):607-625.

³ Michel P, Wilson JB, Martin SW, Clarke RC, McEwen SA, Gyles CL. Temporal and geographic distributions of reported cases of *Escherichia coli* O157:H7 infection in Ontario. *Epidemiology and Infection*. 1999;122:193-200.

⁴ Ryan MJ, Wall PG, Adak GK, Evans HS, Cowden JM. Outbreaks of infectious intestinal disease in residential institutions in England and Wales 1992-1994. *Journal of Infection*. 1997;34:49-54.

⁵ Nelson KE, Williams CM, Graham NM. *Infectious Disease Epidemiology: Theory and Practice*. Gaithersburg, MD: Aspen Publishers, 2001.

⁶ Mead PS, Griffin PM. *Escherichia coli* O157:H7. *The Lancet*. 1998;352:1207-1212.