

Table 12. Foodborne outbreaks in humans, 2002

FINLAND											
Causative agent	General outbreak	Family outbreak	Total number of persons			Source			Type of evidence	Location of exposure	Contributing factors
			ill	died	in hospital	Suspected	Confirmed				
1	2	3	4	5	6	7			8	9	10
Foodborne											
<i>Bacillus cereus</i>	x		9	0	0	Fish soup		x	LC (left-over)	home	inad. cooling, heating
<i>Campylobacter jejuni</i>	x		5	0	1	Chicken salad		x	LC (patients), DE	restaurant	cont. ingredient, improper storage
<i>Campylobacter jejuni</i>	x		6	0	3	Strawberries (eaten direct from the field)		x	LC (patients), DE	field	unknown (birds)
<i>Clostridium perfringens</i>	x		8	0	0	Stew casserole		x	LC (left-over), DE	mass catering fo	inad. cooling, improper storage temp
<i>Salmonella</i> Abony	x		13	0	3	Mung bean sprouts		x	LC (patients), DE	several places	cont. ingredient
<i>Salmonella</i> Oranienbur	x		9	0	0	Chocolate		x	LC (patients, chocolate), D	several places	breakdown of HACCP in the product
<i>Salmonella</i> Typhimurium	x		47	0	4	Sesampasta		x	LC (patients), cohort study	restaurants (3)	cont. Ingredient
<i>Salmonella</i> Typhimurium	x		4	0	0	Eating at a canteen		x	LC (patients), DE	canteen	unknown
<i>Salmonella</i> Typhimurium	x		5	0	0	Eating at a restaurant		x	LC (patients) DE	restaurant	unknown
Norovirus	x		86	0	0	Dessert made of berries		x	LC (patients, berries), DE	school	cont. ingredient, inadequate heating
Norovirus	x		26	0	0	Eating at a canteen		x	LC (patients), cohort study	canteen	inad. cooling and heating, inf. food h
Norovirus	x		70	0	0	Eating at a canteen		x	LC (patients), cohort study	canteen	inf. food handler
Norovirus	x		25	0	0	Cake with raspberries		x	LC (patients), cohort study	restaurant	cont. ingredient
Norovirus	x		8	0	0	Meal prepared by a cafe		x	LC (patients), DE	mass catering fo	inf. food handler, crosscontamination
Norovirus	x		23	0	0	Lunch prepared by a kindergarten		x	LC (patients), DE	kindergarten (3)	inf. food handler
Norovirus	x		20	0	0	Eating at a restaurant		x	LC (patients), cohort study	restaurant	inadeq. heating and sanitation, inf. fo
Norovirus	x		9	0	0	Eating at a restaurant		x	LC (patients), DE	restaurant	inf. food handler
Norovirus	x		27	0	0	Salad (vegetable)		x	LC (patients), DE	canteens (2)	inf. food handler
Norovirus	x		3	0	0	Cake with raspberries		x	LC (patients), DE	unknown	unknown
Norovirus	x		40	0	0	Eating at a restaurant		x	LC (patients), DE	restaurant	inf. food handler
Norovirus	x		16	0	1	Cake		x	LC (patients), DE	mass catering fo	inf. food handler
Norovirus	x		20	0	0	Sandwiches		x	LC (patients), DE	bus	inf. food handler
Norovirus	x		*96	0	1	Meal prepared by a restaurant		x	LC (patients), cohort study	restaurant, mass	inf. food handler, inadeq. Facilities
Norovirus	x		*71	0	0	Food prepared by a catering service		x	LC (patients), cohort study	mass catering fo	inf. food handler
Norovirus	x		7	0	0	Eating in a pizzeria		x	LC (patients), DE	pizzeria	unknown
Biogenic amines	x		5	0	0	Tuna fish salad		x	LC (food), DE	restaurant	unknown
Bean lectine poisoning	x		7	0	0	Bean salad		x	Too short cooking time of f	mass catering fo	too shortcooking time
Unknown	x		16	0	0	Dessert made of berries		x	Cohort study	mass catering fo	unknown
Unknown	x		8	0	0	Eating at a restaurant		x	Cohort study	restaurant	unknown
Unknown	x		4	0	0	Eating at a restaurant		x	Poor microb. quality of food	restaurant	too long storage time, inadequate h
Unknown	x		5	0	0	Eating at a recreation area		x	DE	recreation area	inad. cooling and heating, improper s
Unknown	x		16	0	0	Meat soup		x	cohort study	old-age home	inad. heating, improper storage temp
Unknown	x		5	0	0	Eating in a cabinet		x	DE	cabinet	unknown
Unknown	x		51	0	0	Eating at a restaurant		x	DE, inf. food handler	restaurant, mass	inf. food handler
Unknown	x		20	0	0	Hot beverage		x	DE	mass catering fo	unknown
Waterborne											
Norovirus	x		*25	0	1	Well water		x	LC (patients, well water), D	Farm	contamination of the well by sewage
Norovirus	x		*300	0	0	Ground water		x	LC (patients, water), DE	Municipality	a leak in the water system
Unknown	x		9	0	0	Well water		x	Cohort study	Camp	unknown

*estimated, LC=laboratory confirmed, DE=descriptive epidemiology

You can use the table in two ways, one line per outbreak or summary data for each agent

Explanations	Column 1:	Please specify as detailed as possible (i.e. Salmonella Enteritidis PT 4)
	Column 2, 3:	In case of summary data, please provide the number of outbreaks
	Column 8:	Level of evidence could be: - Laboratory confirmed (i.e. microbiologically confirmed in left-overs) - Epidemiological evidence (i.e. case control study, ...) - Please specify other reasons
	Column 9:	Location of exposure (i.e. Institution, farming, household, ...)
	Column 10:	Contributing factors (i.e. breakdown of HACCP, contaminated raw product, deficiencies in the preparation or food handling)

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storage temperature

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