



## AUSTRIA (AUT)

Population: 8.1 million

Area: 83 849 km<sup>2</sup>



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### 1. General information

The information on foodborne diseases in Austria was provided by the Austrian Contact Point to the Programme as well as by the National Salmonella Centre of Austria<sup>1</sup>.

#### **1.1 Reporting**

According to the existing law confirmed and suspect cases of diseases and deaths due to cholera, bacterial foodborne disease, typhoid and paratyphoid fever, shigellosis, as well as trichinellosis are notifiable.

Since June 1996, based on compulsory notification, the official reports on bacterial foodborne diseases do provide a specification with regard to causative agents (e.g. *Campylobacter*, *Salmonella*, *Yersinia enterocolitica*, etc.).

The physician consulted has to report these notifiable diseases to the local health authority (Bezirksverwaltungsbehörde) within 24 hours. Their reports are forwarded to the state health authority (Landessanitätsdirektion) and submitted monthly to the Ministry of Social Security and Generations.

<sup>1</sup> Federal Institute for Bacteriology and Serology (Bundesstaatliche Bakteriologisch-serologische Untersuchungsanstalt)

## 1.2 Preventive and control measures

Each incident or suspicion of a notifiable disease has to be investigated epidemiologically. The competent authorities, assisted by physicians at their disposal, have to undertake, without delay, investigations and collection of samples necessary for the diagnosis of the disease.

In the case of bacterial foodborne diseases, a close check-up of the food establishments concerned is part of the epidemiological investigation, and samples are taken jointly with the local food controlling authority and the trade board (Marktamt).

## 1.3 Control of food handlers

According to the Act on the Health Control of Food-handlers only those persons are allowed to work in food establishments who have been certified by an authorized medical officer to be free from acute and chronic infectious disease, parasites and otherwise objectionable conditions. Food handlers have to undergo a medical examination prior to and at defined intervals during their employment.

## 1.4 *Salmonella* surveillance

In 1954, the Salmonella Centre was founded at the Federal Institute for Bacteriology and Serology in Vienna (Bundesstaatliche Bakteriologisch-Serologische Untersuchungsanstalt Wien). In 1965 it moved to the Federal Institute for Bacteriology and Serology in Graz. This centre receives *Salmonella* strains from the whole territory of the Federal Republic for identification. The isolates originate from investigations according to the Act on the Excretion of Bacteria, as well as from examinations of sick persons and their environment and also include non-human sources (e.g. foods, feeds, water, sewage, animals).

**2. Statutory notification**

Table AT 1

**Statutorily notified cases of foodborne diseases  
AUSTRIA 1993 – 1998**

Disease	1993	1994	1995	1996	1997	1998
Cholera	1*	1*	0	0	0	1*
Typhoid and paratyphoid fever	35	26	14	16	23	12
<i>Incidence rate</i>	0.4	0.3	0.2	0.2	0.3	0.1
Shigellosis	106	73	152	112	204	167
<i>Incidence rate</i>	1.3	0.9	1.9	1.3	2.5	2.1
Bacterial foodborne diseases	10014	8706	8705	-	-	-
<i>Incidence rate</i>	123.6	107.5	104.5	-	-	-
Botulism	-	-	-	4*	-	-
Salmonellosis	-	-	-	7209**	7488	7236
<i>Incidence rate</i>	-	-	-	89	92.4	89.3
Campylobacteriosis	-	-	-	1131**	1667	2454
<i>Incidence rate</i>	-	-	-	13,9	20.6	30.3
Yersiniosis	-	-	-	52**	70	94
<i>Incidence rate</i>	-	-	-	0.6	0.9	1.2
Staphylococcosis	-	-	-	-	4	16
<i>Incidence rate</i>	-	-	-	-	0.0	0.2
EHEC	-	-	-	1**	13	17
<i>Incidence rate</i>	-	-	-	-	0.2	0.2
Not differentiated	-	-	-	797**	5	11
<i>Incidence rate</i>	-	-	-	9.8	0.1	0.1
Brucellosis	0	1	1	0	4	1
<i>Incidence rate</i>	0.0			0.0		
Amoebiasis	6	2	2	27	7	10
<i>Incidence rate</i>	0.1			0.3	0.1	0.1
Trichinellosis	0	3*	1*	0	0	1*

\* Imported

\*\* Cases from June 1<sup>st</sup>–December 31<sup>st</sup> 1996

Table AT 2

**Frequency of *Salmonella* serotypes  
among first isolates received by the Austrian *Salmonella* Centre  
AUSTRIA 1993 - 1998**

Serotype	Year													
	1993		1994		1995		1996		1997		1998		1993-1998	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<i>S. Enteritidis</i>	8726	77.0	7753	77.8	7763	79.0	7821	83.3	7362	82.5	7532	86.0	46957	80.7
<i>S. Typhimurium</i>	907	8.0	579	5.8	407	4.1	559	5.9	392	4.4	376	4.3	3220	5.5
<i>S. Virchow</i>	270	2.4	232	2.3	457	4.7	131	1.4	141	1.6	75	0.9	1306	2.2
<i>S. Braenderup</i>	34	0.3	27	0.3	202	2.1	47	0.5	90	1.1	54	0.6	454	0.8
<i>S. Infantis</i>	104	0.9	92	0.9	82	0.8	95	1.0	113	1.3	66	0.7	552	0.9
<i>S. Agona</i>	63	0.6	88	0.9	49	0.5	74	0.8	42	0.5	23	0.3	339	0.6
<i>S. Bredeney</i>	14	0.1	0	0.0	10	0.1	9	0.1	21	0.2	5	0.1	59	0.1
<i>S. Montevideo</i>	34	0.3	13	0.1	23	0.2	18	0.2	14	0.1	9	0.1	111	0.2
<i>S. Hadar</i>	148	1.3	314	3.2	181	1.8	132	1.4	227	2.5	119	1.4	1121	1.9
<i>S. Heidelberg</i>	27	0.2	25	0.3	20	0.2	20	0.2	13	0.1	8	0.1	113	0.2
<i>S. Thompson</i>	16	0.1	3	0.0	40	0.4	27	0.3	20	0.2	21	0.2	127	0.2
Other	993	8.8	840	8.4	590	6.1	461	4.9	485	5.5	465	5.3	3834	6.6
<b>Total</b>	<b>11336</b>	<b>100</b>	<b>9966</b>	<b>100</b>	<b>9824</b>	<b>100</b>	<b>9394</b>	<b>100</b>	<b>8920</b>	<b>100</b>	<b>8753</b>	<b>100</b>	<b>58193</b>	<b>100</b>

Figure AT 1

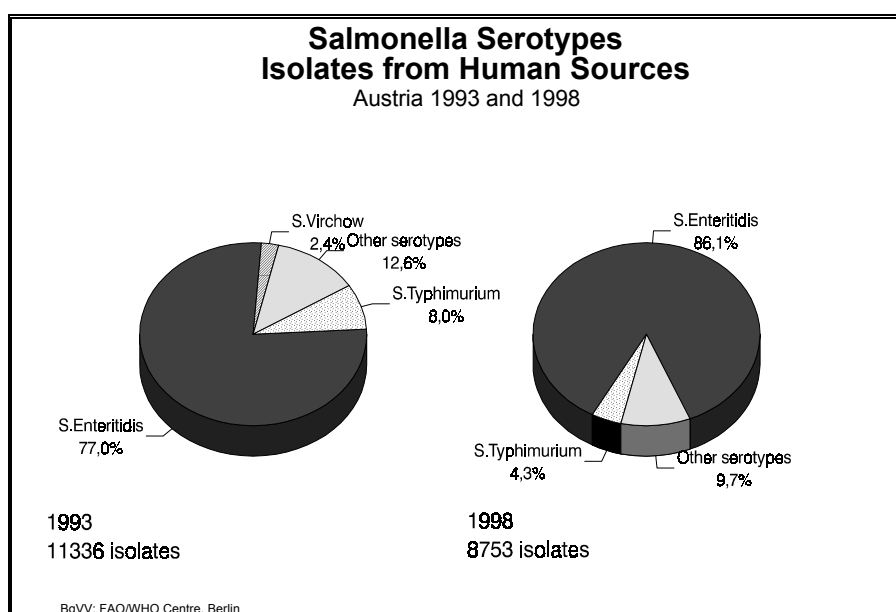


Table AT 3

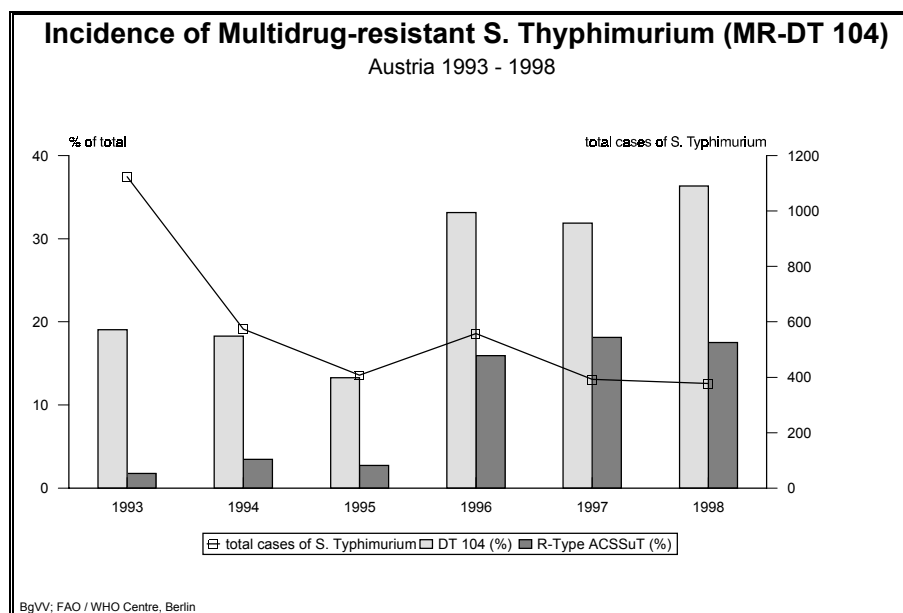
**Multidrug-resistant *S. Typhimurium* strains isolated from humans<sup>§</sup>  
AUSTRIA 1993 – 1998**

Year	<i>S. Typhimurium</i> Total No. isolates	DT 104 (% of total <i>S. Typhimurium</i> )	DT 104 R-Type ACSSuT* (% of total <i>S.</i> <i>Typhimurium</i> )
1993	1124	19,04	1,8
1994	574	18,29	3,5
1995	407	13,27	2,7
1996	558	33,15	15,9
1997	392	31,89	18,1
1998	377	36,34	17,5

§ Source of information (Austrian Salmonella Centre)

\* Ampicillin, Chloramphenicol, Streptomycin, Sulfonamides and Tetracycline- Resistant.

Figure AT 2



### 3 Epidemiologically investigated incidents

#### 3.1 Causative agents

Table AT 4

#### Outbreaks of foodborne salmonellosis AUSTRIA 1993 - 1998

	1993	1994	1995	1996	1997	1998	1993-1998
General outbreaks	2	3	8	11	11	10	<b>45</b>
Family outbreaks	920	828	865	808	806	870	<b>5097</b>

Figure AT 3

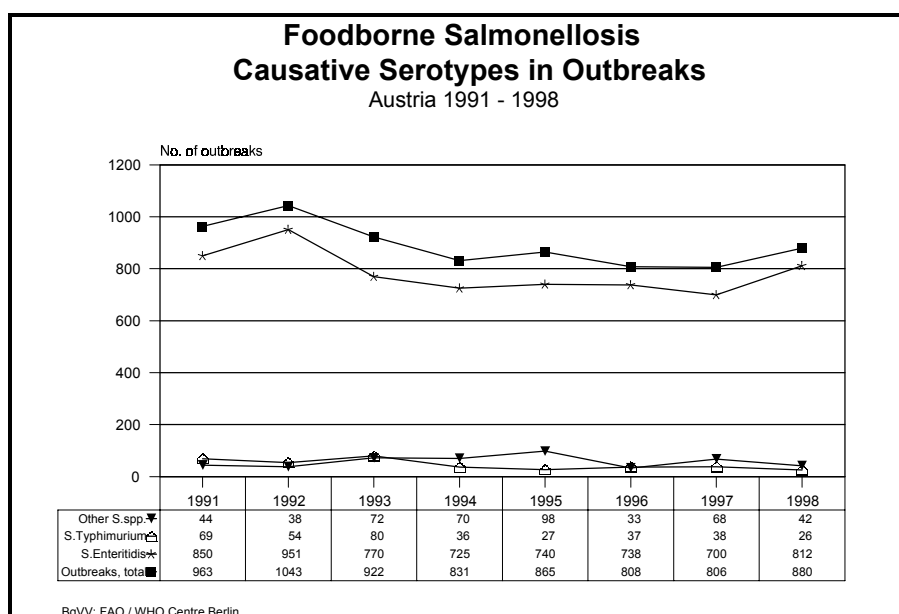


Table AT 5

#### Foodborne salmonellosis Causative serotypes in outbreaks AUSTRIA 1993 - 1998

Outbreaks	1993	1994	1995	1996	1997	1998	1993-1998
S. Enteritidis	768	722	740	738	700	802	<b>4470</b>
S. Typhimurium	80	36	27	37	38	26	<b>244</b>
Other S. spp.	72	70	98	33	68	42	<b>383</b>
<b>Total</b>	<b>920</b>	<b>828</b>	<b>865</b>	<b>808</b>	<b>806</b>	<b>870</b>	<b>5097</b>

### 3.2 Detailed information on mass catering outbreaks reported to the Austrian *Salmonella* Centre

Table AT 6 presents all mass catering outbreaks which were reported to the Austrian *Salmonella* Centre from 1993 to 1998.

Table AT 6

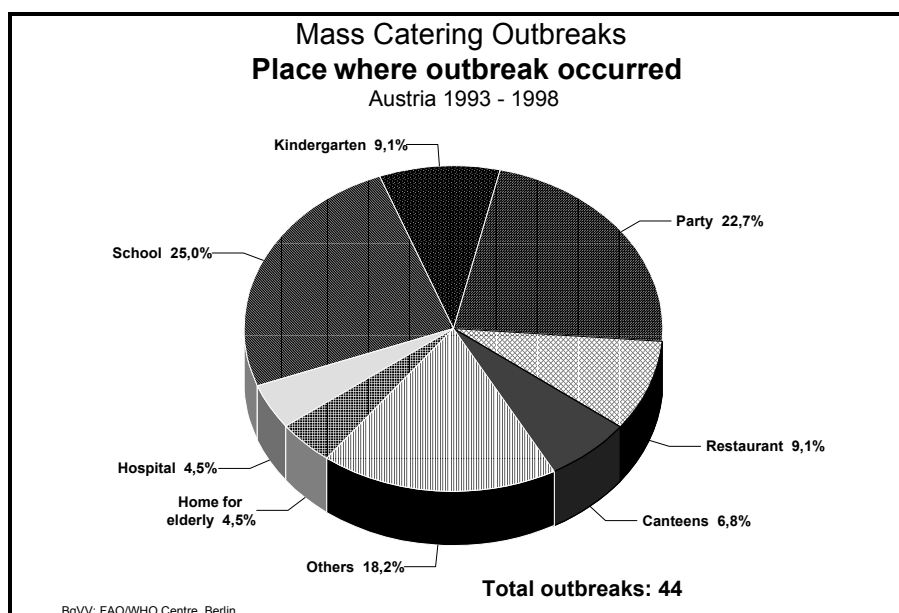
#### Mass catering outbreaks AUSTRIA 1993 - 1998

Year	Place where food was contaminated or eaten	No. of cases	<i>Salmonella</i> serotype Phage type	Suspected foods
1993	Canteen (Military)	~ 140	<i>S. Enteritidis</i> PT 4	unknown
	Canteen	~ 120	<i>S. Enteritidis</i> PT 4	unknown
1994	Wedding party	~ 60	<i>S. Enteritidis</i> PT 4	unknown
	Hospital	~ 20	<i>S. Enteritidis</i> PT 6	Chocolate cake
1995	Restaurant	~ 30	<i>S. Enteritidis</i> PT 4	Chicken
	Restaurant	~ 50	<i>S. Hadar</i>	unknown
	Food supply from Central kitchen	~ 100	<i>S. Enteritidis</i> PT 6	unknown
1996	Restaurants	130	<i>S. Virchow</i>	unknown
	Private party	12	<i>S. Enteritidis</i> PT 4	Meat (chicken, pork), potato salad
	Imported from Czech Rep.	30	<i>S. Newport</i>	unknown
	School	47	<i>S. Enteritidis</i> PT 4	Dumplings (with eggs)
	Home for elderly	8	<i>S. Enteritidis</i> PT 21	unknown
	School	28	<i>S. Enteritidis</i> PT 4,6, RDNC	unknown
	Kindergarten	14	<i>S. Enteritidis</i> PT 4	unknown
	Party	40	<i>S. Enteritidis</i> PT 4	Mayonnaise
	Traveller bus	48	<i>S. Enteritidis</i> PT 8	Salad with mayonnaise
	Family party	6	<i>S. Enteritidis</i> PT 21	Icing of fancy cakes
1997	Wedding party	~ 30	<i>S. Enteritidis</i> PT 21	unknown
	Military	~ 20	<i>S. Typhimurium</i> DT 135	unknown
	Hospital	17	<i>S. Enteritidis</i> PT 8	unknown
	School/Kindergarten	262	<i>S. Enteritidis</i> PT 14b	Egg nocks
	School	18	<i>S. Enteritidis</i> PT 4	Various meals
	Wedding party	17	<i>S. Enteritidis</i> PT 4	unknown
	School	69	<i>S. Enteritidis</i> PT 8	unknown
	Kindergartens	35	<i>S. Enteritidis</i> PT 4	unknown
	School	14	<i>S. Enteritidis</i> PT 4	Ice cream
	Grill party	12	<i>S. Enteritidis</i> PT RDNC	Mayonnaise homemade
	Grill party	~ 14	<i>S. Enteritidis</i> PT 4	Chicken
	1998	Military	22	<i>S. Hadar</i>
School		117	<i>S. Enteritidis</i> PT 8	Various dishes
School		82	<i>S. Enteritidis</i> PT 4	unknown
Sport center		14	<i>S. Enteritidis</i> PT 4	Egg nocks
Home for elderly		12	<i>S. Enteritidis</i> PT RDNC	unknown
School		?	<i>S. Enteritidis</i> PT 21	unknown
Canteen		17	<i>S. Enteritidis</i> PT 4	unknown
School		13	<i>S. Enteritidis</i> PT 4	Tiramisu

Year	Place where food was contaminated or eaten	No. of cases	<i>Salmonella</i> serotype Phage type	Suspected foods
	Home for children	15	<i>S. Enteritidis</i> PT 4	raw dough with egg
	Imported from Italy	20	<i>S. Enteritidis</i> PT 1	Salad or Tiramisu
	Traveller bus			
	Private party	7	<i>S. Enteritidis</i> PT 4	Panama-cake
	School	87	<i>S. Enteritidis</i> PT 4	Tiramisu
	Private Party	6	<i>S. Enteritidis</i> PT 4	Tiramisu
	Restaurant/Catering	30	<i>S. Enteritidis</i> PT 4	unknown
	School	130	<i>S. Enteritidis</i> PT 4	Curd-cake with raw yolk
	Kindergarten	8	<i>S. Enteritidis</i> PT 4	Unknown

### 3.2.1 Place where food was contaminated or eaten in mass catering outbreaks reported to the Austrian *Salmonella* Centre

Figure AT 4



### 3.2.2 Incriminated foods in mass catering outbreaks reported to the Austrian *Salmonella* Centre

Foods most frequently involved in the mass catering *S. Enteritidis* outbreaks reported to the Austrian *Salmonella* Centre from 1993-1998 were eggs and egg products (7.7%), egg containing foods such as cakes and ice creams (12.8%), Tiramisu (7.7%) or salads and dressings (7.7%). Poultry and poultry products were involved in 5.5% of the *S. Enteritidis* outbreaks, and the rest were due to mixed foods.

## 4. Additional information

### S. Enteritidis PT 4 – isolates from non-human sources

*S. Enteritidis* PT 4-isolates from non-human sources are also continuously during the last years on a high level, as you can see from Table AT 7.



Table AT 7

**S. Enteritidis PT 4 isolated from non-human sources**  
AUSTRIA 1993 - 1998

Sample		Year					
		1993	1994	1995	1996	1997	1998
Chicken, eggs for hatching	domestic	638	252	214	209	183	107
	imported	14	21	61	57	24	23
Turkey	domestic	5	3	4	10	2	7
	imported	3	0	6	2	2	8
Other poultry	domestic	48	9	7	16	14	4
	imported	16	1	19	18	2	4
Eggs, egg products	domestic	20	12	5	19	8	18
	imported	1	1	0	0	0	0
Other food items		6	6	21	12	23	5
Animals		118	54	62	86	92	67
Water, sewage, others		258	376	219	320	350	261
<b>Total of PT 4 isolates</b>		<b>1127</b>	<b>735</b>	<b>618</b>	<b>749</b>	<b>700</b>	<b>504</b>
<b>% of all S. Enteritidis isolates</b>		<b>57.6%</b>	<b>54.4%</b>	<b>50.9%</b>	<b>57.8%</b>	<b>63.2%</b>	<b>63.1%</b>
<b>Total S. Enteritidis isolates</b>		<b>1955</b>	<b>1352</b>	<b>1213</b>	<b>1294</b>	<b>1107</b>	<b>799</b>