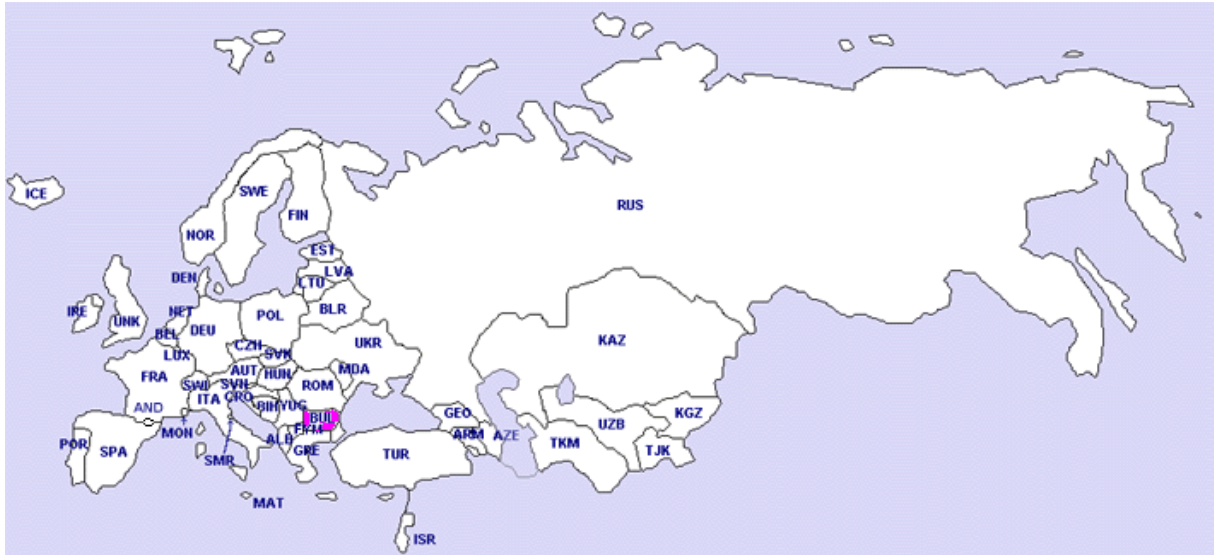




BULGARIA (BUL)

Population: 8.8 million (1994)

Area: 110 912 km²



The designations and the presentation of material on this map of the Member States of the WHO European Region (as at 31 July 1997) do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines represent approximate border lines for which there may not yet be full agreement.

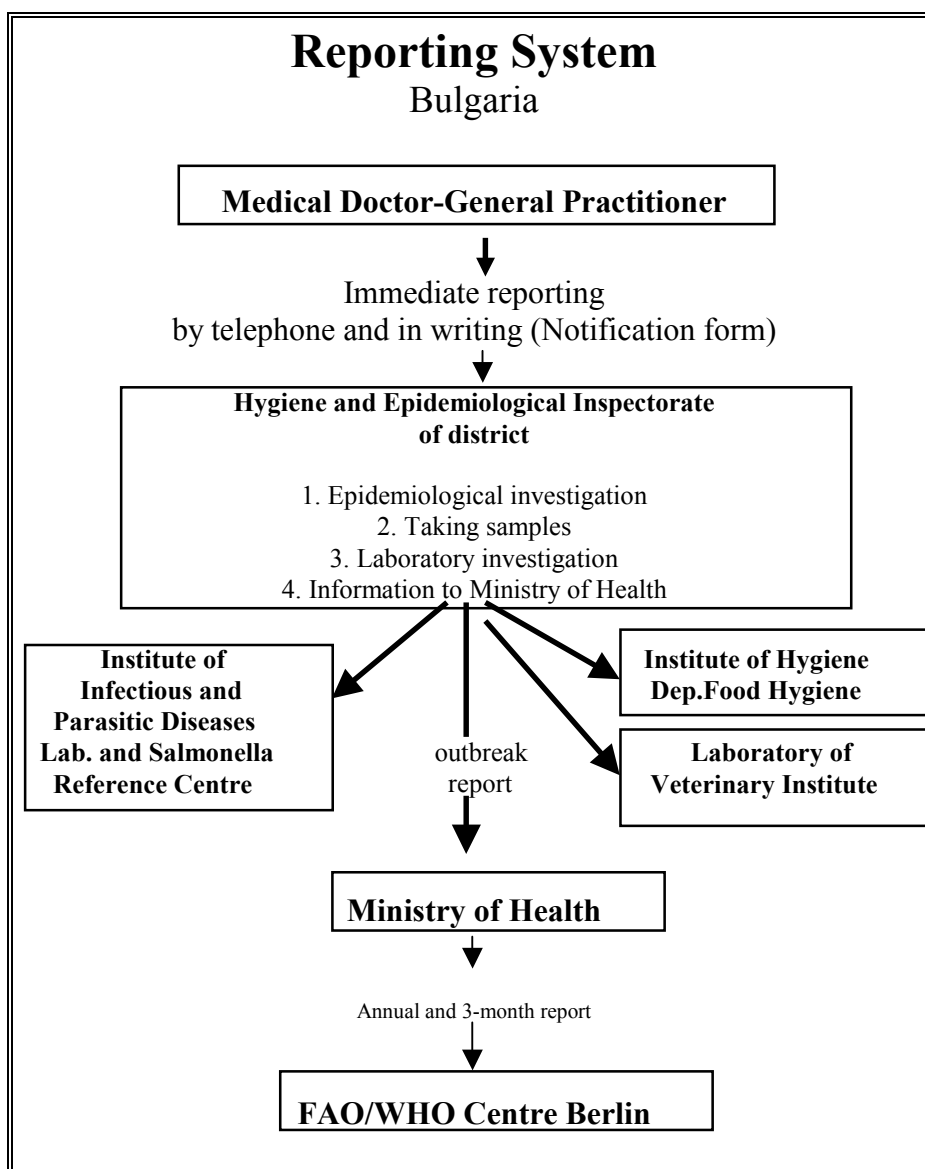
1. General information

Bulgaria comprises nine regions (28 counties). Its population of nine million includes approximately 1.7 million of Turks and Gypsies.

The country has a highly developed Hygiene and Epidemiological Service responsible for prevention and control of communicable diseases including surveillance of foodborne infections and intoxications. The responsible agency at the national level is the Ministry of Health and at the county level the Hygiene and Epidemiological Inspectorate (HEI).

In Bulgaria, notification of communicable diseases is mandatory. Medical doctors are obliged to register every case of communicable disease in a special book and to send a written announcement to the county Hygiene and Epidemiological Inspectorate (HEI). Every case of a notifiable disease is epidemiologically investigated by a sanitary inspector or by an epidemiologist from the epidemiological department of HEI.

Figure BG 1



The 28 HEIs of communicate on a daily basis with a computer centre which collates the data. On the very next day the epidemiological department of the Ministry of Public Health receives information on the number of communicable diseases including fatalities by counties. It also receives more detailed and corrected data on numbers, morbidity, mortality and case fatality ratios of every communicable disease by counties on a monthly, quarterly and semi-annual basis. All these data are compared with the data corresponding to the same periods of time in previous year.

Foodborne disease outbreaks (defined as 3 and more cases) are investigated by the Medical and Veterinary Public Health Service. Strains isolated from humans and foods (*Salmonella*, *Shigella*, *E. coli* etc.) are sent for confirmation to the National Laboratories of the Institute of Infectious and Parasitic Diseases and animal strains to the laboratories of the Veterinary Institute.

In the event of major outbreaks, the Ministry of Public Health sends consultants (epidemiologists, specialists in food and community hygiene, infectiologists etc.) for closer investigation. The HEIs are obliged to inform the Ministry by telephone and telex at the beginning of the outbreak, to give periodically information during the outbreak and to prepare a summary report at its end. The summary reports include all the information required by a document named "Report of Incident". The reporting system also includes monthly "Zero" reporting from the HEIs to the Ministry of Health.

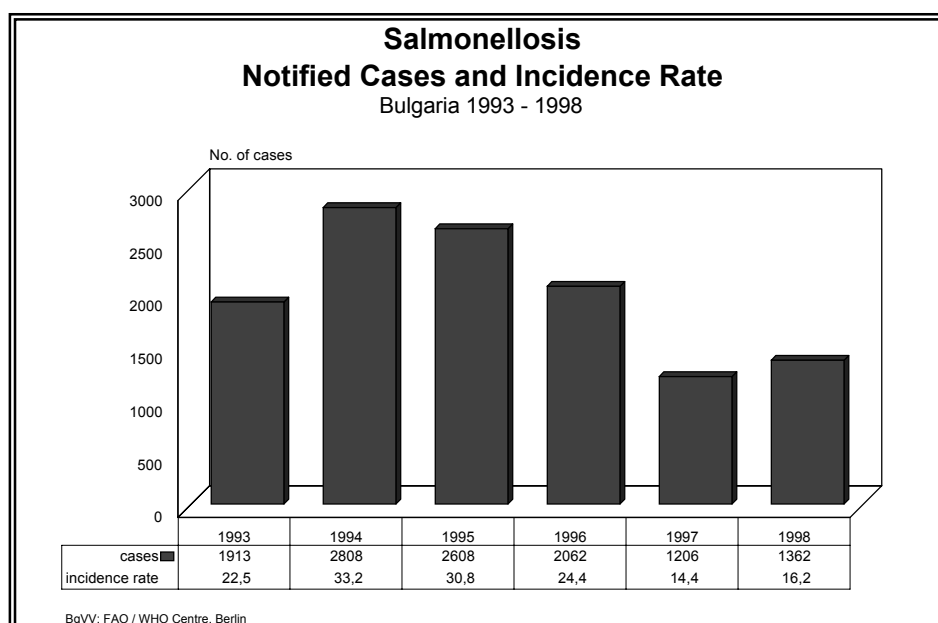
2. Statutory notification

Table BG 1

Foodborne diseases statutorily notified cases and incidence rate
BULGARIA 1993 - 1998

	1993	1994	1995	1996	1997	1998
Disease	No. of cases					
Dysentery	4584	9875	6292	3346	2965	2682
<i>Incidence rate</i>	54.2	116.7	74.4	39.5	35.4	32.0
Enterocolitis	11353	16679	14700	12454	10036	11042
<i>Incidence rate</i>	133.8	197.2	173.8	147.2	119.7	131.7
Viral hepatitis A	7306	7201	5830	5209	6716	5925
<i>Incidence rate</i>	82.3	81.1	68.9	61.8	80.1	74.0
Salmonellosis	1913	2808	2608	2062	1206	1362
<i>Incidence rate</i>	22.5	33.2	30.8	24.4	14.4	16.2
Listeriosis	-	2	-	-	2	1
<i>Incidence rate</i>	-	0.02	-	-	0.02	0.01
E.coli enteritis	530	567	430	388	391	418
<i>Incidence rate</i>	6.2	6.7	5.1	4.6	4.7	5.0
Botulism	17	23	19	15	13	22
<i>Incidence rate</i>	1.4	0.3	0.2	0.2	0.2	0.3
Trichinellosis	114	-	138	210	-	-

Figure BG 2



3. Epidemiologically investigated incidents

3.1 Causative Agents

Table BG 3

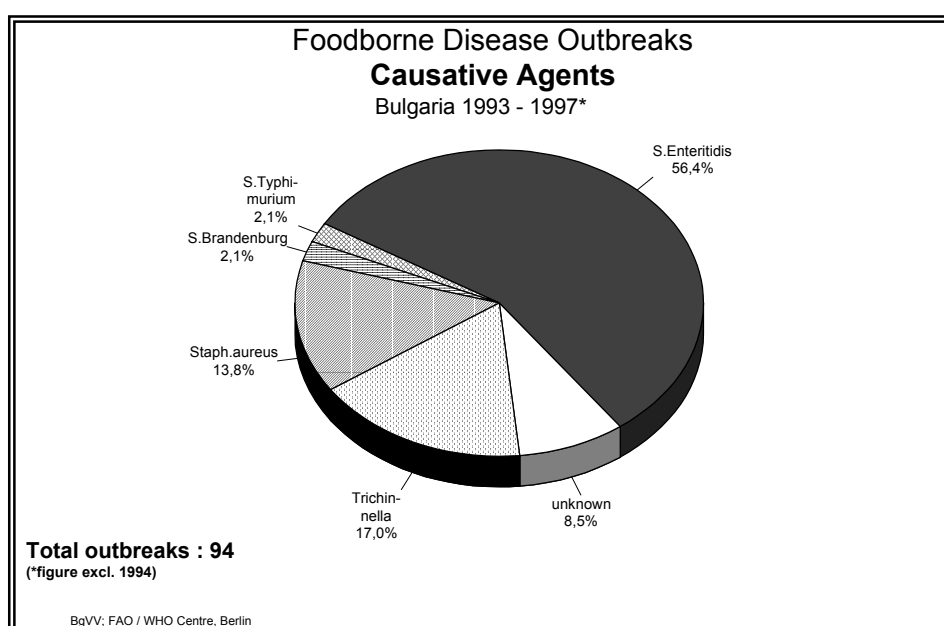
**Foodborne disease outbreaks
by causative agents
BULGARIA 1993 - 1997**

	1993		1994 [§]		1995		1996		1997		Total 1993-1997		
	o*	c**	o*	c**	o*	c.**	o*	c**	o*	c**	o*	%	c**
<i>Salmonella</i> , total	12	189	-	-	14	430	20	421	11	258	57	60.6	1298
<i>S. Enteritidis</i>	9	150	-	-	14	430	19	381	11	238	53	56.4	1199
<i>S. Typhimurium</i>	2	17	-	-	-	-	-	-	-	-	2	2.1	17
<i>S. Brandenburg gr. B</i>	1	22	-	-	-	-	1	40	-	-	2	2.1	62
<i>Staph. aureus</i>	2	30	-	-	2	40	7	182	2	38	13	13.8	290
<i>Trichinella</i>	6	114	-	-	4	138	6	210	-	-	16	17.0	330
<i>Botulism</i>		17	-	-	-	2	-	-	-	-	0	0.0	19
Unknown	3	65	-	-	1	35	2	30	2	46	8	8.5	176
Total	23	415	-	-	21	645	35	843	15	322	94	100	2093

§ data for 1994 are not available

* outbreaks ** cases

Figure BG 3



3.2 Incriminated foods

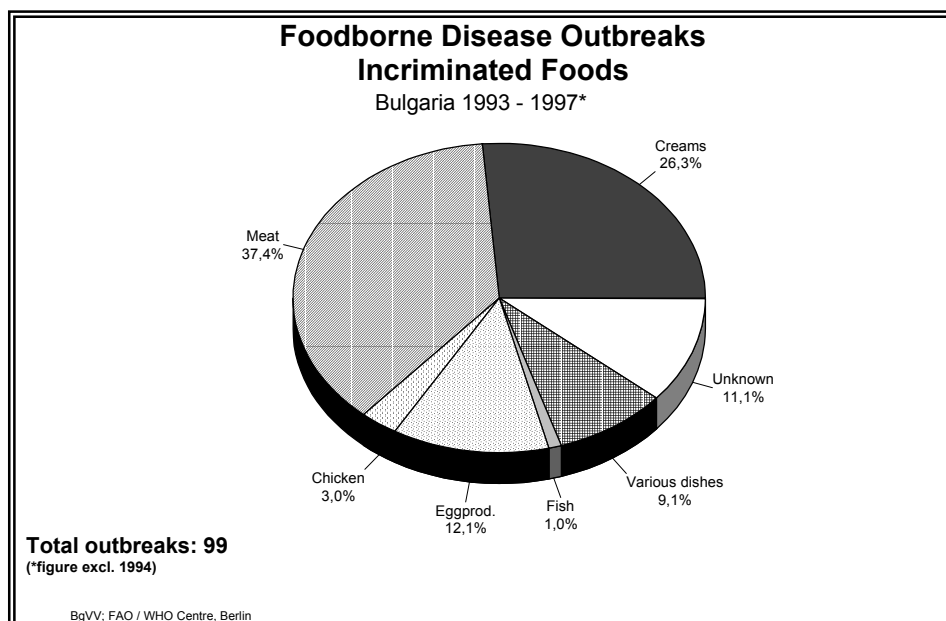
Table BG 4

**Foodborne disease outbreaks by foods and causative agent
BULGARIA 1993 – 1997 (excl. 1994)**

Incriminated food	Causative agent					Total	
	Salmonellæ	Staphylo- coccus	Trichinellæ	unknown	others	No.	%
Creams	18	7	-	1	-	26	26.3
Meat	17	2	13	4	1	37	37.4
Chicken	3	-	-	-	-	3	3.0
Eggprod.	10	1	-	-	1	12	12.1
Fish	-	-	-	-	1	1	1.0
Various dishes	5	-	-	1	3	9	9.1
Unknown	4	3	-	2	2	11	11.1
Total	57	13	13	8	8	99	100.0

Note: More than one food can be involved in an outbreak

Figure BG 4 (excl. 1994)



3.3 Place where food was contaminated or consumed

Table BG 5

Place where food was contaminated or eaten
BULGARIA 1993 - 1996

Place	Number of outbreaks / Year					1993-1996	
	1993	1994*	1995	1996	No.	%	
Restaurant	8	-	-	9	17	17.2	
Private home	35	-	11	7	53	53.5	
Kindergarten	-	-	2	2	4	4.0	
Factory canteen	6	-	2	3	11	11.1	
Catering establishment	-	-	4	8	12	12.1	
Camp	-	-	-	2	2	2.0	
Total	49	-	19	31	99	100.0	

* data for 1994 are not available

Note: More than one place can be reported in an outbreak

Figure BG 5

