

**QUANTITATIVE RISK ASSESSMENT  
OF  
*Listeria monocytogenes*  
IN READY TO EAT FOODS IN  
NAVARRA.**

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Cost 920: Qunatitative risk assessment.Pamplona.

**WHY *Listeria monocytogenes* AND NOT OTHER PATHOGEN**

- **Important sanitary and economical consequences.**
- **Infrequent but serious.**
- **Clear association with foodchain procedures**
- **Analytical control shows:**

↑ **contamination**    ↓ **concentration levels**

**WHY *Listeria monocytogenes* AND NOT OTHER PATHOGEN**

- **Role of consumers**
- **Widely distribution of involved food**
- **WHO, FDA, USDA and other organizations have worked on it.**

**SELECTION OF FOOD**

**USDA criteria**

**READY TO EAT "RTE"**

**High contamination**

**High consumption**

<b>Deli meat</b>	<b>→</b>	<b>Slice cooked meat</b>
<b>Spread meat</b>	<b>→</b>	<b>Pate</b>
<b>Smoked fish</b>	<b>→</b>	<b>Salmon and trout</b>

**AT RETAIL POINT**

## **SELECTION OF FOOD**

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### **EXCEPTIONS**

**Vegetales**      **→**      **Precut ready to eat salads**

**Other fish**      **→**      **Surimi**

## **DATA....**

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### **Prevalence and concentration levels:**

**Smoked salmon**

**Cooked meat**

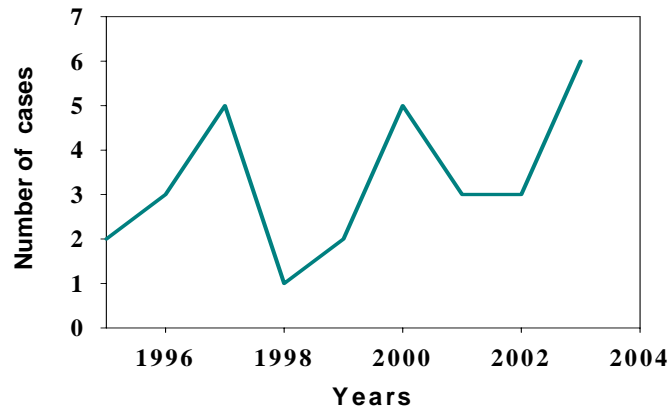
**Raw vegetables ready-to-eat**

**Pate and surimi (only partial data)**

## LISTERIOSIS IN NAVARRA

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Navarra population: 578.210 habitants



## DISTRIBUTION CASES OF LISTERIOSIS

1995-2003 (n=31)

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<u>RISK GROUPS</u>	<u>CASES (n)</u>	<u>POPULATION (%) at 2003</u>
Aged population >60 years	9	21.6
Pregnant women/newborns	5	1.05
Immunocompromised individuals (Cancer, AIDS... )	15	1.24
<b>Total cases</b>	<b>29</b>	<b>24</b>
<u>NON-RISK POPULATION</u>	2	76

## **LISTERIOSIS IN NAVARRA**

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### **Relationship between clinic cases and ready to eat food**

CLINIC CASES				RTE	
Date	Code	Serotype	PFEG type	Smoked salmon	Deli-meat
1995	1	3b	XII		1
1995	2	1/2b	X	1	
1996	71	1/2a	VI	11	
1997	86	4b	XIV		2
1997	103	4b	XVI		1
1997	112	4b	XIII		3
1999	520	4b	XV		1

**Common-source clusters in several occasions**

## **FOOD INTAKE IN THE POPULATION**

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•Serving size/frequency of consumption:

•Design of survey

**Kind of package(non-vacuum/vacuum)**

**Storage home**

**Home refrigerator temperature**

**Frequency of consumption**

•Aleatory distribution

CONTAMINATION	FREQUENCY EXPOSURE		
	LOW	MEDIUM	HIGH
LOW			
MEDIUM			
HIGH			

## CONCLUSIONS

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- **New approach of risk assessment of listeriosis**
- **Gaps:**
  - **Underestimation of clinic cases**
  - **Association of clinic cases and food**
  - **Consumption pattern: frequency , size...**
  - **Consumers habits: hygienically practices**

