

Outbreaks can be good for us !

Starring:

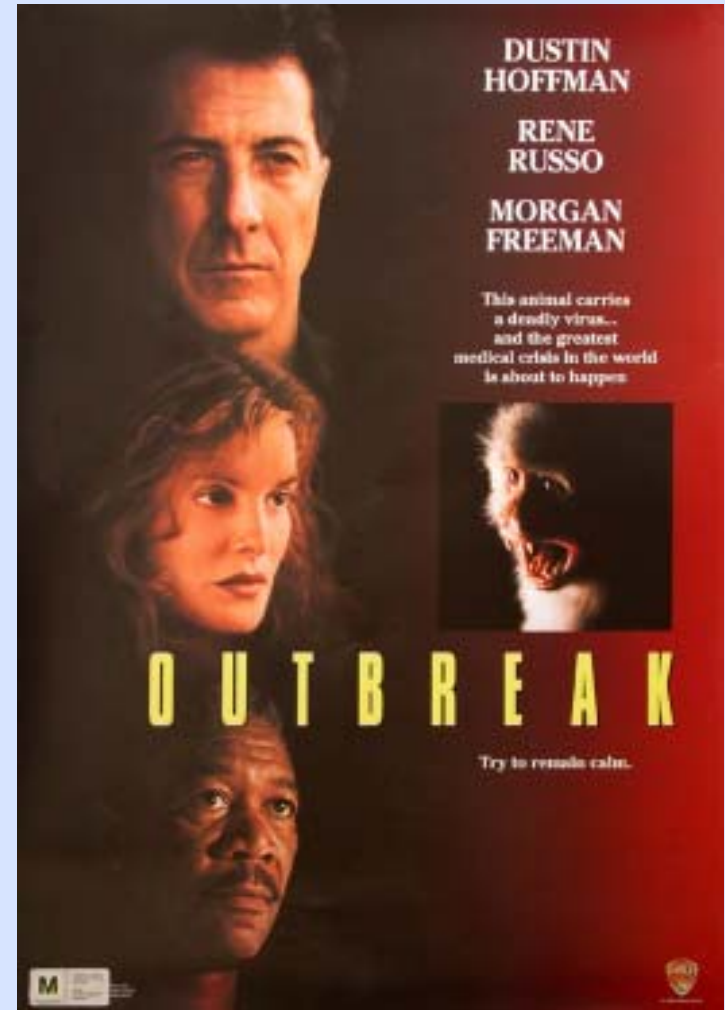
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Running time: 127 min.

Rated M (language may offend)



Outbreaks can be good for us...

But only if learn from them!



Outline

- **Purpose of outbreak surveillance**
- **Reporting definition for outbreak surveillance**
- **How outbreak surveillance works in New Zealand**
- **Results for 2000 & 2001**
- **Conclusions**
- **Future developments**





New Zealand

- **Group of islands in South Pacific**
- **270,000 km² (~ Colorado)**
- **Population of 3.8 million people**
- **Indigenous people are Maori**
- **ESR, National surveillance centre & reference laboratory located in Wellington**



Purpose of outbreak surveillance



Usually

- **Prevent future outbreaks**
e.g. Identifying high risk foods, settings, and practices
- **Evaluate prevention & control strategies**
e.g. Identifying need to modify vaccination recommendations
- **Improve understanding of disease processes**
e.g. Describing characteristics of emerging diseases
- **Evaluate outbreak investigation practices**
e.g. Identify gaps in outbreak investigation activity

Occasionally

- **Control ongoing outbreaks**
e.g. Identifying discrete outbreaks lined to a common source

Reporting definition for outbreak surveillance in NZ

- Two or more cases linked to a common source, including a common event, dispersed food or water, environmental source, or institutional setting

OR

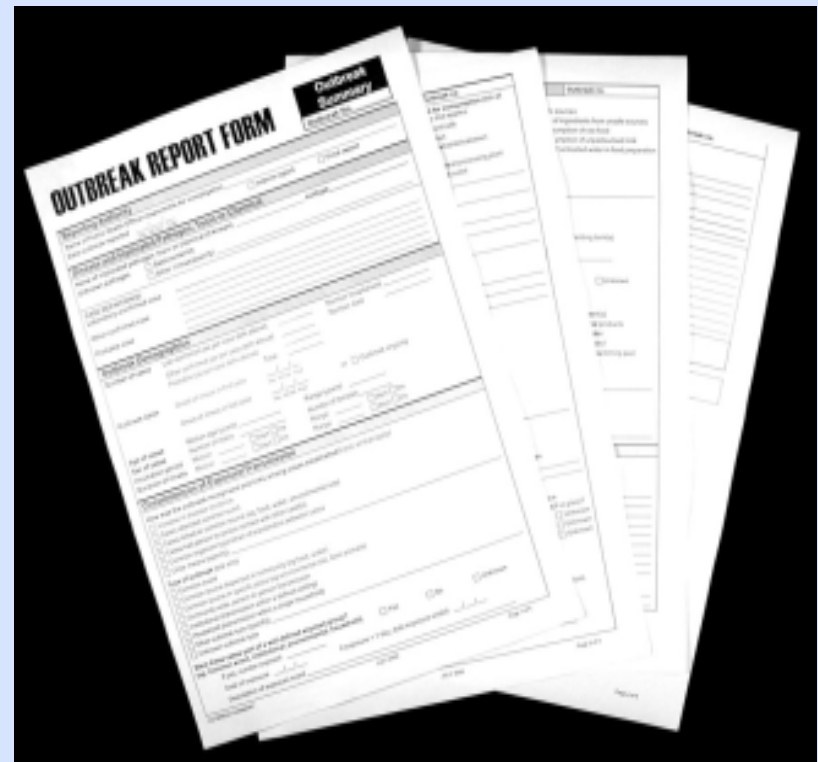
- A community-wide / person-to-person outbreak

OR

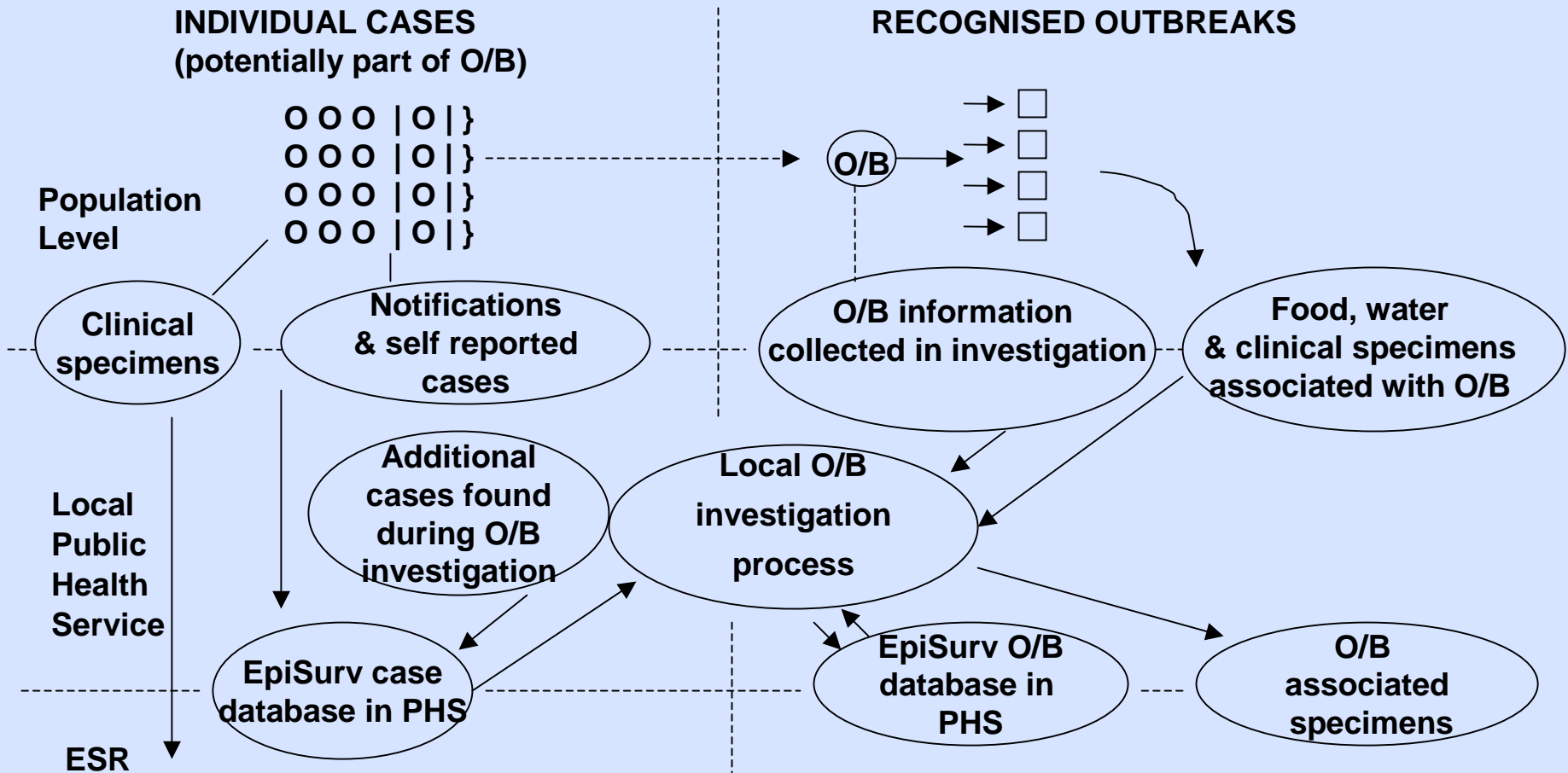
- Any other situation where outbreak investigation or control measures are being used or considered, including a single case of an illness exotic to NZ

Outbreak surveillance - How it works

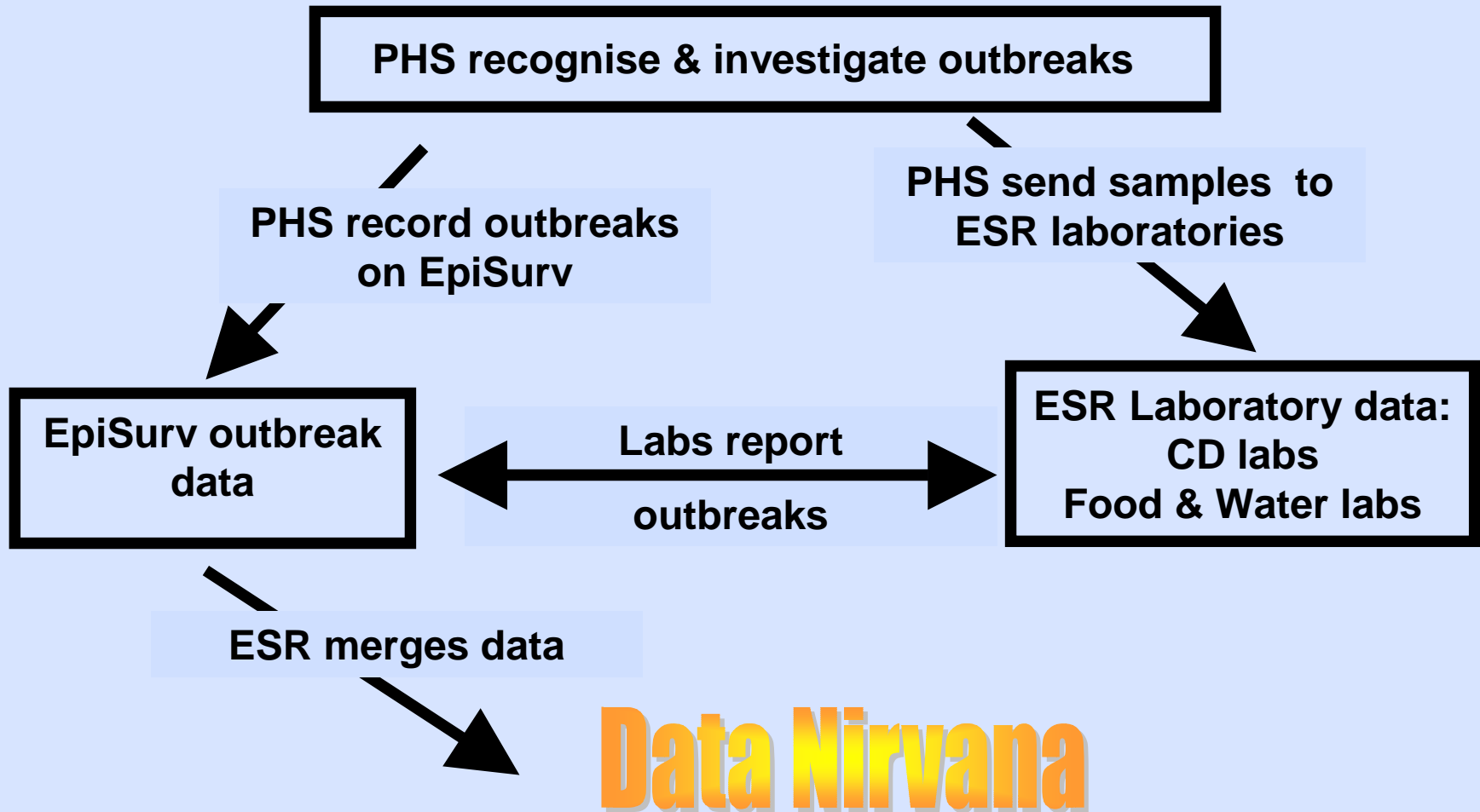
- National system introduced July 1996
- Paper-based → electronic (EpiSurv)
- Standardised way of reporting outbreaks
 - Disease & pathogen or toxin
 - Number & characteristics of cases
 - Circumstances of exposure / transmission
 - Factors contributing to outbreak
 - Management of the outbreak, including recognition, investigation, control



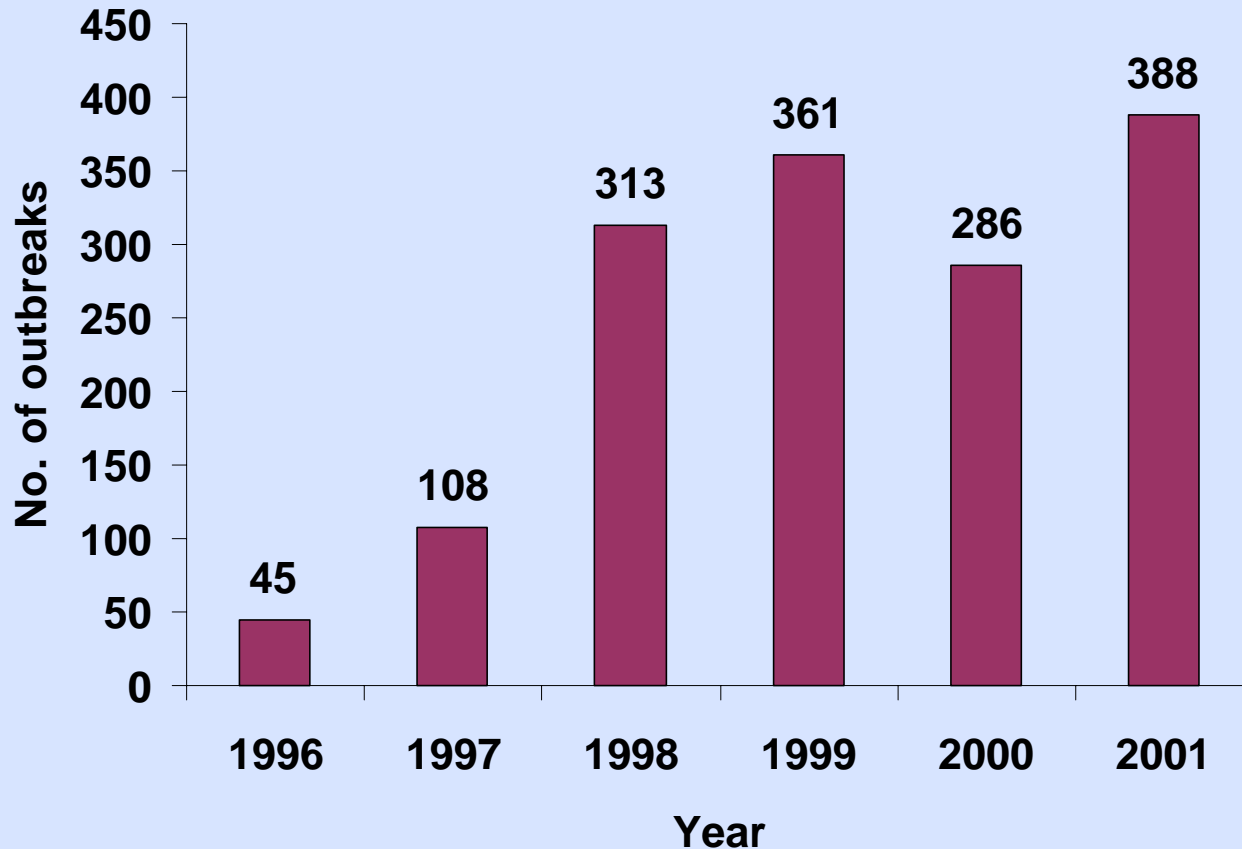
Outbreak surveillance - Simplified



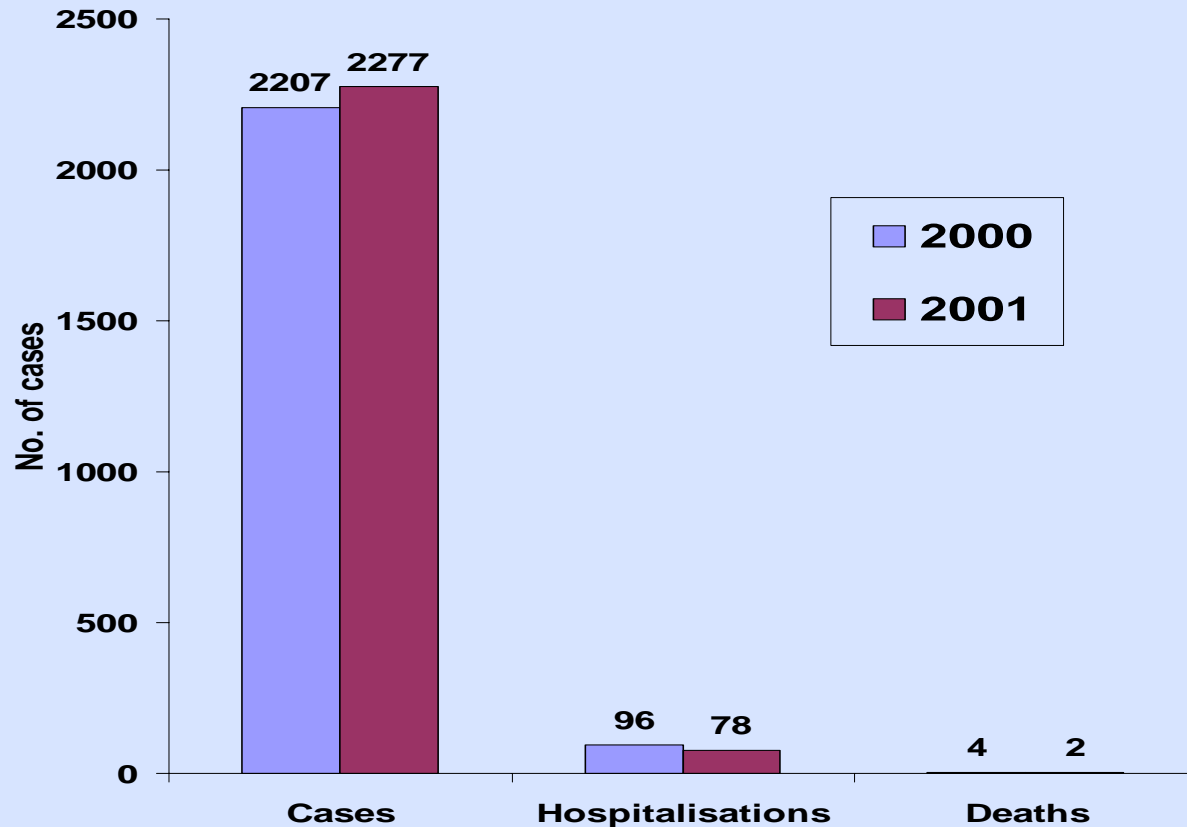
Outbreak surveillance - Over-simplified



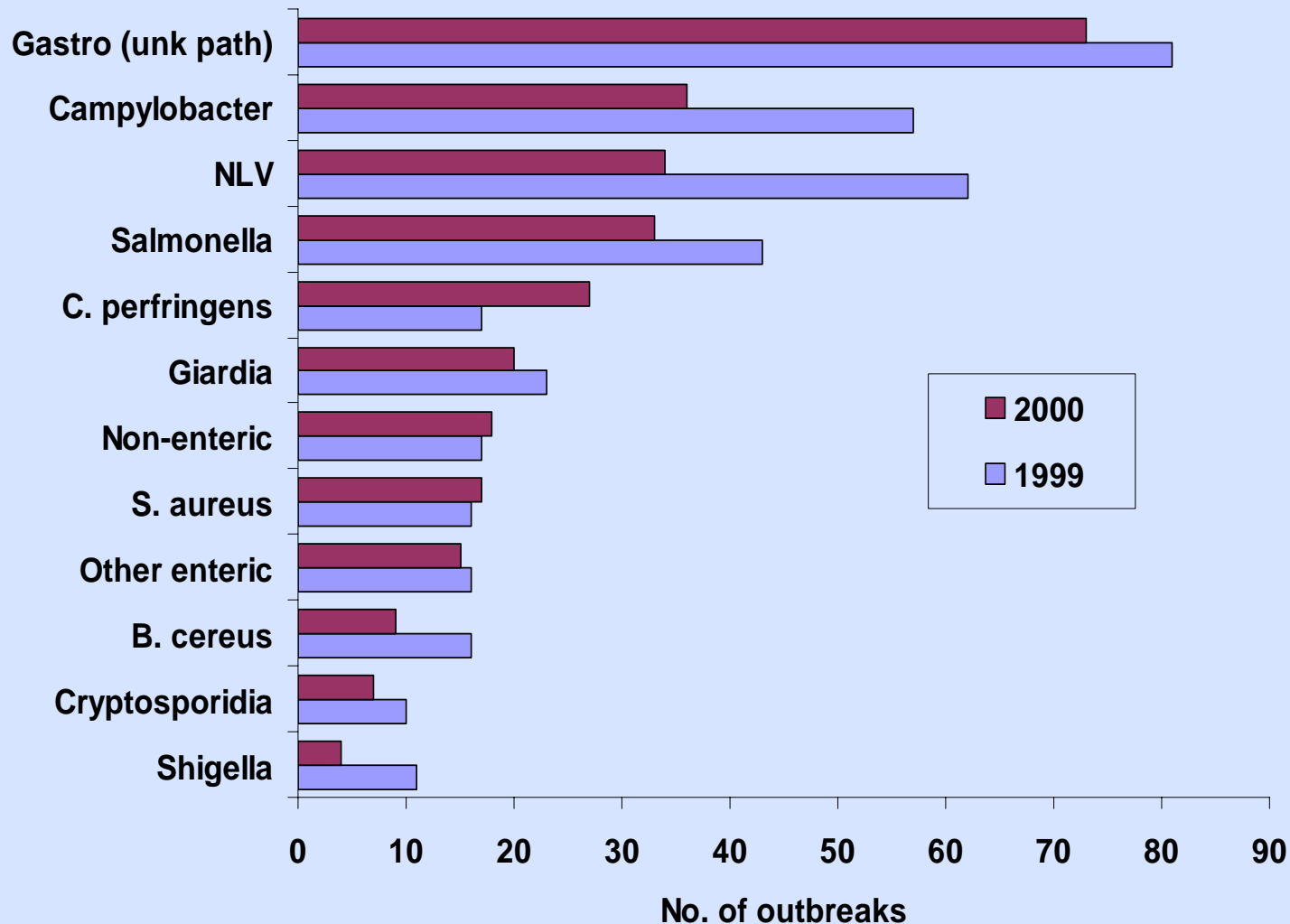
Reported outbreaks by year, 1996-2001



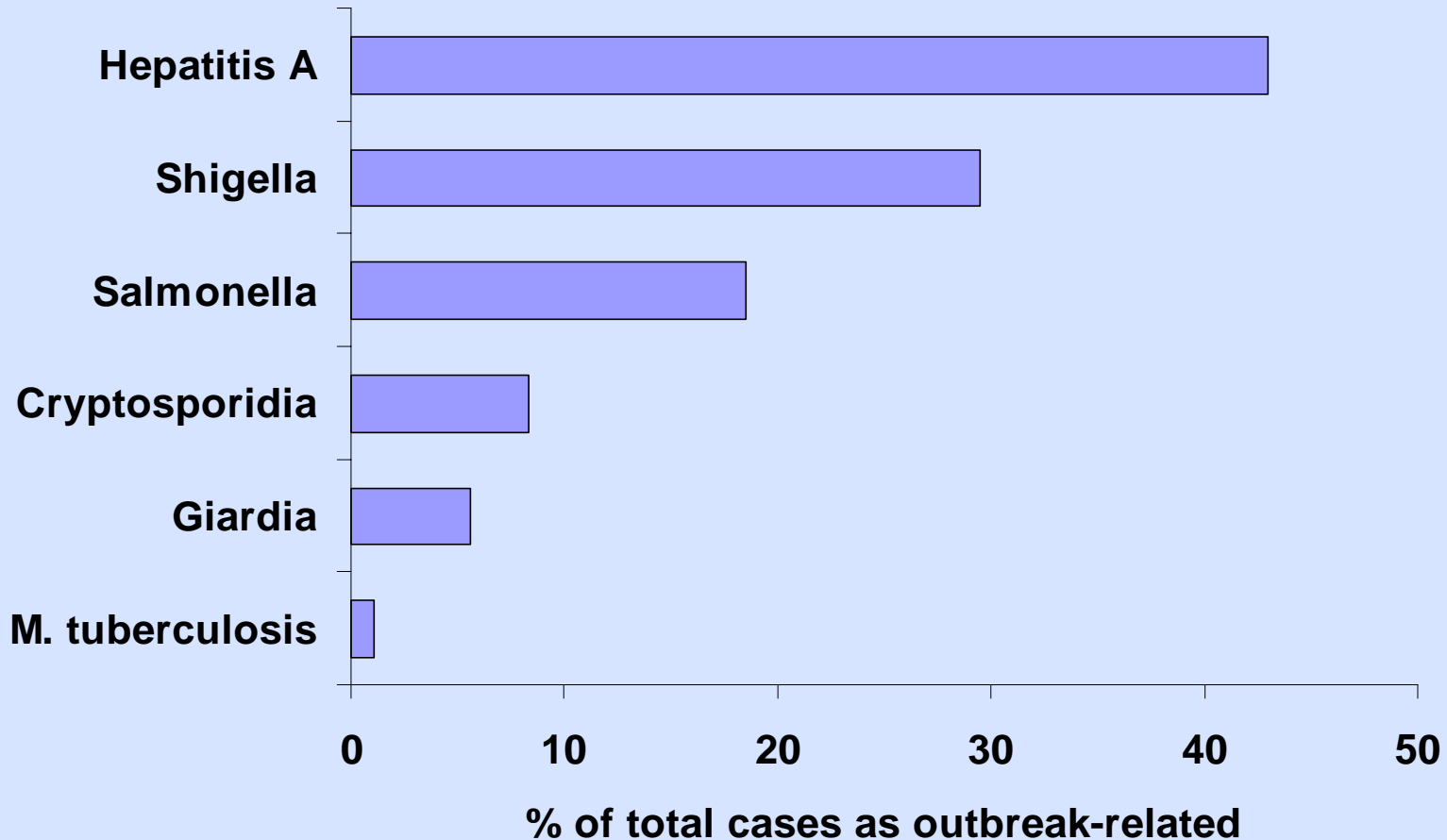
Disease burden from outbreaks, 2000 & 2001



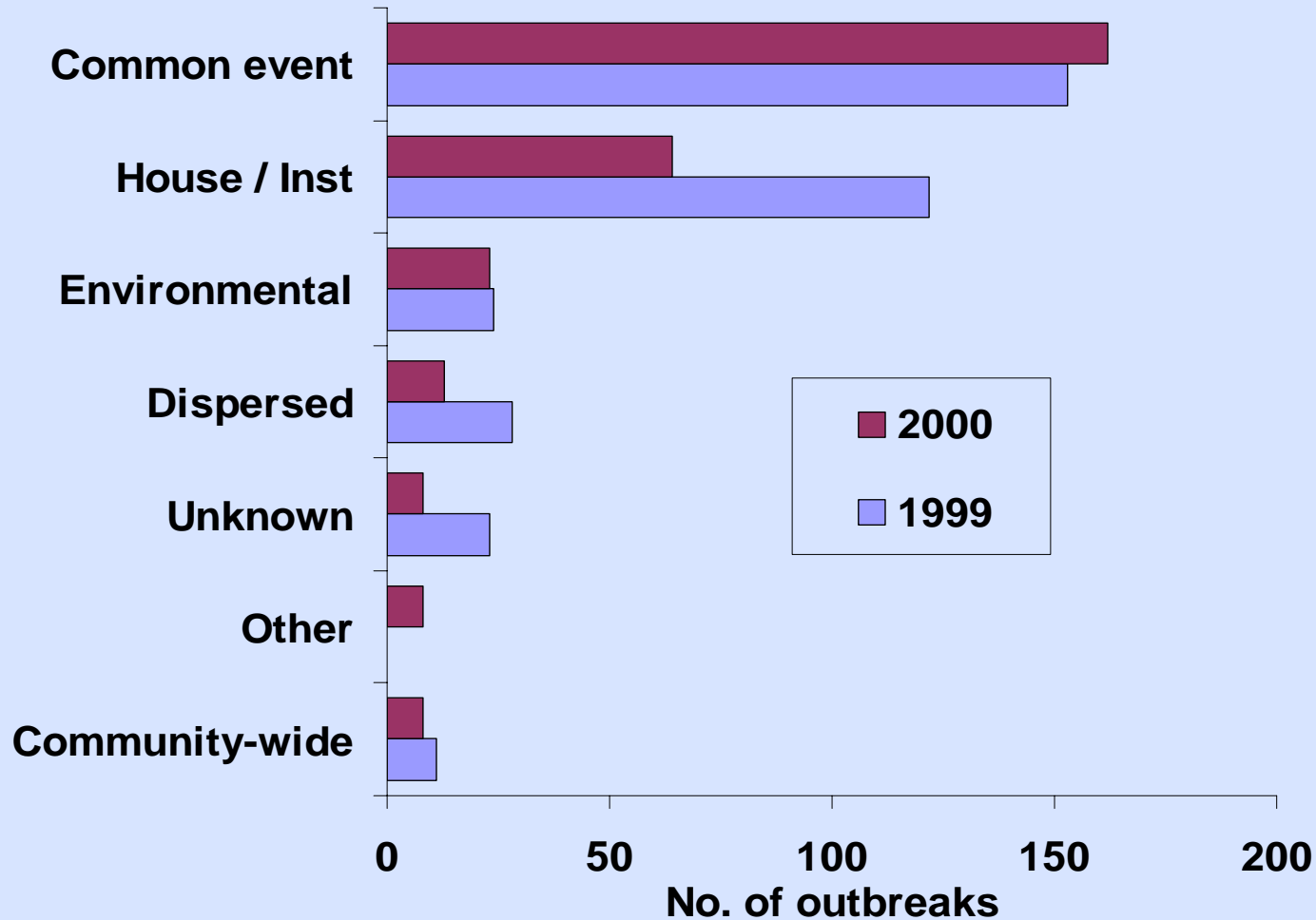
Outbreak causal agent, 1999 & 2000



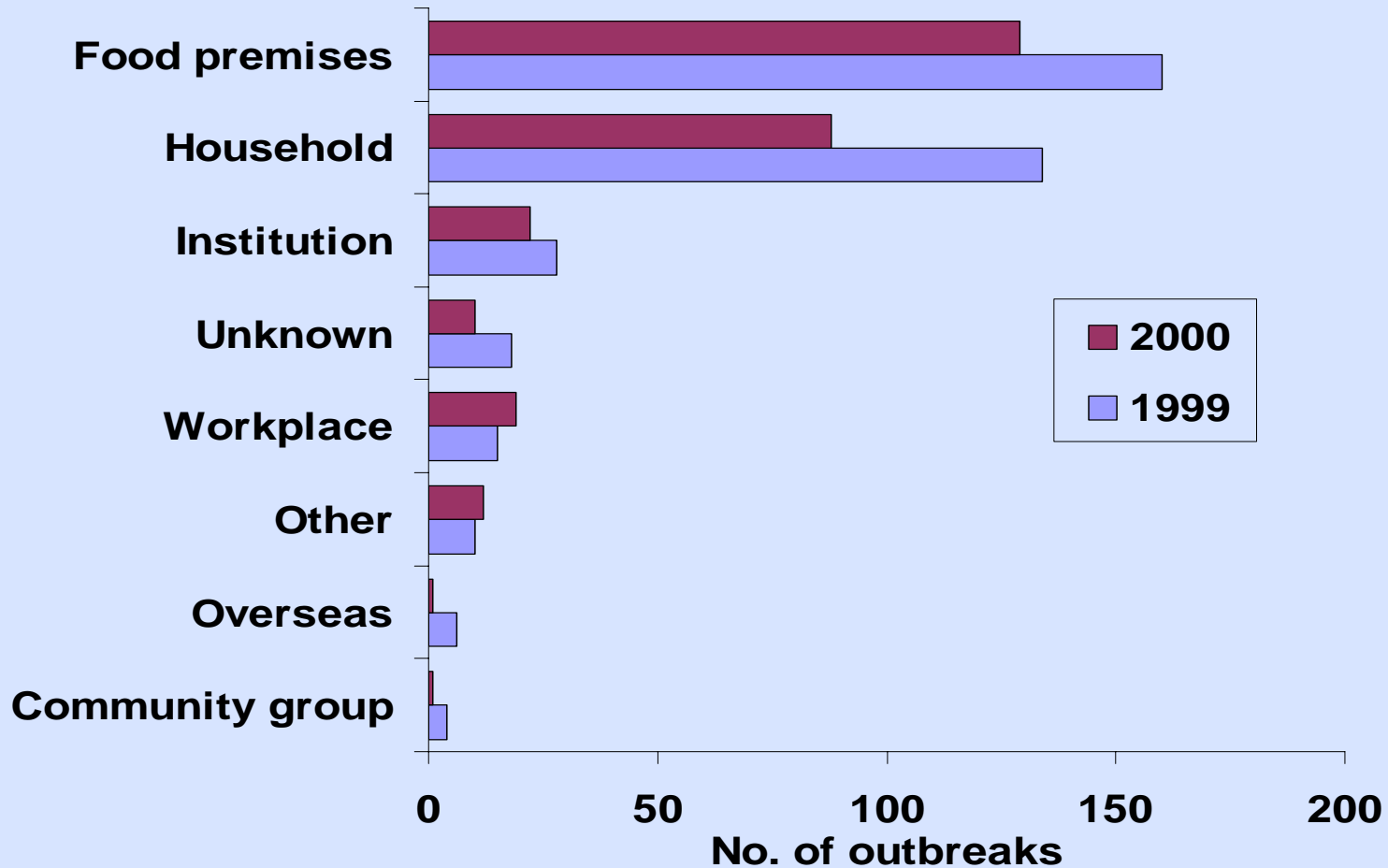
Proportion of cases occurring as defined outbreaks, 2000



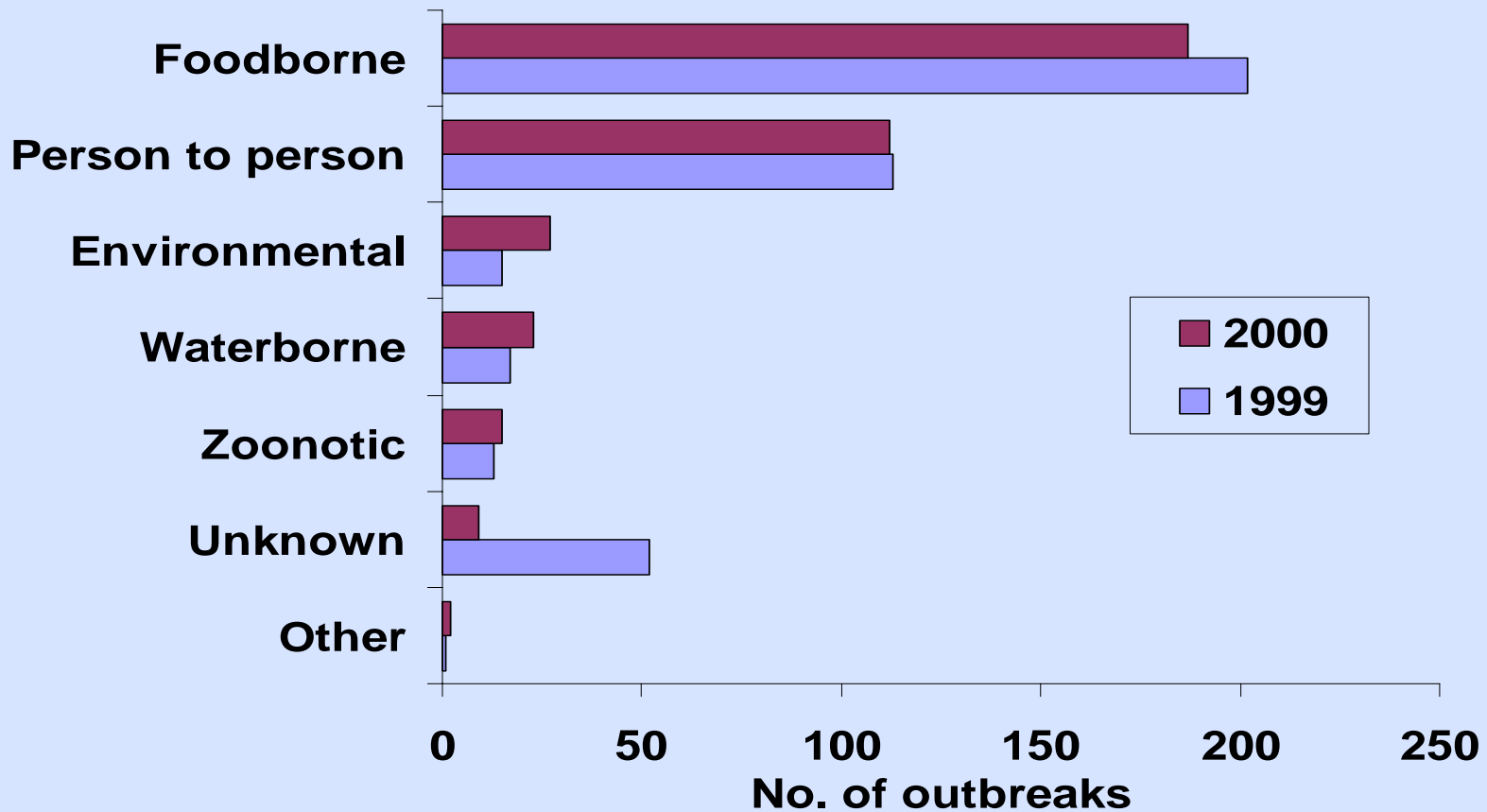
Outbreak Type, 1999 & 2000



Outbreak Setting, 1999 & 2000



Mode of transmission, 1999 & 2000



Food source(s) 1999 & 2000

Food	1999	2000
Combination	54	74
Poultry	31	32
Seafood	31	20
Meat	20	7
Rice	2	3
Dairy	6	1
Raw milk	4	1
Fruit	5	0



Factors contributing to foodborne outbreaks, 1999 & 2000

Factor	1999	2000
Abuse of temperature e.g. inadequate refrigeration or cooking	99	57
Improper method e.g. cross contamination, unsafe ingredients	63	33
Food handler source e.g. poor hygiene	40	23
No factor identified	114	74
Total	202	187

Conclusions

- **Outbreaks cause large burden of infectious disease**
- **Outbreak surveillance provides useful information, particularly to help prevent future outbreaks**
- **Active outbreak surveillance combines data from multiple sources to improve the quality of ‘information for action’**



Future developments

Collection / reporting

- Web-based outbreak reporting to increase timeliness & data quality

Analysis

- More complete analysis of OB data
- More ongoing data checks to improve data quality

Dissemination

- Improved access to outbreak database so local PHS can review and analyse content
- More frequent electronic reporting of summary data

Happy Hollywood Ending



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