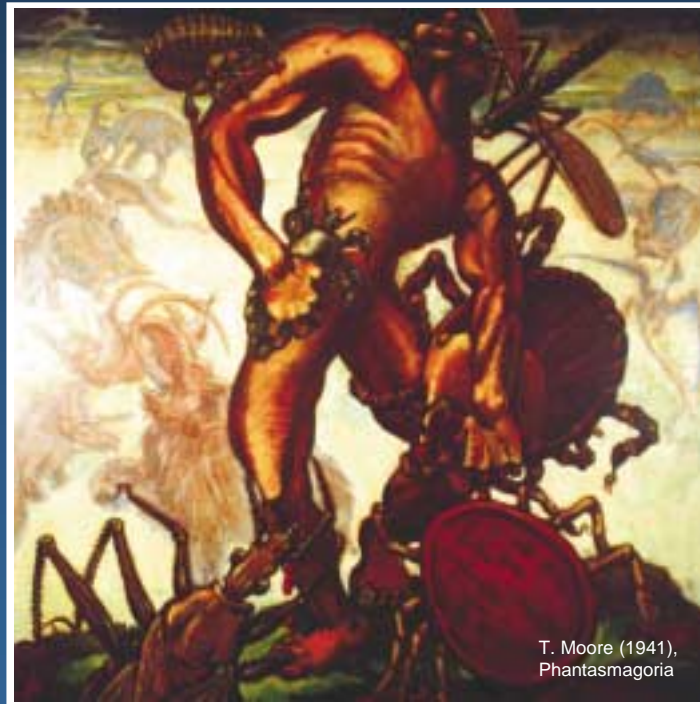


CDC Concerns and Priorities for Vector-Borne Bacterial Zoonoses



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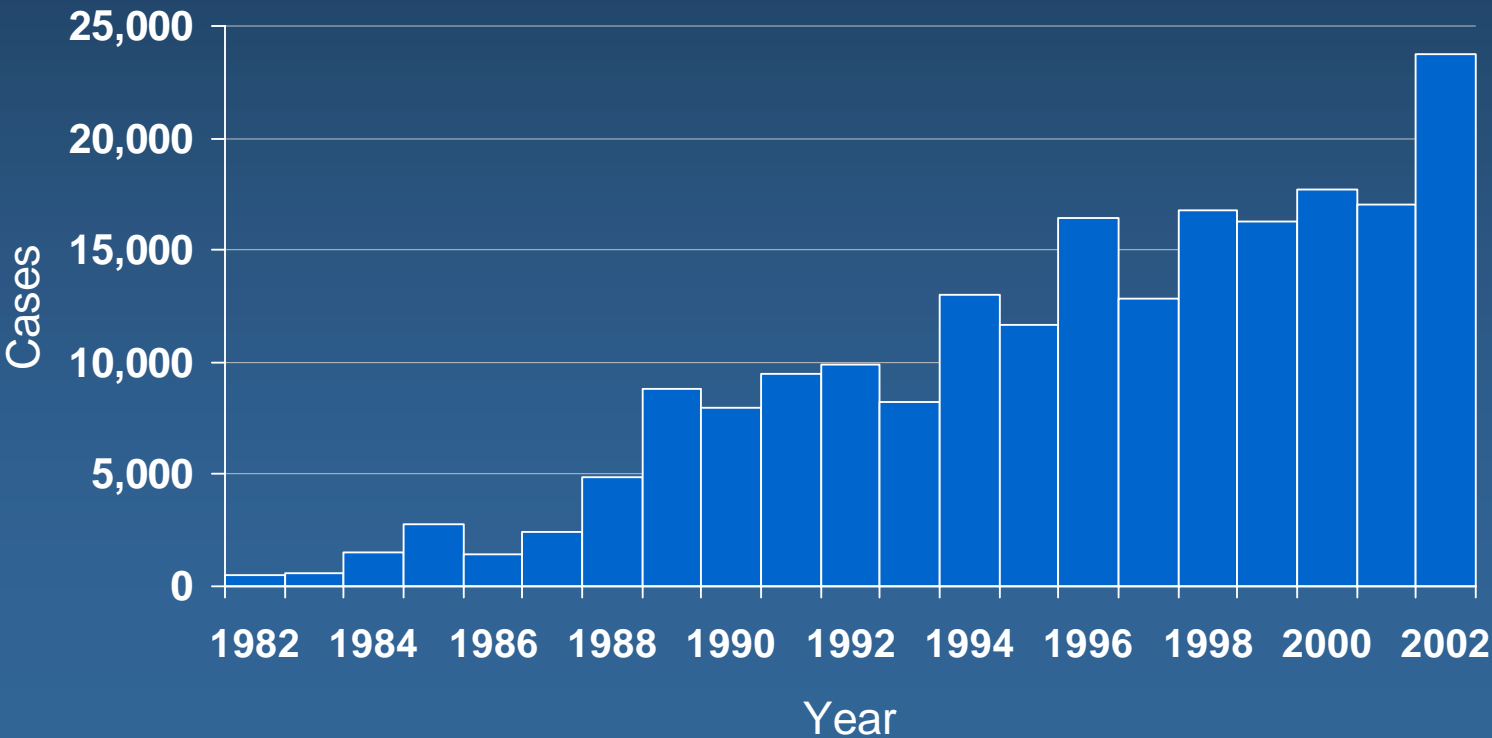
BZB Diseases



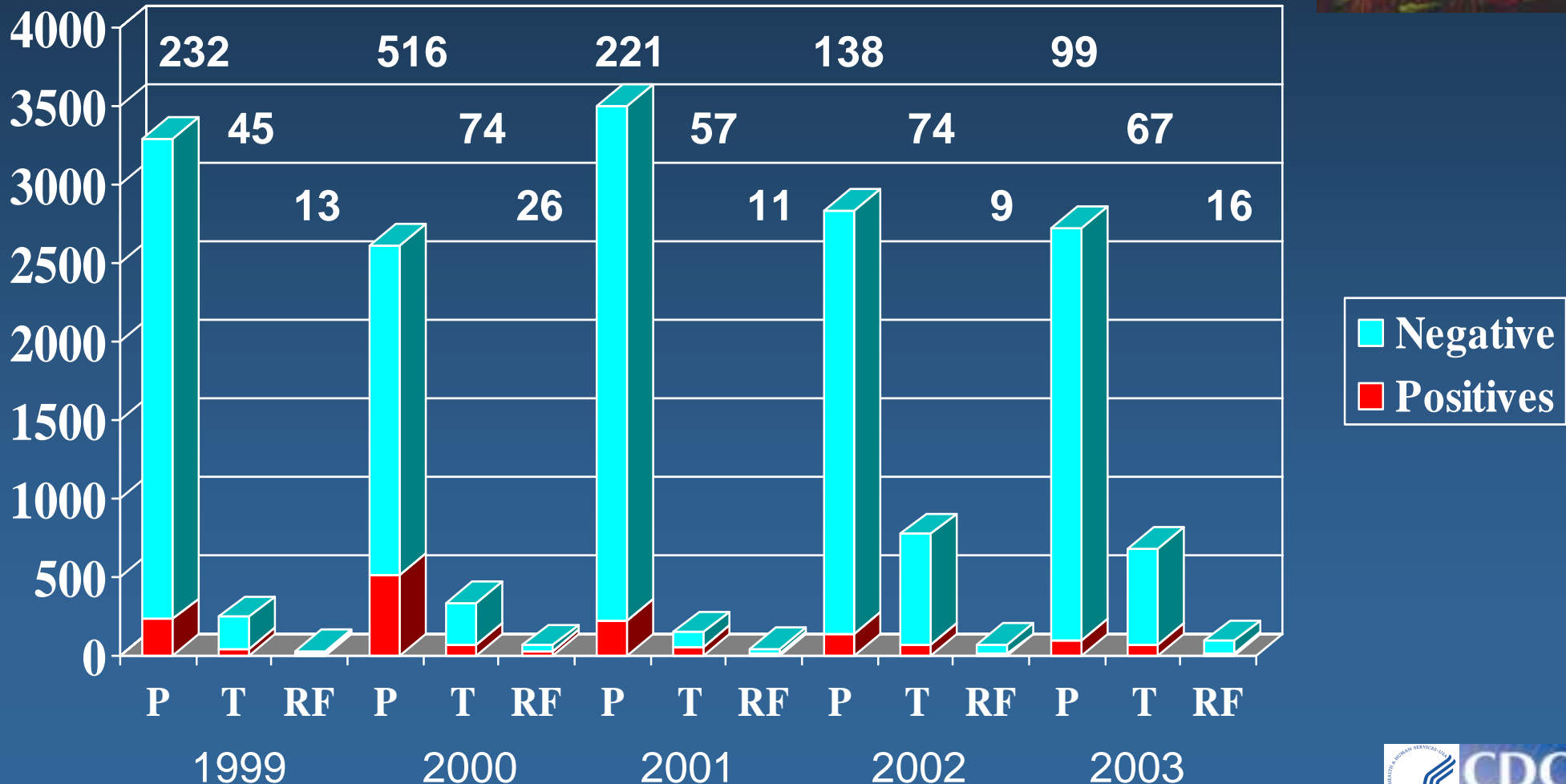
- Lyme Disease
- Plague
- Tularemia
- Tick-borne relapsing fever
- Bartonellosis

Lyme Disease

Reported Lyme Disease Cases by Year United States, 1982-2002



BZB Diseases – Reference Diagnostics



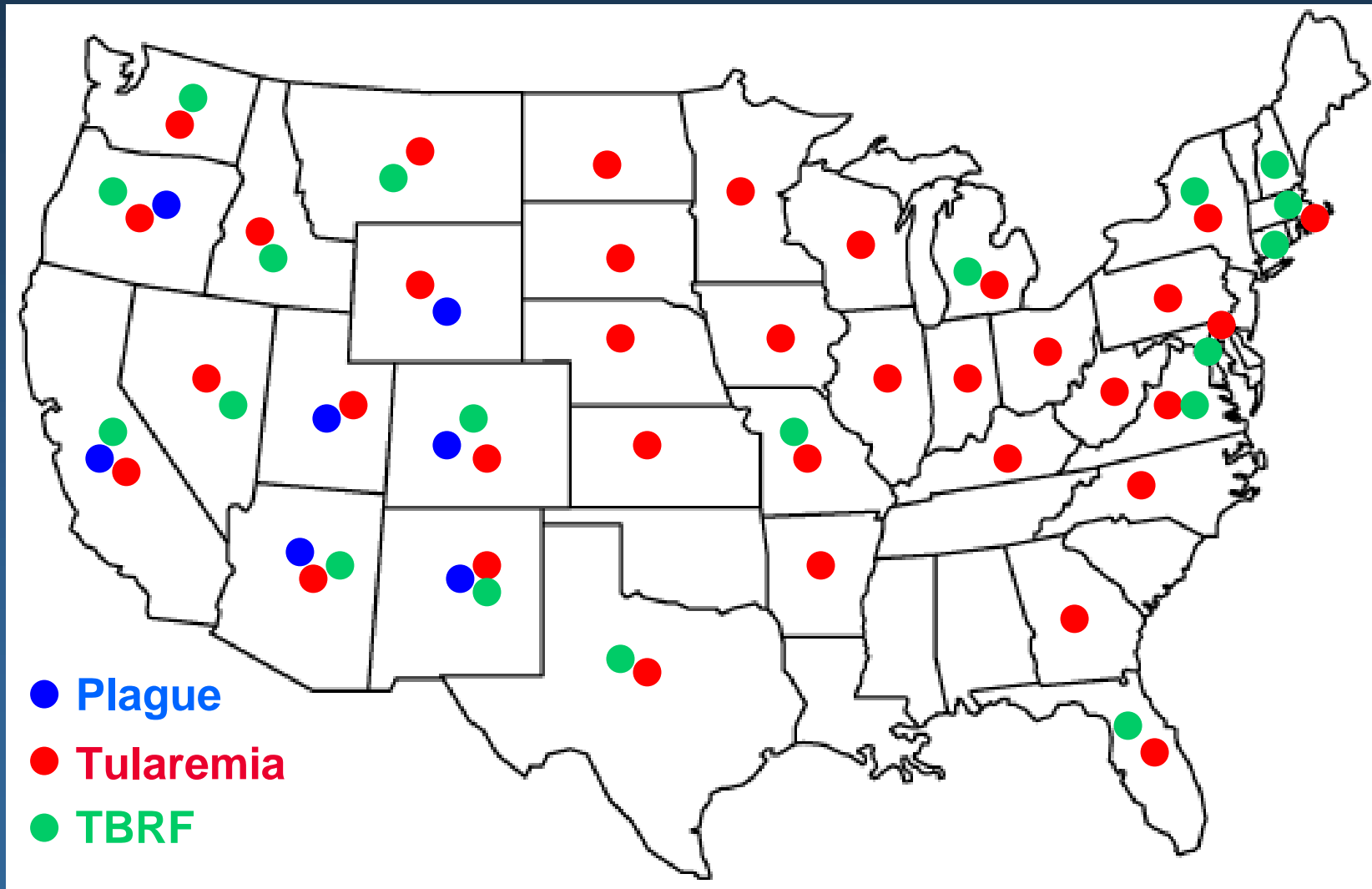
BZB Diseases – Positive specimens/hosts



	1999			2000			2001			2002			2003		
	Plg	Tul	RF	Plg	Tul	RF	Plg	Tul	RF	Plg	Tul	RF	Plg	Tul	RF
Human*	50	33	13	9	16	26	9	34	11	50	19	8	1	24	16
P. Dog	6						34	1		17			5	3	
Coyote	84			231	1		99			46			49	3	
Dom. Dog	11	2		14	1		6						1	3	
Dom. Cat	15			18	1		11	14		2	18		5	10	
G. Squirrel	12				2		6								
Rabbit	1	5			2			4			4			11	
Fox				7			6			1			6		
Raccoon							5							2	
Flea pool	38			89			43			14			9		
Misc.	15	5		148	52		2	4		8	33		23	11	
Total	232	45	13	516	74	26	221	57	26	138	74	8	99	67	16

*Note: 1999 and 2002 positive plague cases in humans reflect both national and international activities

BZB Diseases – Geographic distribution of samples



Bioterrorism Threats – Real versus Perceived



- TULAREMIA, AIR SENSOR DETECTION - USA (TEXAS)
****ProMED-mail post
- BT event versus environmental background?
- Implications toward future events and resource allocations



Lyme Disease – Issues, Concerns, and Priorities

- **Diagnostics**
 - National standards, regional issues, special samples
- **Disease incidence patterns**
 - Westward expansion, ecological risk maps, epidemiologic risk assessments, economic burden
- **Prevention**
 - Development of new tools, evaluation of new and old methods, assessment of knowledge, attitudes, and practices in traditional and emerging disease areas
- **Public relations**
 - Update of public information (brochures, web, etc.)
 - Improved relationship with stakeholders and patient advocacy groups
- **Pathogenesis**
 - Chronic disease mechanisms



Tularemia – Issues, Concerns, and Priorities

- **Diagnostics**
 - RT subtyping capabilities, diagnostic protocols for environmental samples,
- **Ecology**
 - Environmental maintenance and natural vectors and reservoirs, microbial ecology and symbioses
- **Epidemiology and surveillance**
 - Better human surveillance and interaction with states, disease associated with different strains/subtypes
- **Public communications**
 - Update of public information (brochures, web, etc.)
 - Physician and healthcare worker-targeted information
- **Genomics and Immunopathogenesis**
 - Genomic and virulence differences in *holarctica*, *novicida*, and *philomiragia*, subclinical disease models



Plague – Issues, Concerns, and Priorities

- **Diagnostics**
 - Evaluation of new rapid and conventional Dx test, subtyping capabilities and strain characterization, enhancement of reference collection
- **Prevention/intervention**
 - Evaluation of new methods for vector/reservoir control, response readiness, evaluation of novel interventions and post-exposure prophylaxis, evaluation of decontamination procedures
- **Epidemiology and surveillance**
 - Eco-epidemiology, urban risk assessment, zoonotic reference diagnostics?
- **Clinical Management**
 - Evaluation of new treatment regimens, maintenance of clinical and diagnostic expertise, training activities



CDC/BZB Strategic Plan – Summary

- Increased emphasis on public health-related research and service activities
- Continued investment in cooperative agreement programs
- Effective collaboration with state and local public health partners, universities, and industry
- Better public relations

