

CDC Activities at Home & Abroad

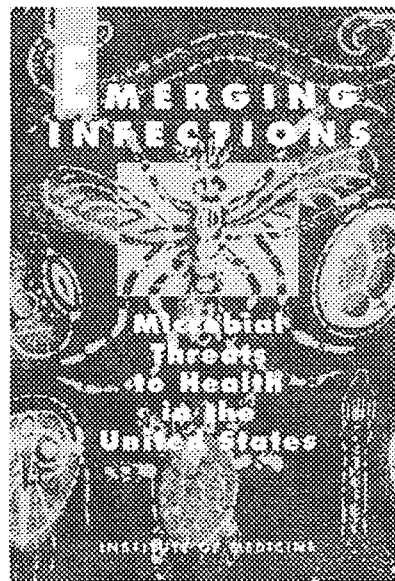
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National Center for Infectious Diseases
Centers for Disease Control and Prevention

CDC

- Monitors population health and develops science-based strategies to prevent and control disease & disability
- Working with & through a variety of public, academic, and private partners
- Largely non-regulatory
- Global nature of public health threats requires we work at home and abroad

Although mostly known for infectious disease activities, CDC has major programs in:

- Chronic disease prevention and control
- Injuries
- Birth defects
- Environmental health
- Occupational health



1992

Factors in Disease Emergence

- Population growth & demographic change
- Technologic change
- Environmental & land use change
- Global travel & commerce
- Microbial adaptation
- Failure to implement public health measures

Outbreaks with an impact: the last decade

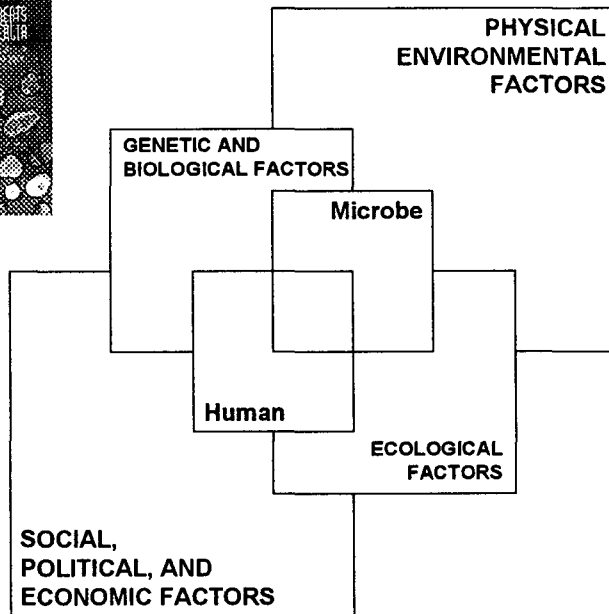
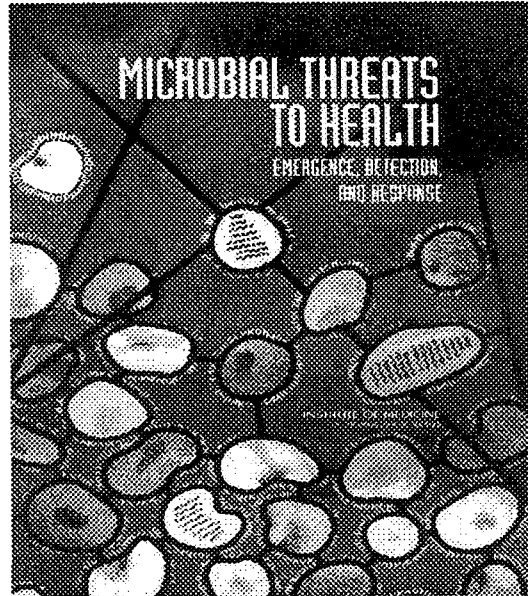
1993: Hantavirus pulmonary syndrome
1994: Plague in India
1995: Ebola: Zaire/Uganda/Gabon/Congo
1996: variant CJD in United Kingdom
1997: Avian influenza in Hong Kong
1998: Nipah encephalitis
1999: West Nile encephalitis
2000: Rift Valley Fever: Arabia
2001: Anthrax
2002: Vancomycin-resistant *Staph aureus*
2003: SARS
2004: Avian influenza in Asia

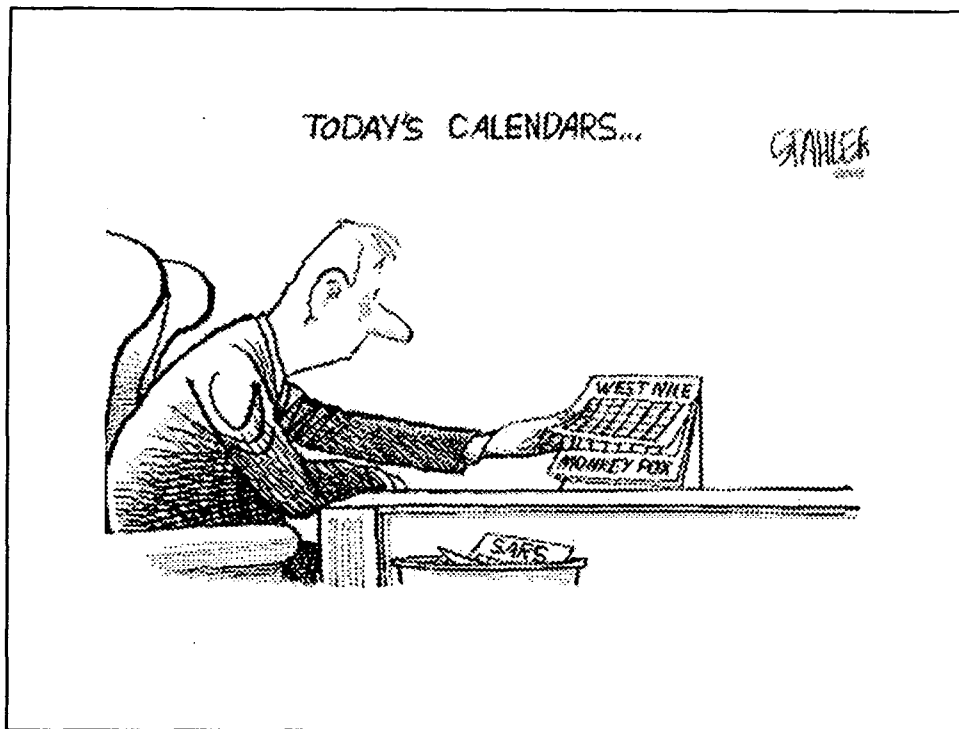


What's changed since 1992?

- Although every outbreak is local, any outbreak can be global
- Public health now tightly linked with public security
- Revolutions in:
information/biotechnology/genetics
- Linkage between human and animal health

2003





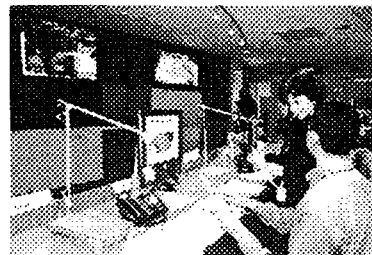
CDC's Response to SARS

- In the USA, only 8 cases of confirmed SARS infection
- However, the response was extremely complex...

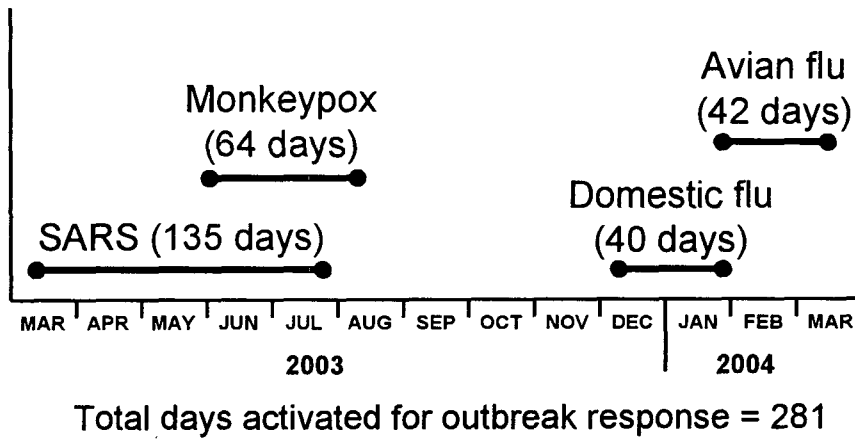
CDC SARS Response

- **866 staff on work teams, in lab, in support role, or in field role**
- **45,865 person-days (or 182.7 work-years)**
- **\$18.4 million in salary costs alone**

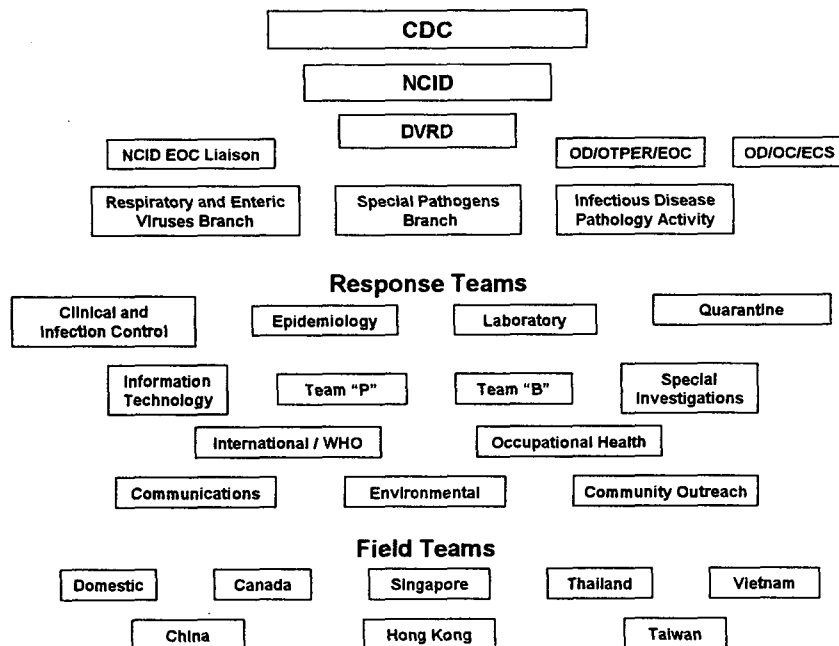
Marcus Emergency Operations Center



Activation of CDC's Emergency Operation Center March 2003—March 2004



CDC SARS Investigation 2003



U.S. SARS Cases

No. of reports received by CDC: >17,400

No. specimens tested at CDC: >5,500

Maximal number of persons classified as suspect or probable: 423

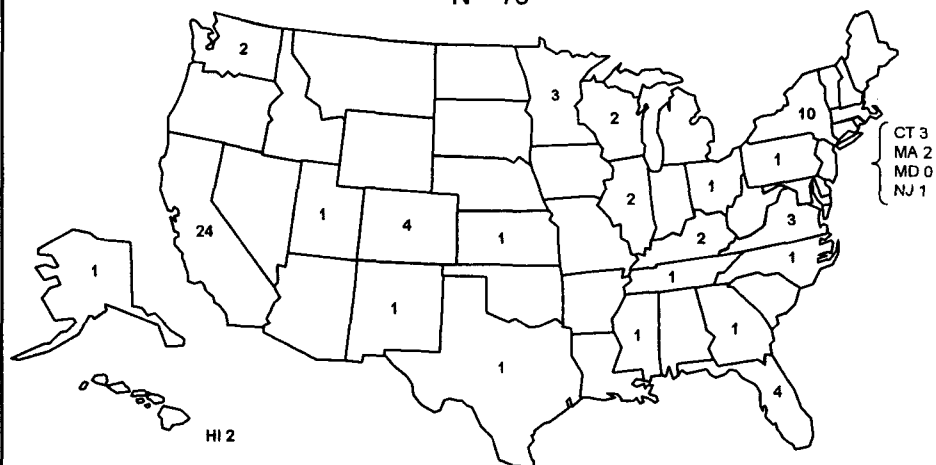
348 (80%) suspect

75 (20%) probable

No. confirmed: 8 persons

U.S. Probable SARS Cases

N = 75



SARS Lab Specimens* Received at CDC

<u>Specimen Type</u>	<u>No.</u>	<u>Specimen Type</u>	<u>No.</u>
Autopsy tissue	105	Stool	344
BAL/tracheal asp.	31	Urine	224
NP Swab		Serum	
acute	546	acute	1,535
convalescent	73	convalescent	530
unknown	225	unknown	1,420
Sputum	325	Other	80
Throat wash/swab	141	TOTAL	5,579

*Includes both domestic & international

CDC International Response: Personnel

Country	# staff deployed	total days
Taiwan	30	696
China	17	498
Vietnam	10	226
Singapore	5	137
Canada	9	103
Philippines	4	98
Hong Kong	6	88
Thailand	4	60
Switzerland	4	33
Cambodia	1	15
Laos	2	5

92 deployed *

totals: 84 personnel 1959 days (= 7.8 work-years)

* 6 staff members deployed to 2 or more countries

CDC SARS Response: Reagents

CDC shipments of SARS diagnostic materials to national and international academic centers, commercial companies, and governmental agencies

	RNA	Virus	Antigen	
Academic	32	13	1	46
Commercial	26	15	1	42
Governmental	21	18	4	43
	79	46	6	131

CDC SARS Response: Communications

News media calls handled: 10,166

News releases issued: 12

Live telebriefings/news conferences: 21

Health care responder conference calls: 30

Public Response Hotline:

34,229 phone calls answered

3,557 emails answered

2,017 physician hotline calls answered

3 SARS satellite broadcasts: >1.9 million participants

**CDC SARS website: 17 million page views
(3.8 million for April 20-26)**

CDC | CDC Home | Search | Health Topics A-Z

Severe Acute Respiratory Syndrome (SARS)

What's New | Search | Job Finder | Contact Us

What Everyone Should Know
 Get information about the signs & symptoms of potentially serious questions...

Clinicians | **Travelers**
Other Languages | **Workplaces**
Patients & Their Close Contacts | **Americans Living Abroad**
Schools

Diagnosis/Evaluation | **Training & Reference Materials**
Infection Control & Exposure Management | **Transport of Patients**
Laboratory & Specimens | **Travel**
SARIS InfoGuide | **Treatment**
Quarantine | **WHO & Other Related Bites**
Reporting

NEWS & HIGHLIGHTS
Case Report
SARS Infections in Other Countries
SARS Transmission Suspected
SARIS InfoGuide

<http://www.cdc.gov/ncidod/sars/>

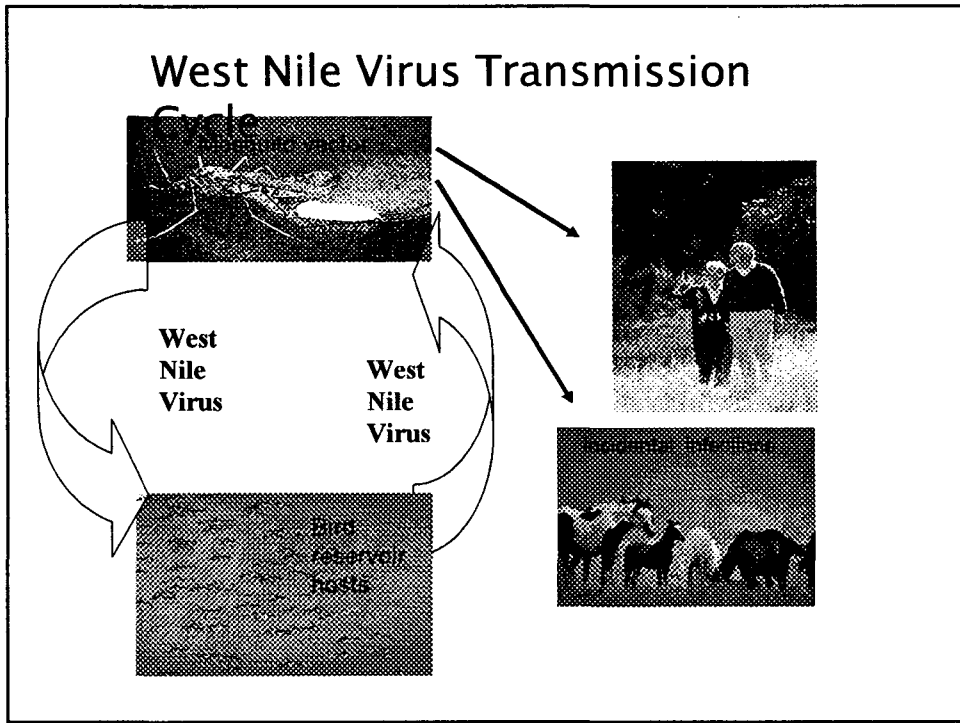
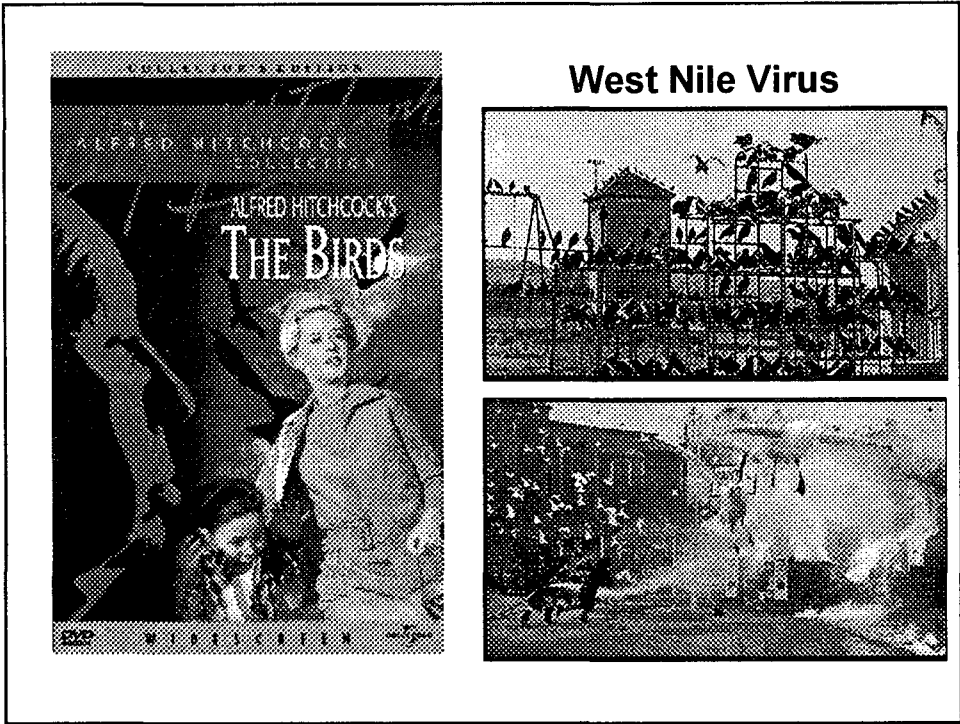
CDC

SEVERE ACUTE RESPIRATORY SYNDROME

CORE DOCUMENT

Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) Version 2—Core Document

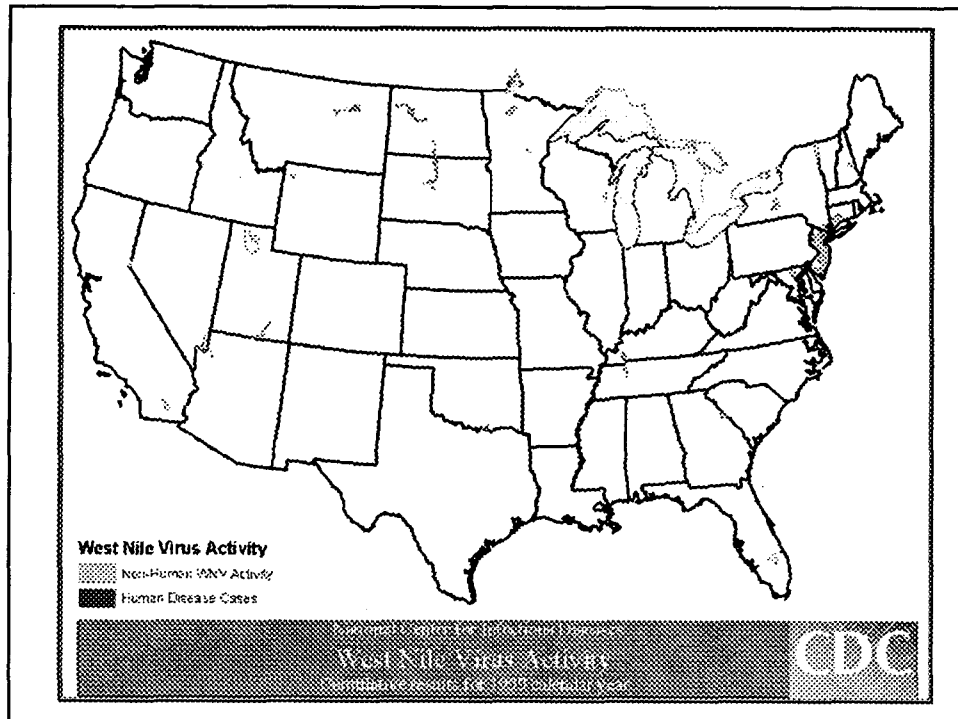
This is an updated version of the draft guidance document issued by the Centers for Disease Control and Prevention (CDC) on November 3, 2003. CDC revised the draft based on comments received from public health partners, healthcare providers, professional organizations, and others. CDC will continue to update the document as necessary to incorporate additional comments and to reflect increased understanding of SARS-CoV transmission dynamics and the availability of improved prevention tools. Please submit comments to: sars@cdc.gov

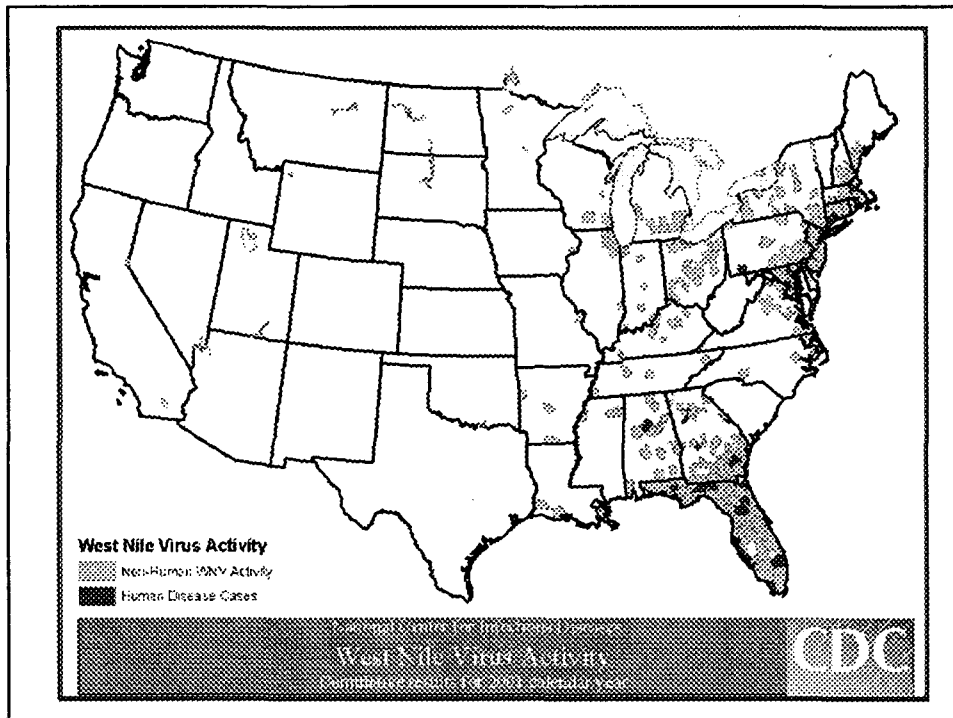
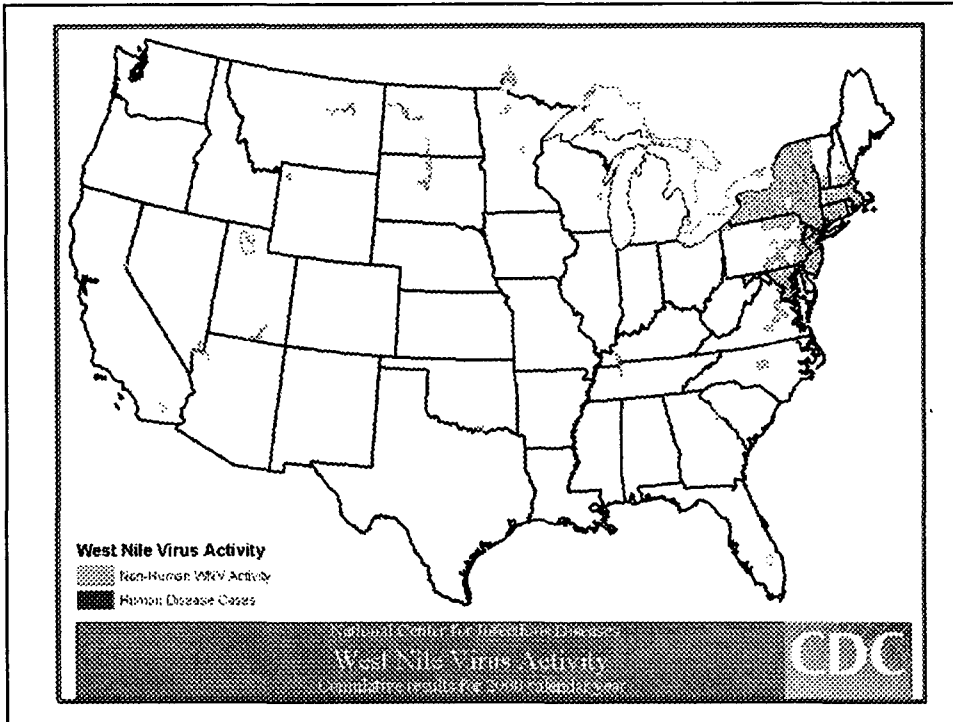


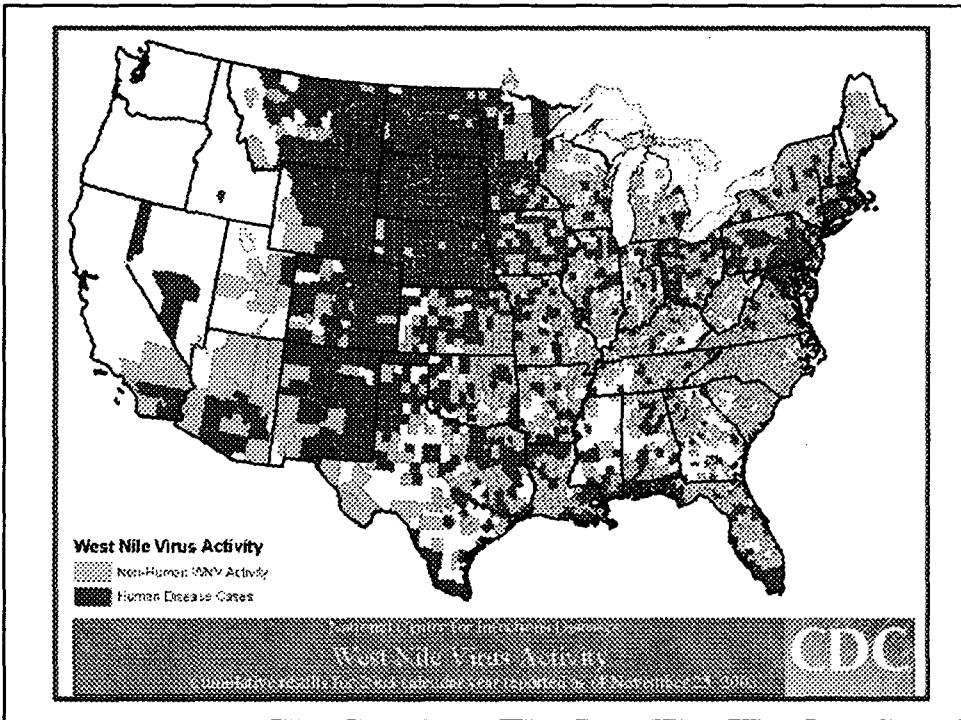
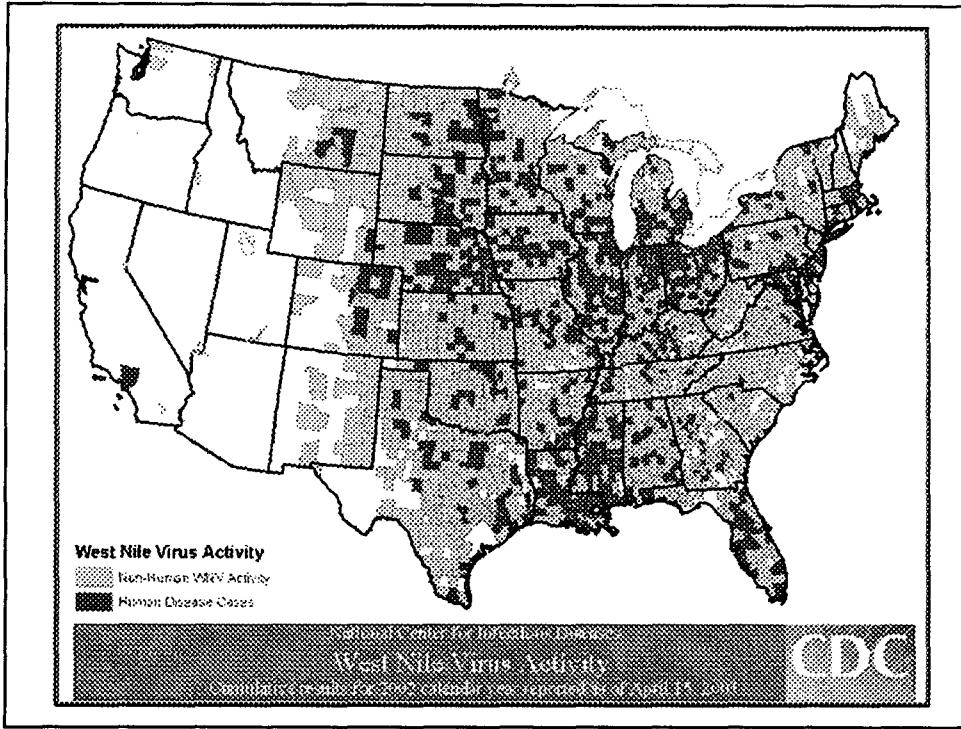
Reported WNV Cases in Humans, United States, 1999-2003*

Year	# Cases	# States	# Counties	Onset Date Range
1999	62	1	6	2 AUG – 24 SEP
2000	21	3	10	20 JUL – 27 SEP
2001	66	10	39	13 JUL – 7 DEC
2002	4,156	39**	740	19 MAY – 19 DEC
2003	9,615	45**	1053	28 MAR – 3 DEC

Canada: 2002 – 426 2003 - 1335

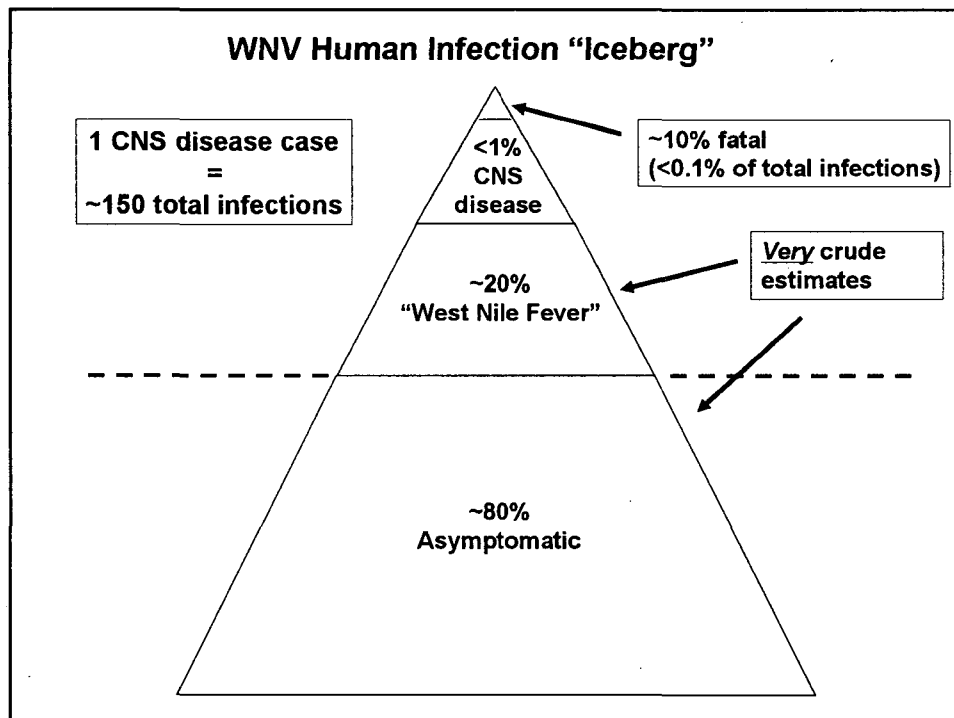






West Nile Virus Ecology in North America

- 49 mosquito species
- 162 native and captive avian species
- 18 other species (e.g., cats, dogs, squirrels, chipmunks, harbor seal, alligator, bats, reindeer)

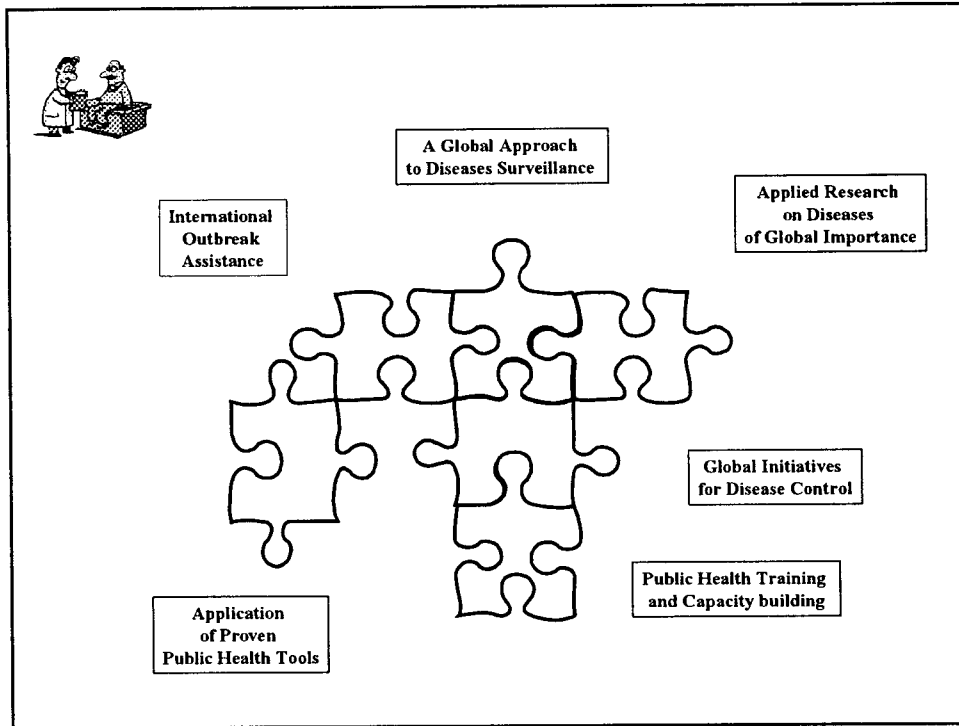


WNV Blood Screening, 2003

- **Transfusion-associated WNV transmission found in 2002 (23 documented episodes)**
- **Experimental screening tests (Nucleic acid amplification-NAT) introduced in summer 2003**
- **6.2 million units screened**
- **1,027 presumptive viremic donors identified**
- **1% encephalitis; 15% WN Fever; 84% asymptomatic**
- **6 transfusion-associated infections missed by assay**

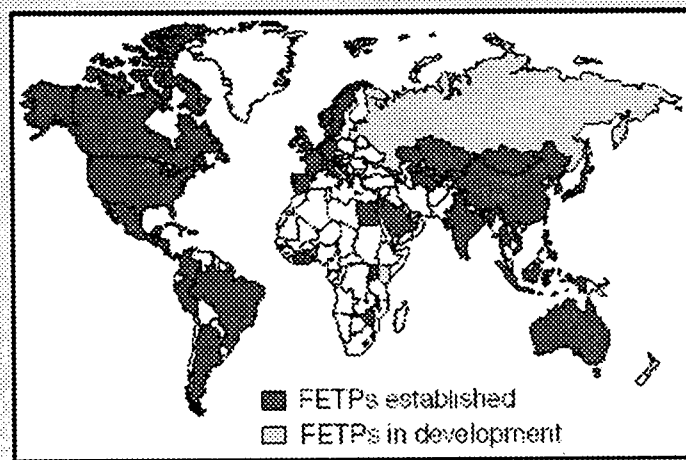
West Nile Virus Prevention & Control

- **Environmental**
 - Integrated pest management
 - Personal protective measures
- **Screening**
 - Blood donation screening
- **Vaccines**
 - Equine vaccine 2001
 - Human chimeric vaccine – Phase I & II 2003
- **Therapeutics**
 - Interferon
 - Immunoglobulin

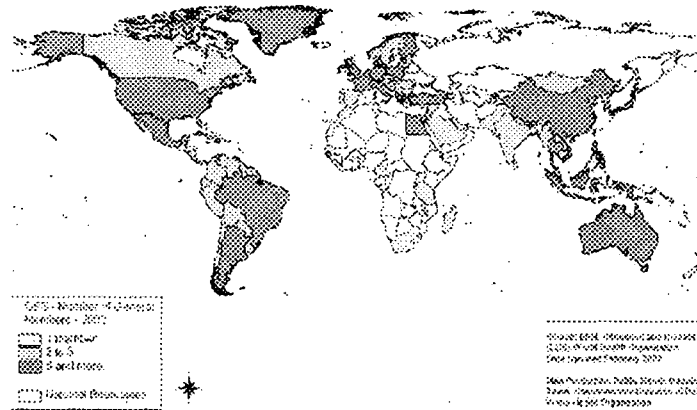


Public Health Training & Capacity Building

FIGURE. Locations of field epidemiology and training programs (FETPs), by status — worldwide, 2003

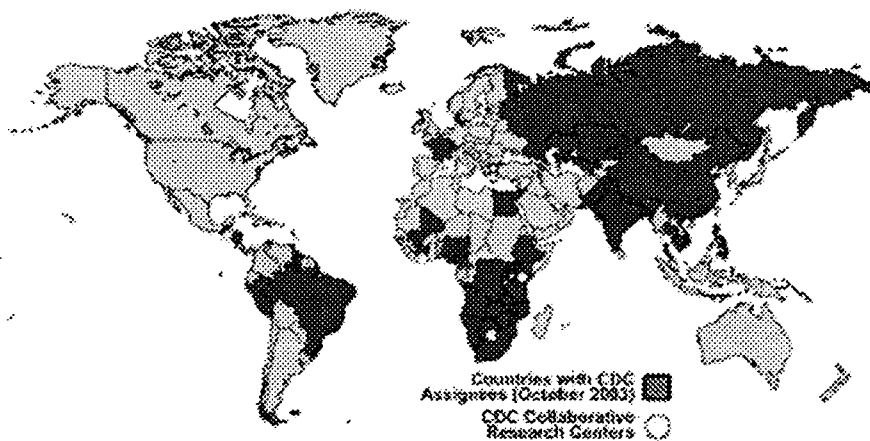


WHO Global Salm-Surv Network



600 Members, 134 Member Institutions, 113 Countries

CDC Staff: Global Locations



163 CDC staff in long-term health assignments in 44 countries



Bangkok, Thailand 23 January 2002

Global Imperatives

- Improving global surveillance/outbreak response
- Building regional coordinating mechanisms
- Building linkages between human & animal health
- Enhancing lab capacity, security & safety