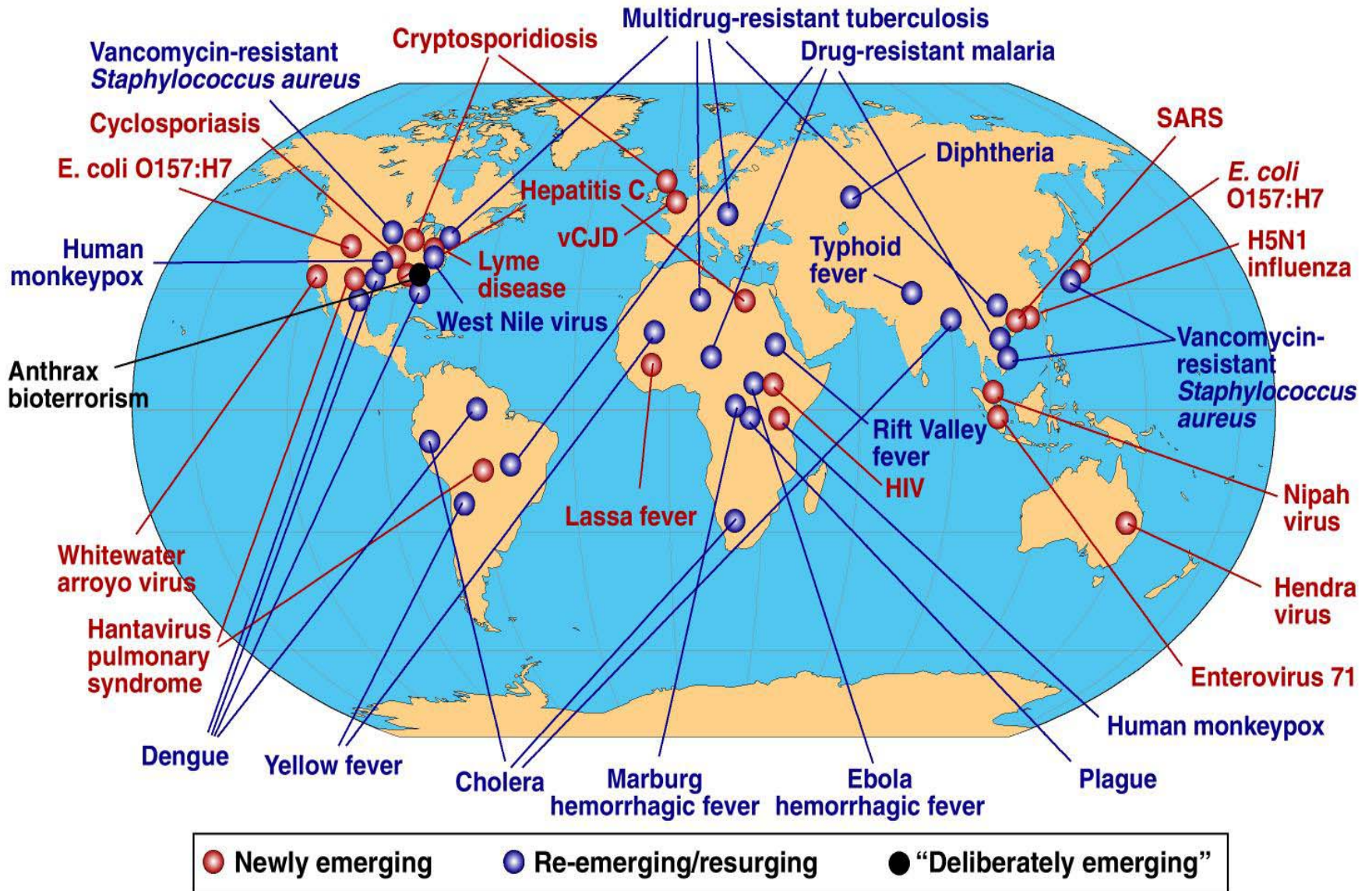


Global Examples of Emerging and Re-Emerging Infectious Diseases



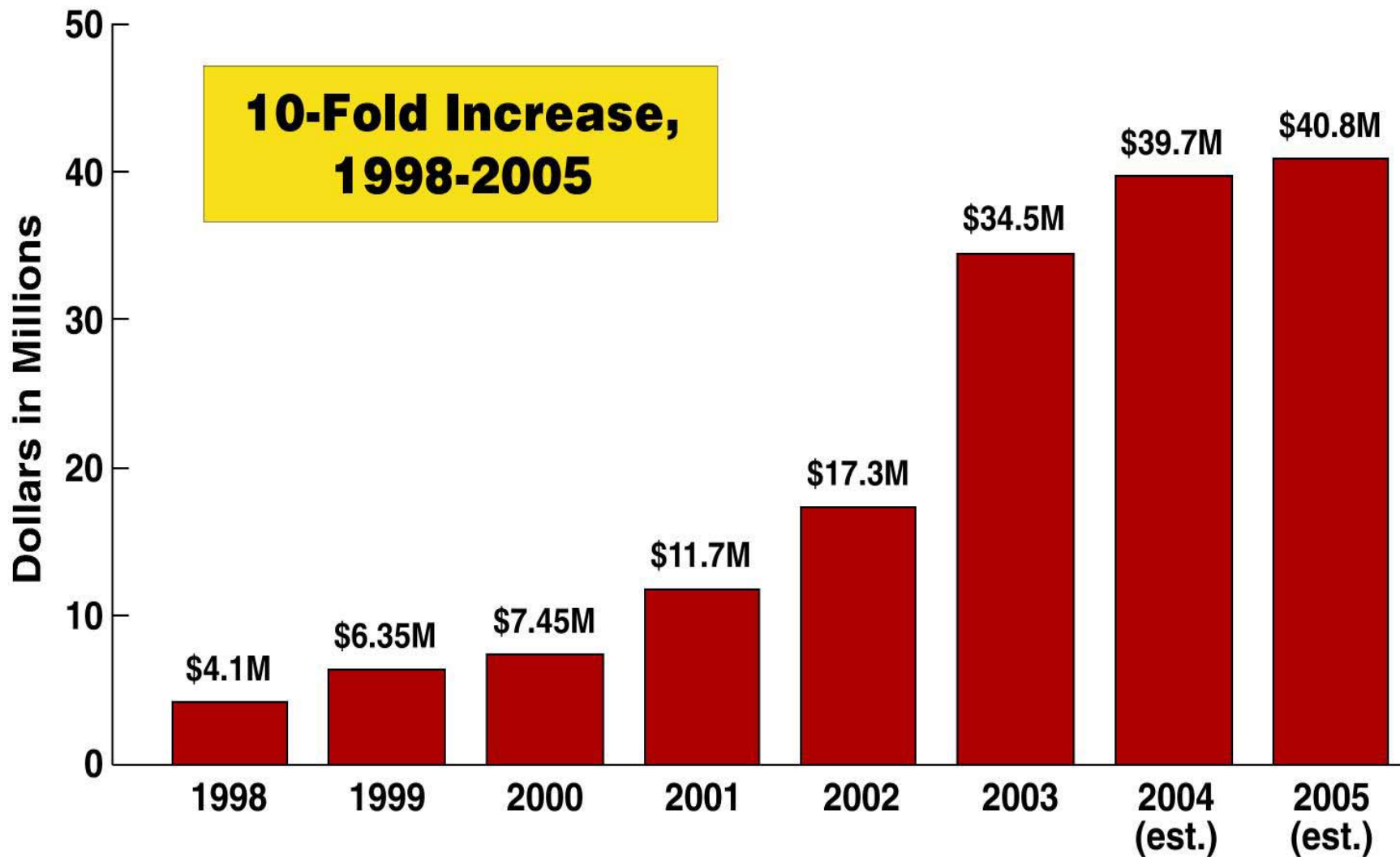
Examples of Important Mosquito-Borne Flaviviruses

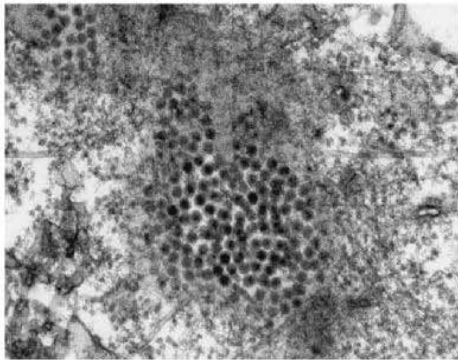


Culex mosquito

- West Nile Virus
- Yellow Fever Virus
- Japanese Encephalitis Virus
- Dengue Virus
- Saint Louis Encephalitis Virus

NIAID Funding for West Nile Virus Research





Basic Research



Animal Models



**Vector
Biology/Control**



Vaccines



Therapies



Diagnostics



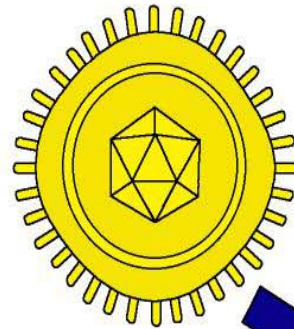
FY 2005 Funding: \$40.8M (est.)

Development of a “Chimeric” West Nile Virus Vaccine

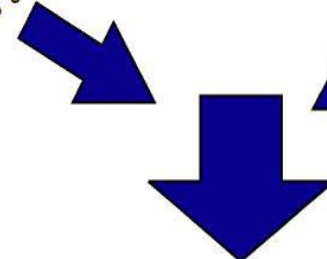
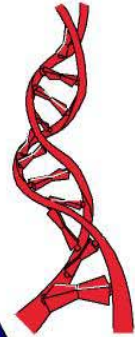


Chimera of Arezzo, 6th century BC
(lion/goat/serpent)

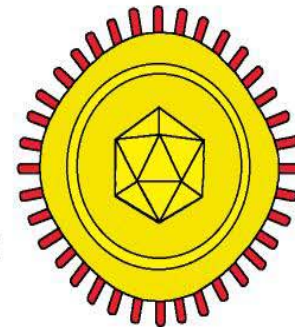
Attenuated Yellow
Fever Virus
Vaccine



Genes of Coat Protein
of West Nile Virus



Attenuated
Vaccine
Presenting
Antigens of West
Nile Virus



NIH Research on Potential West Nile Virus Therapies

- **Basic research and rational drug design, incl. novel antivirals and tailor-made antibodies**
- **Screening of existing antiviral compounds**
 - >1,000 compounds screened, 2-3% have antiviral activity against WNV
 - Promising compounds undergoing further testing in animal models
- **Nationwide phase I/II clinical trial to assess immunoglobulin product derived from Israeli blood donors with high anti-WNV antibody titers**



West Nile Vector Control

- **NIAID Funded Projects: 13, \$3M (2004 est.)**
- **Goals:**
 - **Develop novel approaches/strategies for controlling the principal vector species.**
 - **Understand the role of vectors in introducing and maintaining WNV in nature and transmitting it to humans.**



FINAL

THE SUN

August 30, 2004

West Nile Both Flares and Fizzles

Just five years after its arrival, the West Nile virus has completed its east-to-west invasion of the United States and Canada. At the same time, the mosquito-borne virus may be having a diminished impact on Maryland and other states where it has resided for several years.