Pandemic Influenza Preparedness: Complementary Roles within DHHS

CDC

- Surveillance and detection
- Train local response teams
- Maintain vaccine/antiviral stockpiles
- Disease control/prevention

NIH

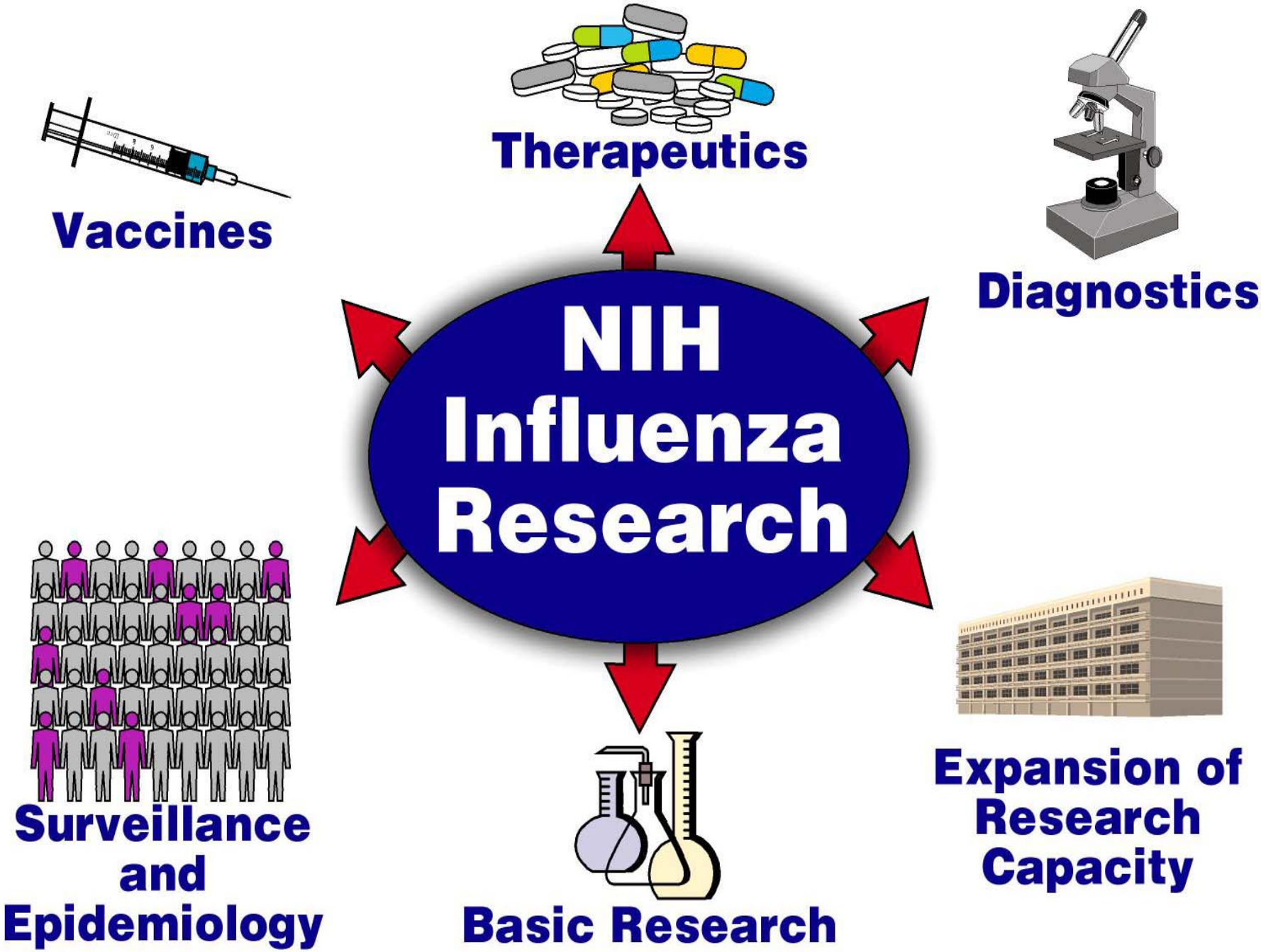
- Conduct basic research
- Develop medical interventions (vaccines, antivirals)
- Conduct clinical evaluation of vaccines and antivirals

FDA

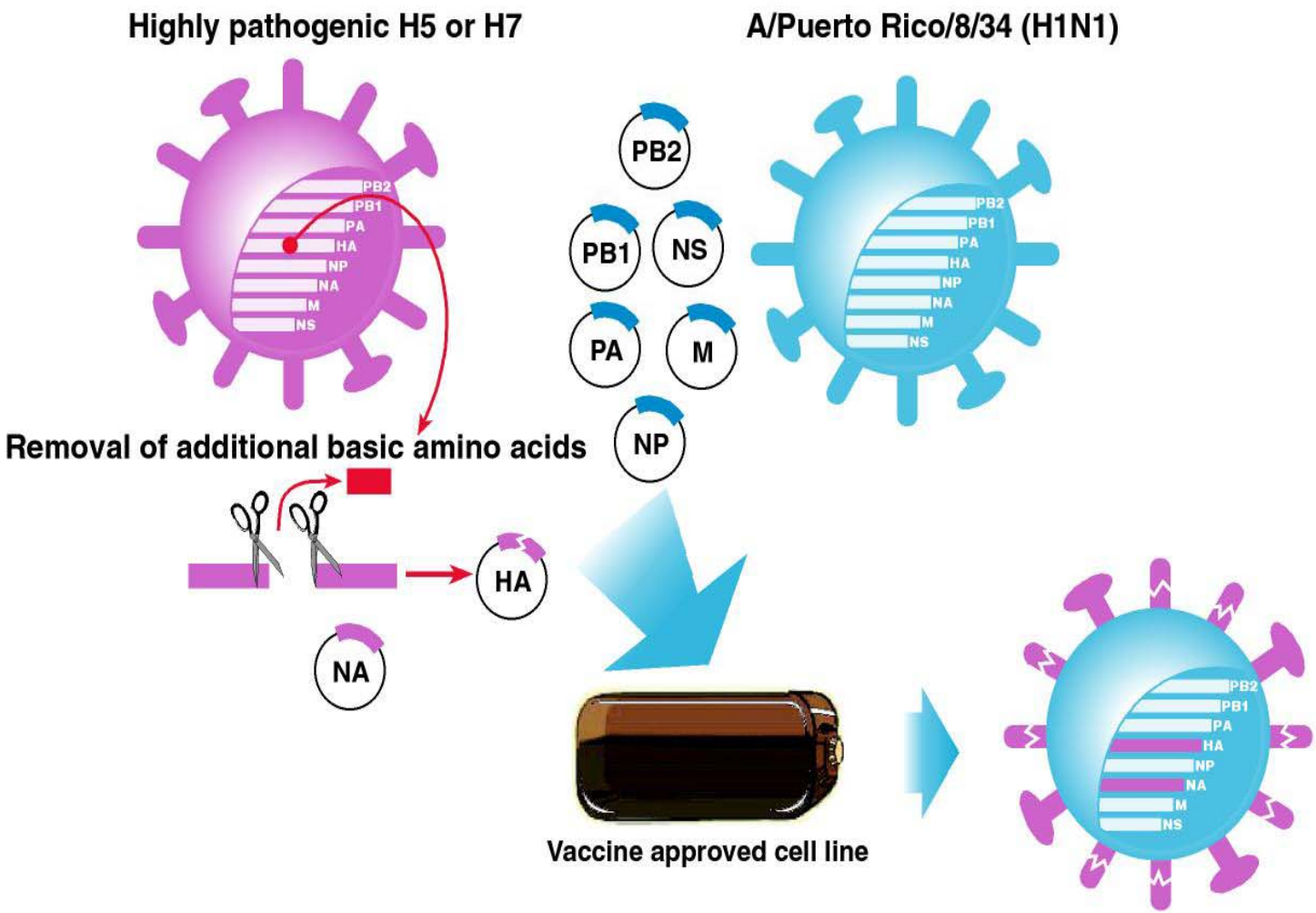
- Regulatory approval – vaccines, therapeutics, diagnostics

OPHEP

- Office of Public Health Emergency Preparedness coordinates HHS-wide emergency preparedness activities


Vaccines
Therapeutics
Diagnostics
NIH Influenza Research
Surveillance and Epidemiology
Basic Research
Expansion of Research Capacity

Influenza Seed Virus for Inactivated Virus Vaccine Production Using a Reverse Genetics System

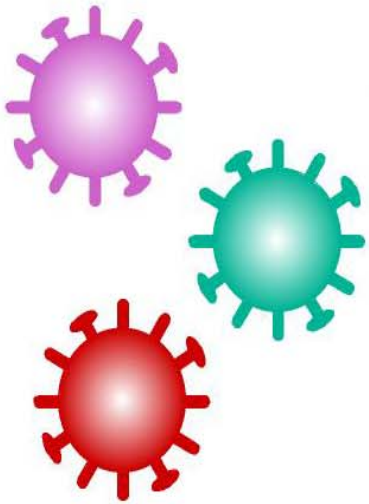


Source: Webster et al: *Vaccine* 20:3165 (2002); Science 302:1519 (2003)

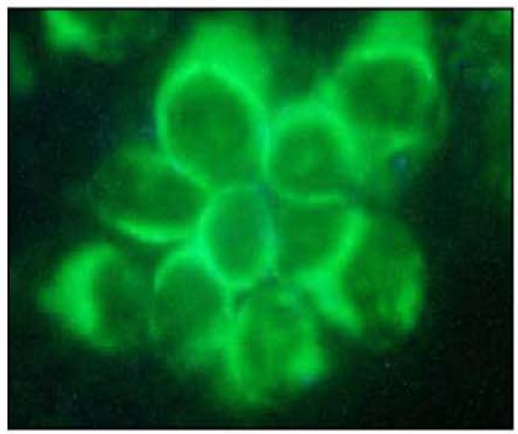
Influenza Vaccine Production: Cell Culture as an Alternative to Chicken Eggs

Provide target viruses to vaccine manufacturers

Identify target influenza strains



Egg-based



Cell culture-based

Reuters

March 24, 2005

U.S. Starts Human Tests of Bird Flu Vaccine

Phase 1 trial on 450 adults will determine safety of shots

U.S. health officials said on Wednesday they have started human tests of a vaccine against avian flu, which experts believe could kill tens of millions of people if it becomes easily passed from person to person.

Clinical Trials for Pandemic Influenza

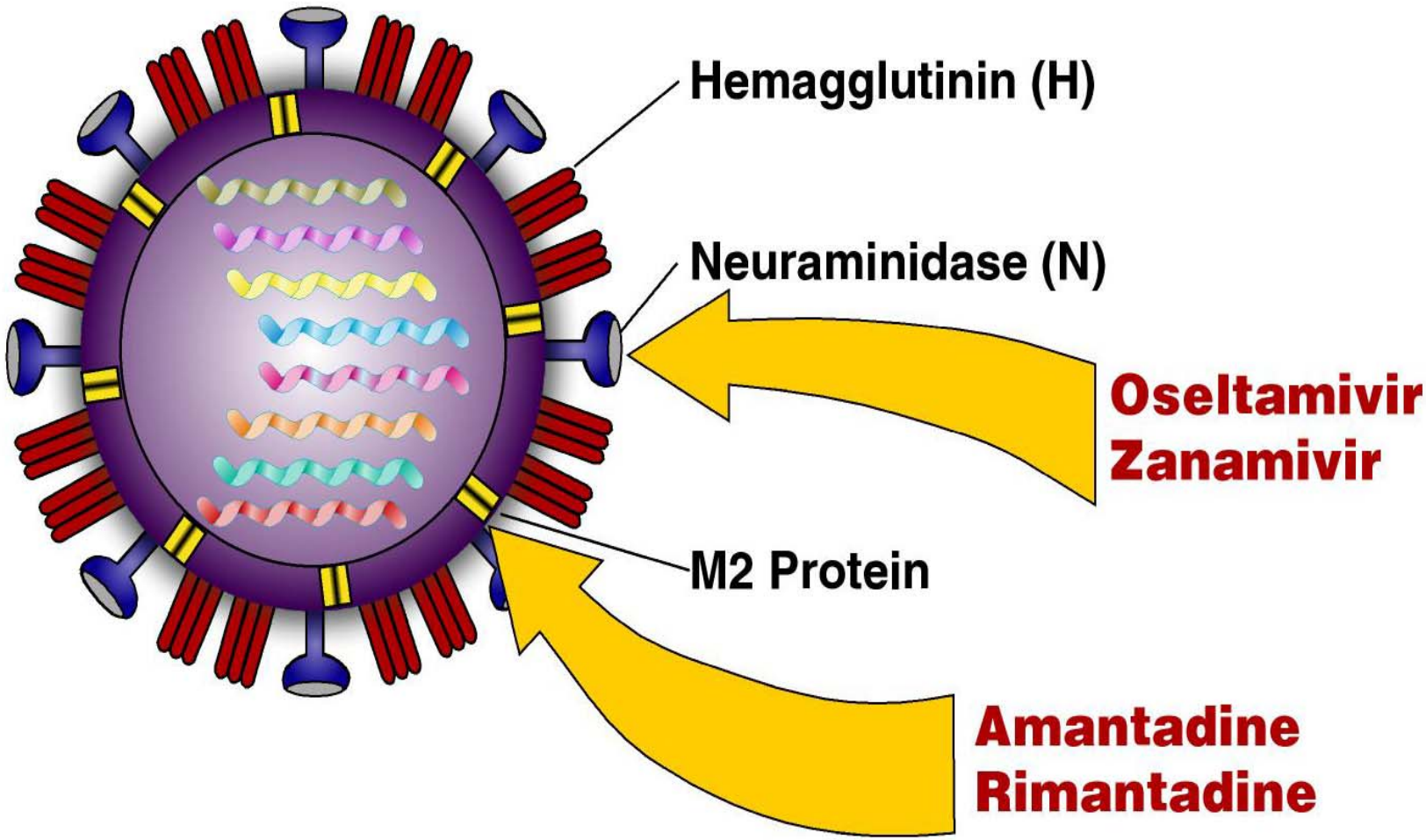
H5N1

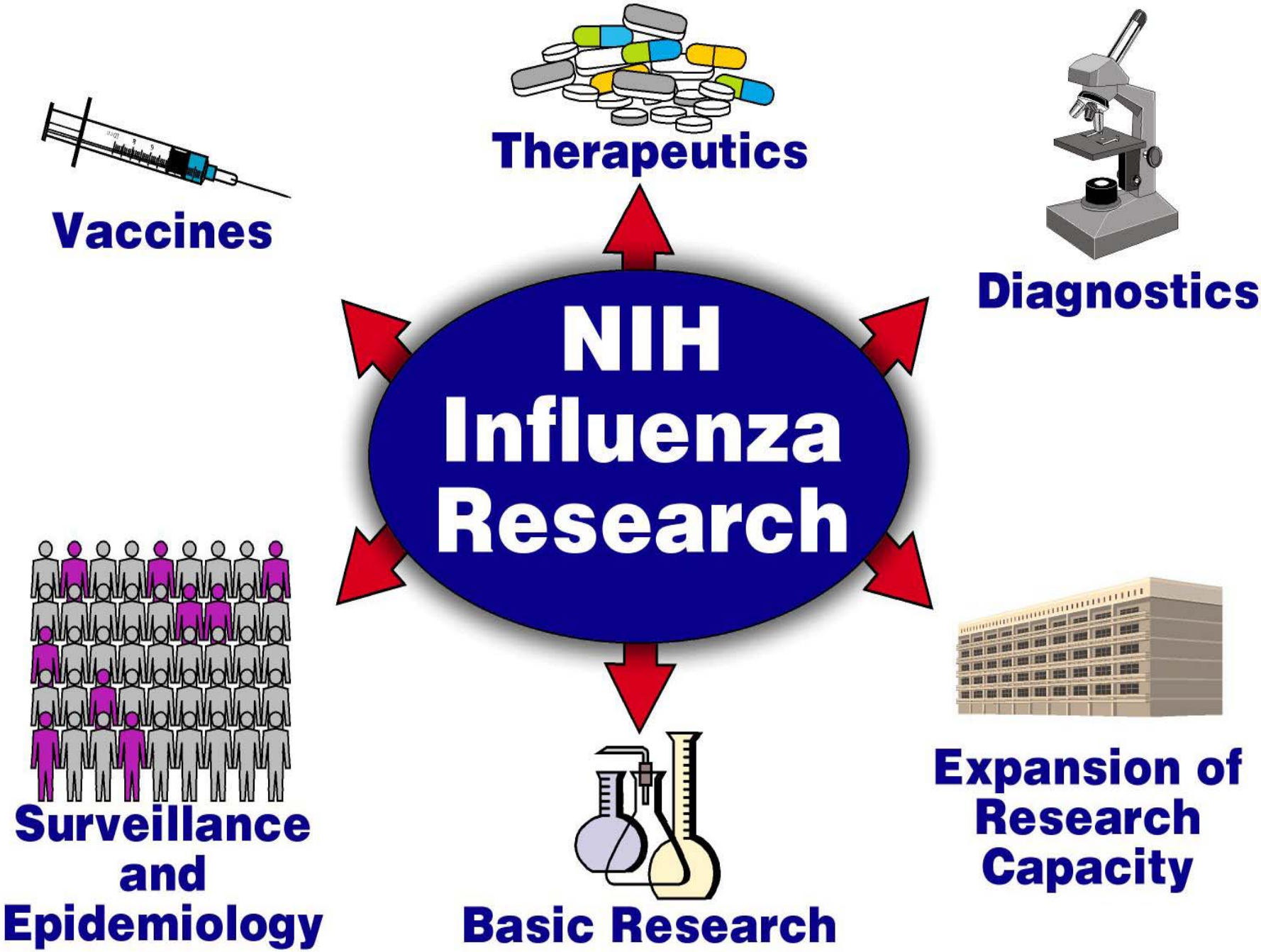
- Inactivated vaccine trial began April 4, 2005
  - Stage 1: fully enrolled (118 healthy adults)
  - Stage 2: fully enrolled (333 healthy adults)
  - Upon review of safety and preliminary immunogenicity data, plan to conduct trials in healthy elderly and children in late summer 2005
- Attenuated vaccine trial planned for late 2005

H9N2

- Inactivated vaccine trial began March 31, 2005
  - Fully enrolled (96 healthy adults)
- Attenuated vaccine trial planned for summer 2005

Antiviral Therapies for Influenza

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