

Financial Resources

Financial Resources Requirements

1. State influenza surveillance programs and PHLs should have adequate funding to support virologic surveillance requirements.
2. State influenza surveillance programs and PHLs should coordinate planning and allocation of available funds (ELC, PHEP, EIP, state) to program and laboratory elements (staff, information technology, all supplies, reagents and equipment maintenance).
3. National, state and local programs and PHLs should have effective cost accounting practices to justify resource needs and efficiently allocate available funds.
4. CDC should have adequate funding to support CDC's national virologic surveillance activities as well as state/local surveillance activities that rely on federal funds.
5. Programs within CDC such as ELC and PHEP that provide funding to support other state and local programs should collaborate to ensure that changes in one program do not unintentionally impact other individual programs.

Requirement Intent

An optimal influenza surveillance system requires adequate resources to support all essential elements defined in this roadmap document. Sustaining the national, state and local components of this system is increasingly threatened by the decline in annual and pandemic response funding. Implementation of the right size virologic surveillance guidelines will help CDC, PHLs and surveillance programs maximize available resources, redirect resources as necessary and build new capacity as needed for optimal surveillance. Accurate assessments of the cost of virologic surveillance activities are critical to justify and prioritize funding.

Federal funding provided since 2005 to support pandemic planning, and supplemental funding made available during the 2009 H1N1 response have resulted in many improvements to the US influenza surveillance system. It is important to use available resources now to optimize systems for the future. Collaborative planning, grant proposal development and funding allocation between influenza surveillance programs and PHLs is essential to ensure all involved parties have an understanding of the costs associated with all aspects of influenza surveillance and that all virologic surveillance requirements are adequately resourced.

Surveillance is supported by several different funding streams, distributed at different times depending on source. Additionally, the cost of surveillance and the availability and allocation of funds for the different components of virologic surveillance varies across jurisdictions; these challenges can impact the overall effectiveness of the surveillance system. While funding is often cited as a key limiting factor, the true costs of virologic surveillance are not well defined, likely because of the complexity of the system. Optimizing resources and justifying funding requests will require better cost accounting at the national, state and local level.

Federal Funding Sources

- **ELC Cooperative Agreement:** Currently, state/local influenza virologic surveillance systems rely heavily on CDC funding resources. In particular, the ELC cooperative agreement program has been the primary funding source for surveillance at the state level, especially for supporting programmatic and laboratory personnel. All 50 states and several large cities receive funding from CDC to support US influenza surveillance goals via the ELC cooperative agreement program. The primary goals of the influenza component of the ELC program include: establishing and supporting ILI sentinel provider networks, providing timely ILINet data to CDC and maintaining laboratory testing and reporting capability and capacity for year round virologic surveillance. CDC supports public health influenza virologic surveillance through the ELC because the work of the PHLs contributes to national and global disease prevention efforts. Specimens submitted to CDC and CDC-designated laboratories contribute the viruses used to assess antigenic changes that impact vaccine effectiveness; these viruses are also frequently selected as seed strains for the manufacture of seasonal vaccines.

Sustainable Funding is Critical

At least once a year, the influenza virus changes slightly. It stays ahead of testing and research—and ahead of funding for testing and research. The changing virus is one side of the equation. On the other side is the changing levels of funding. Labs experience “roller-coaster” funding levels—a surge of money in response to a crisis and cuts when a crisis is behind.

“People think of a lab as a building—you build it and you walk away. But you need people who are trained, you need new equipment, you need to stay up-to-date with disease pathogens.”

Excerpted from Lessons from a Virus.¹⁰

While routine annual influenza surveillance principally relies on ELC and state funding, these federal funding programs also contribute to national virologic surveillance goals:

- **EIP:** Active population-based surveillance in ten states for laboratory confirmed influenza-related hospitalizations. EIP sites also conduct influenza vaccine effectiveness evaluations among groups for which the Advisory Committee on Immunization Practices (ACIP) recommends annual vaccination.
- **PHEP Cooperative Agreements:** Provides some funding for certain pandemic planning and response activities, including partner and clinical laboratory outreach, the purchase of laboratory equipment and supplies or support for specimen courier/transport systems.
- **Other special projects:** As resources permit, CDC supports additional studies and special projects such as the Influenza Incidence Surveillance Program (IISP). These programs help increase capacity for participants and provide valuable data for national surveillance.

Additional Federal Resources

In addition to funding, other resources are provided to states by CDC to help minimize the financial and resource burden on each jurisdiction. Listed below are some of the key non-financial resources that help CDC and state/local jurisdictions meet the surveillance requirements outlined in this roadmap document.

- **Influenza Reagent Resource (IRR):** Since 2009 CDC's IRR provides rRT-PCR reagents to qualified PHLs to help sustain rapid virus detection and subtyping capacity. This is a critical resource that significantly reduces the financial burden for state/local jurisdictions and ensures the timely availability of molecular testing reagents intended for virologic surveillance. The IRR is able to bulk purchase which may be more cost effective than individual state purchases. Financial support for ancillary reagents through the IRR is assessed on an annual basis and is based on the availability of funds. The direct material cost to CDC for each IVD CDC Human Influenza Virus Real-Time RT-PCR Diagnostic Panel, including Influenza A/B typing and subtyping reagents, enzymes, extraction kits and plastics, is approximately \$14,000 (i.e., \$20 for each specimen tested).
- **CDC-Designated National Surveillance Laboratories:** CDC, in collaboration with APHL, has established enhanced capacity in several PHLs to provide antiviral susceptibility testing and influenza virus isolation that serves all PHLs. The virus culture capability supports expanded availability of viruses for antigenic and sequence-based characterization at CDC, providing data and viruses for annual vaccine virus selection.
- **PHLIP and Information Technology Support:** Technical assistance teams provide training, on-site assistance and follow-up consultation to assist PHLs implement PHLIP. Resources to assist PHLs implement PHLIP have come through CDC Pandemic Influenza funds provided to APHL, although recently additional support to implement similar standardized messaging initiatives have been made available through the CDC LRN, LEI, and Vaccine Preventable Disease (VPD) initiatives. The broad applicability of PHLIP to other programs and to other efforts to support "shared services" models among PHLs provides a path to sustainability for PHLIP; however, this will require ongoing focus and effort to ensure sustainable funding and technical support.
- **Technical Support and Training:** CDC subject matter experts are readily available to PHL and program staff to address clinical, operational and technical questions. Additionally CDC provides diagnostic testing of unsubtypeable and other specimens of clinical interest such as when antiviral resistance is suspected. CDC, in collaboration with APHL, has provided a variety of in-person technical training courses (i.e., PCR, pyrosequencing) for state and local jurisdictions at little or no cost to states to ensure the necessary expertise is readily available at PHLs.

It is critical that CDC be adequately funded to continue supporting state and national activities which ensure an effective national surveillance system. In return, states should ensure that they are meeting ELC, PHEP and other federal grant benchmarks to be good stewards of these resources.

As funding is always a limiting factor, every state will need to determine how to achieve influenza surveillance goals to meet national and state needs. Federal resources (funding, reagents) distributed to states need to be directed to activities that support overall national priorities. State/local capabilities beyond those recommended as essential to meet national virologic surveillance goals will require financial support from the state.

State Funding Sources

In addition to federal funding sources, many states also receive financial support from their state and/or local jurisdiction. These additional funds can be a critical funding stream for supporting state surveillance activities. The actual mechanisms and level of support varies across states. As data indicated in the [2011 Right Size Influenza Virologic Surveillance Landscape Survey](#), the amount of state funds expended in support of influenza surveillance varies greatly across states.² As previously described, it will become increasingly important for state funds to supplement federal funds for testing not deemed essential to meet national virologic surveillance goals. It is important that each state determine which virologic surveillance testing services are essential for their jurisdiction's needs.