Influenza Reagent Resource (IRR)

The Influenza Reagent Resource (IRR) was established by the U.S. CDC to provide registered users with reagents, tools and information for studying and detection of influenza virus. The IRR acquires, authenticates, and manufactures reagents that scientists need to carry out basic research and develop improved diagnostic tests, vaccines, and detection methods. Public health laboratories across the globe also use reagents they receive from IRR for the surveillance of emerging strains of influenza, such as H1N1, H7N9 and H5N1. By centralizing these functions within the IRR, access to and use of these materials in the scientific and public health community is monitored and quality control of the reagents is assured.

The roles of IRR in pandemic preparedness and influenza research are:

- To manufacture and distribute influenza diagnostic kits, viruses, and reagents to public health, commercial, domestic, and international research laboratories.
- To improve pandemic preparedness, enhance detection and control of seasonal influenza, and provide better access to reagents via a secure, web-based system.
- To augment CDC's international pandemic preparedness plan to provide a surge option (~$10+ million per year) which can be exercised to distribute reagents and diagnostic kits to domestic and international public health laboratories.

Between FY14–FY15, IRR distributed nearly 22,000 reagents for surveillance and research activities to > 400 international laboratories in 126 countries. In addition to the domestic network of public health laboratories in all 50 U.S. states, Washington DC, and Puerto Rico that perform diagnostic testing for influenza, 80% of international laboratories participating in the World Health Organization's Global Influenza Surveillance and Response System (GISRS) are currently registered with the IRR program.

	RT-PCR Reagents (Kits and ala carte)			WHO Reagents (Kits and ala carte)			Other IRR Reagents		
Domestic	US States, DC, PR	# of labs	# of reagents	US States, DC, PR	# of labs	# of reagents	US States, DC, PR	# of labs	# of reagents
	52	122	1,773	20	119	1,253	52	197	13,875
International	Countries	# of labs	# of reagents	Countries	# of labs	# of reagents	Countries	# of labs	# of reagents
	112	133	1,685	88	60	1,054	86	115	2,276
Total	113	255	3,458	89	185	2,307	87	312	16,151

Figure 1—During September 1, 2014 to May 30, 2015, IRR had shipped thousands of influenza reagents, including the CDC Human Influenza Virus Real-Time RT-PCR Diagnostic Panel and the WHO Influenza Reagent Kit for Identification of Influenza Isolates, to laboratories and countries all over the world.

Figure 2—Over 400 laboratories have ordered and received influenza reagents from the IRR since September 1, 2014.

Since 2012, the IRR website at www.influenzareagentresource.org has served as the program's online hub for managing the ~1400 requests for influenza reagents that it receives each year. Laboratories can view the IRR's catalog of 700+ influenza reagents and submit their requests electronically, as well as download product information sheets and certificate of analyses. Orders are triaged by CDC on a daily basis, with a team of customer service representatives on hand to coordinate shipping to recipient laboratories and facilitate navigation of international customs if needed.

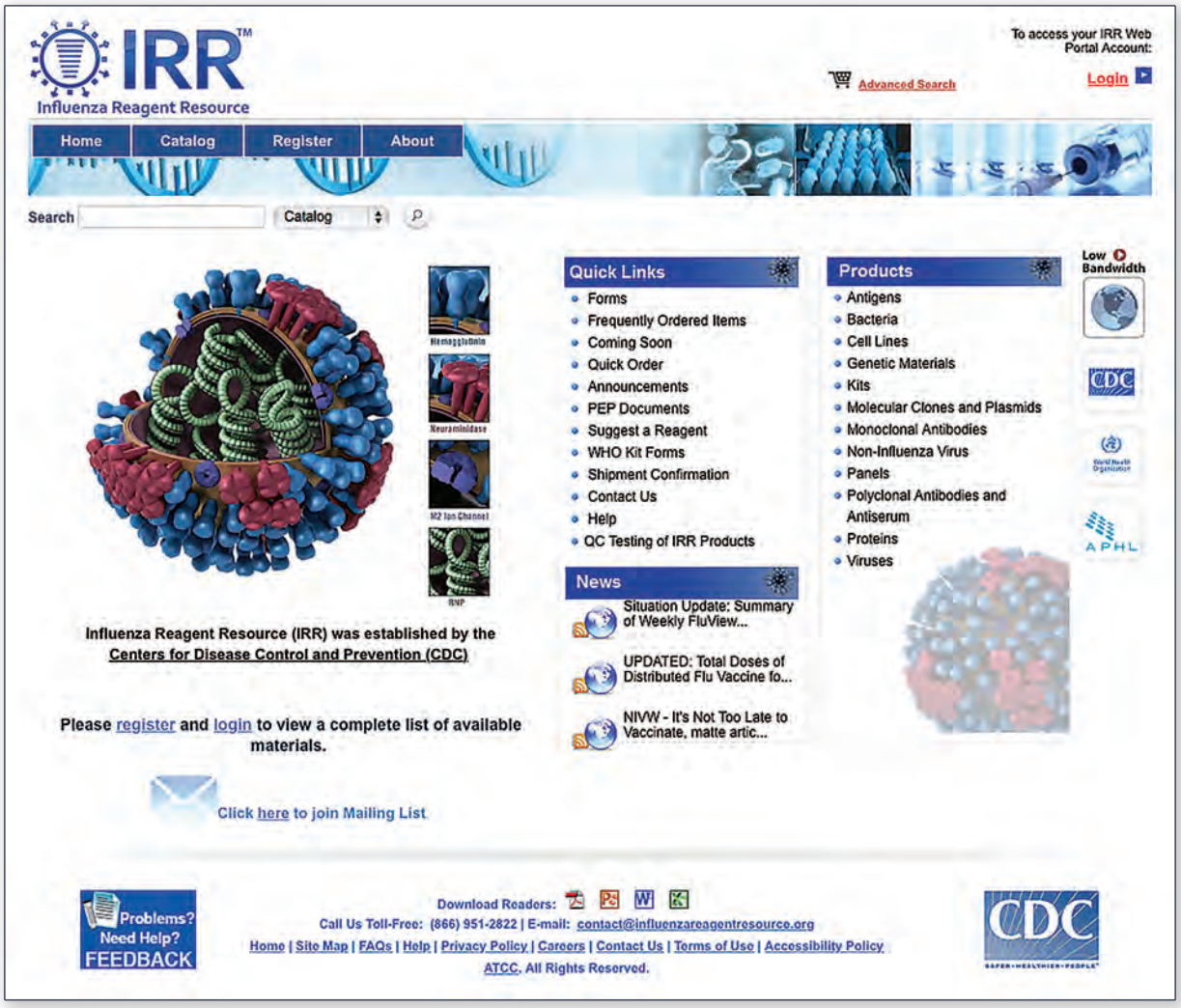

Figure 3—The IRR website provides information about its large influenza reagent catalog and receives online orders from registered laboratories.

Upcoming enhancements to the IRR program include deployment of a customer relationship management system within CDC-IRR operations. The Microsoft Dynamics-based software solution will facilitate IRR ordering and distribution processes. CDC epidemiologists and laboratory subject matter experts will also be able to use this tool to view real-time data metrics related to the IRR inventory as well as the ordering activity of IRR partner laboratories in support of surveillance and research activities. Another exciting development in the IRR program is its involvement with the Global Health Security Agenda. In conjunction with the Division of Viral Diseases and Division of Bacterial Diseases, the IRR will be adding a select catalog of reagents to support the growth of international surveillance for other viral and bacterial pathogens in partner countries.