

## **INFLUENZA VACCINE SUPPLIES FALL SHORT BY MORE THAN 10 BILLION DOSES REQUIRED DURING A PANDEMIC**

### ***Study Finds that New Technologies and Strategies Could Boost Pandemic Vaccine Supplies***

Seattle and New York — November 15, 2007 – If an influenza pandemic occurred this year, fewer than one-fifth of the approximately 13 billion vaccine doses needed to fully vaccinate the global population would be available within six months in a best-case scenario. A new study released today offers convincing evidence of the need for increasing the supply of pandemic flu vaccines and developing a global distribution framework. The study identifies both short-term and long-term strategies that should be pursued to maximize protection against pandemic flu for people in all countries.

The study, “Influenza Vaccine Strategies for Broad Global Access,” addresses the next influenza pandemic, which could result in more than 100 million deaths worldwide. It was prepared by the nonprofit global health organization PATH and management consultancy Oliver Wyman, in collaboration with the World Health Organization (WHO). The study presents key information and perspectives related to pandemic vaccine demand and supply from national policymakers, nongovernmental organizations, influenza vaccine manufacturers and developers, and other stakeholders, and suggests new strategies and policies to help meet the global demand for pandemic flu vaccines.

“Preventive measures for influenza are a global priority, given both the current disease burden associated with seasonal strains as well as the potential for significant mortality and morbidity due to an emergent pandemic strain,” explains Dr. Kathryn Edwards, scientific consultant to PATH and Vice-Chair for Pediatric Research at Vanderbilt University. The authors have developed a detailed set of recommendations on how best to provide global access to pandemic vaccines. Findings from this study were shared and discussed at a WHO consultation of global experts on pandemic influenza vaccines in Geneva on October 19, 2007.

“While the situation at first glance looks extremely challenging, there are real solutions that can be pursued to close the gap,” comments Andrew Pasternak, a Director at Oliver Wyman. “Successfully realizing these solutions, however, will require both global commitment and careful coordination among key stakeholders, with WHO playing a central role.”

In the near term, Oliver Wyman and PATH calculate that of the approximately 13 billion doses (to provide coverage with 2 doses of vaccine for the entire world population) needed in case of an outbreak, only 2.4 billion doses could be generated within a six-month time frame under a best-case scenario, given existing vaccine production capacity and the use of inactivated egg-based vaccines. Thus, “real-time” access, in which vaccine production is begun at the time of the outbreak and is based on the actual pandemic strain, is not a viable approach in the near-term to providing global coverage. Moreover, because most manufacturing capacity is in developed countries, it is unlikely that the near-term supply will be available for export to low-resource countries. Without a targeted strategy to stimulate the evolution of industry capacity, it is unlikely that the goal of meeting the needs of both industrialized and developing countries by 2012 will be achieved.

In contrast to waiting for a pandemic to start before initiating vaccine production, if pre-pandemic measures, in which production of vaccines based on currently circulating H5N1 strains for stockpiling or pre-pandemic immunization, began today, global demand could be

covered by 2011 in a best-case scenario. However, in an alternative scenario, less than 20% of the global population would be covered by 2013. “The success of these measures depends on implementing new approaches such as providing broad access to novel, antigen-sparing adjuvants and successfully extending the shelf life of vaccine stockpiles,” notes Adam Sabow, a Principal at Oliver Wyman.

In the longer term, newer technologies including live attenuated (egg-based or cell-based) technology and recombinant technologies (proteins and virus-like particles) have the potential to meet the need for affordable influenza vaccines. Critically, they could make “real-time access” a viable solution, which offers the advantage of ensuring that vaccine strains are well matched to the circulating influenza strains that are causing a pandemic. Vaccines based on these technologies could potentially be produced for less than 25 cents per dose, the authors estimate. “The potential of newer technologies to provide global access is very encouraging,” comments Dr. John Boslego, Director of the Vaccine Development Global Program at PATH. “Accelerating further development of live attenuated and recombinant technologies should be a global priority.”

Using these technologies, four to eight bulk production facilities located in developing countries would result in sufficient surge capacity to serve the vast majority of global populations in the event of an outbreak. Encouragingly, significant fill/finish capacity (the activities for putting formulated bulk vaccine in vials to be distributed) exists globally which could be diverted in the event of an outbreak, provided there is an advance political commitment to quickly implement this if needed.

The study estimates that an investment of \$2 billion to \$10 billion is required to implement both near-term and longer-term strategies for vaccine access. This takes into account upfront investments to create capacity, and ongoing manufacturing costs during the pre-pandemic and during-pandemic periods, but does not include profit margins for vaccine manufacturers (which need to be determined through specific commercial terms) or overall costs to administer the vaccines. The report details the activities that will need to occur in many sectors to implement these strategies. Successfully executing these activities will require extraordinary collaboration and coordination among WHO, vaccine manufacturers, and developed and developing world policymakers, among others.

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### **About the Report**

“Influenza Vaccine Strategies for Broad Global Access” was prepared by Oliver Wyman and PATH with funding by the Bill & Melinda Gates Foundation, from January to June 2007. The study included close collaboration with WHO and input from many core constituents from the influenza vaccine sector. The overall objectives were to fuel development of a concerted, detailed worldwide plan for developing world populations and to identify and quantify potential investment opportunities. Copies of the report are available at <http://www.path.org/publications/pub.php?id=1538>.

### **About Oliver Wyman**

With more than 2,500 professionals in over 40 cities around the globe, Oliver Wyman is the leading management consultancy that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and

leadership development. The firm helps clients optimize their businesses, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities. Oliver Wyman is part of Marsh & McLennan Companies [NYSE: MMC]. For more information, visit [www.oliverwyman.com](http://www.oliverwyman.com).

### **About PATH**

PATH is an international, nonprofit organization that creates sustainable, culturally relevant solutions, enabling communities worldwide to break longstanding cycles of poor health. By collaborating with diverse public- and private-sector partners, PATH helps provide appropriate health technologies and vital strategies that change the way people think and act. PATH's work improves global health and well-being. For more information, please visit [www.path.org](http://www.path.org).

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