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## ISSUES TO CONSIDER: SMALLPOX VACCINE DILUTION

Several U.S. studies<sup>1</sup> have suggested that the U.S. vaccine can be safely diluted 5-to-1, and health officials have stated publicly that in the event of a crisis, the U.S. could dilute its vaccine supply. This type of dilution has never been used in an actual emergency.

- The European Commission<sup>2</sup> has reviewed the two U.S. dilution studies and concluded that diluting vaccine would be inadvisable. The EC believes that dilution would increase the risk of ineffective inoculations.
- WHO has decided that there will be no diluted vaccine in the WHO stockpile because of the risks associated with dilution.

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### 1 Studies and News Reports on Dilution of U.S. Smallpox Vaccine

Frey SE, Couch RB, Tacket CO, Treanor JJ, Wolff M, Newman FK, Atmar RL, Edelman R, Nolan CM, Belshe RB, the National Institute of Allergy and Infectious Diseases Smallpox Vaccine Study Group. Clinical responses to undiluted and diluted smallpox vaccine. *N Engl J Med* 2002 346:1265-1274. Available at: <http://content.nejm.org/cgi/content/full/346/17/1265>. Accessed January 2005.

Talbot TR, Stapleton JT, Brady RC, Winokur PL, Bernstein DI, Germanson T, Yoder SM, Rock MT, Crowe JE Jr, Edwards KM. Vaccination success rate and reaction profile with diluted and undiluted smallpox vaccine: a randomized controlled trial. *JAMA* 2004 292:1205-1212. Available at: <http://jama.ama-assn.org/cgi/content/full/292/10/1205>. Accessed January 2005.

National Institutes of Health, National Institute for Allergy and Infectious Diseases. Press release: NIAID study results support diluting smallpox vaccine stockpile to stretch supply. 2002 March 28. Available at: <http://www2.niaid.nih.gov/newsroom/releases/smallpox.htm>. Accessed January 2005.

Roos R. NIAID study: diluted smallpox vaccine remains potent. *CIDRAP News Report*. 2002 March 29. Available at: <http://www.cidrap.umn.edu/cidrap/content/bt/smallpox/news/vacdilution.html>. Accessed January 2005.

### 2 European Commission Position on Smallpox Vaccine Dilution

Gouvras G. Policies in place throughout the world: action by the European Union. *Int J Infect Dis*. 2004 Oct;8 Suppl 2:S21-30. Available at: <http://dx.doi.org/10.1016/j.ijid.2004.09.003>. Accessed January 2005.