

Isolation Vs. Vaccination in Containing Epidemics

By ACSH Staff — October 27, 2015

A recent [study](#) [1] from the University of Siena, Italy had a seemingly unconventional, but potentially effective, take on combating epidemics in the world's poorer countries: isolation trumps vaccination.

Researchers concluded that epidemics occurring in developing nations, where financial resources were limited, have a greater chance of being eradicated when efforts are focused on isolating stricken patients rather than vaccine development.

Using three different models, the study looked at how diseases are transmitted and compared the financial burden and effectiveness of different interventions when used alone or in combination. These interventions included: 1) discovering medical treatments if they were not yet available; 2) limiting contact; 3) isolating infected persons to prevent transmission; and 4) eliminating the external source of infection, which included prevention.

These findings, published by the non-profit *Public Library of Science (PLOS)*, appeared to be most relevant when considering the most recent Ebola crisis in West Africa. Many governments within the region instituted a combined approach of isolating cases, contact-tracing with quarantine and sanitary burials, all in an effort to reverse the spread of the epidemic.

Focusing on controlling these parameters in the immediate crisis, as opposed to funneling limited governmental budgets and international aid toward vaccine development, appeared to have curtailed the outbreak. The WHO declared Liberia free of the Ebola virus transmission on Sept. 3, and the country is now undergoing a 90-day period of intensive surveillance.

This study isn't an anti-vaccination declaration. The goal of prevention is still at the forefront, evidenced by a 2015 report cited by the study, noting wide experimentation in Guinea on the efficacy and effectiveness of a Ebola vaccine.

And as [opponents point out](#) [2] linear models, like the ones used in this study, assume that financial investments result in equal returns, but unfortunately that doesn't normally occur in the sphere of vaccine R&D. A small research investment can lead to big advances, and conversely, large investments can lead to no real gains.

Take for example, pharmaceutical giant, Eli Lilly & Co. which recently pulled the plug on its Phase III clinical trial for a new cholesterol drug, evacetrapib. With a large sample population of 12,000, adequate funding and great fanfare about the possibility of a new cardiovascular drug on the market, the anticipated outcome never arrived.

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Links

[1] <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0137964>

[2] <http://www.scidev.net/global/funding/news/isolation-beats-vaccines-epidemics-poor-nations.html>