

# Limiting social contacts limits flu spread

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U.S. scientists have developed a mathematical model to track the progression of an influenza outbreak.

Massachusetts Institute of Technology researchers, led by Professor Richard Larson, said their model suggests the death toll of such an epidemic might be greatly reduced by minimizing social contacts and practicing good hygiene, such as frequent hand washing.

Larson's team developed a mathematical model that assumes a heterogeneous population with different levels of flu susceptibility and social contact. They then used the model to compare scenarios in which people maintained their social interactions as the flu spread and in which they didn't.

Their results showed reducing social contacts of people who normally have the most interactions could dramatically slow early growth of the disease.

The researchers also found a striking difference in death toll depending on how early in the epidemic social distancing measures went into effect. For example, in a hypothetical population of 100,000 susceptible individuals, 12,000 fewer people were infected if social distancing steps were taken on Day 30 of an outbreak instead of Day 33.

The complex study is available in the journal *Operations Research*.

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