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Chris Barrett, Jiangzhou Chen, Stephen Eubank, Achla Marathe, Madhav Marathe
and **Anil Kumar Vullikanti*** (vsakumar@vt.edu). *Economics of Epidemic Planning and Response*.

A fundamental challenge in public health decision making is to design cost-effective interventions to control the spread of diseases. Interventions include a combination of vaccinations, anti-virals and quarantining, and choosing effective interventions within a given budget is a challenging stochastic optimization problem. Different kinds of targeted heuristics have been proposed, including those based on degree and demographics such as age. We use a measure called vulnerability to design targeted interventions, and find it is much more effective than other heuristics. We also use this measure to develop efficient algorithms for protecting a selected sub-population. (Received August 02, 2011)