1135-92-869 **Hannah Callender Highlander*** (highland@up.edu), 5000 N Willamette Blvd, University of Portland, MSC 60, Portland, OR 97203. *Open Problems for Undergraduates: Vaccination Strategies for the Control of Infectious Disease.*

Infectious diseases are a serious threat to our health. Vaccination often can prevent their spread, but typically it is not feasible to vaccinate absolutely everyone. Sometimes it is necessary to carefully target the group of individuals to whom a limited supply of vaccine should be administered in order to achieve the largest amount of overall protection for the whole population. A method for choosing the group to be targeted for maximal effect is called a vaccination strategy. The development of optimal vaccination strategies leads to interesting mathematical problems and requires some knowledge of the contact network of the given population. Here I will introduce several open problems in this area that my coauthor and I recently published in a book dedicated to open problems for undergraduates in mathematics. (Received September 15, 2017)