Letters to the Editor

IT IS TOO EARLY TO DISCUSS HIV ELIMINATION

In his model-based analysis, Holtgrave suggested that elimination of human immunodeficiency virus (HIV) is within the foreseeable, although perhaps distant, future in the United States.¹ Similar sentiments surrounding eradication of HIV are starting to gain attention around the world.² Elimination of HIV is an ultimate public health goal, but is it really within our current grasp?

The efficiency of HIV transmission is relatively low^{3,4} compared with most infectious diseases.⁵ Consequently, not everyone infected with HIV will transmit the virus to someone else, and transmission events are relatively rare at the individual level. However, under these conditions, each year there are currently an estimated 2.5 million new cases of HIV transmitted worldwide⁶ and approximately 50,000–60,000 cases in the U.S.^{7,8} Although incidence is declining in some regions and population groups, and even if transmission rates in the U.S. decrease by up to 50% in the next 10 years, it appears that we are still a long way from elimination. It is just too early to practically consider elimination.⁹

Holtgrave¹ employed the reproductive number from the simple S-I-S Anderson-May model for a recoverable infectious disease⁵ to suggest that HIV elimination is within reach. This model assumes that behavioral and clinical parameters do not change over time, that infected individuals clear infection after a given duration and become susceptible again to reinfection, and that there is no HIV/acquired immunodeficiency syndrome-related (or any other) deaths in the population. Further, the model does not include heterogeneity in infectiousness for people throughout their infection, nor does it consider heterogeneity in the behavior and incidence among diverse population groups. Therefore, this model is inappropriate for assessing the potential eradication of a complex disease such as HIV in a complex epidemiologic setting such as the U.S.⁸ But, more important than the model itself is the premise of current discussions; namely, elimination of HIV from populations. In the real world, all we can practically consider from the current situation is that funding be secured for designing and implementing combinations of public health interventions that we believe will have the greatest impact on reducing the risk of transmission in the short term.

It is time to get real by customizing real interven-

tions for real people who are at real risk of infection. Such interventions should have the potential to be effective at reducing risk, be feasible to implement, and be acceptable to vulnerable populations, which should be welcome as essential partners. Models can be useful for discerning the interventions that are likely to be the most effective at mitigating epidemic trends in the short term. Practical public health programs should also be coupled with indicators and targets for assessing realistic reductions in HIV transmission in the next five to 10 years. It is not realistic to expect complete prevention of HIV transmission in the foreseeable future, but there is real potential to achieve reductions in risk of infection with sensible public health programs to mitigate HIV epidemics.

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HOLTGRAVE RESPONDS

The comments of Wilson and Hosein¹ regarding my article on the elimination of human immunodeficiency