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Original Article

Costs and Consequences of the US Centers for Disease Control and Prevention's Recommendations for Opt-Out HIV Testing

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I thank Drs. Branson and Janssen for their comments on "Cost and Consequences of the US CDC's Recommendations for Opt-out HIV Testing." We all share the important public health goals of HIV prevention, early diagnosis, and quick access to high quality care and treatment.

The commentary by Drs. Branson and Janssen does contain some errors and issues that I would like to address. First, Drs. Branson and Janssen note that HIV prevalence among 13 to 64 year olds in the US is close to 0.5% but they assert that my opt-out testing model estimates it to be 0.2%. That assertion is not correct. My opt-out testing scenario model assumes HIV prevalence to be 1 million persons living with HIV divided by 210 million persons 13 to 64 years old (i.e., about 0.48% which rounds to 0.5%).

Drs. Branson and Janssen do correctly note that my opt-out testing scenario assumes a 0.087% level of new HIV diagnosis. However, that low level is a function of the breadth of the CDC guidelines not of any special assumptions in my model (the 0.087% level is simply determined by the size of the US population 13-64 years old, CDC's estimate of the number of persons living with HIV in the US, CDC's estimate of the percentage of HIV seropositive persons who are unaware of their serostatus, and a CDC MMWR article regarding the number of HIV seropositive persons in the health care system prior to HIV diagnosis).

Another error to note is that Drs. Branson and Janssen assert that my targeted testing model is unrealistic. However, they state that the targeted testing scenario assumes an HIV prevalence level of 10%. That assertion is not correct. My targeted testing scenario

assumes an HIV prevalence of 1% (as indicated in the article). Further, in the paper, I explore in sensitivity the impact of taking this HIV prevalence level down to 0.3% and find the superiority of the targeted testing scenario to be robust.

At other points in their commentary, Drs. Branson and Janssen raise concerns that the targeted testing scenario is not realistic due to the lack of added costs for targeting activities and the assumed level of HIV seronegative clients at high risk of infection. However, I can conduct multi-way sensitivity analyses to examine the combined impact of variations in these factors. If I simultaneously assume in the targeted testing scenario that the HIV seropositivity rate is dropped to 0.5% (from 1%), the benefits of counseling HIV seronegative persons at high risk of infection are completely omitted (though the costs of counseling are still included), and that a full one-third of the $864 million budget would have to be devoted to targeting costs, the targeted testing scenario is still to be preferred. Under these modified assumptions for the targeted scenario, the number of persons testing drops to 20,176,298, the number of new HIV diagnoses drops to 63,555, the number of transmissions averted decreases to 4,068, and the cost per transmission averted increases to $212,464; however, even with these very conservative assumptions, the targeted scenario still outperforms the opt-out testing scenario.

Further, such sensitivity analyses help to provide additional support to the notion that it is possible to find settings with such epidemiologic characteristics. Multiple examples can be found of HIV seroprevalence of 0.5%, 1.0%, or more in publicly-funded HIV testing sites as well as in emergency departments, STD clinics, community health centers, and correctional health facilities; in fact, these are the types of clinical sites recently focused upon by CDC in its 2007 awarding of $35 million for HIV counseling and testing (emphasizing heightened serostatus awareness in African American communities). CDC's recent $35 million announcement asserted that these funds should support the testing of 1 million or persons and identify 20,000 new HIV diagnoses (according to CDC's website). This would imply an approximately 2% HIV seropositivity rate (certainly higher than what was assumed in my targeted testing scenario). Hence, apparently settings with such heightened HIV seroprevalence do exist and can be targeted.

Drs. Branson and Janssen state that the experiences conducting HIV counseling and testing in emergency departments highlighted in a recent MMWR article (reference 3 in Branson and Janssen) yielded results much different than that predicted by the targeted testing scenario in my paper. They state that two emergency departments that used a counselor-based model of performing HIV counseling and testing were able to test 1709 and 1288 patients, and identify 13 and 19 new HIV diagnoses, respectively. My assumed 0.63% rate of new HIV diagnoses in the base-case targeted testing scenario (as opposed to the HIV seropositivity rate of 1% discussed above) would predict (2997*0.67% equals) 19 new diagnoses for both emergency departments combined, when in point of fact, 32 were found across these two emergency departments. Hence, the prediction of my targeted testing scenario in actually conservative when compared to the case raised by Drs. Branson and Janssen.

It is possible that Drs. Branson and Janssen were attempting to make a different point by mentioning the 2007 MMWR on HIV testing in emergency departments. They note that a third emergency department did not use a counselor-based model for HIV testing, tested 6368 patients, and identified 65 new HIV diagnoses. However, to identify these 65 new diagnoses, that particular emergency department offered testing to 31,342 patients; the other two emergency departments (who used a counselor-based model) only had to approach 1742 plus 1543 patients to reach a combined total of 32 new diagnoses. Therefore, the counselor-based model performed much better in terms of test acceptance and results received. What remains to be answered in these three emergency departments is an economic analysis to estimate the cost per new HIV seropositive diagnosis and the cost per infection prevented. The MMWR article discussed by Drs. Branson and Janssen does not indicate the relative resources invested in the three emergency departments.

Again, I thank Drs. Branson and Janssen for their important contributions to the discourse on optimal HIV testing strategies in the U.S.

Competing interests declared: I do not have competing interests to declare.

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