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From the public, for the public: Innovation challenge contests to enhance HIV responses

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Lessons from the HIV response have rewritten the rules of medical innovation. Strong public input on HIV has transformed medical research, policies, and programs since the earliest days of the epidemic. In the 1980s, community-based organizations and gay men living with HIV accelerated the pace of scientific research on anti-retroviral drugs. This public advocacy ultimately resulted in entirely new policies of drug approval at the US Food and Drug Administration. Then later community-based HIV programs in low-income countries demonstrated that scaling up ART was feasible, again suggesting the importance of communities and the public in innovation.¹

Public innovation challenge contests provide a new model for sustaining public engagement in the HIV response. Public contests invite the public to develop solutions in response to a call, then share the solution more widely with the public.² For example, the DREAMS challenge solicited ideas to reduce HIV infection among adolescents and girls in Africa.³ Six hundred and eighty-four organizations submitted ideas and 55 were selected by judges as finalists. Most ideas were from small, community-based organizations. Selected finalists received a total of \$85 million in order to implement their ideas with the support of partners. Public contests typically include the following stages (Figure 1): organizing a community steering group to create contest rules, expectations and a call for entries (concepts, images, or videos); engaging the community to contribute through in-person and online events; evaluating the entries based on pre-specified criteria; recognizing individuals who contributed excellent entries; sharing or implementing compelling entries.

An expanding literature on public contests provides guidance on how best to implement this approach. A systematic review of innovation contests for health suggests that there are two different types of contests for health – process and outcome contests.⁴ Process-focused contests aim to achieve mass community engagement, often providing many participation prizes and extensively mobilizing communities.

Outcome-focused contests aim to identify compelling solutions, often having fewer prizes of higher value. Public contest organizers need to consider these different goals as they design and implement contests. In addition, public contests avoid giving examples in the call for entries. This recommendation is based on the cognitive psychology literature showing that cognitive fixation can hinder creativity and innovation. Best practices from health-focused challenge contests provide practical advice for implementing contests.⁵ The evidence base suggests that HIV public contests can catalyze innovative research, policy, and programs.

Public contests can provide an opportunity to enhance HIV research. The inclusive process of contests gives an explicit role for the public to be involved at each stage. Public contests have been used to engage the public about HIV basic science,⁶ cure research,⁷ and sexual health.⁸ The *Foldit* challenge allows individuals without any biochemistry experience to contribute to solving retroviral protein structures. Progress within the game directly improves computational methods. Since its launch, 460,000 individuals have participated, resulting in a publication in *Nature* with 57,000 authors.⁶ Contests can bring together individuals and groups in new ways to advance HIV research.

Second, public contests provide an opportunity to inform health policy. The Joint United Nations Programme on HIV/AIDS (UNAIDS) contest, CrowdOutAIDS, allowed large-scale youth involvement in policy. Over 5000 youth from 79 countries participated in the project through an online, wiki-like platform. Final recommendations directly informed UNAIDS policy and were formally incorporated into the UNAIDS Youth Programme.⁹ The open nature of public contests allows a diverse and widespread engagement across communities.

Finally, public contests have generated effective programs. Messages created by the local public may be more locally relevant and feasible to implement. A contest in Africa invited young people to write ideas for short films on HIV, spurring 63,000 entries from 25 African countries.¹⁰ This contest produced 39 short fiction films that have been viewed online by 55 million individuals. A pilot randomized controlled trial evaluating public contests to solicit messages promoting HIV testing¹¹ among MSM suggest that the approach is effective and a large stepped wedge RCT in eight cities¹² was recently completed.

There are several important limitations to the use of public contests to enhance HIV services. First, public contests are a relatively new tool and are sometimes misunderstood to depend entirely on popular opinion. While community preferences are important for public contests, several stages rely on experts and contest organizers. The contest organizing committee strikes a balance between local expert and non-expert input, depending on the purpose and values of the contest. Second, the evidence base supporting public contests includes few randomized controlled trials, suggesting the need for more rigorous evaluation.

There is growing support for using public innovation challenge contests. Contests have been organized by the US National Institutes of Health, the United Nations Development Programme, the Bill and Melinda Gates Foundation, and the English National Health Service. Public contests could help identify innovative HIV responses in several ways. From a research perspective, public contests could help researchers grapple with large data sets and limited resources. From a policy perspective, public contests could solicit suggestions for expanding HIV self-testing or other new policies. From a program perspective, contests to generate demand for pre-exposure prophylaxis may be useful.

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New ideas from the public have been critical in driving HIV progress over the past three decades of the epidemic. Public innovation challenge contests can help to formalize this trend and sustain the momentum.

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Authors' contributions

JT conceived of the comment. JT and KF both developed the concept, wrote the manuscript, and approved the final version.

Conflicts of interest

The authors declare no conflicts of interest.

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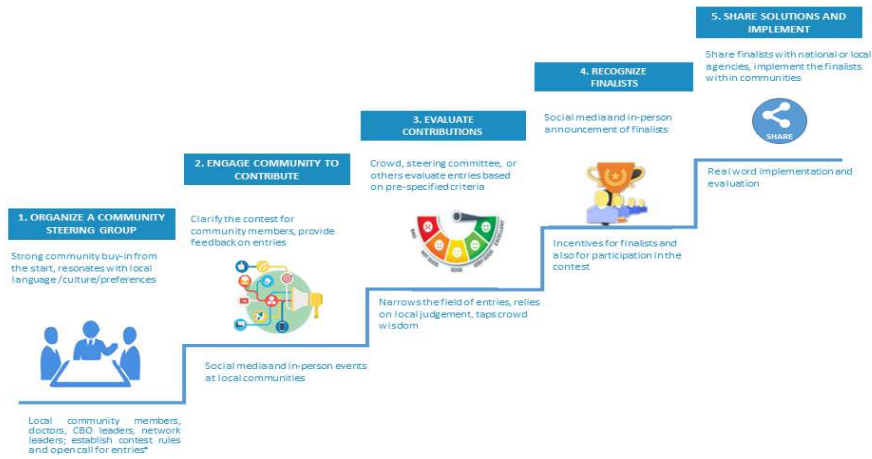
Ethics committee approval

Not applicable.

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Figure Caption



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Figure 1. Five stages in public innovation challenge contests. *Entries may include text, videos, or images.

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