



May 2015

PHSSR Findings on 21st Century Approaches to Communicable Disease

Julia Costich

University of Kentucky, julia.costich@uky.edu

Follow this and additional works at: <https://uknowledge.uky.edu/frontiersinphssr>

Recommended Citation

Costich JF. Innovative approaches to communicable disease in the Twenty-First Century. *Front Public Health Serv Sys Res* 2015;4(3):53–6. DOI: 10.13023/FPHSSR.0403.03.

This Commentary Introducing the Issue is brought to you for free and open access by the Center for Public Health Systems and Services Research at UKnowledge. It has been accepted for inclusion in *Frontiers in Public Health Services and Systems Research* by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

PHSSR Findings on 21st Century Approaches to Communicable Disease

Abstract

Communicable diseases still disable or kill millions worldwide despite centuries of public health progress. Twenty-first century public health services and systems researchers are testing innovative strategies to achieve goals that were once considered beyond reach. This month's *Frontiers in PHSSR* includes two path-breaking examples: the use of advanced statistical modeling to provide a more actionable model for influenza epidemiology, and assessing the dissemination of customized videos to communicate the value of human papillomavirus (HPV) vaccination to populations whose belief systems would otherwise lead them to reject it.

Keywords

Commentary, communicable diseases, statistical modeling, influenza, epidemiology, video, HPV vaccine

Cover Page Footnote

No competing financial or editorial interests were reported by the author of this commentary.

Communicable diseases still disable or kill millions worldwide despite centuries of public health progress. Twenty-first century public health services and systems researchers are testing innovative strategies to achieve goals that were once considered beyond reach. This month's *Frontiers in PHSSR* includes two path-breaking examples: the use of advanced statistical modeling to provide a more actionable framework for influenza epidemiology,¹ and assessing the dissemination of customized videos to communicate the value of human papillomavirus (HPV) vaccination to populations whose belief systems would otherwise lead them to reject it.²

As the recent measles outbreak has reminded us, just because effective vaccines are available does not mean they will be embraced by all potential beneficiaries. The HPV vaccine has the added challenge of accommodating to the broad variation in U.S. sexual mores and beliefs. In regions with widely and deeply held religious beliefs, HPV vaccination is confronted with both overt opposition and general skepticism. Overcoming these barriers is the goal of the 1-2-3 Pap project, which has produced educational videos tailored to the cultural environment of their intended audiences. The article in this month's *Frontiers in PHSSR*² presents evidence of the project's potential cost effectiveness for scalability to larger population groups. As the authors note, extending the reach of HPV vaccination is not without cost, but given the tens of thousands of dollars in costs incurred for a single cervical cancer treatment, the cost–benefit seems positive.

Cervical cancer is far more prevalent in low- and middle-income nations than in the U.S., and their cultures often share the conservative religious environment addressed by the authors of the 1-2-3 Pap initiative. Given the widespread adoption of mobile technology in the developing world, mobile 1-2-3- Pap apps tailored to the cultural milieu in which HPV vaccination is being offered could be a fruitful extension of the work reported in this month's *Frontiers in PHSSR*.²

While the identification of cervical cancer as a contagious disease is a relatively recent phenomenon, influenza is a classic challenge for public health. The average citizen may take for granted that reports of influenza incidence reflect accurate public health surveillance, but a moment's thought belies that assumption. What proportion of the affected population actually gets tested for influenza? What happens during an outbreak, when far more specimens are submitted than the public health lab can handle? The accurate estimation of influenza's spread in a community requires both clinical and biostatistical input, as demonstrated by the evaluation of Hillsborough County, Florida's surveillance system in this month's *Frontiers in PHSSR*.¹

The refinement of epidemiologic analysis for influenza, like the dissemination of HPV vaccination, could be of great benefit to less-developed nations, where public health infrastructure may not support ongoing statistical modeling. The frontiers of public health services and systems research are dynamic, and this month's featured articles highlight the potential for new and significant achievements. Population health improvement is a global phenomenon in the contemporary geopolitical environment, exemplified by initiatives such as these with their clear implications for health services and systems worldwide.

REFERENCES

1. Meisheri E, Prieto DM, VanEnk R. Preliminary evaluation of the disease surveillance system during influenza outbreaks of pandemic scale. *Front Public Health Serv Sys Res* 2015; 4(3):37–44. DOI: 10.13023/FPHSSR.0403.01.
2. Rabarison KM, Li R, Bish CL, Vanderpool RC, Crosby RA, Massoudi MS. A cost analysis of the 1-2-3 Pap Intervention. *Front Public Health Serv Sys Res* 2015; 4(3):45–50. DOI: 10.13023/FPHSSR.0403.02.