

When knowledge is not enough: Changing behavior to change vaccination results

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Why don't health care workers universally embrace vaccination to prevent vaccine preventable diseases and protect themselves and their patients? To address this problem most vaccination campaigns focus on providing education and information to health care workers. While knowledge is a necessary first step, it is likely not sufficient to increase health care worker vaccine uptake. We discuss a novel approach to applying behavior change theories and principles as a framework to plan, guide, and evaluate vaccine promotion interventions, with the goal of enhancing vaccine coverage among health care workers.

Why don't health care workers (HCW) universally embrace one of the greatest medical advances: Vaccination? Poor HCW vaccination rates continue to bewilder health leaders and the public alike; thus becoming an ongoing quandary, with no obvious solution.

Bechini and colleagues' study¹ of a large sample of HCW in Florence, Italy demonstrates that reported vaccination coverage for "potentially susceptible" HCW is low, specifically for mumps, varicella and pertussis. Key reported reasons for non-vaccination include lack of offer of immunization (22% to 48%) and personal vaccination opposition (15% to 33%). Only 16-27% of potentially susceptible HCW agreed that they would undergo vaccination for the vaccine preventable diseases (VPD). Moreover, even if those HCW felt at risk for the VPD, still less than half of HCW would get vaccinated. Note that these were the attitudes of HCW after a one-day training course

aimed at updating knowledge of VPD and strategies to prevent diseases, which included the importance of vaccination.

Bechini and colleagues¹ propose several practical strategies to promote HCW vaccination uptake, namely (1) raising awareness and increasing HCW knowledge about VPD, risks of VPD, and benefits of vaccination through training and education, and (2) ensuring employers and physicians offer and make available vaccines, specifically for new hires and students. We expand on this theme, and suggest that educational institutions have a responsibility to ensure their student trainees have been properly vaccinated for VPD (i.e., measles, mumps, rubella, varicella, tetanus, diphtheria, pertussis, hepatitis, meningococcus) before they engage in their clinical work. Health care institutions have a responsibility to know the sero-status of their HCW at the start of their employment and readily provide vaccination where immunity is not found. For more senior HCW, a "catch up" program can provide recommended adult immunizations that have been missed due to more recent changes in policies or accessibility (e.g., measles, Tdap). By establishing a culture of pro-vaccination, institutions can foster HCW health and safety with the goal of career-long health promotion.

While institutional vaccine promotion and HCW knowledge acquisition is likely necessary to improve HCW vaccination coverage, will it be enough?

We propose to take a step back to reformulate the issue. We are not simply trying to get HCW to engage in an action, we are trying to get HCW to change a *behavior*. Herein lies the complication.

Keywords: behavior change, health care workers, immunization, vaccine preventable diseases, vaccine promotion

Abbreviations: HCW, Health care worker; VPD, Vaccine Preventable Diseases.

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Vaccination uptake is a complex health behavior, much like any other health behavior (i.e., healthy diet and exercise). Understanding why one engages in any health behavior is complicated and multifactorial, consisting of internal factors, attitudes, beliefs, motivation, ability, perceived threat, self-efficacy, social norms, and sociocultural contexts to name a few.²⁻⁷ There is wide-spread agreement among researchers that information and education alone will not translate into behavior change. While knowledge is a necessary first step, it is not sufficient to tip the scales to behavior change. This, in part, can explain why HCW vaccination rates persist to fall below recommended standards despite educational and informational vaccination campaigns with readily accessible and available vaccines. The usual response to these poor results? More education and more accessibility. It's time for a new approach to produce a different outcome.

There remain HCW who oppose vaccines regardless of the information, facts, and evidence provided. We need a shift in focus from imparting knowledge to facilitating health behavior change. We need to move beyond education and knowledge acquisition and towards the application of well-validated behavior change theories (i.e. The Health Belief Model,² Theory of

Planned behavior,³ Social Cognitive Theory⁴) that have successfully been used to guide other health behavior interventions.

Much has been studied regarding motivators and barriers to vaccination, especially HCW influenza vaccination uptake. For example, using the Health Belief Model,² modifiable attitudes and behaviors were identified that drive HCW influenza vaccine uptake, including (1) the desire to protect family members and patients, (2) the belief that vaccination is important even if one is healthy, and (3) encouragement from supervisors, co-workers, and physicians.⁸ Theories of behavior change not only help us describe and predict HCW vaccination behavior, but they also provide a framework to plan, guide, and evaluate our interventions.^{6,7}

Once we reformulate the issue, we can reformulate the response. It is health care institutions' responsibility to protect their HCW and patients, and it is imperative that they rely on best evidence, including theories and models of behavior change, to design and implement interventions that enhance vaccination coverage among their HCW.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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