

## Supplemental Information

### **SUPPLEMENT 1: ADDITIONAL INFORMATION ABOUT THE LARGER RESEARCH CONTEXT**

This longitudinal study was initiated by using data from patients enrolled in the control arm of a multifactorial, interdisciplinary intervention trial (which was approved by the University of Pennsylvania). This larger study targeted several health behaviors potentially relevant to HPV and other vaccination.

At study entry for this trial, all participants were given general study information. For example, they were told about study benefits/risks and the purpose of the study, which was described broadly as learning more about adolescent health. Those in the control arm were then tracked over time without any educational or other type of intervention. By contrast, those in the experimental arm received several

types of time-intensive interpersonal and mass-mediated interventions designed to collectively change several possibly influential factors, such as self-efficacy, attitudes, and knowledge regarding each behavior of interest.

The trial was conducted in Philadelphia neighborhoods (located within 5 metropolitan areas) selected on the basis of population homogeneity in West and North Philadelphia. To minimize contamination of the control group by participants receiving the intervention, random assignment to the trial arms occurred at the neighborhood level. For the same reason, neighborhoods were selected that did not share borders. Research assistants recruited populations of equal size to the experimental and control arms.

Recruitment for the trial was focused in sites with concentrated numbers of the

target populations, including recreation centers, community centers within Philadelphia Housing Authority housing projects, churches, libraries, pools, parks, and day care centers. Study staff also recruited from neighborhood events. In addition, during the school year, study staff recruited outside of neighborhood middle and high schools.

Recruitment was conducted in person and also relied on printed media (eg, flyers). In-person recruitment included 3 to 5 recruiters working in each neighborhood for 3 to 4 hours, 3 to 5 days weekly. In total, research assistants recruited from >30 public neighborhood venues. Nonparticipation for the larger trial is difficult to estimate given the inclusion of mass-mediated recruitment methods. However, among those approached in person, agreement to participate was >65%.

## Supplement 2: Items Measuring Knowledge

*As discussed in the manuscript, the below questionnaire items have been used previously in studies designed by others to measure knowledge. Several of the below referenced facts have also been the focus of public health communication campaigns (eg, by the Center for Disease Control). Validity and reliability of the knowledge measures were demonstrated for the study population. For parents and adolescents, the following questionnaire items were included:*

We would like to ask you some questions about HPV and the HPV shot (or vaccine). HPV is also known as the human papillomavirus. Please answer every question by checking one box.

1. HPV is one of the most common sexually transmitted diseases in the U.S.

True       False       Don't know

2. HPV causes most cases of cervical cancer and warts on genitals (penis/vagina).

True       False       Don't know

3. Having sex with more than one person increases a girl's chances of getting HPV.

True       False       Don't know

4. Using a condom during sex lowers the chance of getting HPV.

True       False       Don't know

5. Genital warts caused by HPV are always seen on the outside of the vagina.

True       False       Don't know

6. If a guy has HPV, it can always be seen.

True       False       Don't know

7. A girl cannot get HPV if a guy only rubs the outside (and doesn't go inside you or penetrate).

True       False       Don't know

8. HPV is commonly passed on from vaginal sex without condoms.

True       False       Don't know

9. The HPV shot protects against most cases of cervical cancer.

True       False       Don't know

10. HPV shots can help protect against most cases of genital warts.

True       False       Don't know

11. The HPV shot is recommended for girls 11-12 years of age.

True       False       Don't know

12. Girls who have never had sex do not need to get the HPV shot.

True       False       Don't know

13. Everyone who has cervical cancer has HPV.

True       False       Don't know

14. If a girl gets the HPV shot she does not need to use condoms during sex.

True       False       Don't know

15. Some doctors and nurses offer the HPV shot to girls 18 years of age and younger for free.

True       False       Don't know

16. All girls need their parent or guardian's permission to get the HPV shot.

True       False       Don't know

17. All three shots of the HPV vaccine are recommended to help protect against HPV.

True       False       Don't know

18. Women will never need Pap tests if they get the HPV shot.

True       False       Don't know