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# Examining Acceptability of Self-Collection for Human Papillomavirus Testing Among Women and Healthcare Providers with a Broader Lens

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In the *Journal Of Women's Health*, Constance Mao et al. describe baseline findings from a randomized trial comparing self-collection for human papillomavirus (HPV) testing versus routine Papanicolaou (Pap) testing among women aged 21–65 years in Seattle, Washington.[1] They report on acceptability of self-collection for HPV testing among women as well as healthcare providers performing cervical cancer screening in the University of Washington medical clinics. This article highlights two key findings: First, self-collection for HPV testing was acceptable and preferred by women for cervical cancer screening in comparison with routine Pap-based testing. Second, most healthcare providers were willing to recommend self-collection for HPV testing, but reported that this was conditional on factors such as patients' ability to collect adequate samples and test characteristics such as sensitivity, specificity, and cost-effectiveness. Health providers' key concern about women performing HPV self-collection at home was the missed opportunity to address other health concerns during a screening visit.

Self-collection for HPV testing has been found to be widely acceptable among women worldwide. In the United States, studies have found self-collection for HPV testing to be acceptable among women from various cultural backgrounds and settings, including white women in rural Appalachian Kentucky, African American women in the Mississippi Delta, Somali immigrant women in Minnesota, Haitian immigrant women in Miami, and Hispanic women in California.[2–6] In high-income countries with organized cervical cancer screening programs such as Sweden, the Netherlands, and Finland, self-collection for HPV testing has been found to be highly acceptable and increased screening uptake among women who do not respond to routine screening invitations.[7–9] Self-collection for HPV testing has also been found to be highly acceptable in middle-income countries with organized screening programs such as Argentina, where research studies utilized existing community health worker networks for screening implementation.[10] Also research studies in low-income countries such as India and Uganda have found high acceptability of self-collection among women.[11] Although acceptability of self-collection has been studied, there is a need for broader examination into determinants of women's attitudes or perceptions toward self-collection for HPV testing such as their knowledge and understanding about HPV, and also

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women's compliance with the initial self-collection for HPV testing and any necessary follow-up procedures from a positive test result.

Women's HPV knowledge has been found to be fairly low, even after brief education sessions,[12] and their perceived self-efficacy in conducting self-collection procedures has been found to affect its acceptability in research studies. In the study by Mao et al., 56.7% of women who preferred a HPV test that used a physician-collected sample rather than a self-collected sample reported to have more faith in the provider's sample.[1] Other studies conducted in Puerto Rico, the New York City area, and in rural China found that women preferred physician-collected to self-collected samples because they thought that they were more accurate.[13–15] There is a need for implementation research on key messages and strategies to educate women about HPV testing, self-collection of samples, and HPV test results, specifically, messages that convey that a self-collected specimen can be as efficacious as a physician-collected specimen in detecting high-risk HPV.[16] Messages that reduce anxiety, stress, or self-blame in women who have HPV-positive test results are also needed.[17]

A key question relating to the acceptability of self-collection for HPV testing and its effectiveness as a cervical cancer screening strategy is women's compliance with the necessary follow-up procedures if they have HPV-positive test results. In countries such as the Netherlands that have organized screening programs, including a reminder/recall system to invite women for screening and databases to monitor screening procedures, compliance with follow-up procedures has been found to be higher in women offered self-collection than in women invited for conventional Pap-based screening.[8] Compliance with follow-up procedures after self-collection for HPV testing could be difficult to promote or monitor outside an organized cervical cancer screening program. In a study in rural Appalachian Kentucky, patient navigation conducted by nurses was utilized to encourage women to receive Pap tests after self-collection for HPV testing, but only 7.5% did after 6 months.[2] The Centers for Disease Control and Prevention's (CDC's) National Breast and Cervical Cancer Early Detection Program (NBCCEDP) is currently the only organized cervical cancer screening program for low-income, uninsured, and under insured women in the United States. The NBCCEDP uses a comprehensive reminder/recall approach to ensure follow-up that may serve as a good model for how to enhance compliance in women with HPV-positive results, if primary HPV testing and self-collection are recommended by U.S. organizations and implemented in the future. More research is needed to examine strategies to link women with HPV-positive results to clinical care and the appropriate number of clinic visits or patient encounters needed to complete cervical cancer screening, including the feasibility of screen-and-treat strategies.

This study by Mao et al. is one of the few studies that has examined attitudes toward self-collection for HPV testing among healthcare providers. In this and two similar studies conducted in Ohio and Southwest Virginia, healthcare providers expressed concern about the efficacy of self-collection for HPV testing because they were uncertain about women's ability to understand the self-collection instructions and collect adequate samples.[18,19] As research on self-collection advances, there is a need to communicate key findings with healthcare providers; there is limited research on interventions to educate healthcare

providers about self-collection for HPV testing.[20] Healthcare providers in Ohio were also wary of self-collection because HPV testing alone is not currently recommended as a screening strategy by some key organizations in the United States, although the U.S. Food and Drug Administration (FDA) approved the cobas HPV test for use in primary cervical cancer screening in women aged 25 years or older.[21] Primary HPV testing and self-collected samples for cervical cancer screening are being reviewed as possible screening strategies by the U.S. Preventive Services Task Force.[22] If cervical cancer screening recommendations change to include primary HPV testing and self-collection, more research would be needed to re-examine healthcare providers' attitudes toward the use of self-collected samples for HPV testing and their willingness to provide the necessary follow-up procedures for women with HPV-positive results.

Interestingly, whereas healthcare providers in the study by Mao et al. were concerned about self-collection for HPV testing resulting in missed opportunities to interact with women, providers in a study conducted in Ohio thought that HPV self-collection may enable more women to come to health centers for follow-up of HPV test results.[19] Currently, self-collection for HPV testing is mostly being examined as a strategy to reach women who do not attend or have access to regular screening at health centers; the effect of HPV self-collection on possibly reducing women's clinic visit attendance or interactions with healthcare providers needs to be examined as implementation research progresses and HPV self-collection strategies and target populations are better defined.

Several research studies have shown that self-collection for HPV testing is generally acceptable among various populations of women. Implementation research on self-collection for HPV testing as a potential cervical cancer screening strategy requires a broader look at attitudes of women and their providers, perceptions or behaviors including compliance with follow-up procedures, and also methods to educate or communicate with women and healthcare providers about HPV and self-collection.

The content of this editorial does not necessarily represent the official position of the U.S. CDC.

## References

1. Mao C, Kulasingam SL, Whitham H, Hawes S, Lin J, Kiviat N. Clinican and patient acceptability of self-collected human papillomavirus testing for cervical cancer screening. J Womens Health. 2017; 26:609–615.
2. Crosby RA, Hagensee ME, Vanderpool R, et al. Community-based screening for cervical cancer: A feasibility study of rural Appalachian women. Sex Transm Dis. 2015; 42:607–611. [PubMed: 26462184]
3. Scarinci IC, Litton AG, Garces-Palacio IC, Partridge EE, Castle PE. Acceptability and usability of self-collected sampling for HPV testing among African-American women living in the Mississippi Delta. Womens Health Issues. 2013; 23:e123–e130. [PubMed: 23410619]
4. Sewali B, Okuyemi KS, Askhir A, et al. Cervical cancer screening with clinic-based Pap test versus home HPV test among Somali immigrant women in Minnesota: A pilot randomized controlled trial. Cancer Med. 2015; 4:620–631. [PubMed: 25653188]
5. Barbee L, Kobetz E, Menard J, et al. Assessing the acceptability of self-sampling for HPV among Haitian immigrant women: CBPR in action. Cancer Causes Control. 2010; 21:421–431. [PubMed: 19943103]

6. De Alba I, Anton-Culver H, Hubbell FA, et al. Self-sampling for human papillomavirus in a community setting: Feasibility in Hispanic women. Cancer Epidemiol Biomarkers Prev. 2008; 17:2163–2168. [PubMed: 18708409]
7. Wikstrom I, Lindell M, Sanner K, Wilander E. Self-sampling and HPV testing or ordinary Pap-smear in women not regularly attending screening: A randomised study. Br J Cancer. 2011; 105:337–339. [PubMed: 21730977]
8. Gok M, Heideman DA, van Kemenade FJ, et al. HPV testing on self collected cervicovaginal lavage specimens as screening method for women who do not attend cervical screening: Cohort study. BMJ. 2010; 340:c1040. [PubMed: 20223872]
9. Virtanen A, Anttila A, Luostarinen T, Nieminen P. Self-sampling versus reminder letter: Effects on cervical cancer screening attendance and coverage in Finland. Int J Cancer. 2011; 128:2681–2687. [PubMed: 20669228]
10. Arrossi S, Thouyaret L, Herrero R, et al. Effect of self-collection of HPV DNA offered by community health workers at home visits on uptake of screening for cervical cancer (the EMA study): A population-based cluster-randomised trial. Lancet Glob Health. 2015; 3:e85–e94. [PubMed: 25617202]
11. Bansil P, Wittet S, Lim JL, Winkler JL, Paul P, Jeronimo J. Acceptability of self-collection sampling for HPV-DNA testing in low-resource settings: A mixed methods approach. BMC Public Health. 2014; 14:596. [PubMed: 24927941]
12. Senkomago V, Sangrajrang S, Ketgudee L, Saraiya M. Challenges in educating women about human papillomavirus (HPV) and HPV screening test results: Experience from an HPV demonstration project in North-Eastern Thailand. Papillomavirus Res. 2016; 2:190–192.
13. Ortiz AP, Alejandro N, Perez CM, et al. Acceptability of cervical and anal HPV self-sampling in a sample of Hispanic women in Puerto Rico. P R Health Sci J. 2012; 31:205–212. [PubMed: 23844468]
14. Anhang R, Nelson JA, Telerant R, Chiasson MA, Wright TC Jr. Acceptability of self-collection of specimens for HPV DNA testing in an urban population. J Womens Health (Larchmt). 2005; 14:721–728. [PubMed: 16232104]
15. Guan Y, Castle PE, Wang S, et al. A cross-sectional study on the acceptability of self-collection for HPV testing among women in rural China. Sex Transm Infect. 2012; 88:490–494. [PubMed: 22645391]
16. Arbyn M, Verdoodt F, Snijders PJ, et al. Accuracy of human papillomavirus testing on self-collected versus clinician-collected samples: A meta-analysis. Lancet Oncol. 2014; 15:172–183. [PubMed: 24433684]
17. Waller J, Marlow LA, Wardle J. The association between knowledge of HPV and feelings of stigma, shame and anxiety. Sex Transm Infect. 2007; 83:155–159. [PubMed: 17098767]
18. Garcia C, Lothamer H, Mitchell EM. Provider-identified barriers to cervical cancer screening and perceptions toward self-collection of human papillomavirus in Southwest Virginia. Public Health Nurs. 2016; 33:539–546. [PubMed: 27444141]
19. Katz ML, Zimmermann BJ, Moore D, Paskett ED, Reiter PL. Perspectives from healthcare providers and women about completing human papillomavirus (HPV) self-testing at home. Women Health. 2016:1–17.
20. Presser BE, Katz ML, Shoben AB, et al. Effects of an education intervention about HPV self-testing for healthcare providers and staff. J Cancer Educ. 2017; [Epub ahead of print]. doi: 10.1007/s13187-017-1164-0
21. FDA approves first human papillomavirus test for primary cervical cancer screening [press release]. U.S Food and Drug Administration Website; Available at: www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm394773.htm. Accessed February 2, 2017
22. Final Research Plan: Cervical Cancer Screening. U.S. Preventive Services Task Force; [updated June 2016] Available at: www.uspreventiveservicestaskforce.org/Page/Document/final-research-plan/cervical-cancer-screening2 Accessed February 2, 2017