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Title: Effects of Transitioning From Conventional Methods to Liquid Based Methods on Unsatisfactory Pap Tests: Results from a Multicenter U.S. Study

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Abstract:

Background: Pap testing has transitioned from conventional preparations (CP) to liquid based preparations (LBP) due to perceived superiority of LBPs. Many studies conclude LBPs reduce unsatisfactory (UNSAT) tests however some believe the evidence to substantiate this claim is weak. We studied the effect of the transition from CPs to LBPs on the proportion of UNSAT Pap tests (PT) in four health care systems in the United States participating in the NIH-funded SEARCH project.

Methods: Our study cohort consisted of 548,174 women with 1,443,725 total PTs, ages 21-65 years, between 2000 and 2010. We used segmented regression analysis to estimate the effect of adopting LBPs on the proportion of UNSAT PTs after adjusting for age.

Results: Three sites implementing SurePath LBP experienced significant reductions in UNSAT PTs (Site 1 estimated effect: -2.46% [95% CI: -1.47%, -3.45%], Site 2: -1.78% [95% CI: -1.54%, -2.02%], Site 3: -8.25% [95% CI: -7.33%, -9.17%]). The fourth site implementing ThinPrep LBP did not experience a reduction in UNSAT studies. The relative risk of an UNSAT PT in women > 50 increased after the transition to LBPs (SurePath: RR 2.1 [95% CI: 1.9, 2.2] and ThinPrep: RR 1.7 [95% CI: 1.5, 2.0]).

Conclusions: The observed changes in the proportion of UNSAT PTs varied across the participating sites and it was dependent on the type of LBP technology, age of women and the rates prior to the implementation of this technology.