Supplementary Material accompanying 'Cervical cancer incidence after normal cytological sample in routine screening using SurePath, ThinPrep, and conventional cytology: population based study'

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In this Supplementary Material, we describe the material and methods that were used to determine the difference in CIN detection rates per 100,000 primary screening samples.

Selecting data from PALGA: CIN lesions

We identified primary samples taken within the national cervical cancer screening programme between January 2000 and December 2011. As data until March 2013 were available to us, a minimum duration of 15 months follow-up was ensured. Histologically confirmed CIN lesions were identified by selecting all PALGA records that included corresponding pathology codes. Subsequently, lesions were linked to the type of cytology test used. Age, screening region, SES, and calendar year at the time of the primary sample were assessed in similar ways as in the main analysis.

Statistical analyses: CIN lesions

We compared CIN detection rates per 100,000 SurePath and 100,000 ThinPrep samples with CIN detection rates per 100,000 conventional cytology samples. As confounding factors are present, comparing observed CIN detection rates was not sufficient. Therefore, we calculated CIN detection rates per 100,000 SurePath and ThinPrep samples by multiplying the observed CIN detection rates per 100,000 conventional cytology samples with the adjusted odds ratios for SurePath and ThinPrep versus conventional cytology, as obtained in our previous study (Table 1[1]). These odds ratios were adjusted for differences in the distribution of age, screening region, SES, and calendar time between the three cytology tests.

	SurePath vs. CC (95% CI)	ThinPrep vs. CC (95% CI)
CIN I	1.14 (1.08 to 1.20)	0.98 (0.93 to 1.04)
CIN II	1.14 (1.09 to 1.20)	1.04 (0.99 to 1.10)
CIN III	1.06 (1.02 to 1.10)	0.98 (0.94 to 1.01)
Total CIN	1.10 (1.07 to 1.13)	0.99 (0.97 to 1.02)

Table 1. Factors to calculate the adjusted CIN detection rates for SurePath and ThinPrep. Given factors are odds ratios comparing SurePath and ThinPrep with conventional cytology, adjusted for age, screening region, SES and calendar time. Underlined = Significant. A *p* value of <0.05 was considered to be statistically significant.

CC = Conventional cytology; CIN = Cervical intraepithelial neoplasia.

References

1. Rozemeijer K, Penning C, Siebers AG, Naber SK, Matthijsse SM, van Ballegooijen M, et al. Comparing SurePath, ThinPrep, and conventional cytology as primary test method: SurePath is associated with increased CIN II detection rates. *Cancer Causes Control* 2015.