SUPPLEMENTAL DIGITAL CONTENT 1

Kremer et al., The use of molecular markers for cervical screening of women living with HIV in South Africa.

Supplemental Table. Accuracy and diagnostic efficiency of screening strategies to detect CIN2 or worse (CIN2+)

No.	Strategy	Sensitivity (95% CI)		*n* 1/*N* 1	Specificity (95% CI)		*n* 2/*N* 2	PPV	NPV	Referral rate	Referrals needed to detect one CIN3+	Number of tests/1,000 women screened
Cytology-based screening												
1	Cytology (≥HSIL)	50.5%	(40.3-60.8)	46/91	95.9%	(93.1-98.7)	186/194	85.2%	80.5%	18.9%	1.2	1000
2	Cytology (≥HSIL) with *FAM19A4/miR124-2* triage of ASC-US/LSIL	65.9%	(56.2-75.7)	60/91	92.8%	(89.1-96.4)	180/194	81.1%	85.3%	26.0%	1.2	1095
3	*FAM19A4/miR124-2* with cytology (≥ASC-US) triage	59.3%	(49.2-69.4)	54/91	93.8%	(90.4-97.2)	182/194	93.8%	83.1%	23.2%	1.2	1674
HPV-based screening												
4	HPV	78.0%	(69.5-86.5)	71/91	72.2%	(65.9-78.5)	140/194	56.8%	87.5%	43.9%	1.8	1000
5	HPV with *FAM19A4/miR124-2* triage	67.0%	(57.4-76.7)	61/91	81.4%	(76.0-86.9)	158/194	62.9%	84.0%	34.0%	1.6	1440
6	HPV16/18 with *FAM19A4/miR124-2* triage of non-16/18HPV+	72.5%	(63.4-81.7)	66/91	80.4%	(74.8-86.0)	156/194	63.5%	86.2%	36.5%	1.6	1315

Abbreviations: cytology with threshold high-grade squamous intraepithelial lesion or worse (≥HSIL, includes atypical squamous cells - cannot exclude HSIL); cytology with threshold atypical squamous cells of unknown significance or worse (≥ASC-US); LSIL, low-grade squamous intraepithelial lesion; 95% CI, 95% confidence interval; n1, number of screen-positive disease cases; N1, total number of disease cases; n2, number of screen-negative non-disease cases; N2, total number of non-disease cases; PPV, positive predictive value; NPV, negative predictive value.

SUPPLEMENTAL DIGITAL CONTENT 2
Kremer et al., *The use of molecular markers for cervical screening of women living with HIV in South Africa.*

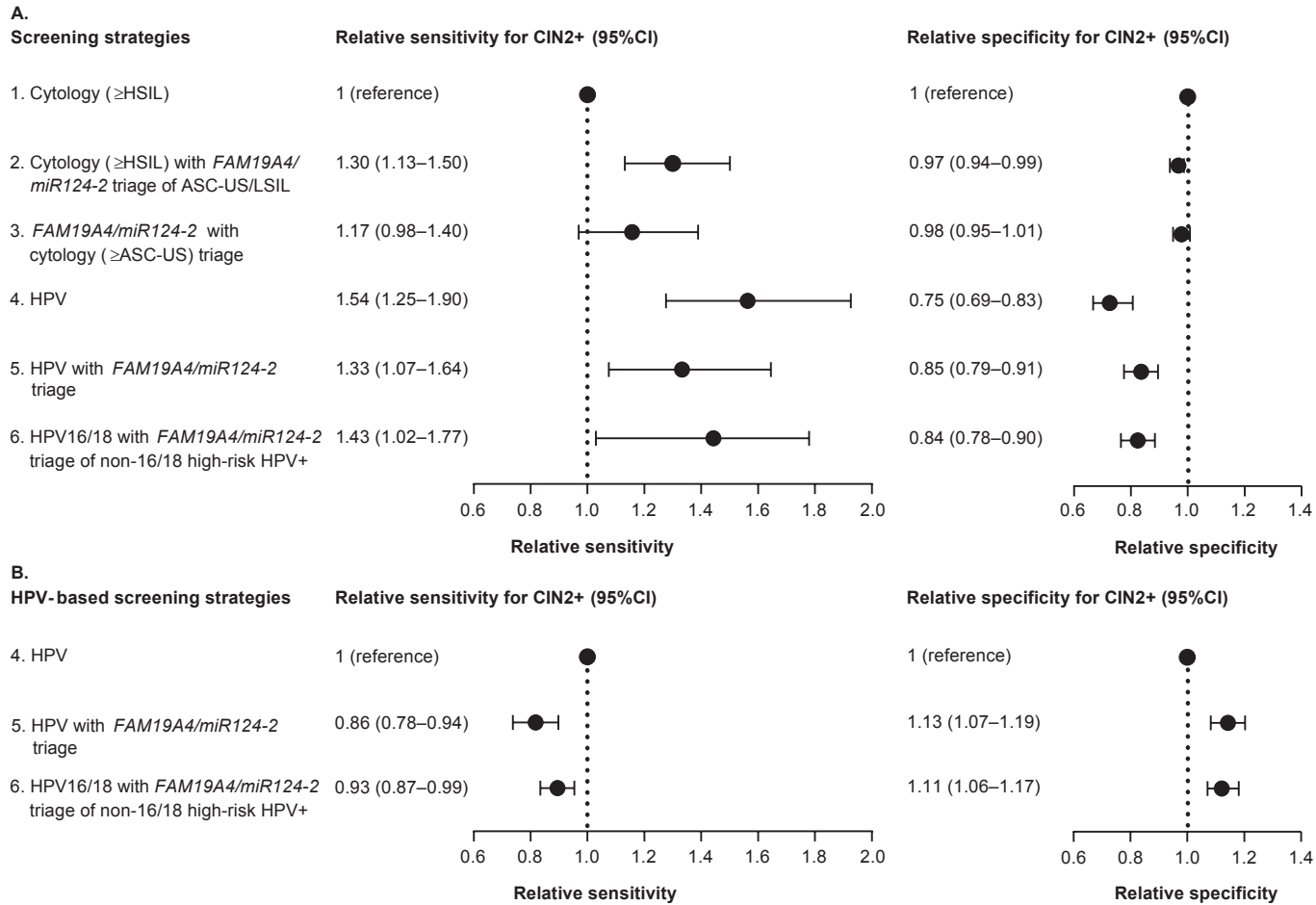

Figure. Forest plots showing the relative sensitivities and specificities for the detection of CIN2 or worse (CIN2+) of different screening strategies compared with (A) cytology (threshold ≥HSIL); and (B) HPV-based strategies

Abbreviations: HSIL, high-grade squamous intraepithelial lesion; ASC-US, atypical squamous cells of unknown significance; LSIL, low-grade squamous intraepithelial lesion; 95%CI, 95% confidence interval

SUPPLEMENTAL DIGITAL CONTENT 3

Kremer et al., The use of molecular markers for cervical screening of women living with HIV in South Africa.

Supplemental Table. Complementarity of *FAM19A4/miR124-2* methylation analysis to cytology-based (A) and HPV-based (B) screening strategies.

A.	**≤CIN2**		**CIN3+**	
	n	**%**	**n**	**%**
NILM	**186**	**82.3%**	**18**	**30.5%**
methylation negative	74	39.8%	4	22.2%
methylation positive	112	60.2%	14	77.8%
ASC-US/LSIL	**21**	**9.3%**	**6**	**10.2%**
methylation negative	6	28.6%	1	16.7%
methylation positive	15	71.4%	5	83.3%
≥HSIL	**19**	**8.4%**	**35**	**59.3%**
methylation negative	5	26.3%	3	8.6%
methylation positive	14	73.7%	32	91.4%

B.	**≤CIN2**		**CIN3+**	
	n	**%**	**n**	**%**
High-risk HPV positive	**76**	**33.6%**	**49**	**83.1%**
methylation negative	22	28.9%	6	12.2%
methylation positive	54	71.1%	43	87.8%
HPV16/18 positive	**14**	**6.2%**	**21**	**35.6%**
methylation negative	3	21.4%	4	19.0%
methylation positive	11	78.6%	17	81.0%
Non16/18 high-risk HPV positive	**62**	**27.4%**	**28**	**47.5%**
methylation negative	19	30.6%	2	7.1%
methylation positive	43	69.4%	26	92.9%

Abbreviations: ≤CIN2, CIN2 or less; CIN3+, CIN3 or worse; ≥HSIL, cytology with threshold high-grade squamous intraepithelial lesion or worse (includes atypical squamous cells - cannot exclude HSIL); ASC-US, atypical squamous cells of unknown significance; LSIL, low-grade squamous intraepithelial lesion.