

## Supplementary Online Content

Cuzick J, Myers O, Lee JH, et al; New Mexico HPV Pap Registry Steering Committee. Outcomes in women with cytology showing atypical squamous cells of undetermined significance with vs without human papillomavirus testing. *JAMA Oncol*. Published online June 22, 2017. doi:10.1001/jamaoncol.2017.1040

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**eFigure 2.** Cumulative Incidence of CIN2 After ASC-US by Age and Index HPV Test Status

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This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1. Cumulative 1, 3 and 5 year incidence of CIN1, CIN2, CIN2+ and CIN3+ and median time to detection after an ASCUS screening cytology result by age, HPV test and follow up time.**

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
CIN1	21-24	All	4396	11.49 (10.53-12.44)	14.50 (13.42-15.57)	15.46 (14.32-16.59)	77 (69-91)
		All tested	3424	13.43 (12.26-14.58)	16.43 (15.14-17.70)	17.10 (15.76-18.42)	68 (63-74)
		HPV +	2349	19.44 (17.79-21.06)	23.00 (21.21-24.75)	23.85 (21.98-25.67)	65 (59-70)
		HPV -	1075	0.93 (0.36-1.50)	2.91 (1.86-3.95)	3.43 (2.22-4.63)	591 (401-784)
		Not tested	972	4.80 (3.43-6.14)	7.99 (6.20-9.74)	9.87 (7.75-11.94)	329 (274-403)
	25-29	All	4000	10.90 (9.91-11.87)	13.43 (12.33-14.51)	14.60 (13.43-15.75)	76 (67-87)
		All tested	3214	12.50 (11.33-13.66)	15.02 (13.74-16.29)	16.32 (14.96-17.67)	68 (61-77)
		HPV +	1860	21.45 (19.50-23.36)	24.62 (22.53-26.64)	25.93 (23.75-28.04)	63 (56-69)
		HPV -	1354	0.96 (0.44-1.48)	2.83 (1.91-3.74)	4.06 (2.89-5.22)	685.5 (450-871)
		Not tested	786	4.51 (3.04-5.96)	7.09 (5.23-8.92)	7.72 (5.73-9.66)	277 (186-386)
	21-29	All	8396	11.20 (10.51-11.88)	13.97 (13.21-14.73)	15.05 (14.24-15.86)	76.5 (70-84)
		All tested	6638	12.96 (12.14-13.78)	15.73 (14.82-16.63)	16.73 (15.78-17.67)	68 (63-73)
		HPV +	4209	20.29 (19.04-21.53)	23.67 (22.32-25.00)	24.75 (23.34-26.14)	63 (59-68)
		HPV -	2429	0.91 (0.53-1.28)	2.81 (2.13-3.49)	3.79 (2.94-4.63)	630 (482-781)
		Not tested	1758	4.67 (3.67-5.66)	7.59 (6.30-8.86)	8.86 (7.40-10.29)	305 (257-380)
	30-39	All	4817	7.77 (7.00-8.54)	9.89 (9.02-10.75)	11.06 (10.11-12.01)	82.5 (69-98)
		All tested	3945	8.74 (7.84-9.63)	10.65 (9.66-11.64)	11.91 (10.82-12.99)	69 (59-83)
		HPV +	1555	21.49 (19.34-23.58)	25.02 (22.71-27.26)	26.47 (24.04-28.83)	60 (55-69)
		HPV -	2390	1.01 (0.61-1.41)	2.05 (1.46-2.64)	3.17 (2.36-3.97)	544 (368-826)
		Not tested	872	3.60 (2.34-4.83)	6.48 (4.79-8.14)	7.22 (5.39-9.01)	361 (225-445)
40-49	All	4096	4.73 (4.08-5.39)	6.20 (5.43-6.95)	6.61 (5.80-7.41)	77.5 (62-101)	
	All tested	3340	5.11 (4.35-5.86)	6.60 (5.72-7.46)	7.10 (6.17-8.02)	63 (56-88)	

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
		HPV +	802	19.44 (16.56-22.22)	22.82 (19.70-25.82)	23.18 (19.99-26.24)	55 (49-59)
		HPV -	2538	0.84 (0.48-1.20)	1.77 (1.23-2.31)	2.32 (1.65-2.98)	561.5 (344-833)
		Not tested	756	3.08 (1.83-4.31)	4.44 (2.92-5.93)	4.95 (3.13-6.75)	207 (113-355)
	50-64	All	3368	2.89 (2.32-3.45)	3.91 (3.24-4.58)	4.41 (3.67-5.15)	72 (56-197)
		All tested	2725	3.30 (2.62-3.97)	4.40 (3.61-5.19)	4.91 (4.05-5.77)	62 (52-99)
		HPV +	613	12.74 (10.02-15.37)	15.82 (12.75-18.77)	17.41 (14.06-20.62)	54.5 (47-71)
		HPV -	2112	0.67 (0.32-1.02)	1.21 (0.73-1.70)	1.60 (0.97-2.23)	437.5 (142-840)
		Not tested	643	1.12 (0.29-1.94)	1.81 (0.74-2.87)	2.27 (1.03-3.49)	327 (191-908)
	30-64	All	12281	5.41 (5.00-5.81)	6.98 (6.52-7.44)	7.69 (7.19-8.18)	79 (69-91)
		All tested	10010	6.02 (5.55-6.49)	7.57 (7.03-8.10)	8.32 (7.74-8.89)	65 (60-78)
		HPV +	2970	19.03 (17.56-20.48)	22.42 (20.82-23.98)	23.67 (21.99-25.31)	57 (53-62)
		HPV -	7040	0.82 (0.61-1.03)	1.68 (1.37-1.99)	2.30 (1.91-2.70)	492.5 (368-720)
		Not tested	2271	2.73 (2.05-3.40)	4.49 (3.61-5.36)	5.07 (4.07-6.06)	274.5 (224-373)
	21-64	All	20677	7.75 (7.38-8.11)	9.80 (9.38-10.22)	10.64 (10.20-11.09)	77 (71-84)
		All tested	16648	8.77 (8.33-9.20)	10.79 (10.30-11.27)	11.63 (11.12-12.14)	68 (63-71)
		HPV +	7179	19.78 (18.83-20.73)	23.14 (22.11-24.15)	24.26 (23.19-25.32)	61 (57-64)
		HPV -	9469	0.84 (0.66-1.03)	1.96 (1.67-2.25)	2.66 (2.30-3.02)	581.5 (452-687)
		Not tested	4029	3.58 (3.00-4.15)	5.80 (5.05-6.54)	6.60 (5.78-7.41)	298 (257-355)
CIN1+	21-24	All	4396	15.83 (14.75-16.91)	20.62 (19.39-21.82)	22.57 (21.25-23.86)	94 (79-112)
		All tested	3424	18.17 (16.86-19.45)	22.83 (21.39-24.25)	24.50 (22.98-26.00)	72 (67-82)
		HPV +	2349	26.05 (24.26-27.81)	31.65 (29.71-33.53)	33.51 (31.48-35.48)	68 (63-76)
		HPV -	1075	1.02 (0.42-1.62)	3.60 (2.43-4.75)	4.87 (3.41-6.31)	643 (443-811)
		Not tested	972	7.72 (6.02-9.38)	12.94 (10.75-15.07)	16.18 (13.52-18.76)	337 (292-430)
	25-29	All	4000	16.32 (15.17-17.46)	20.50 (19.23-21.76)	22.17 (20.83-23.49)	82 (73-98)
		All tested	3214	18.41 (17.06-19.74)	22.45 (20.97-23.89)	24.17 (22.62-25.68)	70 (66-78)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
		HPV +	1860	31.06 (28.92-33.13)	36.26 (34.01-38.42)	37.96 (35.65-40.18)	67 (61-71)
		HPV -	1354	1.11 (0.55-1.67)	3.56 (2.53-4.57)	5.22 (3.90-6.53)	743 (516-883)
		Not tested	786	7.90 (5.99-9.77)	12.72 (10.31-15.06)	13.98 (11.42-16.46)	298 (250-386)
	21-29	All	8396	16.05 (15.26-16.83)	20.54 (19.66-21.41)	22.37 (21.43-23.29)	85 (78-99)
		All tested	6638	18.27 (17.33-19.19)	22.62 (21.60-23.63)	24.33 (23.25-25.40)	71 (68-77)
		HPV +	4209	28.24 (26.87-29.59)	33.65 (32.19-35.08)	35.47 (33.95-36.95)	68 (63-71)
		HPV -	2429	1.03 (0.63-1.43)	3.52 (2.76-4.28)	5.07 (4.09-6.04)	707 (565-810)
		Not tested	1758	7.74 (6.48-8.98)	12.76 (11.16-14.34)	15.13 (13.29-16.93)	323.5 (292-371)
	30-39	All	4817	11.60 (10.68-12.50)	14.63 (13.61-15.64)	16.52 (15.41-17.62)	83.5 (70-97)
		All tested	3945	13.00 (11.94-14.04)	15.77 (14.61-16.91)	17.75 (16.48-19.00)	69 (63-83)
		HPV +	1555	31.41 (29.06-33.68)	36.40 (33.93-38.78)	39.07 (36.47-41.56)	63 (57-69)
		HPV -	2390	1.05 (0.64-1.46)	2.41 (1.77-3.04)	3.92 (3.02-4.81)	679 (435-844)
		Not tested	872	5.39 (3.88-6.88)	9.50 (7.49-11.47)	10.88 (8.68-13.03)	315 (225-447)
	40-49	All	4096	6.88 (6.10-7.65)	9.00 (8.10-9.90)	9.87 (8.90-10.84)	83 (68-110)
		All tested	3340	7.47 (6.57-8.36)	9.64 (8.61-10.66)	10.45 (9.35-11.54)	69 (58-88)
		HPV +	802	28.17 (24.97-31.23)	33.44 (30.02-36.69)	34.34 (30.85-37.66)	57 (52-63)
		HPV -	2538	0.92 (0.55-1.30)	2.12 (1.53-2.71)	2.91 (2.17-3.65)	662 (365-853)
		Not tested	756	4.27 (2.81-5.71)	6.20 (4.42-7.94)	7.36 (5.31-9.37)	296.5 (188-436)
	50-64	All	3368	4.16 (3.48-4.84)	5.54 (4.74-6.32)	6.36 (5.48-7.23)	94 (70-204)
		All tested	2725	4.47 (3.69-5.25)	5.84 (4.94-6.73)	6.65 (5.65-7.64)	75.5 (60-113)
		HPV +	613	17.77 (14.67-20.75)	21.38 (18.00-24.63)	23.32 (19.68-26.78)	63 (52-77)
		HPV -	2112	0.67 (0.32-1.02)	1.37 (0.85-1.88)	1.87 (1.22-2.52)	466 (232-954)
		Not tested	643	2.85 (1.54-4.13)	4.43 (2.77-6.05)	5.09 (3.28-6.86)	306 (215-561)
	30-64	All	12281	7.98 (7.50-8.46)	10.25 (9.70-10.79)	11.48 (10.88-12.07)	84 (75-95)
		All tested	10010	8.82 (8.27-9.38)	11.00 (10.38-11.62)	12.24 (11.56-12.91)	70 (64-79)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
		HPV +	2970	27.73 (26.09-29.33)	32.43 (30.69-34.12)	34.57 (32.75-36.34)	61 (57-64)
		HPV -	7040	0.86 (0.64-1.08)	1.97 (1.63-2.31)	2.90 (2.46-3.34)	655.5 (456-782)
		Not tested	2271	4.26 (3.42-5.09)	6.92 (5.84-7.98)	8.07 (6.87-9.25)	296.5 (240-375)
	21-64	All	20677	11.27 (10.84-11.70)	14.45 (13.96-14.94)	15.91 (15.38-16.43)	84.5 (80-94)
		All tested	16648	12.61 (12.10-13.11)	15.66 (15.10-16.22)	17.08 (16.48-17.67)	71 (68-76)
		HPV +	7179	28.02 (26.97-29.05)	33.15 (32.04-34.24)	35.10 (33.94-36.24)	64 (62-68)
		HPV -	9469	0.89 (0.70-1.08)	2.38 (2.06-2.70)	3.44 (3.02-3.85)	668.5 (551-777)
		Not tested	4029	5.76 (5.04-6.48)	9.44 (8.52-10.36)	11.14 (10.09-12.18)	319 (282-358)
CIN2	21-24	All	4396	3.62 (3.06-4.17)	5.15 (4.48-5.81)	5.90 (5.15-6.63)	182.5 (108-275)
		All tested	3424	4.03 (3.37-4.69)	5.56 (4.77-6.34)	6.28 (5.41-7.14)	106.5 (76-246)
		HPV +	2349	5.85 (4.89-6.80)	7.91 (6.78-9.02)	8.69 (7.48-9.89)	92 (66-150)
		HPV -	1075	0.19 (0.00-0.45)	0.61 (0.12-1.11)	1.10 (0.36-1.84)	986 (413-1667)
		Not tested	972	2.27 (1.33-3.21)	3.87 (2.59-5.13)	4.94 (3.30-6.55)	333.5 (275-565)
	25-29	All	4000	4.32 (3.69-4.95)	5.84 (5.10-6.58)	6.15 (5.37-6.92)	123.5 (77-186)
		All tested	3214	4.82 (4.07-5.56)	6.29 (5.43-7.14)	6.54 (5.66-7.42)	77 (69-118)
		HPV +	1860	8.33 (7.05-9.59)	10.54 (9.10-11.96)	11.18 (9.53-12.80)	73 (65-99)
		HPV -	1354	0.15 (0.00-0.36)	0.58 (0.15-1.01)	0.83 (0.28-1.38)	889 (469-1531)
		Not tested	786	2.44 (1.35-3.52)	4.17 (2.72-5.60)	4.52 (2.99-6.02)	360 (279-552)
	21-29	All	8396	3.94 (3.52-4.36)	5.46 (4.96-5.96)	6.01 (5.47-6.54)	149.5 (105-223)
		All tested	6638	4.39 (3.90-4.89)	5.89 (5.31-6.47)	6.40 (5.79-7.02)	85 (72-123)
		HPV +	4209	6.92 (6.14-7.69)	9.03 (8.14-9.92)	9.61 (8.68-10.54)	78.5 (69-105)
		HPV -	2429	0.12 (0.00-0.26)	0.60 (0.27-0.92)	0.95 (0.50-1.40)	889 (558-1531)
		Not tested	1758	2.29 (1.59-2.99)	3.92 (2.98-4.86)	4.73 (3.61-5.84)	340 (282-471)
	30-39	All	4817	2.68 (2.22-3.14)	3.39 (2.87-3.91)	4.00 (3.41-4.59)	127 (87-209)
		All tested	3945	2.99 (2.46-3.53)	3.63 (3.03-4.23)	4.18 (3.51-4.85)	98 (66-155)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year % (95% CI)	3 Years % (95% CI)	5 Years % (95% CI)	
		HPV +	1555	7.59 (6.24-8.92)	8.98 (7.50-10.43)	9.73 (8.16-11.27)	84 (60-110)
		HPV -	2390	0.09 (0.00-0.20)	0.33 (0.08-0.57)	0.70 (0.29-1.12)	1241.5 (519-1828)
		Not tested	872	1.39 (0.60-2.16)	2.30 (1.27-3.32)	3.16 (1.89-4.41)	468.5 (222-945)
	40-49	All	4096	1.69 (1.29-2.08)	2.31 (1.84-2.79)	2.73 (2.19-3.27)	108.5 (66-252)
		All tested	3340	1.89 (1.42-2.35)	2.55 (2.00-3.10)	2.91 (2.30-3.52)	79 (58-204)
		HPV +	802	7.84 (5.93-9.71)	10.42 (8.19-12.59)	11.48 (9.02-13.87)	70.5 (57-146)
		HPV -	2538	0.04 (0.00-0.12)	0.19 (0.00-0.37)	0.31 (0.06-0.56)	1000 (219-1550)
		Not tested	756	0.81 (0.16-1.45)	1.45 (0.55-2.35)	1.97 (0.81-3.12)	527 (252-1217)
	50-64	All	3368	0.87 (0.56-1.19)	1.11 (0.75-1.48)	1.23 (0.80-1.66)	106 (75-194)
		All tested	2725	0.82 (0.48-1.16)	0.99 (0.61-1.37)	1.14 (0.66-1.61)	93 (69-194)
		HPV +	613	3.69 (2.17-5.20)	4.33 (2.65-5.98)	5.04 (2.85-7.18)	88.5 (65-191)
		HPV -	2112	0.05 (0.00-0.15)	0.05 (0.00-0.15)	0.05 (0.00-0.15)	454 (65-191)
		Not tested	643	1.26 (0.39-2.13)	1.63 (0.62-2.63)	1.63 (0.62-2.63)	188 (56-718)
	30-64	All	12281	1.84 (1.60-2.08)	2.39 (2.12-2.67)	2.78 (2.47-3.09)	117.5 (89-175)
		All tested	10010	2.02 (1.74-2.30)	2.54 (2.22-2.85)	2.88 (2.53-3.23)	94.5 (71-124)
		HPV +	2970	6.81 (5.89-7.73)	8.30 (7.27-9.32)	9.07 (7.96-10.17)	75 (65-99)
		HPV -	7040	0.04 (0.00-0.09)	0.17 (0.07-0.28)	0.36 (0.19-0.53)	1001 (519-1492)
		Not tested	2271	1.11 (0.68-1.55)	1.77 (1.21-2.33)	2.32 (1.64-3.00)	323 (228-718)
	21-64	All	20677	2.70 (2.48-2.92)	3.65 (3.38-3.91)	4.10 (3.81-4.38)	134 (103-175)
		All tested	16648	2.96 (2.70-3.22)	3.88 (3.58-4.18)	4.29 (3.97-4.62)	91 (76-109)
		HPV +	7179	6.87 (6.28-7.46)	8.72 (8.05-9.39)	9.39 (8.68-10.10)	78 (69-96)
		HPV -	9469	0.05 (0.01-0.10)	0.28 (0.17-0.40)	0.52 (0.34-0.69)	986 (707-1287)
		Not tested	4029	1.63 (1.24-2.02)	2.71 (2.19-3.22)	3.37 (2.75-3.99)	340 (281-464)
CIN2+	21-24	All	4396	4.73 (4.10-5.36)	7.13 (6.35-7.90)	8.41 (7.52-9.29)	237.5 (174-295)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
		All tested	3424	5.23 (4.48-5.97)	7.46 (6.55-8.35)	8.69 (7.67-9.70)	139.5 (88-250)
		HPV +	2349	7.58 (6.51-8.65)	10.46 (9.18-11.71)	11.98 (10.56-13.38)	110.5 (78-219)
		HPV -	1075	0.19 (0.00-0.45)	0.92 (0.32-1.52)	1.55 (0.69-2.40)	870 (413-1587)
		Not tested	972	3.09 (1.99-4.17)	6.12 (4.55-7.67)	7.79 (5.81-9.74)	461 (314-565)
	25-29	All	4000	5.84 (5.11-6.57)	8.04 (7.18-8.89)	8.65 (7.74-9.54)	137 (85-212)
		All tested	3214	6.43 (5.57-7.27)	8.59 (7.61-9.57)	9.13 (8.11-10.15)	84 (70-128)
		HPV +	1860	11.06 (9.62-12.48)	14.33 (12.70-15.93)	15.21 (13.46-16.93)	77 (69-106)
		HPV -	1354	0.15 (0.00-0.35)	0.73 (0.25-1.21)	1.18 (0.53-1.83)	889 (469-1296)
		Not tested	786	3.57 (2.27-4.86)	5.94 (4.24-7.62)	6.63 (4.81-8.42)	340 (280-426)
	21-29	All	8396	5.25 (4.77-5.73)	7.54 (6.97-8.12)	8.51 (7.88-9.14)	184 (141-246)
		All tested	6638	5.79 (5.23-6.36)	7.98 (7.32-8.64)	8.90 (8.18-9.62)	104 (82-150)
		HPV +	4209	9.09 (8.22-9.96)	12.13 (11.13-13.13)	13.28 (12.20-14.35)	88 (76-123)
		HPV -	2429	0.12 (0.00-0.26)	0.82 (0.44-1.19)	1.34 (0.82-1.87)	882 (558-1296)
		Not tested	1758	3.25 (2.41-4.07)	5.95 (4.81-7.08)	7.24 (5.89-8.57)	367 (315-474)
	30-39	All	4817	4.12 (3.55-4.68)	5.28 (4.64-5.92)	6.28 (5.55-7.01)	98 (71-146)
		All tested	3945	4.62 (3.96-5.28)	5.76 (5.02-6.49)	6.71 (5.87-7.54)	84 (64-103)
		HPV +	1555	11.67 (10.06-13.26)	14.10 (12.32-15.84)	15.77 (13.84-17.67)	69 (61-92)
		HPV -	2390	0.09 (0.00-0.20)	0.42 (0.14-0.69)	0.87 (0.41-1.32)	1196 (519-1656)
		Not tested	872	1.95 (1.03-2.87)	3.13 (1.93-4.31)	4.33 (2.85-5.78)	447 (221-887)
	40-49	All	4096	2.23 (1.77-2.68)	3.07 (2.53-3.61)	3.72 (3.09-4.35)	126 (75-249)
		All tested	3340	2.46 (1.93-2.98)	3.36 (2.73-3.98)	3.90 (3.19-4.60)	94.5 (66-203)
		HPV +	802	10.04 (7.91-12.12)	12.96 (10.53-15.32)	14.56 (11.87-17.17)	72.5 (58-119)
		HPV -	2538	0.12 (0.00-0.26)	0.36 (0.11-0.61)	0.60 (0.26-0.94)	890.5 (408-1258)
		Not tested	756	1.21 (0.42-1.99)	1.98 (0.94-3.01)	2.98 (1.54-4.40)	393 (252-1217)
	50-64	All	3368	1.41 (1.01-1.81)	1.82 (1.36-2.28)	2.16 (1.63-2.68)	199 (90-285)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year	3 Years	5 Years	
				% (95% CI)	% (95% CI)	% (95% CI)	
		All tested	2725	1.34 (0.90-1.77)	1.63 (1.14-2.11)	1.95 (1.39-2.51)	146.5 (77-283)
		HPV +	613	5.63 (3.78-7.46)	6.60 (4.57-8.59)	7.80 (5.27-10.27)	88.5 (69-194)
		HPV -	2112	0.10 (0.00-0.23)	0.21 (0.00-0.41)	0.47 (0.11-0.84)	1329 (400-1937)
		Not tested	643	1.90 (0.83-2.95)	2.80 (1.48-4.11)	3.02 (1.63-4.40)	271.5 (90-718)
	30-64	All	12281	2.74 (2.45-3.03)	3.58 (3.25-3.92)	4.30 (3.91-4.68)	108 (89-172)
		All tested	10010	3.00 (2.66-3.33)	3.82 (3.44-4.20)	4.47 (4.04-4.91)	88.5 (71-110)
		HPV +	2970	9.99 (8.90-11.07)	12.20 (10.99-13.40)	13.66 (12.34-14.96)	74 (65-93)
		HPV -	7040	0.07 (0.01-0.14)	0.31 (0.18-0.45)	0.65 (0.43-0.88)	1001 (707-1441)
		Not tested	2271	1.60 (1.08-2.12)	2.60 (1.92-3.27)	3.50 (2.66-4.33)	353 (243-697)
	21-64	All	20677	3.76 (3.50-4.02)	5.21 (4.90-5.51)	6.02 (5.67-6.36)	155 (119-196)
		All tested	16648	4.12 (3.81-4.42)	5.50 (5.14-5.85)	6.25 (5.86-6.64)	96.5 (84-113)
		HPV +	7179	9.46 (8.78-10.14)	12.17 (11.39-12.93)	13.44 (12.61-14.27)	84 (72-97)
		HPV -	9469	0.07 (0.02-0.13)	0.44 (0.30-0.58)	0.83 (0.62-1.05)	931 (747-1218)
		Not tested	4029	2.32 (1.85-2.79)	4.03 (3.41-4.65)	5.13 (4.38-5.88)	360 (314-471)
CIN3+	21-24	All	4396	1.55 (1.18-1.91)	2.71 (2.21-3.21)	3.35 (2.75-3.95)	292 (207-478)
		All tested	3424	1.72 (1.28-2.16)	2.69 (2.12-3.25)	3.33 (2.65-4.00)	222.5 (79-423)
		HPV +	2349	2.53 (1.88-3.17)	3.82 (3.00-4.62)	4.71 (3.74-5.68)	196 (76-309)
		HPV -	1075	0.09 (0.00-0.28)	0.31 (0.00-0.66)	0.45 (0.00-0.90)	816.5 (400-1400)
		Not tested	972	1.04 (0.40-1.68)	2.77 (1.69-3.84)	3.42 (2.12-4.71)	498.5 (352-661)
	25-29	All	4000	2.05 (1.60-2.49)	3.00 (2.46-3.54)	3.42 (2.79-4.06)	209 (93-292)
		All tested	3214	2.20 (1.69-2.71)	3.23 (2.59-3.85)	3.66 (2.92-4.39)	128 (77-286)
		HPV +	1860	3.87 (2.97-4.76)	5.59 (4.49-6.68)	6.22 (4.94-7.48)	106 (73-260)
		HPV -	1354	0.07 (0.00-0.22)	0.25 (0.00-0.54)	0.35 (0.00-0.70)	863.0 (380-1296)
		Not tested	786	1.54 (0.67-2.41)	2.27 (1.19-3.33)	2.46 (1.32-3.58)	303.5 (137-426)
	21-29	All	8396	1.78 (1.50-2.07)	2.83 (2.46-3.19)	3.32 (2.90-3.73)	236 (174-324)
		All tested	6638	1.94 (1.60-2.27)	2.92 (2.50-3.34)	3.41 (2.93-3.88)	175 (88-285)



Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year % (95% CI)	3 Years % (95% CI)	5 Years % (95% CI)	
		HPV +	4209	3.09 (2.56-3.62)	4.56 (3.90-5.21)	5.24 (4.50-5.97)	138 (82-252)
		HPV -	2429	0.04 (0.00-0.12)	0.28 (0.05-0.50)	0.40 (0.12-0.67)	816.5 (400-1400)
		Not tested	1758	1.21 (0.69-1.72)	2.54 (1.78-3.30)	2.97 (2.10-3.84)	419 (292-527)
	30-39	All	4817	1.69 (1.32-2.05)	2.29 (1.85-2.72)	2.71 (2.21-3.20)	80 (61-105)
		All tested	3945	1.86 (1.43-2.28)	2.50 (2.00-3.00)	2.93 (2.37-3.50)	69 (57-99)
		HPV +	1555	4.80 (3.71-5.88)	6.40 (5.12-7.66)	7.47 (6.01-8.90)	66 (54-92)
		HPV -	2390	0.04 (0.00-0.13)	0.09 (0.00-0.21)	0.17 (0.00-0.36)	658 (435-1656)
		Not tested	872	0.92 (0.28-1.55)	1.48 (0.64-2.32)	1.68 (0.75-2.60)	222 (51-890)
	40-49	All	4096	0.85 (0.56-1.13)	1.13 (0.80-1.46)	1.37 (0.98-1.75)	119 (70-272)
		All tested	3340	0.92 (0.59-1.24)	1.16 (0.79-1.54)	1.35 (0.93-1.77)	83 (47-211)
		HPV +	802	3.66 (2.32-4.98)	4.46 (2.95-5.94)	4.89 (3.27-6.49)	70 (41-126)
		HPV -	2538	0.08 (0.00-0.19)	0.23 (0.03-0.43)	0.29 (0.05-0.53)	764.5 (30-1521)
		Not tested	756	0.67 (0.08-1.25)	1.15 (0.35-1.94)	1.46 (0.45-2.45)	371 (78-1731)
	50-64	All	3368	0.60 (0.34-0.87)	0.81 (0.50-1.12)	1.12 (0.72-1.51)	300 (93-575)
		All tested	2725	0.63 (0.33-0.94)	0.77 (0.43-1.11)	1.04 (0.61-1.47)	251 (77-473)
		HPV +	613	2.53 (1.26-3.79)	2.96 (1.55-4.34)	3.24 (1.73-4.72)	88.5 (45-283)
		HPV -	2112	0.10 (0.00-0.23)	0.16 (0.00-0.33)	0.42 (0.07-0.77)	1655 (313-1937)
		Not tested	643	0.64 (0.01-1.26)	1.19 (0.31-2.07)	1.42 (0.43-2.39)	475 (258-1341)
	30-64	All	12281	1.11 (0.92-1.30)	1.48 (1.26-1.70)	1.82 (1.57-2.08)	97 (77-222)
		All tested	10010	1.19 (0.97-1.40)	1.57 (1.32-1.82)	1.89 (1.60-2.18)	84 (65-113)
		HPV +	2970	4.02 (3.30-4.74)	5.11 (4.28-5.93)	5.90 (4.97-6.82)	70 (59-92)
		HPV -	7040	0.04 (0.00-0.09)	0.14 (0.05-0.23)	0.29 (0.14-0.44)	892.5 (435-1656)
		Not tested	2271	0.76 (0.40-1.12)	1.17 (0.71-1.62)	1.53 (0.97-2.08)	349 (222-812)
	21-64	All	20677	1.38 (1.22-1.54)	2.02 (1.83-2.22)	2.43 (2.20-2.65)	208 (119-251)

Outcome	Age(y)	Index HPV status	N (all outcomes)	Follow-up Time			Median (95% CI) time to detection (days)
				1 Year % (95% CI)	3 Years % (95% CI)	5 Years % (95% CI)	
		All tested	16648	1.49 (1.30-1.67)	2.10 (1.88-2.32)	2.49 (2.24-2.75)	103 (82-183)
		HPV +	7179	3.48 (3.04-3.91)	4.77 (4.25-5.28)	5.51 (4.93-6.09)	87 (76-126)
		HPV -	9469	0.03 (0.00-0.07)	0.16 (0.08-0.25)	0.32 (0.18-0.45)	820 (516-1400)
		Not tested	4029	0.93 (0.63-1.23)	1.73 (1.32-2.15)	2.15 (1.66-2.64)	393 (279-523)

**eTable 2. Relative risks and (95% CIs) of CIN1, CIN2, CIN2+ and CIN3+ at 1 and 5 years after an ASCUS screening cytology result by HPV status (positive versus negative) stratified by age. All p-values < 10<sup>-6</sup>.**

Outcome	Age group	HPV positive versus HPV negative	
		1 Year Rel risk (95% CI)	5 Years Rel risk (95% CI)
CIN1	21-24	20.87 (11.20-38.87)	6.95 (5.02-9.62)
	25-29	23.30 (12.90-38.54)	6.39 (4.87-8.37)
	21-29	22.37 (14.70-34.05)	6.54 (5.31-8.04)
	30-39	21.25 (14.13-31.95)	8.36 (6.60-10.59)
	40-49	23.06 (14.78-35.99)	10.00 (7.54-13.26)
	50-59	19.03 (10.88-33.30)	10.85 (7.45-15.80)
	30-64	23.26 (17.80-30.40)	10.27 (8.71-12.12)
	21-64	23.52 (18.81-29.41)	9.11 (8.01-10.36)
CIN2	21-24	31.24 (7.79-125.38)	7.87 (4.40-14.07)
	25-29	56.22 (13.91-219.14)	13.44 (7.41-24.38)
	21-29	55.61 (17.92-172.57)	10.11 (6.67-15.34)
	30-39	89.07 (22.33-355.36)	13.85 (8.40-22.83)
	40-49	194.07 (27.62-1363.52)	37.36 (18.06-77.27)
	50-64	74.45 (10.52-526.76)	101.65 (14.53-710.91)
	30-64	156.42 (50.68-482.80)	25.03 (16.72-37.48)
	21-64	128.52 (53.58-308.28)	18.24 (13.66-24.35)
CIN2+	21-24	40.55 (10.12-162.53)	7.73 (4.74-12.61)
	25-29	74.45 (18.60-297.94)	12.87 (7.82-21.19)
	21-29	73.37 (23.63-227.80)	9.89 (6.97-14.03)
	30-39	136.99 (34.48-544.29)	18.17 (11.66-28.32)
	40-49	82.82 (26.60-257.88)	24.26 (14.31-41.13)
	50-64	58.06 (14.23-236.92)	16.49 (8.39-32.40)
	30-64	138.14 (57.58-331.39)	20.95 (15.48-28.33)
	21-64	126.53 (60.39-265.12)	16.15 (12.86-20.28)
CIN3+	21-24	26.89 (3.77-191.67)	10.46 (4.22-25.91)
	25-29	81.78 (7.29-367.59)	17.63 (7.08-43.91)
	21-29	74.35 (10.50-526.32)	13.22 (6.95-25.16)
	30-39	110.43 (15.96-764.32)	44.81 (16.54-121.44)
	40-49	45.25 (11.01-185.92)	16.65 (7.64-36.28)
	50-64	26.11 (6.10-111.73)	7.64 (3.49-16.74)
	30-64	92.54 (29.78-287.58)	20.27 (12.85-31.97)
	21-64	108.14 (34.94-334.71)	17.29 (11.96-25.00)

**eTable 3. Cumulative incidence rate of LEEP for different outcomes after an ASCUS cytology screening result by age, HPV testing status and follow-up time**

Outcome	Age (y)	Index HPV status	n	1Y % (95% CI)	3Y % (95% CI)	5Y % (95% CI)
<CIN1	21-24	All	3455	0.03 (0.00-0.09)	0.10 (0.00-0.22)	0.15 (0.00-0.31)
		HPV tested	2621	0.04 (0.00-0.12)	0.14 (0.00-0.29)	0.20 (0.00-0.40)
		HPV +	1591	0.07 (0.00-0.19)	0.23 (0.00-0.48)	0.33 (0.00-0.66)
		HPV -	1030	(-)	(-)	(-)
		Not tested	834	(-)	(-)	(-)
	25-29	All	3142	0.06 (0.00-0.15)	0.17 (0.02-0.32)	0.21 (0.04-0.38)
		HPV tested	2460	0.04 (0.00-0.12)	0.18 (0.00-0.35)	0.18 (0.00-0.35)
		HPV +	1169	0.09 (0.00-0.25)	0.37 (0.01-0.74)	0.37 (0.01-0.74)
		HPV -	1291	(-)	(-)	(-)
		Not tested	682	0.15 (0.00-0.43)	0.33 (0.00-0.80)	0.33 (0.00-0.80)
	21-29	All	6597	0.03 (0.00-0.07)	0.14 (0.04-0.23)	0.18 (0.07-0.29)
		HPV tested	5081	0.02 (0.00-0.06)	0.16 (0.04-0.27)	0.19 (0.06-0.32)
		HPV +	2760	0.04 (0.00-0.11)	0.29 (0.07-0.50)	0.35 (0.10-0.60)
		HPV -	2321	0.00 (-)	0.00 (-)	0.00 (-)
		Not tested	1516	0.07 (0.00-0.20)	0.16 (0.00-0.38)	0.16 (0.00-0.38)
	30-64	All	10954	0.16 (0.08-0.23)	0.28 (0.18-0.38)	0.35 (0.22-0.48)
		HPV tested	8853	0.17 (0.08-0.26)	0.28 (0.17-0.39)	0.36 (0.21-0.51)
		HPV +	1989	0.70 (0.34-1.07)	1.04 (0.59-1.50)	1.20 (0.69-1.71)
		HPV -	6864	0.03 (0.00-0.07)	0.06 (0.00-0.12)	0.12 (0.00-0.24)
		Not tested	2101	0.10 (0.00-0.23)	0.25 (0.03-0.47)	0.32 (0.06-0.59)
21-64	All	17551	0.11 (0.06-0.16)	0.22 (0.15-0.29)	0.29 (0.20-0.38)	
	HPV tested	13934	0.11 (0.06-0.17)	0.24 (0.15-0.32)	0.30 (0.19-0.40)	
	HPV +	4749	0.32 (0.16-0.48)	0.60 (0.38-0.83)	0.71 (0.45-0.96)	
	HPV -	9185	0.02 (0.00-0.05)	0.05 (0.00-0.09)	0.09 (0.00-0.18)	
	Not tested	3617	0.08 (0.00-0.18)	0.21 (0.05-0.37)	0.26 (0.08-0.44)	
CIN1	21-24	All	632	1.27 (0.39-2.13)	4.07 (2.46-5.65)	6.33 (3.65-8.93)
		HPV tested	549	1.09 (0.22-1.96)	3.31 (1.75-4.86)	5.10 (2.36-7.76)
		HPV +	517	1.16 (0.23-2.08)	3.33 (1.71-4.93)	5.03 (2.12-7.86)
		HPV -	32	3.12 (0.00-8.97)	6.47 (0.00-14.75)	6.47 (0.00-14.75)
		Not tested	83	2.41 (0.00-5.65)	8.99 (2.39-15.14)	14.24 (5.48-22.18)
	25-29	All	542	3.87 (2.24-5.49)	7.04 (4.82-9.21)	8.17 (5.54-10.73)
		HPV tested	486	3.91 (2.17-5.62)	7.01 (4.67-9.29)	8.27 (5.44-11.01)
		HPV +	436	4.13 (2.24-5.98)	7.37 (4.83-9.84)	9.20 (5.61-12.65)
		HPV -	50	2.00 (0.00-5.80)	4.00 (0.00-9.28)	10.86 (0.00-23.73)
		Not tested	56	3.57 (0.00-8.31)	7.40 (0.14-14.13)	7.40 (0.14-14.13)
	21-29	All	1174	2.47 (1.58-3.35)	5.33 (4.01-6.64)	6.66 (5.07-8.22)
		HPV tested	1035	2.42 (1.48-3.35)	4.93 (3.57-6.27)	6.02 (4.40-7.61)
		HPV +	953	2.52 (1.52-3.51)	5.05 (3.61-6.46)	6.30 (4.40-8.17)
		HPV -	82	1.22 (0.00-3.57)	5.02 (0.09-9.69)	8.97 (0.00-17.43)
		Not tested	139	2.88 (0.06-5.62)	8.33 (3.48-12.93)	11.53 (5.55-17.14)

Outcome	Age (y)	Index HPV status	n	1Y	3Y	5Y
				% (95% CI)	% (95% CI)	% (95% CI)
	30-64	All	875	7.20 (5.47-8.90)	12.24 (10.00-14.42)	15.26 (12.68-17.77)
		HPV tested	771	7.65 (5.76-9.51)	12.43 (10.02-14.77)	15.13 (12.39-17.78)
		HPV +	631	8.08 (5.93-10.18)	12.95 (10.24-15.59)	15.32 (12.28-18.25)
		HPV -	140	6.43 (2.28-10.41)	10.10 (4.94-14.99)	13.94 (7.67-19.79)
		Not tested	104	4.81 (0.61-8.83)	10.83 (4.56-16.68)	16.17 (8.18-23.46)
	21-64	All	2049	4.49 (3.59-5.38)	8.23 (7.01-9.44)	10.19 (8.79-11.57)
		HPV tested	1806	4.65 (3.67-5.62)	8.07 (6.78-9.35)	9.74 (8.29-11.18)
		HPV +	1584	4.73 (3.68-5.78)	8.13 (6.74-9.49)	9.57 (8.03-11.08)
		HPV -	222	4.05 (1.42-6.61)	8.21 (4.50-11.77)	12.15 (6.94-17.07)
		Not tested	243	3.29 (1.02-5.51)	9.40 (5.58-13.08)	13.57 (8.76-18.13)
CIN1 alone	21-24	All	603	0.83 (0.10-1.55)	1.60 (0.55-2.63)	1.60 (0.55-2.63)
		HPV tested	529	0.76 (0.02-1.49)	1.36 (0.35-2.36)	1.36 (0.35-2.36)
		HPV +	498	0.80 (0.02-1.58)	1.24 (0.25-2.22)	1.24 (0.25-2.22)
		HPV -	31	3.23 (0.00-9.25)	3.23 (0.00-9.25)	3.23 (0.00-9.25)
		Not tested	74	1.35 (0.00-3.95)	3.32 (0.00-7.83)	3.32 (0.00-7.83)
	25-29	All	523	3.82 (2.17-5.45)	4.46 (2.66-6.22)	5.38 (3.10-7.61)
		HPV tested	468	3.85 (2.09-5.57)	4.33 (2.45-6.17)	5.37 (2.91-7.77)
		HPV +	418	4.07 (2.15-5.94)	4.37 (2.37-6.33)	4.68 (2.60-6.72)
		HPV -	50	2.00 (0.00-5.80)	4.00 (0.00-9.28)	10.86 (0.00-23.73)
		Not tested	55	3.64 (0.00-8.46)	5.53 (0.00-11.41)	5.53 (0.00-11.41)
21-29	All	1126	2.22 (1.36-3.08)	2.80 (1.82-3.77)	3.36 (2.15-4.55)	
	HPV tested	997	2.21 (1.29-3.11)	2.76 (1.72-3.78)	3.24 (1.97-4.50)	
	HPV +	916	2.29 (1.32-3.26)	2.67 (1.61-3.72)	2.81 (1.72-3.90)	
	HPV -	81	1.23 (0.00-3.61)	3.70 (0.00-7.73)	7.72 (0.00-15.97)	
	Not tested	129	2.33 (0.00-4.89)	4.27 (0.48-7.92)	4.27 (0.48-7.92)	
30-64	All	843	6.64 (4.95-8.31)	10.10 (8.01-12.15)	11.76 (9.43-14.03)	
	HPV tested	743	7.00 (5.15-8.82)	10.08 (7.85-12.25)	11.75 (9.27-14.17)	
	HPV +	604	7.28 (5.19-9.33)	10.04 (7.57-12.45)	11.07 (8.41-13.65)	
	HPV -	139	6.48 (2.30-10.49)	10.18 (4.98-15.09)	14.05 (7.73-19.94)	
	Not tested	100	4.00 (0.08-7.76)	10.27 (4.02-16.11)	11.72 (4.89-18.06)	
21-64	All	1969	4.06 (3.19-4.93)	5.88 (4.82-6.92)	6.80 (5.62-7.96)	
	HPV tested	1740	4.25 (3.30-5.20)	5.82 (4.70-6.93)	6.70 (5.46-7.92)	
	HPV +	1520	4.28 (3.25-5.29)	5.52 (4.35-6.68)	6.10 (4.84-7.34)	
	HPV -	220	4.09 (1.44-6.67)	7.78 (4.16-11.27)	11.76 (6.59-16.65)	
	Not tested	229	2.62 (0.53-4.67)	6.28 (3.04-9.42)	7.55 (3.88-11.08)	
CIN2	21-24	All	240	25.00 (19.32-30.28)	43.50 (36.73-49.55)	52.66 (45.37-58.98)
		HPV tested	200	26.50 (20.12-32.37)	43.22 (35.81-49.78)	52.14 (44.12-59.00)
		HPV +	190	27.37 (20.74-33.44)	44.49 (36.82-51.23)	50.98 (42.85-57.95)
		HPV -	10	20.00 (0.00-41.32)	30.00 (0.00-53.35)	64.00 (13.51-85.02)
		Not tested	40	17.50 (4.84-28.47)	45.34 (26.52-59.34)	55.59 (35.18-69.57)
	25-29	All	234	39.32 (32.72-45.26)	59.06 (52.07-65.04)	61.04 (53.93-67.05)
		HPV tested	201	41.79 (34.56-48.23)	59.03 (51.42-65.44)	60.71 (52.96-67.19)
		HPV +	192	43.23 (35.77-49.82)	60.86 (53.07-67.37)	69.37 (50.68-80.98)
		HPV -	9	22.22 (0.00-45.15)	22.22 (0.00-45.15)	35.19 (0.00-60.69)
		Not tested	33	24.24 (8.11-37.54)	57.58 (36.87-71.49)	60.84 (39.96-74.46)

Outcome	Age (y)	Index HPV status	n	1Y	3Y	5Y
				% (95% CI)	% (95% CI)	% (95% CI)
	21-29	All	474	32.07 (27.73-36.14)	50.89 (46.07-55.27)	56.74 (51.75-61.22)
		HPV tested	401	34.16 (29.36-38.65)	50.77 (45.53-55.51)	56.45 (50.99-61.31)
		HPV +	382	35.34 (30.36-39.96)	52.31 (46.92-57.16)	56.38 (50.83-61.30)
		HPV -	19	15.79 (0.00-30.69)	26.32 (3.60-43.68)	49.82 (19.93-68.56)
		Not tested	73	20.55 (10.72-29.30)	51.01 (37.71-61.47)	57.66 (44.00-67.99)
	30-64	All	314	46.50 (40.69-51.74)	62.64 (56.80-67.70)	71.76 (65.67-76.77)
		HPV tested	268	48.51 (42.16-54.16)	63.09 (56.74-68.50)	70.06 (63.42-75.50)
		HPV +	247	52.63 (45.98-58.47)	66.33 (59.79-71.80)	72.64 (65.67-78.20)
		HPV -	21	5.00 (0.00-14.09)	25.00 (3.41-41.77)	52.73 (16.01-73.39)
		Not tested	46	36.96 (21.34-49.47)	59.88 (42.51-72.00)	79.27 (61.32-88.89)
	21-64	All	788	37.82 (34.34-41.11)	55.60 (51.92-59.00)	62.69 (58.88-66.14)
		HPV tested	669	39.91 (36.08-43.51)	55.73 (51.74-59.40)	61.87 (57.72-65.61)
		HPV +	629	42.13 (38.14-45.86)	57.84 (53.73-61.59)	62.63 (58.38-66.45)
		HPV -	40	7.57 (0.00-15.45)	25.54 (10.54-38.03)	49.72 (29.38-64.20)
		Not tested	119	26.05 (17.73-33.53)	54.41 (44.28-62.70)	66.18 (55.72-74.17)
CIN2+	21-24	All	338	28.40 (23.43-33.05)	48.60 (42.87-53.74)	59.62 (53.45-64.98)
		HPV tested	274	31.02 (25.32-36.29)	48.61 (42.24-54.28)	58.48 (51.61-64.37)
		HPV +	260	32.31 (26.38-37.76)	50.11 (43.53-55.92)	58.01 (50.97-64.05)
		HPV -	14	14.29 (0.00-30.79)	28.57 (0.52-48.71)	59.18 (21.65-78.74)
		Not tested	64	18.75 (8.60-27.77)	48.52 (34.28-59.67)	64.19 (48.27-75.22)
	25-29	All	335	40.90 (35.39-45.93)	62.40 (56.70-67.34)	66.74 (61.01-71.62)
		HPV tested	286	43.01 (36.97-48.47)	62.77 (56.57-68.09)	67.15 (60.88-72.42)
		HPV +	273	44.69 (38.47-50.28)	64.76 (58.43-70.13)	69.58 (62.38-75.40)
		HPV -	13	15.38 (0.00-32.89)	31.62 (0.33-53.09)	50.14 (10.78-72.14)
		Not tested	49	28.57 (14.73-40.16)	59.18 (42.82-70.87)	63.38 (47.02-74.69)
	21-29	All	673	34.62 (30.93-38.12)	55.26 (51.27-58.93)	63.11 (58.99-66.82)
		HPV tested	560	37.14 (33.01-41.02)	55.58 (51.19-59.58)	62.90 (58.35-66.96)
		HPV +	533	38.65 (34.37-42.65)	57.32 (52.82-61.40)	63.00 (58.35-67.12)
		HPV -	27	11.11 (0.00-22.21)	26.11 (7.44-41.02)	55.06 (30.34-71.01)
		Not tested	113	22.12 (14.08-29.41)	53.21 (42.87-61.68)	63.35 (52.60-71.66)
30-64	All	484	44.83 (40.22-49.09)	61.02 (56.35-65.19)	71.33 (66.54-75.44)	
	HPV tested	414	46.14 (41.11-50.73)	61.47 (56.41-65.95)	70.19 (64.97-74.63)	
	HPV +	377	50.66 (45.35-55.46)	65.28 (60.04-69.83)	73.81 (68.37-78.32)	
	HPV -	37	2.70 (0.00-7.79)	22.53 (7.47-35.15)	41.07 (19.48-56.86)	
	Not tested	70	37.14 (24.74-47.50)	58.38 (44.75-68.64)	76.54 (62.67-85.25)	
21-64	All	1157	38.89 (36.02-41.64)	57.69 (54.69-60.49)	66.55 (63.47-69.37)	
	HPV tested	974	40.97 (37.79-43.97)	58.10 (54.83-61.13)	66.00 (62.63-69.07)	
	HPV +	910	43.63 (40.31-46.76)	60.63 (57.27-63.74)	67.43 (63.96-70.57)	
	HPV -	64	4.69 (0.00-9.73)	23.99 (12.62-33.89)	46.59 (31.47-58.38)	
	Not tested	183	27.87 (21.07-34.08)	55.16 (47.20-61.92)	68.51 (60.33-75.00)	
CIN3+	21-24	All	126	35.71 (26.78-43.56)	65.00 (55.46-72.49)	79.51 (69.61-86.18)
		HPV tested	98	41.84 (31.20-50.83)	66.21 (55.20-74.51)	78.81 (67.44-86.21)
		HPV +	94	43.62 (32.65-52.80)	68.00 (56.79-76.30)	80.37 (68.47-87.78)
		HPV -	4	25.00 (0.00-57.41)	50.00 (0.00-81.23)	50.00 (0.00-81.23)
		Not tested	28	17.86 (2.37-30.89)	60.71 (37.74-75.21)	83.37 (51.97-94.24)

Outcome	Age (y)	Index HPV status	n	1Y	3Y	5Y
				% (95% CI)	% (95% CI)	% (95% CI)
		All	125	46.40 (36.90-54.47)	71.57 (62.22-78.60)	81.23 (71.66-87.57)
		HPV tested	107	46.73 (36.38-55.39)	72.46 (62.24-79.92)	82.93 (72.31-89.48)
	25-29	HPV +	103	48.54 (37.93-57.34)	74.36 (64.02-81.73)	82.66 (71.86-89.32)
		HPV -	4	25.00 (0.00-57.41)	62.50 (0.00-91.61)	100.00 (-)
		Not tested	18	44.44 (16.02-63.25)	66.67 (35.94-82.66)	72.22 (41.49-86.81)
		All	251	40.64 (34.24-46.41)	68.26 (61.84-73.61)	78.97 (72.76-83.76)
		HPV tested	205	43.90 (36.68-50.30)	69.44 (62.27-75.25)	79.40 (72.50-84.57)
	21-29	HPV +	197	45.69 (38.26-52.21)	71.29 (64.03-77.08)	79.82 (72.79-85.03)
		HPV -	8	12.50 (0.00-32.66)	40.00 (0.00-66.85)	70.00 (5.67-90.46)
		Not tested	46	26.09 (12.24-37.75)	63.04 (46.10-74.66)	77.54 (59.38-87.58)
		All	201	43.78 (36.49-50.24)	61.68 (54.19-67.94)	73.47 (65.91-79.35)
		HPV tested	170	44.12 (36.13-51.10)	61.50 (53.30-68.26)	73.19 (64.82-79.56)
	30-64	HPV +	154	48.70 (40.17-56.02)	65.89 (57.35-72.71)	78.06 (69.45-84.25)
		HPV -	16	6.25 (0.00-17.39)	19.23 (0.00-36.64)	45.48 (0.00-71.52)
		Not tested	31	41.94 (21.69-56.95)	62.61 (40.42-76.53)	74.36 (51.57-86.43)
		All	452	41.81 (37.08-46.19)	65.40 (60.64-69.59)	76.56 (71.92-80.44)
		HPV tested	375	43.73 (38.48-48.54)	65.86 (60.60-70.42)	76.56 (71.42-80.77)
	21-64	HPV +	351	46.72 (41.24-51.70)	68.93 (63.57-73.49)	79.02 (73.82-83.19)
		HPV -	24	4.17 (0.00-11.84)	21.25 (2.82-36.18)	51.00 (18.73-70.46)
		Not tested	77	32.47 (21.16-42.16)	62.91 (50.26-72.34)	76.15 (63.26-84.51)
		All	4396	2.30 (1.85-2.74)	4.09 (3.49-4.69)	5.13 (4.41-5.84)
		HPV tested	3424	2.60 (2.06-3.13)	4.27 (3.58-4.96)	5.20 (4.39-5.99)
	21-24	HPV +	2349	3.75 (2.98-4.51)	6.05 (5.06-7.03)	7.08 (5.96-8.18)
		HPV -	1075	0.19 (0.00-0.46)	0.52 (0.06-0.98)	1.11 (0.37-1.84)
		Not tested	972	1.34 (0.61-2.06)	3.46 (2.25-4.66)	4.96 (3.37-6.52)
		All	4000	3.98 (3.37-4.58)	5.94 (5.19-6.68)	6.52 (5.72-7.32)
		HPV tested	3214	4.42 (3.71-5.13)	6.32 (5.47-7.17)	6.91 (5.99-7.82)
	25-29	HPV +	1860	7.53 (6.32-8.72)	10.65 (9.22-12.06)	11.54 (9.95-13.11)
		HPV -	1354	0.15 (0.00-0.35)	0.48 (0.09-0.86)	0.95 (0.26-1.63)
		Not tested	786	2.16 (1.14-3.17)	4.37 (2.90-5.83)	4.89 (3.31-6.45)
		All	8396	3.10 (2.73-3.47)	4.96 (4.48-5.43)	5.74 (5.21-6.27)
		HPV tested	6638	3.48 (3.04-3.92)	5.25 (4.70-5.79)	5.97 (5.37-6.57)
	21-29	HPV +	4209	5.42 (4.73-6.10)	8.06 (7.22-8.89)	8.92 (8.02-9.81)
		HPV -	2429	0.12 (0.00-0.26)	0.44 (0.17-0.71)	1.02 (0.51-1.52)
		Not tested	1758	1.65 (1.05-2.24)	3.87 (2.93-4.80)	4.89 (3.78-5.99)
		All	12281	2.35 (2.08-2.61)	3.37 (3.05-3.70)	3.98 (3.61-4.34)
		HPV tested	10010	2.57 (2.26-2.88)	3.56 (3.19-3.93)	4.11 (3.70-4.52)
	30-64	HPV +	2970	8.35 (7.35-9.34)	11.13 (9.97-12.27)	12.59 (11.32-13.84)
		HPV -	7040	0.14 (0.05-0.23)	0.39 (0.24-0.55)	0.62 (0.40-0.83)
		Not tested	2271	1.37 (0.89-1.84)	2.54 (1.87-3.20)	3.39 (2.57-4.21)
		All	20677	2.65 (2.43-2.87)	4.01 (3.74-4.29)	4.69 (4.39-5.00)
		HPV tested	16648	2.93 (2.67-3.19)	4.23 (3.92-4.54)	4.85 (4.51-5.19)
	21-64	HPV +	7179	6.63 (6.05-7.20)	9.33 (8.64-10.01)	10.44 (9.69-11.17)
		HPV -	9469	0.13 (0.06-0.20)	0.39 (0.26-0.52)	0.68 (0.49-0.87)
		Not tested	4029	1.49 (1.11-1.86)	3.11 (2.56-3.66)	4.04 (3.37-4.70)

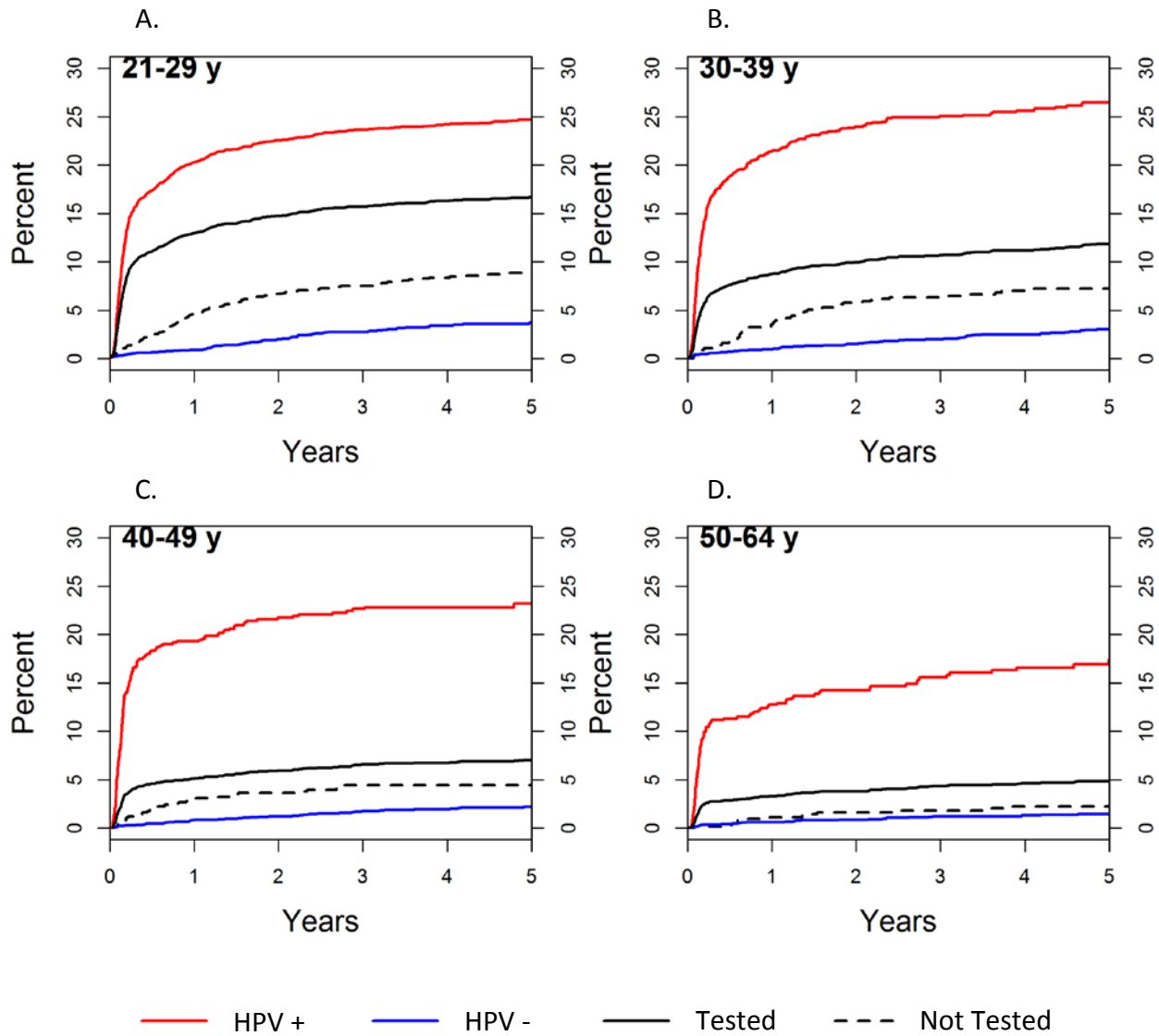
**eTable 4. Estimated percentage (Kaplan-Meier) of women with one or more biopsies (biopsy alone, ECC alone or both together, excluding LEEP) within five years after an ASCUS cytology screening result by age and HPV testing status**

<b>Age (y)</b>	<b>Index HPV Status</b>	<b>n</b>	<b>5Y percentage (95% CI)</b>
21-24	All	4396	37.15 (35.62-38.64)
	HPV tested	3424	40.72 (38.96-42.42)
	HPV positive	2349	54.20 (52.05-56.26)
	HPV negative	1075	11.29 (9.09-13.44)
	Not tested	972	24.49 (21.52-27.35)
25-29	All	4000	36.22 (34.67-37.74)
	HPV tested	3214	39.72 (37.95-41.44)
	HPV positive	1860	61.10 (58.76-63.31)
	HPV negative	1354	10.38 (8.58-12.14)
	Not tested	786	22.23 (19.12-25.22)
21-29	All	8396	36.69 (35.60-37.76)
	HPV tested	6638	40.22 (38.98-41.44)
	HPV positive	4209	57.25 (55.67-58.77)
	HPV negative	2429	10.76 (9.38-12.13)
	Not tested	1758	23.45 (21.31-25.53)
30-39	All	4817	29.69 (28.33-31.02)
	HPV tested	3945	31.88 (30.35-33.37)
	HPV positive	1555	65.63 (63.09-67.99)
	HPV negative	2390	10.09 (8.74-11.42)
	Not tested	872	19.75 (16.91-22.49)
40-49	All	4096	25.17 (23.76-26.55)
	HPV tested	3340	25.88 (24.31-27.42)
	HPV positive	802	64.83 (61.22-68.11)
	HPV negative	2538	13.61 (12.15-15.04)
	Not tested	756	22.31 (19.09-25.41)
50-64	All	3368	18.93 (17.53-20.31)
	HPV tested	2725	20.33 (18.73-21.91)
	HPV positive	613	54.82 (50.58-58.70)
	HPV negative	2112	10.34 (8.90-11.75)
	Not tested	643	12.99 (10.27-15.62)
30-64	All	12281	25.21 (24.40-26.00)
	HPV tested	10010	26.71 (25.80-27.61)
	HPV positive	2970	63.19 (61.34-64.94)
	HPV negative	7040	11.40 (10.58-12.21)
	Not tested	2271	18.65 (16.95-20.32)
21-64	All	20677	29.85 (29.20-30.50)
	HPV tested	16648	32.08 (31.33-32.81)
	HPV positive	7179	59.66 (58.47-60.82)
	HPV negative	9469	11.21 (10.51-11.90)
	Not tested	4029	20.65 (19.32-21.95)

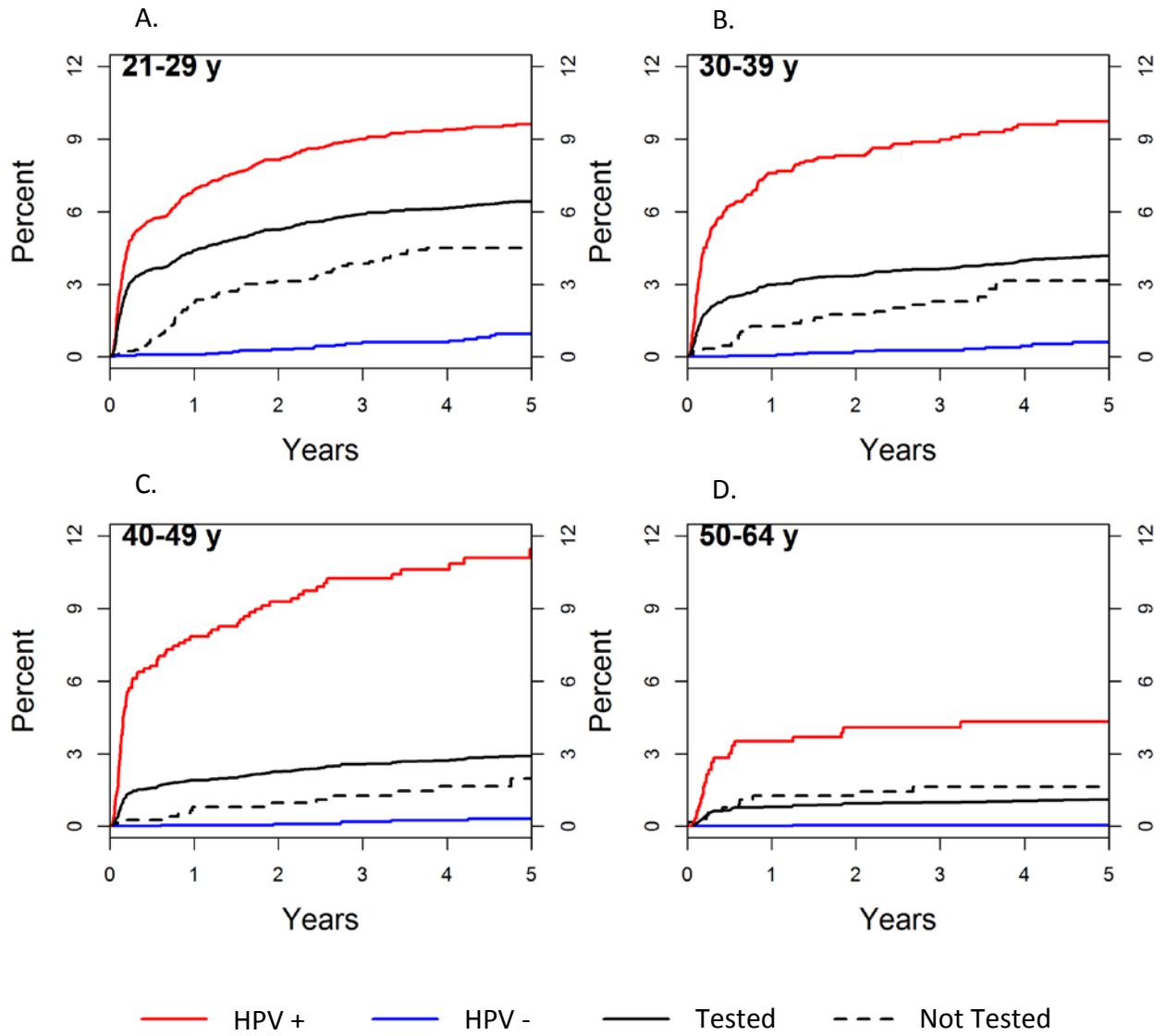


**eTable 5. Kaplan-Meier estimate of proportion with no follow-up test (Pap, HPV, Biopsy, ECC or LEEP) within five years of an ASC-US cytology screening test by age and HPV testing status**

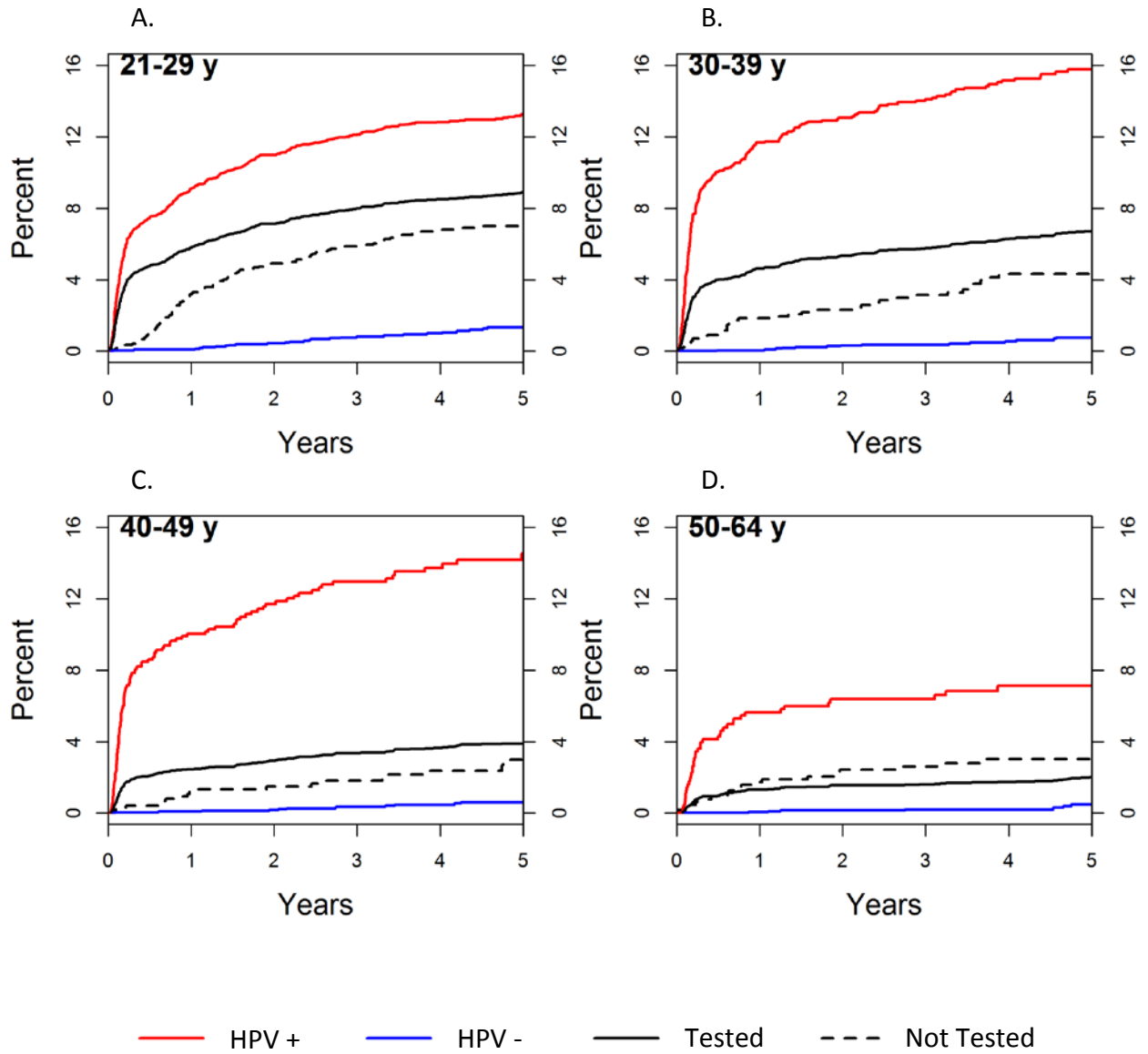
<b>Age (y)</b>	<b>Index HPV Status</b>	<b>n</b>	<b>% without test (95% CI)</b>
21-24	All	4396	15.96 (14.86-17.14)
	HPV tested	3424	14.07 (12.87-15.37)
	HPV +	2349	12.00 (10.70-13.46)
	HPV -	1075	18.57 (16.16-21.33)
	Not tested	972	22.45 (19.94-25.28)
25-29	All	4000	15.29 (14.18-16.48)
	HPV tested	3214	13.74 (12.55-15.05)
	HPV +	1860	9.17 (7.91-10.63)
	HPV -	1354	20.05 (17.92-22.43)
	Not tested	786	21.51 (18.79-24.63)
21-29	All	8396	15.62 (14.83-16.46)
	HPV tested	6638	13.90 (13.04-14.81)
	HPV +	4209	10.74 (9.81-11.77)
	HPV -	2429	19.37 (17.73-21.15)
	Not tested	1758	22.01 (20.13-24.07)
30-64	All	12281	17.89 (17.21-18.61)
	HPV tested	10010	17.32 (16.56-18.10)
	HPV +	2970	10.34 (9.27-11.54)
	HPV -	7040	20.26 (19.30-21.26)
	Not tested	2271	20.44 (18.81-22.20)
21-64	All	20677	16.97 (16.45-17.51)
	HPV tested	16648	15.95 (15.38-16.54)
	HPV +	7179	10.58 (9.87-11.35)
	HPV -	9469	20.02 (19.19-20.89)
	Not tested	4029	21.12 (19.88-22.45)



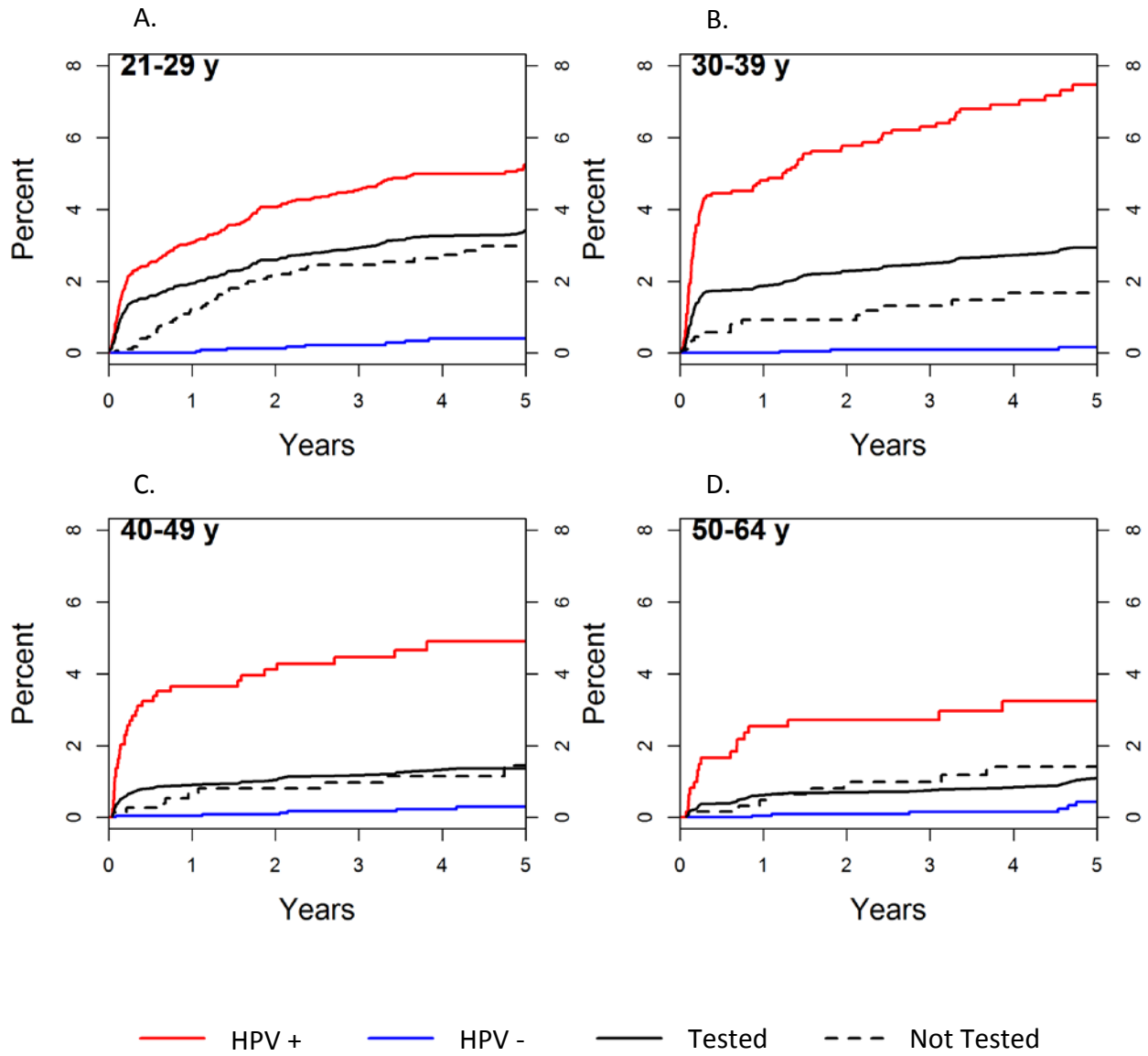
eFigure 1. Cumulative Incidence of CIN1 after ASC-US by Age and Index HPV test Status



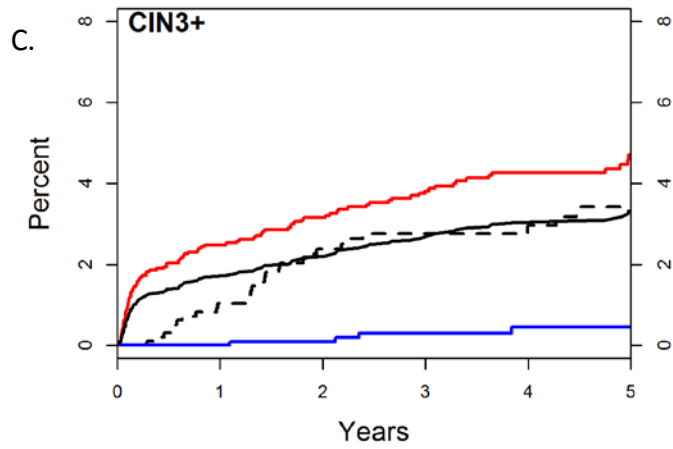
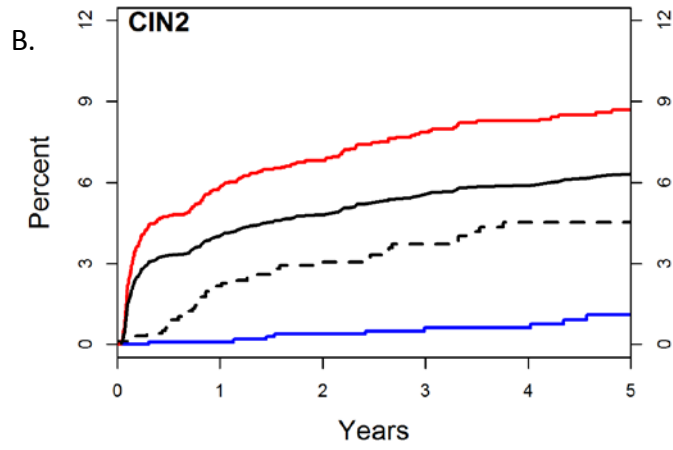
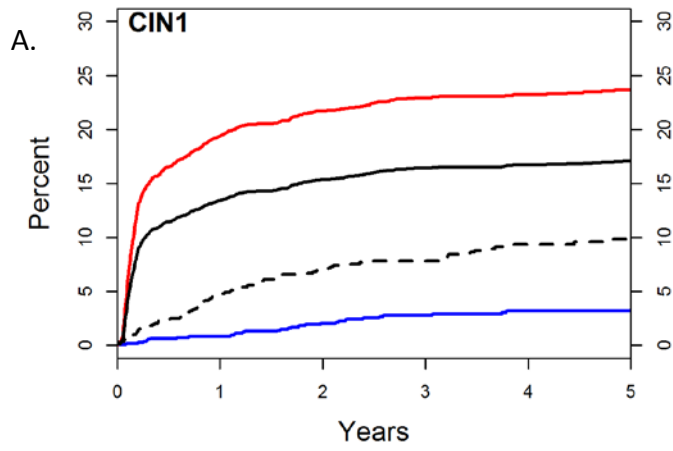
eFigure 2. Cumulative Incidence of CIN2 after ASC-US by Age and Index HPV test Status



eFigure 3. Cumulative Incidence of CIN2+ after ASC-US by Age and Index HPV test Status

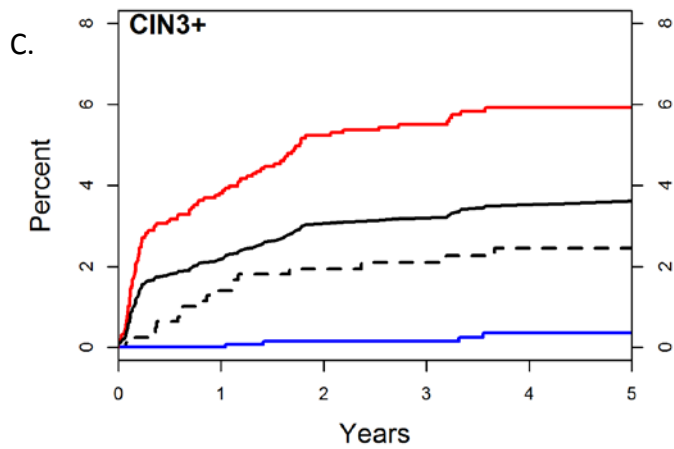
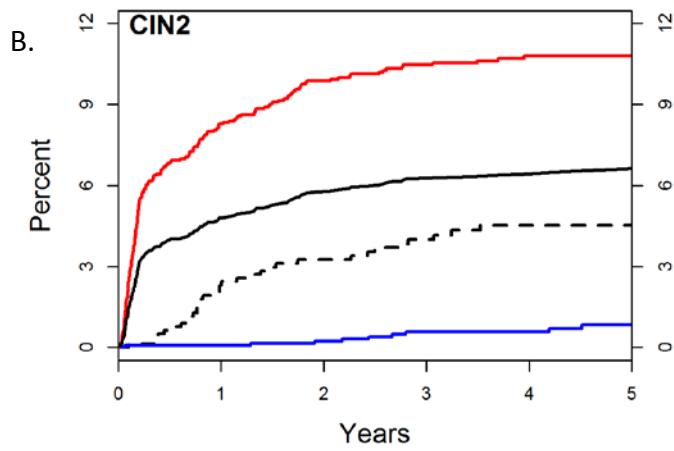
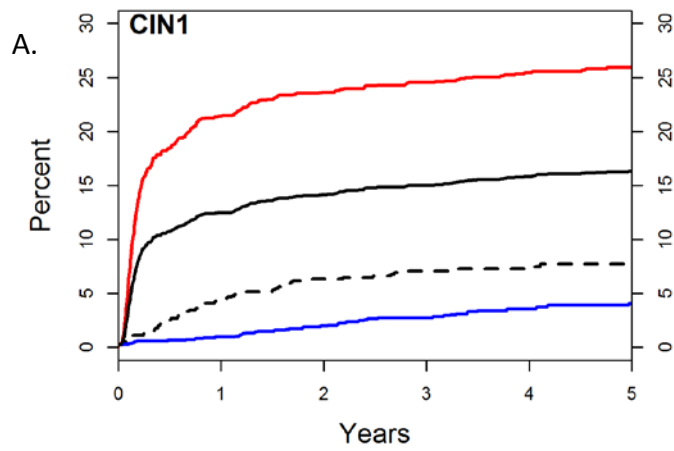


eFigure 4. Cumulative Incidence of CIN3+ after ASC-US by Age and Index HPV test Status



— HPV +    — HPV -    — Tested    - - - Not Tested

eFigure 5. Cumulative Incidence of CIN1, CIN2 and CIN3+ after ASC-US by Index HPV test Status for women aged 21-24 years



— HPV +    — HPV -    — Tested    - - - Not Tested

eFigure 6. Cumulative Incidence of CIN1, CIN2 and CIN3+ after ASC-US by Index HPV test Status for women aged 25-29 years