



II Jornada Multidisciplinar del Virus del Papil·loma Humà

Impacte de la vacunació en el cribratge del càncer de cèrvix

Carla Lecumberri Estruch

Unitat de Patologia Cervical i Colposcòpia

Actualización de las recomendaciones de vacunación frente a VPH.
Revisión de la estrategia de una dosis.

Ponencia de Programa y Registro de Vacunaciones 2024

Julio 2024

Vacunació sistemàtica
Nenes i nens de **12 anys**

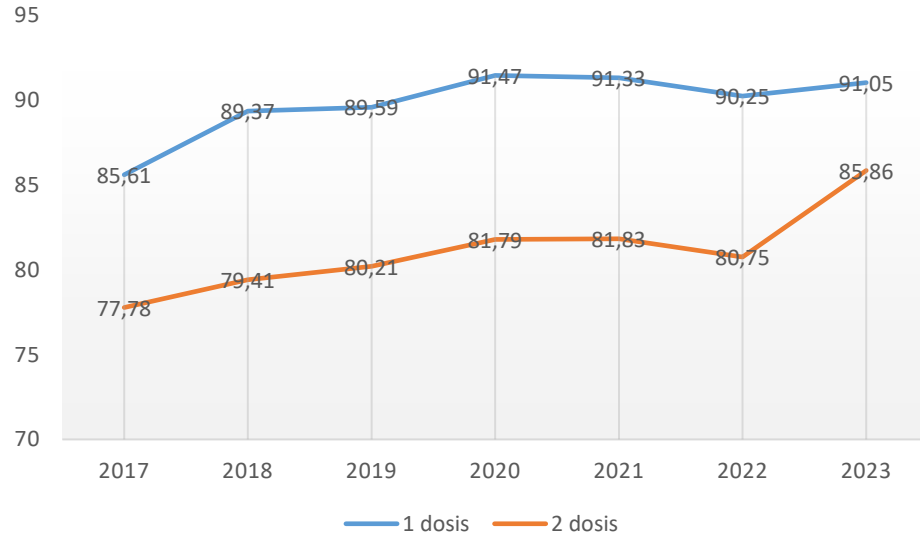
1 dosis

Calendario de inmunizaciones de la **Asociación Española de Pediatría** **2024**
Vacunación sistemática www.vacunasaep.org

VACUNA O ANTICUERPO MONOCLONAL	Embarazadas	Niños (edad en meses)							Niños y adolescentes (edad en años)							
		0	2	3	4	6	11	12	15	3	4	5	6	12	14	15-18
Hepatitis B ¹			HB		HB		HB									
Difteria, tetanos y tosferina ²	Tdpa		DTPa		DTPa		DTPa					DTPa/Tdpa		Tdpa		
Poliomielitis ³			VPI		VPI		VPI					DTPa/Tdpa VPI				
<i>Haemophilus influenzae</i> tipo b ⁴			Hib		Hib		Hib									
Neumococo ⁵			VNC		VNC	(VNC)	VNC									
Rotavirus ⁶			RV		RV	(RV)										
Meningococo B ⁷			MenB		MenB			MenB								
Meningococos ACWY ⁸					Men ACWY			Men ACWY							Men ACWY	
Gripe ⁹	Gripe						Gripe									
Sarampión, rubéola y parotiditis ¹⁰								SRP				SRP-Var o SRPV				
Varicela ¹¹									Var							
SARS-CoV-2 ¹²	SARS-CoV-2															
Virus del papiloma humano ¹³															VPH	
Virus respiratorio sincitial ¹⁴	VRS		AcVRS													



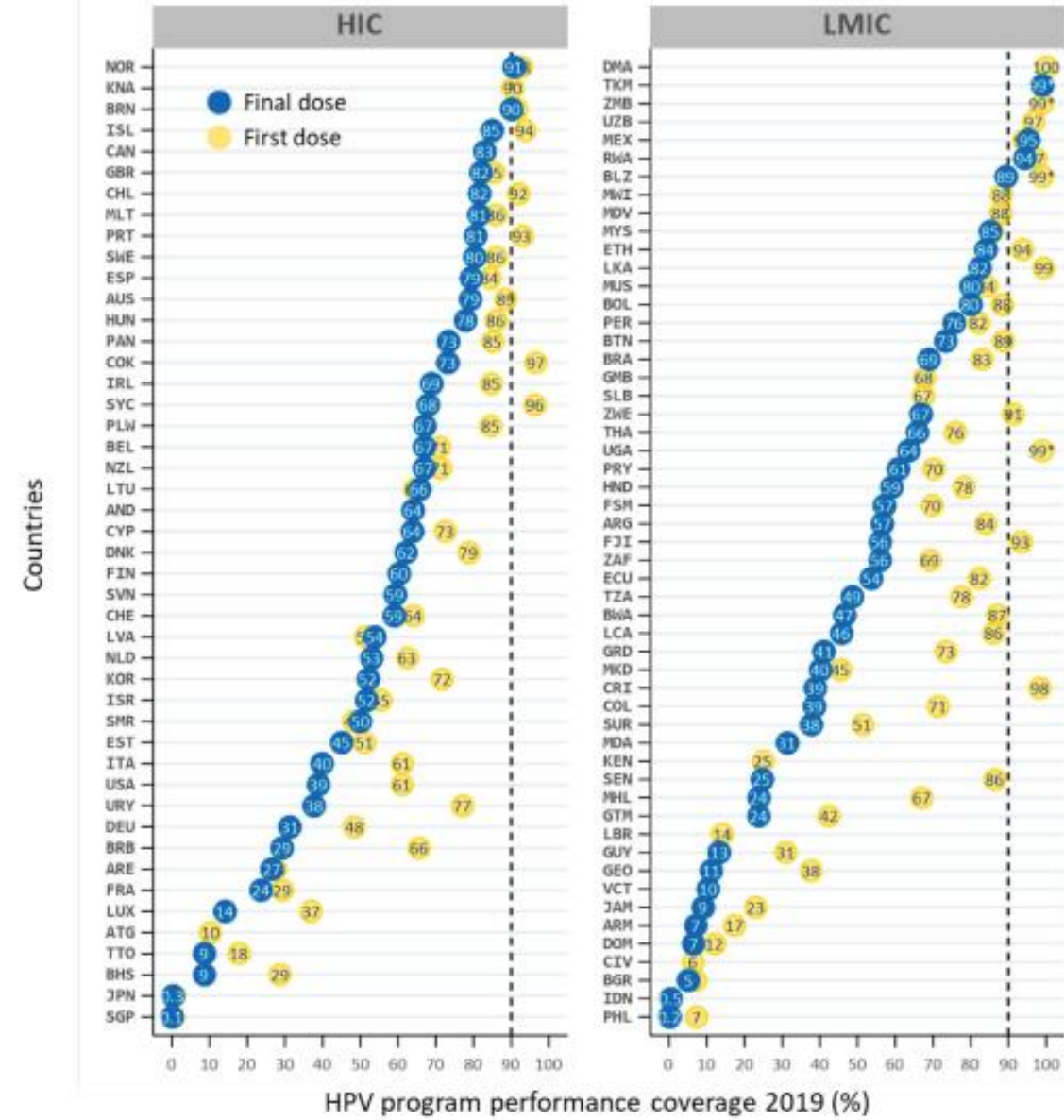
Cobertura de vacunació amb 1 i 2 dosis a Espanya 2017-2023



Documento de consenso sobre la modificación del Programa de Cribado de Cáncer de Cérvix Adaptación de la edad de inicio del cribado primario con prueba VPH y de la del cribado en cohortes vacunadas

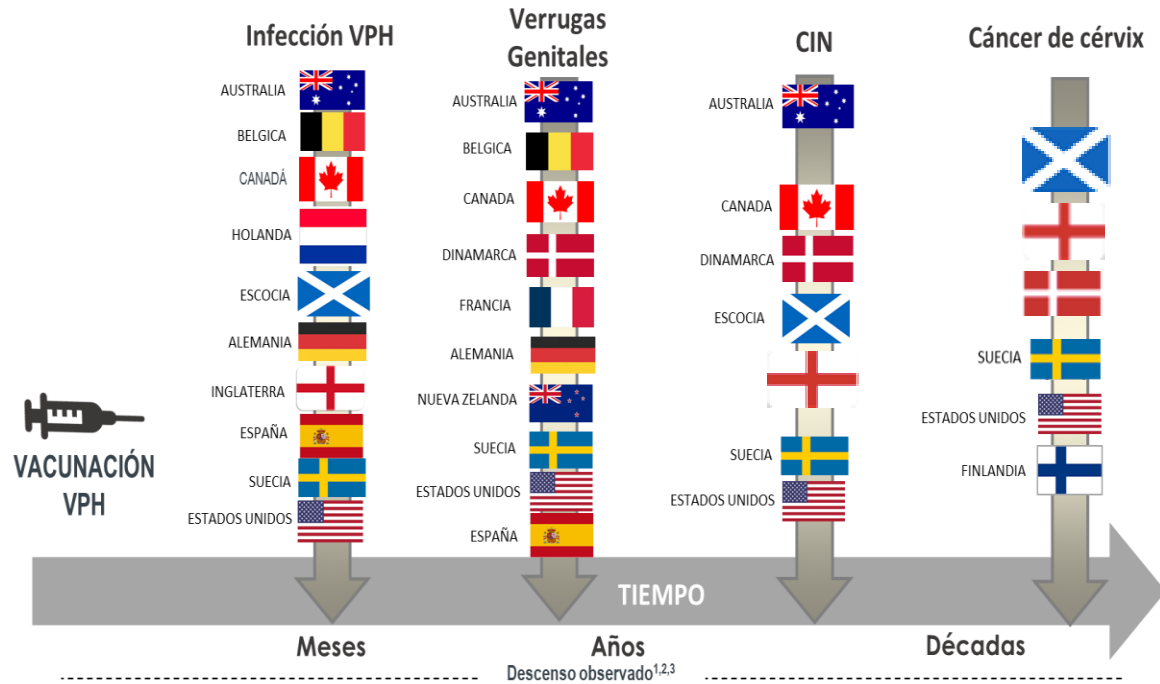


Incidència de <4 casos/100.000 dones-any



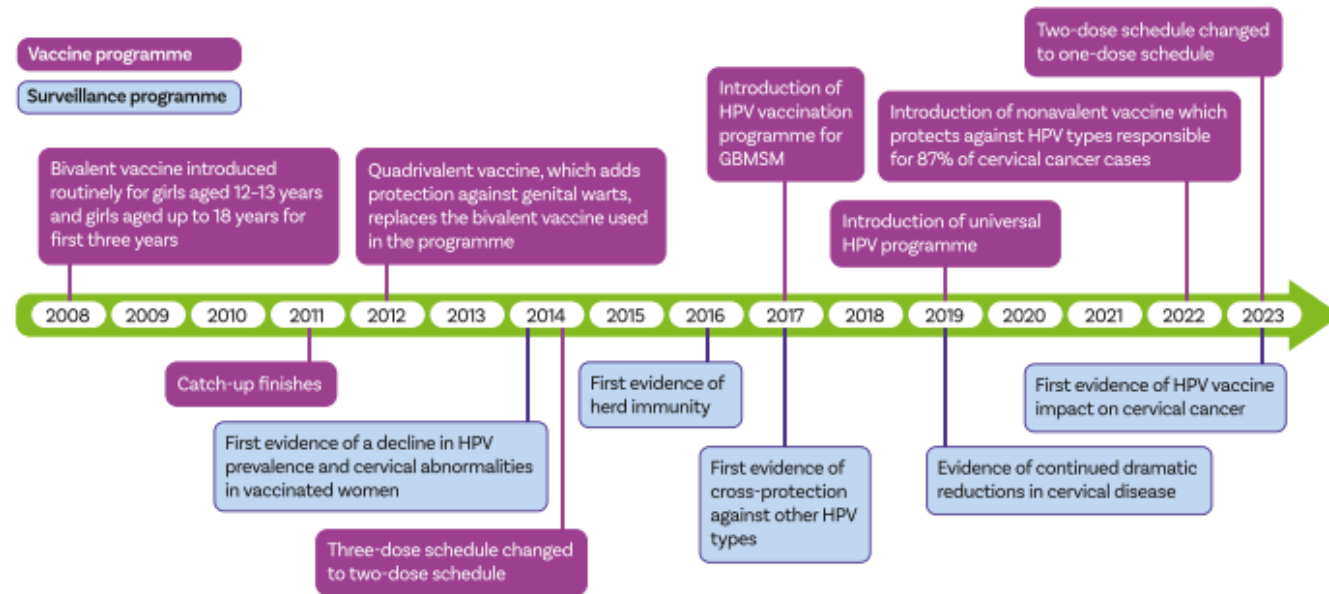
HPV vaccination introduction worldwide and WHO and UNICEF estimates of national HPV immunization coverage 2010–2019

Impacte de la vacunació a nivell mundial



Assessing real world vaccine effectiveness: A review of Scotland's approach to monitoring human papillomavirus (HPV) vaccine impact on HPV infection and cervical disease

Ross L Cameron^{a,*}, Tim J Palmer^{a,b}, Kate Cuschieri^{c,d}, Kimberley Kavanagh^e, Kirsty Roy^a



Impacte de la vacunació en disminució de la prevalença de VPH

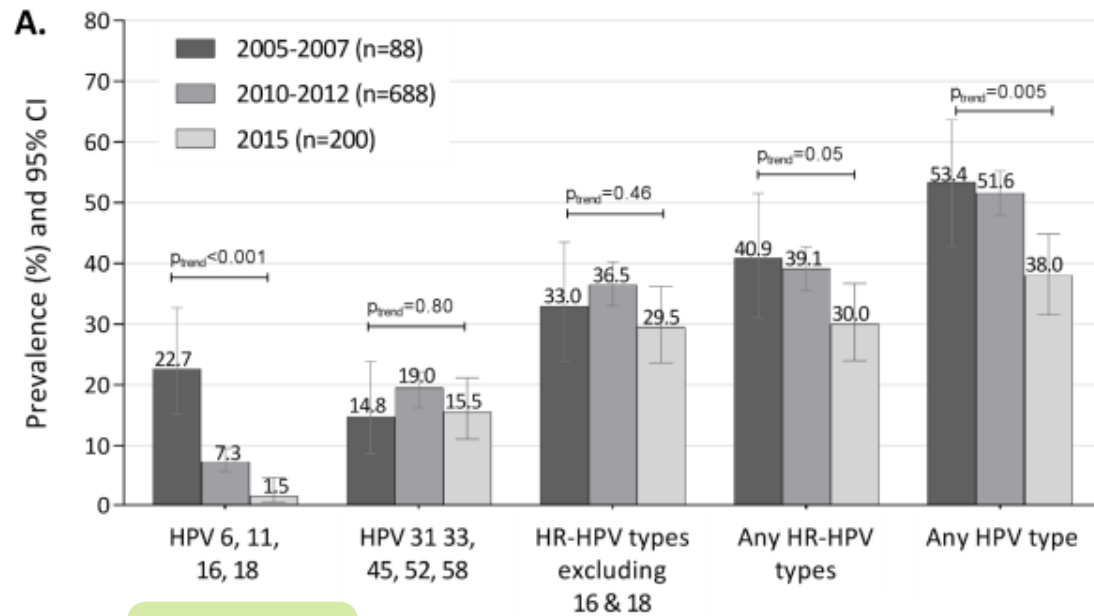
Very low prevalence of vaccine human papillomavirus (HPV) types among 18 to 35 year old

Australian women, nine years following implementation of vaccination

Dorothy A Machalek^{1,2,3*}, Suzanne M Garland^{2,4}, Julia ML Brotherton^{3,5}, Deborah Bateson^{6,7}, Kathleen

McNamee^{8,9}, Mary Stewart⁶, S Rachel Skinner¹⁰, Bette Liu¹¹, Alyssa M Cornall^{1,2,4}, John M Kaldor¹²,

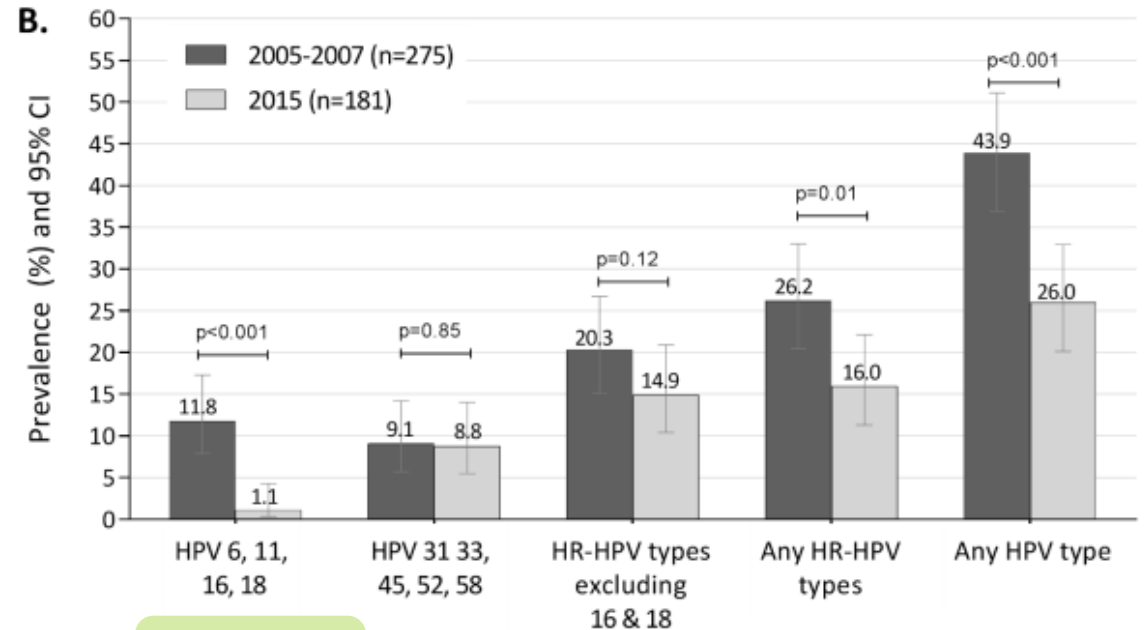
18-24 anys



93% decrease

$P_{trend} < 0.001$

25-35 anys



91% decrease

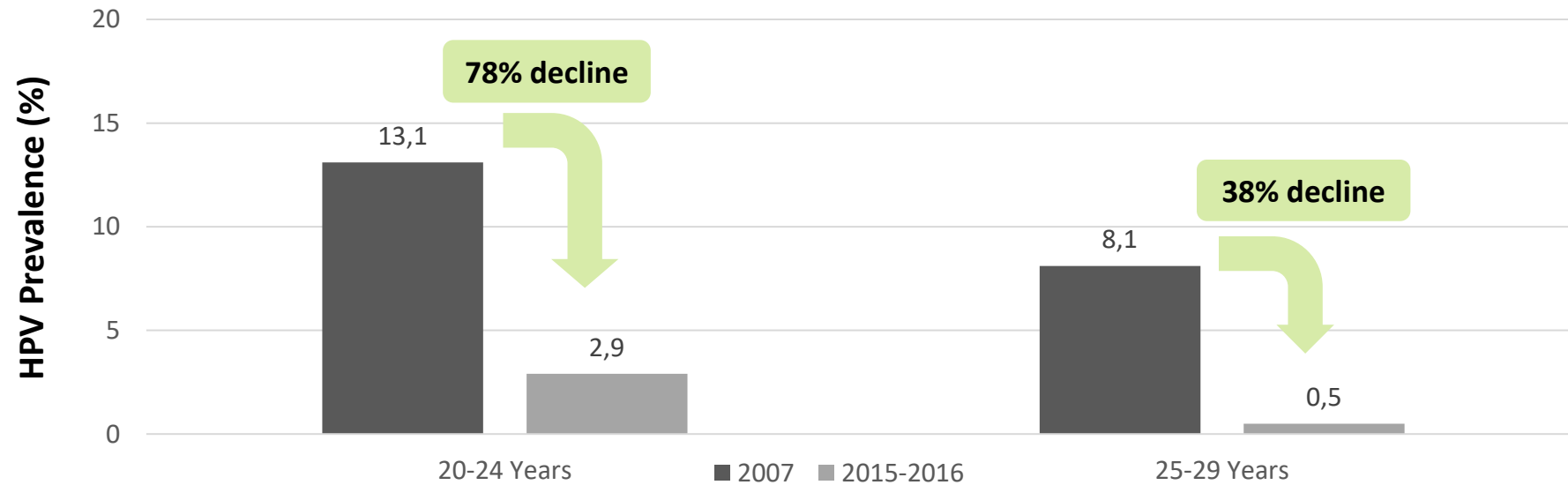
$P_{trend} < 0.001$

La prevalença dels 4 VPH inclosos en els genotips vacunals disminuïa 90% entre les dones de 18-35 anys 9 anys després de la implementació del programa vacunal Australia

Declines in HPV vaccine type prevalence in women screened for cervical cancer in the United States: Evidence of direct and herd effects of vaccination

Lauri E. Markowitz^{a,*}, Allison L. Naleway^b, Rayleen M. Lewis^{a,c}, Bradley Crane^b, Troy D. Querec^d, Sheila Weinmann^b, Martin Steinau^{d,1}, Elizabeth R. Unger^d

Declines in the Prevalence of 4vHPV Vaccine-Types in Females 20-29 Years of Age, 2007 (N=4,138) Compared to 2015–2016 (N=4,479)



Després de 10 anys de l'introducció de la vacunació a US, la prevalença dels VPH inclosos a les vacunes va disminuir 78% en dones de 20-24 anys i 38% en dones de 25-29 anys

Impacte de la vacunació en disminució de la prevalença de VPH

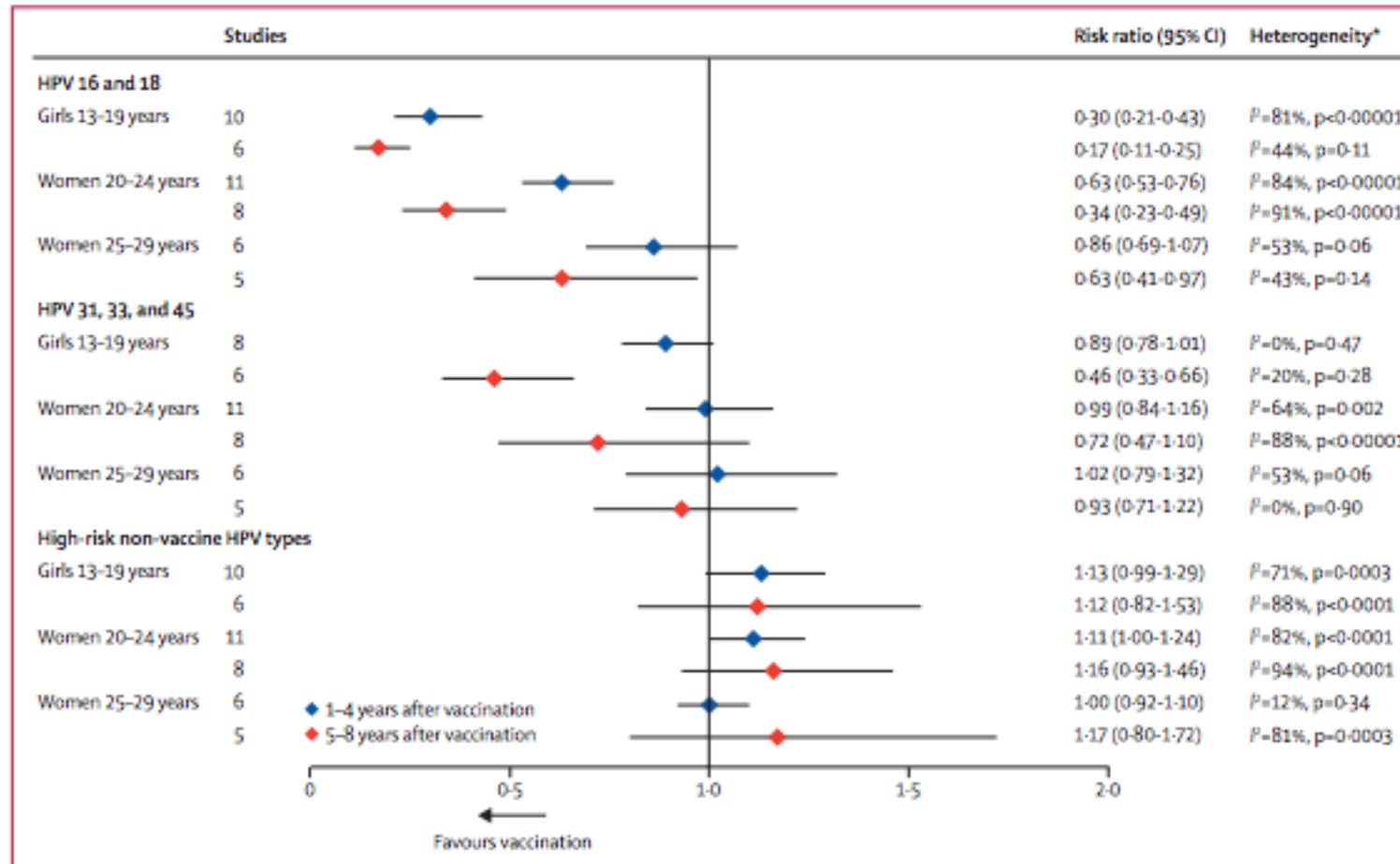


Figure 2: Changes in the prevalence of HPV infections between pre-vaccination and post-vaccination periods. HPV=human papillomavirus. *p values are associated with the χ^2 statistic.

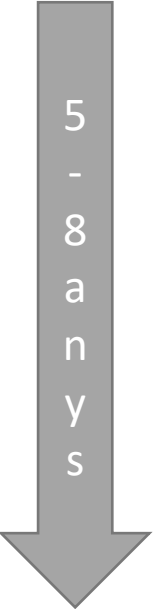
Population-level impact and herd effects following the introduction of human papillomavirus vaccination programmes: updated systematic review and meta-analysis

Mélanie Drolet, Élodie Bénaud, Norma Pérez, Marc Brisson, on behalf of the HPV Vaccination Impact Study Group

♀ 13-19a ↓ 83%

♀ 20-24a ↓ 66%

♀ 25-29a ↓ 37%



Impacte de la vacunació en disminució de les lesions precanceroses

Population-level impact and herd effects following the introduction of human papillomavirus vaccination programmes: updated systematic review and meta-analysis

Mélanie Drolet, Élodie Bénard, Norma Pérez, Marc Brisson, on behalf of the HPV Vaccination Impact Study Group

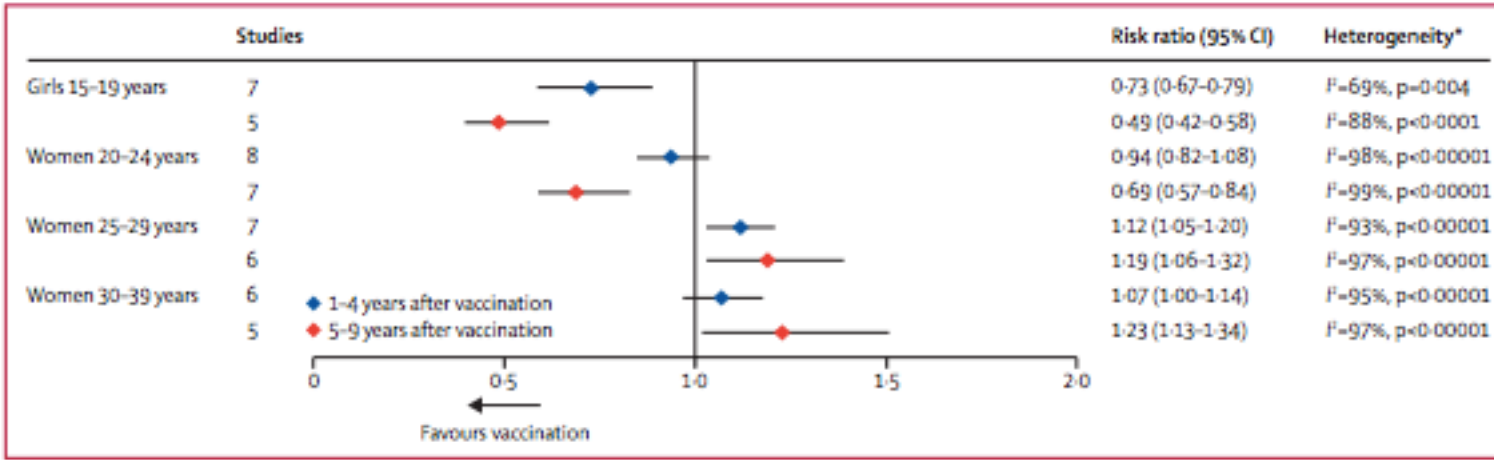


Figure 5: Changes in CIN2+ among screened girls and women between the pre-vaccination and post-vaccination periods. CIN2+=cervical intraepithelial neoplasia grade 2+. *p values are associated with the χ^2 statistic.

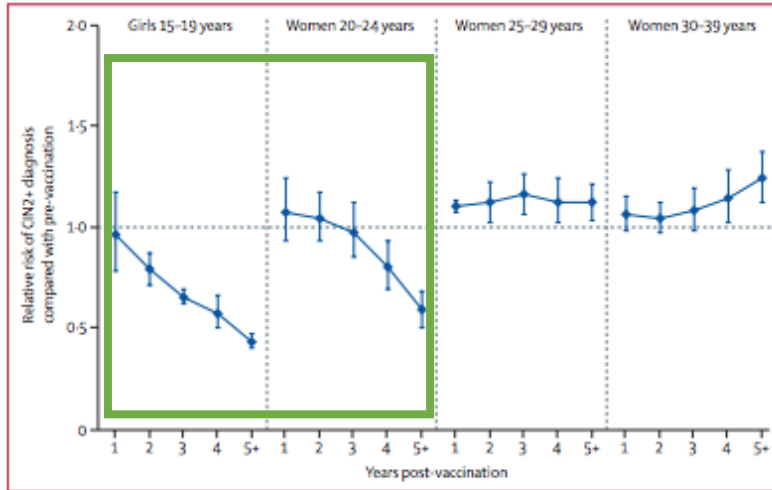
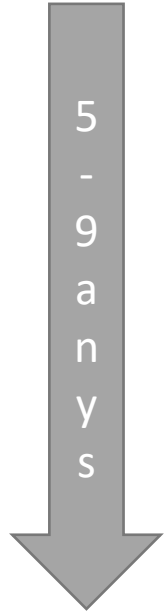


Figure 6: Changes in CIN2+ among screened girls and women during the first 7 years after the introduction of girls-only human papillomavirus vaccination, in countries with multi-cohort vaccination and high vaccination coverage

Countries with multi-cohort vaccination and high coverage ($\geq 50\%$) were Australia, Canada, Denmark, Scotland, and the US

- ♀ 13-19a ↓ 51%
- ♀ 20-24a ↓ 31%
- ♀ 25-29a ↑ 19%



Impacte de la vacunació en disminució de la incidència de càncer de cèrvix

HPV Vaccination and the Risk of Invasive Cervical Cancer

Jiayao Lei, Ph.D., Alexander Ploner, Ph.D., K. Miriam Elfström, Ph.D.,
 Jiangrong Wang, Ph.D., Adam Roth, M.D., Ph.D., Fang Fang, M.D., Ph.D.,
 Karin Sundström, M.D., Ph.D., Joakim Dillner, M.D., Ph.D.,
 and Pär Sparén, Ph.D.

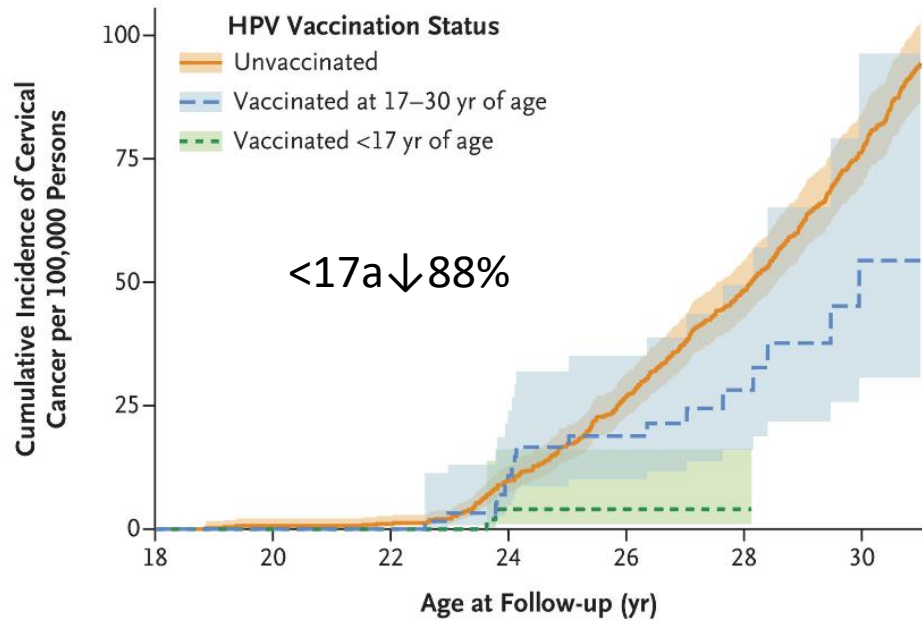


Table 2. HPV Vaccination and Invasive Cervical Cancer.

HPV Vaccination Status	No. of Cases of Cervical Cancer	Crude Incidence Rate per 100,000 Person-Yr (95% CI)	Age-Adjusted Incidence Rate Ratio (95% CI)	Adjusted Incidence Rate Ratio (95% CI)*
Unvaccinated	538	5.27 (4.84–5.73)	Reference	Reference
Vaccinated	19	0.73 (0.47–1.14)	0.51 (0.32–0.82)	0.37 (0.21–0.57)
Status according to age cutoff of 17 yr				
Vaccinated before age 17 yr	2	0.10 (0.02–0.39)	0.19 (0.05–0.75)	0.12 (0.00–0.34)
Vaccinated at age 17–30 yr	17	3.02 (1.88–4.86)	0.64 (0.39–1.04)	0.47 (0.27–0.75)
Status according to age cutoff of 20 yr				
Vaccinated before age 20 yr	12	0.49 (0.28–0.83)	0.52 (0.29–0.94)	0.36 (0.18–0.61)
Vaccinated at age 20–30 yr	7	5.16 (2.46–10.83)	0.50 (0.24–1.06)	0.38 (0.12–0.72)

Incidència acumulada

No vacunadas: 94 casos por 100,000 personas




Vacunadas: 47 casos por 100,000 personas

Vacunadas a los 17-30 años: 54 casos por 100,000 personas

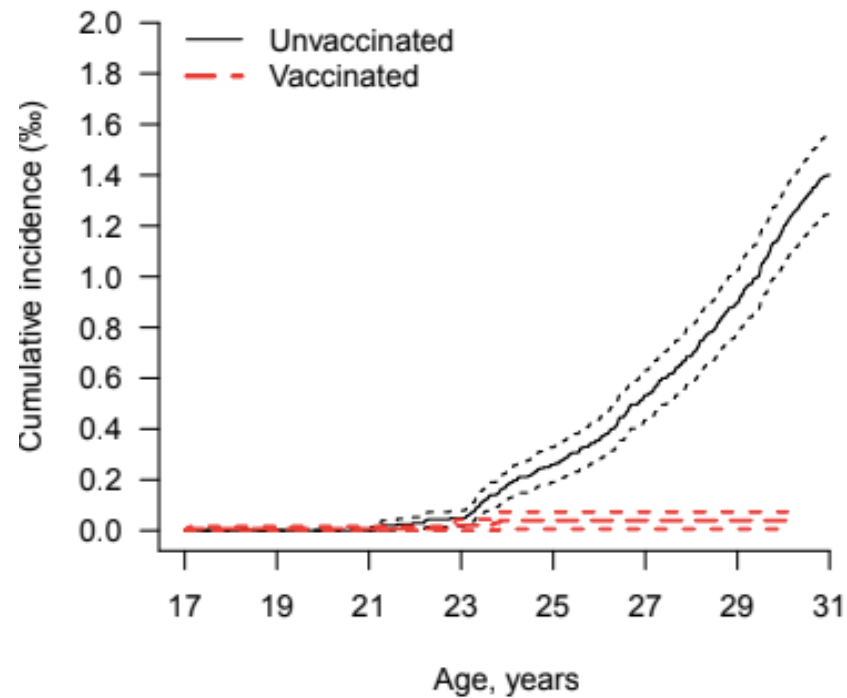
Vacunadas antes de los 17 años: 4 casos por 100,000 personas

Impacte de la vacunació en disminució del càncer de cèrvix

Real-World Effectiveness of Human Papillomavirus Vaccination Against Cervical Cancer

Susanne K. Kjaer, DMSc,^{1,2} Christian Dehlendorff , PhD,³ Federica Belmonte , PhD,³ Louise Baandrup , PhD^{1,*}

A Age at vaccination ≤ 16 years



	Person-years	No. of events	IRR (adjust.)	(95% CI)
<u>Unvaccinated</u>	2,884,778	325	1.0	
<u>Vaccinated at age ≤ 16 years</u>	1,643,967	6	0.13	(0.04–0.40)
<u>at age 17–19 years</u>	174,679	5	0.29	(0.08–1.01)
<u>at age 20–30 years</u>	841,231	168	1.15	(0.88–1.50)

→ 87% protection

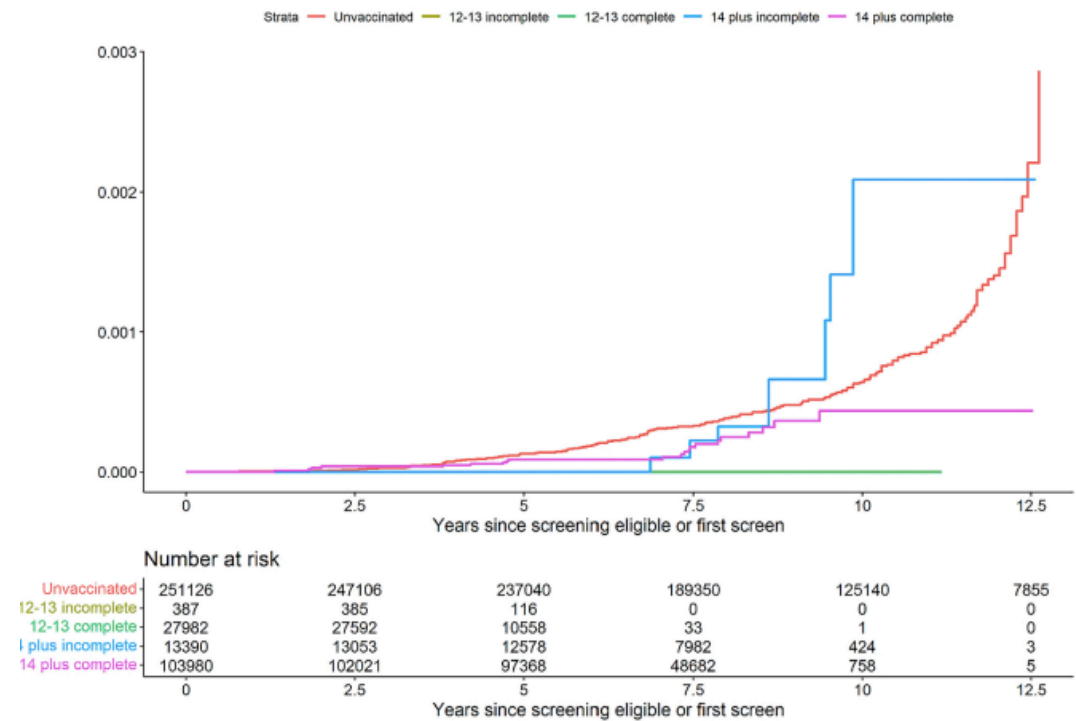
→ 71% protection

Impacte de la vacunació en disminució del càncer de cèrvix

Assessing real world vaccine effectiveness: A review of Scotland's approach to monitoring human papillomavirus (HPV) vaccine impact on HPV infection and cervical disease

Ross L Cameron^{a,*}, Tim J Palmer^{a,b}, Kate Cuschieri^{c,d}, Kimberley Kavanagh^e, Kirsty Roy^a

Nenes vacunades 12-13 anys **CAP** cas de càncer de cèrvix



Impacte de la vacunació en disminució del càncer de cèrvix

Effect of the HPV vaccination programme on incidence of cervical cancer and grade 3 cervical intraepithelial neoplasia by socioeconomic deprivation in England: population based observational study

Milena Falcaro,¹ Kate Soldan,² Busani Ndlela,³ Peter Sasieni¹

	Invasive cervical cancer	CIN3	Total women years in population (millions)
Birth cohorts			
Cohort 1: Invited from age 20 and unvaccinated	25 062	211 501	186.3
Cohort 2: Invited from age 20 or 25 and unvaccinated	1021	21 629	6.2
Cohort 3: Invited from age 25 and unvaccinated	2453	59 881	16.5
Cohort 4: Invited from age 24.5 and unvaccinated	650	18 747	5.1
Cohort 5: Invited from age 24.5 and offered vaccine in school years 12-13 (ages 16-18)	669	19 920	9.1
Cohort 6: Invited from age 24.5 and offered vaccine in school years 10-11 (ages 14-16)	100	3441	4.0
Cohort 7: Not invited before age 24.5 and offered vaccine in school year 8 (ages 12-13)	13	109	3.9
Age at diagnosis (years)			
20 to <24.5	337	9954	22.3
24.5 to <26	1609	59 539	8.1
26 to <30	3533	92 568	21.2
30 to <65	24 489	173 167	179.5
Period of diagnosis			
January 2006-December 2018	26 826	307 231	206.6
January 2019-September 2019	1722	16 118	12.3
October 2019-June 2020	1420	11 879	12.3
Deprivation (fifths)			
1st (most deprived 20%)	8229	83 680	46.9
2nd	6589	73 982	48.2
3rd	5639	66 311	46.8
4th	5091	59 514	45.4
5th (least deprived 20%)	4420	51 741	44.0

↓ 84,3% CCU
↓ 94,3% CIN3

A mitjans del 2020, la vacunació havia previngut **687** casos de càncer de cèrvix i **23192** casos de CIN3

Table 4 | Estimated number of invasive cervical cancers and CIN3s predicted and prevented by mid-2020 in the three cohorts of women offered HPV vaccination

	Predicted No of women with diagnosis* (95% CI)		No of cancers prevented*: scenarios A-B (95% CI)
	Scenario A: counterfactual	Scenario B: factual	
Invasive cervical cancer			
Index of multiple deprivation (fifths):			
1st (most deprived)	463 (424 to 501)	271 (238 to 304)	192 (141 to 242)
2nd	369 (338 to 399)	170 (144 to 196)	199 (158 to 239)
3rd	271 (248 to 294)	127 (105 to 149)	144 (112 to 176)
4th	212 (193 to 230)	120 (98 to 142)	92 (63 to 120)
5th (least deprived)	155 (142 to 169)	94 (75 to 113)	61 (38 to 85)
Total	1469 (1350 to 1589)	782 (727 to 837)	687 (556 to 819)
CIN3			
Index of multiple deprivation (fifths):			
1st (most deprived)	12 023 (11 761 to 12 285)	6902 (6693 to 7111)	5121 (4788 to 5455)
2nd	11 087 (10 845 to 11 328)	5314 (5138 to 5490)	5773 (5474 to 6071)
3rd	9341 (9135 to 9548)	4526 (4359 to 4693)	4815 (4551 to 5080)
4th	7918 (7741 to 8095)	3745 (3601 to 3889)	4173 (3945 to 4401)
5th (least deprived)	6292 (6150 to 6435)	2983 (2858 to 3108)	3309 (3120 to 3499)
Total	46 662 (45 697 to 47 627)	23 470 (23 097 to 23 843)	23 192 (22 163 to 24 220)

Results are reported under two scenarios: one as observed in the dataset (scenario B: factual) and one hypothetical where women had not been offered the HPV vaccination (scenario A: counterfactual).

CI=confidence interval; HPV=human papillomavirus.

*Numbers are rounded to nearest integers.

Canvis en l'escenari epidemiològic

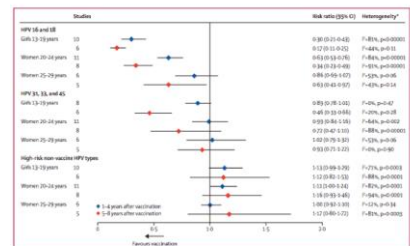


Figure 3. Changes in the prevalence of HPV infections between pre-vaccination and post-vaccination periods. HPV=human papillomavirus. ^aI² values are associated with the χ^2 statistic.

Population-level impact and herd effects following the introduction of human papillomavirus vaccination programmes: updated systematic review and meta-analysis

♀ 13-19a ↓ 83%

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S - b a n n y s

Després de la vacunació...

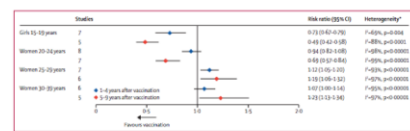


Figure 5. Changes in CIN2+ among screened girls and women between the pre-vaccination and post-vaccination periods. CIN=clinical neoplasia; pap smear, Papanicolaou smear. ^aI² values are associated with the χ^2 statistic.

Population-level impact and herd effects following the introduction of human papillomavirus vaccination programmes: updated systematic review and meta-analysis

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S - b a n n y s

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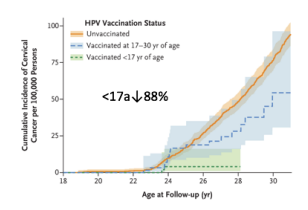
MODIFICAR PREVENCIÓ SECUNDÀRIA



Sobrediagnòstic
Sobretractament
Augment de costos

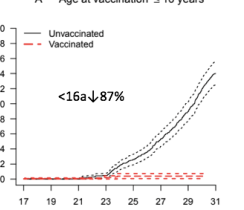
HPV Vaccination and the Risk of Invasive Cervical Cancer

Zhang L, et al. *Lancet Oncol*. 2017;18(10):1253-1262.

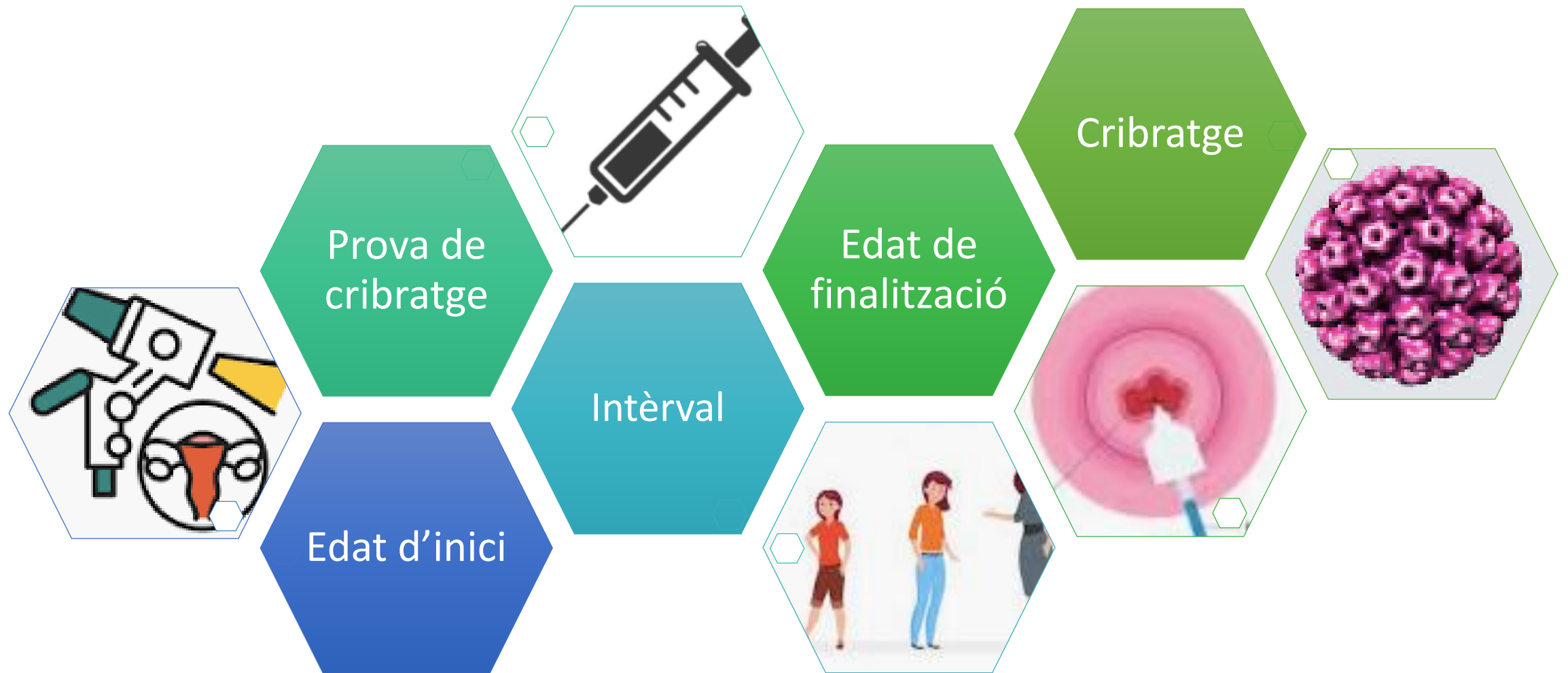


Real-world Effectiveness of Human Papillomavirus Vaccination Against Cervical Cancer

Sonnen A, et al. *JAMA*. 2017;317(12):1255-1262.



Cribratge de càncer de cèrvix en població vacunada

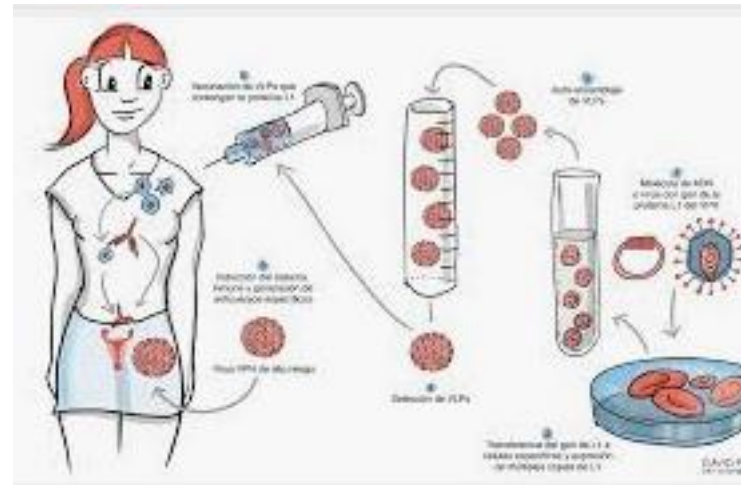


Cribratge de càncer de cèrvix en dones vacunades si o no?

The Efficacy and Duration of Vaccine Protection Against Human Papillomavirus

A Systematic Review and Meta-analysis

Yvonne Deleré, Ole Wichmann, Stefanie J. Klug, Marianne van der Sande, Martin Terhardt, Fred Zepp, Thomas Harder



HPV VACCINE FACTS:

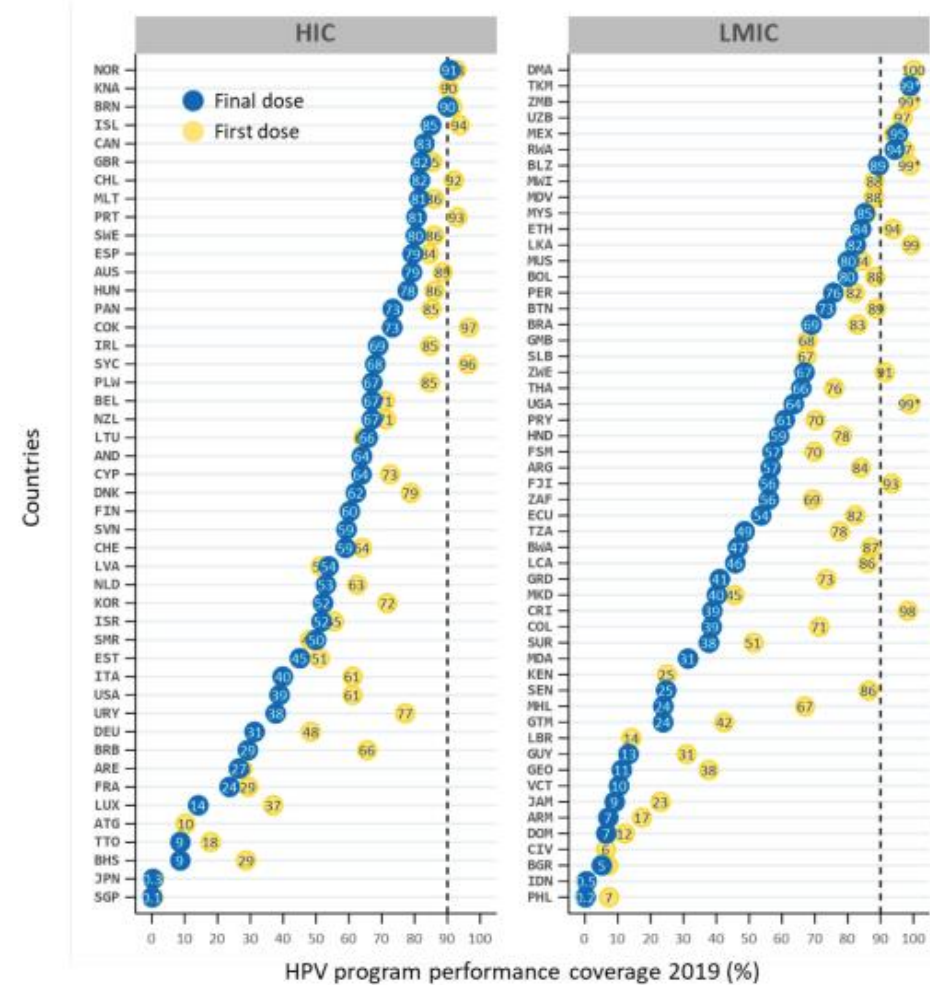
- 90%** Prevents 90% of HPV Cancers.
- HPV vaccine can prevent at least **6 types** of cancers.
- 4 out of 5** people will get HPV in their lives.

HPV vaccine is cancer prevention!

ALABAMA PUBLIC HEALTH IMMUNIZATION DIVISION

HPV vaccination introduction worldwide and WHO and UNICEF estimates of national HPV immunization coverage 2010–2019

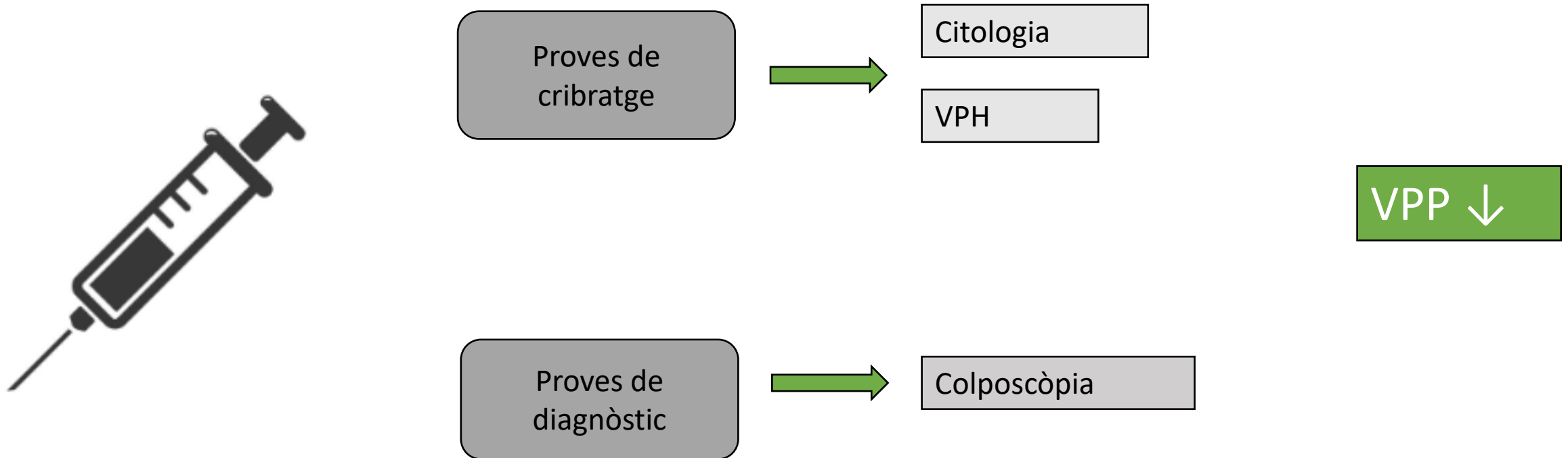
Laia Bruni^{a,b,*}, Anna Saura-Lázaro^a, Alexandra Montoliu^a, Maria Brotons^{a,b}, Laia Alemany^{a,b}, Mamadou Saliou Diallo^c, Oya Zeren Afsar^d, D. Scott LaMontagne^e, Liudmila Mosina^f, Marcela Contreras^g, Martha Velandia-González^g, Roberta Pastore^f, Marta Gacic-Dobo^h, Paul Bloemⁱ



Rendiment de les proves de cribratge i diagnòstic

Cervical cancer screening in women vaccinated against human papillomavirus infection: Recommendations from a consensus conference

Paolo Giorgi Rossi ^{a,b}, Francesca Carozzi ^{c,*}, Antonio Federici ^d, Guglielmo Ronco ^e, Marco Zappa ^f, Silvia Franceschi ^g, The Italian Screening in HPV vaccinated girls Consensus Conference group ¹:



HPV immunisation and cervical screening—confirmation of changed performance of cytology as a screening test in immunised women: a retrospective population-based cohort study

T J Palmer¹, M McFadden², K G J Pollock³, K Kavanagh⁴, K Cuschieri⁵, M Cruickshank⁶, S Cotton⁶, S Nicoll⁷ and C Robertson⁴

VPP ↓ **16%** per la detecció de CIN2+

Subjectivitat

↓ P de la malaltia, menys acostumats

↓ Si E

↓ VPP

Prova de TRIATGE

Table 3a. Sensitivity, specificity, PPV, NPV, APV, TPV and RV of cytology for colposcopy outcomes (CIN2 +) among women attending for a colposcopy within 12 months of their first invitation for screening

Measure	Vaccination	N	R	Estimate (95% CI)	P-value
Sensitivity high-grade dyskaryosis CIN2 +	Unimmunised	807	604	74.85 (71.74, 77.72)	0.793
	Fully immunised	176	134	76.14 (69.32, 81.83)	
Specificity Neg/Border/LG CIN2 +	Unimmunised	815	630	77.30 (74.30, 80.04)	0.950
	Fully immunised	303	233	76.90 (71.83, 81.29)	
PPV of high-grade dyskaryosis for CIN2 +	Unimmunised	789	604	76.55 (73.47, 79.38)	0.002
	Fully immunised	204	134	65.69 (58.94, 71.86)	
NPV Neg/Border/LG for CIN2 +	Unimmunised	833	630	75.63 (72.60, 78.42)	0.002
	Fully immunised	275	233	84.73 (80.00, 88.50)	
APV of BI/LG for CIN2 +	Unimmunised	759	179	23.58 (20.70, 26.73)	0.003
	Fully immunised	256	37	14.45 (10.67, 19.29)	
TPV of all colp for CIN2 +	Unimmunised	1622	807	49.75 (47.32, 52.18)	0.000
	Fully immunised	479	176	36.74 (32.55, 41.15)	
RV of all colp for CIN2 +	Unimmunised	1622	807	2.01 (1.92, 2.11)	0.000
	Fully immunised	479	176	2.72 (2.43, 3.07)	

Abbreviations: APV = abnormal predictive value; CI = confidence interval; CIN = cervical intraepithelial neoplasia; colp = colposcopy; NPV = negative predictive value; PPV = positive predictive value; RV = referral value; TPV = total predictive value.

> Int J Cancer. 2019 Jun 15;144(12):2964-2971. doi: 10.1002/ijc.32050. Epub 2019 Jan 11.

Is the positive predictive value of high-grade cytology in predicting high-grade cervical disease falling due to HPV vaccination?

VPP ↓ en els grups de dones <20 anys i el de 20-24 anys

Farhana Sultana^{1 2}, Karen Winch¹, Marion Saville^{1 3}, Julia M L Brotherton^{1 2}

Cervical screening with primary HPV testing or cytology in a population of women in which those aged 33 years or younger had previously been offered HPV vaccination: Results of the Compass pilot randomised trial

Karen Canfell^{1,2,3*}, Michael Caruana¹, Val Gebiski⁴, Jessica Darlington-Brown¹, Stella Heley⁵, Julia Brotherton^{5,6}, Dorota Gertig⁶, Chloe J. Jennett¹, Annabelle Farnsworth^{2,7}, Jeffrey Tan^{8,9}, C. David Wrede^{8,9}, Phillip E. Castle¹⁰, Marion Saville^{5,8}

- **Major detecció de lesions d'alt grau amb la prova VPH**
- Previsió de major derivació a colposcòpia (41-44%)
- No diferència en les taxes de derivació a colposcòpia
- Menys disminució del VPP si VPH amb genotipat

Primary HPV testing versus cytology-based cervical screening in women in Australia vaccinated for HPV and unvaccinated: effectiveness and economic assessment for the National Cervical Screening Program

Jie-Bin Lew*, Kate T Simms*, Megan A Smith, Michaela Hall, Yoon-Jung Kang, Xiang Ming Xu, Michael Caruana, Louiza Sofia Velentzis, Tracey Bessell, Marion Saville, Ian Hammond, Karen Canfell

- **Detecció VPH amb genotipat parcial/5a vs citologia en base líquida/2a**
- Reducció incidència i mortalitat de càncer de cèrvix en 31% i 36% en dones no vacunades
- Reducció incidència i mortalitat de càncer de cèrvix **24 i 29%** en dones vacunades
- Reducció de costos 19% (no vacunades) i **26%** (vacunades)

Impacte del rendiment de la colposcòpia en dones vacunades

The impact of HPV type on colposcopy performance in women offered HPV immunisation in a catch-up vaccine programme: a two centre observational study

Shortened Running Title:

Impact of HPV genotypes on colposcopy

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	Unvaccinated (95% CI) N=294	Vaccinated (95% CI) N=67	z-test for difference	HPV 16+ (95% CI) N=142	HPV 16 - (95% CI) N=219	z-test for difference
Sensitivity	69.6 (59.6-78.1)	66.7 (35.4-88.7)	p=0.835	65.8 (53.9-76.0)	76.3 (59.4-88.0)	p=0.251
Specificity	86.3 (80.2-90.7)	92.5 (80.9-97.6)	p=0.228	75.0 (62.3-84.6)	92.4 (87.1-95.7)	p<0.001
PPV	74.0 (63.8-82.1)	66.7 (35.4-88.7)	p=0.591	75.8 (63.4-85.1)	69.0 (52.8-81.9)	p=0.443
NPV	83.5 (77.3-88.4)	92.5 (80.9-97.6)	p=0.103	64.9 (52.8-75.4)	94.6 (89.7-97.3)	p<0.001

Table 3: Predictive values of colposcopy for detecting high grade disease where histology results were considered "gold standard" and the test was colposcopic opinion. This has been done to compare predictive values between vaccinated and unvaccinated participants and between participants who are HPV 16 positive and negative.

VPP ↑ en lesions d'alt grau per VPH 16

Reduction in colposcopy workload and associated clinical activity following human papillomavirus (HPV) catch-up vaccination programme in Scotland: an ecological study

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Table 3. Positive predictive value (PPV), negative predictive value (NPV), and sensitivity and specificity, with confidence intervals, of colposcopic opinion for high-grade CIN on histology for women aged 20–21 years by year of referral to colposcopy [value (95% CI)]

Referral year	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	Linear trend <i>p</i>
PPV (normal/CIN1 versus CIN2/3+)	79% (75%, 83%)	77% (73%, 81%)	78% (73%, 82%)	70% (65%, 74%)	74% (68%, 79%)	67% (60%, 73%)	0.0002**
PPV (normal versus any CIN+)	84% (81%, 86%)	81% (78%, 84%)	83% (80%, 85%)	81% (78%, 84%)	83% (79%, 86%)	80% (76%, 83%)	0.32
Sensitivity (normal/CIN1 versus CIN2+)	66% (62%, 70%)	63% (58%, 67%)	63% (58%, 67%)	65% (60%, 69%)	62% (57%, 68%)	68% (61%, 74%)	0.556
Sensitivity (normal versus any CIN+)	84% (82%, 87%)	83% (80%, 85%)	84% (81%, 86%)	83% (81%, 86%)	84% (80%, 87%)	87% (84%, 90%)	0.135
Specificity (normal/CIN1 versus CIN2+)	84% (81%, 87%)	86% (83%, 88%)	84% (81%, 87%)	79% (76%, 82%)	83% (79%, 86%)	80% (76%, 84%)	0.020
Specificity (normal versus any CIN+)	47% (41%, 53%)	51% (46%, 57%)	51% (44%, 57%)	47% (41%, 53%)	50% (43%, 58%)	41% (34%, 49%)	0.265
NPV (normal/CIN1 versus CIN2+)	72% (69%, 76%)	75% (72%, 78%)	72% (68%, 75%)	75% (72%, 79%)	74% (70%, 78%)	81% (77%, 85%)	0.006**
NPV (normal versus any CIN+)	48% (42%, 55%)	54% (48%, 59%)	52% (46%, 58%)	51% (45%, 57%)	52% (44%, 59%)	55% (46%, 63%)	0.432

**Significant at the 5% level after using the Benjamini and Hochberg False discovery rate adjustment for multiple testing.

VPP ↓ **12%** de la impressió colposcòpica per detectar CIN2+

Menys càrrega de malaltia
Lesions morfològicament diferents

Com adaptar el cribratge en dones vacunades. Què ens diu l'evidència?

- **Prova:** VPH
- Desintensificar el cribratge
- **Edat:** Estratègia més cost efectiva
Dones vacunades a partir de 30-35 anys
- **Intèrval:** 10 anys. 2 cribratges/vida
- **Finalització:** No hi ha consens a data d'avui
Finalització haurà de ser abans.

Optimal Cervical Cancer Screening in Women Vaccinated Against Human Papillomavirus

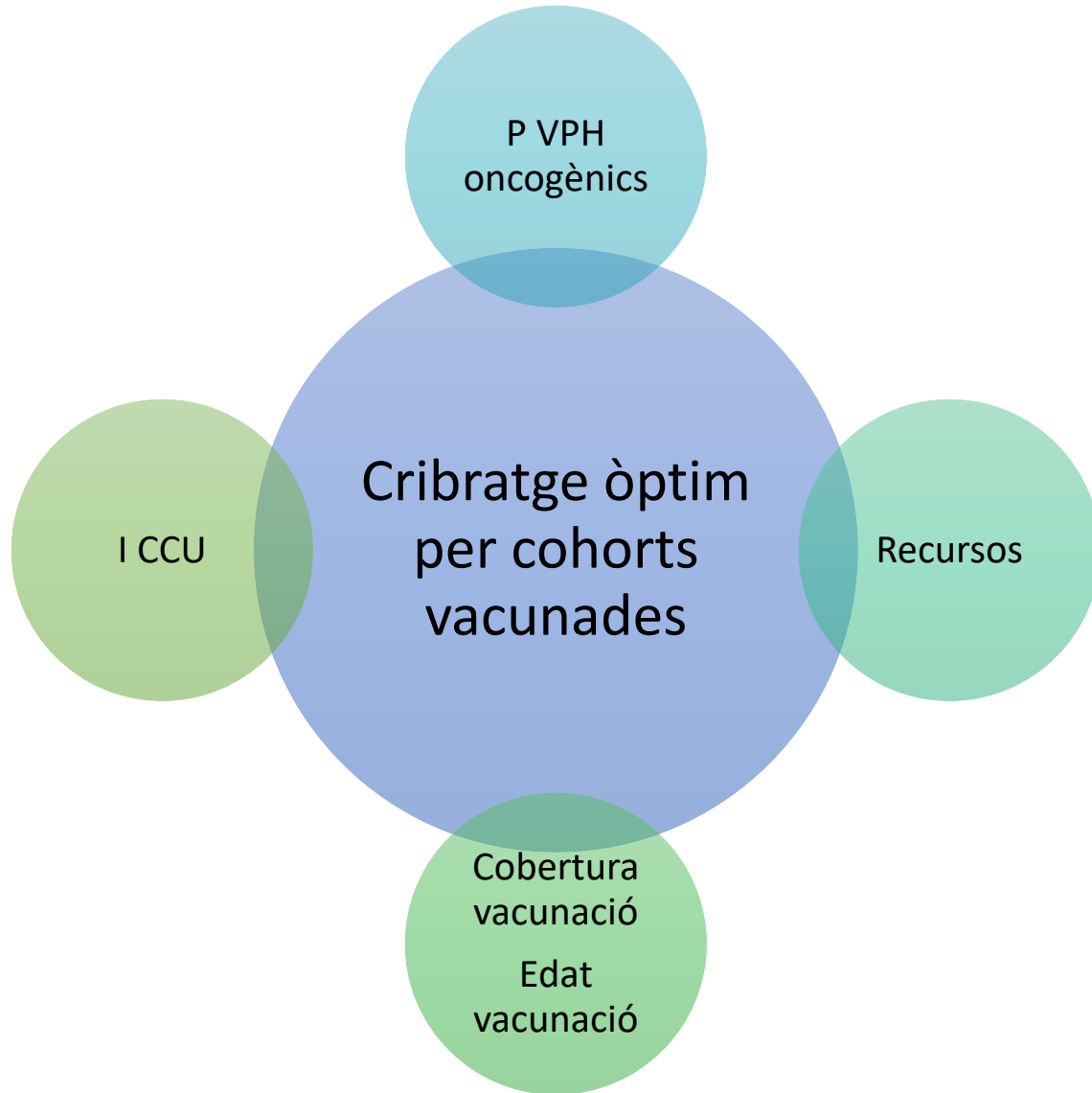
Jane J. Kim, Emily A. Burger, Stephen Sy, Nicole G. Campos

Table 2. Optimal screening strategies in partially vaccinated populations, under different cost-effectiveness thresholds*

Proportion of population vaccinated	\$50 000 per QALY gained (% cost-effective) [†]	\$100 000 per QALY gained (% cost-effective) [†]	\$200 000 per QALY gained (% cost-effective) [†]
Vaccination with HPV-2,-4			
50% unvaccinated; 50% HPV-2,-4	Cytology, age 25 y5-y (98)	HPV, age 25 y5-y (90)	HPV, age 25 y5-y (100)
25% unvaccinated; 75% HPV-2,-4	HPV, age 30 y5-y (80)	HPV, age 25 y5-y (74)	HPV, age 25 y5-y (100)
10% unvaccinated; 90% HPV-2,-4	HPV, age 30 y5-y (74)	HPV, age 30 y5-y (100)	HPV, age 25 y5-y (100)
0% unvaccinated; 100% HPV-2,-4	Cytology, age 30 y5-y (94)	HPV, age 30 y5-y (100)	HPV, age 25 y5-y (98)
Vaccination with HPV-2,-4,-9			
25% unvaccinated; 50% HPV-2,-4; 25% HPV-9	HPV, age 30 y10-y (100)	HPV, age 25 y10-y (96)	HPV, age 25 y10-y (100)
0% unvaccinated; 50% HPV-2,-4; 50% HPV-9	HPV, age 30 y10-y (100)	HPV, age 30 y10-y (88)	HPV, age 25 y10-y (98)
0% unvaccinated; 25% HPV-2,-4; 75% HPV-9	HPV, age 35 y10-y (100)	HPV, age 30 y10-y (98)	HPV, age 25 y10-y (80)
0% unvaccinated; 10% HPV-2,-4; 90% HPV-9	HPV, age 35 y10-y (100)	HPV, age 30 y10-y (82)	HPV, age 30 y10-y (100)
0% unvaccinated; 0% HPV-2,-4; 100% HPV-9	HPV, age 35 y10-y (94)	HPV, age 35 y10-y (100)	HPV, age 30 y10-y (94)

Results: Among women fully vaccinated with the bivalent or quadrivalent vaccine, optimal screening strategies involved either cytology or HPV testing alone every five years starting at age 25 or 30 years, with cost-effectiveness ratios ranging from \$34 680 to \$138 560 per QALY gained. Screening earlier or more frequently was either not cost-effective or associated with exceedingly high cost-effectiveness ratios. In women vaccinated with the nonavalent vaccine, only primary HPV testing was efficient, involving decreased frequency (ie, every 10 years) starting at either age 35 years (\$40 210 per QALY) or age 30 years (\$127 010 per QALY); with lower nonavalent vaccine efficacy, 10-year HPV testing starting at earlier ages of 25 or 30 years was optimal. Importantly, current US guidelines for screening were inefficient in HPV-vaccinated women.

Com adaptar el cribratge en dones vacunades?

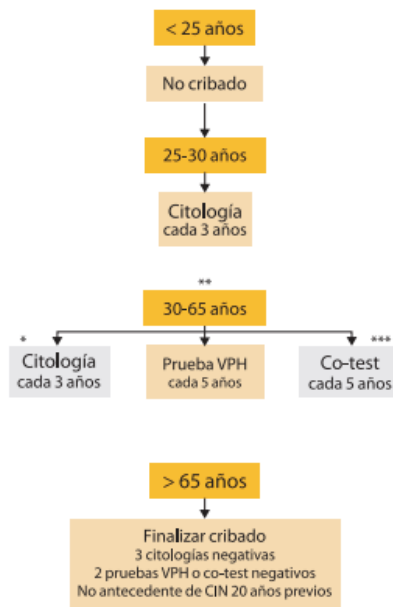


Sistemes d'informació que vinculin a NIVELL INDIVIDUAL vacunació, cribratge i càncer (registres de vacunació i de cribratge)

Cribratge personalitzat

Adaptació continua de les recomanacions

2019



2023

Documento de consenso sobre la modificación del Programa de Cribado de Cáncer de Cérvix

Adaptación de la edad de inicio del cribado primario con prueba VPH y de la del cribado en cohortes vacunadas

a) Población objetivo: mujeres con edades comprendidas entre los 25 y 65 años.

b) Prueba primaria de cribado e intervalo entre exploraciones:

1º. Mujeres con edades comprendidas entre 25 y 29 años:

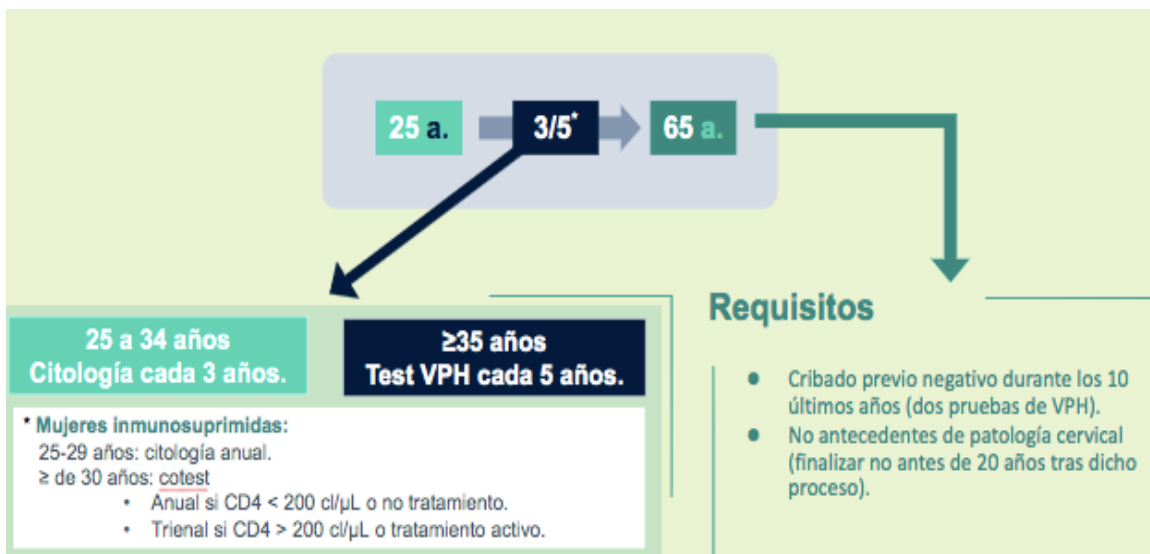
i) Mujeres sin protección adecuada por vacunación frente a VPH: citología cada 3 años.

ii) Mujeres con protección adecuada por vacunación frente a VPH: en función del estado de implementación del programa de cribado, se realizará citología cada 3 años o, se iniciará el cribado a los 30 años.

2º. Mujeres con edades comprendidas entre 30 y 65 años: determinación del virus del papiloma humano de alto riesgo (VPH-AR), independientemente de su estado vacunal frente al VPH:

i) Si VPH-AR es negativo: repetir prueba VPH-AR a los cinco años.

ii) Si VPH-AR es positivo: triaje adecuado para estratificación del riesgo de lesiones por VPH. Si se descarta alto riesgo, repetir VPH-AR al año.



1. Actualment tenim una cobertura de vacunació molt alta per VPH
2. Canvi escenari epidemiològic que ens obliga a adaptar el cribratge en pacient vacunada
3. És necessari **mantenir estratègies** de cribratge de càncer de cèrvix en les cohorts vacunades.
4. Disminució del rendiment de les proves de cribratge i diagnòstiques per HSIL/CIN2+. La tècnica de cribratge d'elecció en dones vacunades és la determinació de **VPH**
5. Es important modificar les estratègies de prevenció secundària en pacients vacunades.
Desintensificació
6. L'estratègia amb més evidència en aquestes pacients, i a dia d'avui és el **retràs de l'edat d'inici**.
Falta evidència en interval i edat de finalització.
7. La millor estratègia és el **cribratge combinat amb la vacunació VPH**, és la que ofereix major protecció càncer de cèrvix i és la més cost-efectiva



II Jornada Multidisciplinar del Virus del Papil·loma Humà

Moltes gràcies