

21st Century HPV Prevention Program: Addressing Misinformation and Rapidly Adopting Successful Actions



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Moderator: Amélie McFadyen, M.A.

Chief Executive Officer, HPV Global Action

March 2, 2022

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Moderator



Amélie McFadyen, M.A.

Chief Executive Officer, HPV Global Action

Webinar Objectives

- Implement best practices rapidly for optimal HPV vaccination
- Introduce 21st century screening practices and strategies
- Identify incident misinformation and mixed messages
- Address efficiently misinformation

Administrative Information

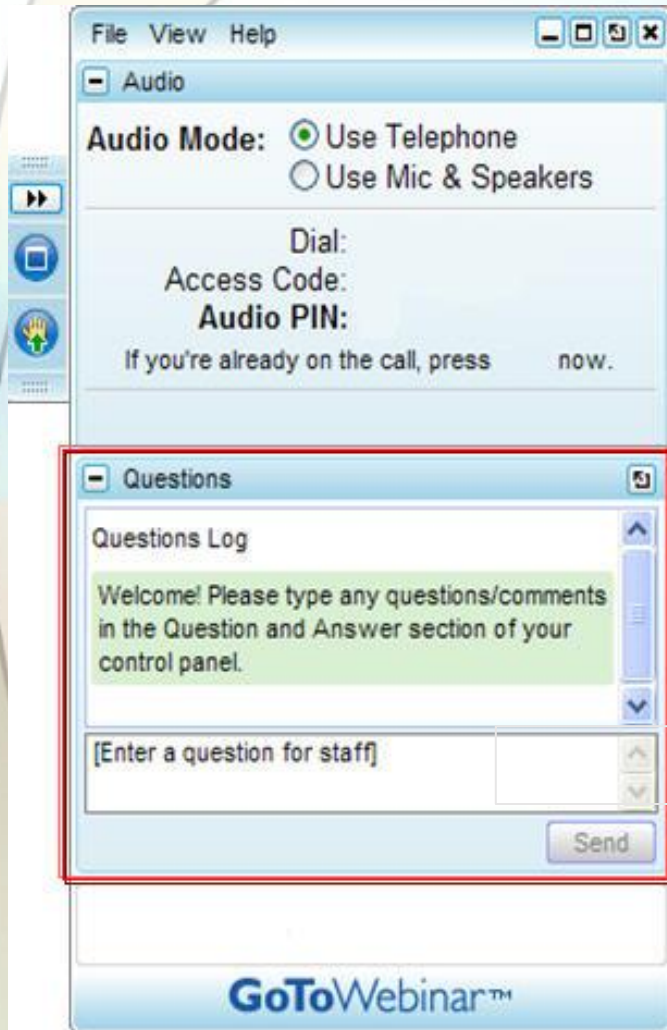
How to participate:

- You can hear the audio for today's webinar via your computer by selecting "Use Mic & Speakers"
 - Or, to join by phone, select "Use Telephone" in your Audio window. Info for dial in then will be displayed
 - Submit your text question using the Questions pane & click 'Send' button
 - Questions will be answered at the end of the presentation
- Submit at any time by typing in the "Questions" pane on the control panel

NOTE: For **mobile device** users:

- To open the questions pane, tap on the "?" or "Questions"
- To change your audio setting, tap on the "Settings" icon

Note: A recording of the presentation will be made available at www.CIDCgroup.org and hpvglobalaction.org



Evaluation

Complete the Evaluation Survey at:

<https://forms.gle/J8V3F3tBwFUc2uMD8>

Completion of survey is requested to receive a certificate of participation

– all registered participants will receive an email with this link

Slides and Video Recording

The webinar **Slides and Recording** will be archived at:

hpvglobalaction.org

and

www.CIDCgroup.org

Presenter



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**21ST CENTURY HPV PREVENTION PROGRAM:
ADDRESSING MISINFORMATION AND RAPIDLY
ADOPTING SUCCESSFUL ACTIONS**


HPV GLOBAL ACTION WEBINAR

MARCH 2, 2022

Ovidiu Tatar, MD, MSc

CONFLICT OF INTEREST

None

- 
- The slide features a light blue background with a dark blue gradient at the bottom. In the four corners, there are decorative white circuit-like lines with small circles at the end of the branches, resembling a stylized network or data flow diagram.
- ❑ Background (social media utilization; facilitators)
 - ❑ Social media misinformation examples
 - ❑ Analysis of misinformation on social media
 - ❑ Interventions to address misinformation
 - ❑ Recommended strategies to tackle misinformation

Background

- **Misinformation** involves information that is **inadvertently** false without intent to cause harm
- **Disinformation** involves false information **knowingly** being created and shared to cause harm
- **Infodemic** refers to **excess** amount of information on a topic that usually spreads rapidly and is confusing or unreliable
- **Infodemiology**, area of science research focused on **scanning** the internet for user-contributed health-related content
- **Individuals** with no official or institutional affiliations are **mostly responsible** for misinformation
- **Formal institutions** are increasingly challenged by the rise of, for instance, “**expert patient**”, blurring the boundaries between authority and quasi-proficiency

Background

- **Active social media users** 85% of total population (January 2022)
- **Most used social media platforms** in 2021:
 - **YouTube** 84%
 - **Facebook** 76% (most content privately shared)
 - **Instagram** 54%
 - **Twitter** 38% (most content publicly available)
 - **LinkedIn and Pinterest** 31%
- **Most used mobile apps**: Social Networking (88%) and chat apps (85%)
- **Least used mobile apps**: Health (30%)

Background

- **Prevention is unobservable** (short term) but side effects (e.g., vaccines) are noticeable
- **Greater likelihood** of sharing **negative** than positive experiences (not necessarily misinformation)
- Individuals prefer to know **how** consequences might be if they do occur, **rather than how likely** a consequence is to occur (lived experience versus statistical information)
- **Narratives** (stories): easy to understand; credible (“I was there”); highly emotional
- Individuals **generalize** real incidence of side effects from the number of positive/negative narratives
- Decisions tend to be based on **gist memories** (basic meaning) than verbatim memories (statistical data)

Twitter messages-cervical cancer screening

- **Equal split** negative/positive messages
- **86% originated from individuals**, the rest from organizations

Negative

“Great, now they asked me to come back for a pap smear. Oh the joys of being a woman!”

” There is nothing more weird and uncomfortable than getting a pap smear”

“Every time I get a pap smear I feel so violated”

Balanced

“lord knows I cant stand a pap smear but that 5 mins of uncomfyness is better than dealing with cancer 4 a lifetime”

Positive

“Guys encourage your mothers, sisters, wives girlfriends to have regular pap smear. Also encourage them to get the vaccine.”

“If ur having sex u need to go get a yearly pap smear ladies, it’s a must”

YouTube messages-HPV vaccine

- 57% antivaccine; 31% pro vaccine; 11% neutral
- Antivaccine –more likely to report information inaccurately/omit info (e.g., efficacy) compared to pro-vaccine
- **Most frequent** types of comments: conspiracy (11%); side effects (11%); unhealthy (6%)

Examples

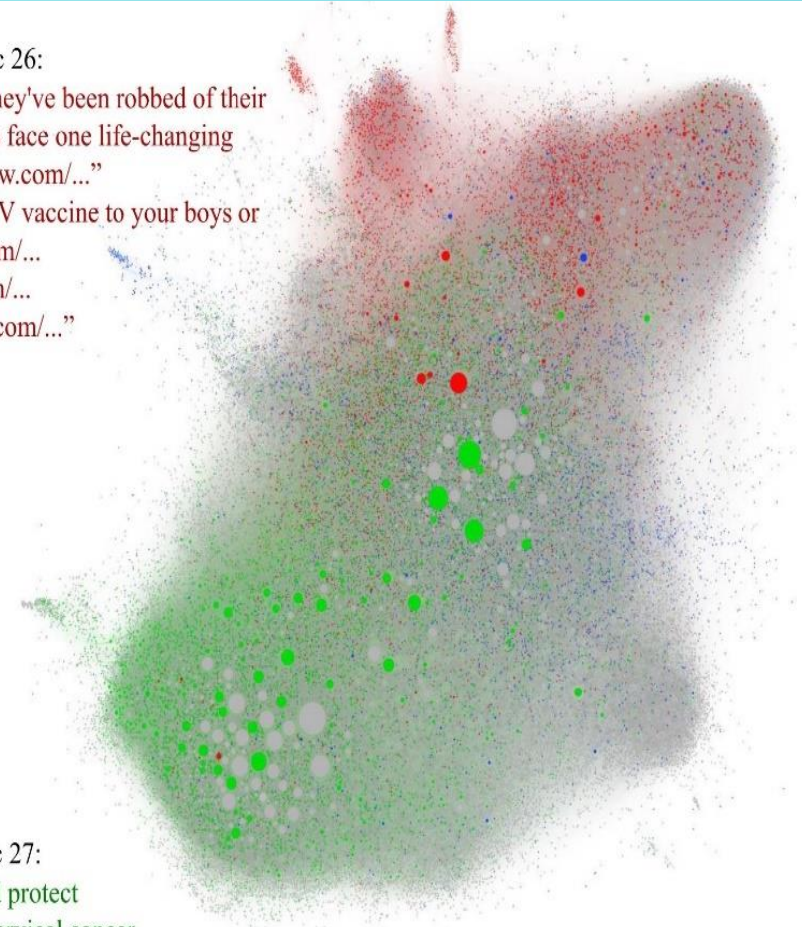
- **Conspiracy:** “The **vaccine industry has become an unstoppable death machine** based on non-existent science and arrogant quackery. It has become a **huge profit center** for the medical industry, of course, because much of the damage caused by vaccines results in future medical care profits that feed the drug companies”
- **Side effects:**” Gardasil, the only vaccine that may **cause you death**. Talk to your doctor if you want to die. Together we can paralyze millions of women worldwide and terrorize them with pap tests.”
- **Efficacy**” **Gardasil its so very pointless**, unless you are the pharmaceutical company! Less than 1% risk look up dangers of HPV vaccine! All vaccines are a sham! Stop the madness!!!”

Characterizing Twitter HPV vaccine discussions

- **Machine learning** to classify large number of tweets (80K to 280K) originating from 30K-100K users
- Discussions organized on topics
 - Scandal, conspiracies, side effects (red)- highest number of connections
 - Clinical evidence and public health advocacy (green)
 - Experiences (blue)
- Users tend to group in **homophilic** (same interests and discussion topics) networks
- Association between **prior exposure** to negative tweets about HPV vaccines and the **subsequent posting** of negative tweets about HPV vaccines
- **High exposure** to anti-HPV vaccine viewpoints significantly associated with parents' **vaccine refusal** for their children

Example tweets from Topic 26:

- "#Gardasil #Vaccines "They've been robbed of their womanhood:" Two sisters face one life-changing diagnosis [http://to.fox6now.com/...](http://to.fox6now.com/)"
- "Please don't give the HPV vaccine to your boys or girls. [http://www.wnd.com/...](http://www.wnd.com/) [https://www.youtube.com/...](https://www.youtube.com/) [http://healthimpactnews.com/...](http://healthimpactnews.com/)"



Example tweets from Topic 27:

- "New HPV vaccine could protect against 90% of cases of cervical cancer following a trial of more than 14,000 women [http://www.dailymail.co.uk/...](http://www.dailymail.co.uk/)"
- "The quadrivalent vaccine may protect from cervical abnormalities.#HPV #Vaccine [http://www.bmj.com/...](http://www.bmj.com/)"

Example tweets from Topic 0:

- "Got my 3rd HPV vaccine yesterday and my arm still hurts like a bitch 😞"
- "If u had the gardasil shot at the doctors u know that bitch hurts bad lmaoo and it leaves ur arm sore af for like a week"

Information exposure on Twitter and HPV vaccine coverage

➤ **Machine learning** to classify tweets related to HPV vaccines

➤ Six anti vaccine themes (I; II; III) in orange and six pro-vaccine themes (IV; V; VI) in green

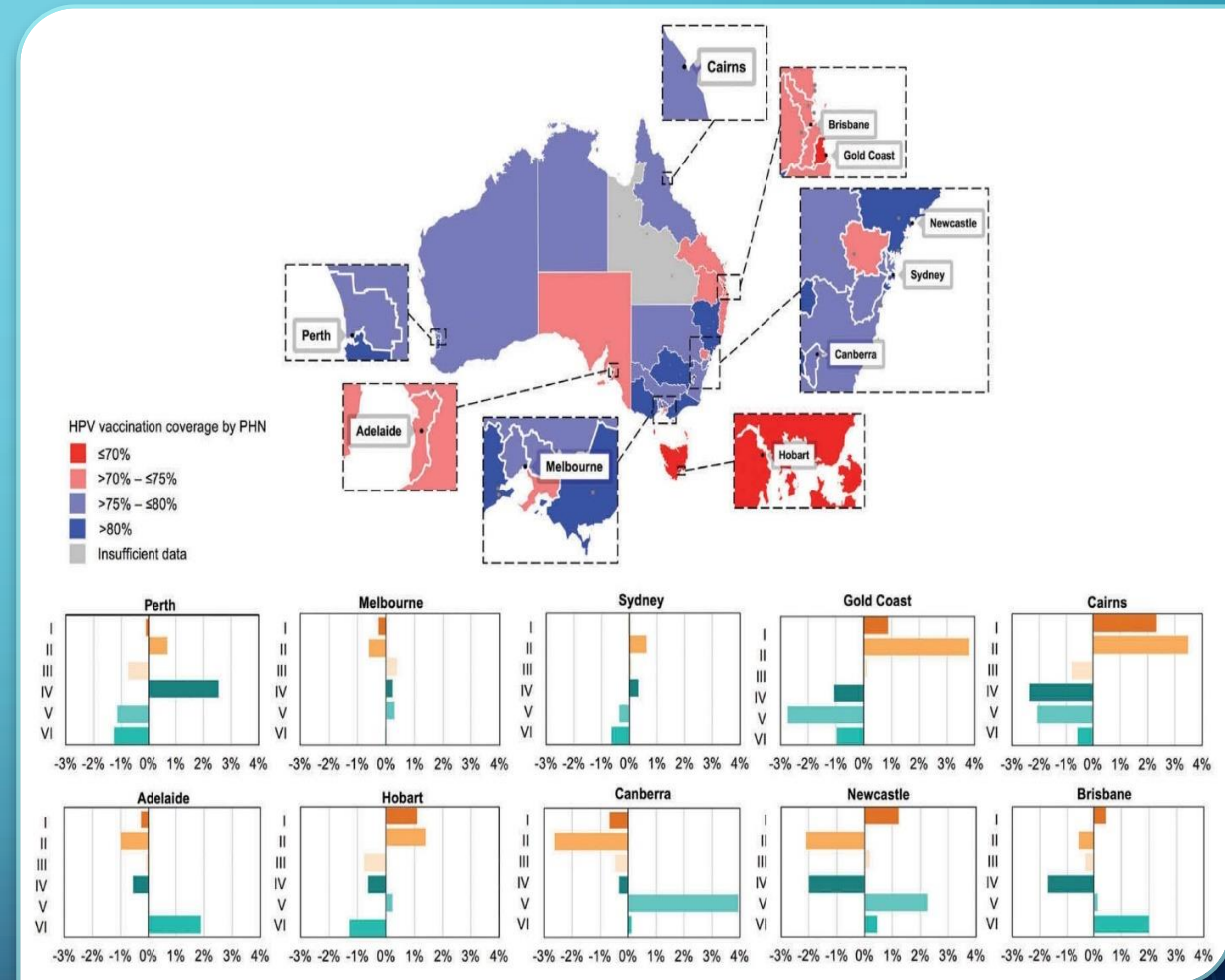
➤ **Association** between HPV vaccine messages and vaccine uptake

➤ **Anti-vaccine** content:

- Conspiracy theories, inaccurate safety reports from lower quality journals (theme I)
- Blogs, videos of vaccine adverse events (theme II)

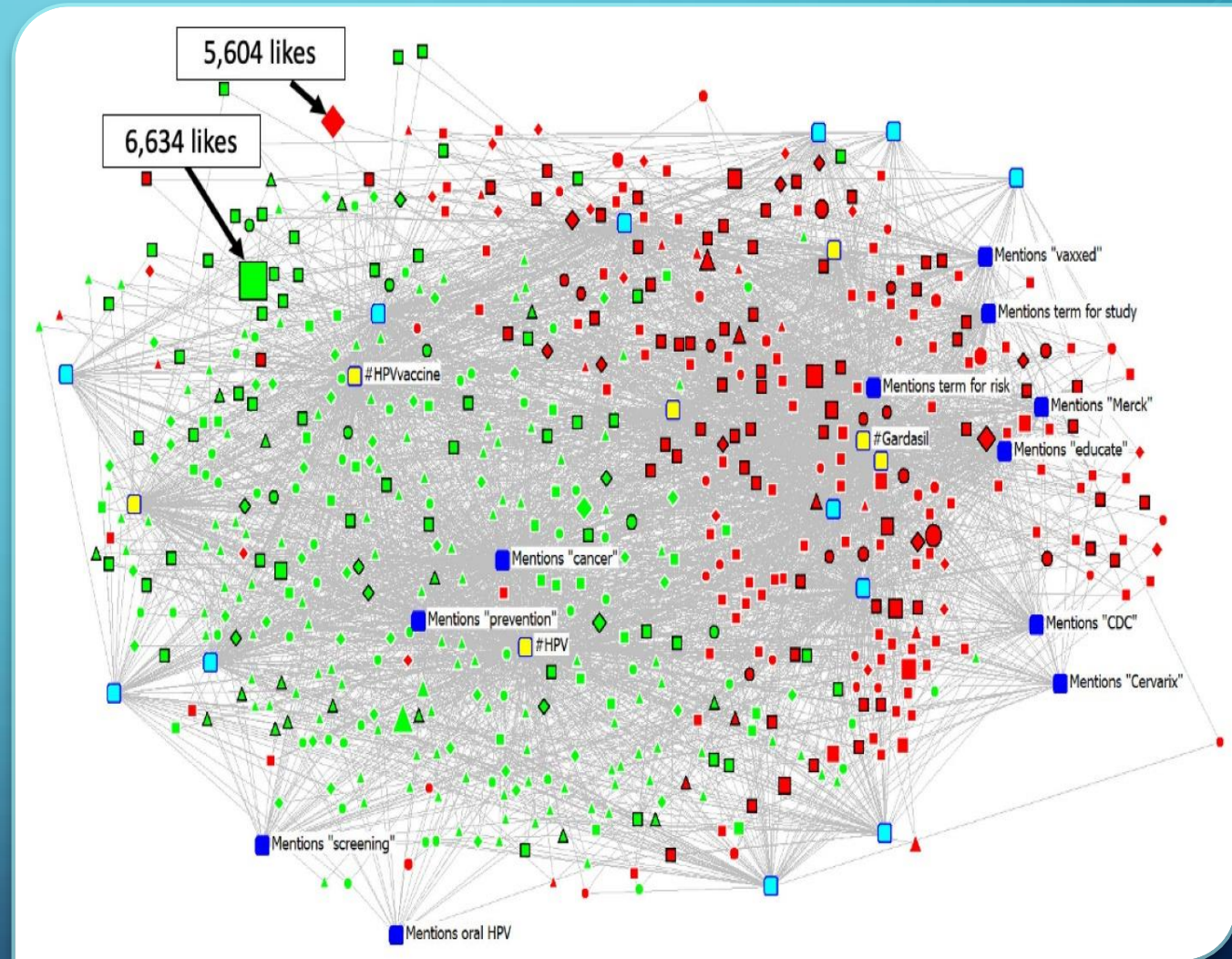
➤ **Pro-vaccine** content:

- HPV vaccine not associate to riskier sex (IV)
- Stories about successful vaccination campaigns (V)



HPV vaccine misinformation- Instagram

- The **majority** of posts were **provaccine** (55.9%, green)
- **Antivaccine posts** (red) included more **personal narratives** (black rim) than information/resource (white rim)
- Post sources
 - **General Individuals** (square) (42.2%)
 - Health institutions (26.0%, triangle)
 - Health individuals (14.1%, diamond)



HPV vaccine misinformation-Instagram (cont.)

Misinformation

- concealment
- ambivalence
 - distortion
- falsification

Vaccine debate

- vaccine inefficacy
 - civil liberties
- alternative medicine
- conspiracy theories

Evidence based

- nanopublications (blogs)
 - vaccine injury stories
- unsubstantiated claims

Health beliefs

- risk of injury and disease
- benefits of not vaccinating
 - self efficacy to not vaccinate

HPV vaccine misinformation- Instagram (cont.)

➤ Misinformation

- **Concealment** the most frequent **(core)**
- Distortion, falsification, ambivalence (more peripheral)

➤ Vaccine debate

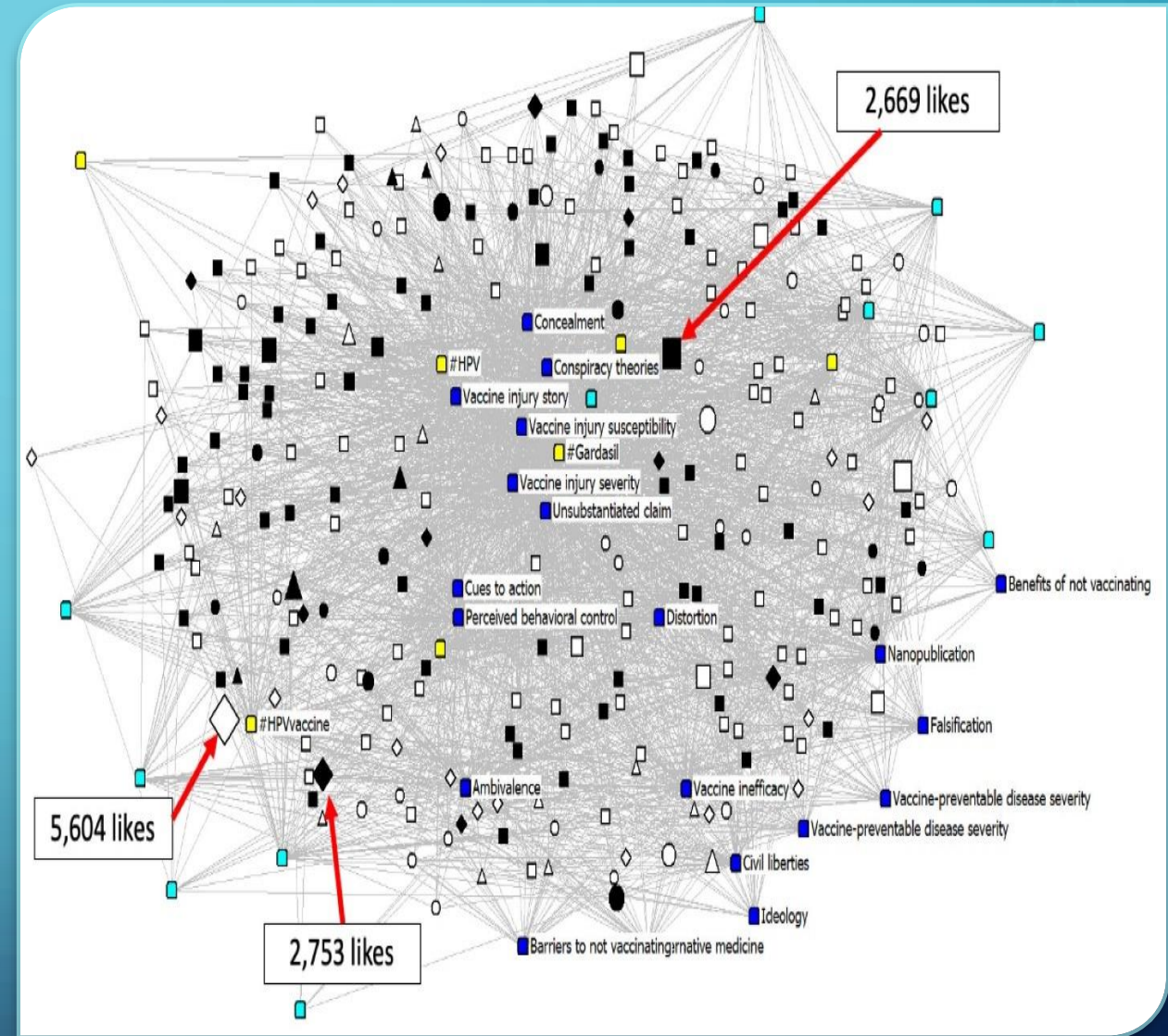
- **Conspiracy theories** and vaccine inefficacy **(core)**
- Alternative medicine and civil liberties (periphery)

➤ Evidence based

- **Unsubstantiated claims** and vaccine injury stories **(core)**

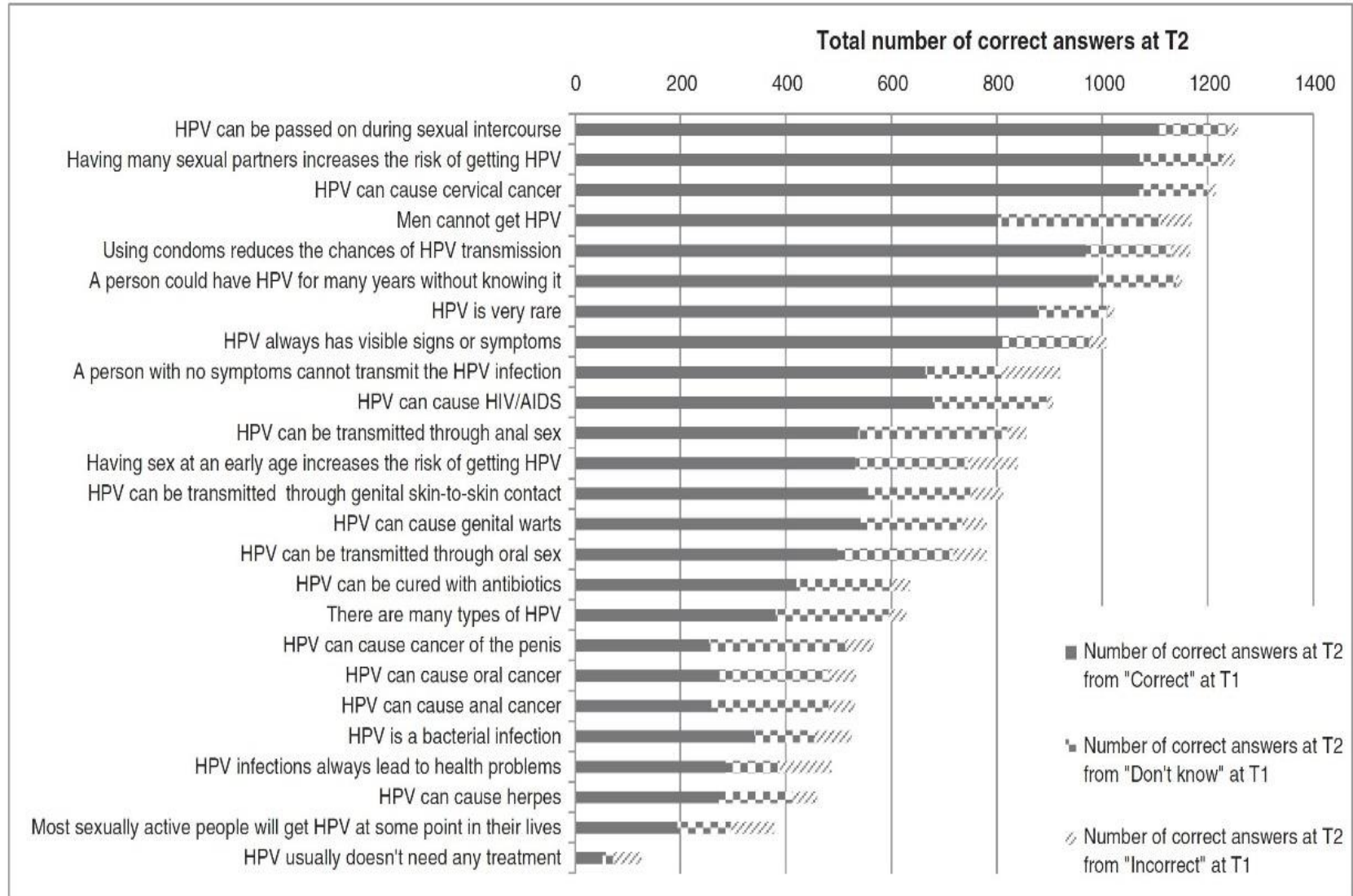
➤ Health beliefs

- **Risk of vaccine injury** and **self-efficacy** to not vaccinate **(core)**



Interventions to address misinformation

Once false information gains acceptance it is more difficult to correct



Interventions (Tailoring)

- Providing **web-based personally tailored information** about HPV (based on user's needs and barriers) was associated with increased intentions to get the HPV vaccine in parents
- Using **virtual assistants** to tailor web-based interventions to participant's perceived barriers increased HPV knowledge; improved attitudes and beliefs related to vaccination (safety, effectiveness) and intentions to vaccinate
- Using Facebook messages that highlight severity and susceptibility of cancer were effective in directing user to a **web-based** platform for HPV education
- **Facebook advertising** facilitates reaching target populations (area, age)



Cancer

- This year 4,100 women will die from cervical cancer. The HPV vaccine is 98% effective at preventing infections that cause cervical cancer. [Click here](#) to get answers to your questions about HPV.
- HPV—the leading cause of cervical and penile cancer—will infect 14 million Americans this year. The HPV vaccine is 98% effective at preventing these infections. [Click here](#) to get more info about how you can prevent HPV.
- Hispanic men have higher rates of HPV-associated penile cancer than non-Hispanic men. Getting vaccinated against HPV can prevent more than 60% of incidents of penile cancer. [Click here](#) to find out what you need to know about HPV.

Interventions (Storytelling)

- **Storytelling video intervention** was found effective in changing Korean American college attitudes towards HPV vaccination (compared to reading information about HPV)
- **Advantages of storytelling** approaches (besides providing information)
 - Stimulate **emotions**
 - Activate **visual imagination** and facilitate participant **identification** with the storyteller
 - Facilitate **changing attitudes** and adopting a particular health behaviour

Interventions (Vulnerable populations)

- About half of **medically underserved women** in a southern US state reported willingness to participate in HPV self-cervical cancer screening using social media-related interventions
- **Social media family group chat interventions** using culturally grounded and personalized cervical cancer screening/HPV vaccination messages to vulnerable populations (e.g., **minorities**) showed that can:
 - Facilitate the **understanding** of medical terms
 - Addresses **language barriers**
 - Is **better appreciated** than providing passive information
 - Ensures **high participation** when a family member is involved

Correcting misinformation (Overview)

- **Timely identification** of anti-vaccine/screening **networks** and **type** of misinformation
- **Addressing homophilic networks** by targeting social media **influencers** to spread correct information
- Involvement of “**expert parents**” **ALONG WITH medical experts** and using **narratives** (storytelling)
- **Social media companies** can educate users by **flagging and removing misinformation**
- **Creating partnerships** between social media giants and health authorities to “**display their content front and center**” so users have “direct access” to it
- **Patience and empathy in communications** with vaccine hesitant individuals



Preventive Health Behaviours Lab

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(outside this work)



Presenter



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- Co-President, HPV Global Action
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21st Century HPV Prevention Program

Addressing Misinformation and Rapidly Adopting Successful Actions

Marc Steben, MD

- *Chair, Canadian network for HPV prevention*
- *Professor, School of Public Health, Montréal University*
- *Board Member and Chair of the Education Committee, International Papillomavirus Society*
- *President Elect for 2025, International Society for STD Research*

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Disclosure of Relationship	Company/Organization
I am a member of an Advisory Board or equivalent with a commercial organization.	Merck, Genocera, GSK, Innovio, Sprout
I am a member of a Speaker Bureau.	Merck, GSK, Sprout
I have received payment from a commercial organization (including gifts or other consideration or 'in kind' compensation).	Allergan, Bayer, Paladin, Roche molecular systems, Valeant.
I have received a grant(s) or an honorarium from a commercial organization.	Abbott, Allergan, Bayer, Beckton-Dickinson, Biofire, Cepheid, Genocera, Gen-Probe/Hologic, GSK, Innovio, Merck/Merck Sharp Dohme/Sanofi-Pasteur, , Genocera, Innovio, Paladin, Roche molecular systems, Valeant.
I hold a patent for a product referred to in the CME/CPD program or that is marketing by a commercial organization	No
I hold investments in a pharmaceutical organization, medical devices company or communications firms.	I own a communication company (Communications Action-Santé Inc.)
I am currently participating in or have participated in a clinical trial within the past two years).	No

Objectives

At the end of this presentation, the participant will know:

- Implement best practices rapidly for optimal HPV vaccination
- Introduce 21st century screening practices and strategies
- Identify incident misinformation and mixed messages
- Address efficiently misinformation

Food for thought #1



NEWS

Cervical cancer: deaths increase as HPV vaccine is underused, says WHO

Owen Dyer

WHO objectives for cervical cancer elimination by 2030

- 90 % of 15 year old females will have completed HPV vaccination;
- 70 % of women will have been screened with a high performance test at 35 and 45 years of age;
- 90 % of identified women will have received a treatment
- 90 % of women with high grade disease
- 90 % of women with cancer.

International HPV Awareness Day (IHAD)

4th March 2021

Ticking time bomb:

Medical expert warns thousands could die from HPV prevention programming interrupted by COVID and this will come in the coming years or even decades

Food for thought #2

No country will have eliminated HPV cancers

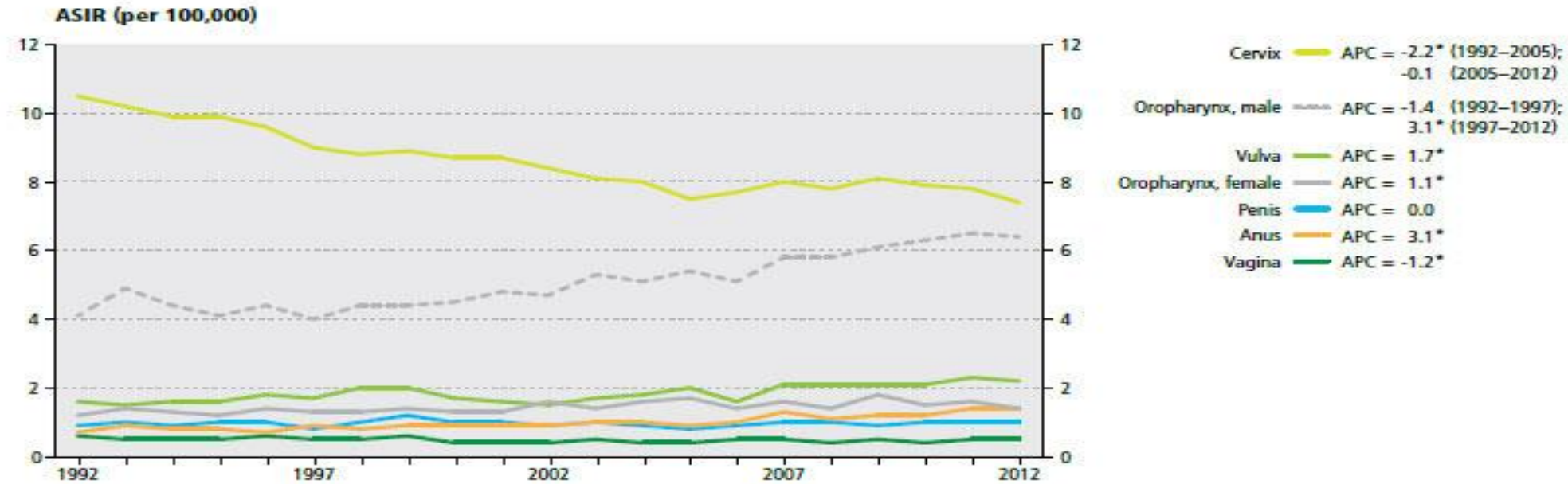
Only with screening

It will take a high coverage with HPV Vaccine

Only one HPV cancer can be screened!

And all unscreenable HPV cancers are increasing!

FIGURE 7.3 Trends in age-standardized incidence rates (ASIR) and annual percent change (APC)[†] for HPV-associated cancers[‡], Canada, 1992–2012[§]



* Significant increase or decrease in APC, $p < 0.05$

[†] APCs refer to 1992–2012 calendar years, unless there was a changepoint, in which case the applicable years are indicated.

[‡] Includes selected topographies and morphologies. Refer to Table A12 for definitions.

[§] Actual incidence data were available to 2012 for all provinces and territories except Quebec, for which data were available to 2010 and carried forward thereafter.

Note: Rates are age-standardized to the 2011 Canadian population.

Analysis by: Health Statistics Division, Statistics Canada

Data source: Canadian Cancer Registry database at Statistics Canada

And HPV cost a lot to Canadians

	HPV-related cancers				HPV-related diseases	
	Cervical	Vaginal or Vulvar	Oropharynx	Anal	Genital Warts	Abnormal PAP
Estimated cost per case ¹	\$27,167 ¹	\$29,670 ¹	\$28,777 ¹	\$44,155 ¹	\$266 ¹	\$283 (cervical dysplasia cost) ¹
Estimated new CNID cases/yr	~1,300 ²	~500 ^{2,a}	~1,335 ^{2,b}	~475 ^{2,c}	~50,000 ^{3,c}	~325,000 ^{5,d}
Annual Cost	\$35,317,100	\$ 14,835,000	\$ 38,417,295	\$ 20,973,625	\$ 13,300,000	\$ 91,975,000
National Estimated Yearly Total Cost				=	\$ 214,818,020	

1. Righolt et coll. Applied Health Economics and Health Policy. Avril 2018;16(2):195-205. 2. Société canadienne du cancer. Statistiques canadiennes sur le cancer 2016, Sujet particulier : Cancers associés au VPH. 3. Kliever, E. et coll. Cancer Care in Manitoba, 2008. D'après l'incidence observée au Manitoba en 2004, généralisée à l'ensemble du Canada, de 1,54/1 000 hommes et 1,23/1 000 femmes, de même que les données du recensement canadien de 2017. 4. Monographie canadienne de GARDASIL[®]9. Merck Canada Inc. 16 janvier 2020. https://www.merck.ca/static/pdf/GARDASIL_9-PM_F.pdf. 5. <https://www.cwhn.ca/fr/node/40865>.

Canadian Partnership Against Cancer The Action Plan



PRIORITY 1

**Improve HPV
immunization rates**



PRIORITY 2

**Implement HPV
primary screening**



PRIORITY 3

**Improve follow-up of
abnormal screening results**

Prophylactic Immunization

Primary prevention will always be the most effective preventive practice
And of those practices, immunization will be amongst the top effective practice
This has been proven in Canada and has been proven in the the rest of the
«Wealthy World» for now with many indicators of success

Comparison of preventive practices

Comparing primary to secondary prevention, primary prevention will always be:

- Cheaper
- Easier to achieve
- Most equitable
- Most effective
- Most accessible

Examples :

Primary prevention	Secondary prevention
Seatbelts, laws against drunk driving, mandatory seatbelts and driving speed limits	Emergency rooms and fast ambulances
Condoms	Antiretrovirals

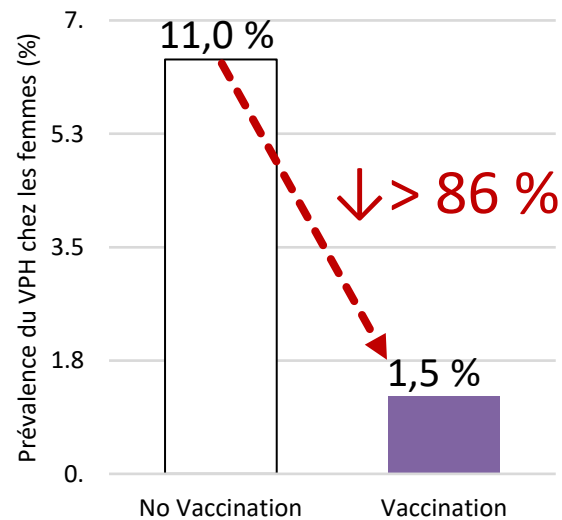
DISCUSSION

In what case would you prefer «managing acquired diseases» instead of preventing acquisition of «disease»?

Results and conclusion

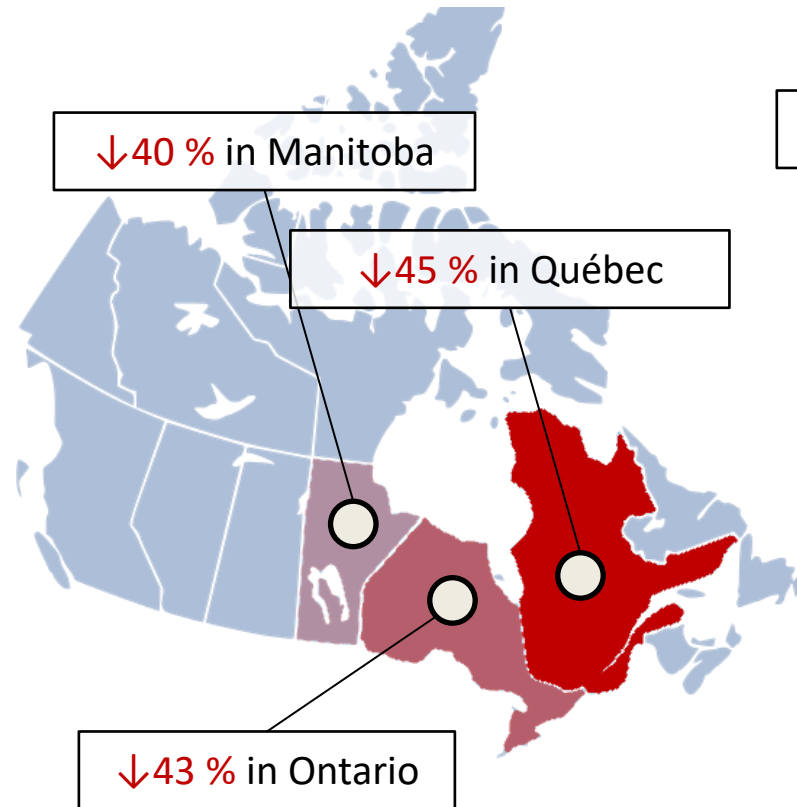
HPV Infections

Types related to 4v vaccine
(HPV 6, 11, 16, 18)

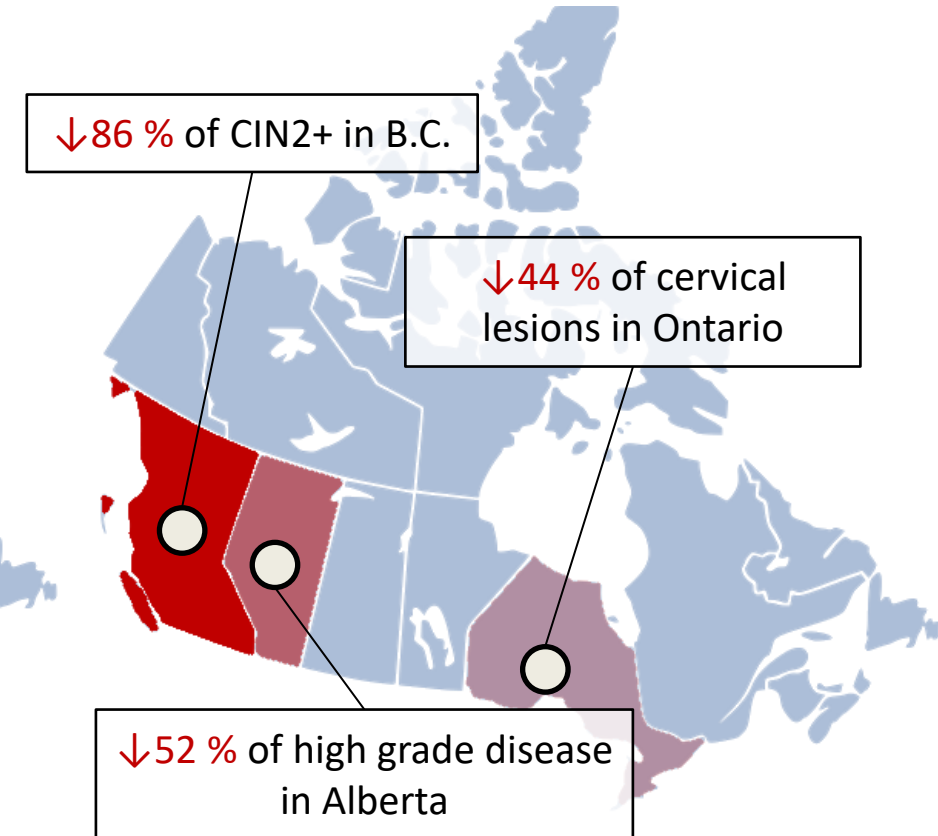


And non vaccine types were as frequent in both arms

Genital Warts



High grade cervical lesions



Conclusions

- These results highlight the success of HPV vaccine programs in Canada

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

1702 articles were eligible at the time of this systematic review and meta-analysis,
Of which 65 articles were from 14 high income countries:

- 23 on HPV infections;
- 29 on anogenital warts;
- And 13 CIN2+.

Prophylactic Immunization

Prevention of high grade lesions of the cervix has been confirmed to be more than 14 years in the long term efficacy studies
Short and long term safety has been confirmed

Length of the ongoing long term efficacy studies

4v Vaccine :

14 years for women 16-26 years of age²

10 years for boys and girls 9-15 years of age¹

10 years for men 16-26 years of age

10 years for women 26-45 years of age

9v Vaccine:

8 years boys and girls 9-15 years of age⁵

No disease breakthrough!

1.Ferris DG et al Pediatrics 2017; 2.Nygard Eurogin 2018; 3.Goldstone S et al Abstract presented at ASCO 2018;
4.Das R et al Abstract presented at Eurogin 2018; 5.Luxembourg A et al: Abstract presented at IPV 2018

Adverse events

- Short-term, more frequent in vaccinated
 - redness, swelling and pain at injection site
- Long-term, no excess compared to expected rates
 - Severe adverse events
 - Deaths, hospitalizations, suicide...
 - Auto-immune diseases
 - Dysautonomic diseases
 - Premature ovarian failure
- Behavioral issues, no increase in vaccinated populations
 - Of HPV vaccine STI
 - Of unwanted pregnancies
 - Of missed Pap test

A sad reality...

- Non-vaccinated women go less frequently for their pap smears than their vaccinated female friends
 - So no protection for screenable cervical cancer and
 - No protection against all non screenable HPV cancers!

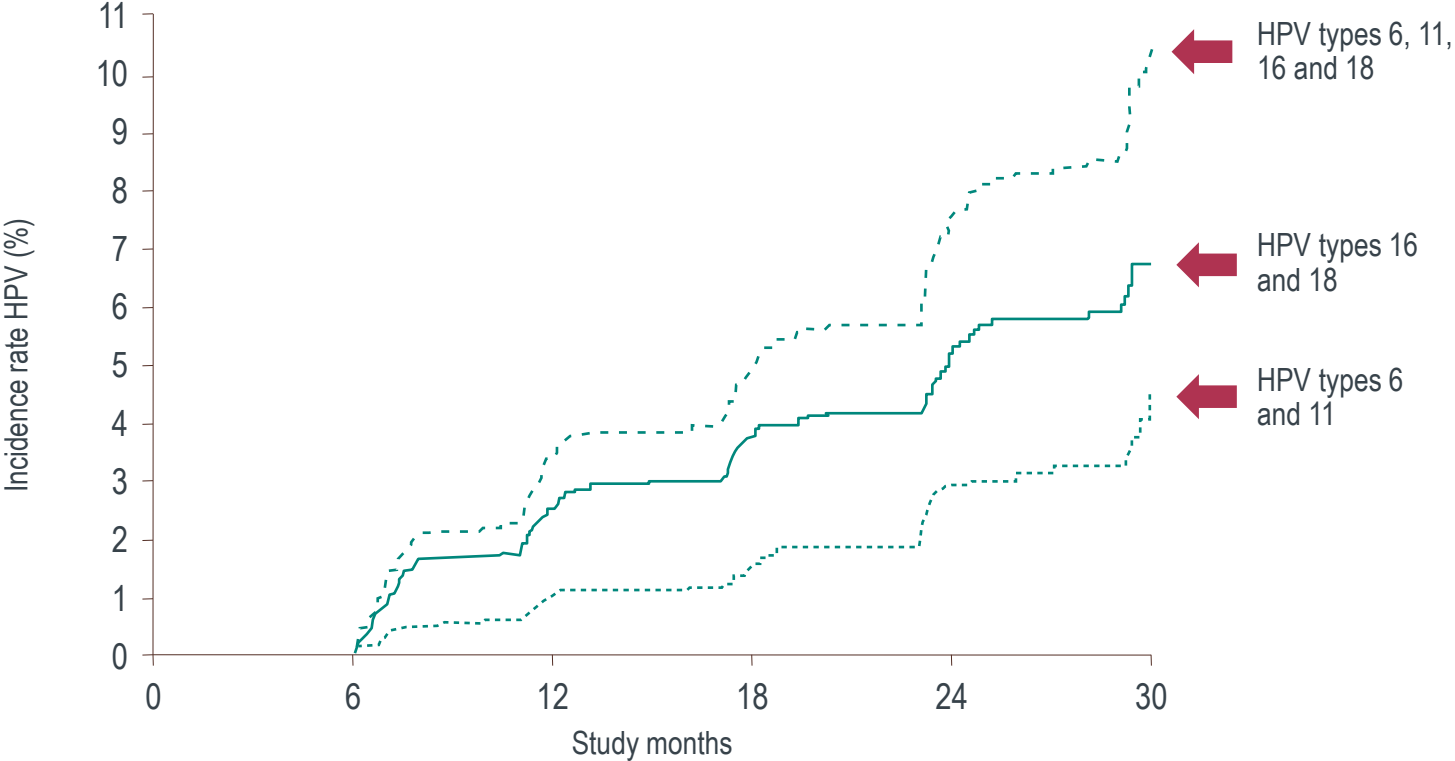
Obstacle

Trivializing HPV diseases and needs for vaccine out of the school system

Anogenital HPV types 6, 11, 16 et 18 in 24-45 y.o.¹

Cumulative rates of new HPV infections over 30 months was 10,5 %.

Incidence of HPV rates of infection in 24-45 Y.O. females who were negative at study entry of the placebo group (n = 1,858)



1. Velicer, C. et coll. Sex Transm Dis. 2009;36:696-703.

We have learned how to better communicate about HPV vaccine in this era of alternative facts and false news.

Negative arguments that can easily be defeated!

« It is a new vaccine... »

HPV vaccine are being studied since early 2000

It is available since 2006 in Canada

And available in public health programs since 2008

More than 2 million doses have been distributed in Canada

Negative arguments that can easily defeated!

« We have no proof that we can prevent HPV cancers... »

False, Finland has published about declines in several HPV related cancers

And Sweden did publish similar data about cervical cancer

Impact on cancers in Finland

Table 1. Numbers (n) and incidence rates (/100,000 woman-years) of human papillomavirus (HPV) associated invasive cancers in cluster-randomized cohorts of altogether 9,529 14- to 17-year-old female HPV16/18 or HPV6/11/16/18 vaccine recipients and 17,838 non-HPV vaccinated, originally 14- to 19-year-old women²⁻⁴

Malignancy	HPV vaccinated women			Non-HPV vaccinated women		
	Person years	n	Rate (95% CI)	Person years	n	Rate (95% CI)
Cervix cancer	65,656	0	–	124,245	8	6.4 (3.2, 13)
Vulva cancer	65,656	0	–	124,245	1	0.8 (0.1, 5.7)
Oropharyngeal cancer	65,656	0	–	124,245	1	0.8 (0.1, 5.7)
Other HPV cancers ¹	65,656	0	–	124,245	0	–
All HPV associated invasive cancers	65,656	0	–	124,245	10	8.0 (4.3, 15)
Breast cancer	65,656	2	3.0 (0.8, 12)	124,245	10	8.0 (4.3, 15)
Thyroid cancer	65,656	1	1.5 (0.2, 11)	124,245	9	7.2 (3.8, 14)
Melanoma	65,656	3	4.6 (1.5, 14)	124,245	13	10.5 (6.1, 18)
Non-melanoma skin cancer	65,656	2	3.0 (0.8, 12)	124,245	3	2.4 (0.8, 7.5)

¹Vaginal carcinoma, anal carcinoma.

For corresponding sub-cohorts age-aligned, 7-year periods of passive follow-up were by the population-based Finnish Cancer Registry.

Effects of vaccination on cervical cancer incidence in Sweden

THE NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

HPV Vaccination and the Risk of Invasive Cervical Cancer

Jiyao 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 Par Sparén, Ph.D.

ABSTRACT

BACKGROUND
The efficacy and effectiveness of the quadrivalent human papillomavirus (HPV) vaccine in preventing high-grade cervical lesions have been shown. However, data to inform the relationship between quadrivalent HPV vaccination and the subsequent risk of invasive cervical cancer are lacking.

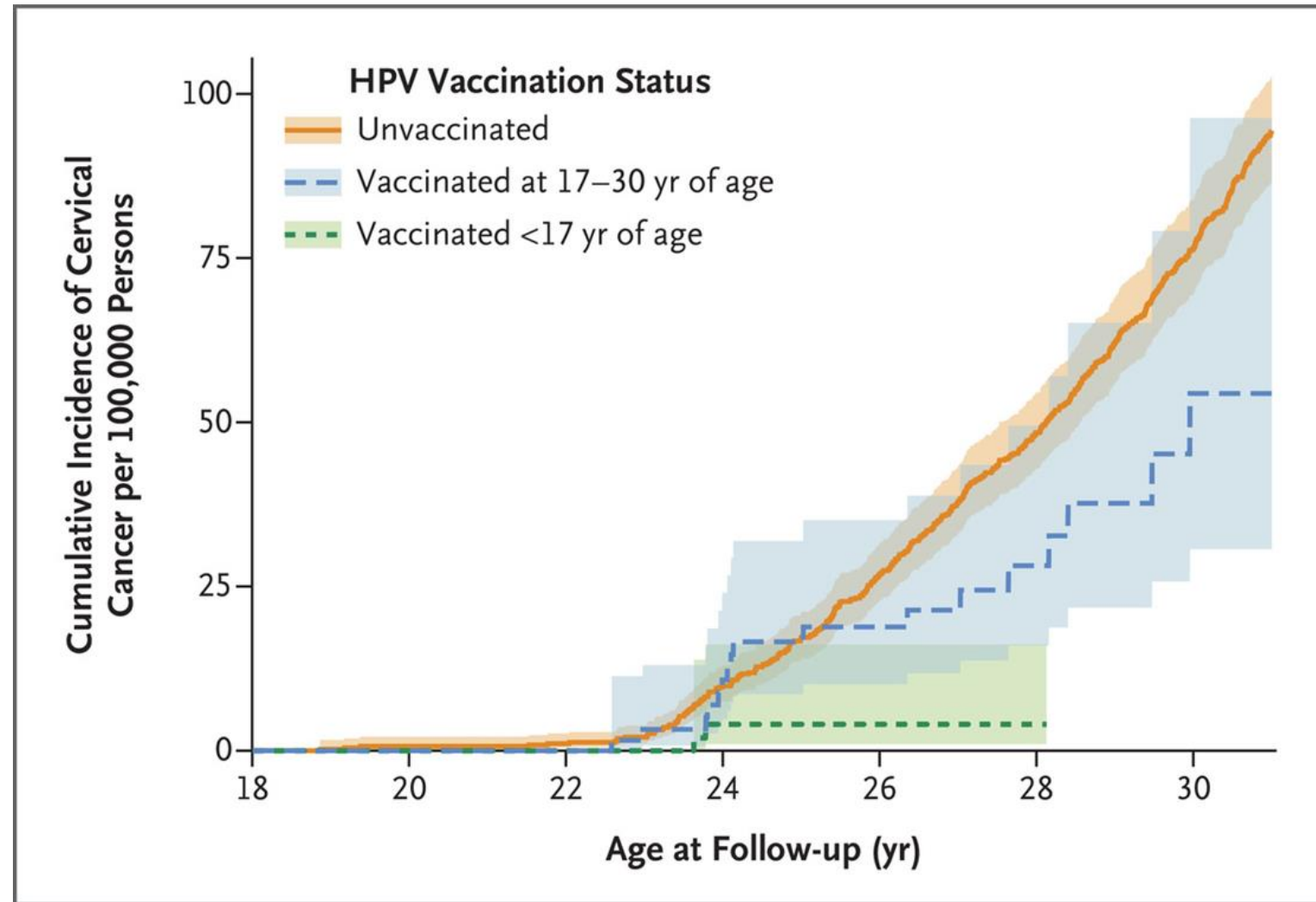
METHODS
We used nationwide Swedish demographic and health registers to follow an open population of 1,672,983 girls and women who were 10 to 30 years of age from 2006 through 2017. We assessed the association between HPV vaccination and the risk of invasive cervical cancer, controlling for age at follow-up, calendar year, county of residence, and parental characteristics, including education, household income, mother's country of birth, and maternal disease history.

RESULTS
During the study period, we evaluated girls and women for cervical cancer until their 31st birthday. Cervical cancer was diagnosed in 19 women who had received the quadrivalent HPV vaccine and in 538 women who had not received the vaccine. The cumulative incidence of cervical cancer was 47 cases per 100,000 persons among women who had been vaccinated and 94 cases per 100,000 persons among those who had not been vaccinated. After adjustment for age at follow-up, the incidence rate ratio for the comparison of the vaccinated population with the unvaccinated population was 0.51 (95% confidence interval [CI], 0.32 to 0.82). After additional adjustment for other covariates, the incidence rate ratio was 0.37 (95% CI, 0.21 to 0.57). After adjustment for all covariates, the incidence rate ratio was 0.12 (95% CI, 0.00 to 0.34) among women who had been vaccinated before the age of 17 years and 0.47 (95% CI, 0.27 to 0.75) among women who had been vaccinated at the age of 17 to 30 years.

CONCLUSIONS
Among Swedish girls and women 10 to 30 years old, quadrivalent HPV vaccination was associated with a substantially reduced risk of invasive cervical cancer at the population level. (Funded by the Swedish Foundation for Strategic Research and others.)

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1340 N ENGL J MED 383:14 NEJM.ORG OCTOBER 1, 2020



Negative arguments that can be easily defeated!

« HPV-vaccinated females will not go for their PAP cervical cancer screening... »

False

They go more often than non-vaccinated females

Negative arguments that can be easily defeated!

« There are so many negative messages circulating... »

False!

They are always the same in the resonance of social media

A negative message will be relayed up to 7 times more than a positive message

Planes that fly do not make the front page of journals... it is those that drop that make that make the front page of journals

Women that escape an HPV cancer will never make the front page of a journal

Negative arguments that can be easily defeated!

« Once healed, an HPV infection/lesion will never bother us... »

False!

New natural history findings show that the immune response to natural HPV infection does not prevent reinfection or recurrences so well

Or cross protect against other HPV types.

Tendance temporelle des verrues génitales selon le régime RAMQ au Québec (1998-2007)

Table 1. Characteristics of GWs episodes in Quebec, 1998–2007

Episode characteristics, n (%)	Women (n = 13 456)	Men (n = 13 682)
Age, mean (median), y ^a	32 (27)	34 (31)
<20	2002 (15)	905 (7)
20–29	5766 (43)	5302 (39)
30–39	2246 (17)	3656 (27)
40–49	1550 (11)	2150 (16)
≥50	1892 (14)	1669 (12)
Physical specialty		
Family physician	4610 (34)	7996 (58)
Obstetrician/gynecologist	5687 (42)	90 (0.7)
Dermatologist	2083 (15)	3655 (27)
Urologist	19 (0.1)	430 (3)
Other ^b	1057 (8)	1511 (11)
Diagnosis criteria		
Podofilox prescription	5855 (43)	8495 (62)
Specific procedure	5738 (43)	3874 (28)
Wart diagnosis + imiquimod or fluorouracil	1863 (14)	1313 (10)
Episodes number ^c		
1	11 259 (91)	10 338 (87)
2	908 (7)	1242 (10)
3–6	175 (1)	345 (3)

^aWhen considering only first episode, the mean (median) age were 31 (26) years in women and 33 (30) years in men.

^bOther specialties including surgeon, anesthetist, and pathologist.

^cEstimated from cases number and not from episodes number.

Recurrent lesions for CIN, VIN et VaIN

Recurrence rate for high-grade lesions are for the cervical, vulvar and vaginal are :

CIN 3 : $\pm 6\%$ ^{1,2}

VIN 2/3 : $\pm 30\%$ ^{3,4}

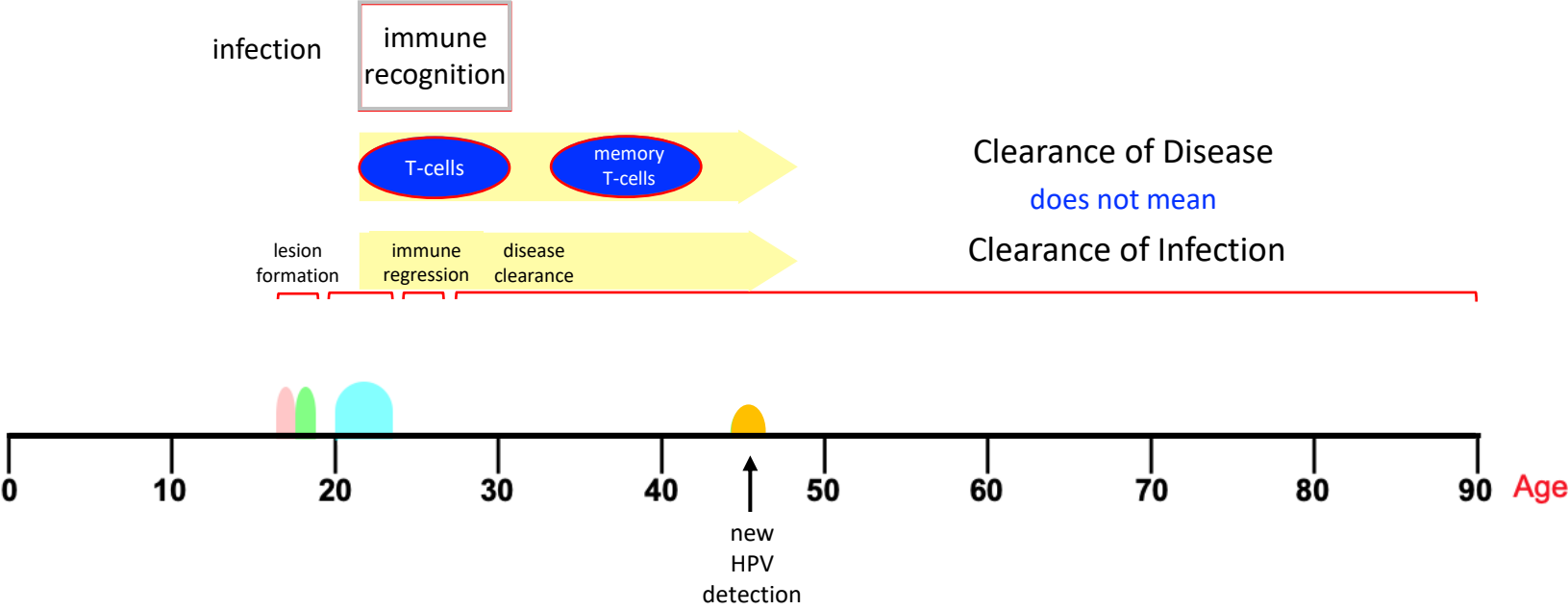
VaIN 3 : de 30 % à $\pm 60\%$ ^{4,5-7}

CIN = néoplasie intraépithéliale cervicale; VaIN = néoplasie intraépithéliale vaginale; VIN = néoplasie intraépithéliale vulvaire.

1. Papoutsis, D. et coll. *Geburtshilfe Frauenheilkd.* 2017;77:284–289. 2. Kreimer, A.R. et coll. *Int J Cancer.* 2012;131:211–218. 3. Wallbillich, J.J. et coll. *Gynecol Oncol.* 2012;127:312–315. 4. Fehr, M.K. et coll. *J Gynecol Oncol.* 2012;24:236–241. 5. Dodge, J.A. et coll. *Gynecol Oncol.* 2001;83:363–369. 6. Zhang, J. et coll. *Int J Gynaecol Obstet.* 2016;133:80–83. 7. Jentschke, M. et coll. *Arch Gynecol Obstet.* 2016;293:415–419.

Previous Thinking

Natural History of Infection During a Woman's Lifetime



Immunization as part of therapy

A missed opportunity

Claimed by GOC for prevention of high grade disease of the cervix

Proof exists that it should be part of therapy for anogenital warts, intra-epithelial lesion of the same site or other sites

For anogenital lesions

In females and males

And the value proposition as to be solid!

Not like a damp loose handshake

To people that need protection

before exposure

and post exposure

And to people that need protection against recurrent lesions

Three levels for HPV vaccination role in preventing disease

PROPHYLACTIC to prevent **NEW** infections and transmission

- Youth and teenagers before sexual activity
- Adult women
- Adult men
- Infants

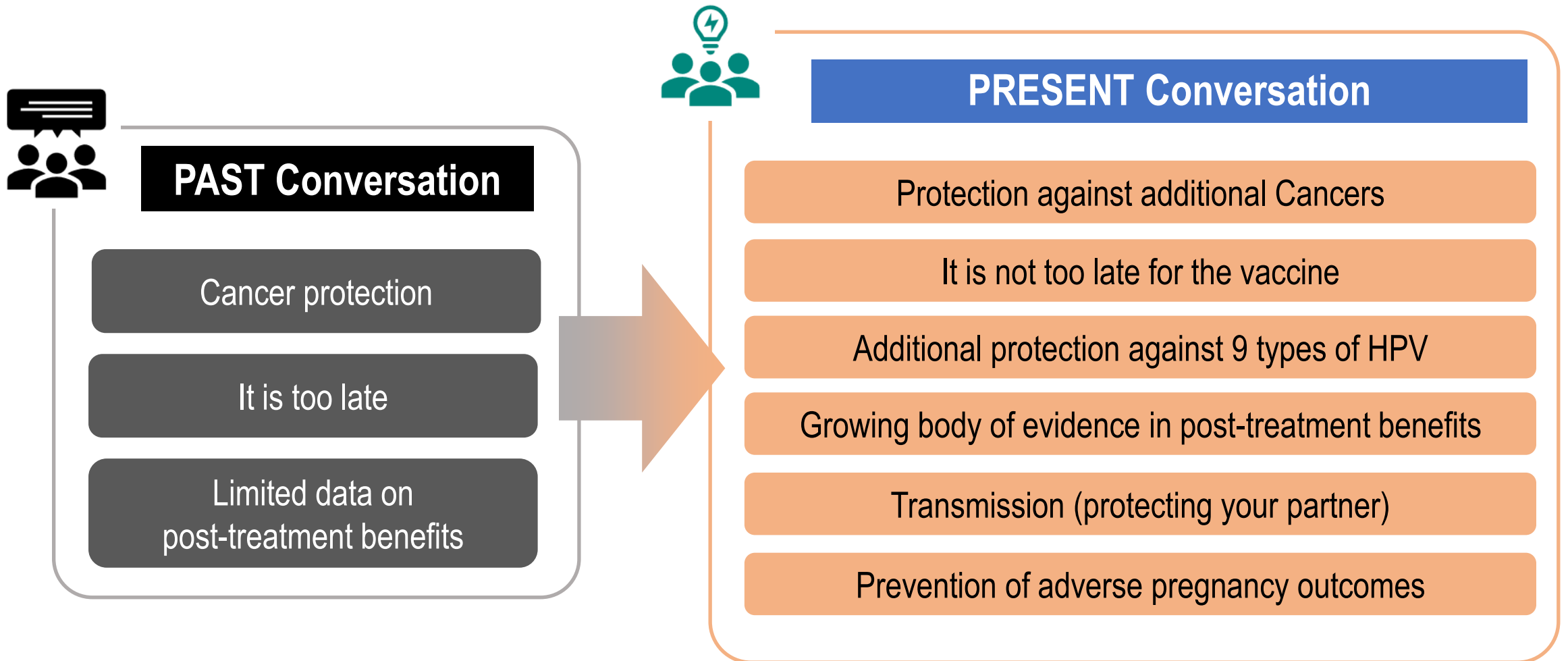
AS PART OF THERAPY to interrupt re-infections and transmission

- HPV + women (?)
- Post treatment of cervical, anal, vaginal and vulvar lesions
- Ano-genital warts
- Recurrent papillomatosis

POPULATION WITH LOW COVERAGE interrupt re-infections, prevent new infection and transmission

- HIV cohorts
- Transplant patients and immunosuppressed
- Auto immune patients
- STI Clinics
- Partners of HPV+
- Marginalized and migrants
- First nations
- People with less access to care and education

How to communicate to patients about HPV immunization



Canadian Partnership Against Cancer The Action Plan



PRIORITY 1

**Improve HPV
immunization rates**



PRIORITY 2

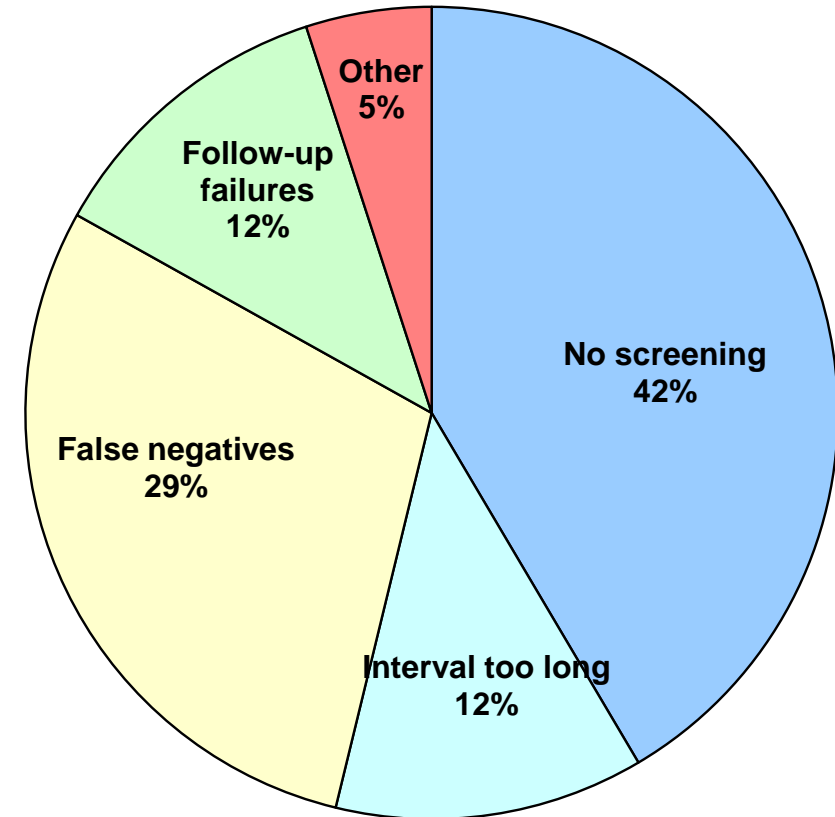
**Implement HPV
primary screening**



PRIORITY 3

**Improve follow-up of
abnormal screening results**

Mean reasons for developing cervical cancer when cytology screening was available



Source: Spence A, Goggin P, Franco EL. *Prev Med* 2007; 45: 93-106

Is it time for a new test ?



Cervical cancer rates **have not decreased appreciably** in the last several years



The incidence and proportion of adenocarcinomas of the cervix is **rising**



The current screening tests are **not designed for detection of non-squamous cervical cancer**¹



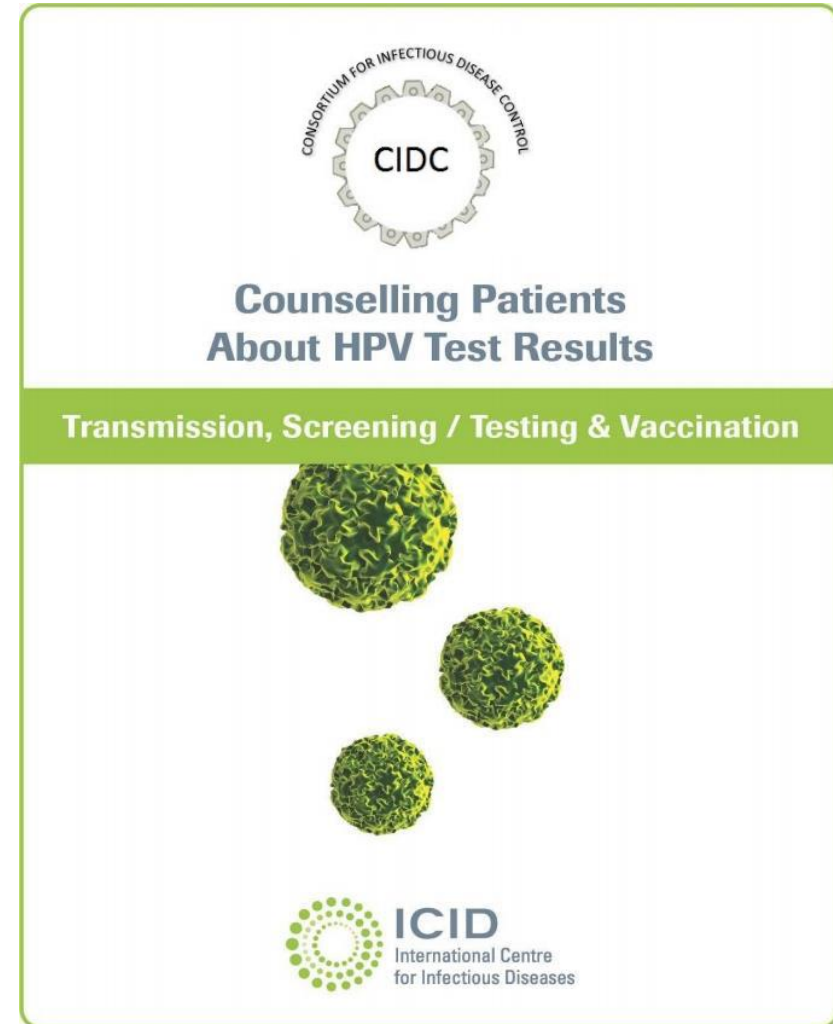
The proportion of women diagnosed with invasive cervical cancer within 3 years of their last screening test is **increasing**²

Is it time for a new test?

- Yes!
- Pap smear is of an older age paradigm where tests were done in health services
- PPV of cytology is crashing
- Cytology was invented for squamous cell carcinoma
- Huge economy to be made about
 - Human resources: can be done by the female, less frequently
 - Lab resources: automated, done in batch, less frequent but needs a triage strategy, more sensitive
 - Clinic resources: easier to manage abnormal results, no time wasted with low grade disease and atypia, much less colposcopy...
 - Financial resources: economy of vaccination will be from screening programs adaptation (Brisson) and tests may cost more but will ultimately save more (Goggin)

Resistance to change?

- Paradigm shift =
 - Precancerous cells to a STI
 - Counseling of the couple
 - Longer to explain
- More expensive but better value



When are we going to achieve cervical cancer elimination?

We have a choice: When do we want to eliminate oncogenic HPV types and cervical cancer?

1. **Now.** Catch-up vaccination up to age 30 to reduce R_0 , inducing elimination of vaccine HPV types. If followed by a one-time HPV screening = permanent elimination of cervical cancer.
2. **Later.** Effective vaccination, but only in children + Screening as usual = The oncogenic HPVs eliminated several decades later. Cervical cancer eliminated a lifetime later.
3. **Never.** Ineffective vaccination (e.g. disorganized, only girls, low coverage) allowing continued circulation of oncogenic HPV.

Conclusion and call to action

- What other disease would be eradicated in your lifetime?
- HPV vaccine will have been the best preventing tool that you will have known in your work?
- HPV test will accelerate the drop of cervical cancer in older women and hard to reach populations
- Will you want to say that you have contributed to cervical cancer elimination?



International HPV Awareness Day

4th of March 2022

ONE
LESS
WORRY



#onelessworry

WITH ONE LESS WORRY

IMPLEMENTING HPV VACCINATION FOR ALL



Katja Iversen



Sema Sgaier



Dr. Patrick Amoth



Dr. Joel Palefsky



Busisiwe Moyo



Jason Mendelsohn



Marcia Anne Cross



Zodwa Sithole

**ONE
LESS
WORRY**

March 4th 2022 | 4pm CET

Register Now



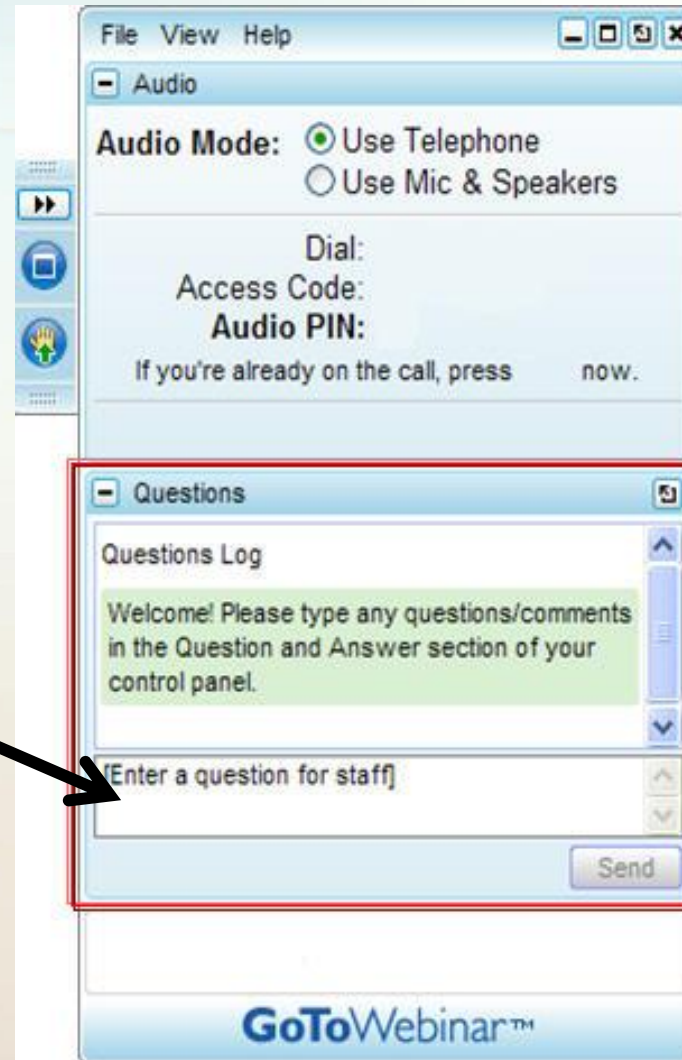
- High-Level Panel Event on International HPV Awareness Day March 4th, 2022 4PM CET or 10AM EST
- <https://ipvsoc.org/> and look at the upcoming events!

Thank you for your attention!

Question & Answer Period

On a computer, submit your text question using the Questions pane

NOTE: On a mobile device, tap on the “?” to open the questions pane



21st Century HPV Prevention Program: Addressing Misinformation and Rapidly Adopting Successful Actions

- **Evaluation:** <https://forms.gle/J8V3F3tBwFUc2uMD8>
- **Slide Set, Video recording, HPV documents at:**
hpvglobalaction.org & www.CIDCgroup.org

Thank you for participating!

This educational program is made possible through the support of Merck Canada
The opinions expressed in this webinar are those of the presenter and do not necessarily reflect the views of CIDC, HPV Global Action or their partners