

Stagnating rates of healthcare providers' recommendation for HPV vaccine in the US adult population

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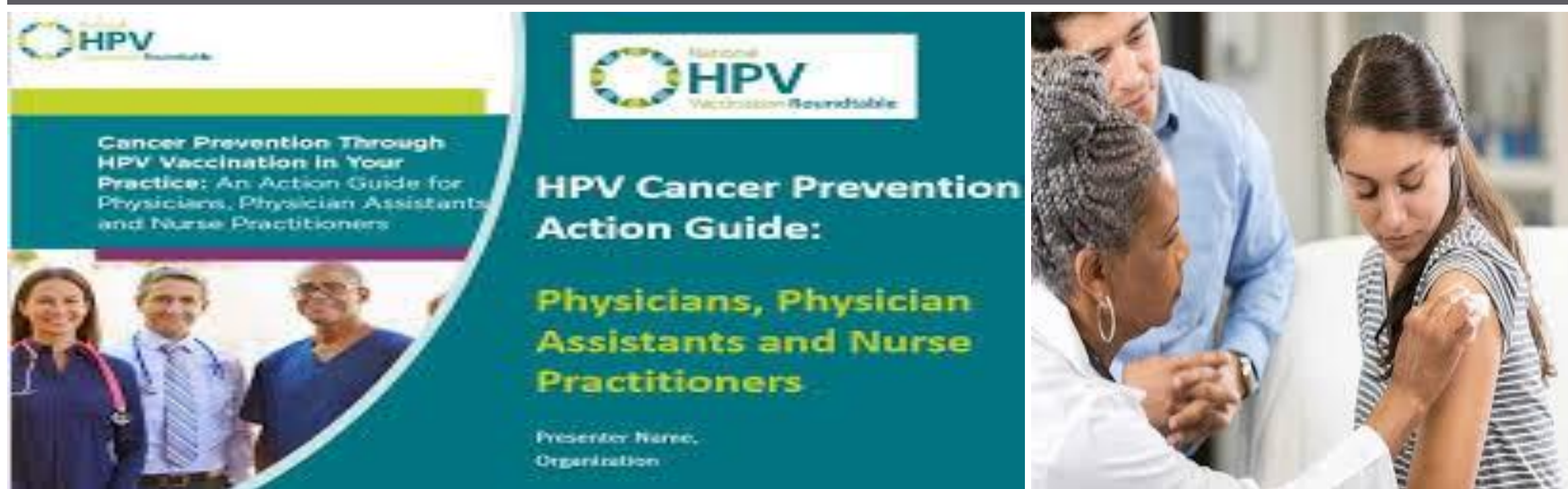
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Background

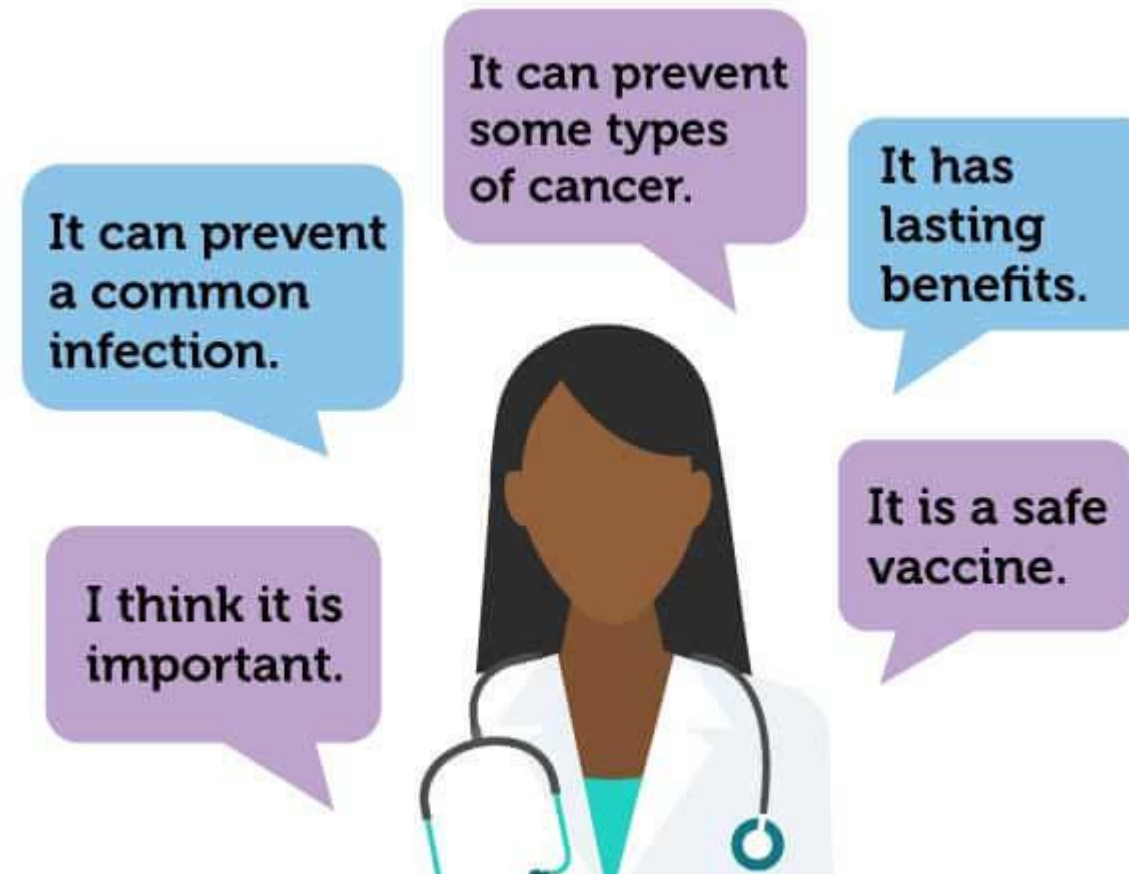
- Although a leading nation for HPV vaccine' introduction and promotion worldwide, the US lag behind many high income countries with regard to HPV vaccination uptake.
- The 2012 report of the President's Cancer Panel highlighted the overriding contribution of missed clinical opportunities to the suboptimal HPV vaccination coverage. This urgent call to action was then renewed by the Panel in its 2018 report.
- However, whether rates of provider recommendation for HPV vaccine in the US adult population have increased remains unclear.

President's Cancer Panel Annual Report 2012-2013

ACCELERATING HPV VACCINE UPTAKE: URGENCY FOR ACTION TO PREVENT CANCER



A provider recommendation is the strongest predictor of HPV vaccination.
(Vitalito et al., 2013; Lau et al., 2012)



Objectives

- To evaluate trends in provider recommendation to vaccinate against HPV among vaccine eligible adults or adults living with age eligible adolescents in the US, from 2012 to 2018.

Methods

- We used data from the Health Information National Trends Survey (HINTS) from 2012 to 2018 (HINTS4 cycle 2, HINTS4 cycle 4, HINTS5 cycle1, and HINTS5 cycle 2).
- We assessed whether or not providers were recommending HPV vaccination to any vaccine-eligible individual in the family of respondents to the HINTS data using following questions:
 - *"Including yourself, is anyone in your immediate family between the ages of 9 and 27 years old?"* If answer to this question is yes, a follow-up question was asked:
 - *"In the last 12 months, has a doctor or health care professional recommended that you or someone in your immediate family get an HPV shot or vaccine?"* The possible responses were "yes", "no", and "don't know".
 - The respondents to the follow up question could be either vaccine-eligible adults or parents/guardians of vaccine-eligible children. .
- Weighted, prevalence estimates (n, %) with their 95% confidence intervals were used to describe the prevalence of provider recommendations about the HPV vaccine at each time-point, and the variations of this prevalence according to sex, race/ethnicity, and residence.
- We used the average annual percent change (AAPC), a summary measure of the trend over a fixed time interval, to quantify temporal trends in provider recommendations for the HPV vaccine in the study population from 2012 to 2018.

Results

- A total of 1,415, 1,476, 1,208 and 1,344 respondents to the HINTS 4, cycle 2; HINTS 4, cycle 4; HINTS 5, cycle 1; and HINTS 5, cycle 2, respectively, were eligible for this study.

Prevalence of provider recommendation of HPV vaccine, by sex, race/ethnicity and residence, Health Information National Trends Survey (HINTS)

HINTS) 4, cycle 2, 2012

Characteristics	n	In the last 12 months, has a doctor or health care professional recommended that you or someone in your immediate family get an HPV shot or vaccine?						Trends	
		Yes		No		Don't know		AAPC (%)	P-value
		Wt %	95% CI	Wt %	95% CI	Wt %	95% CI		
Total	1,415	25.6	22.3 – 28.8	60.4	55.8 – 65.0	12.9	9.6 – 16.3	-4.2	0.10
Sex*									
Male	488	15.9	11.8 – 20.0	66.0	59.5 – 72.4	17.0	11.3 – 22.7	-0.2	0.99
Female	913	35.0	29.7 – 40.3	55.6	49.9 – 61.3	8.3	5.2 – 11.5	-6.8	0.20
Race/Ethnicity*									
White, non-Hispanic	696	27.8	23.5 – 32.1	61.2	55.8 – 66.6	10.6	7.3 – 13.9	-7.2	0.10
Black, non-Hispanic	243	21.6	14.3 – 29.0	63.2	53.1 – 73.2	12.9	4.4 – 21.3	16.4	<0.001
Hispanic	278	28.0	19.9 – 36.1	58.8	49.4 – 68.1	10.8	5.1 – 16.5	-6.6	0.30
Asian	38	14.2	0.1 – 28.3	57.9	7.2 – 100.0	27.9	0.0 – 83.7	-12.5	0.80
Others	44	39.8	11.2 – 68.4	50.0	19.2 – 80.8	9.7	0.0 – 21.0	-9.4	0.70
Residence									
Urban	1,225	26.2	22.3 – 30.2	60.0	54.9 – 65.1	12.7	9.1 – 16.3	-4.9	0.20
Rural	190	22.1	11.8 – 32.3	62.5	48.9 – 76.1	14.5	5.6 – 23.4	-0.1	0.99

HINTS) 4, cycle 4, 2014

Characteristics	n	In the last 12 months, has a doctor or health care professional recommended that you or someone in your immediate family get an HPV shot or vaccine?						Trends	
		Yes		No		Don't know		AAPC (%)	P-value
		Wt %	95% CI	Wt %	95% CI	Wt %	95% CI		
Total	1,476	25.1	21.6 – 28.6	53.3	49.5 – 57.1	19.9	17.0 – 22.7	-4.2	0.10
Sex*									
Male	522	18.0	13.0 – 22.9	53.6	48.3 – 58.9	27.5	21.9 – 33.1	-0.2	0.99
Female	935	32.0	26.8 – 37.2	52.9	47.6 – 58.3	12.5	9.7 – 15.4	-6.8	0.20
Race/Ethnicity*									
White, non-Hispanic	680	27.7	22.0 – 33.4	52.1	45.7 – 58.5	19.4	15.4 – 23.5	-7.2	0.10
Black, non-Hispanic	246	26.9	14.7 – 39.1	44.0	34.1 – 53.9	22.7	10.7 – 34.7	16.4	<0.001
Hispanic	310	21.5	15.2 – 27.9	57.9	50.0 – 65.8	18.4	11.4 – 25.4	-6.6	0.30
Asian	54	32.1	3.8 – 60.5	63.1	34.8 – 91.4	4.8	0.0 - 10.6	-12.5	0.80
Others	60	21.3	6.1 – 36.6	57.5	35.2 – 79.8	21.2	5.4 – 36.9	-9.4	0.70
Residence									
Urban	1,291	26.2	22.3 – 30.0	52.5	48.1 – 56.9	19.6	16.3 – 22.9	-4.9	0.20
Rural	185	19.1	10.3 – 27.8	57.9	46.3 – 69.5	21.6	11.5 – 31.6	-0.1	0.99

HINTS) 5, cycle 1, 2017

Characteristics	n	In the last 12 months, has a doctor or health care professional recommended that you or someone in your immediate family get an HPV shot or vaccine?						Trends	
		Yes		No		Don't know		AAPC (%)	P-value
		Wt %	95% CI	Wt %	95% CI	Wt %	95% CI		
Total	1,208	22.7	19.3 – 26.0	58.3	53.9 – 62.7	18.2	14.7 – 21.8	-4.2	0.10
Sex*									
Male	452	17.5	12.3 – 22.7	61.4	54.1 – 68.6	20.9	15.6 – 26.3	-0.2	0.99
Female	742	27.2	23.2 – 31.2	56.0	50.3 – 61.7	15.5	11.0 – 20.1	-6.8	0.20
Race/Ethnicity*									
White, non-Hispanic	569	24.0	19.6 – 28.3	57.4	51.8 – 63.0	18.4	13.6 – 23.3	-7.2	0.10
Black, non-Hispanic	206	26.8	17.7 – 36.0	51.1	39.2 – 63.1	19.0	10.1 – 27.8	16.4	<0.001
Hispanic	227	24.6	15.3 – 33.9	55.9	47.3 – 64.4	18.7	9.7 – 27.7	-6.6	0.30
Asian	47	24.8	8.6 – 40.9	45.9	22.8 – 69.0	26.9	3.3 – 50.5	-12.5	0.80
Others	63	8.6	0.1 – 17.1	81.9	69.7 – 94.1	9.5	1.4 – 17.6	-9.4	0.70
Residence									
Urban	1,048	22.8	19.3 – 26.4	57.7	52.8 – 62.6	18.8	15.1 – 22.5	-4.9	0.20
Rural	160	21.7	10.8 – 32.6	61.7	49.0 – 74.3	15.1	7.3 – 23.0	-0.1	0.99

HINTS) 5, cycle 2, 2018

Characteristics	n	In the last 12 months, has a doctor or health care professional recommended that you or someone in your immediate family get an HPV shot or vaccine?						Trends	
		Yes		No		Don't know		AAPC (%)	p-value
		Wt %	95% CI	Wt %	95% CI	Wt %	95% CI		
Total	1,344	23.0	19.2 – 26.9	54.8	50.6 – 58.9	22.0	17.5 – 26.5	-4.2	0.10
Sex*									
Male	463	15.5	10.4 – 20.5	52.5	45.3 – 59.7	31.8	22.7 – 41.0	-0.2	0.99
Female	868	29.4	24.7 – 34.1	56.4	51.5 – 61.3	14.0	11.1 – 16.9	-6.8	0.20
Race/Ethnicity*									
White, non-Hispanic	690	22.4	17.3 – 27.6	55.7	49.9 – 61.6	21.8	16.7 – 26.8	-7.2	0.10
Black, non-Hispanic	201	35.1	24.8 – 45.3	45.2	34.0 – 56.4	18.5	10.7 – 26.2	16.4	<0.001
Hispanic	242	21.6	15.3 – 27.8	58.9	50.6 – 67.2	19.3	11.9 – 26.6	-6.6	0.30
Asian	56	6.1	0.0 – 13.9	62.6	33.8 – 91.3	31.3	1.9 – 60.7	-12.5	0.80
Others	55	29.0	11.8 – 46.2	38.4	11.0 – 65.8	32.6	0.0 – 70.1	-9.4	0.70
Residence									
Urban	1,151	23.3	19.4 – 27.3	54.3	49.8 – 58.8	22.1	17.4 – 26.8	-4.9	0.20
Rural	193	21.1	11.6 – 30.5	57.9	47.3 – 68.4	21.1	6.1 – 36.1	-0.1	0.99

Conclusions

- Despite recent progress, our findings indicate stagnating rates of provider recommendation for HPV vaccine, and persistent gender and racial disparities in this intervention.
- To accelerate HPV vaccination uptake, immediate actions to enhance provider recommendation for HPV vaccine are needed.