

Arkansas HPV Vaccination Rates and Combating Misinformation

Immunize AR HPV Summit
Wyndham Hotel, North Little Rock, AR
May 3, 2024

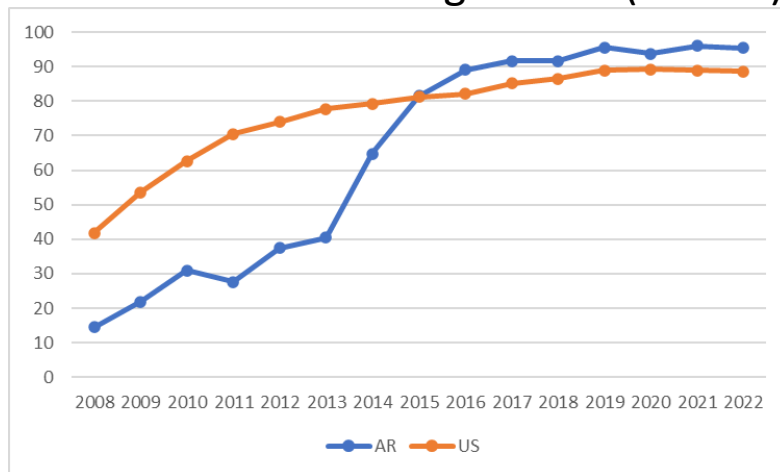
Jennifer Dillaha, MD
Director and State Health Officer



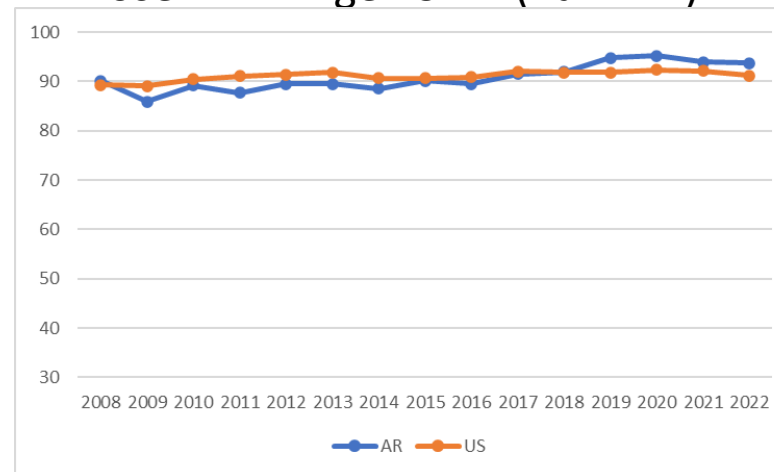
Vaccination Coverage among Adolescents (13 – 17 Years) AR and US, with AR Rank among 50 States



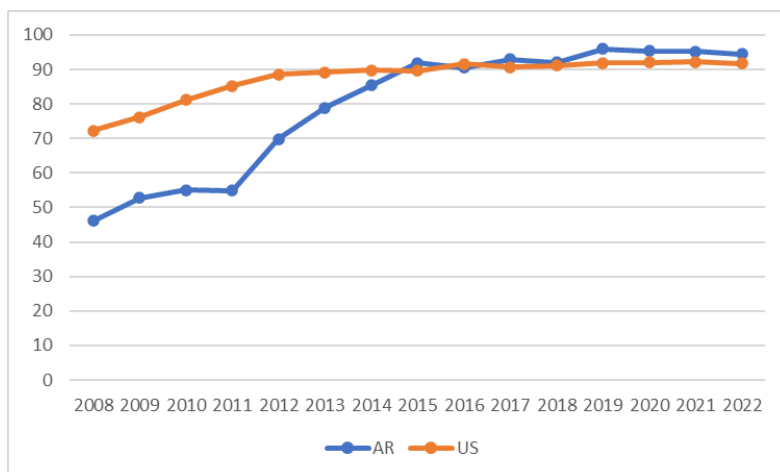
≥1 Dose MenACWY Age 13-17 (Rank 6)



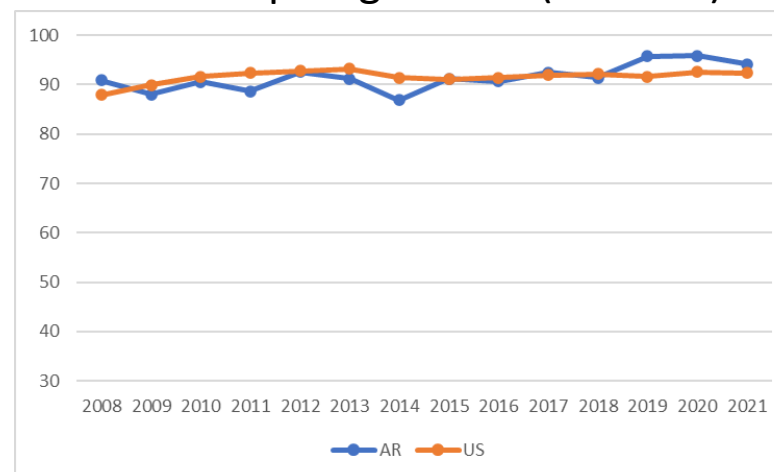
≥2 Dose MMR Age 13-17 (Rank 22)



≥1 Dose Td or Tdap Age 13-17 (Rank 10)



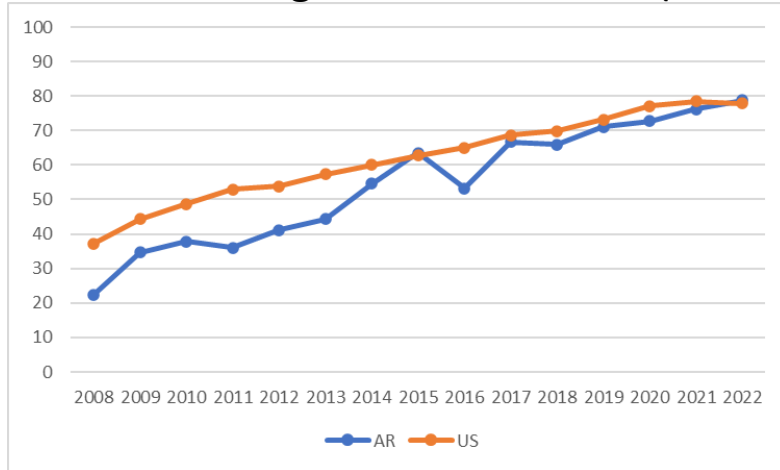
≥3 Dose HepB Age 13-17 (Rank 15)



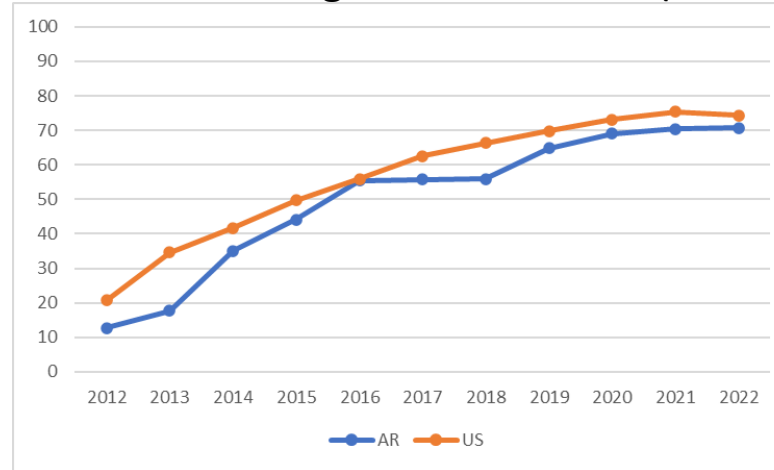
Vaccination Coverage among Adolescents (13 – 17 Years) AR and US, with AR Rank among 50 States



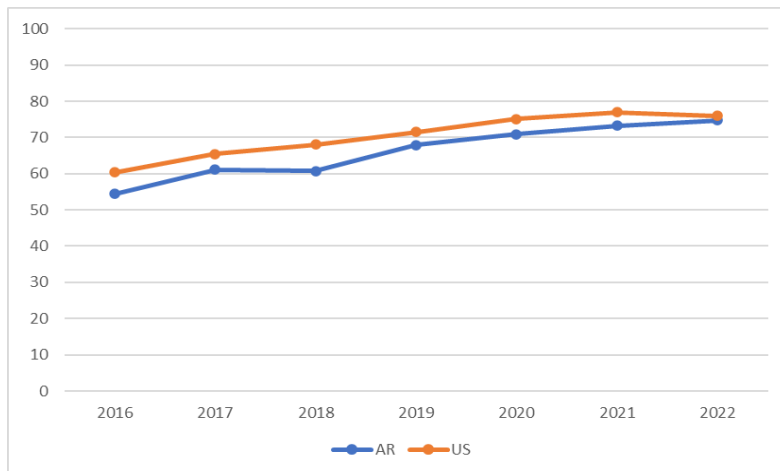
≥1 Dose HPV Age 13-17 -Females (Rank 26)



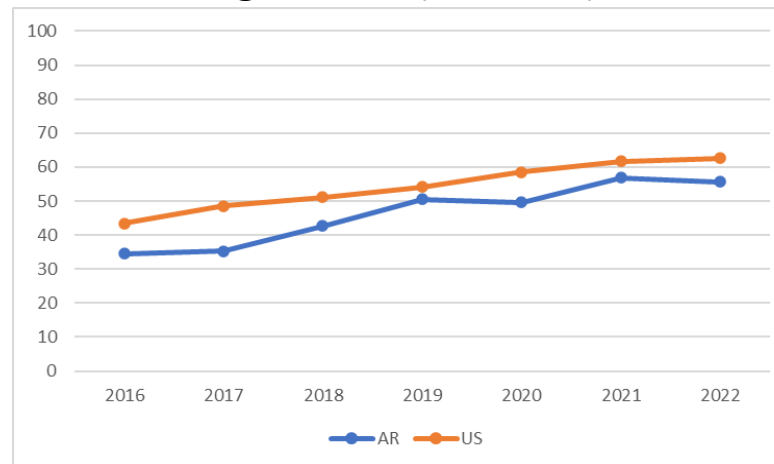
≥1 Dose HPV Age 13-17 - Males (Rank 40)



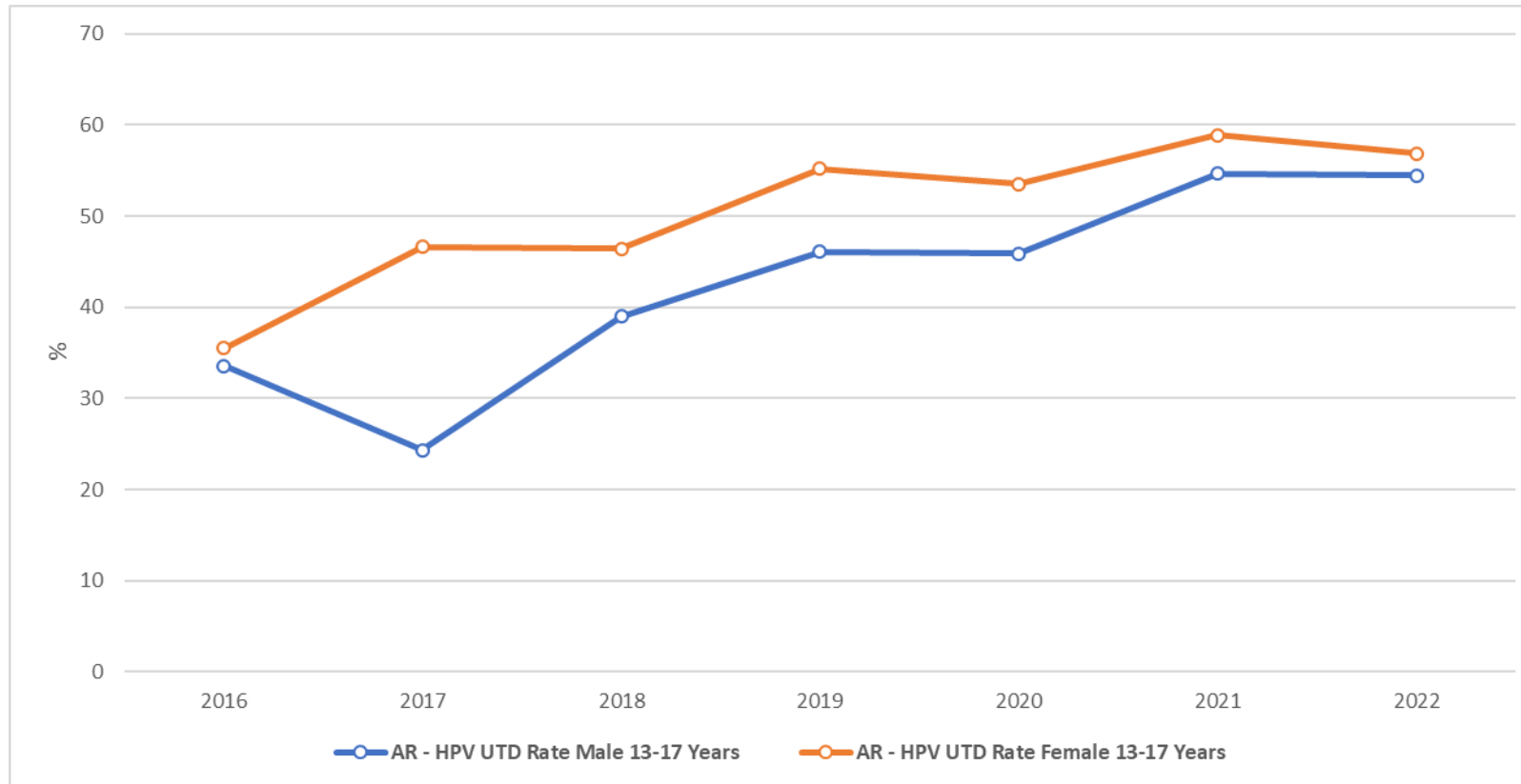
≥1 Dose HPV Age 13-17 (Rank 36)



UTD HPV Age 13-17 (Rank 42)



Vaccination Coverage among AR Adolescents (13 – 17 Years) Male Female Comparison



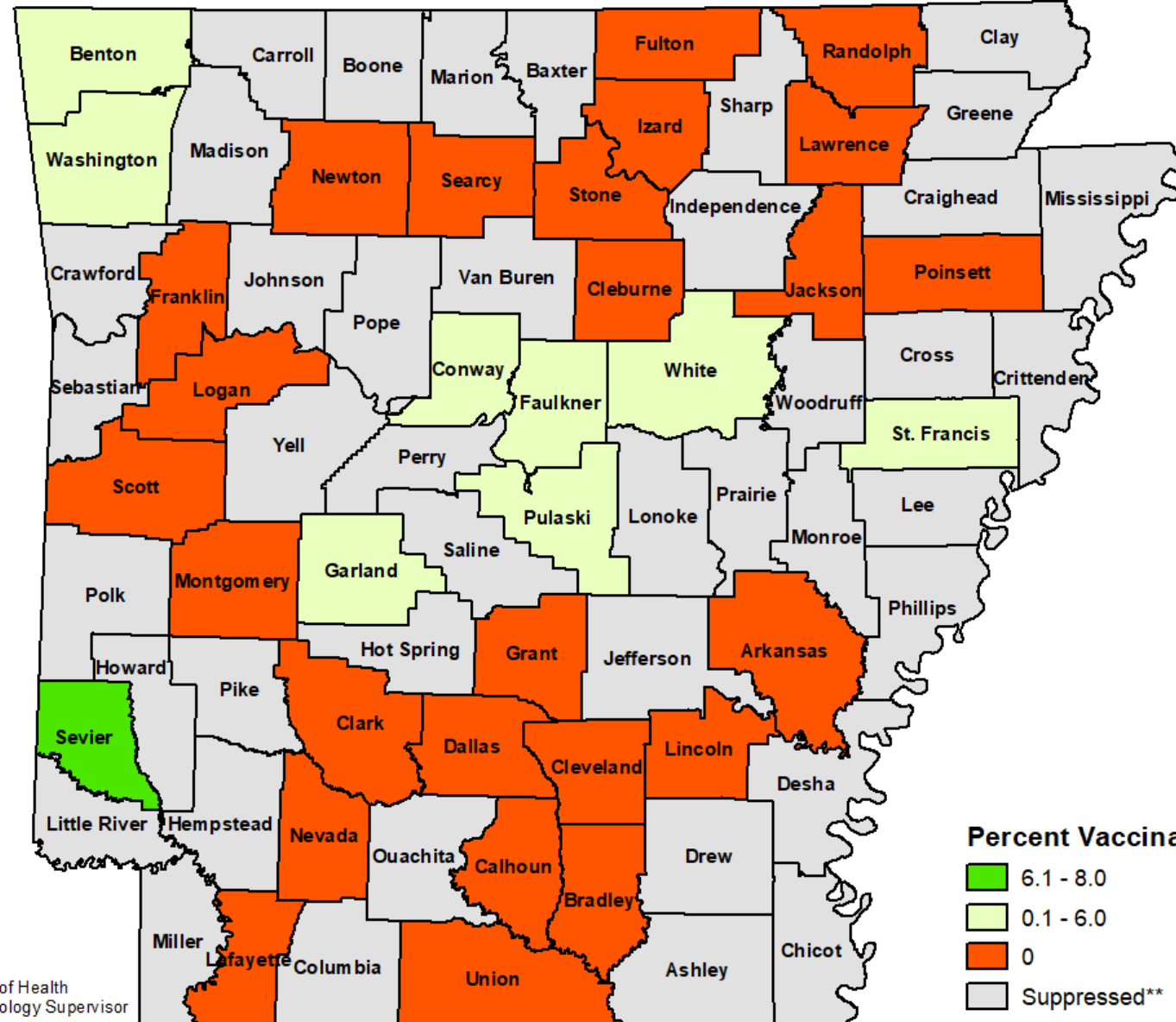
Number of HPV Vaccine Doses by Months, WebIZ Arkansas 2018-2024*



Month/Year	2018	2019	2020	2021	2022	2023	2024
Jan	3,775	4,734	5,140	3,615	3,083	3,668	3,210
Feb	3,585	4,491	4,688	2,966	3,106	3,854	3,906
Mar	4,874	4,889	3,322	5,554	4,621	4,875	3,364
Apr	4,354	5,373	1,695	4,918	4,279	3,806	
May	4,782	5,335	2,882	4,459	4,349	4,208	
Jun	5,066	5,109	5,001	4,758	4,637	4,861	
Jul	7,528	8,277	6,185	5,988	5,501	5,903	
Aug	12,713	12,990	9,171	8,793	10,642	9,822	
Sep	8,195	9,242	7,954	7,132	7,809	7,037	
Oct	8,188	9,156	7,990	6,738	6,476	6,402	
Nov	5,211	5,771	5,003	5,427	4,757	4,757	
Dec	3,669	4,642	3,948	4,078	3,587	3,317	
Grand Total	71,940	80,009	62,979	64,426	62,847	62,510	10,480

*Data are Provisional as of 3/27/2024

Vaccination Coverage per County for Children Age 9-10 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Date: April 9, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

Percent Vaccinated

- 6.1 - 8.0
- 0.1 - 6.0
- 0
- Suppressed**

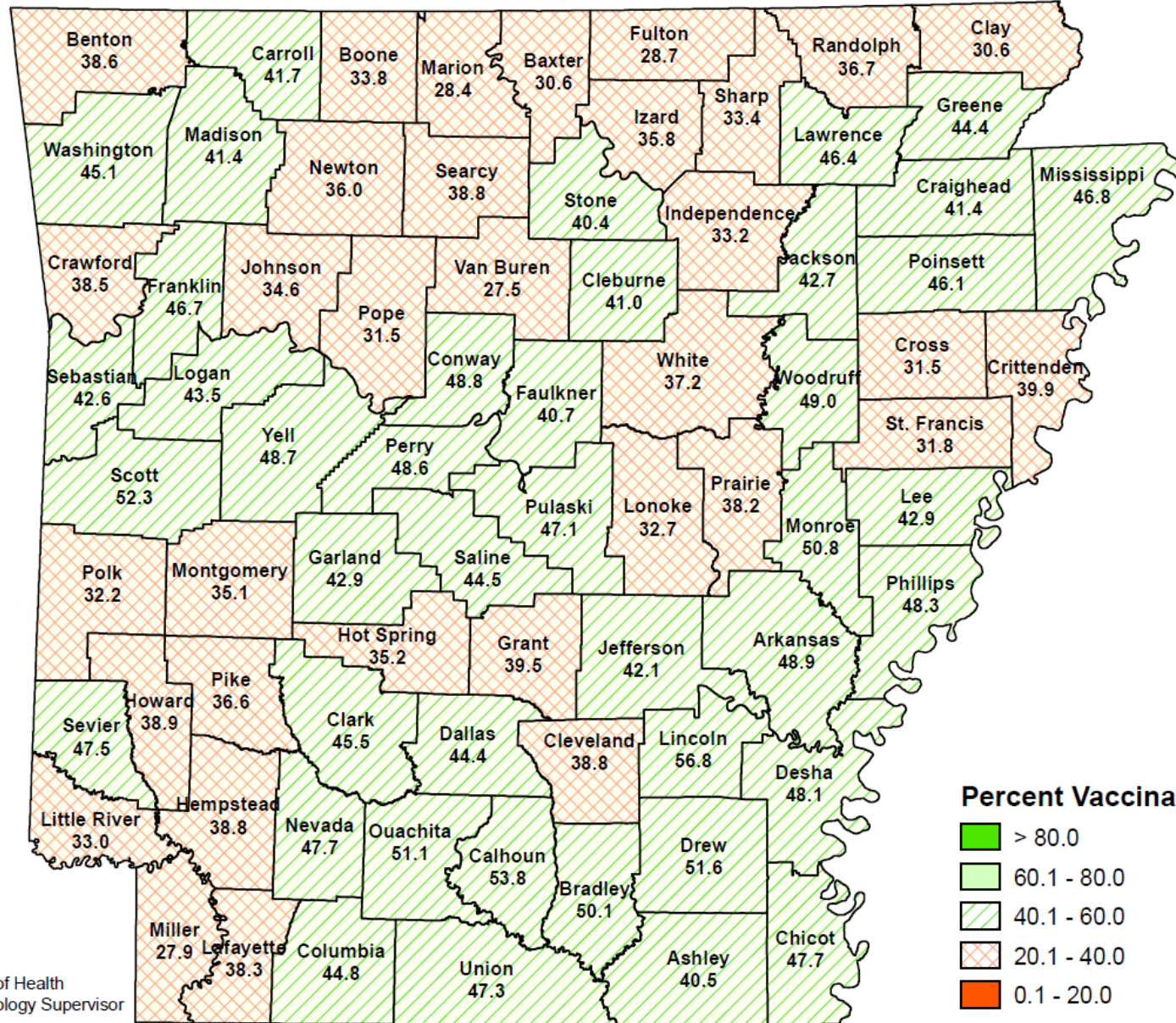
HPV: Human papillomavirus

*Vaccination Coverage in this map are for all Children age 9-10 Years on March 29, 2024

** Counties with patients count less than 10 are suppressed



Vaccination Coverage per County for Adolescents Age 11- 14 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Percent Vaccinated

- > 80.0
- 60.1 - 80.0
- 40.1 - 60.0
- 20.1 - 40.0
- 0.1 - 20.0

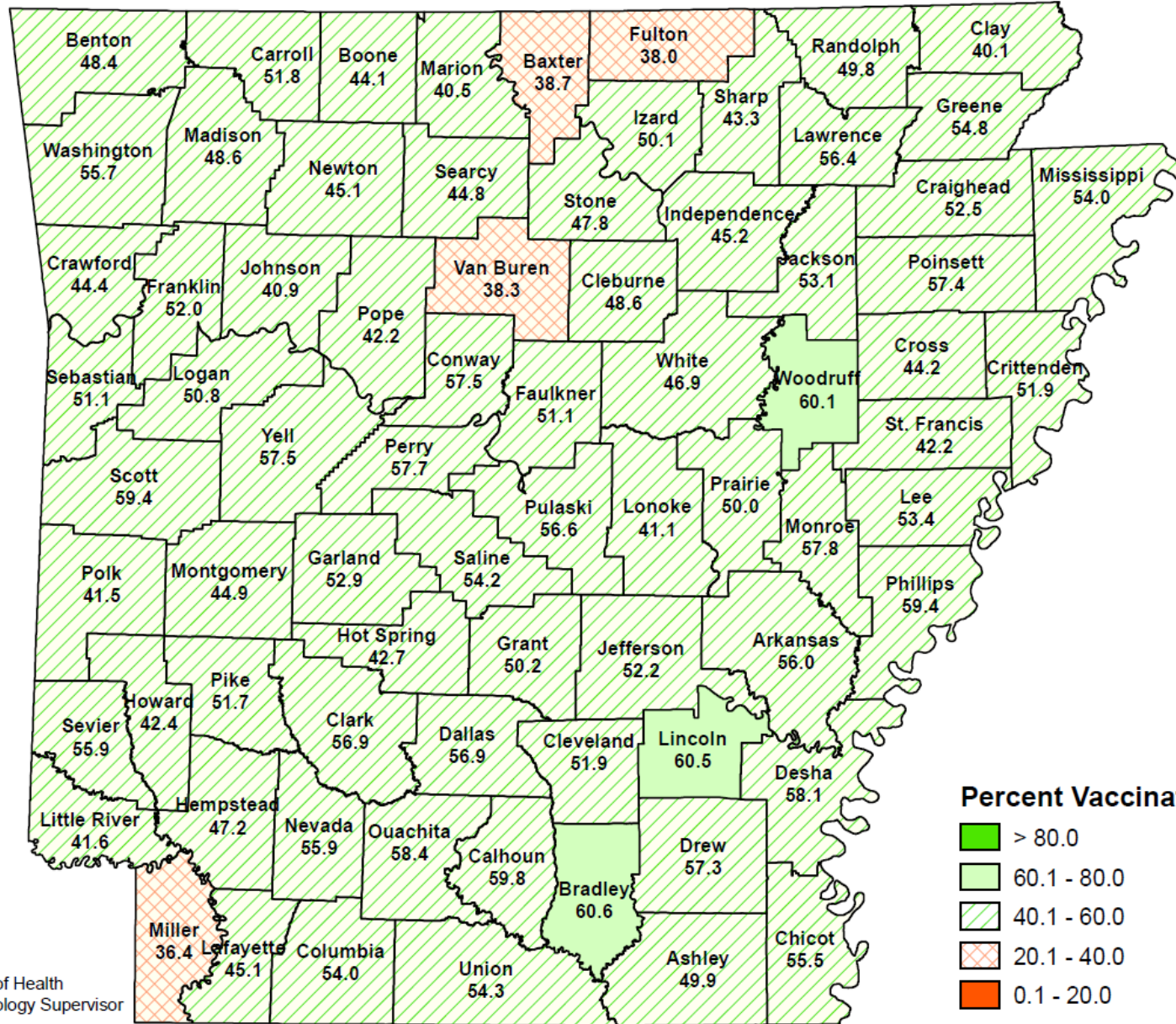
Date: April 4, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

HPV: Human papillomavirus

*Vaccination Coverage in this map are for all Adolescents age 11- 14 Years on March 29, 2024



Vaccination Coverage per County for Adolescents Age 11- 18 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Percent Vaccinated

- > 80.0
- 60.1 - 80.0
- 40.1 - 60.0
- 20.1 - 40.0
- 0.1 - 20.0

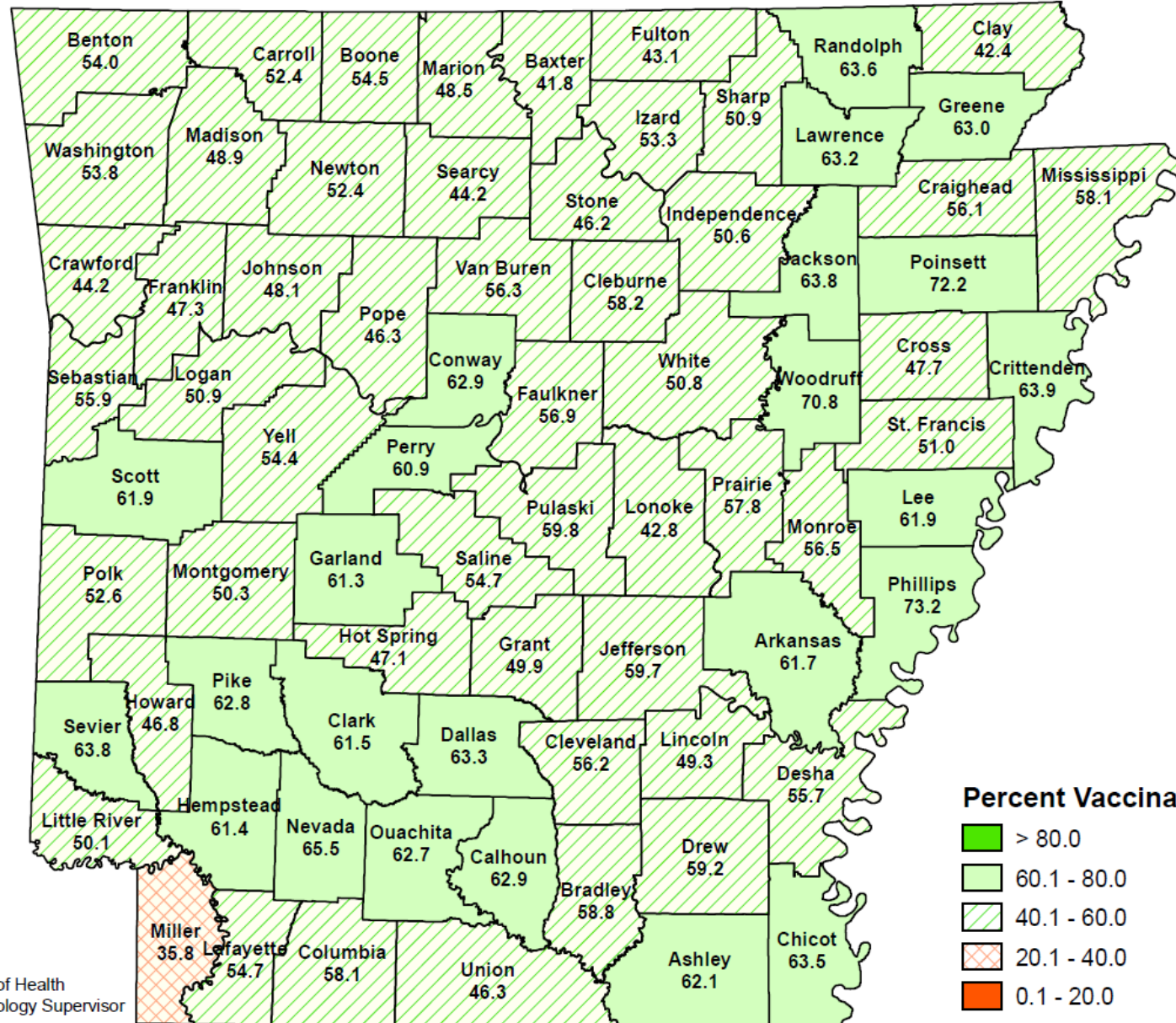
Date: April 4, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

HPV: Human papillomavirus

*Vaccination Coverage in this map are for all Adolescents age 11- 18 Years on March 29, 2024



Vaccination Coverage per County for Persons Age 19- 26 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Percent Vaccinated

- > 80.0
- 60.1 - 80.0
- 40.1 - 60.0
- 20.1 - 40.0
- 0.1 - 20.0

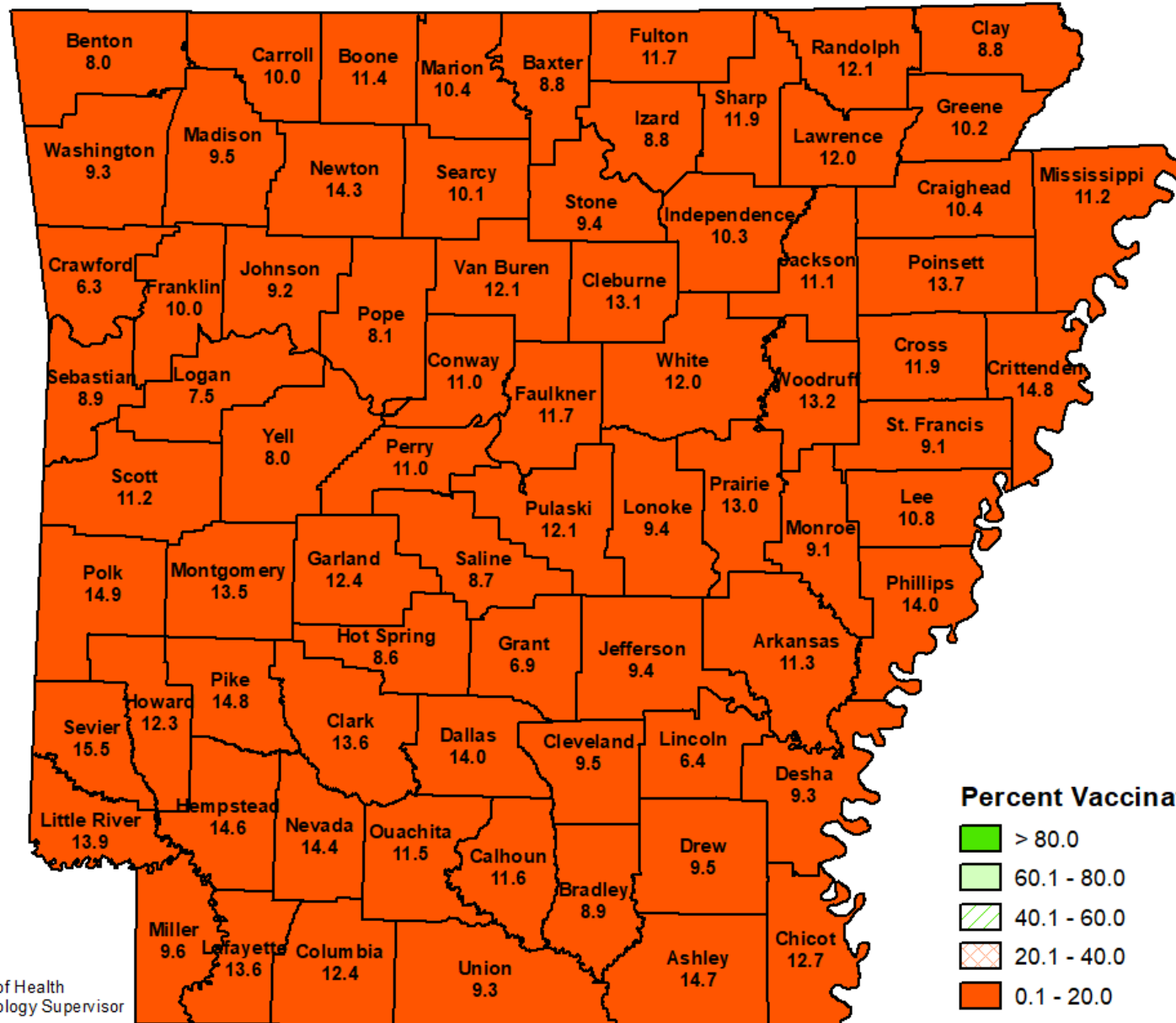
Date: April 4, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

HPV: Human papillomavirus

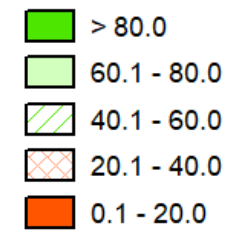
*Vaccination Coverage in this map are for all Persons age 19- 26 Years on March 29, 2024



Vaccination Coverage per County for Persons Age 27- 45 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Percent Vaccinated



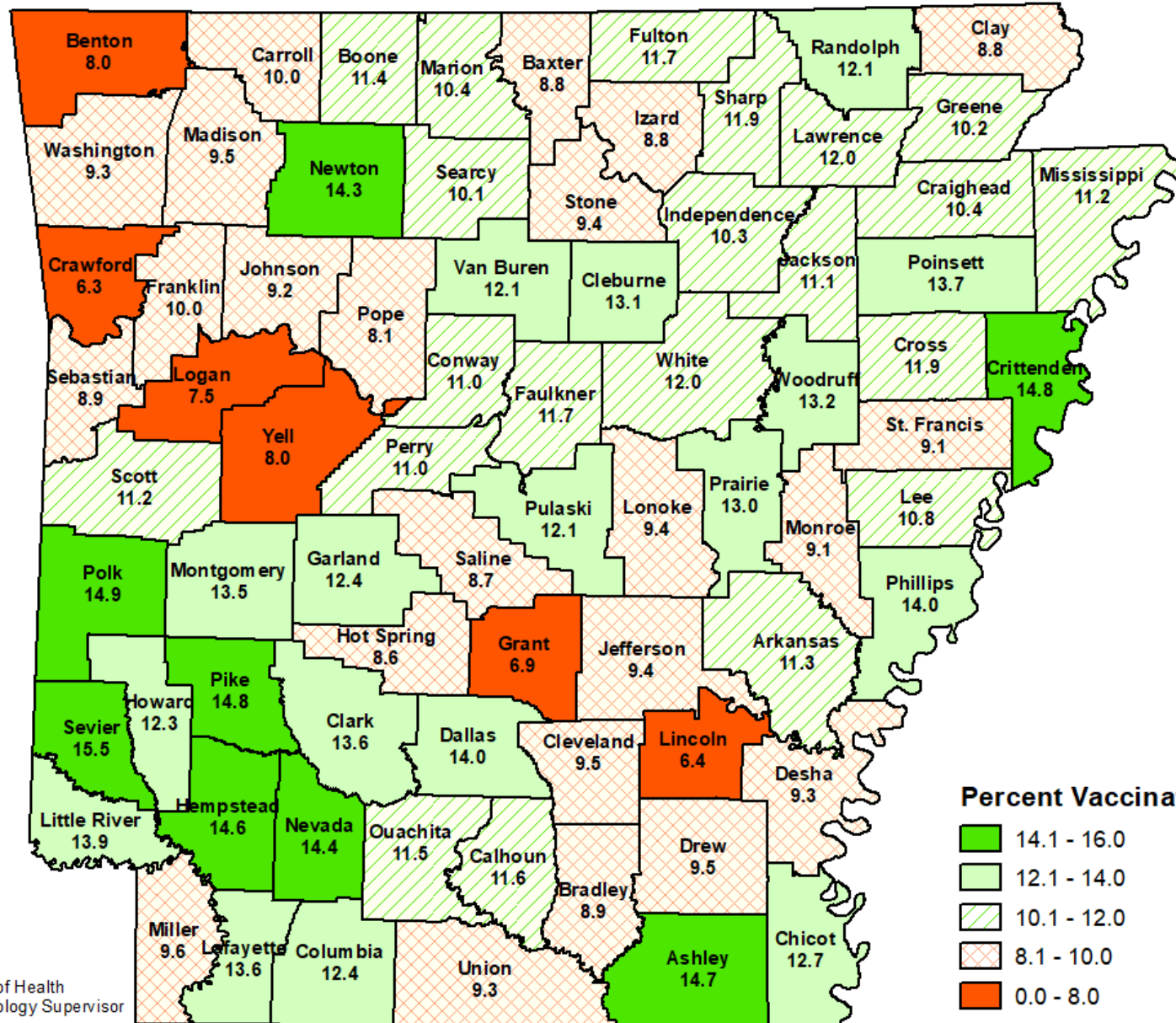
Date: April 9, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

HPV: Human papillomavirus

*Vaccination Coverage in this map are for all Persons age 27- 45 Years on March 29, 2024



Vaccination Coverage per County for Persons Age 27- 45 Years With 1 or More HPV Vaccine, Arkansas, 2024*



Percent Vaccinated

- 14.1 - 16.0
- 12.1 - 14.0
- 10.1 - 12.0
- 8.1 - 10.0
- 0.0 - 8.0

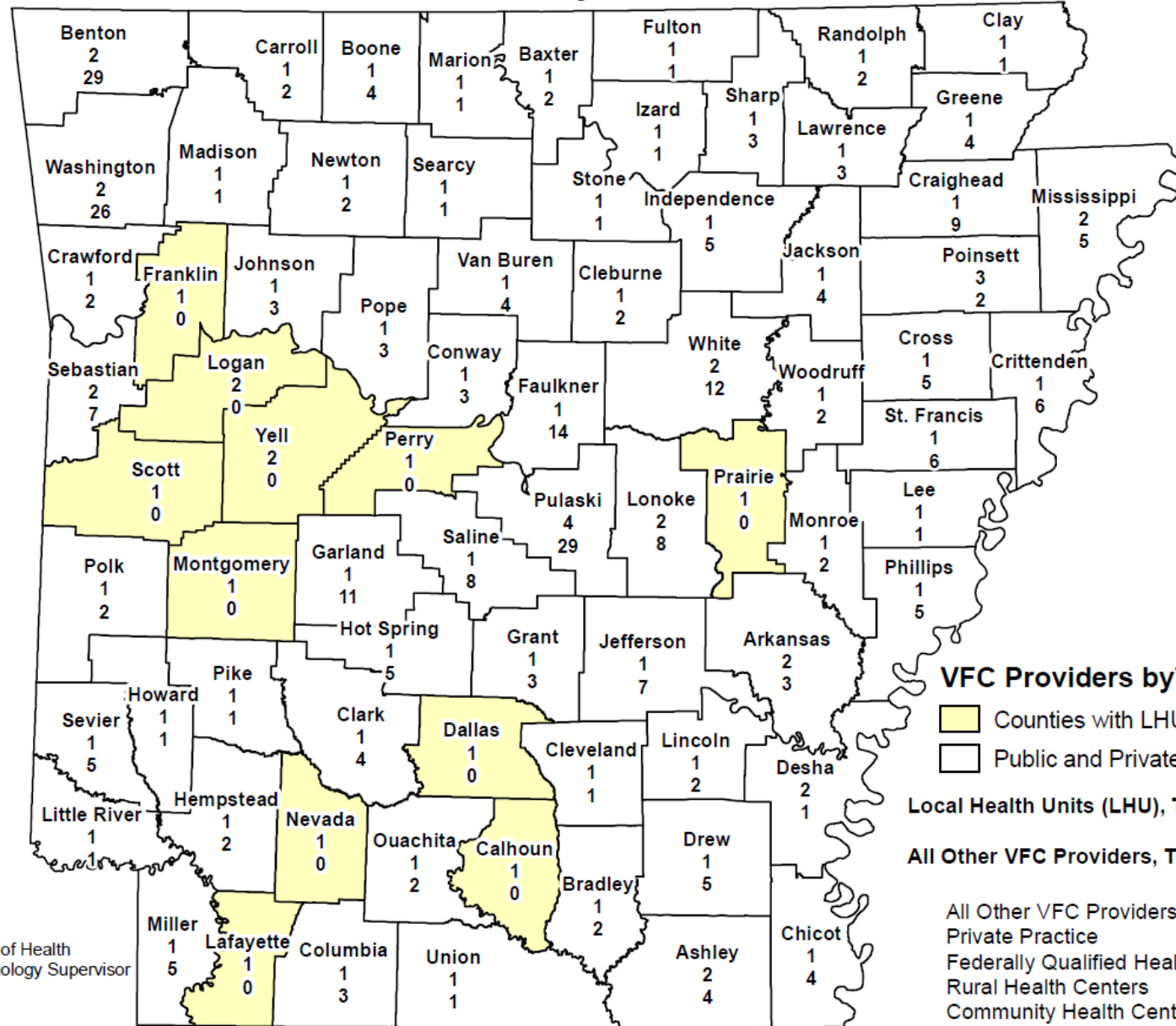
Date: April 9, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor

HPV: Human papillomavirus

*Vaccination Coverage in this map are for all Persons age 27- 45 Years on March 29, 2024



Vaccines for Children (VFC) Immunization Providers by County Arkansas, April 2024



VFC Providers by Type

- Counties with LHUs Providers Only
- Public and Private VFC Providers

Local Health Units (LHU), Total = 91 (Top #)

All Other VFC Providers, Total = 306 (Bottom #)

All Other VFC Providers include:

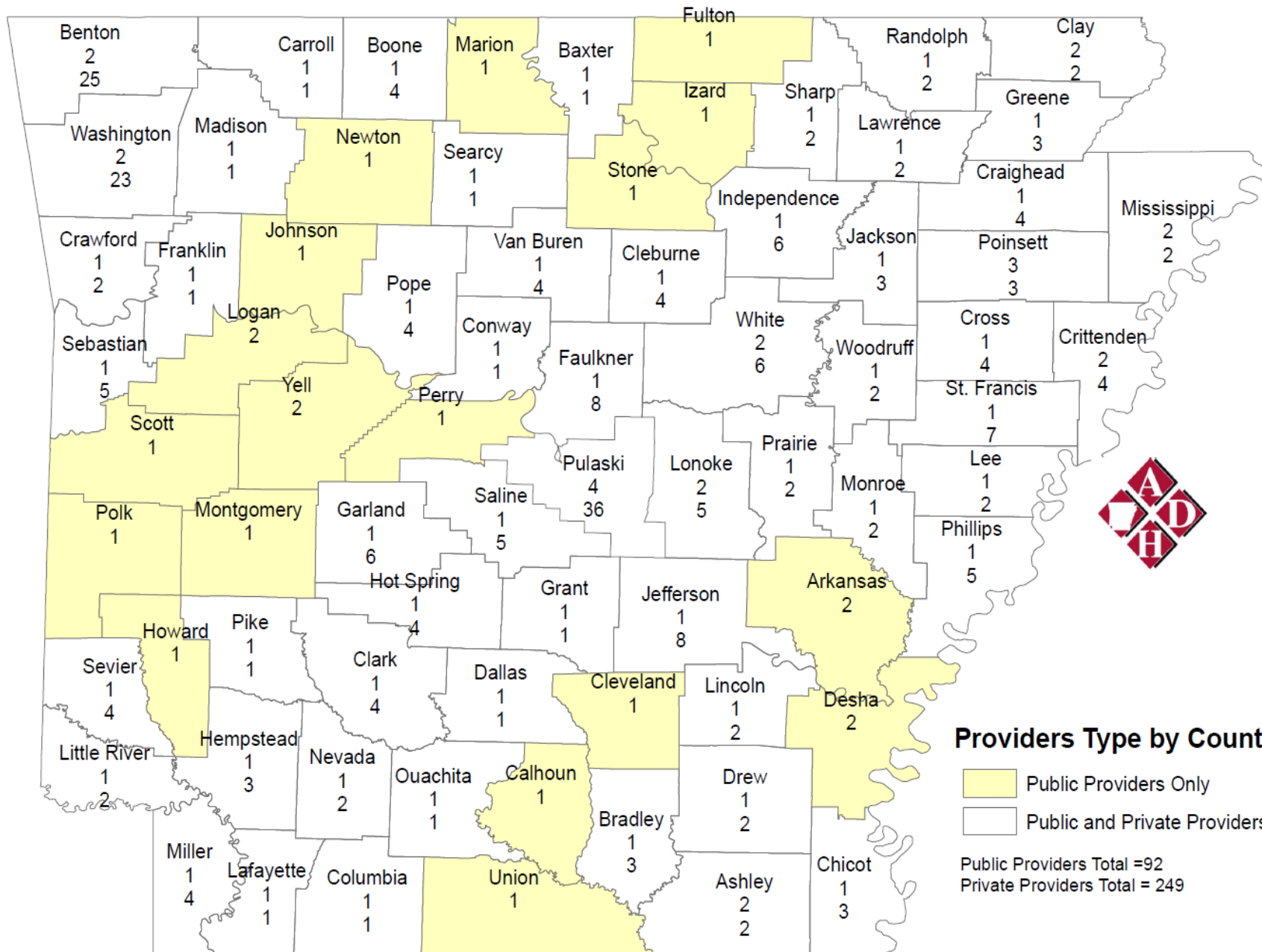
- Private Practice
- Federally Qualified Health Centers
- Rural Health Centers
- Community Health Centers
- School Clinics
- Pharmacies
- Hospitals (Newborn HepB, RSV Vaccines Only)



Date: April 5, 2024
 Source: Arkansas Department of Health
 Author: Haytham Safi, Epidemiology Supervisor



Public and Private Vaccine for Children (VFC) Providers by County, Arkansas 2015



Providers Type by County

- Public Providers Only
- Public and Private Providers

Public Providers Total = 92
Private Providers Total = 249



Defining Associated and Attributable HPV-Cancers US, 2016-2020



HPV-Associated

- Cancers at anatomic sites with cell types in which HPV DNA frequently is found

HPV-Attributable

- Cancers that are probably caused by HPV

Sex	HPV-Associated Cancers (Average number of cancers per year in sites where HPV is often found)	Percentage probable caused by any HPV type ^a	HPV-Attributable Cancers (Estimated number probably caused by any HPV type ^a)
Female	25,689	84%	21,500
Male	21,022	74%	15,500

^a HPV types detected in genotyping study; most were high-risk HPV types known to cause cancer. Estimates were rounded to the nearest 100. Estimated counts might not sum to total because of rounding.

Source: CDC HPV and Cancer, <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>

HPV-Associated and Estimated Attributable Cancers US, 2016-2020



Cancer site	HPV-Associated Cancers (Average number of cancers per year in sites where HPV is often found)	Percentage probable caused by any HPV type ^a	HPV-Attributable Cancers (Estimated number probably caused by any HPV type ^a)
Cervix	11,869	91%	10,800
Vagina	875	75%	700
Vulva	4,238	69%	2,900
Penis	1,364	63%	900
Anus^b	7,560	91%	6,900
Female	5,150	93%	4,800
Male	2,410	89%	2,100
Oropharynx	20,805	70%	14,800
Female	3,557	63%	2,300
Male	17,248	72%	12,500
Total	46,711	79%	37,000

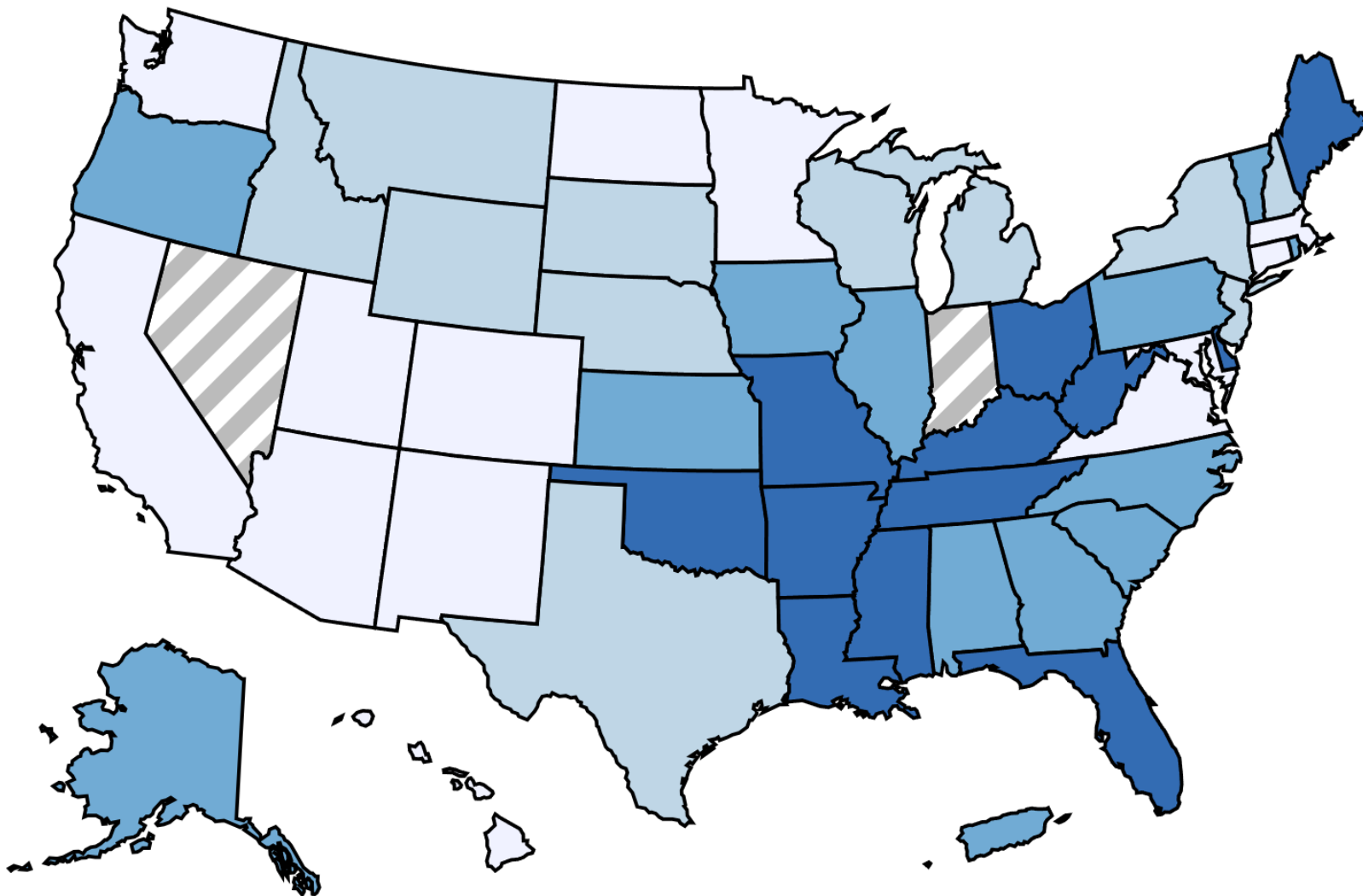
^a HPV types detected in genotyping study; most were high-risk HPV types known to cause cancer. Estimates were rounded to the nearest 100. Estimated counts might not sum to total because of rounding.






^b Includes anal and rectal squamous cell carcinomas.

Source: CDC HPV and Cancer, <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>

Age-Adjusted Incidence Rate of HPV-Associated Cancers (Combined)

US, 2016-2020



Age-Adjusted Incidence Rate per 100,000	
	8.6 - 11.6
	11.7 - 12.5
	12.6 - 13.7
	13.9 - 16.6
	No data

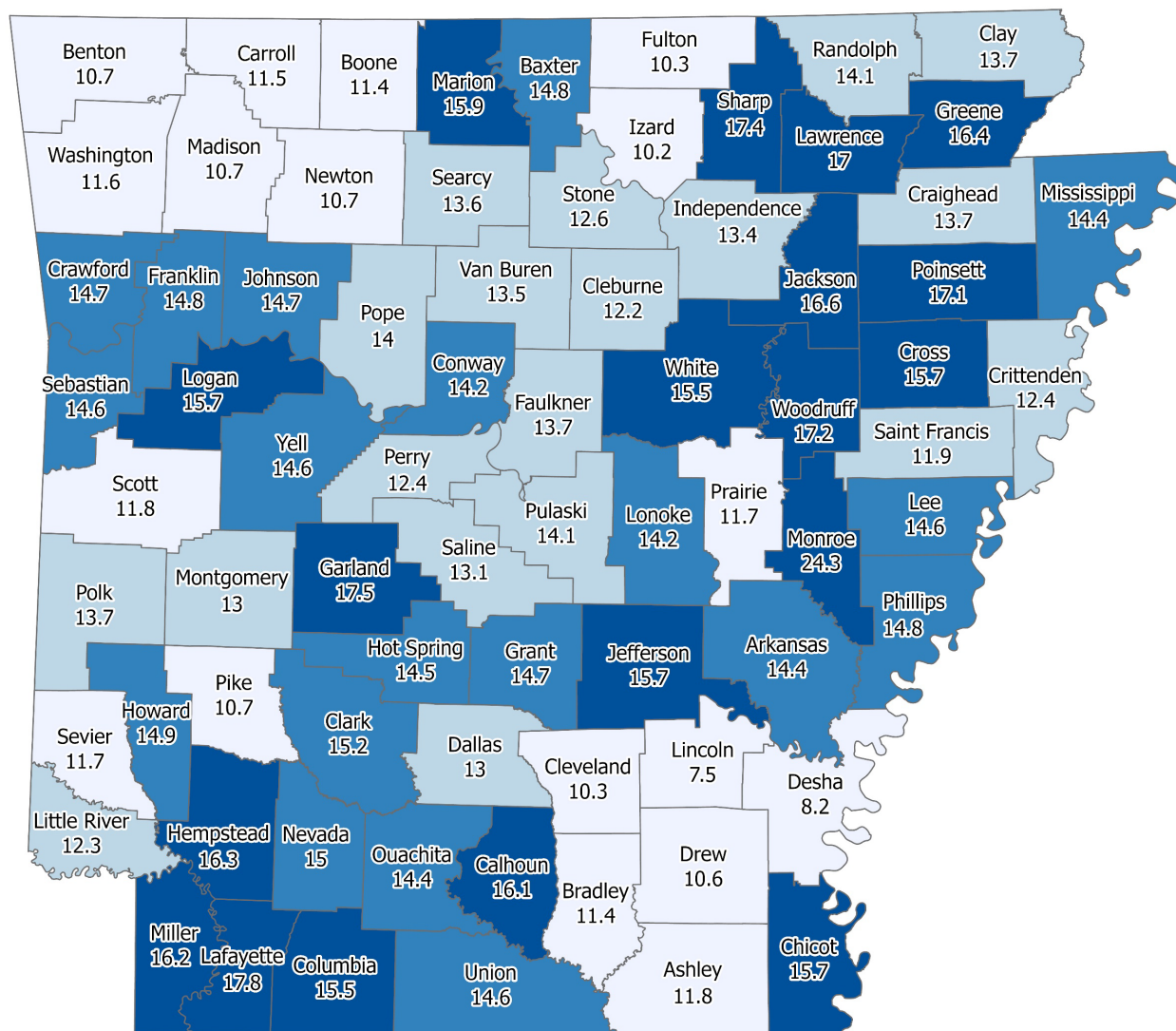
Arkansas Ranks 3rd Highest Age-Adjusted Incidence Rate for HPV-Associated Cancers

Area	Age-Adjusted Rate (95% CI)	Case Count
Kentucky	16.6 (16.1 - 17.1)	4,362
West Virginia	16.1 (15.3 - 16.9)	1,867
Arkansas	15.1 (14.5 - 15.7)	2,680
Florida	14.8 (14.5 - 15.0)	20,535
Oklahoma	14.5 (14.0 - 15.0)	3,178

Includes Puerto Rico. Nevada and Indiana did not meet USCS publication criteria.

Source: United States Cancer Statistics (USCS) Data Visualizations

Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers Arkansas, 2001-2020

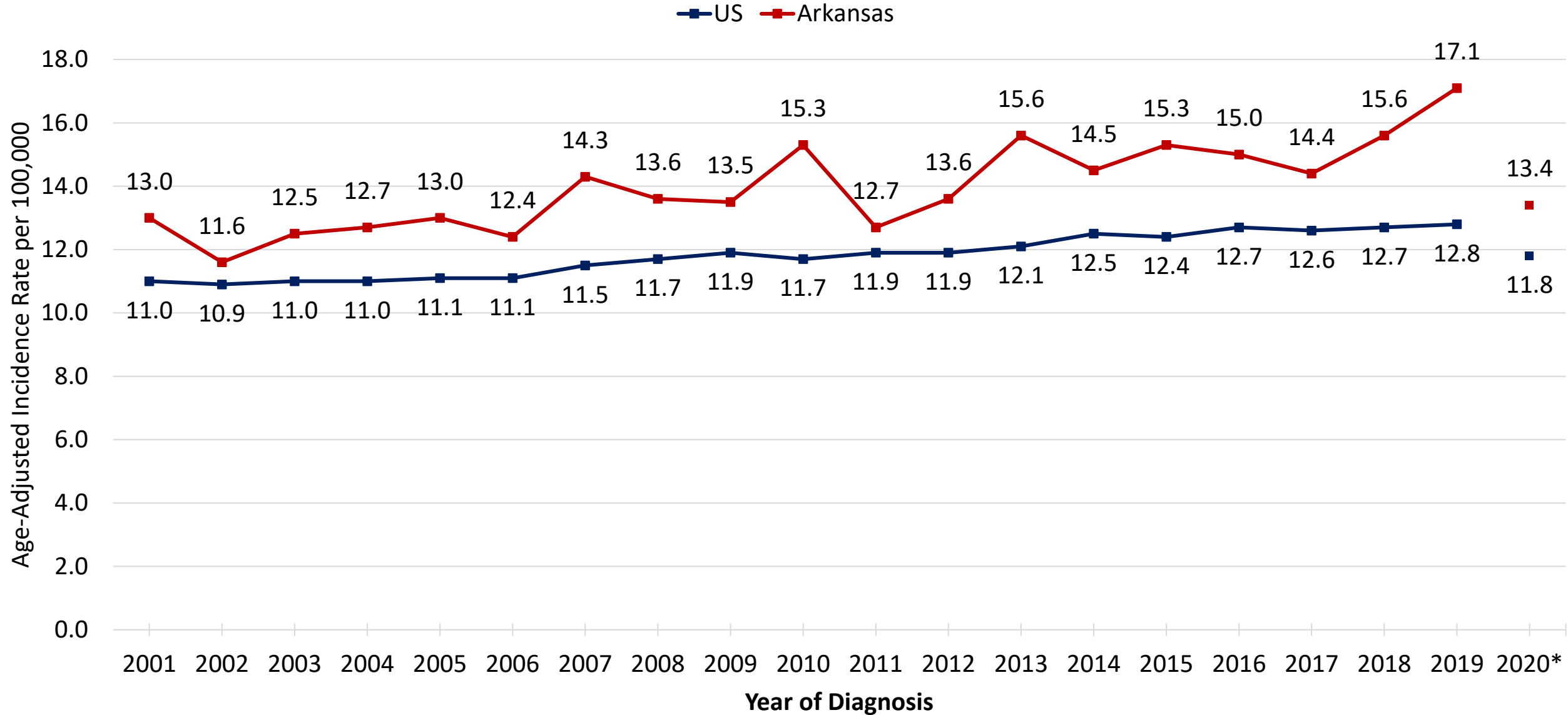


Age-Adjusted Incidence Rate per 100,000	
	7.5 – 11.8
	11.9 – 14.1
	14.2 – 15.4
	15.5 – 24.3

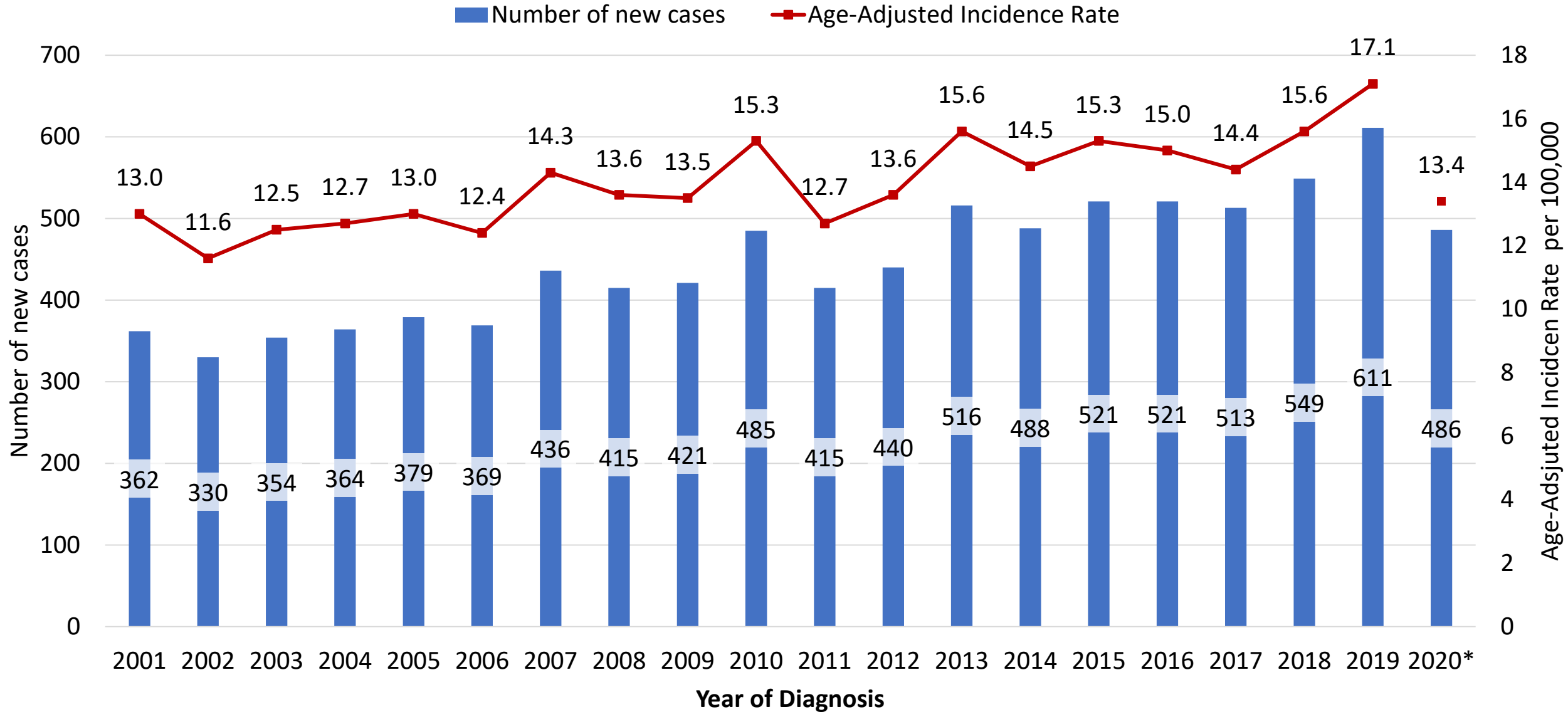
Map created by: Allen Lunnie, 4/16/2024

Data source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers by Year of Diagnosis, US and Arkansas, 2001 - 2020

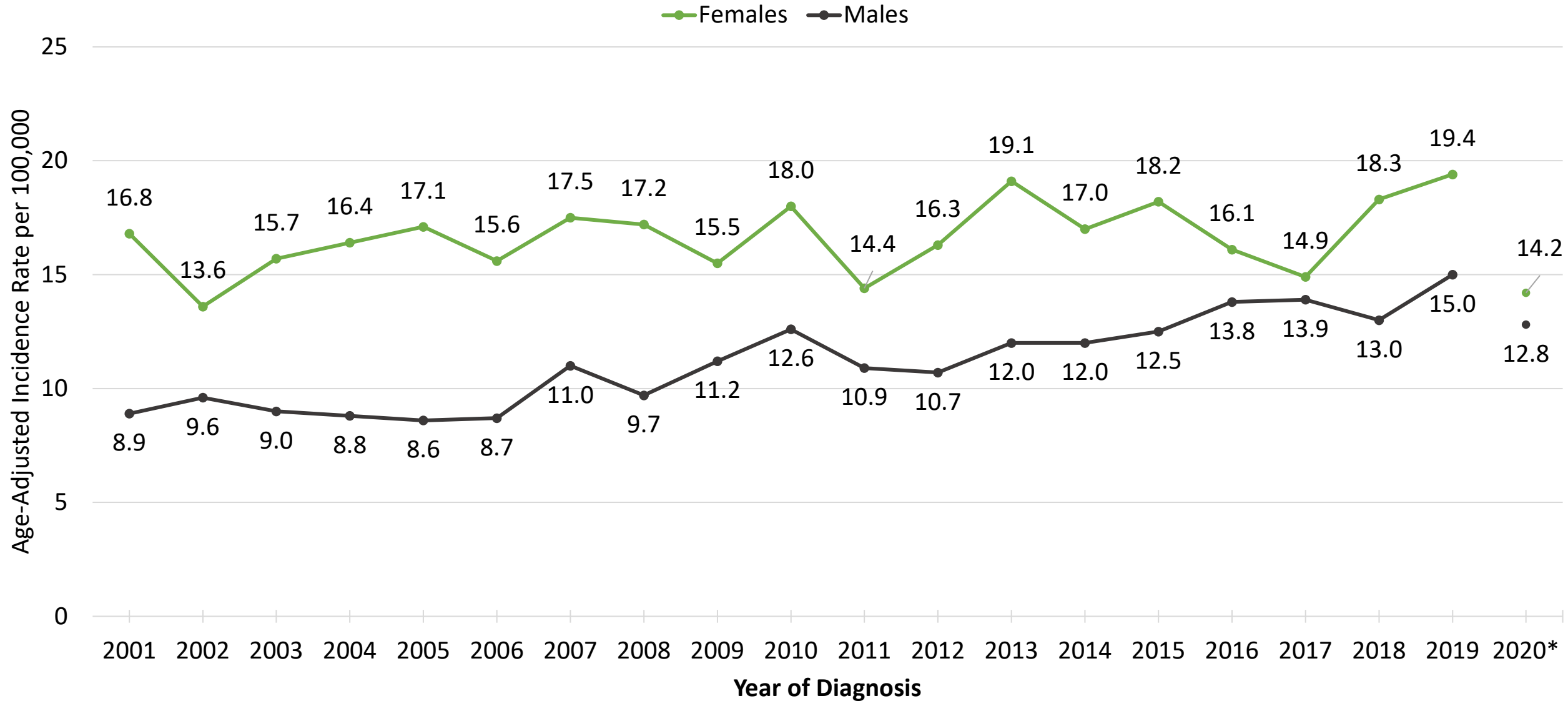


Number of New Cases and Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers by Year of Diagnosis, Arkansas, 2001 - 2020



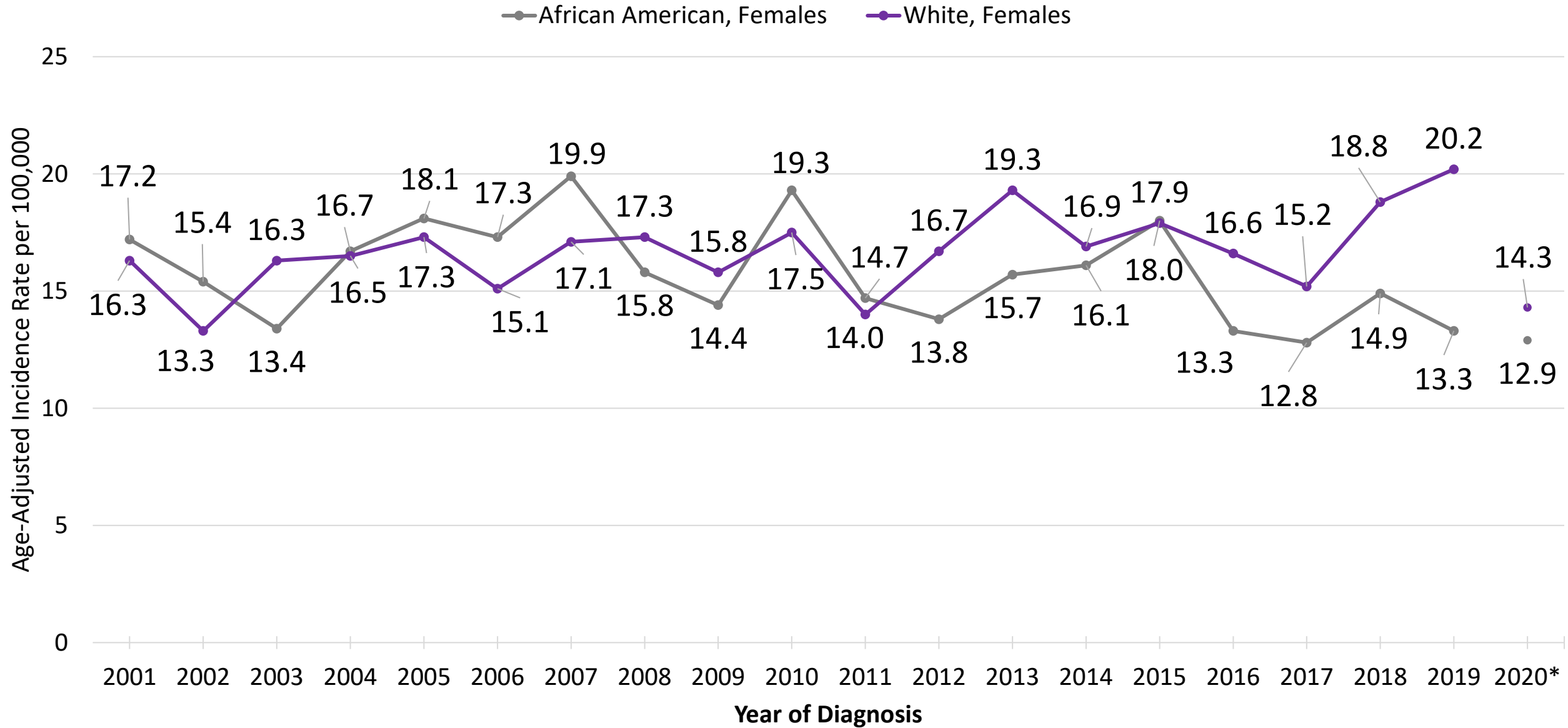
Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers by Year of Diagnosis and Sex, Arkansas, 2001 - 2020



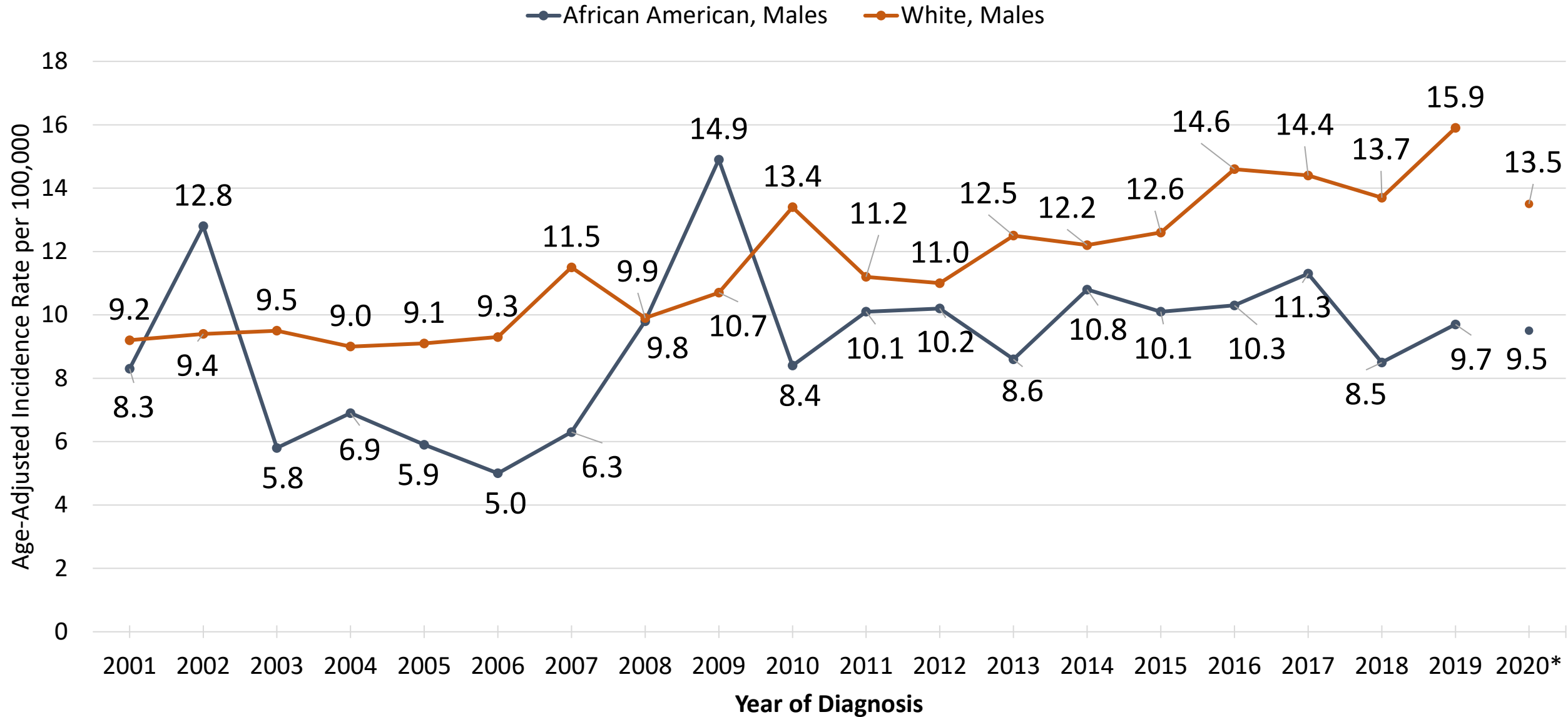
Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers Among Females by Year of Diagnosis and Race, Arkansas, 2001 - 2020



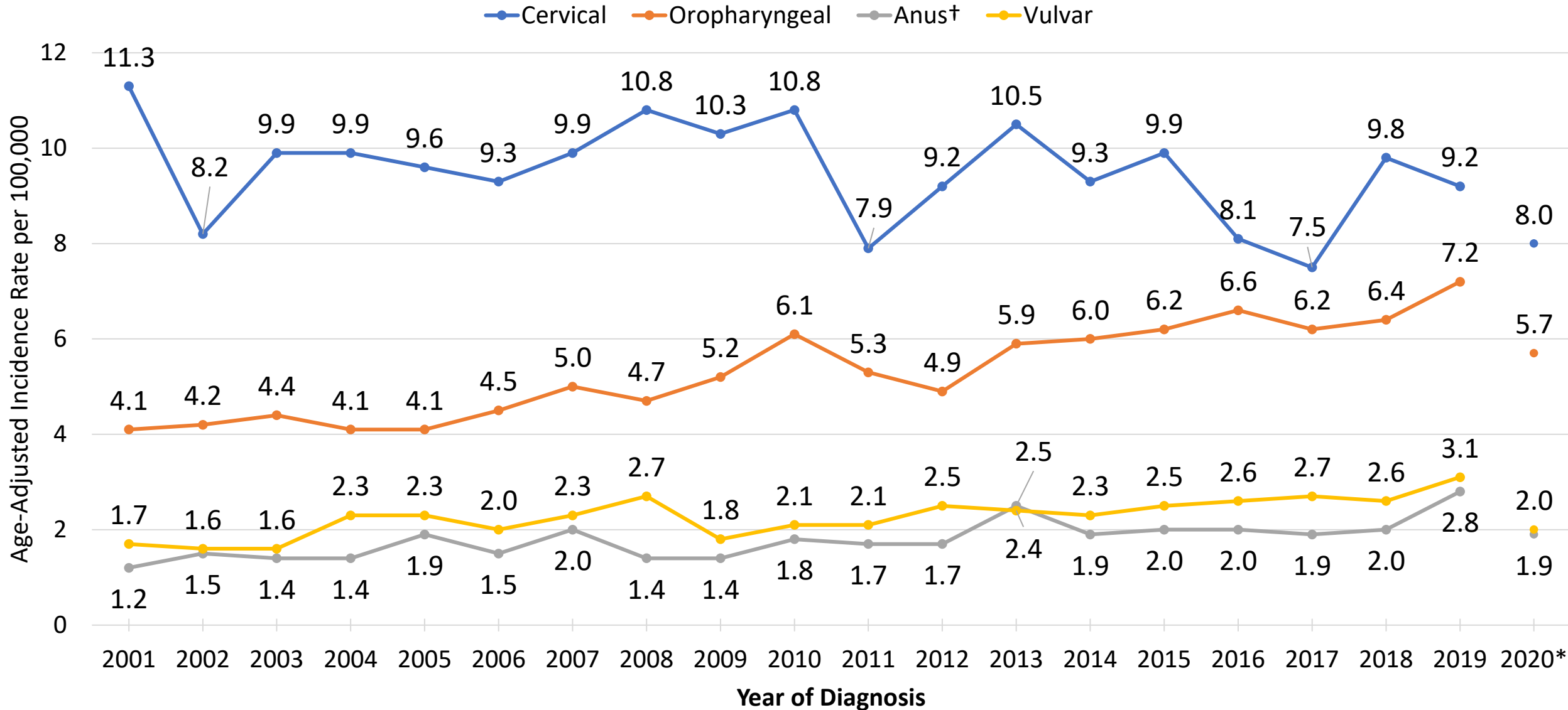
Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Age-Adjusted Incidence Rate of Combined HPV-Associated Cancers Among Males by Year of Diagnosis and Race, Arkansas, 2001 - 2020



Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

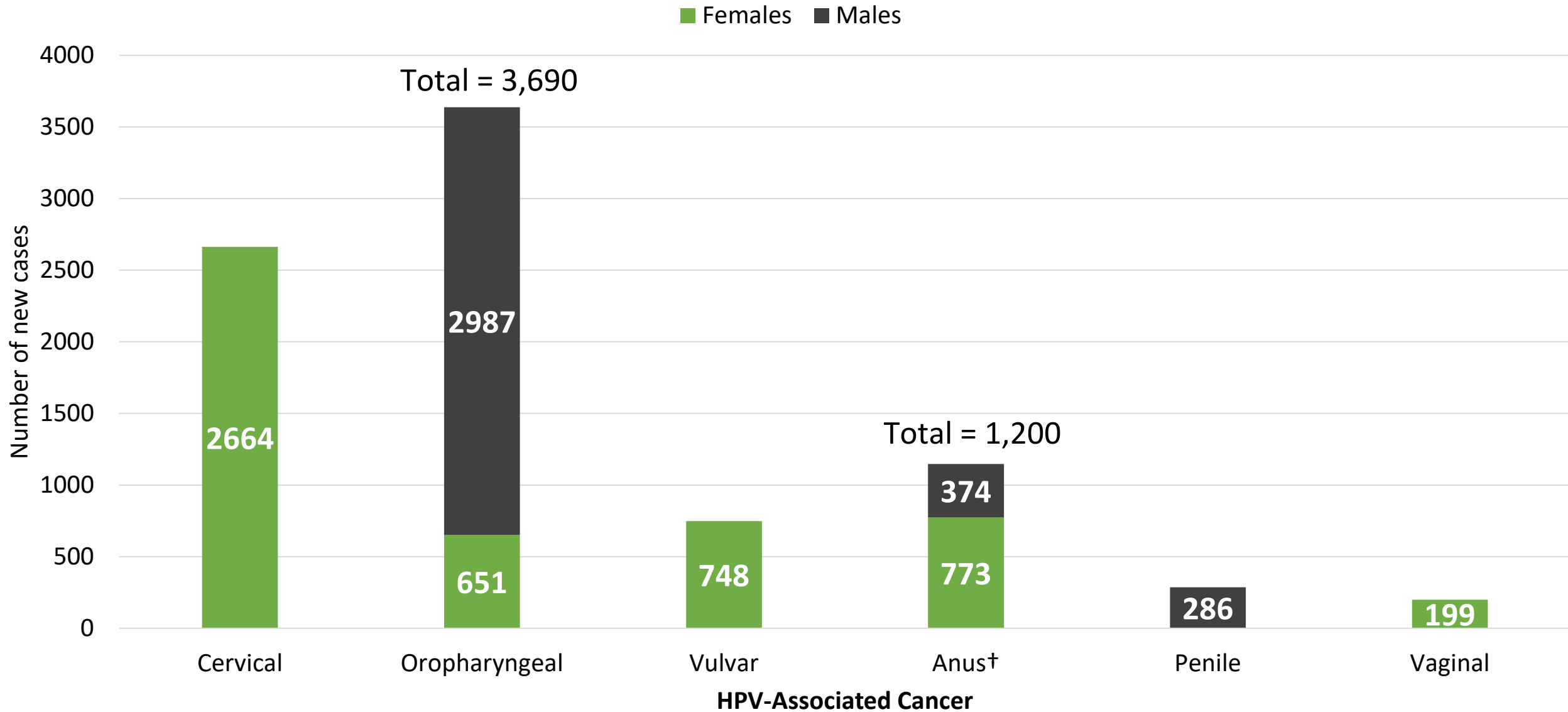
Age-Adjusted Incidence Rate of HPV-Associated Cancers by Year of Diagnosis, Arkansas, 2001 - 2020



†Anus includes anus and rectum. Vaginal and penile cancers age-adjusted incidence rates suppressed due to counts less than 10 by year

Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

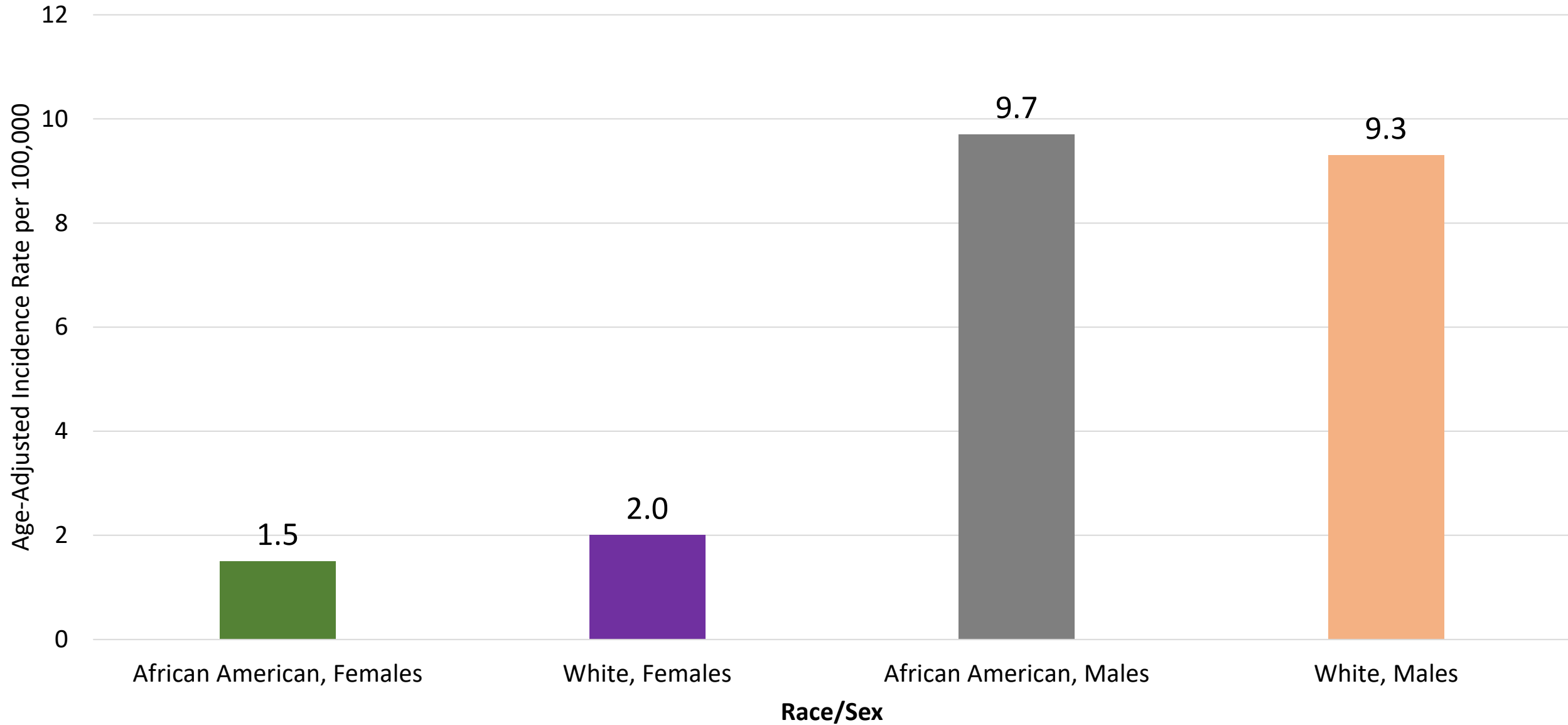
Number of New Cases of Combined HPV-Associated Cancers by Sex, Arkansas, 2001 - 2020



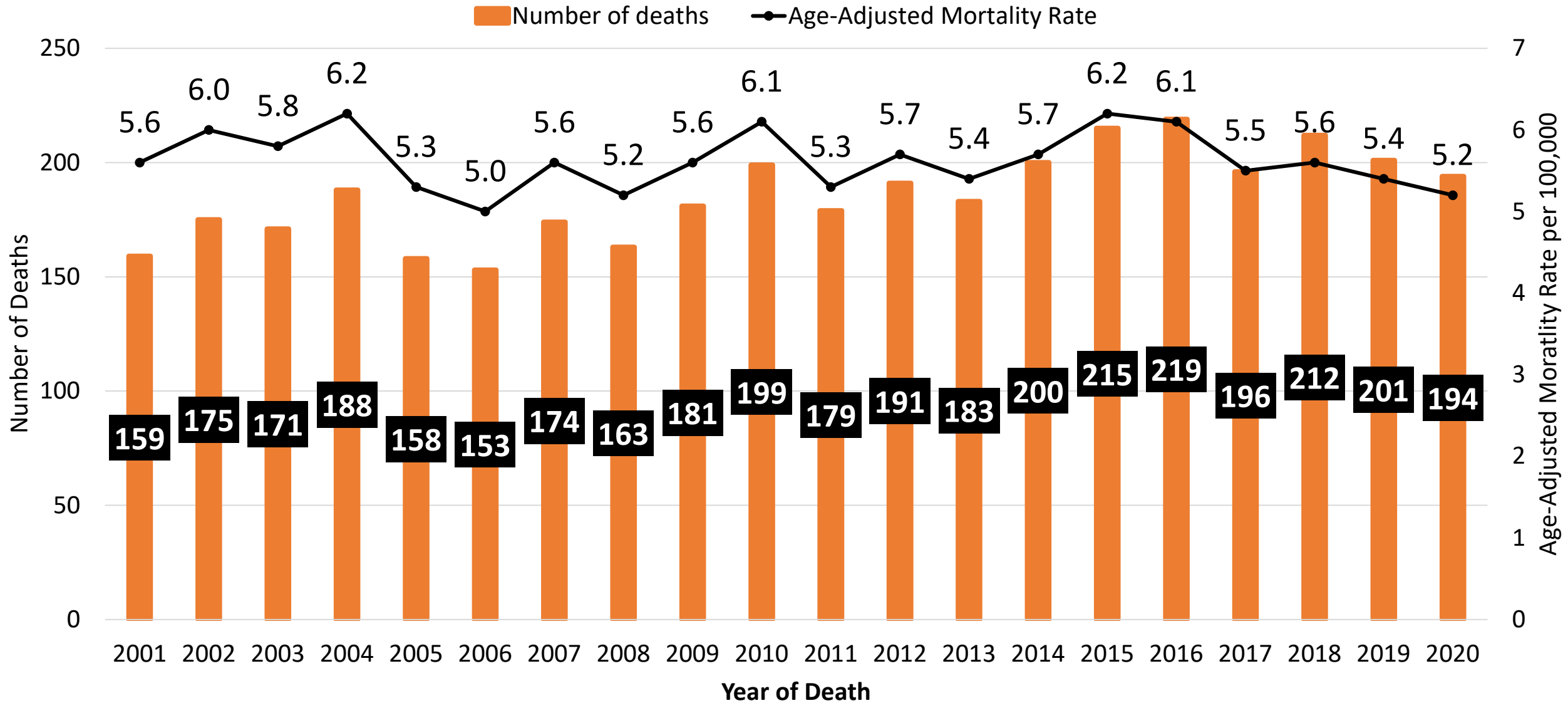
†Anus includes anus and rectum.

Data Source: National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Age-Adjusted Incidence Rate of HPV-Associated Oropharyngeal Cancer by Race/Sex, Arkansas, 2001 - 2020

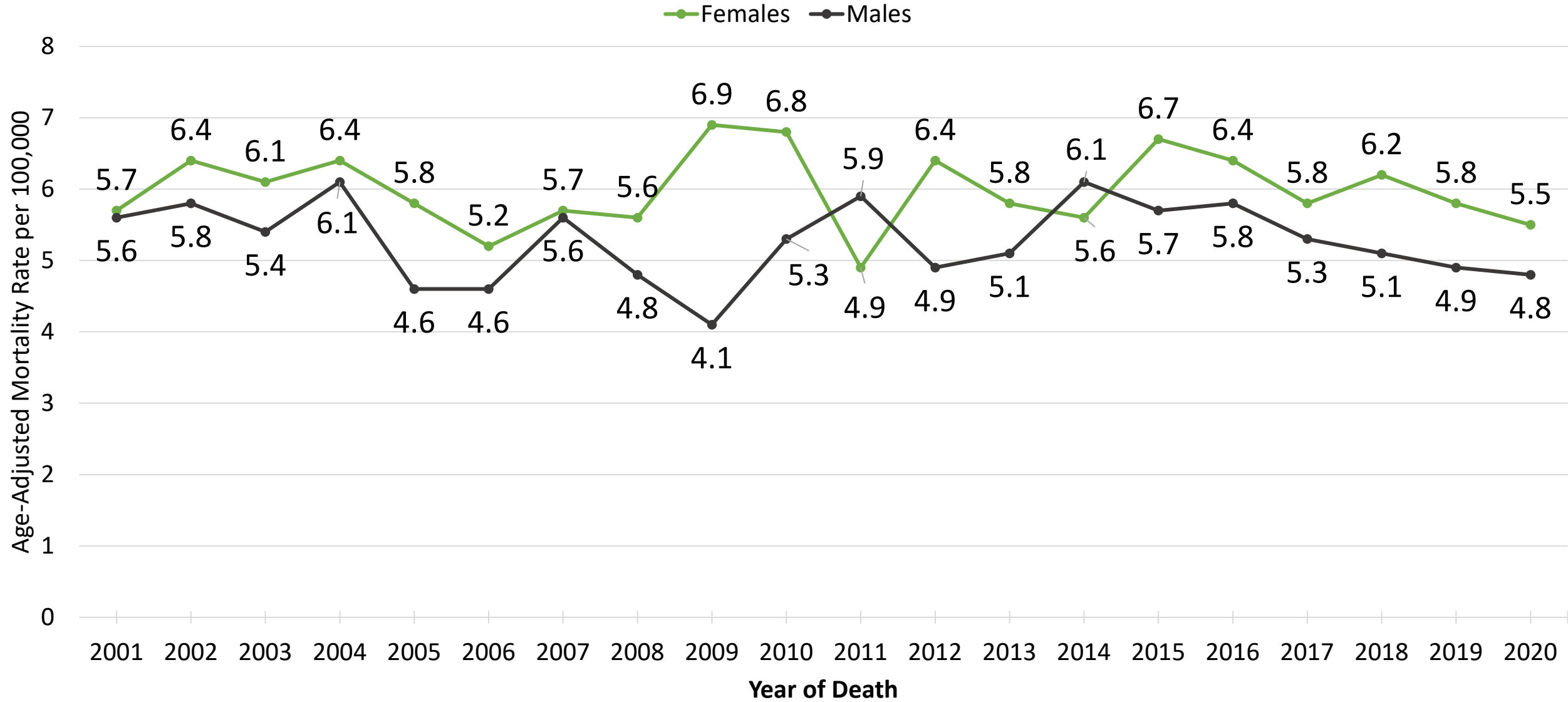


Number of New Deaths and Age-Adjusted Mortality Rate of Combined HPV-Associated Cancers by Year of Death, Arkansas, 2001 - 2020

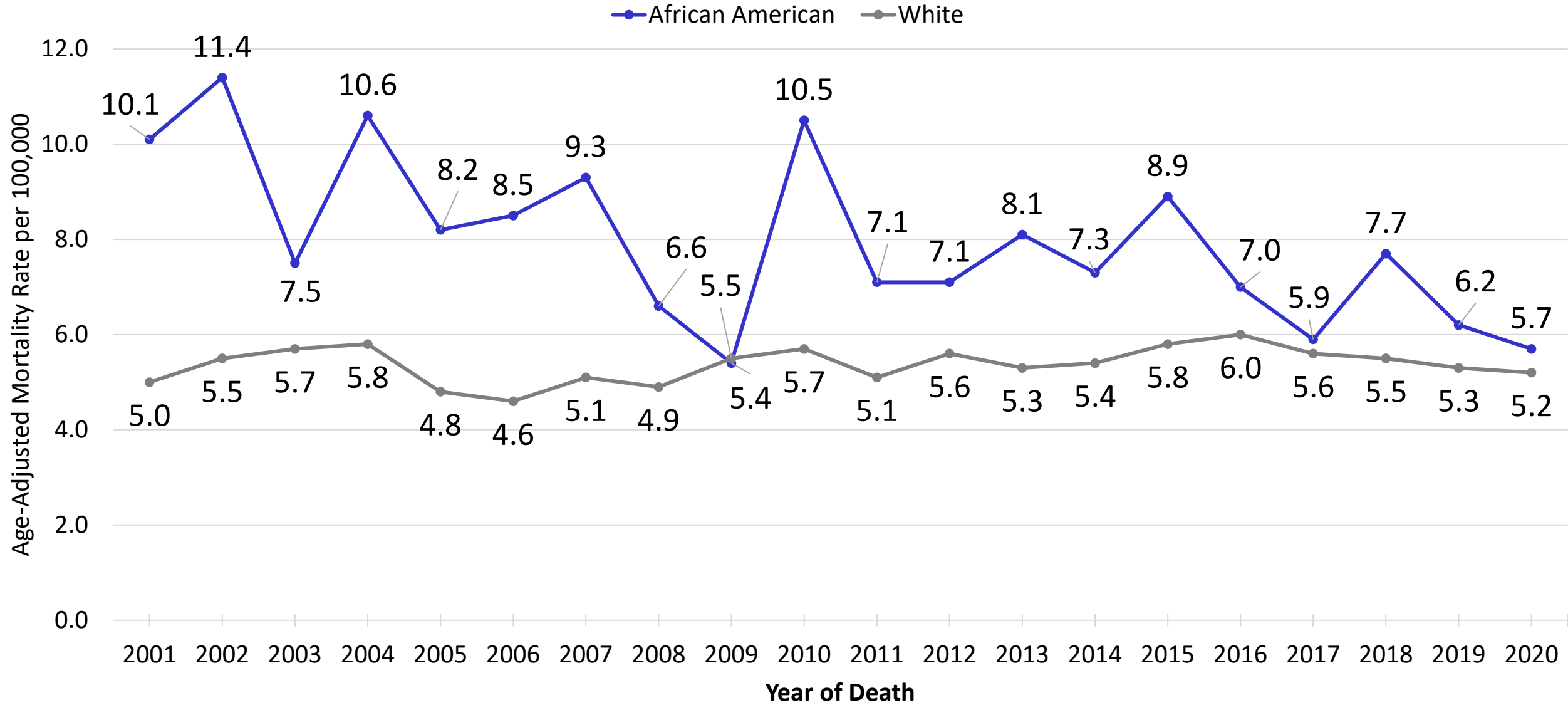


Data Source: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1990-2020) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released June 2022. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).

Age-Adjusted Mortality Rate of Combined HPV-Associated Cancers by Year of Death and Sex, Arkansas, 2001 - 2020

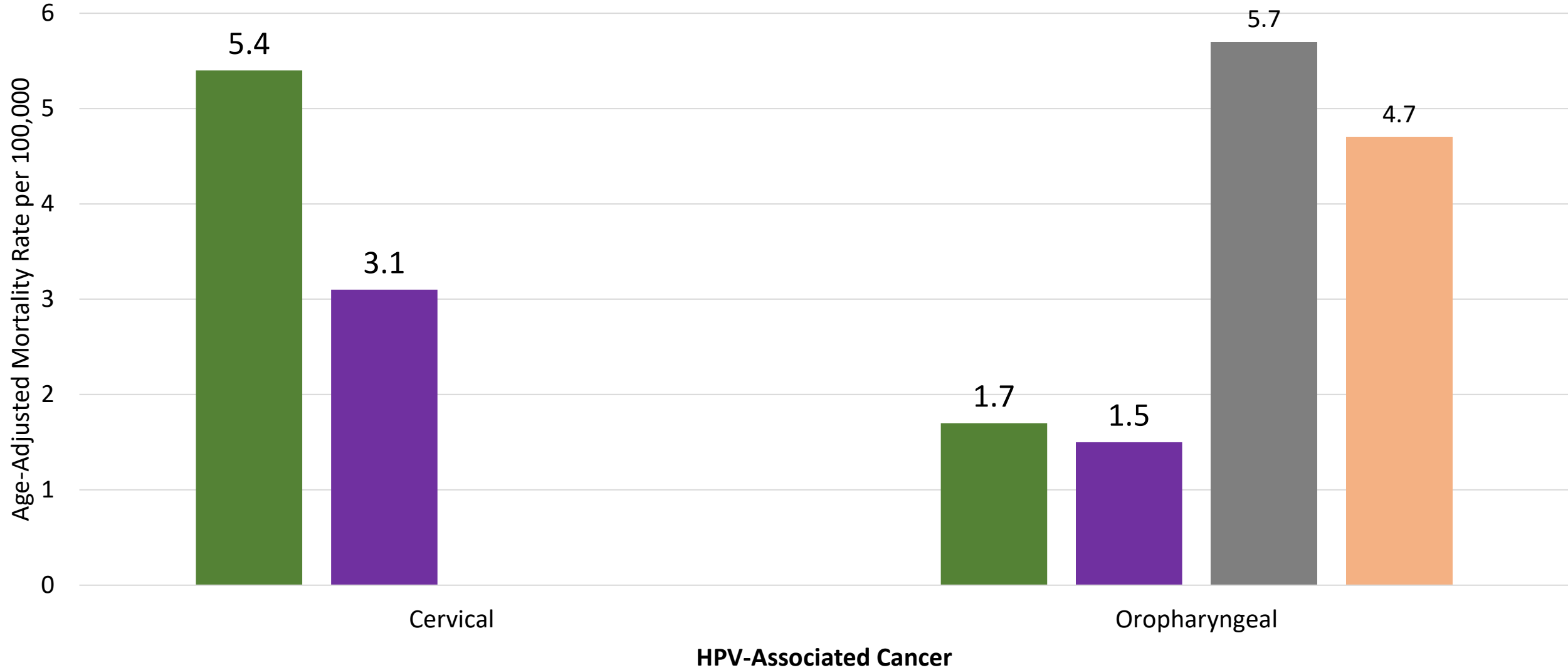


Age-Adjusted Mortality Rate of Combined HPV-Associated Cancers by Year of Death and Race, Arkansas, 2001 - 2020

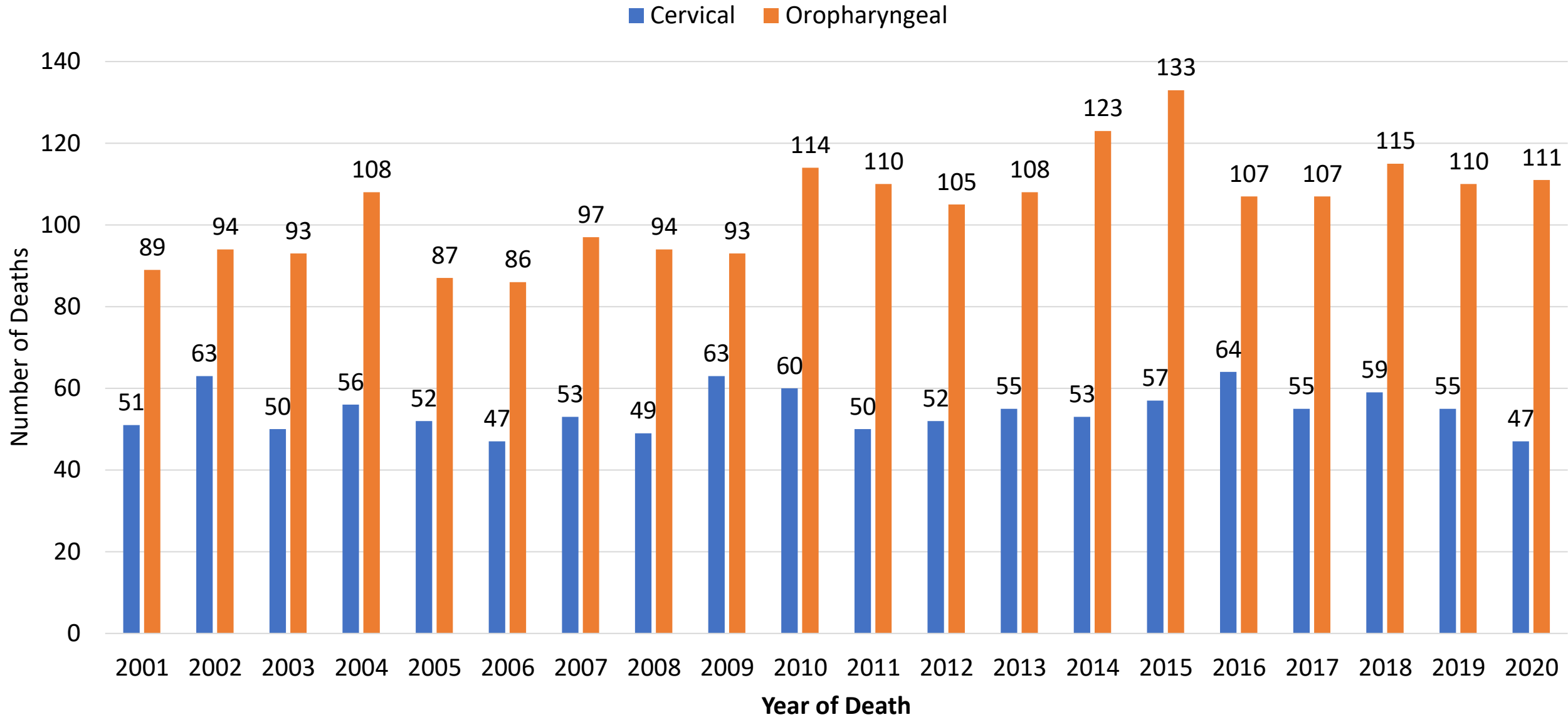


Age-Adjusted Mortality Rate of HPV-Associated **Cervical and Oropharyngeal** Cancers by Race/Sex, Arkansas, 2001-2020

■ African American, Females ■ White, Females ■ African American, Males ■ White, Males



Number of HPV-Associated Cervical and Oropharyngeal Cancer Deaths by Year, Arkansas, 2001-2020



Vaginal, penile, vulvar and anus HPV-associated cancers suppressed due to counts less than 16 by year.

Data Source: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1990-2020) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released June 2022. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).

HPV Knowledge Among Persons Aged 18-26 Years



- Fewer men vs women were knowledgeable
 - About HPV: 54% vs 80%
 - About HPV vaccine: 53% vs 79%
- 69% of men and 32% of women did not know HPV causes cervical cancer
- 85% of men and 78% of women did not know HPV causes oral cancer
- Fewer men (19%) than women (31.5%) received an HPV vaccine recommendation from a health care professional

Categories of Concern around HPV Vaccine



Type of Concern

Definition

- **Health** = Vaccine is not safe: health-related adverse effects/ serious reactions
- **Mandatory** = Forced vaccination, violation of parental rights
- **Ineffective** = Vaccine does not prevent HPV-associated cancer or HPV infection
- **Other Safety** = Inadequate or falsified safety monitoring
- **Government** = Government or group conspiracy or money-making/profit incentive
- **Big Pharma** = Deception or money-making incentive on part of pharmaceutical companies

Conversational Receptiveness



- The use of language to communicate one's willingness to thoughtfully engage with opposing views
 - Defined by the use of specific words and phrases
 - Strongly predicts conflict outcomes
-
- Yeomans M, Minson J, Collins H, Chen F, and Gino F. Conversational receptiveness: Improving engagement with opposing views. *Organizational Behavior and Human Decision Processes* 160 (2020) 131-148. <https://doi.org/10.1016/j.obhdp/2020.03.011>

Acknowledge Understanding

*“I see your point...”
and “I understand...”*

Make Positive Statements

*“Yes” and “right,”
not “no” and “wrong”*

Conversational Receptiveness

Find Points of Agreement

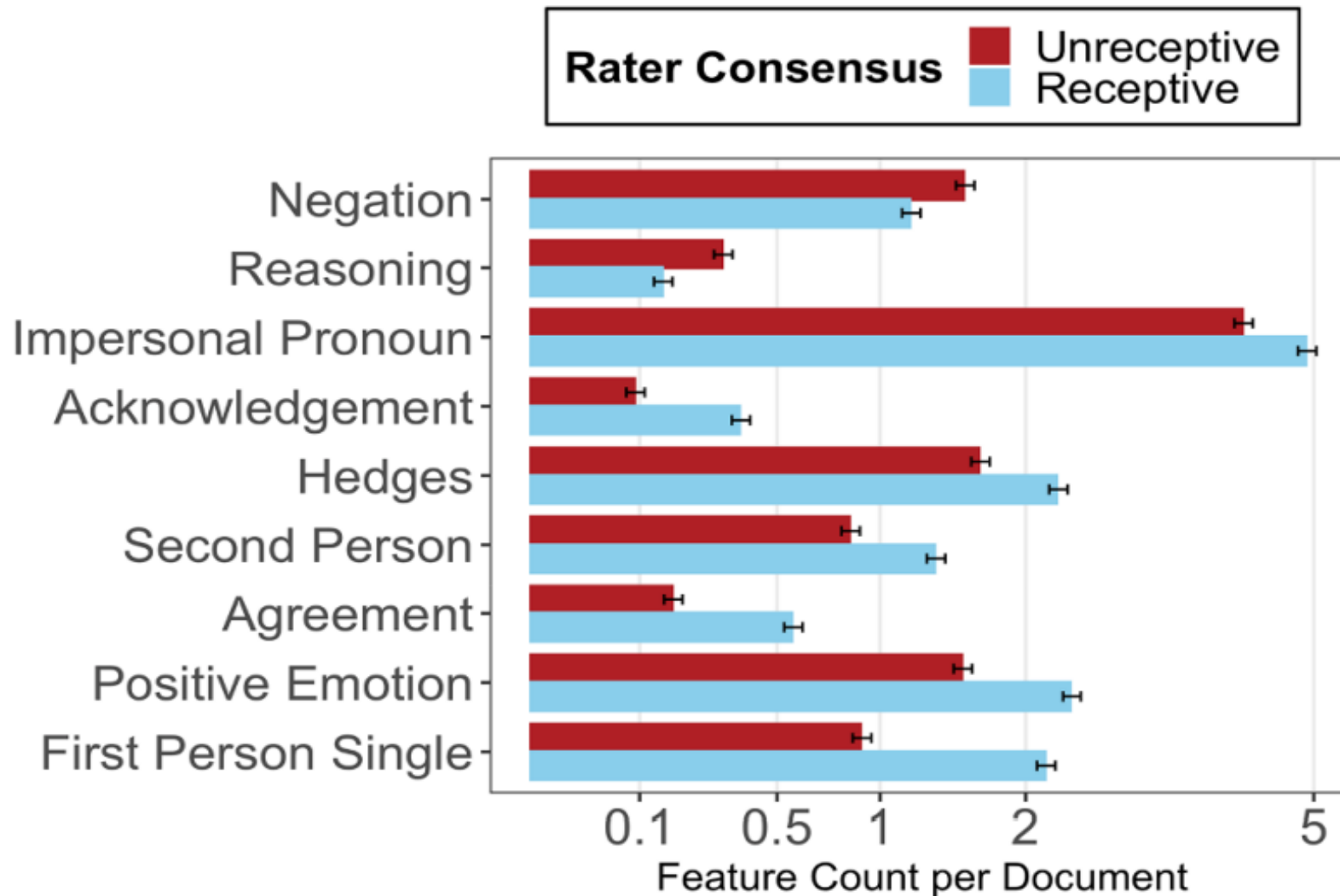
*“I agree” and
“you’re right”*

Hedge to Soften Claims

*“Somewhat”
and “might”*

Adapted from: Yeomans, M., Minson, J., Collins, H., Chen, F., & Gino, F. (2020). Conversational receptiveness: Improving engagement with opposing views. *Organizational Behavior and Human Decision Processes*, 160, 131-148.

Features of Receptive Language



Conversational Receptiveness: Expressing Engagement with Opposing Views



- Julia A. Minson, Harvard Kennedy School
- Mike Yeomans, Imperial College London
- Receptiveness to Opposing Views: The willingness to access, consider, and evaluate supporting and opposing views in a relatively impartial manner.

<https://youtu.be/V7bhiSmRpxk>

Conversational Receptiveness: Expressing Engagement with Opposing Views



- Notre Dame Deloitte Center for Ethical Leadership

<https://ethicaleadership.nd.edu/news/use-this-receptiveness-recipe-to-improve-your-next-disagreement/>

Affirm: Validate something the parent has said

Bridge: Start with an “and” and not a “but”; Use “and”, “The way I see it...”, “I also think...”

Connect: Tell your story

Using Conversational Receptiveness to Enhance Doctor-Patient Interactions



- The Yale Customer Insights Conference 2022
- Julia Minson, social psychologist at Harvard Kennedy School
- [Using Conversational Receptiveness to Enhance Doctor-Patient Interactions – YouTube](#)

Goals in Doctor-Patient Interactions



- Changing beliefs/behavior
- Maintaining patient trust in provider/science
- Saving time
- Decreasing provider stress
- Maintaining ongoing clinical relationship

Acknowledge Understanding

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and “I understand...”*

Make Positive Statements

*“Yes” and “right,”
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Conversational Receptiveness

Find Points of Agreement

*“I agree” and
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Hedge to Soften Claims

*“Somewhat”
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Adapted from: Yeomans, M., Minson, J., Collins, H., Chen, F., & Gino, F. (2020). Conversational receptiveness: Improving engagement with opposing views. *Organizational Behavior and Human Decision Processes*, 160, 131-148.

Outcomes from the Use of Conversational Receptiveness



- Vaccine-hesitant person perceives the receptive writer as more reasonable and more trustworthy; would want additional opinion in the future
- The writer has more positive views of the vaccine-hesitant person: intelligent, reasonable, knowledgeable, trustworthy
- Improves conversants' evaluations of each other
- Increases willingness to interact in the future
- Increases consumption of accurate vaccine information
- It is easy to use

Questions? Comments?



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