LOS ANGELES COUNTY
COMMISSION ON HIV

AGING CAUCUS

VIRTUAL MEETING AGENDA (REVISED)

TUESDAY, JULY 5 2022

1:00 PM – 3:00 PM

TO JOIN BY WEBEX, CLICK:

https://lacountyboardofsupervisors.webex.com/lacountyboardofsupervisors/j.php?MTID=m036f8c622761804fd5e03b26b6916947

PASSWORD: AGING

TO JOIN BY PHONE: +213-306-3065 **MEETING #/ACCESS CODE:** 2593 183 8472

1. Welcome & Introductions 1:00pm-1:10pm

2. Co-Chairs' Report 1:10pm-1:20pm
   a. Feedback to DHSP on Proposed Goals to Align the Ryan White Program with the California Master Plan on Aging

3. Division of HIV and STD Programs (DHSP) Report 1:20pm-1:35pm

4. ***Special Guest Speakers and Community Discussion*** 1:35pm-2:45pm
   Understanding Aging among Individuals who Acquired HIV Perinatally and Long-term Survivors under 50

   Mikhaela Cielo, MD, Part D Representative, Commission on HIV, Assistant Professor of Clinical Pediatrics, University of Southern California Keck School of Medicine

   Community Members with Lived Experience

   Allison Lorna Agwu, M.D., Sc.M., Professor of Pediatrics
   John Hopkins School of Medicine
   https://www.hopkinsmedicine.org/profiles/details/allison-agwu

5. Next Steps and Agenda Development for Next Meeting 2:45pm-2:50pm

6. Public Comments & Announcements 2:50pm-3:00pm

7. Adjournment 3:00pm

LOS ANGELES COUNTY
COMMISSION ON HIV

AGING CAUCUS
June 7, 2022
Virtual Meeting Summary

In attendance:

Al Ballesteros (Co-Chair)	**Joe Green (Co-Chair)**	Jayda Arrington
Alasdair Burton	Bertha Berumen	Kevin Donnelly
Michael Green, DHSP	Lee Kochems	Pamela Ogata, DHSP
Mario Perez, DHSP	Alberto Pina	Octavio Vallejo
Catherine Lapointe, COH Staff	Dawn McClendon, COH Staff	Jose Rangel-Garibay, COH Staff
Sonja Wright, COH Staff		

CHP: Comprehensive HIV Plan
COH: Commission on HIV
DHSP: Division of HIV and STD Programs
DPH: Department *of Public Health*

Meeting packet is available at: https://assets-us-01.kc-usercontent.com/0234f496-d2b7-00b6-17a4-b43e949b70a2/4a49d436-ebba-42bc-b3d0-22db75724dba/Pkt-AgngCauc_060722.pdf

1. **Welcome & Introductions**
   - Al Ballesteros, Co-Chair welcomed attendees and led introductions.

2. **Co-Chairs' Report**
   a. **Aging Caucus Overview, Background, and History**
      - A. Ballesteros provided the overview, background, and history of the Aging Caucus. The presentation can be found in the meeting packet.
   b. **Open Membership and Invitation for Stakeholders to Participate**
      - The Aging Caucus discussed the need for participation from people living with HIV (PLWH) who are younger than 50 years old but are still affected by aging and HIV. This includes people who were perinatally infected with HIV. Joe Green noted that representation from this population subset is needed within the Aging Caucus because they have unique experiences and needs.
      - Lee Kochems suggested holding a special listening session to hear from PLWH under 50 and those who were perinatally infected. The feedback from this meeting can be used to update the HIV and Aging Care Framework. Alasdair Burton recommended announcing this listening session at the full body Commission on HIV (COH) to encourage participation.
      - J. Green suggested presenting the information from the listening session at a future full body COH meeting.
   c. **Recommendations and HIV and Aging Care Framework Review**

- Michael Green, PhD, DHSP, provided an overview of a document titled *Alignment of Los Angeles County's Ryan White Program with the California Master Plan on Aging.* The document can be found in the meeting packet. The Aging Caucus was asked to review the document and send feedback to discuss at the next meeting. This will serve as a living document and will be updated as needed.

3. **Division of HIV and STD Programs (DHSP) Report**
   a. **Response to HIV and Aging Care Framework**
      - A. Burton recommended providing services for older adults that are not dependent on technology.
      - Kevin Donnelly recommended defining the different categories of aging.

4. **Discussion:**
   a. **What key work products do we want to complete for the remainder of 2022?**
      - Prioritize the *Alignment of Los Angeles County's Ryan White Program with the California Master Plan on Aging* document.
      - Narrow down the focus of the Aging Caucus.
      - Refine the Aging and HIV Care Framework.
      - Continue outreach with other long-term survivors under the age of 50.

5. **Next Steps and Agenda Development for Next Meeting**
   - Review the *Alignment of Los Angeles County's Ryan White Program with the California Master Plan on Aging* document and provide feedback to Cheryl Barrit.
   - The next Aging Caucus meeting will be a listening session to hear recommendations from long term survivors and people who were perinatally infected with HIV. If there is time after the listening session, the Aging Caucus will begin discussing feedback on the framework.

6. **Public Comments & Announcements**
   - A. Burton announced that the Consumer Caucus will be meeting on Thursday, June 9th from 3-5 PM. The meeting will serve as a listening session to address housing concerns. A representative from Housing Opportunities for Persons with AIDS (HOPWA) will be present.

7. **Adjournment**
   - The meeting adjourned at 2:13 PM.

FEEDBACK FROM THE LOS ANGELES COUNTY COMMISSION ON HIV AGING CAUCUS
FOR DISCUSSION PURPOSES ONLY (6.22.22)
****Suggestions highlighted in yellow****

Alignment of Los Angeles County's Ryan White Program with the California Master Plan on Aging

Include a brief introduction, the purpose of the document, and links to the CA Master Plan on Aging document (https://mpa.aging.ca.gov/).
Consider adding a timeline for implementation, partners needed to implement goals, and performance/accountability metrics.

Goal One: Housing for All Stages and Ages

Increase coordination among housing agencies to include senior housing

Examine options for congregate senior living in safe and welcoming environments

Blend funding to support housing and rental assistance for seniors living with HIV

Support training for housing services providers on needs of PLWH and LGBTQI persons to improve cultural competencies among staff

Goal 1: Housing
Increase the provision of intergenerational housing rather than creating ageing ghettos. Research evidences this benefits both younger and older clients. That said, there should be choice too. Some provision should be age specific. Thought needs to be given to what happens if people 'age out' of their provision'. Similarly for older people who age with increasing needs, both physically and cognitive.

Goal Two: Health Reimagined

Add Geriatric training to Ambulatory Outpatient Medical, Oral Health, Medical Care Coordination and Mental Health services providers to improve awareness and understanding of age-related inequities in care and treatment

Add Quality of Life (QOL) metrics to data collection variables to identify areas where changes in services and service access can lead to improved QOL among all people living with HIV (PLWH)

Standardize age categories to identify priority populations for specialized services

Review/update diagnostic screenings to include age-related conditions

Revise HIV Home Health and Support services to blend with existing services for PLWH over age (?)

Expand access to services that can prevent or slow age-related physical and mental declines

Develop and maintain robust resource directories and train PLWH to access and use them

Goal 2 - May be a wording issue but to add gerontology awareness training rather than geriatric only. Geriatric is the medical not social model of ageing.
Standardize age categories - not sure what this means? Surely we should be looking at needs based rather than age, especially for PLWH who may be experiencing accelerated ageing
review diagnostic criteria to reflect life experiences - Screen for loneliness, ACEs, depression, anxiety, experiences of discrimination. This makes health more than just the absence of disease, including mental health and preventative care.

Goal Three: Inclusion and Equity, Not Isolation

Develop strong linkages to community social support programs for all PLWH, especially youth and seniors

Acknowledge and support nontraditional family relationships that nurture well-being and social connection

Connect to ongoing education and learning programs to foster community engagement and physical activities that promote healthy living

Improve digital access and understanding of digital programs

Develop linkages to community employment and volunteer training and opportunities

Foster mentorships between seniors and youth to improve understanding across generations of the HIV pandemic, its effects, and how seniors can be supported and honored within the community

Add provider training that requires history of HIV, HIV politics and advocacy (this should be a mandatory Commission training as well)

Develop transitional case management programs that help PLWH transition from RWP into Medicare, CalAIM, etc.

Foster strong community engagement and community planning that honors lived experiences of PLWH

Goal 3
Foster interlinked service provision to meet the needs of intersectional clients
"Foster mentorships between seniors and youth to improve understanding across generations of the HIV pandemic, its effects, and how seniors can be supported and honored within the community" - This can be reflected in the housing section too. It should not be limited to HIV though. Intergenerational mentoring can be personal and professional skill sets
Transitional case management should also look to support post transition to ensure that service needs are still being met. This may be ongoing ad hoc support work. A point of reference for people to return to when in need of support

Goal Four: Caregiving That Works

Develop/support educational programs for service providers on sexual health for PLWH aged 50+

Support educational and vocational training programs that blend HIV medicine and social services with the broader needs of youth and an aging population of PLWH

Seek out mental health specialists who can treat both HIV and age-related conditions

Develop training programs for nontraditional families to support each other as they age with HIV

Reduce the digital divide by promoting access to and understanding of digital and online services

Goal 4:
Although increasing digital literacy is important, it is key to highlight that services should not solely be offered on line. There will be people without access and some living with loneliness or in social isolation for whom this could be there only contact. Also this acts as a point of screening contact for a hard to reach population

Goal Five: Affording Aging

Support robust benefits enrollment, financial and retirement planning for PLWH

Expand access to emergency financial assistance and financial planning services to senior PLWH

Develop and maintain strong linkages with nutrition and housing programs to eliminate barriers to access to safe and affordable housing and nutrition services

Goal 5:

Peer navigator systems could work well here. Upskilling people and providing them with employment to help others navigate health and social care as well as housing and benefits. A single point of contact to signpost people will increase service utilisation and increase quality or experience. If a peer model is used, this will be cheaper than social workers (though a social worker may manage the team) and it would also provide meaningful employment for OPLWH and be less of a barrier for someone accessing services seeing someone who 'looks like them'

Overall I think that the plan / goals are good. I hope that service users have had access to the report to say how it reflects their lived challenges rather than policy and advocacy only. My only concern is that it still seems to be heavily weighted towards the medical model of ageing yet we know that the psychological can influence the physical and both need to be addressed in the full understanding of health.

Consider exploring the “village model” to strengthen broader community support for older adults. There may be some elements of the “village model” that could enhance the County’s overall response to aging. The Village Movement | Grantmakers in Aging (giaging.org)

Understanding Aging Among Individuals who Acquired HIV Perinatally and Long-term Survivors under 50

Allison Agwu, MD ScM, FAAP FIDSA
Professor, Pediatric and Adult Infectious Diseases
Director, Pediatric Adolescent HIV/AIDS Program and Accessing Care Early Clinic
Johns Hopkins School of Medicine, Baltimore, Maryland, USA
July 5, 2022

Disclosures

- Gilead scientific advisory board, site investigator under clinical research contract managed through JHU
- Merck scientific advisory board, consultant, site investigator under clinical research contract managed through JHU

Objectives

- Review the epidemiology of individuals with early-acquired HIV
- Describe risk factors for developing comorbidities over the life course
- Discuss opportunities to prevent comorbidities and optimize outcomes

PEDIATRICS
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Acquired Immunodeficiency Syndrome in Children: Report of the Centers Control National Surveillance, 1982 to 1985
Martha F. Rogers, Pauline A. Thomas, E. Thomas Starcher, Mary C. Noa, Timothy J. Bush and Harold W. Jaffe

"although they make up only 1% of AIDS patients, they have unique clinical, social, and public health problems that require special attention." Rogers

First known infant to be born with HIV

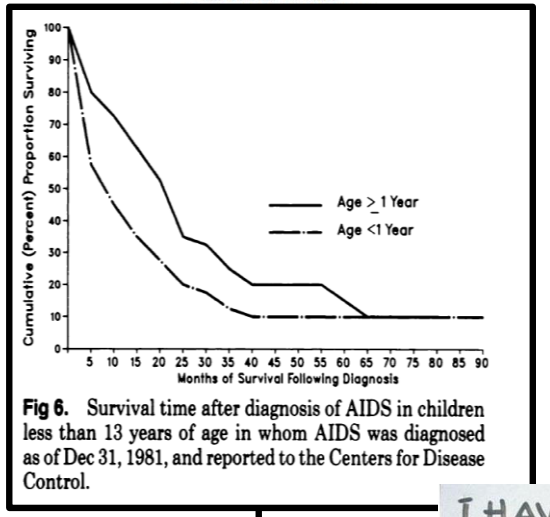
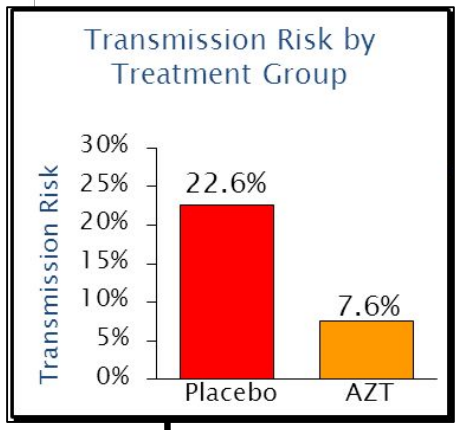
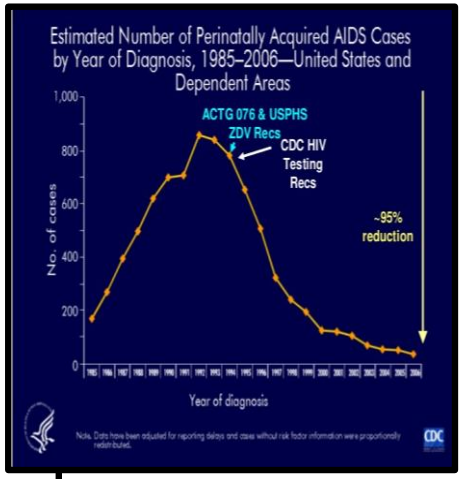
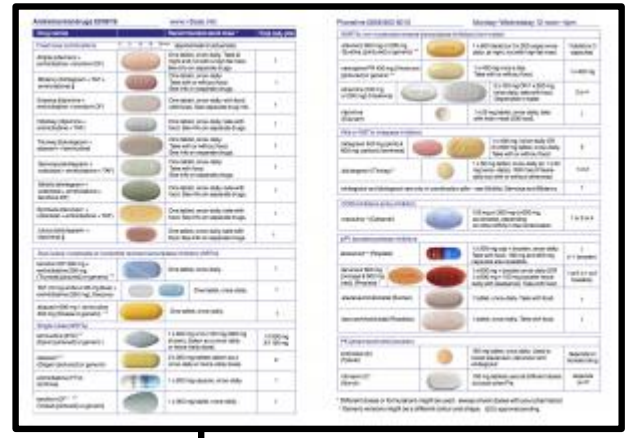
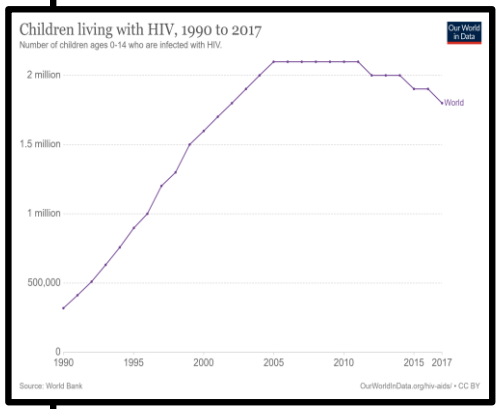


Fig 6. Survival time after diagnosis of AIDS in children less than 13 years of age in whom AIDS was diagnosed as of Dec 31, 1981, and reported to the Centers for Disease Control.









RARE CANCER SEEN IN 41 HOMOSEXUALS

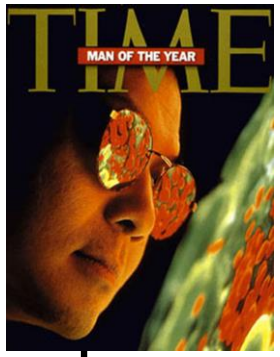
Outbreak Occurs Among Men in New York and California —8 Died Inside 2 Years

By LAWRENCE K. ALTMAN

Doctors in New York and California have diagnosed among homosexual men 41 cases of a rare and often rapidly fatal form of cancer. Eight of the victims died less than 24 months after the diagnosis was made.

The cause of the outbreak is unknown, and there is as yet no evidence of contagion. But the doctors who have made the

FDA approves 1st HIV ab test



FDA approves Nelfinavir for kids

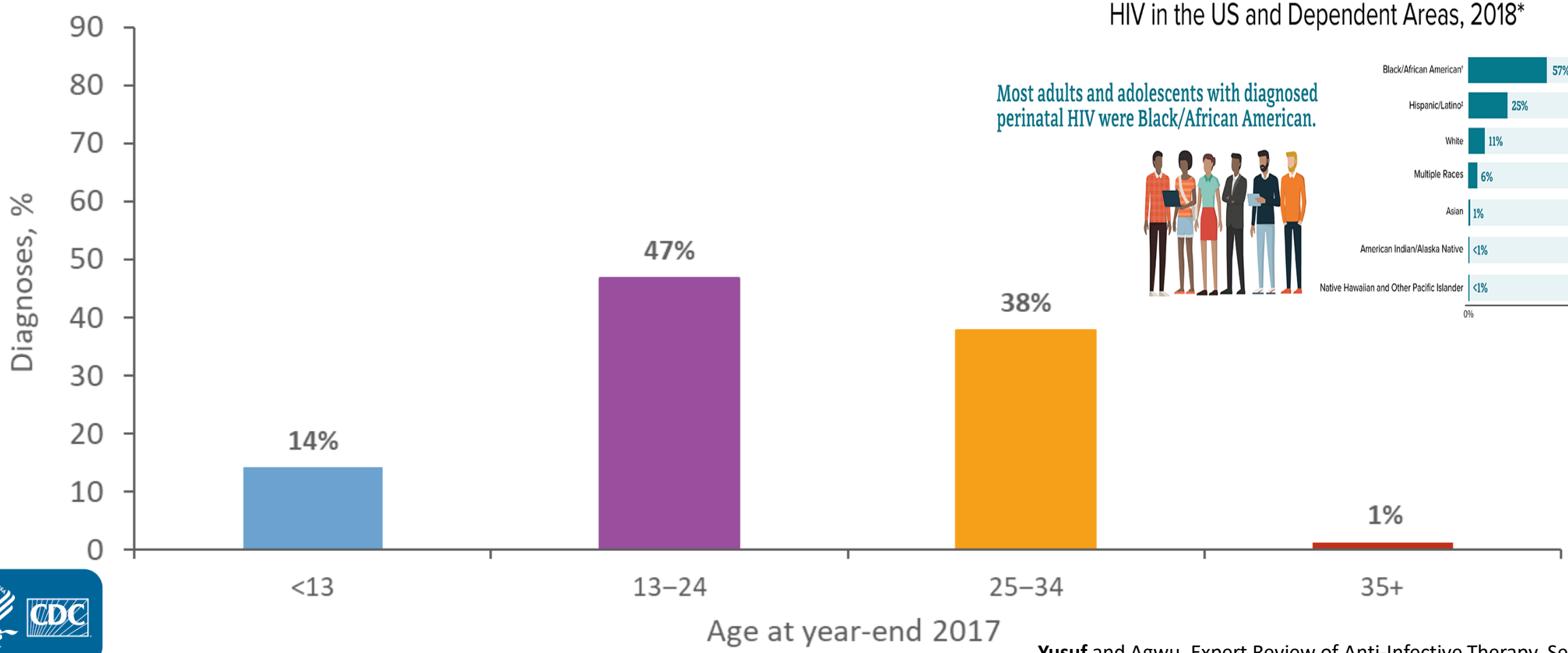
'Cured' HIV Baby is Infected, Doctors Find

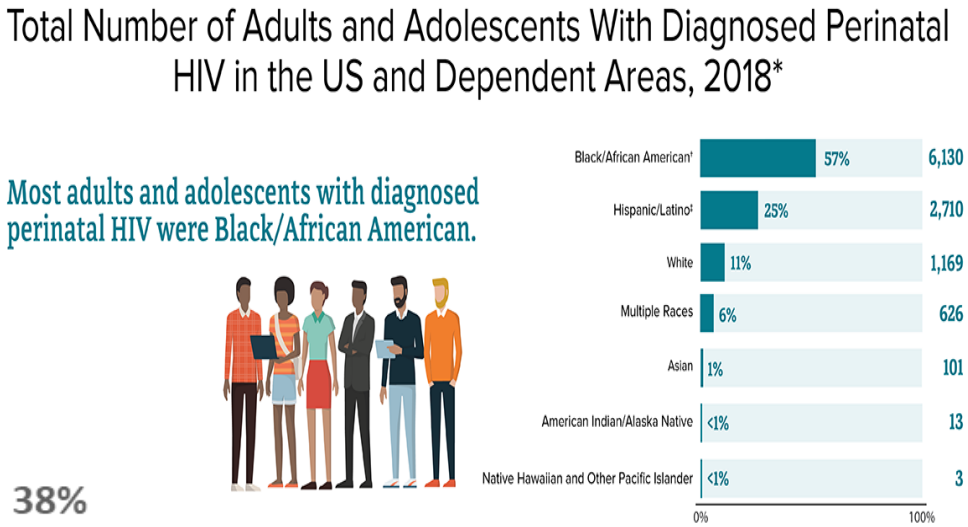
South African child in HIV remission without drugs

1977 1980 1982 1985 1987 1988 1990 1994 1996 2003 2006 2013 2014 2015 2017 2020 2021

https://www.hiv.gov/sites/default/files/aidsgov-timeline.pdf; Rogers et al. 1987 (79): 1008-1014

Age Distribution of Persons Living with Diagnosed Perinatally Acquired HIV Infection, Year-end 2017—United States and 6 Dependent Areas (N = 11,924)





Yusuf and Agwu. Expert Review of Anti-Infective Therapy. Sep 2020

Many AYA born with HIV are thriving……

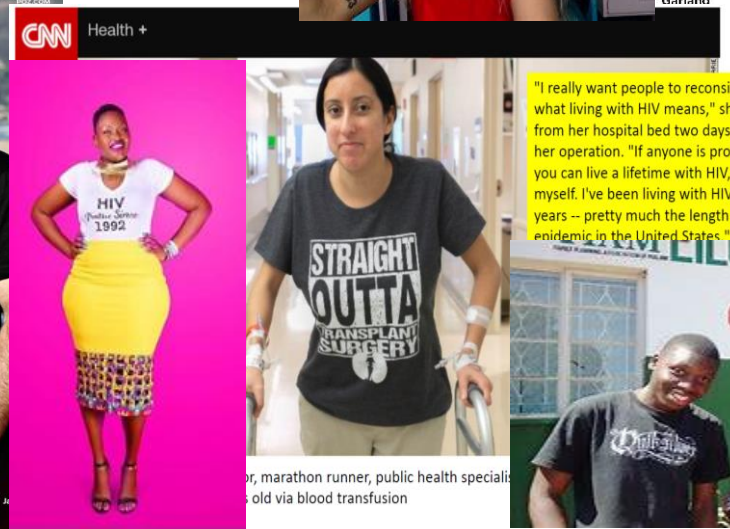
Health | Nation & World

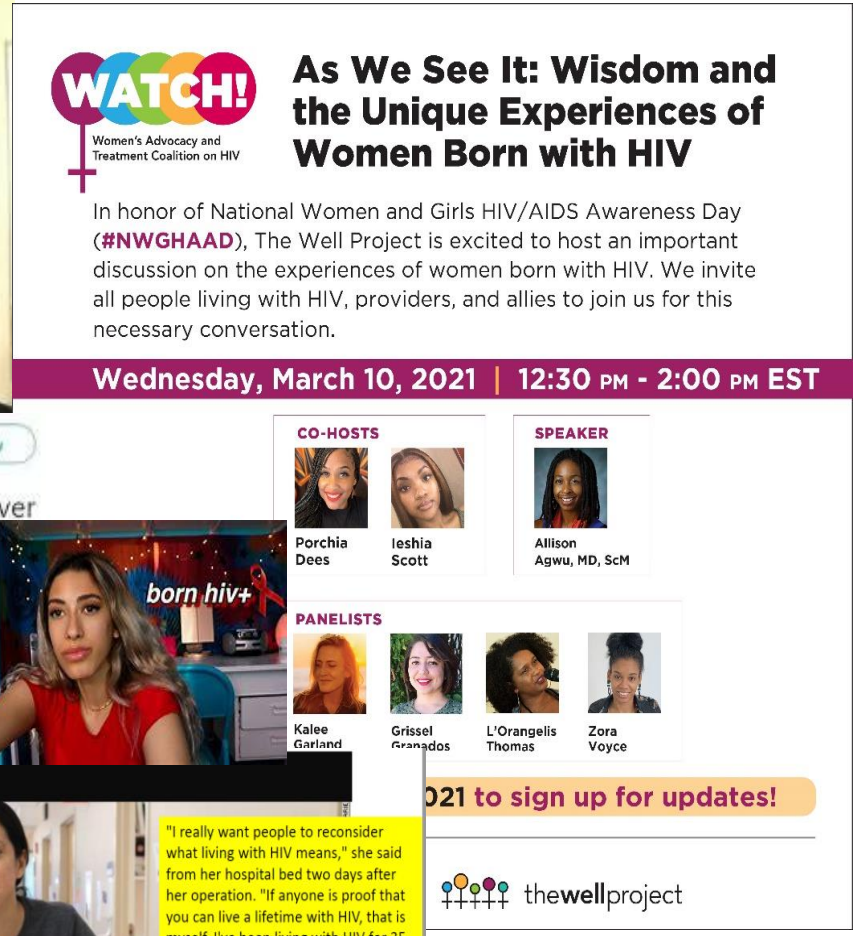
First wave of babies born with HIV nearing 30

Originally published October 9, 2010 at 6:15 am | *Updated October 9, 2010 at 8:16 am*

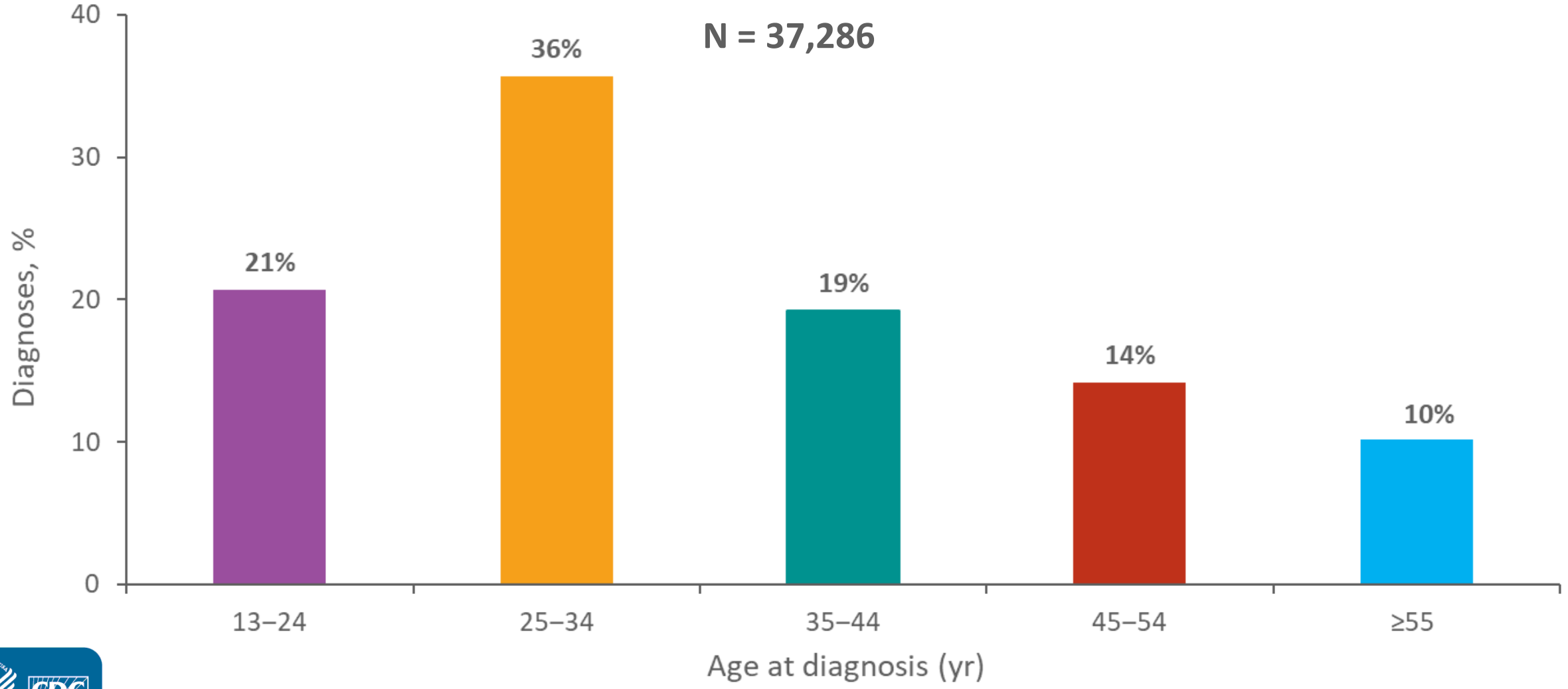
Chaneil Scott, left, and Lafayette Sanders, of Philadelphia, were both infected with HIV at birth. Both of the… have died, too. Scott is a college sophomore; Sanders is a brand rep for a… More

…as said



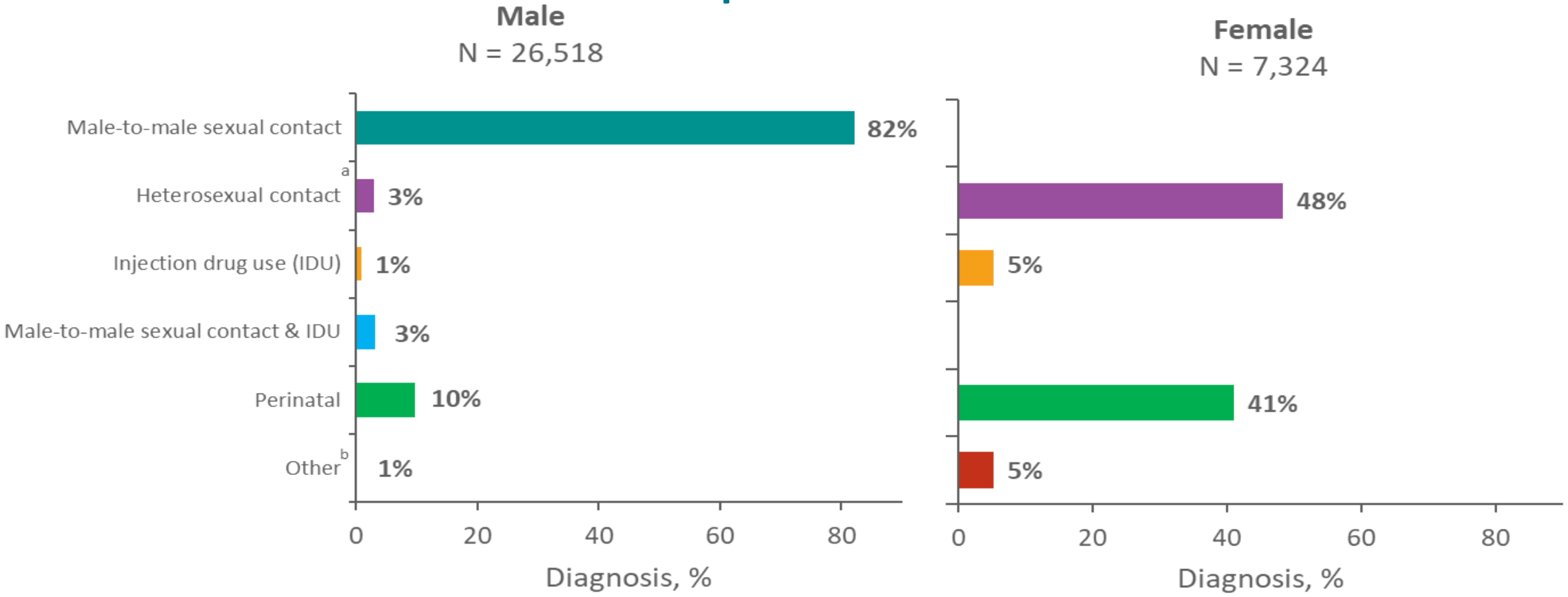


Diagnoses of HIV Infection among Adults and Adolescents by Age at Diagnosis, 2018—United States



Note. Data for the year 2018 are considered preliminary and based on 6 months reporting delay.

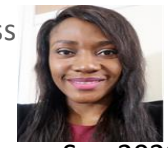
Adolescents and Young Adults Aged 13–24 Years Living with Diagnosed HIV Infection by Sex and Transmission Category, Year-end 2017—United States and 6 Dependent Areas



Note. Data have been statistically adjusted to account for missing transmission category. "Other" transmission category not displayed as it comprises 1% or less cases.

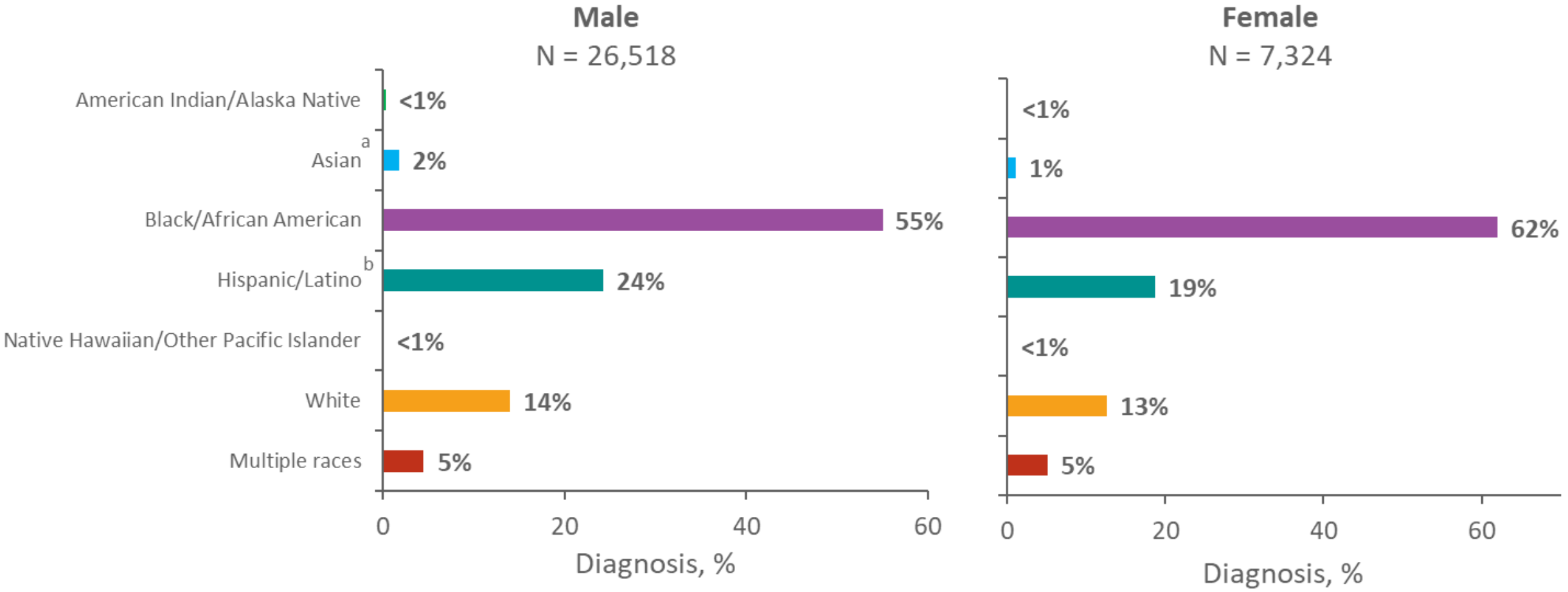
[a] Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

[b] Includes hemophilia, blood transfusion, and risk factor not reported or not identified.



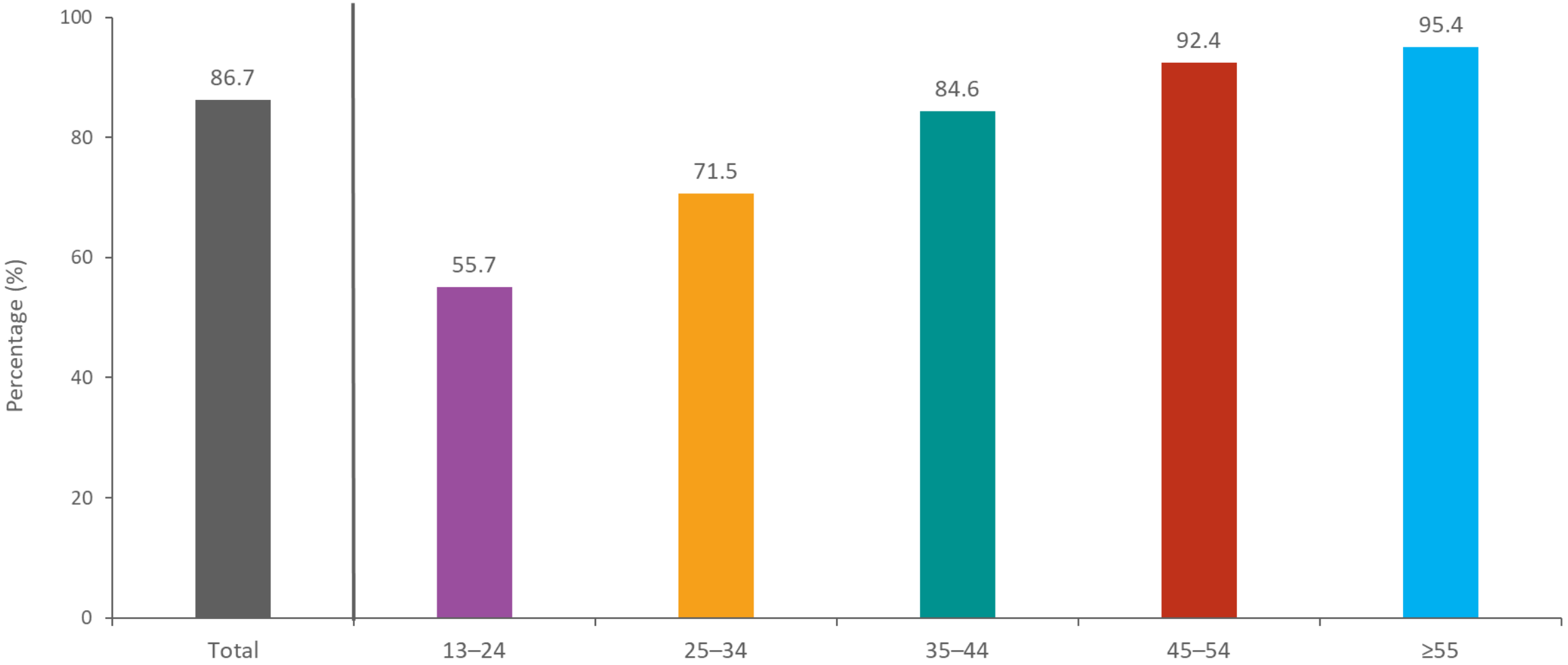
Yusuf & Agwu. Expert Review of Anti-Infective Therapy. Sep 2020

Adolescents and Young Adults Aged 13–24 Years Living with Diagnosed HIV Infection, by Sex and Race/Ethnicity, Year-end 2017—United States and 6 Dependent Areas



[a] Includes Asian/Pacific Islander legacy cases.
[b] Hispanics/Latinos can be of any race.

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Age, 2019—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates for the year 2019 are preliminary and based on deaths reported to CDC through December 2020.

Persons Living with Diagnosed or Undiagnosed HIV Infection
HIV Care Continuum Outcomes, by Age, 2018—United States

OPPORTUNITIES

Note. Receipt of medical care was defined as ≥1 test (CD4 or VL) in 2018. Retained in continuous medical care was defined as ≥2 tests (CD4 or VL) ≥3 months apart in 2018. Viral suppression was defined as <200 copies/mL on the most recent VL test in 2018.

Next for treatment for youth

- Multimodal, combination strategies & approaches
  - ART modified (stronger, longer, safer, simpler)
    - ART Resistance
  - Different delivery modes & strategies
  - Monoclonal ab
  - Vaccines
  - Latency reversing agents
  - Activated T cells
- Improved engagement strategies
- Behavioral and community interventions
- Optimizing care models
  - Alternative “venues” for care delivery
  - Increased use of technology
- Personalized medicine?

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I am greater than my highs and lows.

T1D INTERNATIONAL

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Life course perspective for adolescents with HIV

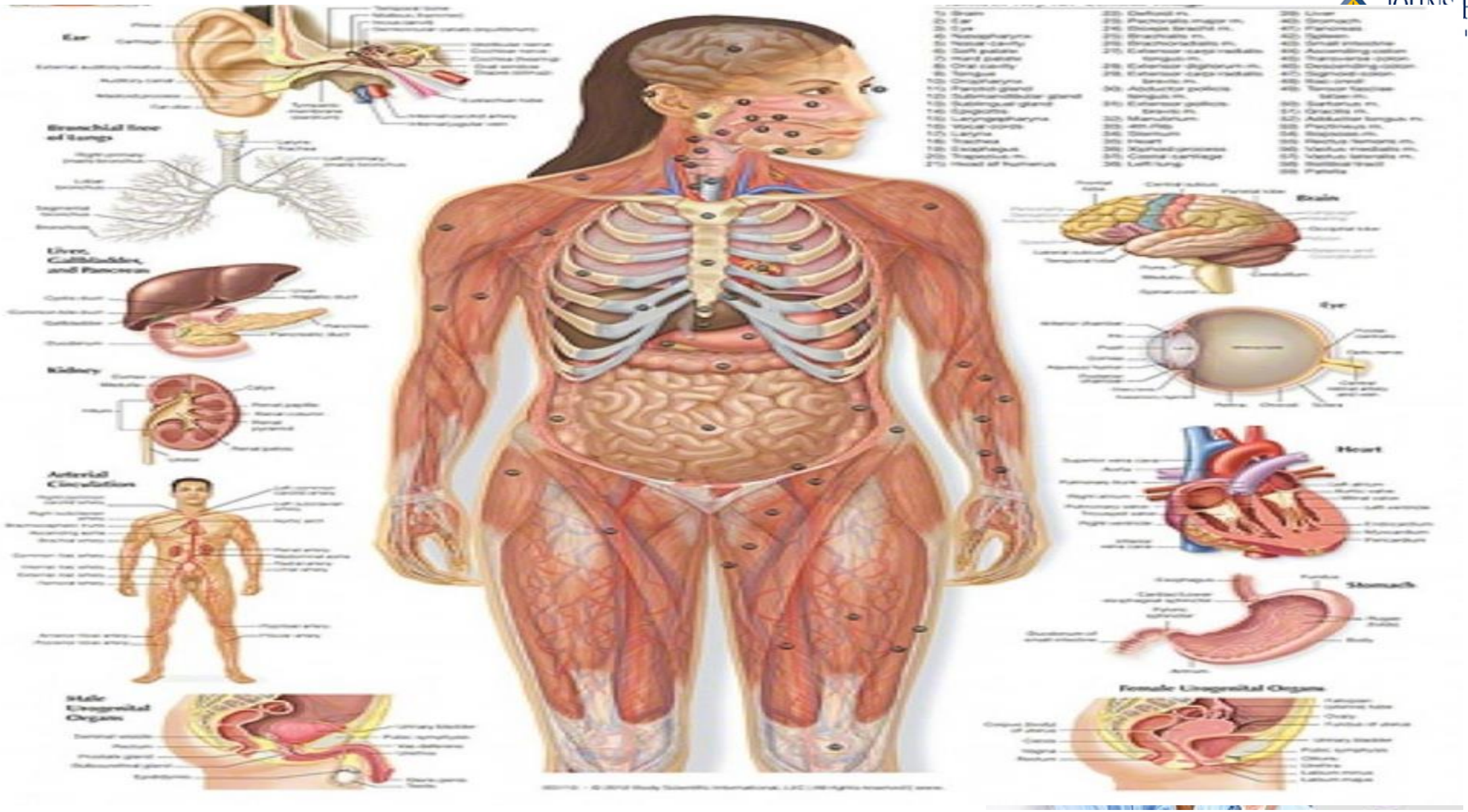
	2nd Decade 10-19 years	3rd Decade 20-29 years	4th Decade 30-39 years	5th Decade 40-49 years	≥6th Decade ≥50 years
					
Environmental/Psychosocial Factors					
Life events	School Trade School/College Employment Parent/guardian loss	Trade School/College Employment Partnerships Children Parent/guardian loss	Employment Partnerships Children Parent/guardian loss	Employment Partnerships Parent/guardian loss	Employment/Retirement Partnerships
Self-management	Parental/caregiver involvement wanes	Self-management			Self-management May need assistance
Disclosure	Disclosure (to self) Disclosure to others	Disclosure of status to partners, children, friends, others			
Stigma	Internal and external stigma				

Zinyemba TP et al. J Econ Surveys 2019; **Yusuf** and Agwu. Expert Review of Anti-Infective Therapy. Sep 2020

Life course perspective for adolescents with HIV

	2nd Decade 10-19 years	3rd Decade 20-29 years	4th Decade 30-39 years	5th Decade 40-49 years	≥6th Decade ≥50 years
					
Treatment and Treatment-related Factors					
Antiretroviral treatment	Simple regimens* Increased responsibility of ART	Simple regimen Increased complex regimens due to development of resistance Full responsiblilty of ART	Simple regimen Increased complex regimens due to development of resistance Full responsiblilty of ART		
Adherence	May wane with decreased parental/caregiver involvement, stigma and nondisclosure to peers	Adherence variable Increased risk of resistance			
Co-morbidities	OIs if nonadherent with immune compromise Non-AIDS comorbidities	Inflammation, accelerated ageing, increased risk of comorbidities	Inflammation, accelerated ageing, ↑ risk of comorbidities		
Care Delivery	Pediatric/Adolescent care; transition from pediatric to adolescent or adult care may occur	Transition to adult care	Adult Care		
Risk factors	Tobacco, substance use may commence, modifiable risk factors begin	Increased weight gain, engagement in modifiable risk factors			

Yusuf and Agwu 2021



How will adolescents with HIV infection be impacted?

Deeks SG 2013; Vance DE et al. Am J Nurs. 2010 March ; 110(3): 42–49; Chiappini E. etal. Aging. 2018.

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Leading Cause of Death in the United States for Select Age Groups (2019)

Data Courtesy of CDC

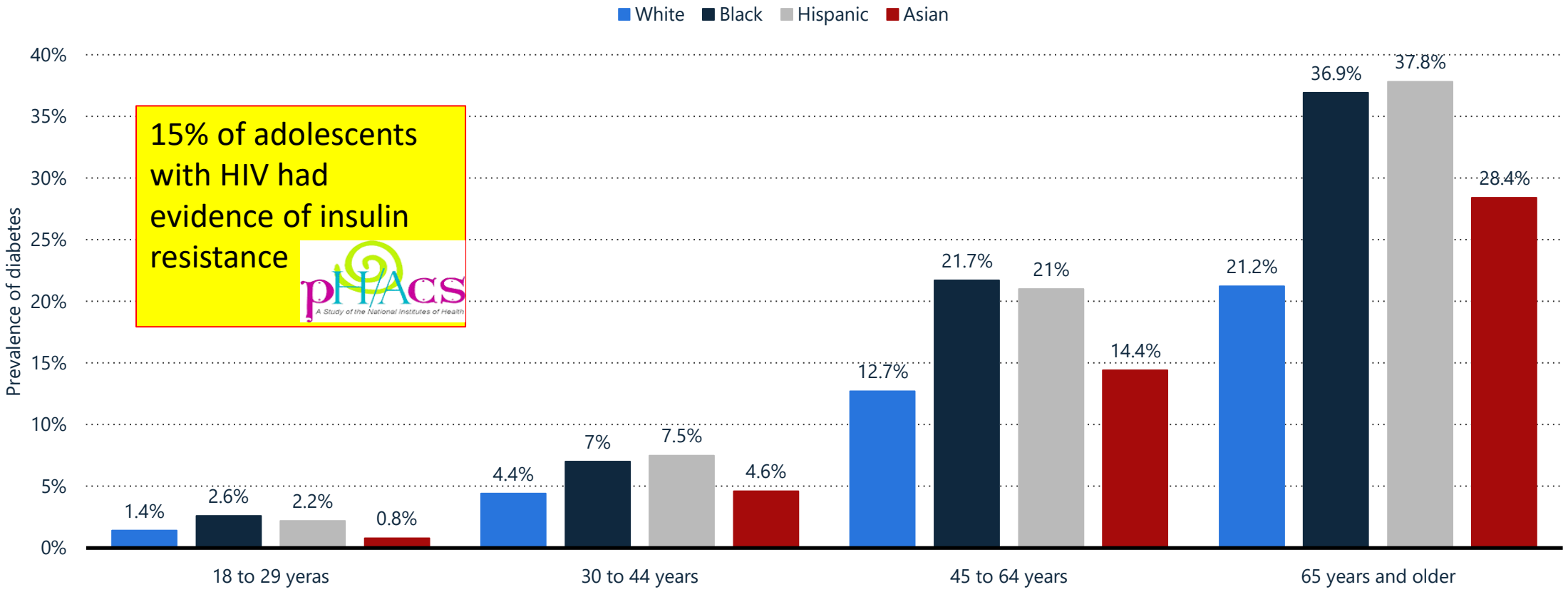
Rank	10-14	15-24	25-34	35-44	45-54	55-64	All Ages
1	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 659,041
2	**Suicide 534**	**Suicide 5,954**	**Suicide 8,059**	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 80,837	Malignant Neoplasms 599,601
3	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Unintentional Injury 173,040
4	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	**Suicide 7,525**	Liver Disease 8,098	CLRD 18,743	CLRD 156,979
5	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	**Suicide 8,012**	Diabetes Mellitus 15,508	Cerebro-vascular 150,005
6	Heart Disease 87	Congenital Anomalies 390	Liver Disease 1,112	Liver Disease 3,417	Diabetes Mellitus 6,348	Liver Disease 14,385	Alzheimer's Disease 121,499
7	CLRD 81	Diabetes Mellitus 248	Diabetes Mellitus 887	Diabetes Mellitus 2,228	Cerebro-vascular 5,153	Cerebro-vascular 12,931	Diabetes Mellitus 87,647
8	Influenza & Pneumonia 71	Influenza & Pneumonia 175	Cerebro-vascular 585	Cerebro-vascular 1,741	CLRD 3,592	**Suicide 8,238**	Nephritis 51,565
9	Cerebro-vascular 48	CLRD 168	Complicated Pregnancy 532	Influenza & Pneumonia 951	Nephritis 2,269	Nephritis 5,857	Influenza & Pneumonia 49,783
10	Benign Neoplasms 35	Cerebro-vascular 158	HIV 486	Septicemia 812	Septicemia 2,176	Septicemia 5,672	**Suicide 47,511**

CLRD: Chronic Lower Respiratory Disease

Note: Suicide is not among the ten leading causes of death among children in the 0-9 year age group nor in adults in the age group 65 years and older.

CDC

Percentage of adults in the U.S. with diabetes as of 2016, by age and ethnicity



Note(s): United States; January 2 to December 30, 2016; 18 years and older; 177,192 respondents; Full or part time workers
Further information regarding this statistic can be found on page 8.
Source(s): Gallup (Gallup-Sharecare Well-Being Index); Sharecare; ID 790778

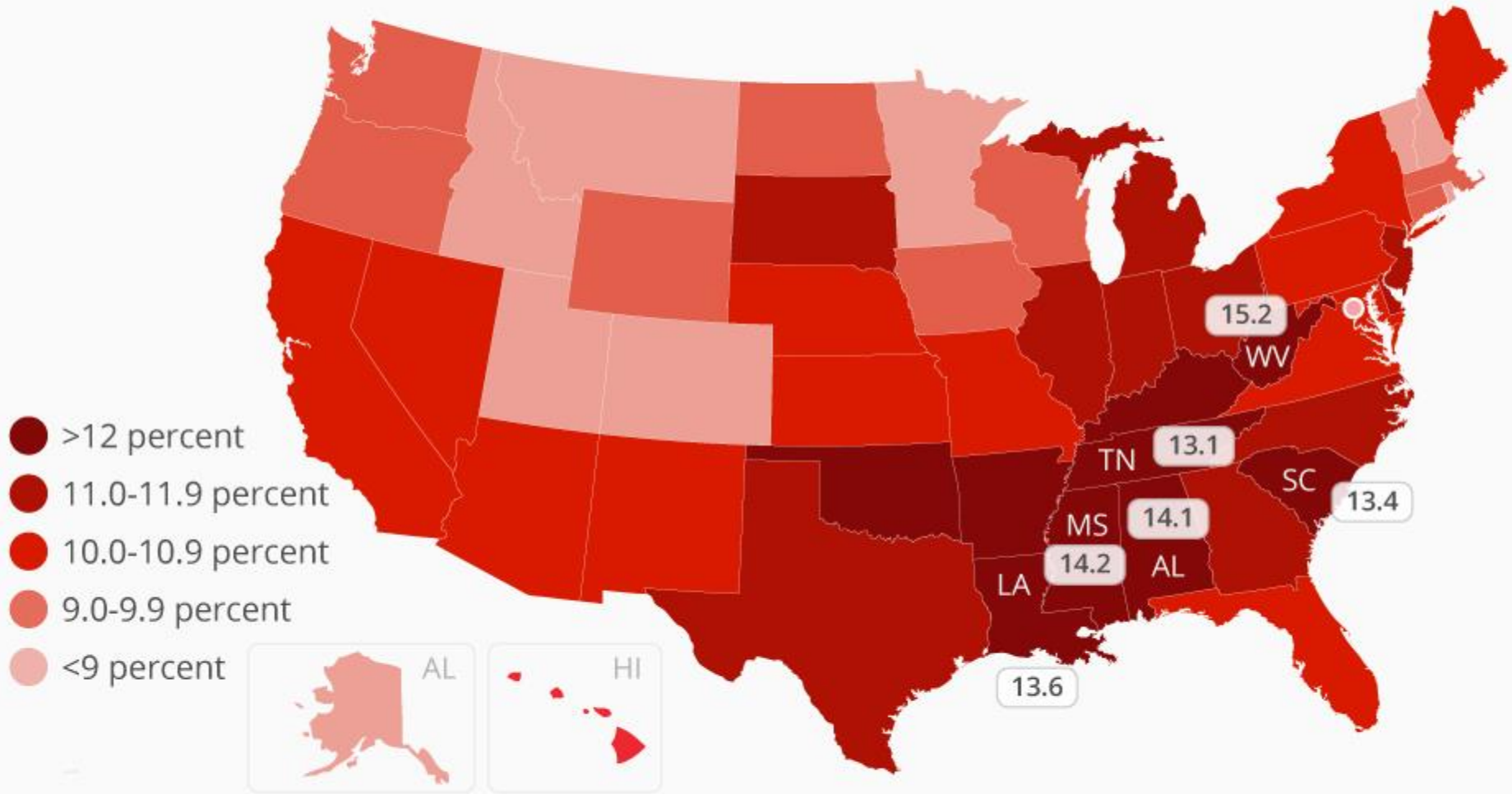
statista

Geffner ME. Horm Res Paediatr 2011; 76: 386-91

JOHNS HOPKINS MEDICINE

Where Diabetes is Most Prevalent in the U.S.

Percent of adults who have ever been told by a doctor that they have diabetes (2017*)



Includes pregnancy-related diabetes, percentages are weighted to reflect population characteristics (e.g. average age)
* latest on record

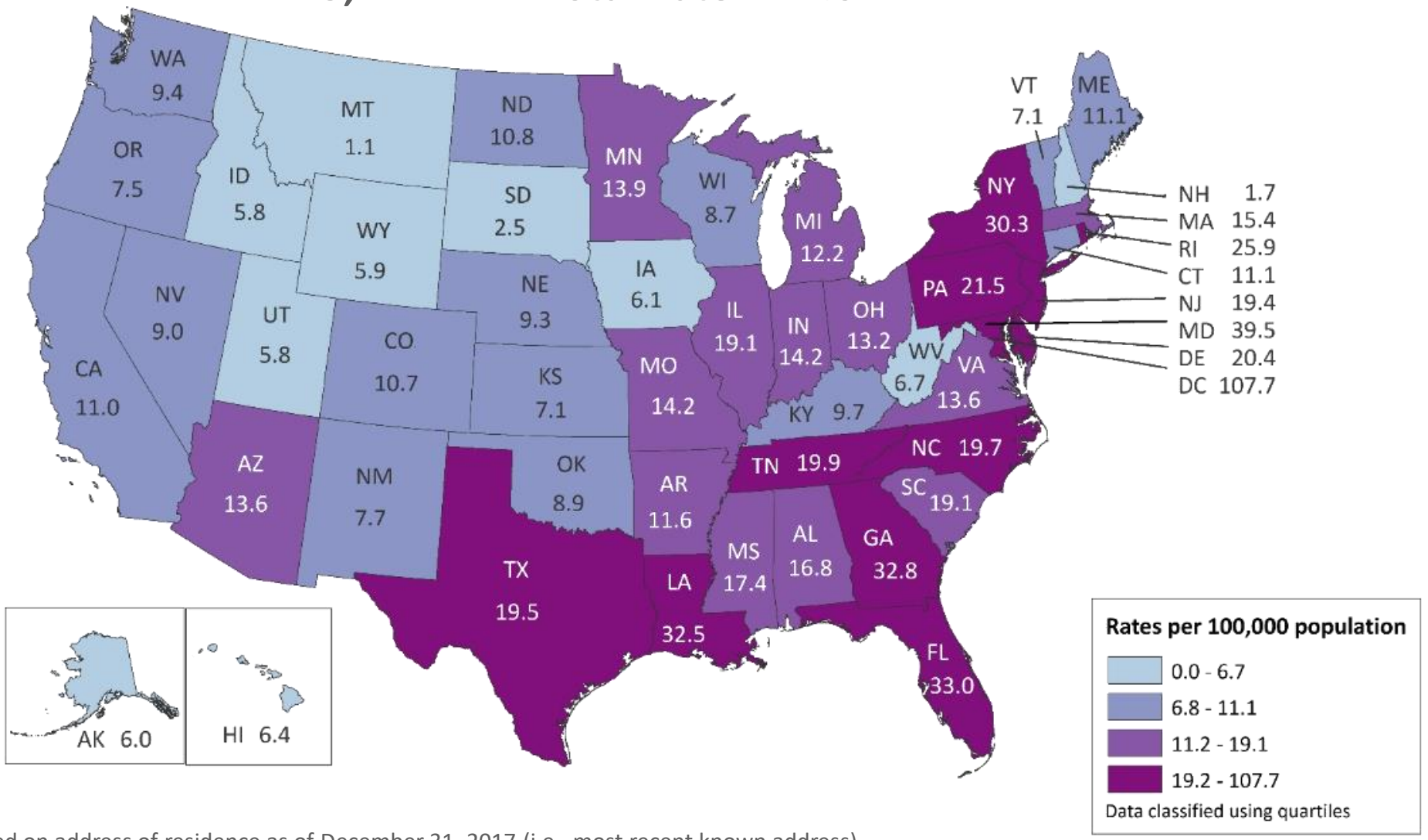
Sources: Kaiser Family Foundation, CDC

statista

Rates of Adolescents Aged 13–19 Years Living with Diagnosed HIV Infection

Year-end 2017—United States and 6 Dependent Areas

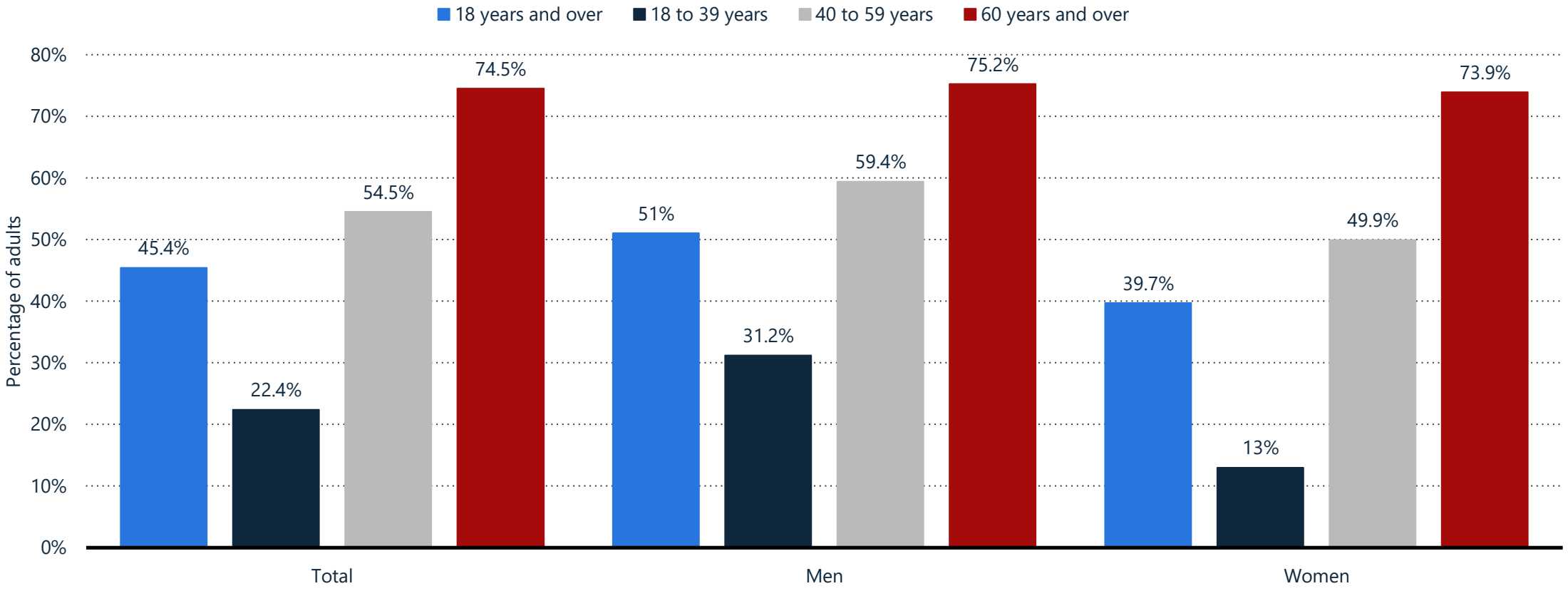
N = 5,222 **Total Rate = 17.6**



American Samoa	0.0
Guam	5.0
Northern Mariana Islands	0.0
Puerto Rico	14.6
Republic of Palau	0.0
U.S. Virgin Islands	34.3

Note. Data are based on address of residence as of December 31, 2017 (i.e., most recent known address).

Prevalence of hypertension among adults in the U.S. in 2017 and 2018, by age and gender

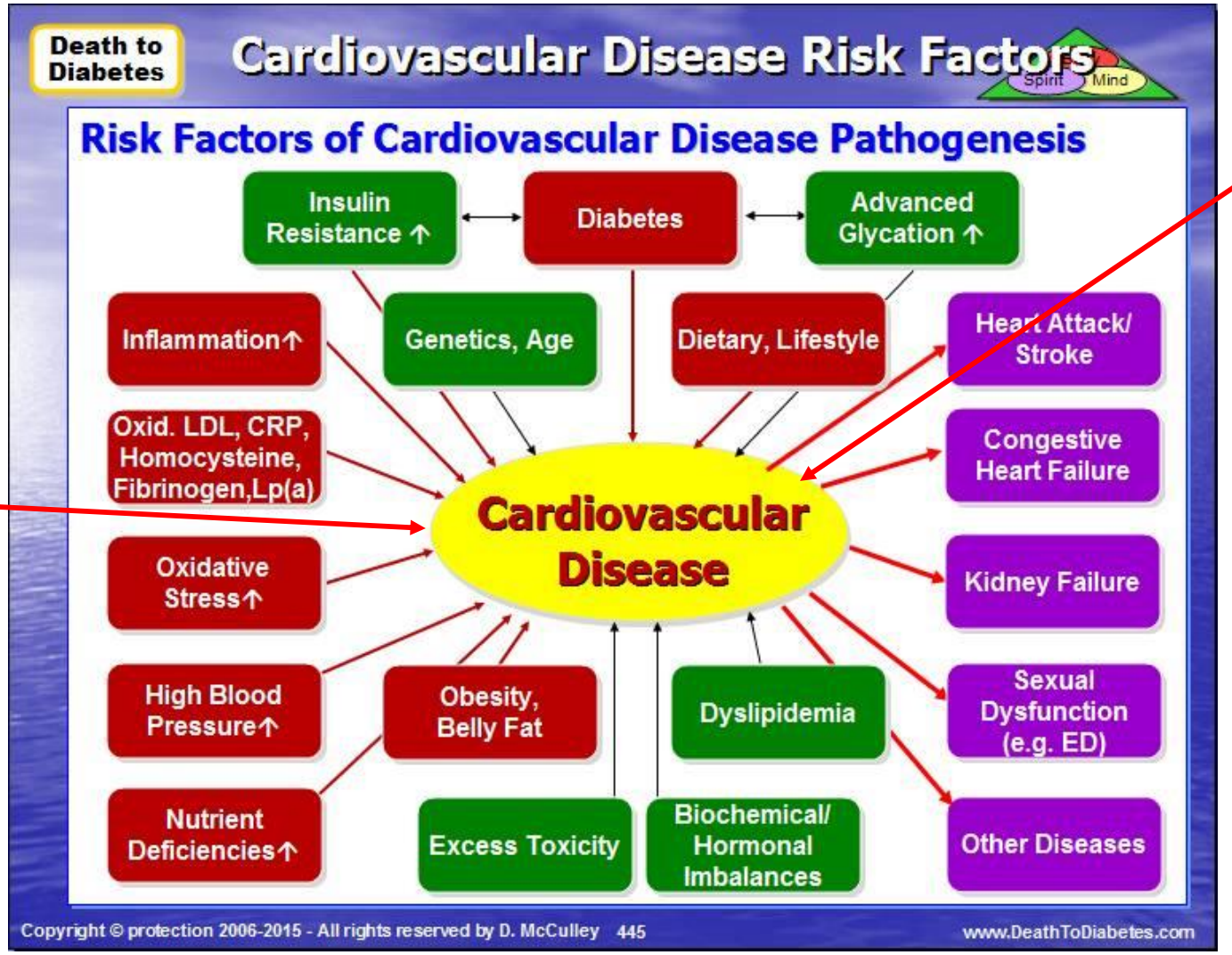


Adolescent boys (15-19%); adolescent girls (7-12%) Flynn JT et al. Pediatrics 2017
Among HIV+ youth ??20% Sainz et al PIDJ 2016

Note(s): United States; 2017 and 2018; 18 years and older
Further information regarding this statistic can be found on page 8.
Source(s): NCHS (National Health and Nutrition Examination Survey); CDC; ID 778065

HIV

ART?


Death to Diabetes
Cardiovascular Disease Risk Factors
Spirit
Mind
Risk Factors of Cardiovascular Disease Pathogenesis
Insulin Resistance ↑
Diabetes
Advanced Glycation ↑
Inflammation↑
Genetics, Age
Dietary, Lifestyle
Heart Attack/ Stroke
Oxid. LDL, CRP, Homocysteine, Fibrinogen,Lp(a)
Congestive Heart Failure
Cardiovascular Disease
Oxidative Stress↑
Kidney Failure
High Blood Pressure↑
Obesity, Belly Fat
Dyslipidemia
Sexual Dysfunction (e.g. ED)
Nutrient Deficiencies↑
Excess Toxicity
Biochemical/ Hormonal Imbalances
Other Diseases
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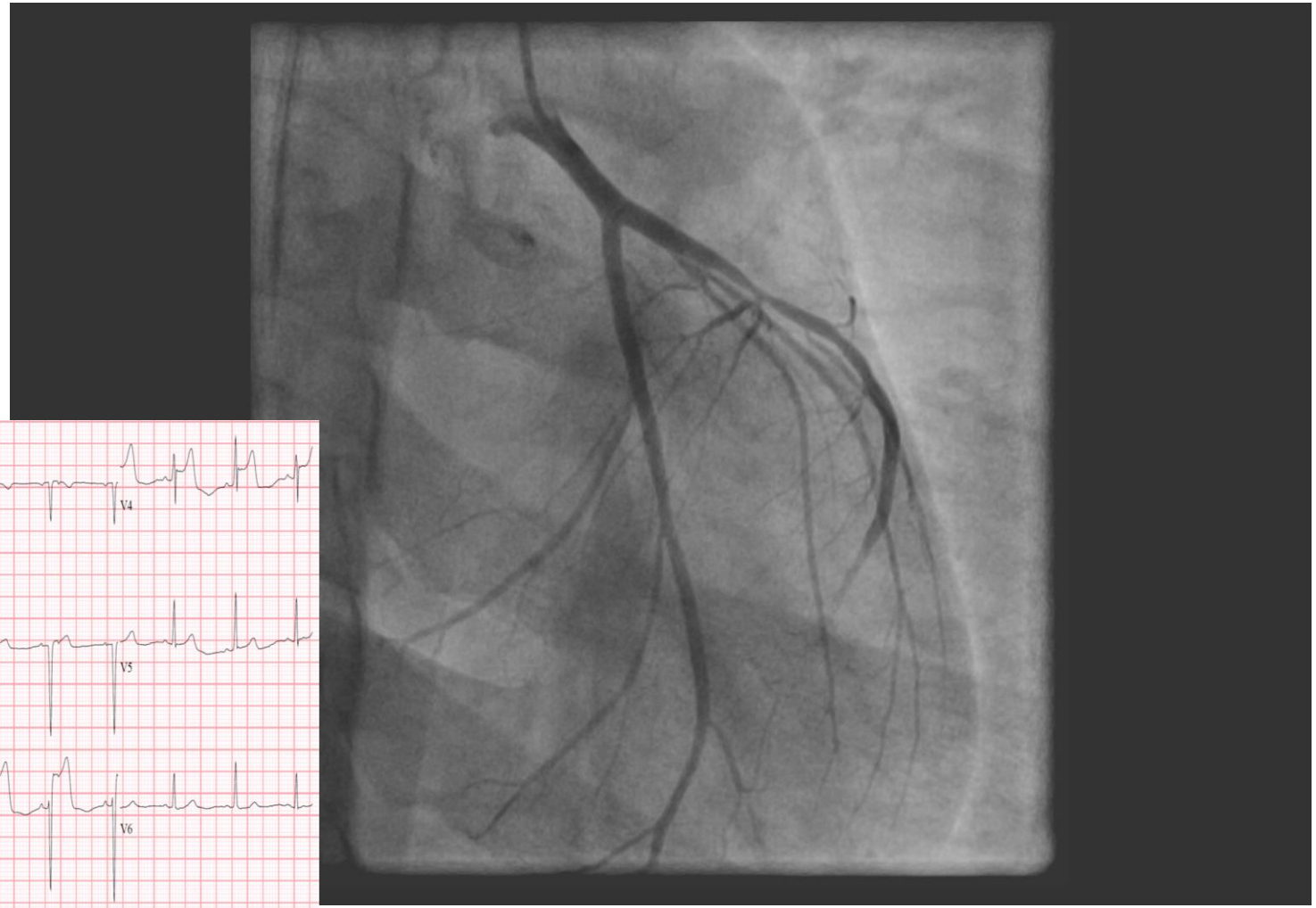
www.DeathToDiabetes.com

23 year old with HIV and acute chest pain



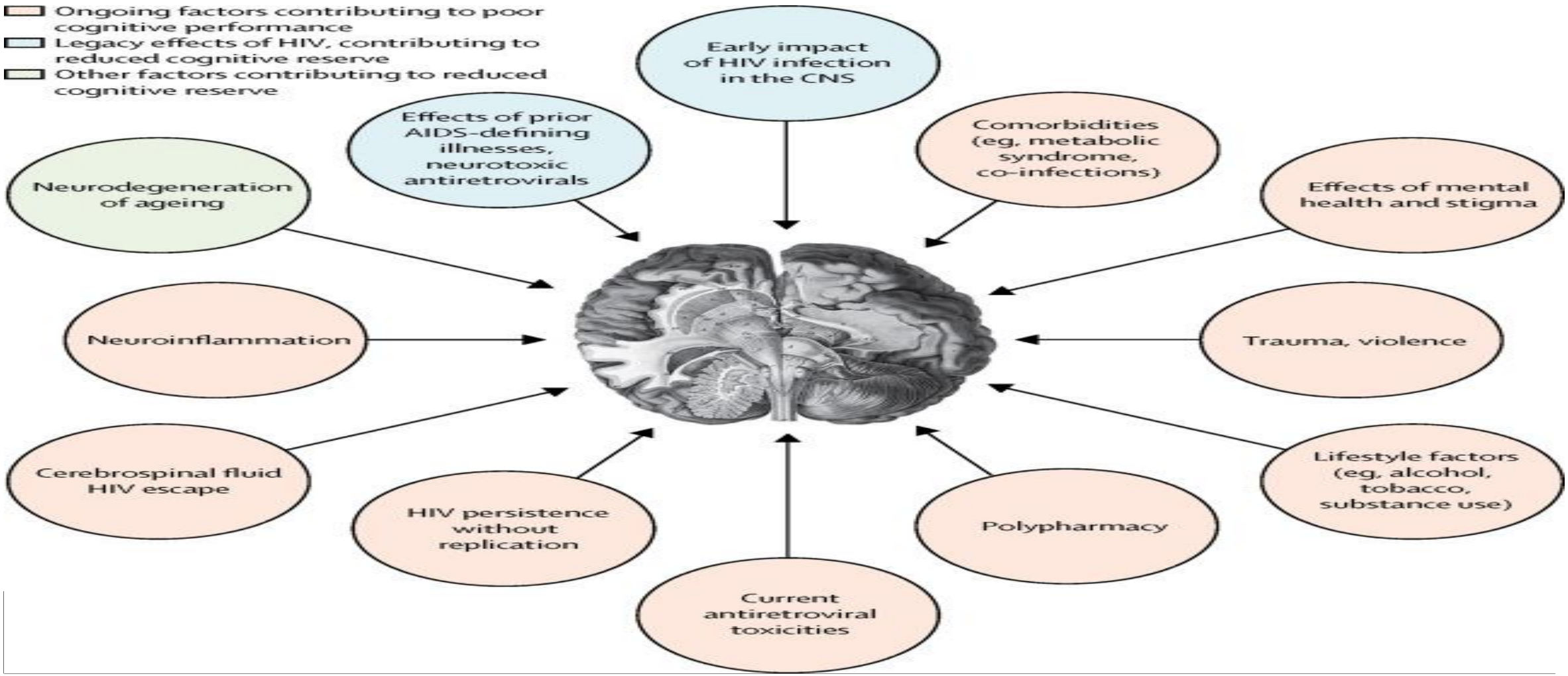
Griffith OFID 2018

CVD Data for Youth with HIV

- **Studies of children and youths in non-HIV disease states (diabetes, obesity) link arterial stiffness and thickness to hypertension & increased left ventricular mass**
- **Limited data on youth with perinatal infection**
  - Mixed results, study challenges
  - ↑ arterial thickness (carotid intimal medial thickness) in HIV+ vs. HIV-
  - ↑ arterial stiffness (pulse wave velocity) & ↓ flow-mediated dilatation in HIV+ vs. HIV-
  - ↑ inflammatory markers in HIV+ vs. HIV-→ associated with arterial thickness, stiffness, and flow-mediated dilatation
  - ↑ inflammatory markers despite longstanding virologic suppression
  - AYA with HIV have higher markers of cardiopulmonary dysfunction
    - Up to 28% show evidence of early cardiovascular dysfunction
    - Biomarkers of cardiomyocyte stress and injury (high sensitivity cardiac troponin-T [hs-cTnT] and N-terminal-pro-brain natriuretic peptide [NT-proBNP]) are elevated compared to uninfected adolescents after adjusting for adherence to ART,
    - Inflammation associated with poorer left ventricular function and increased stress in the ventricular walls

Miller TI, et al. HIV Med. 2012 13(5): 264-75; Sainz T et al Atherosclerosis 2014, Ross et al, Persaud D JAMA Peds 2014, Yusuf 2020

Mental health in adolescents born with HIV



Phillips Pediatrics 2016; Malee AIDS Care 2011; Scharko AIDS Care 2006; Earnshaw AIDS & Behavior 2018; Well Project; Winston A et al Lancet HIV 2020

Sexual and reproductive health for adults born with HIV

	2nd Decade 10-19 years	3rd Decade 20-29 years	4th Decade 30-39 years	5th Decade 40-49 years	≥6th Decade ≥50 years
					
Sexual and Reproductive Health					
Sex/reproductive	Sexual and gender identify evolving; Sexual activity often commences Risk reduction	Secondary Prevention Child bearing Risk reduction	Secondary Prevention Child bearing Risk reduction	Secondary Prevention Risk reduction	

Phillips Pediatrics 2016; Malee AIDS Care 2011; Scharko AIDS Care 2006; Earnshaw AIDS & Behavior 2018; Yusuf 2020

STI Rates among adolescents

Rates of chlamydia, gonorrhea, and primary & secondary syphilis ↑ for both sexes in 15–24 year olds

Chlamydia: highest among women 15–24 years; males 15–24 years ↑ 29% (2013–2017), while the rate in females ↑ 9%

Gonorrhea: males 15–24 years ↑ 52%, while the rate in females increased 24%

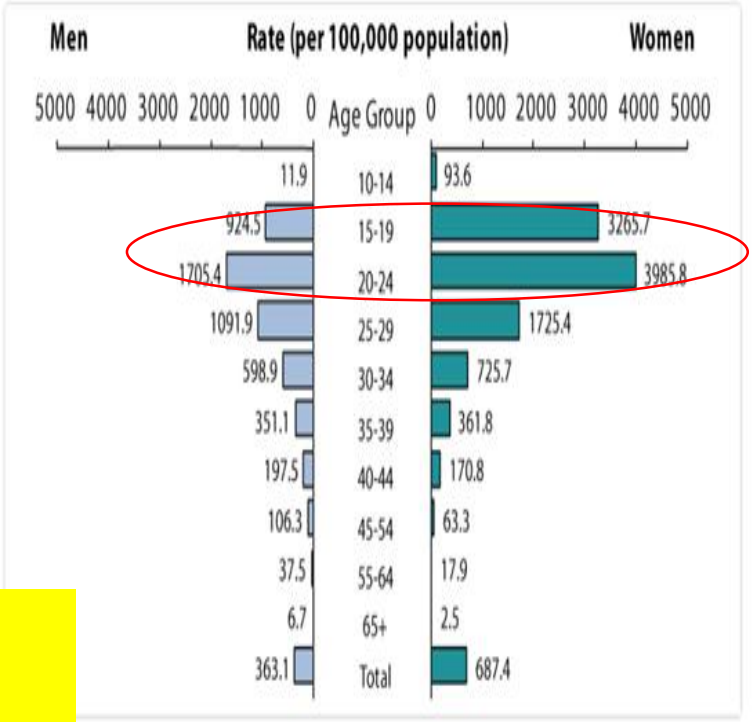
Reasons for increases include:

- ↑ incidence
- ↑ screening among young men
- ↑ extragenital screening

HIV positive adolescents:

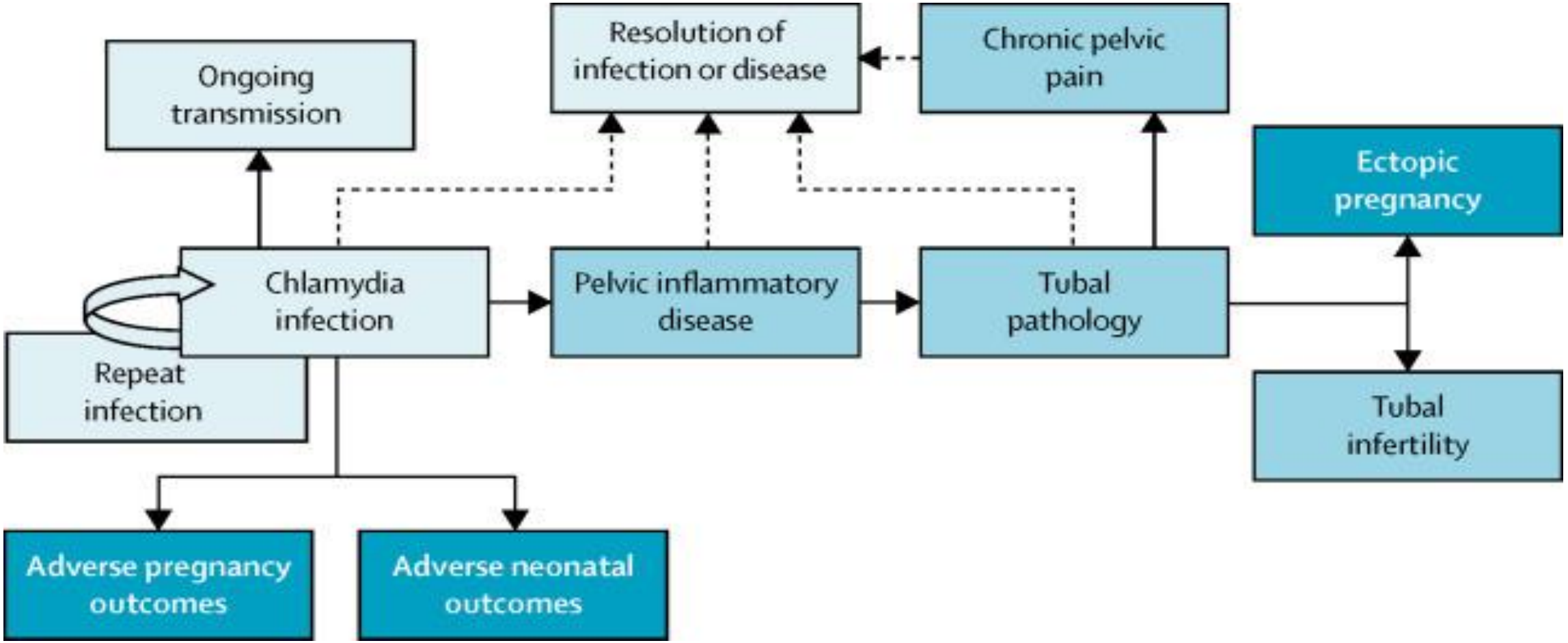
- Perinatally acquired: ↑ likelihood to use condoms (60% use condoms inconsistently); 30% have >1 concurrent partner
- Non-perinatally acquired: continued sexual activity, inconsistent condom use
- Pregnancy desires unchanged

Figure 5. Chlamydia – Rates of Reported Cases by Age Group and Sex, United States, 2017

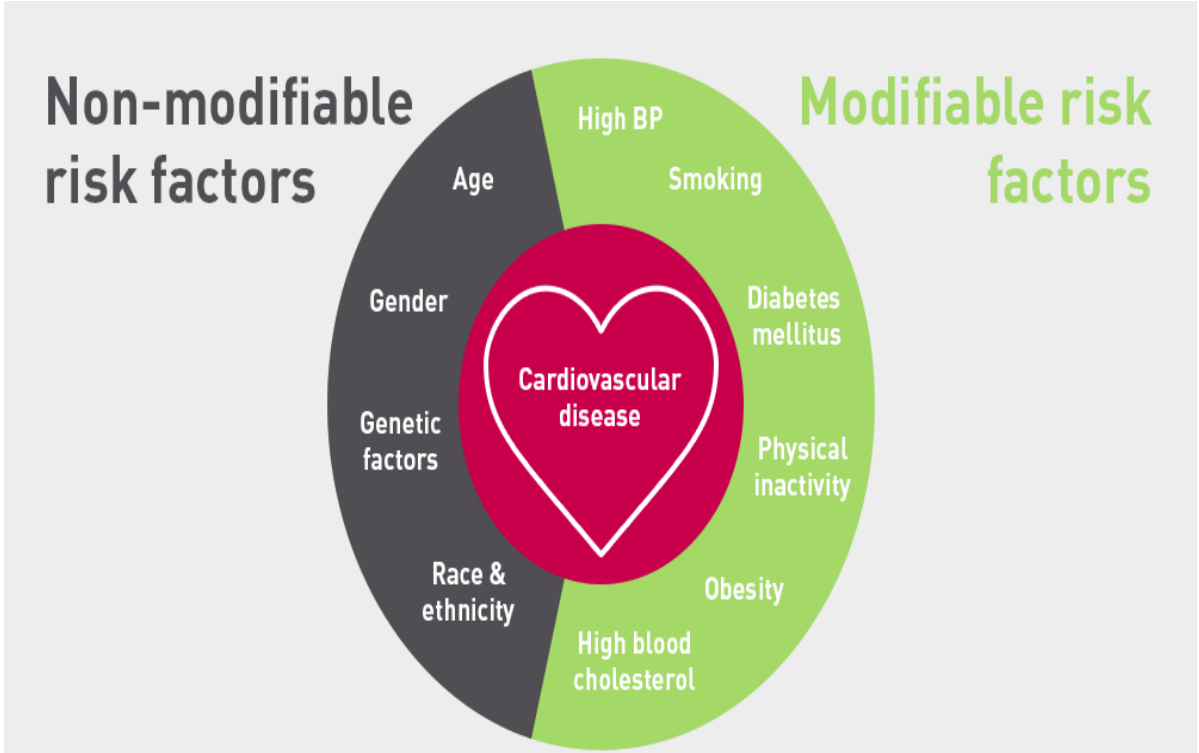


Judd et al PLoS One 2018; Ankunda Pan Afr Med 2016; Koenig JAIDS 2010; CDC

Comorbidities and Sequelae Resulting from STIs



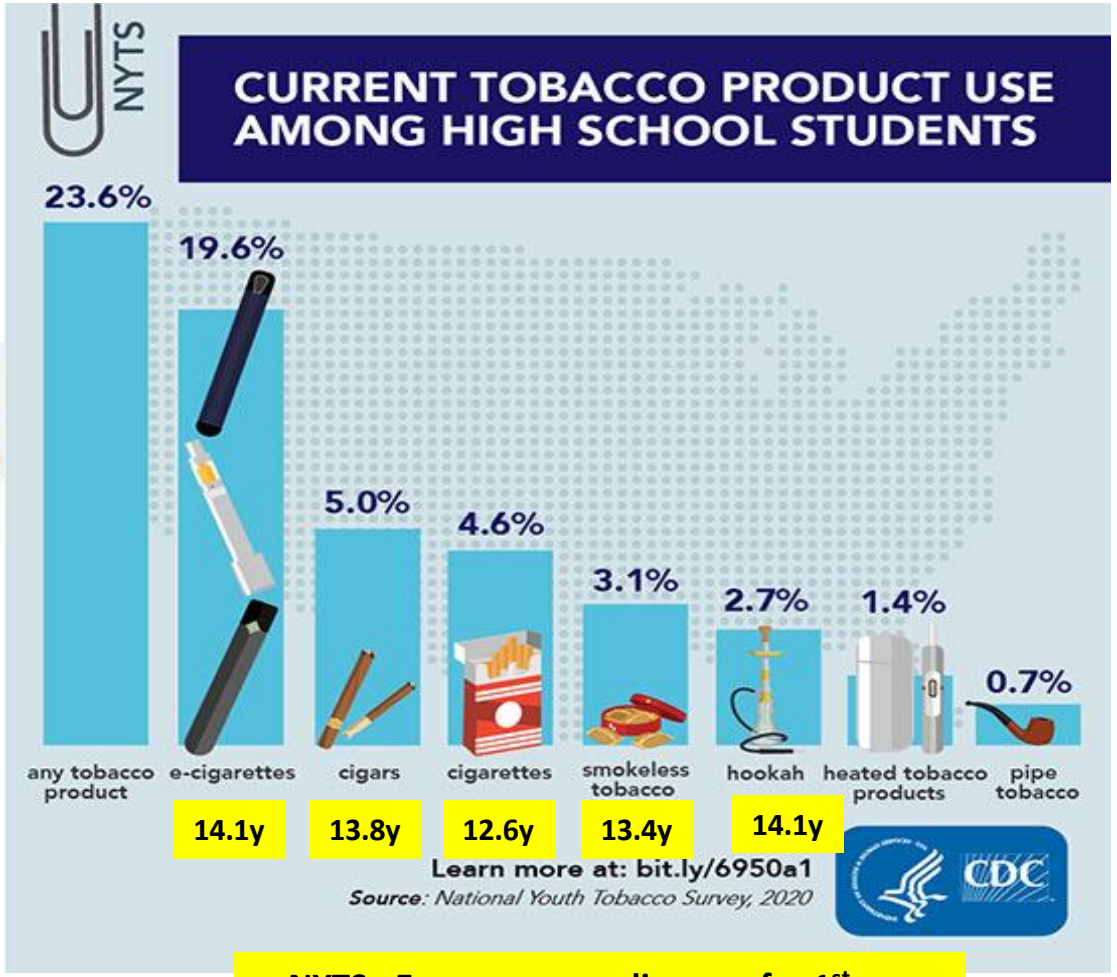
Unemo et al. Lancet ID 2017. 17(8): E235-79



Non-modifiable	Modifiable	Lifestyle	Social
• Age • Gender • Family history of CVD • Ethnicity • Genetic evidence • Previous history of CVD	• Blood pressure • Total cholesterol • HDL cholesterol • Smoking • Blood sugar/diabetes • BMI • Markers of chronic inflammation	• Smoking • Diet • Exercise • Stress	• Income • Social deprivation • Environment

Tobacco use among adolescents

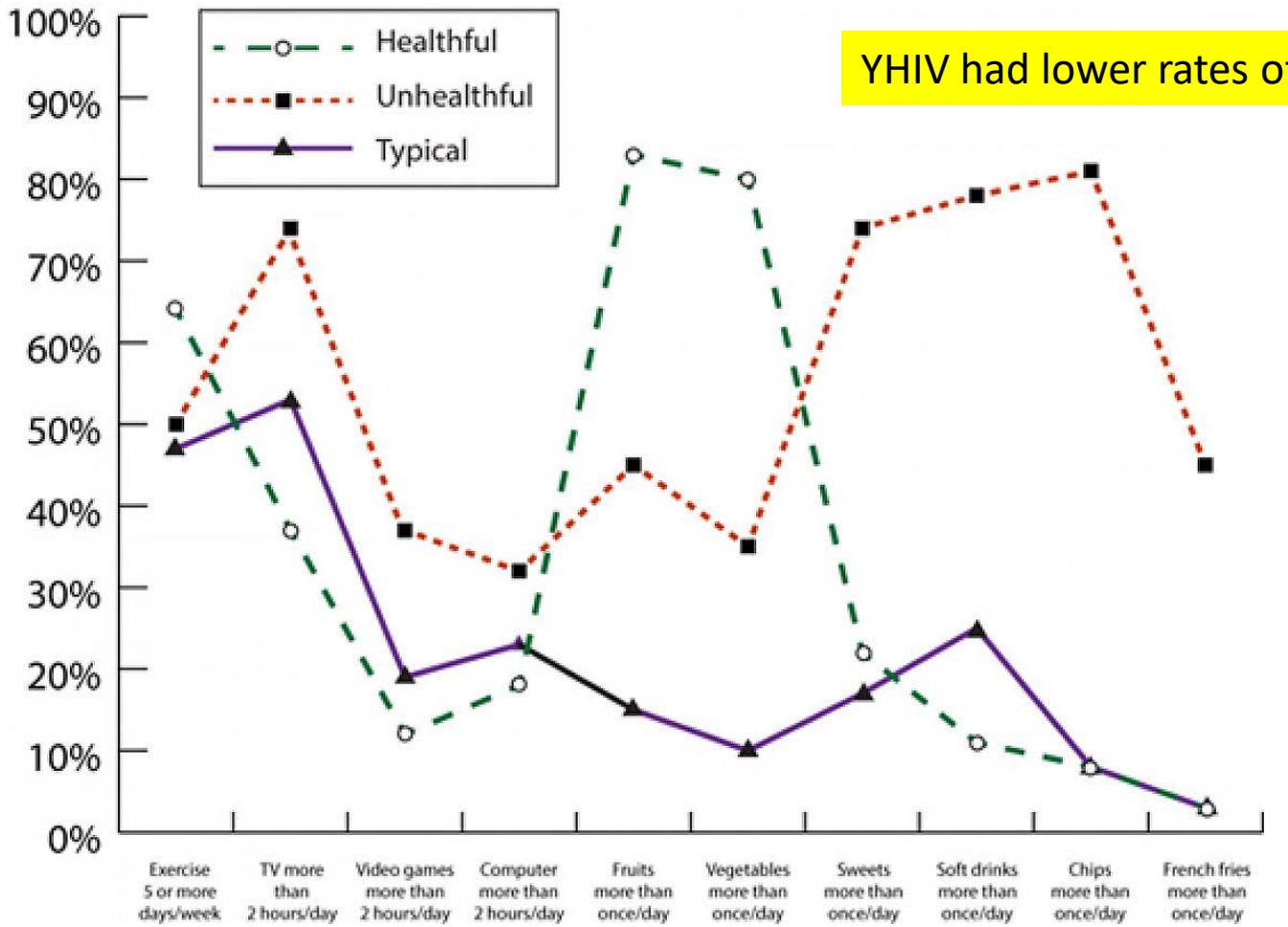
- 7% of middle schoolers and 23% of high schoolers report current use of a tobacco product
- Younger age at start associated with ↑ nicotine dependence
- Cigarillos use has markedly ↑ among adolescents
- YHIV: 24% daily/almost daily tob (ATN)
  - Associated with greater AIDS-related morbidity/mortality
  - Mixed association with viral load



NYTS: Ever-users, median age for 1st use

Nasim et al. Nicotine & Tobacco Research 2016; https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm, Sharapova BMJ 2018

Physical activity and lifestyle among adolescents

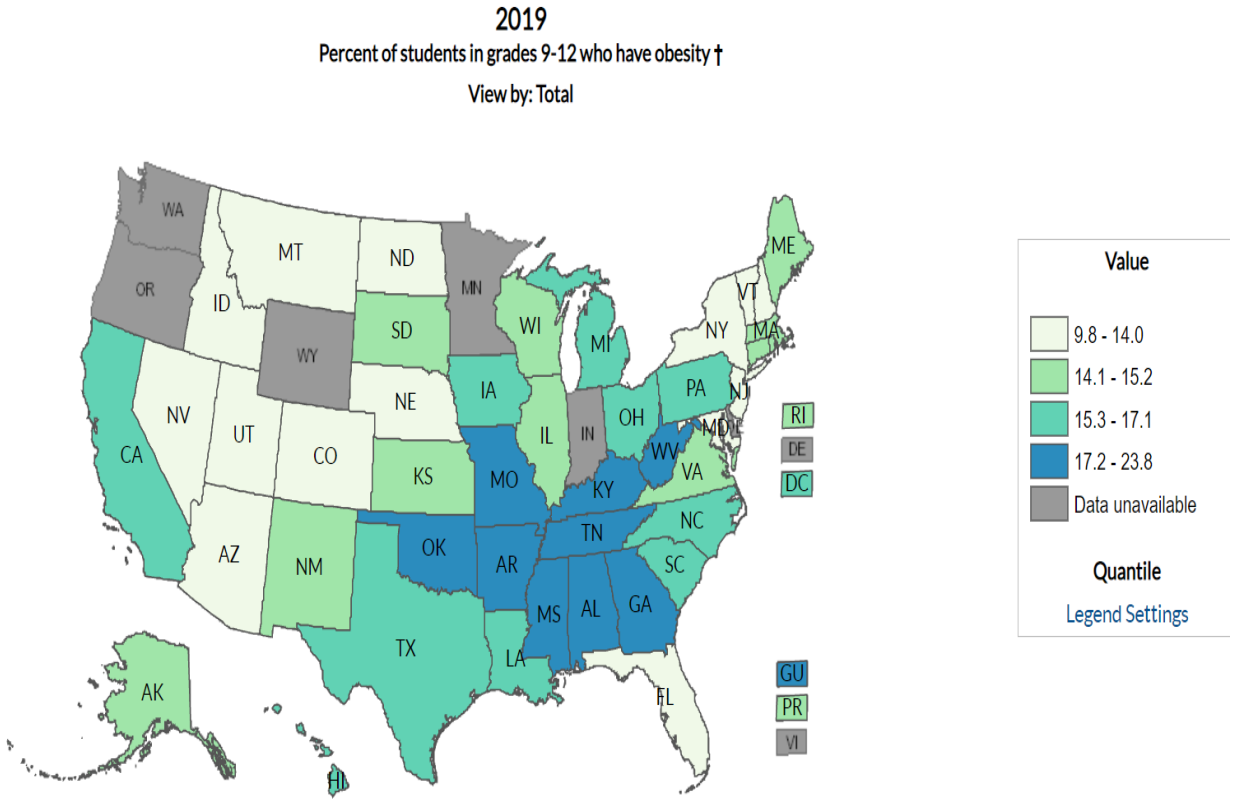


YHIV had lower rates of physical activity than HEU (PHACS)

https://www.nih.gov/news-events/news-releases/only-half-us-youth-meet-physical-activity-standards-nih-study-shows; Dirajilal-Fargo et al. JAIDS 2021

Obesity

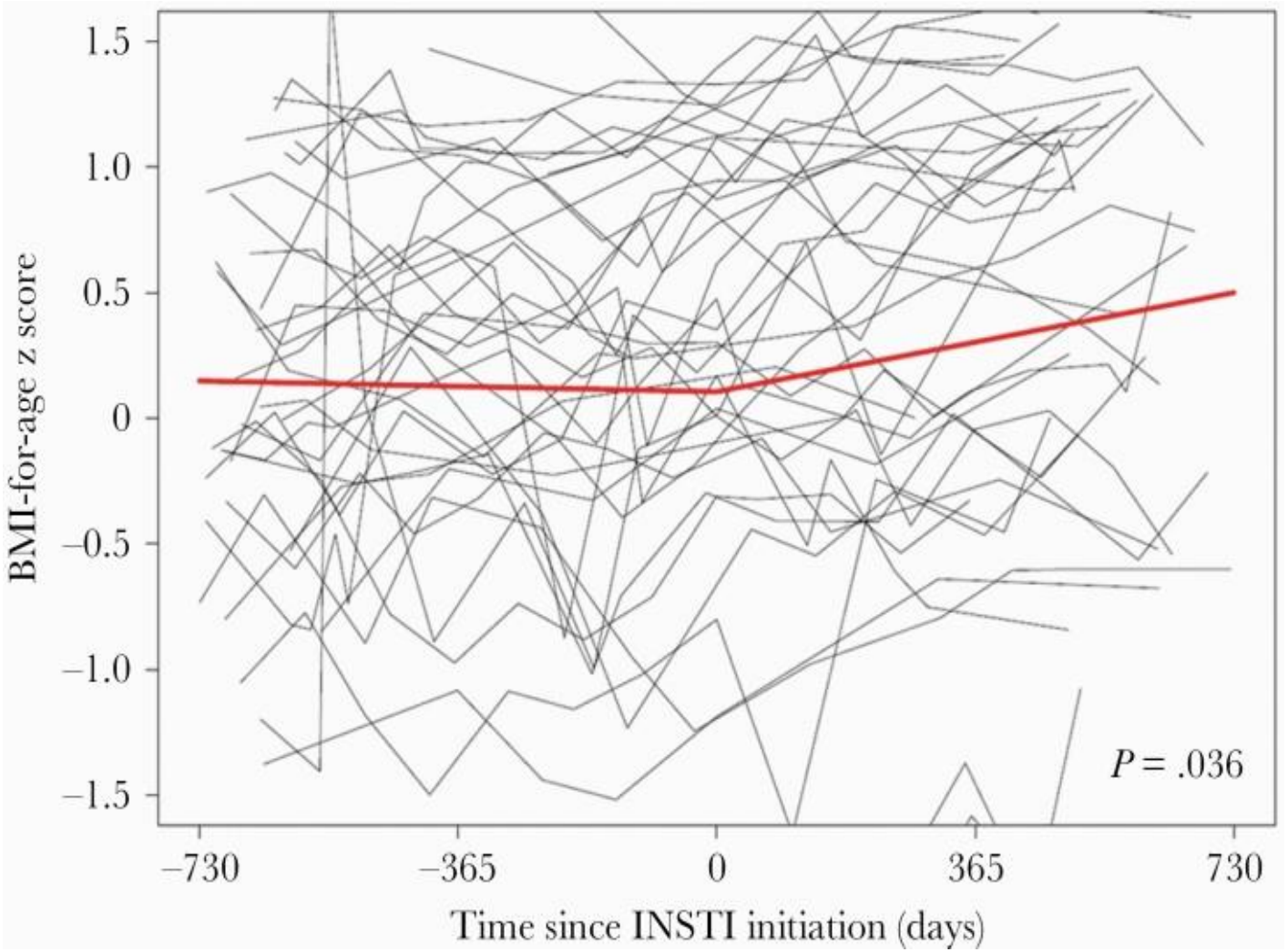
- 21% of 12-19 year olds are obese
  - Hispanic (26%)
  - non-Hispanic Black (24%)
  - non-Hispanic White (16%)
- 40-52% of HIV-positive youth overweight/obese



Obesity: ≥95th percentile BMI

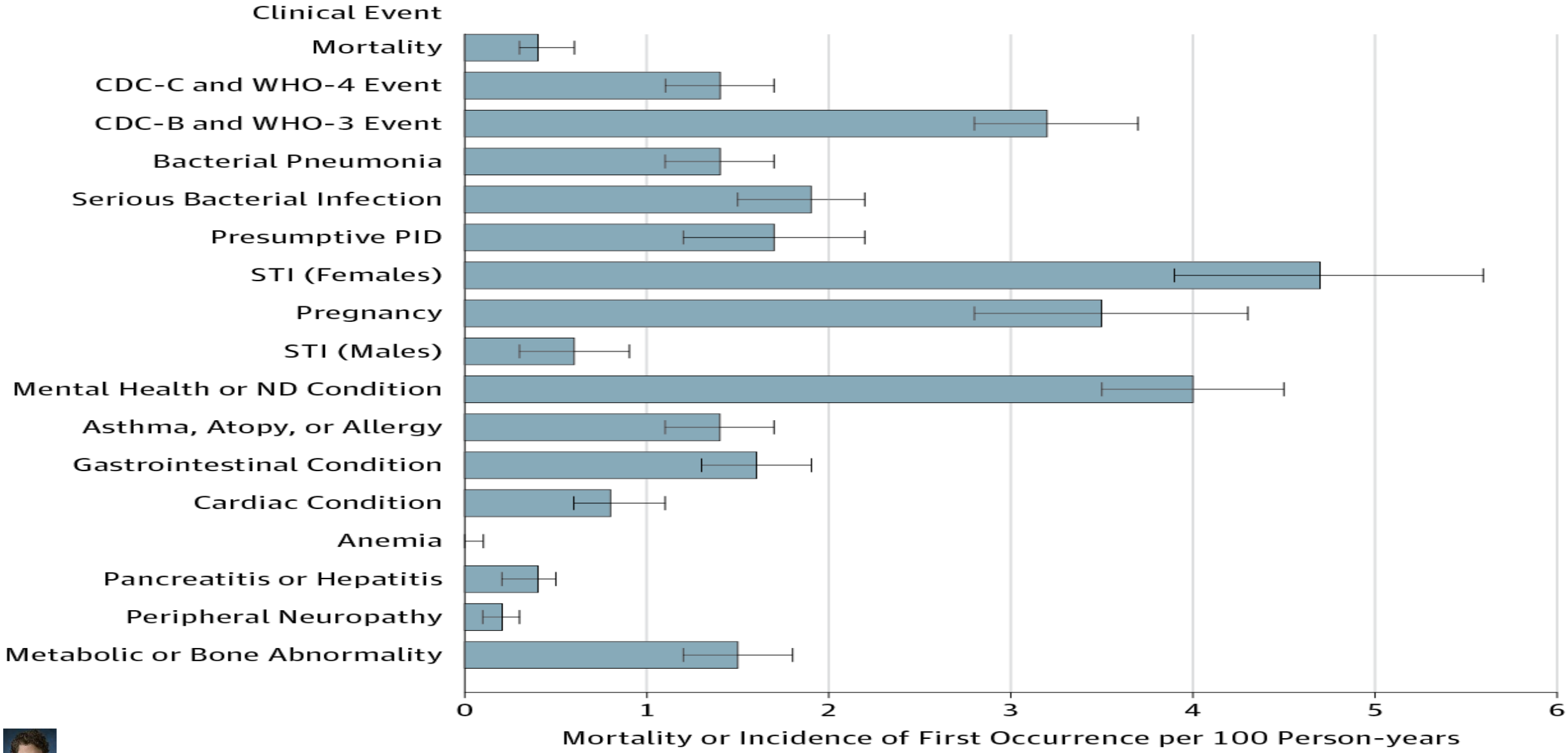
CDC, Youth Risk Behavior Survey 2019; Kruzich LA. J Acad of Nutri and Diet 2004; Mulligan K CID 2010

Weight again among adolescents with HIV



Li et al. JPIDS 2020; Koay et al OFID 2021

Long-term morbidity of HIV +/- ART



Griffith D et al. OFID 2017; Hazra R et al.; Izbudak, Agwu J Neurorad 2013;, **Venkataramani** 2012; Eckard et al Curr HIV/AIDS 2016; **Neilan** et al JAMA Peds 2017

What can you do?

- Take a good history
- Assess risk factors
  - Tobacco
  - Substances
  - Sex
  - Activities
  - Diet
  - Helmets, firearms
- Detailed family history
- Physical examination

Leading Cause of Death in the United States for Select Age Groups (2019)
Data Courtesy of CDC

Rank	10-14	15-24	25-34	35-44	45-54	55-64	All Ages
1	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 659,041
2	**Suicide 534**	**Suicide 5,954**	**Suicide 8,059**	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 80,837	Malignant Neoplasms 599,601
3	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Unintentional Injury 173,040
4	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	**Suicide 7,525**	Liver Disease 8,098	CLRD 18,743	CLRD 156,979
5	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	**Suicide 8,012**	Diabetes Mellitus 15,508	Cerebro-vascular 150,005
6	Heart Disease 87	Congenital Anomalies 390	Liver Disease 1,112	Liver Disease 3,417	Diabetes Mellitus 6,348	Liver Disease 14,385	Alzheimer's Disease 121,499
7	CLRD 81	Diabetes Mellitus 248	Diabetes Mellitus 887	Diabetes Mellitus 2,228	Cerebro-vascular 5,153	Cerebro-vascular 12,931	Diabetes Mellitus 87,647
8	Influenza & Pneumonia 71	Influenza & Pneumonia 175	Cerebro-vascular 585	Cerebro-vascular 1,741	CLRD 3,592	**Suicide 8,238**	Nephritis 51,565
9	Cerebro-vascular 48	CLRD 168	Complicated Pregnancy 532	Influenza & Pneumonia 951	Nephritis 2,269	Nephritis 5,857	Influenza & Pneumonia 49,783
10	Benign Neoplasms 35	Cerebro-vascular 158	HIV 486	Septicemia 812	Septicemia 2,176	Septicemia 5,672	**Suicide 47,511**

CLRD: Chronic Lower Respiratory Disease

Note: Suicide is not among the ten leading causes of death among children in the 0-9 year age group nor in adults in the age group 65 years and older.

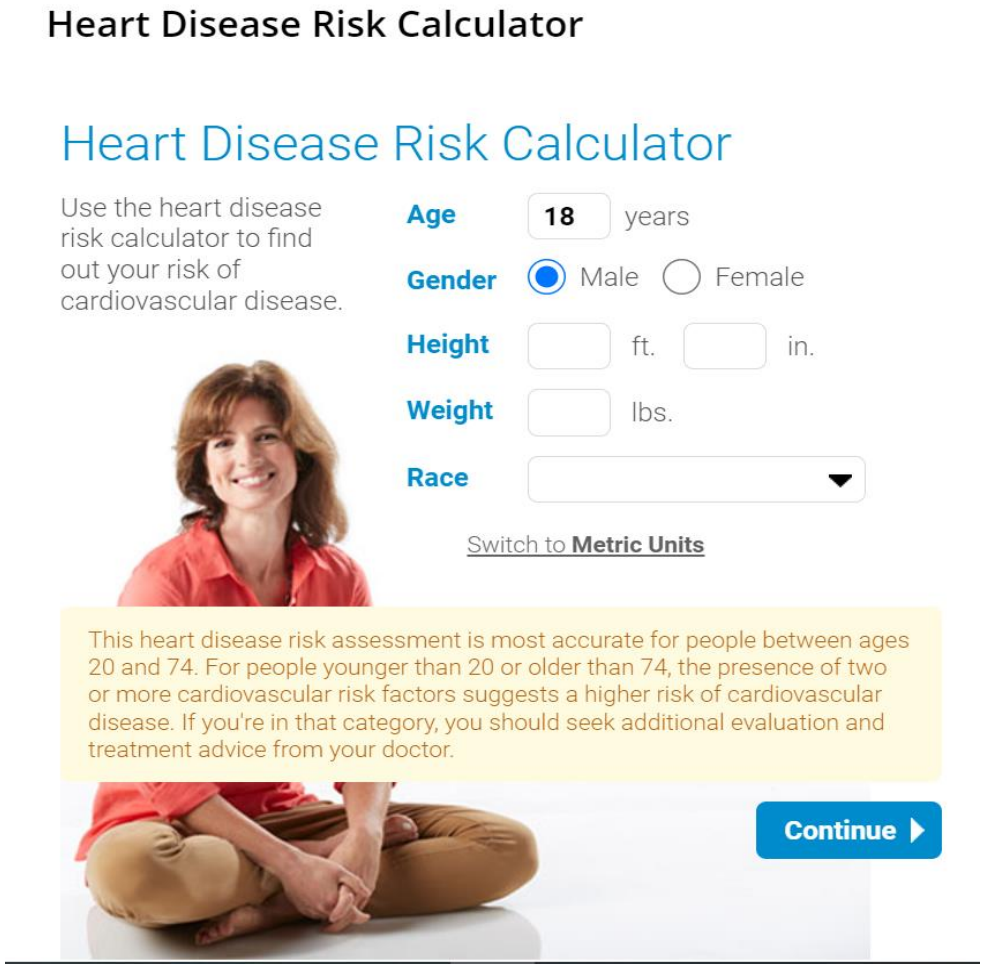
What can you do?

- **Education** (patient and staff)
- **Counseling**
  - Nutrition
  - Exercise
  - Smoking (cigarettes, vape, cigarillos, e-cigarettes))
  - Substance, ETOH use
  - Sex
  - Etc
- **Screening:** BP, lipids (fasting/non-fasting), glucose, weight

USPSTF

Risk calculators for adolescents?

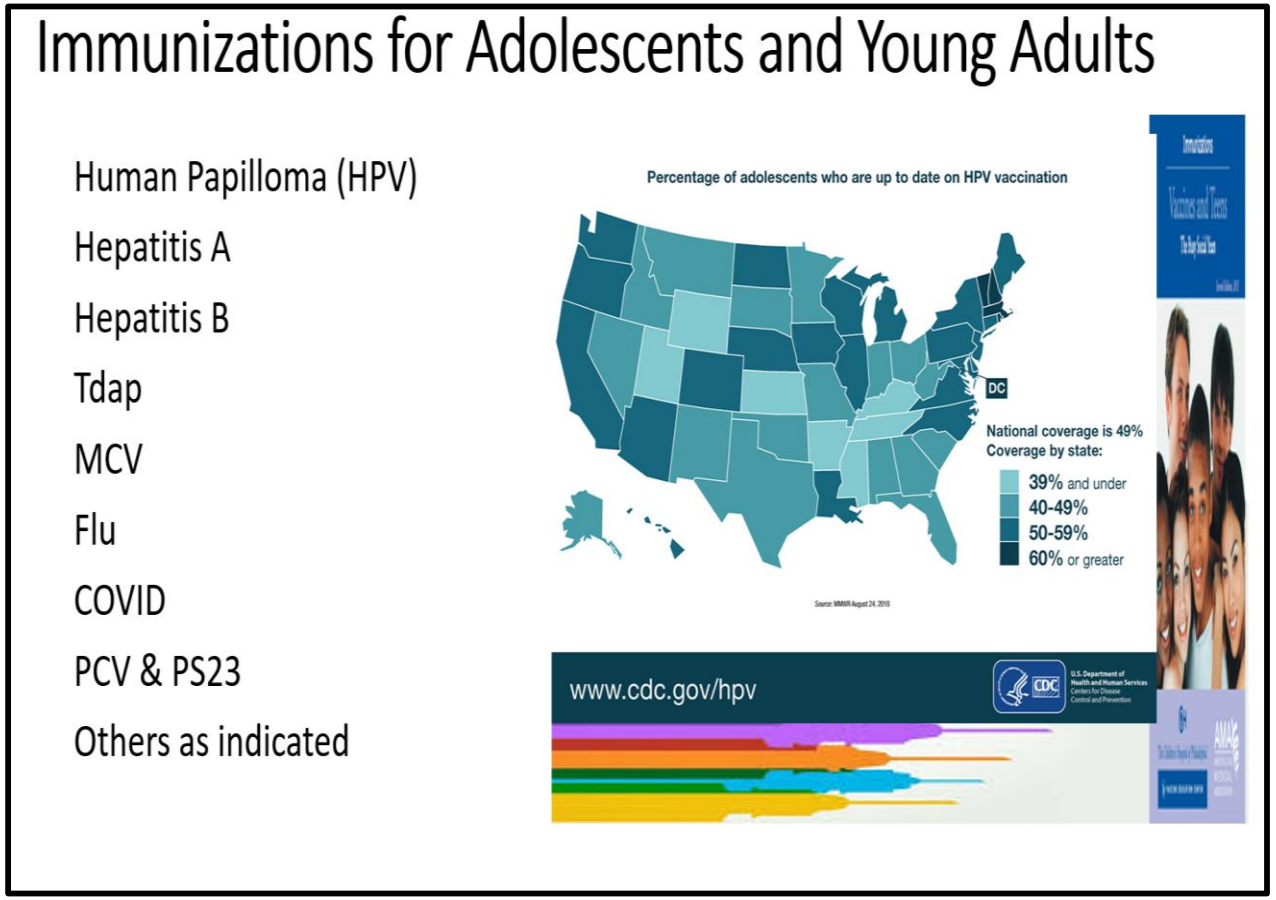
- ASCVD Heart Risk Calculator (age 40-79)
- If you know your lipids information and you are <60, the Framingham Heart Study General Cardiovascular Disease 30-Year Lipid-Based Risk Score Calculator is used. FOR AGES 30-79
- If you don't know your lipids information and you are <60, the Framingham Heart Study General Cardiovascular Disease 30-Year BMI-Based Risk Score Calculator is used. FOR AGES 30-79
- If you know your lipids information and you are ≥60 or older, the ACC/AHA Pooled Cohort Equations CV Risk Calculator is used.
- If you don't know your lipids information and you ≥ 60 or older, the Framingham Heart Study Cardiovascular Disease 10-Year BMI-Based Risk Score Calculator is used.



http://www.cvriskcalculator.com/; https://www.mayoclinichealthsystem.org/locations/menomonie/services-and-treatments/cardiology/heart-disease-risk-calculator

What can you do?

- **Actions:**
  - Smoking cessation
  - Lifestyle modification
  - Treatment
    - HTN (<130/80 goal) or <90th percentile
    - Hyperlipidemia: ?? (benefit for older youth with clear abnormal)
  - Weight loss
  - hyperlipidemia
  - Substance use treatment
  - STI counseling, screening, and treatment; family planning
  - Immunizations



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Conclusion

- Adolescents with early-acquired HIV are surviving into adulthood
- Providers must be aware of their unique milieu and potential comorbidities to optimize care and outcomes
- Important to screen for and address comorbidities with prevention and early treatment

Acknowledgements

The Youth!!

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National Institute of Allergy and Infectious Diseases

Eunice Kennedy Shriver NICHD
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JOHNS HOPKINS UNIVERSITY

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration
Maternal and Child Health Bureau