



HIV and Adolescents

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AIDS Clinical Conference

9/17/19



Disclosures

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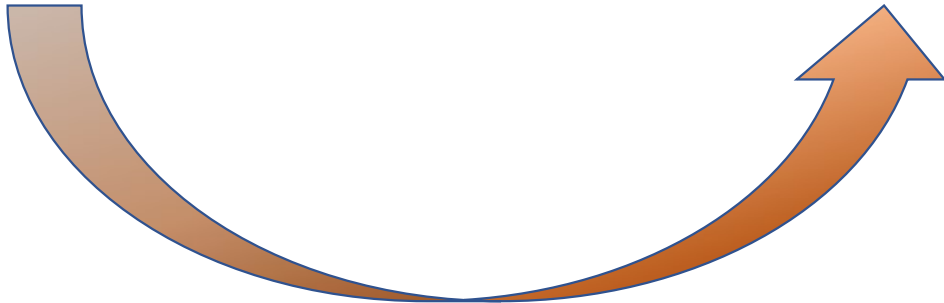


- Adolescent development
- Epidemiology
- Transitional care
- Best Practices



Concrete operations
Egocentricity
Inability to perceive long-term outcomes of current decisions
Follow rules to avoid punishment
Strong sense of right/wrong, absolute

Future-oriented with sense of perspective
Idealism
Able to think through problems independently
Improved impulse control
Improved assessment of risk vs. reward
Can distinguish rule from morality



Emergence of abstract thought
Perception of future implications, does not always apply to decision-making
Strong emotions drive decisions
INVULNERABILITY
Emerging ability to see others' perspectives

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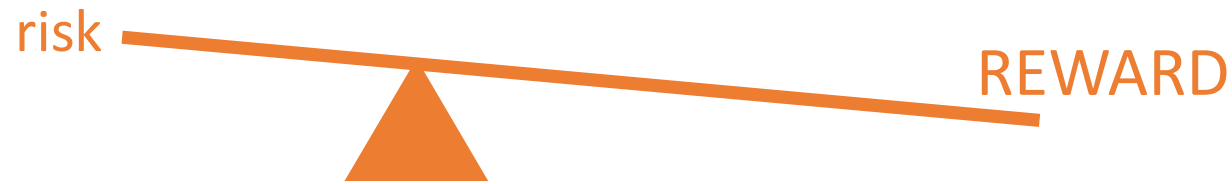
Future-oriented with sense of perspective
Idealism
Able to think through independently
Improved impulse control
Improved assessment of risk vs. reward
Can distinguish rule from morality

STRESS

Struggle for autonomy
Emotional and physical separation from family
PRIVACY

Intense peer group involvement
Preoccupation with peer culture
Conformity

Emergence of abstract thought
Perception of future implications, does not always apply to decision-making
Strong emotions drive decisions
INVULNERABILITY
Emerging ability to see others' perspectives



- Unique sensitivity to the effects of dopamine on subcortical structures
- Reduced responsiveness to adverse stimuli

All of this leads to a myriad of risk taking behaviors

Case

- 19M attended a clinic in December requesting STD testing. Risk factors MSM, condomless anal intercourse.
- HIV negative, but diagnosed with multiple bacterial STIs. PrEP was recommended but due to visit time constraints he was suggested to return for another appointment to discuss further.
- He did not return.
- Diagnosed with HIV in September (VL 5.6 log, CD4 189)
- Established care in October
- Finished high school. 2 jobs (FT preschool teacher, PT restaurant server). Denies drug use. Recently, very involved in a new church-based youth group and lifts weights at gym several days per week. Lives in an apartment with his sister. Very close with his family. Serious monogamous relationship (2 weeks)
- Has not disclosed his status to anyone.

New HIV diagnosis age 13-24

Washington	2017 ¹	2016 ²
cases	62	73
%	14%	17%

¹ HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2018, Volume 87.

² HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2017, Volume 86.

New HIV diagnosis age 13-24

- Late diagnosis HIV 18%
- Linkage to care 85%

- 37% suppressed within 90 days

Washington	2017 ¹	2016 ²	2016 U.S. ³
cases	62	73	8451
%	14%	17%	21%

<u>CURRENT AGE (YEARS)</u>	SUPPRESSED IN 90 DAYS ^c	
	NO.	ROW %
< 13	n/a	n/a
13-24	23	37%
25-34	65	41%
35-44	39	46%
45-54	37	45%
55-64	19	43%
65+	6	55%

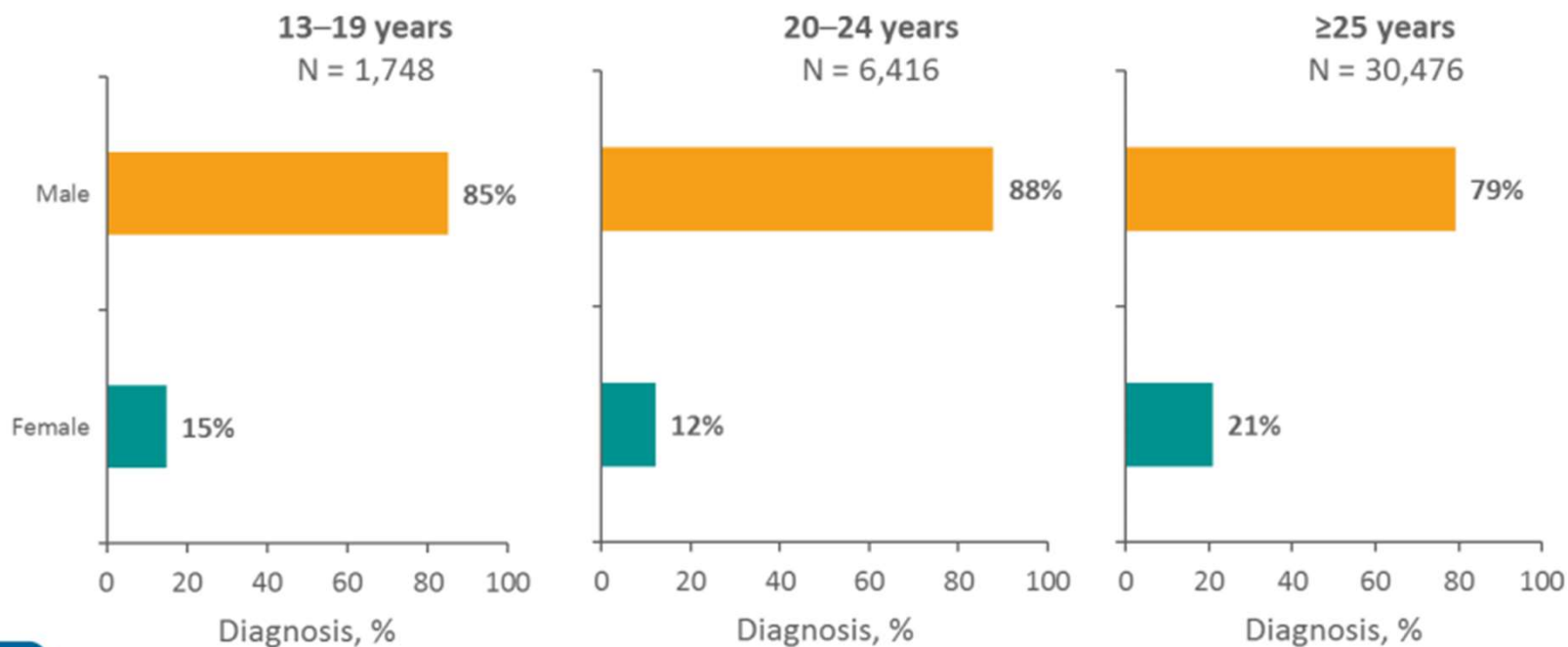
¹ HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2018, Volume 87.

² HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2017, Volume 86.

³ Centers for Disease Control and Prevention. HIV Surveillance Report, 2016; vol. 28.

<http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published November 2017. Accessed July 1, 2019.

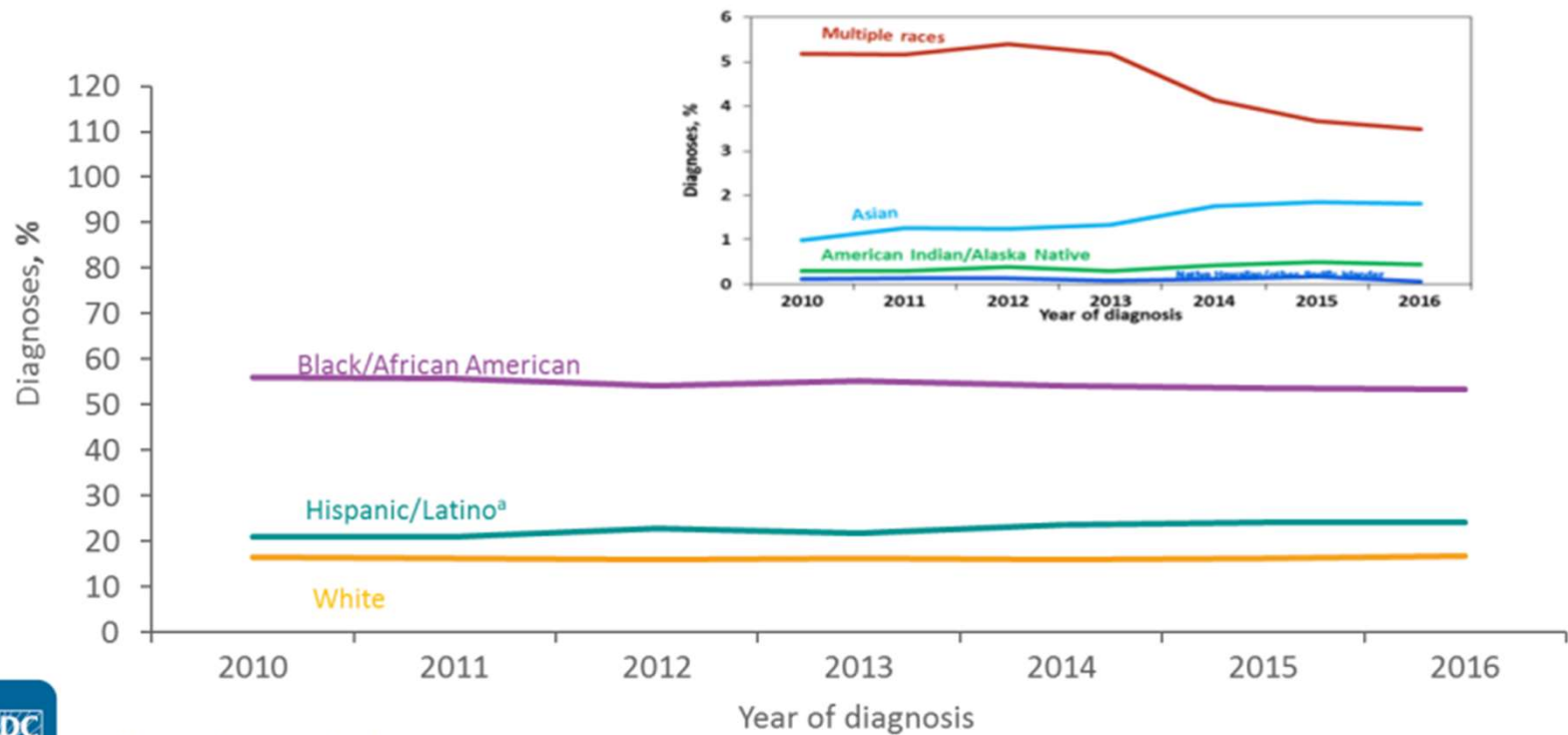
Diagnoses of HIV Infection among Persons Aged 13 Years and Older, by Sex and Age Group, 2017—United States and 6 Dependent Areas



Note. Data for the year 2017 are considered preliminary and based on 6 months reporting delay.

<https://www.cdc.gov/hiv/pdf/library/slidesets/cdc-hiv-surveillance-adolescents-young-adults-2017.pdf>

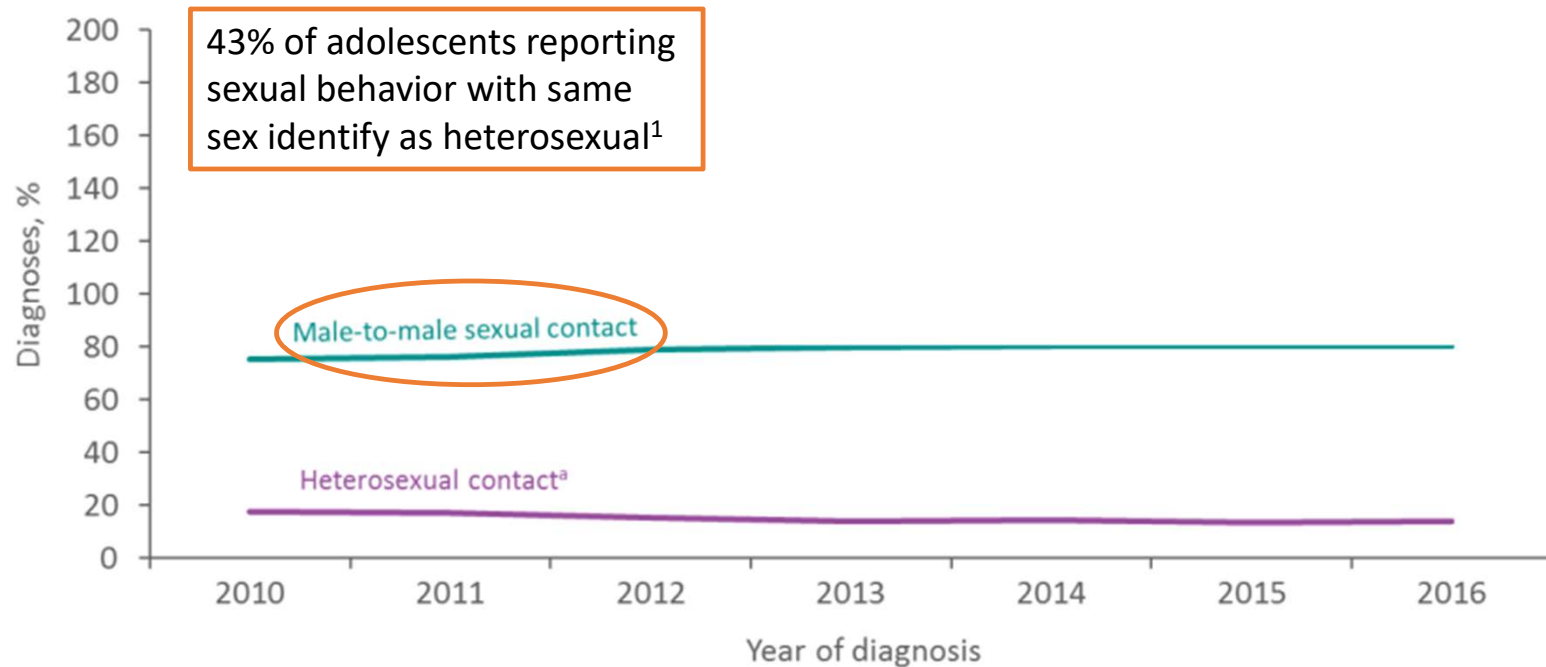
Diagnoses of HIV Infection among Adolescents and Young Adults Aged 13–24 years, by Race/Ethnicity, 2010–2016—United States and 6 Dependent Areas



^a Hispanics/Latinos can be of any race.



Diagnoses of HIV Infection among Adolescents and Young Adults Aged 13–24 Years, by Transmission Category, 2010–2016—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 less than 1% of cases.

^aHeterosexual contact is with a person known to have, or to be at high risk for, HIV infection.

<https://www.cdc.gov/hiv/pdf/library/slidesets/cdc-hiv-surveillance-adolescents-young-adults-2017.pdf>

¹Igartua et al. Journal of Adolescent Health 45 (2009) 602-608.

TABLE 1. Percentage of male high school students* who reported HIV-related risk behaviors, by sex of sexual contacts, and female high school students* who reported HIV-related risk behaviors — state and local Youth Risk Behavior Surveys conducted in 12 states† and nine large urban school districts,§ 2009–2011

HIV-related risk behavior	Race/Ethnicity	Male high school students				Female high school students who had sexual contact	
		Who had sexual contact with females only		Who had sexual contact with males only or both males and females		%	(95% CI)
		%	(95% CI)	%	(95% CI)		
Sexual intercourse with four or more persons during lifetime	Black/African American	45.1	(40.9–49.3)	43.3	(33.4–53.7)	24.1	(21.7–26.7)
	Hispanic/Latino [¶]	30.5	(28.5–32.7)	53.3**	(45.6–60.8)	16.0	(14.3–17.8)
	White	19.5	(17.5–21.7)	29.5**	(22.8–37.3)	17.5	(15.6–19.7)
	Total	26.9	(25.5–28.5)	39.4**	(34.5–44.4)	18.7	(17.3–20.1)
Ever injected illegal drugs	Black/African American	2.1	(1.4–3.1)	22.2**	(13.9–33.4)	3.6	(2.6–5.2)
	Hispanic/Latino	5.8	(4.5–7.4)	26.8**	(20.3–34.5)	3.2	(2.3–4.4)
	White	2.1	(1.5–2.8)	13.9**	(8.4–22.3)	2.8	(1.5–5.3)
	Total	2.9	(2.5–3.5)	20.4**	(15.9–25.8)	3.2	(2.3–4.5)
Drank alcohol or used drugs before last sexual intercourse ^{††}	Black/African American	17.6	(14.9–20.6)	22.2	(12.4–36.7)	13.4	(11.2–16.0)
	Hispanic/Latino	27.2	(24.4–30.2)	64.3**	(54.4–73.1)	16.6	(14.5–19.0)
	White	25.4	(23.0–27.8)	30.2	(23.0–38.5)	16.5	(14.7–18.4)
	Total	24.3	(22.7–25.8)	38.5**	(32.8–44.6)	16.0	(14.8–17.3)
Condom use at last sexual intercourse ^{††}	Black/African American	75.3	(72.2–78.2)	55.1**	(42.1–67.4)	59.3	(55.5–63.0)
	Hispanic/Latino	67.4	(64.7–69.9)	33.0**	(23.9–43.5)	53.2	(50.2–56.1)
	White	69.2	(67.1–71.3)	48.7**	(40.1–57.4)	57.0	(55.1–58.8)
	Total	70.2	(68.7–71.6)	44.3**	(39.0–49.7)	56.6	(55.1–58.0)
Ever taught in school about AIDS or HIV infection	Black/African American	82.5	(80.1–84.7)	73.0	(62.1–81.6)	86.2	(84.0–88.2)
	Hispanic/Latino	83.5	(81.7–85.1)	62.0**	(54.8–68.8)	84.9	(83.2–86.5)
	White	89.2	(88.0–90.2)	84.9	(80.1–88.7)	89.8	(88.6–90.8)
	Total	86.3	(85.4–87.2)	74.6**	(70.7–78.1)	88.1	(87.2–88.9)

TABLE 2. Percentage of high school students who have ever been tested for HIV,* by sex, race/ethnicity, and ever having had sexual intercourse — National Youth Risk Behavior Survey, United States, 2011

Characteristic	Males		Females		Total	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Total	11.2	(9.4–13.3)	14.6	(12.8–16.6)	12.9	(11.3–14.7)
Race/Ethnicity						
Black/African American	23.7	(17.0–32.0)	24.2	(19.2–29.9)	24.0	(18.9–29.9)
Hispanic/Latino†	11.0	(8.8–13.7)	14.0	(12.0–16.2)	12.5	(11.0–14.1)
White	8.7	(7.3–10.4)	12.6	(10.7–14.8)	10.6	(9.2–12.1)
Ever had sexual intercourse						
No	4.8	(3.7–6.2)	4.2	(3.2–5.4)	4.5	(3.6–5.5)
Yes	17.6	(14.8–20.8)	27.2	(24.7–29.8)	22.2	(19.7–24.8)
Black/African American	29.1	(19.9–40.5)	35.2	(28.0–43.1)	32.0	(24.5–40.5)
Hispanic/Latino	15.9	(12.3–20.3)	25.2	(22.0–28.7)	20.1	(17.4–23.2)
White	14.2	(11.6–17.5)	25.4	(22.3–28.8)	19.6	(17.1–22.4)

Abbreviations: HIV = human immunodeficiency virus; CI = confidence interval.

* Excluding tests performed for blood donations.

† Hispanics/Latinos might be of any race.

Barriers to treatment adherence?

<u>CURRENT AGE (YEARS)</u>	SUPPRESSED IN 90 DAYS^c	
	NO.	ROW %
< 13	n/a	n/a
13-24	23	37%
25-34	65	41%
35-44	39	46%
45-54	37	45%
55-64	19	43%
65+	6	55%

HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2018, Volume 87.

Prevalence and Interactions of Patient-Related Risks for Nonadherence to Antiretroviral Therapy Among Perinatally Infected Youth in the United States

Bret J. Rudy, M.D.,¹ Debra A. Murphy, Ph.D.,² D. Robert Harris, Ph.D.,³ Larry Muenz, Ph.D.,³
and Jonathan Ellen, M.D.,⁴ for The Adolescent Trials Network for HIV/AIDS Interventions

- 368 subjects; non-adherence 25%
- Self-efficacy and outcome expectancy were higher in adherent
- In subjects with low SE/OE, adherence differed according to presence or absence of mental health or structural barriers
- Individual structural barriers associated with nonadherence were insurance problems, child care, school/work problems.
- Presence of 2 or more structural barriers also associated with nonadherence
- Similar to behaviorally infected youth (Rudy et al. 2009) except non-adherence **37%**.

Barrier	Full subsample (% <i>, N</i>)	Perinatally infected (% <i>, N</i>)	Behaviorally infected (% <i>, N</i>)
Forgot	73.6, 356	75.1, 163	72.9, 172
Didn't feel like taking it, needed a break ^a	30.0, 145	39.2, 85	22.0, 52
Taking it reminds of HIV, want to forget ^a	28.9, 140	35.5, 77	21.6, 51
Made me sick to my stomach/tasted bad ^a	20.5, 99	27.6, 60	14.4, 34
Ran out of prescription	20.5, 99	17.5, 38	21.2, 50
Worried that someone would find out about HIV	16.3, 79	16.1, 35	19.9, 40
Got in the way of my daily schedule	15.5, 75	17.5, 38	14.4, 34
Family and/or friends don't help me remember	15.1, 73	17.5, 38	12.3, 29
Got another illness, wasn't feeling well	12.4, 60	14.7, 32	10.6, 25
Change in living situation, moved	10.7, 52	8.8, 19	12.7, 30
Can't get pill at drug store	11.2, 54	9.2, 20	12.7, 30
Get sick even when I take the pills ^a	10.2, 49	14.7, 32	6.4, 15
Don't understand why have to take the pills ^[4]	8.5, 41	11.5, 25	5.5, 13
Nowhere to keep pills at school or work ^b	8.3, 40	11.1, 24	5.9, 14
Didn't think I need the pills anymore ^a	7.6, 37	12.0, 26	4.2, 10
Did not have health insurance	6.4, 31	6.0, 13	6.8, 16
Got a headache, other physical symptom	6.0, 29	6.0, 13	6.8, 16
Family or friends say I shouldn't take them	1.7, 8	1.4, 3	2.1, 5
Other	23.3, 113	22.6, 49	24.2, 57

- N=484, 12-24 years
- Perinatal reported more barriers
- # of barriers correlated with % of doses missed, psychological distress and VL for perinatal
- For behaviorally infected youth, # of barriers correlated with % of doses missed, psychological distress and substance use (CRAFFT)

A youth-focused case management intervention to engage and retain young gay men of color in HIV care

Amy Rock Wohl^{a*}, Wendy H. Garland^a, Juhua Wu^b, Chi-Wai Au^b, Angela Boger^b, Rhodri Dierst-Davies^a, Judy Carter^b, Felix Carpio^c and Wilbert Jordan^d

- Participants met weekly with a peer case manager for 2 months then monthly for 22 months
- At enrollment, 78% had an urgent or immediate need for stable housing, nutritional support, substance abuse treatment or mental health services
- 90% were retained in care at 3 months, 70% by 6 months
- Among those who had previously been in intermittent care, the proportion attending all HIV visits in the previous 6 months increased from 7% to 73%

Project STYLE (Strength Through Youth Livin' Empowered)

- Target population Black and Latino young MSM in NC
- Social marketing campaign at college and university campuses
- Mean age 21, mean distance to clinic 50 miles
- **63% retention in care over 2 years**
- Peer outreach worker, case manager, HIV provider, weekly support group meetings, availability of clinic/research staff by phone/text, appt within 72 hours, youth advisory board

YPHIV

ACCEPTED MANUSCRIPT

Healthcare transition outcomes among young adults with perinatally-acquired HIV infection in the United States

Katherine Tassiopoulos ✉, Yanling Huo, Kunjal Patel, Deborah Kacanek, Susannah Allison, Suzanne Siminski, Sharon Nichols, Claude Mellins, Pediatric HIV/AIDS Cohort Study (PHACS)

Clinical Infectious Diseases, ciz747, <https://doi.org/10.1093/cid/ciz747>

Published: 16 August 2019 **Article history** ▼

- 124 YPHIC who transitioned, 56% had periods of unsuppressed HIV RNA in the year prior.

Case

- 21F transitioning to adult care, previously followed by SCH. CD4 nadir 125. Now CD4 557, VL undetectable.
- Review of notes indicates multiple episodes of decreased adherence and detectable viral loads in early adolescence.
- Crippling loneliness. Faces stigma from community, family.
- Lives with her parents. Works FT at SeaTac airport. Has registered for community college several times.
- No one but her parents are aware of her diagnosis.
- Missed her routine 6 month visit. Returns after >1 year has been off of her meds. CD4 217.



Attention Health Care Providers: Insight into Why Young People May Be Not Consistently Engaging in HIV Medical Care



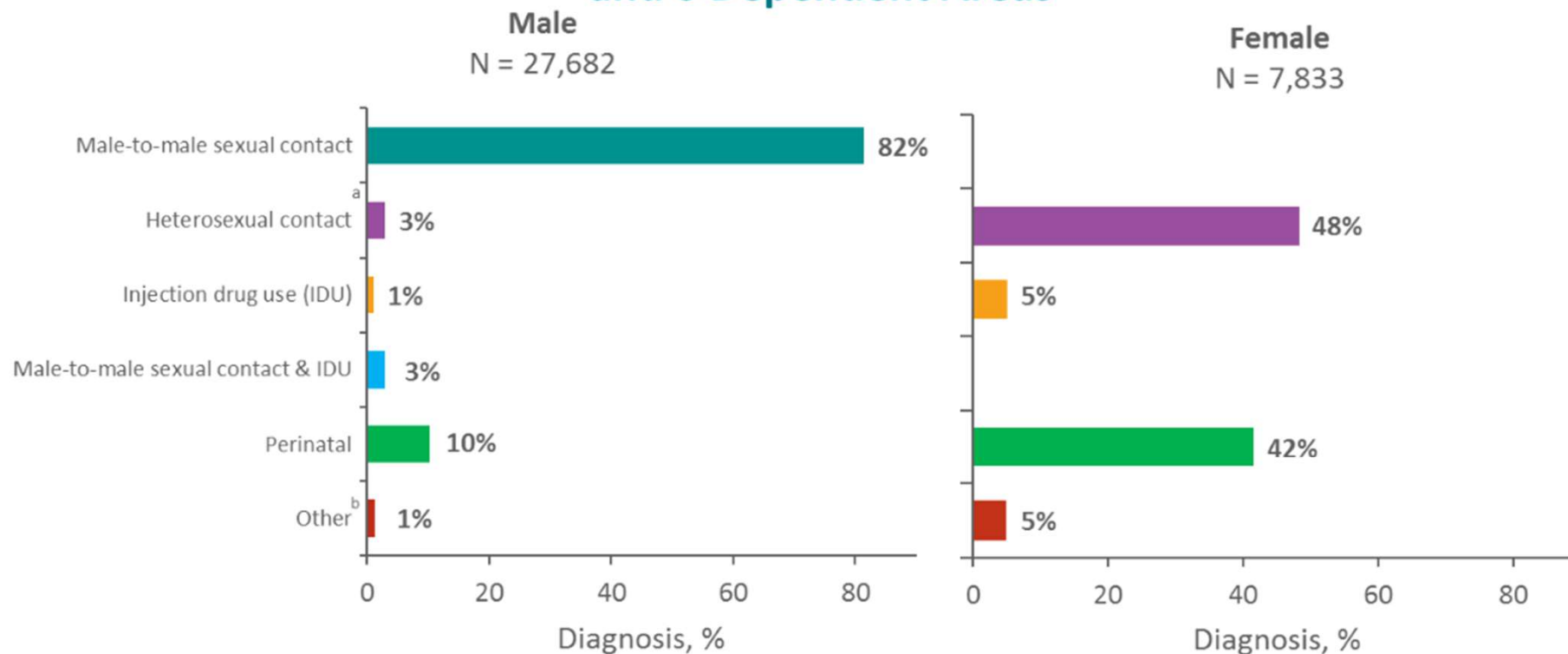
Submitted on Aug 26, 2019 by PDEES



"Transitioning out of pediatric care was a very significant—and extremely difficult—moment in my life. Entering into adult HIV care felt cold and distant. That transition made it easy for me to fall out of care in my young adulthood."

<https://www.thewellproject.org/a-girl-like-me/aglm-blogs/attention-health-care-providers-insight-why-young-people-may-be-not> Accessed September 1, 2019.

Adolescents and Young Adults Aged 13–24 Years Living with Diagnosed HIV Infection by Sex and Transmission Category, Year-end 2016—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 of 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.



YPHIV

- Often have more complex ARV regimens
- Cognitive impairment/Developmental delay, mental health
- Additional social challenges
- Transition to adult care can be particularly difficult

	LIVING CASES OF HIV INFECTION			SUPPRESSED VIRAL LOAD ^B	
	NO.	COL %	RATE	NO.	ROW %
TOTAL	12,933	100%	176.9		
CURRENT AGE					
< 13	41	0%	3.4	38	93%
13-24	285	2%	25.3	195	68%
25-34	1,724	13%	169.1	1,225	71%
35-44	2,607	20%	277.5	2,019	77%
45-54	4,142	32%	436.8	3,375	81%
55-64	3,090	24%	260.3	2,631	85%
65+	1,044	8%	116.7	912	87%

HIV/AIDS Epidemiology Unit, Public Health- Seattle & King County and the Infectious Disease Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report, 2018, Volume 87.

Supporting the Health Care Transition From Adolescence to Adulthood in the Medical Home

Patience H. White, MD, MA, FAAP, FACP,^a W. Carl Cooley, MD, FAAP,^b TRANSITIONS CLINICAL REPORT AUTHORIZING GROUP, AMERICAN ACADEMY OF PEDIATRICS, AMERICAN ACADEMY OF FAMILY PHYSICIANS, AMERICAN COLLEGE OF PHYSICIANS

Pediatrics
November 2018, VOLUME 142 / ISSUE 5
From the American Academy of Pediatrics
Clinical Report

1. Importance of youth- and/or young adult–centered, strength-based focus;
2. Emphasis on self-determination, self-management, and family and/or caregiver engagement;
3. Acknowledgment of individual differences and complexities;
4. Recognition of vulnerabilities and need for a distinct population health approach for youth and young adults;
5. Need for early and ongoing preparation, including the integration into an adult model of care;
6. Importance of shared accountability, effective communication, and care coordination between pediatric and adult clinicians and systems of care;
7. Recognition of the influences of cultural beliefs and attitudes as well as socioeconomic status;
8. Emphasis on achieving health equity and elimination of disparities; and
9. Need for parents and caregivers to support youth and young adults in building knowledge regarding their own health and skills in making health decisions and using health care.

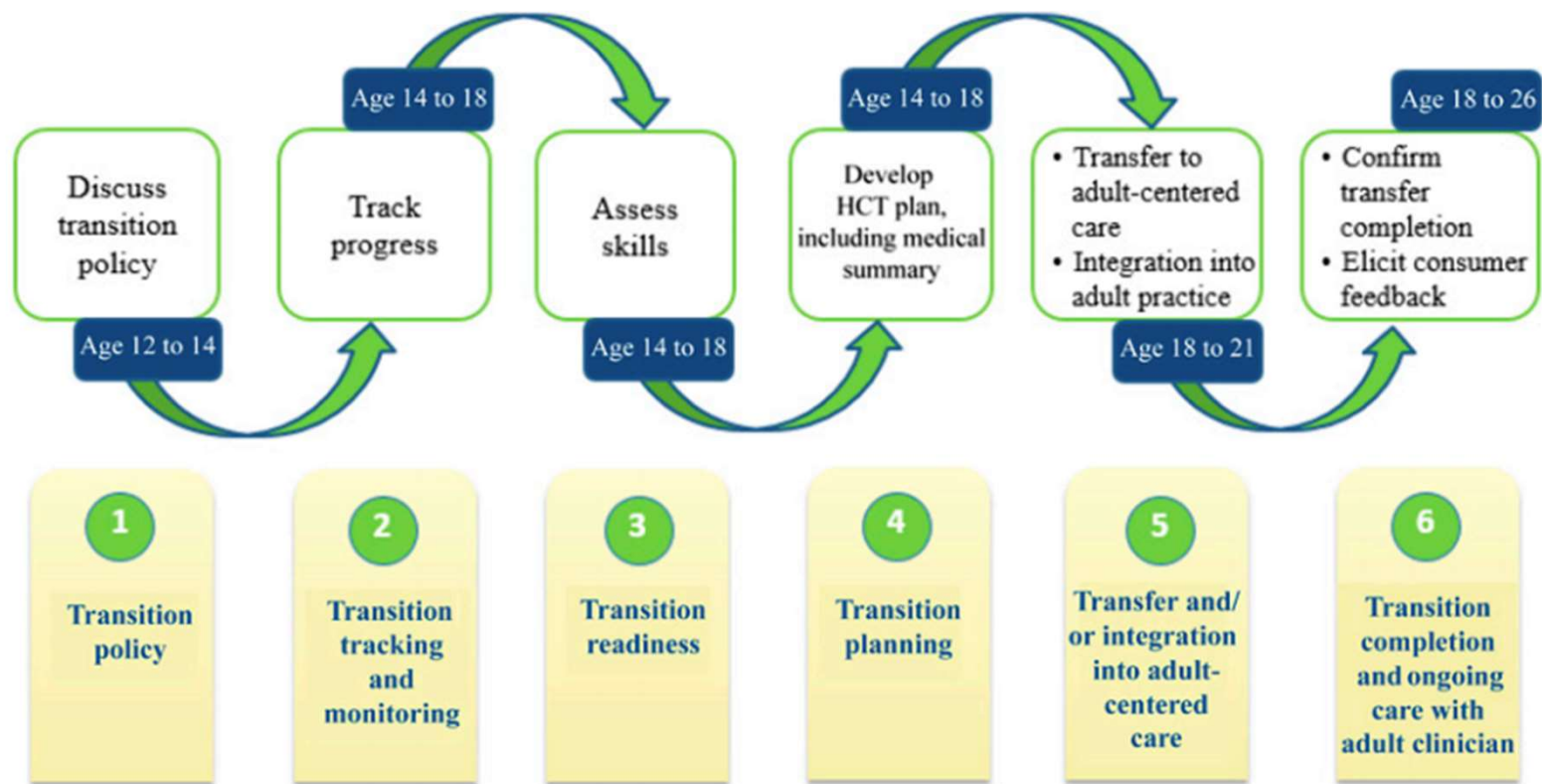


FIGURE 1

Timeline for introducing the Six Core Elements into pediatric practices.

Practice or provider	#1 Transition and/or care policy	#2 Tracking and monitoring	#3 Transition readiness and/or orientation to adult practice	#4 Transition planning and/or integration into adult approach to care or practice	#5 Transfer of care and/or initial visit	#6 Transition completion or ongoing care
Pediatric^a	Create and discuss with youth and/or family	Track progress of youth and/or family transition preparation and transfer	Conduct transition readiness assessments	Develop transition plan, including needed readiness assessment skills and medical summary, prepare youth for adult approach to care, and communicate with new clinician	Transfer of care with information and communication including residual pediatric clinician's responsibility	Obtain feedback on the transition process and confirm young adult has been seen by the new clinician
Adult^a	Create and discuss with young adult and guardian, if needed	Track progress of young adult's integration into adult care	Share and discuss welcome and FAQs with young adult and guardian, if needed	Communicate with previous clinician, ensure receipt of transfer package	Review transfer package, address young adult's needs and concerns at initial visit, update self-care assessment and medical summary	Confirm transfer completion with previous clinician, provide ongoing care with self-care skill building and link to needed specialists

Pediatrics
November 2018, VOLUME 142 / ISSUE 5
From the American Academy of Pediatrics
Clinical Report

Policy to practice?

- Improving adherence/engagement for adolescents
 - Pediatric providers set the stage! Start those transition discussions early (12)
 - Adult providers- do your homework! Talk to the transferring provider, acknowledge the patient's separation
 - Adolescent friendly setting (warm/friendly, positive attitude, clear boundaries, understand role (not parent/not peer), forgiving late policy, evening hours, drop-in hours)
 - Assess your patient's developmental status- age does not define milestones, stress can knock back and/or slow progress

Policy to practice?

- Address confidentiality concretely and right away
- Remember that many patients may remain dependent on parents/guardians
- Shared decision making
- Proactive planning for adherence (storage, refills, other daily routines?)
- Monthly visits? vs. contact --flexibility is key
- Peer support, Care navigators, Community outreach to LGBTQ organizations
- Mobile technology to help with adherence and appointment reminders
- Follow up on missed appointments or late labs

Thank you!

Prevention- PrEP?

JAMA Pediatrics | Original Investigation

Safety and Feasibility of Antiretroviral Preexposure Prophylaxis for Adolescent Men Who Have Sex With Men Aged 15 to 17 Years in the United States

Sybil G. Hosek, PhD; Raphael J. Landovitz, MD; Bill Kapogiannis, MD; George K. Siberry, MD; Bret Rudy, MD; Brandy Rutledge, PhD; Nancy Liu, MPH; D. Robert Harris, PhD; Kathleen Mulligan, PhD; Gregory Zimet, PhD; Kenneth H. Mayer, MD; Peter Anderson, PharmD; Jennifer J. Kiser, PharmD; Michelle Lally, MD; Jennifer Brothers, MPH; Kelly Bojan, DNP; Jim Rooney, MD; Craig M. Wilson, MD

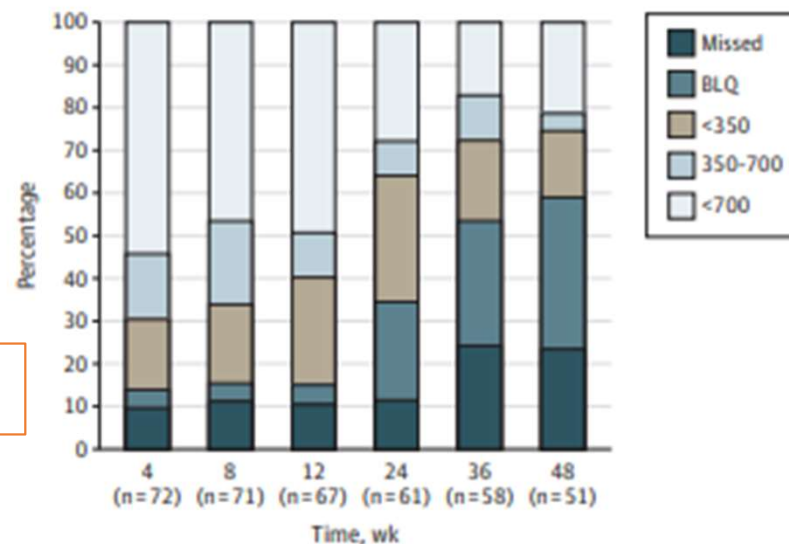
- 6 urban sites
- 2864 screened → 260 eligible → 78 enrolled (72 started)
- Provided PrEP for 48 weeks
- 23 STDs diagnosed in 12 participants
- HIV seroconversion 6.4 per 100 person-years
- Adherence was suboptimal

FDA approved expansion to adolescents age 15-17 (weight 35 kg)

Levels of >700pmol/punch associated with a high degree of anti-HIV protection

JAMA Pediatr. 2017;171(11):1063-1071.

Figure 2. Adherence via Tenofovir Diphosphate in Dried Blood Spots



Acknowledgement

The Mountain West AIDS Education and Training (MWAETC) program is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$2,803,298 with 0% financed with non-governmental sources.

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