Provision of Care that Supports Adherence to Antiretroviral Therapy by HIV Providers in the United States

John Weiser

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10th International Conference
on HIV Treatment and Prevention Adherence
June 29, 2015
Miami, Florida

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of HIV/AIDS Prevention

Acknowledgments

Co-authors

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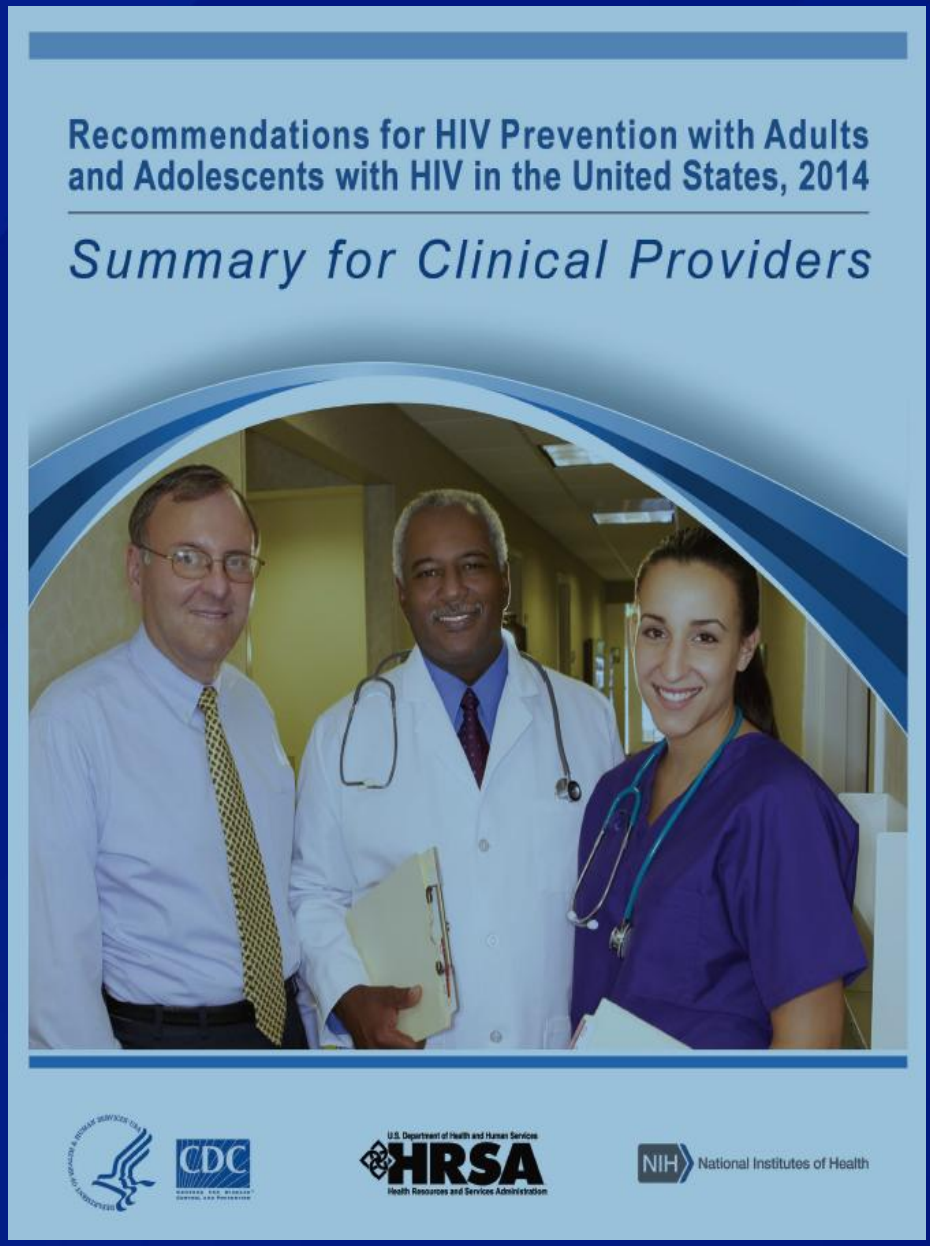
Medical Monitoring Project/Provider Survey

- Providers
- Participating facilities
- Local health department staff
- Community and provider advisory boards
- Clinical Outcomes Team

2014 Prevention with Positives (PWP) Guidelines

- Centers for Disease Control and Prevention
- Health Resources and Services Administration
- National Institutes of Health
- American Academy of HIV Medicine
- Association of Nurses in AIDS Care
- International Association of Providers of AIDS Care
- National Minority AIDS Council
- Urban Coalition for HIV/AIDS Prevention Services



http://www.cdc.gov/hiv/prevention/programs/pwp/
http://stacks.cdc.gov/view/cdc/26063

2014 PWP Adherence Recommendations

Refer non-adherent patients for supportive services

Monitor adherence

Give advice about tools to support adherence

Educate patients about their regimens

Select optimal regimens

Inform patients about benefits of adherence

Assess readiness to start and barriers to adherence

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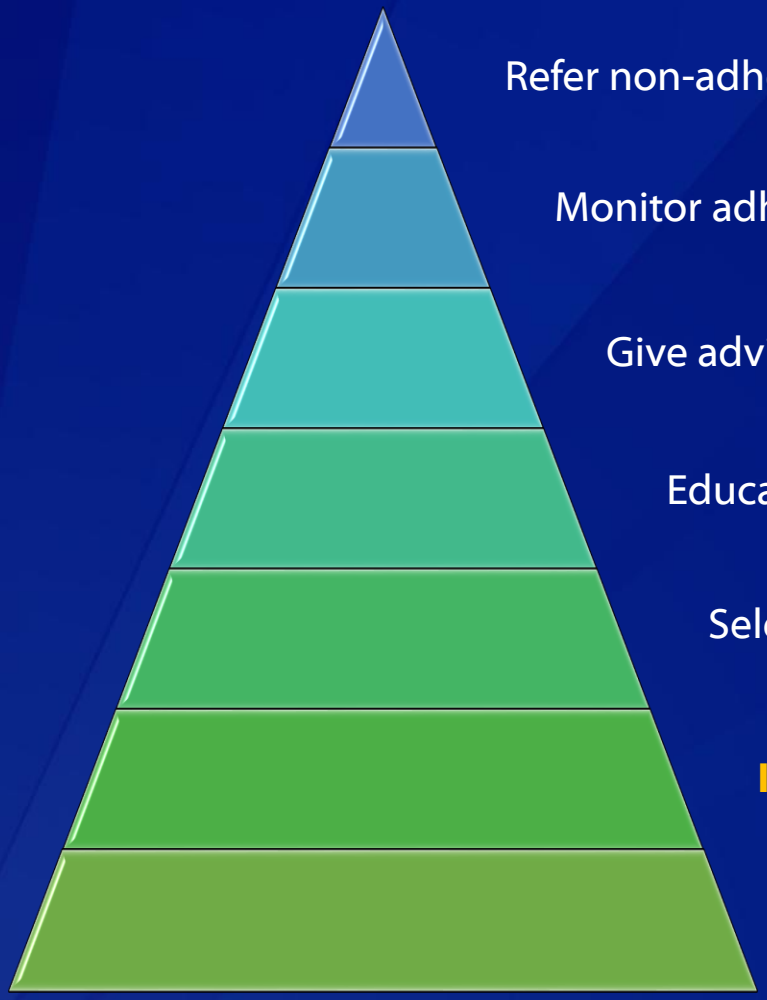

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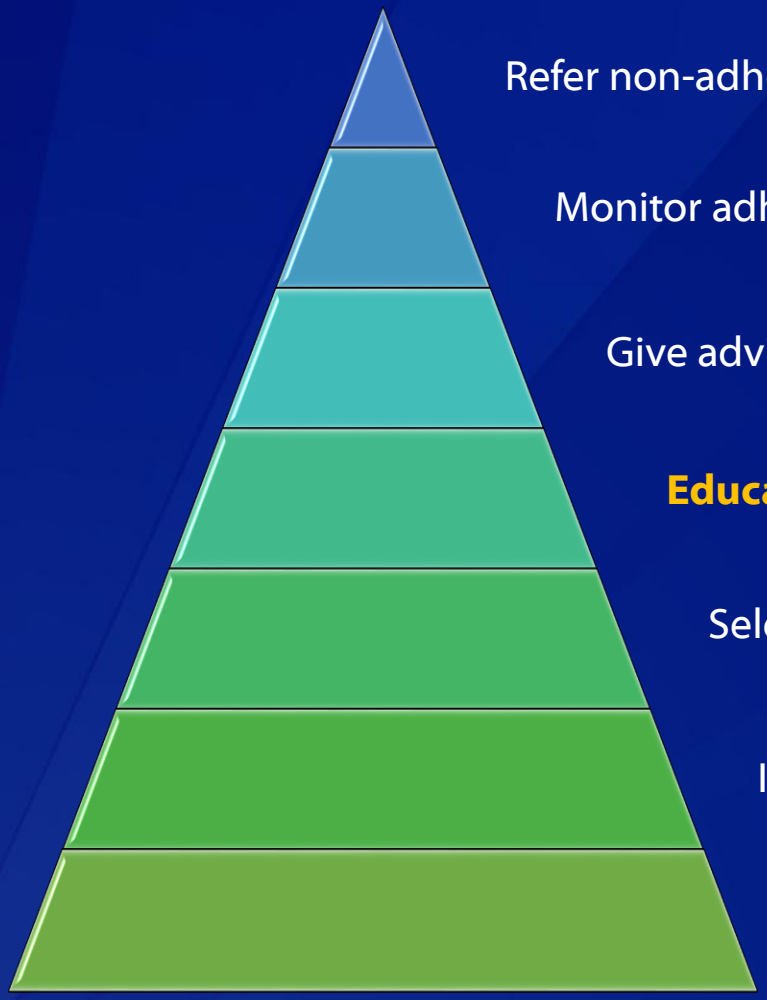

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Little is known

about ART adherence support practices

among HIV care providers in the United States.

Objectives of this Study

- **Estimate the proportion of U.S. HIV providers delivering each of 3 levels of adherence services to most or all patients**
- Estimate the proportion of providers delivering "multilevel" adherence support (at least 2 of 3 levels of service)
- Identify provider and practice characteristics associated with delivering "multilevel" adherence support

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- **Identify provider and practice characteristics associated with delivering "multilevel" adherence support**

METHODS

Data Source

- 2013 Medical Monitoring Project Provider Survey
  - Sample
    - National probability sample
    - 2-stage sampling design
      - 16 states and 1 territory
      - 622 facilities within states and territory
  - All physicians, nurse practitioners and physician assistants
    - Provided HIV care at sampled facilities
    - Completed clinical training

Data Collection and Response Rates

- Data collected June 2013 – January 2014
- Described HIV providers and their practices
- Facility response rate was 81% (505/622 eligible facilities)
- Adjusted provider response rate (within participating facilities) 64% (1,234 respondents)

Outcomes of Interest

- Offering education and advice about tools to increase adherence*
- Assessing treatment adherence at every visit*
- For patients who are non-adherent to ART, referring for supportive services as needed*

*Each service provided to most or all patients, yes or no

Multilevel Adherence Support

- **Delivery of "multilevel" ART adherence support" was defined as:**
  - Providing at least 2 of 3 ART adherence services for most or all patients
    1. Offer education and advice about tools to increase adherence
    2. Discuss treatment adherence at every visit
    3. For patients who are non-adherent to ART, refer for supportive services as needed

Independent Variables of Interest

- Provider type
  - ID board certified physicians
  - Other board certified physicians
  - Non-board certified physician
  - Nurse practitioners
  - Physician assistants
- HIV specialist qualifications
- Provides primary care
- Practices in a facility that receives Ryan White HIV/AIDS Program (RWHAP) funding

Independent Variables of Interest (cont.)

- Works in a private practice
- Has sufficient time to provide all needed HIV-related information to most or all established patient
- Is satisfied or very satisfied with the effort required to keep up with clinical advances

Data Analysis

- Bivariate analysis
  - Assessed associations between multilevel adherence support and provider and practice characteristics using Rao-Scott chi-square tests
- Multivariable analysis
  - Estimated adjusted prevalence ratios using logistic regression
  - Variable selection: $P < 0.05$ in the bivariate analysis
- Data weighted to account for unequal selection probabilities and non-response

RESULTS

Provider Qualifications (N = 1234)

	Weighted %	(95% CI)
Provider type		
ID board certified physician	45	(37-52)
Other board certified physician	30	(23-37)
Nurse practitioner	15	(10-20)
Physician assistant	5	(3-8)
Non-board certified physician	5	(2-7)

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HIV specialist*	**58**	**(51-64)**

*As defined by the HIV Medicine Association and the American Academy of HIV Medicine

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Provides primary care	**83**	**(79-88)**

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HIV specialist	58 (51-64)
Provides primary care	83 (79-88)
Patient caseload	
0-20	15 (10-21)
21-50	20 (14-25)
51-200	**39 (34-44)**
200+	26 (20-32)

Practice Characteristics (N = 1234)

	Weighted % (95% CI)
Practices in a RWHAP-funded facility	48 (35-60)

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	Weighted %	(95% CI)
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Provider is in private practice	**42**	**(33-51)**

Provider Satisfaction (N = 1234)

	Weighted % (95% CI)
Is satisfied with time for documentation/admin	33 (27-39)

Provider Satisfaction (N = 1234)

	Weighted %	(95% CI)
Is satisfied with time for documentation/admin	33	(27-39)
Has sufficient time for most or all established patients	**75**	**(71-79)**

Provider Satisfaction (N = 1234)

	Weighted %	(95% CI)
Is satisfied with time for documentation/admin	33	(27-39)
Has sufficient time for most or all established patients	75	(71-79)
Is satisfied with effort required to keep up with clinical advances	**58**	**(53-63)**

Adherence Support Services (N = 1234)

	Weighted %	(95% CI)
Offer education and advice about tools to increase adherence	**60**	**(53-67)**
Discuss treatment adherence at every visit	96	(93-98)
Refer non-adherent patients for supportive services as needed	54	(46-62)

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Number of Adherence Support Services Provided (N = 1234)

Services provided	Weighted %	(95%CI)
0	**3**	**(1-5)**
1	27	(21-33)
2	27	(21-33)
3	43	(35-51)
2-3	70	(63-77)

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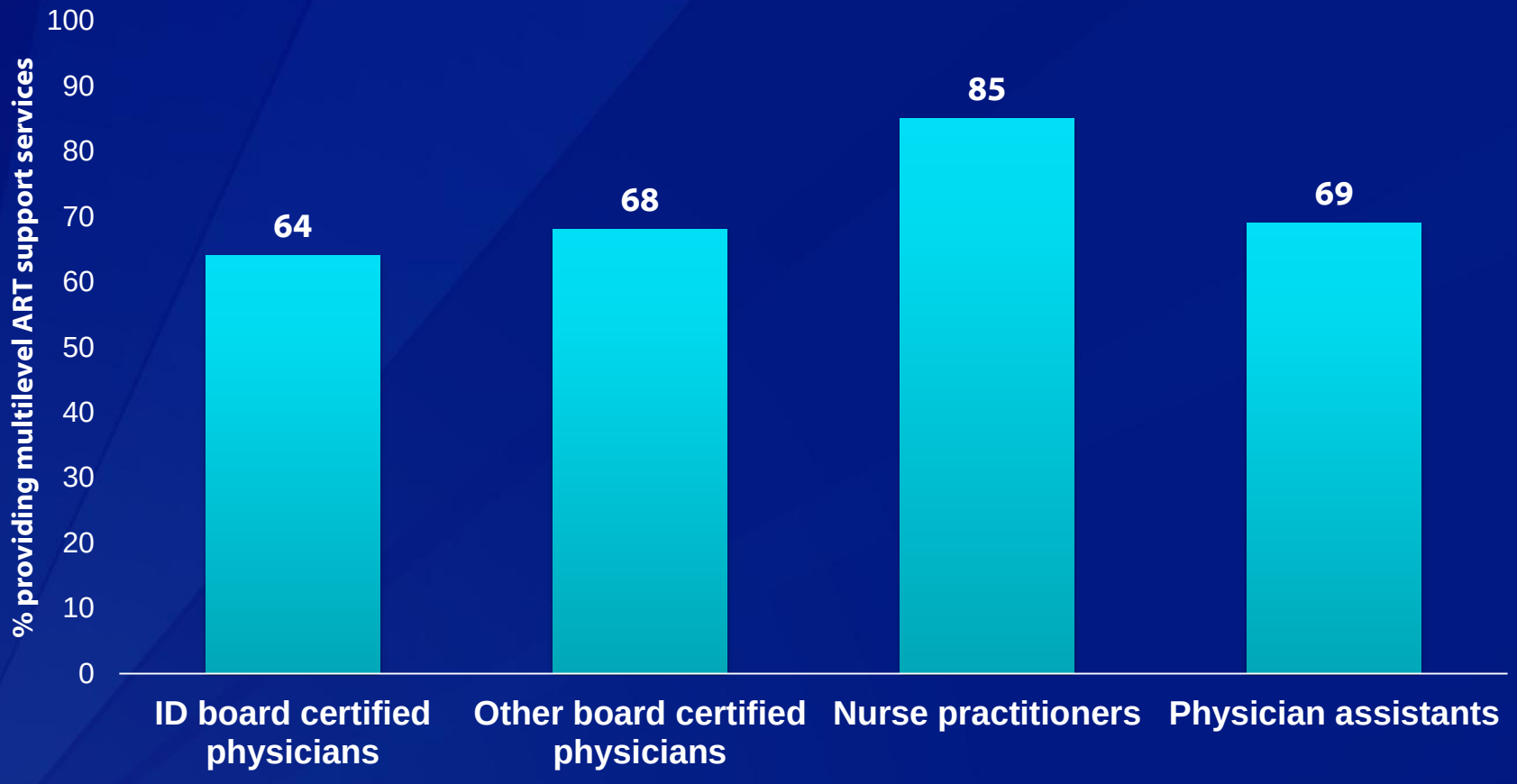
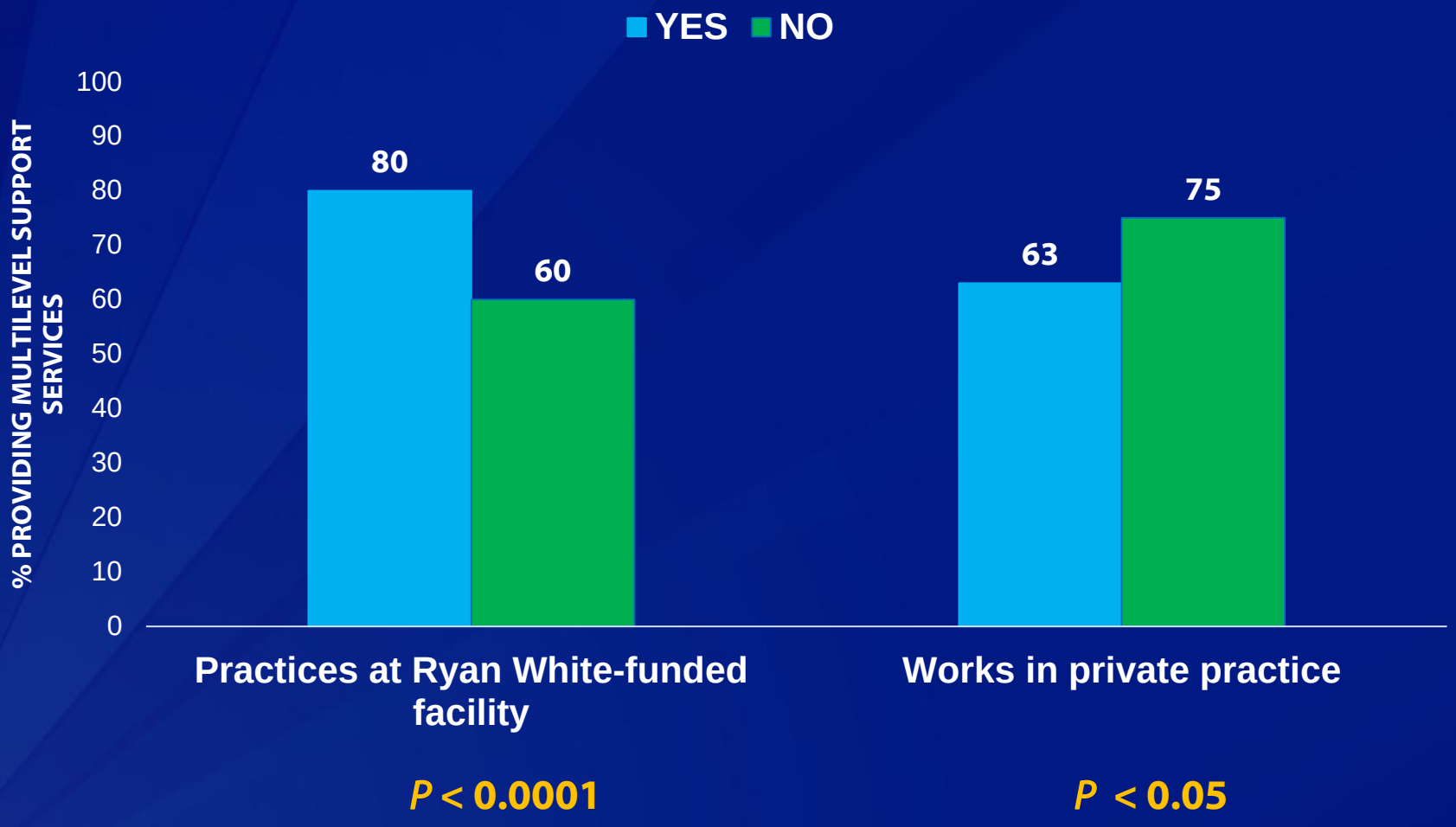
- **70% of providers delivered multi-level adherence support**

Delivery of Multilevel ART Adherence Support and Provider Type

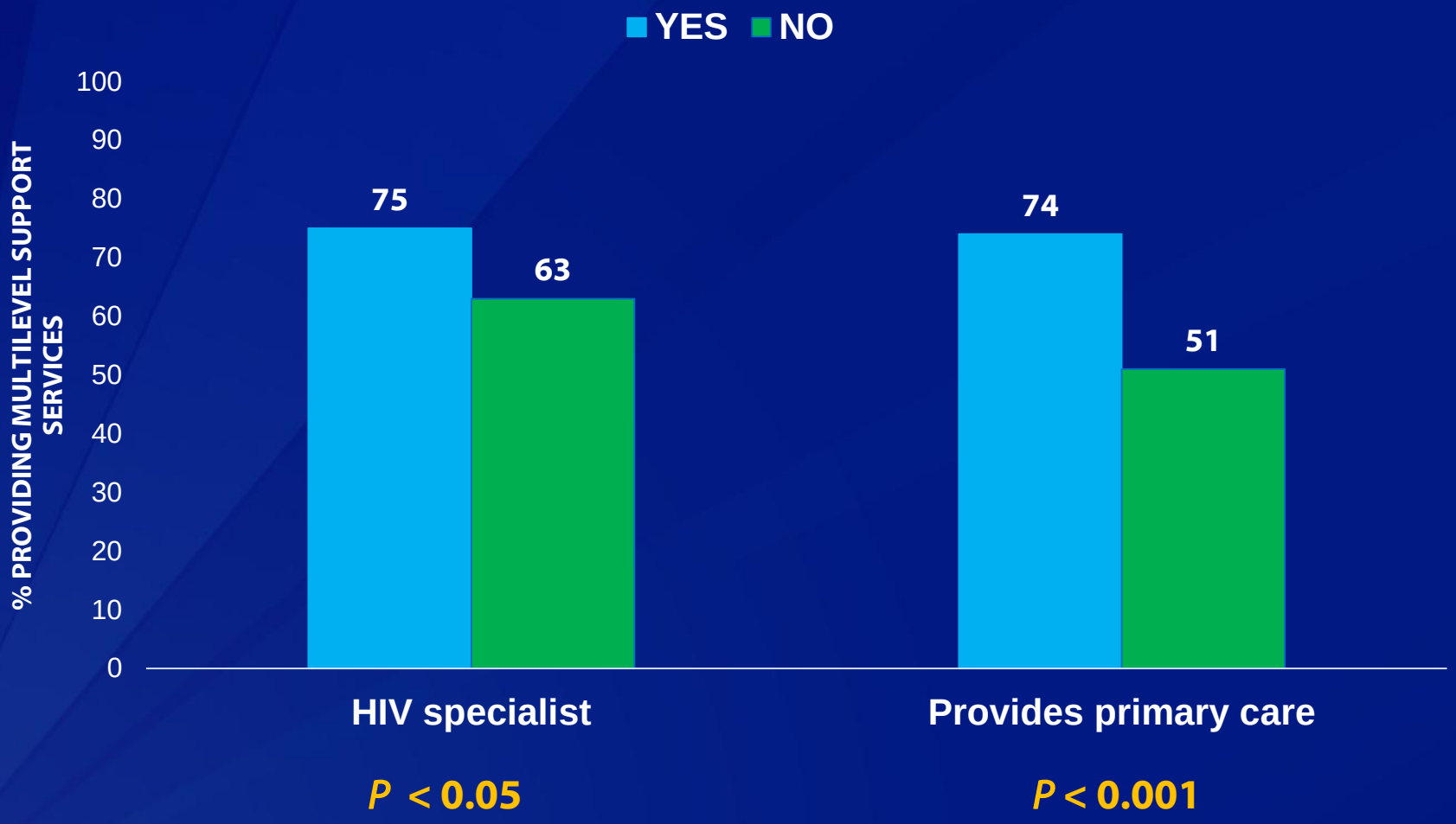


$P < 0.05$

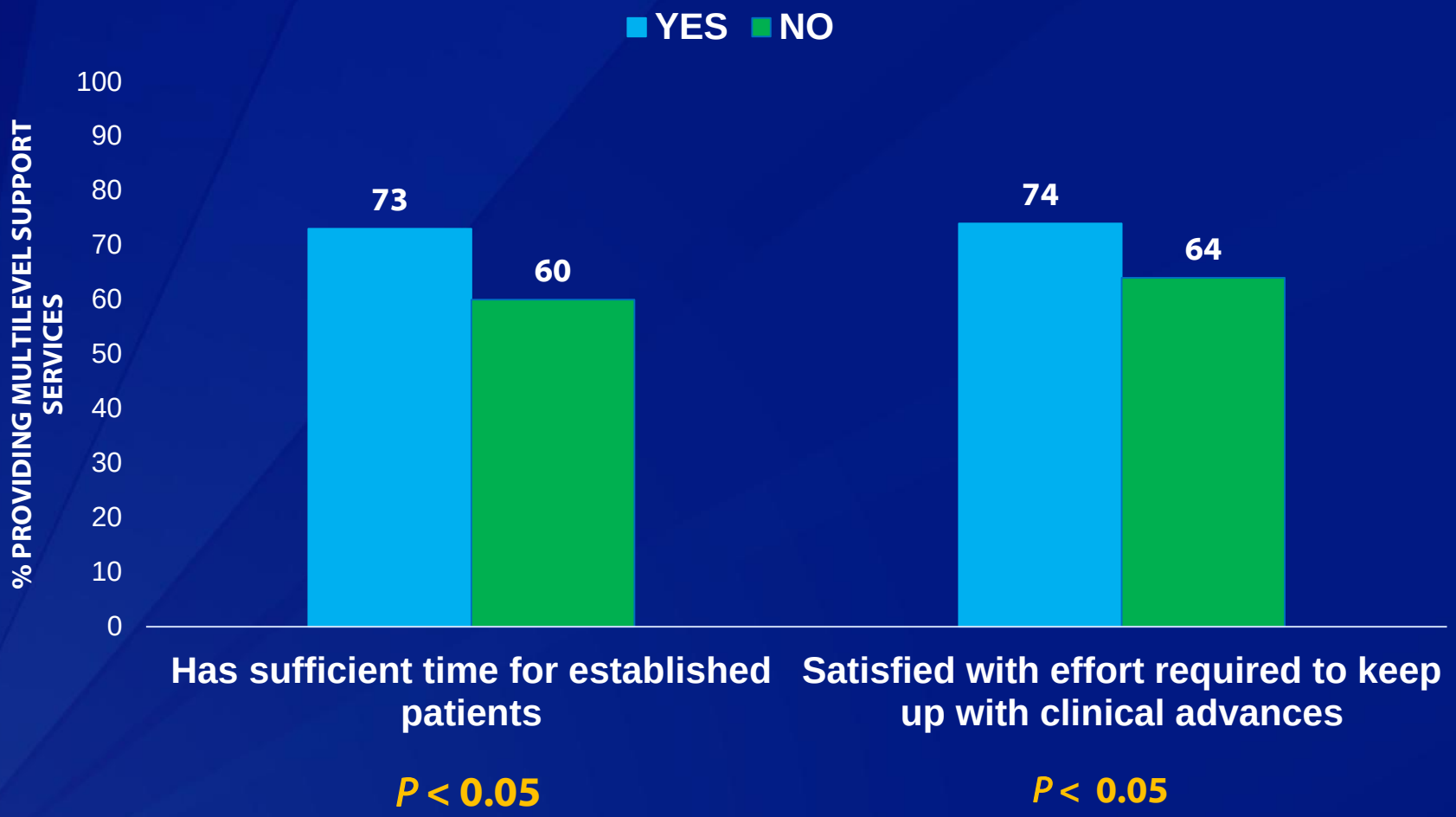
Delivery of Multilevel ART Adherence Support and Practice Characteristics



Delivery of Multilevel ART Adherence Support and Provider Qualifications



Delivery of Multilevel ART Adherence Support and Provider Satisfaction



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Association of Provider Characteristics with Delivery of Multilevel Adherence Support

	aPR	(95% CI)	*P* value
Provider type			
Other board certified physician	1.36	(.88-1.27)	NS
Nurse practitioner	1.29	(1.08-1.53)	< 0.005
Physician assistant	1.03	(.67-1.59)	NS
ID board certified physician	Ref.		
HIV specialist (yes vs. no)	1.08	(.96-1.22)	NS
Provides primary care (yes vs. no)	1.30	(1.02-1.67)	< 0.05
At a Ryan White-funded facility (yes vs. no)	1.24	1.00-1.53	< 0.05
In private practice	1.08	(.92-1.27)	NS
Time for established patients (yes vs. no)	1.39	(1.17-1.66)	0.0001
Satisfied with effort required to stay current (yes vs. no)	1.06	(.96-1.20)	NS

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Discussion

- Most providers regularly assess adherence
- Fewer providers
  - Offer education and advice about tools to increase adherence
  - Refer non-adherent patients for supportive services
- Time constraints and access to supportive services
- Nurse practitioners are a model*
- Providers who may need more assistance
  - Those not at RWHAP-funded facilities
  - Those not providing primary care

*Naylor MD, Kurtzman ET. The role of nurse practitioners in reinventing primary care. *Health Aff (Millwood)*. May 2010;29(5):893-899.

Limitations

- Possible social desirability and recall bias
- Survey does not directly assess the impact of the 2014 PWP guidelines
- Did not measure uptake of all adherence recommendations

Next Steps

- Increase awareness and uptake of prevention guidelines, targeting:
  - Providers not at RWHAP-funded facilities
  - Those not providing primary care
- Assess access to supportive services for non-adherent patients
- Investigate perception of insufficient patient care time
- Repeat survey in 2-4 years

Thank you.
Questions?

For more information please contact Centers for Disease Control and Prevention

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.