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New England healthcare providers' perceptions, knowledge and practices regarding the use of antiretrovirals for prevention

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Potential Competing Interests

- Current funding:
 - National Institute of Mental Health
 - K23 MH098795
 - Bristol-Myers-Squibb Virology Fellowship
- Additional project support:
 - Gilead Sciences



Early ART and PrEP can decrease HIV transmission, but provider adoption has been limited

- Studies demonstrate that earlier initiation of antiretroviral therapy (ART) and PrEP can decrease HIV transmission^{1,2,3,4,5}
- Guidelines recommend early ART (2012⁶) and PrEP (2011-2014^{7,8,9})
- However, limited adoption by providers^{10,11}



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¹Cohen 2011, ²Grant 2010, ³Baeten 2012, ⁴Thigpen 2012,
⁵Choopanya 2013

⁶DHHS 2012, ⁷MMWR 2011, ⁸MMWR 2012, ⁹USPHS 2014

¹⁰Kurth 2012, ¹¹Karris 2013

We surveyed New England healthcare providers to assess current ART and PrEP prescribing practices

- Providers affiliated with New England AIDS Education and Training Center (NEAETC)
- Anonymous, online survey
- Sept – Dec 2013
- Knowledge, beliefs, practices, intentions regarding early ART and PrEP

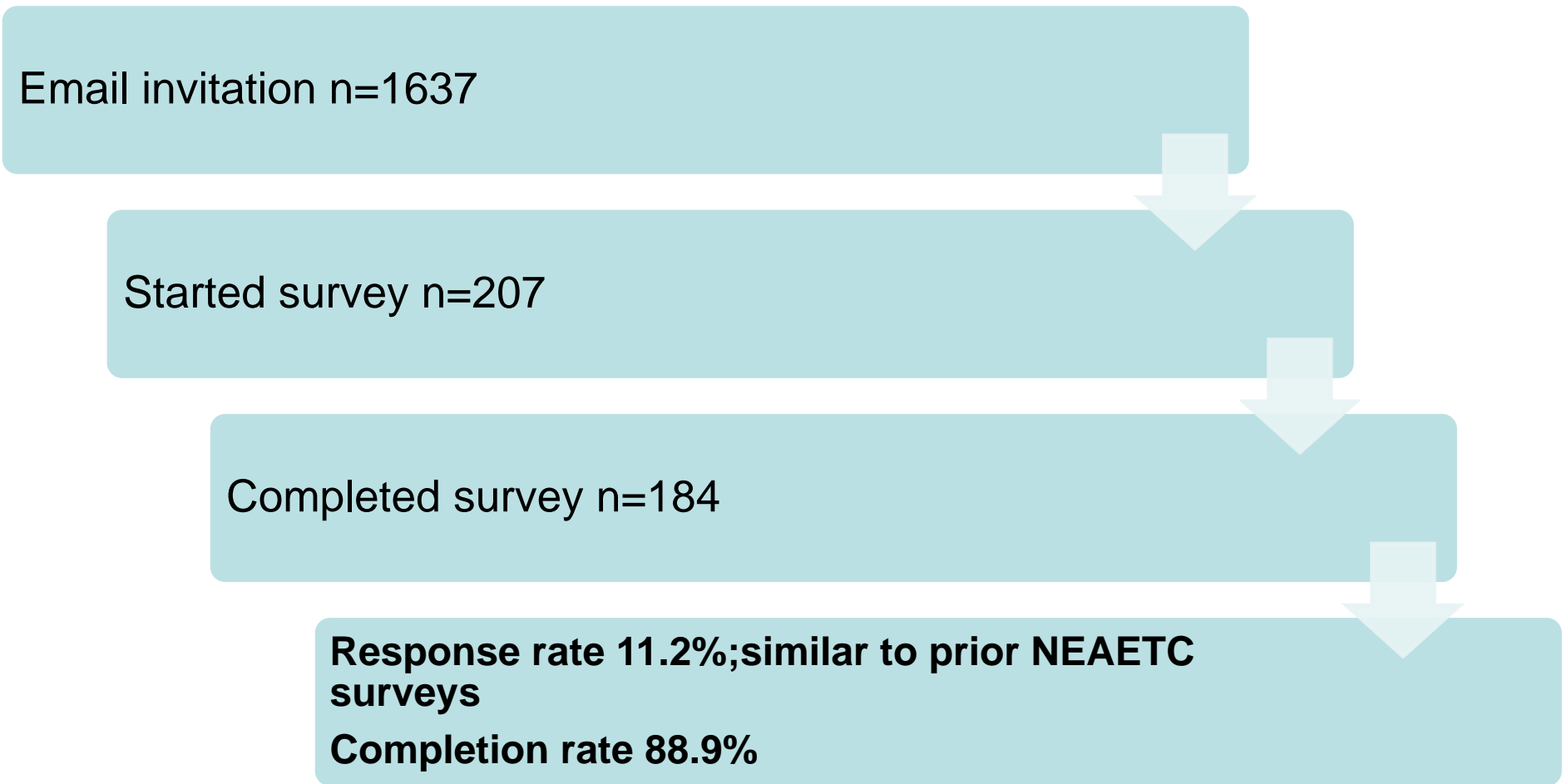


We assessed factors associated with prescribing early ART and PrEP

- Descriptive statistics
- Multivariable logistic regression models
 - 1) Early ART: Intention to prescribe ART to all patients irrespective of CD4+ count
 - 2) PrEP: Having prescribing PrEP to at least 1 patient



Recruitment



Demographic characteristics of survey completers

Demographics	(n=184) %
Female	56.9%
Race	
White	81.6%
Asian	12.1%
Black or African American	5.2%
Other	1.2%
Hispanic, Latino/a	3.4%
Age in yrs, median (IQR)	44 (35-55)



Practice characteristics of survey completers

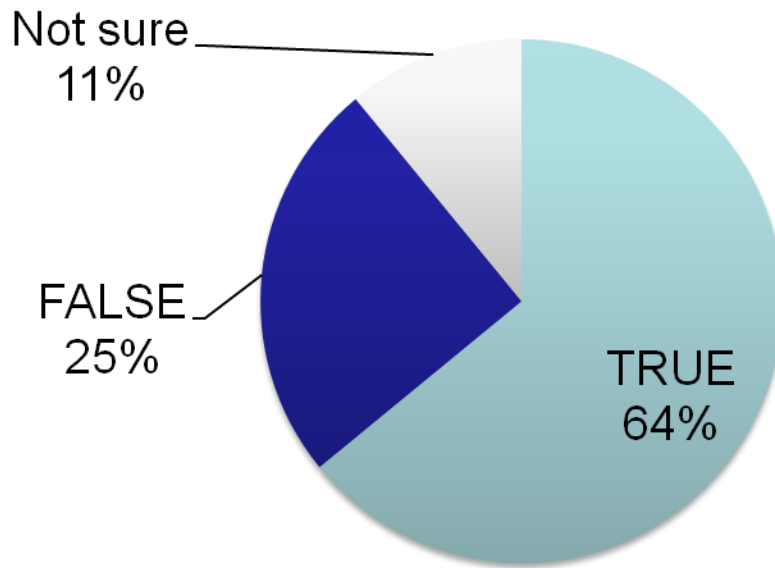
Practice characteristics	%
Provider type	
Nurse practitioner	22.3%
Primary care physician	21.7%
ID physician	21.1%
Other	34.9%
Years providing HIV care, median (IQR)	10 (4-20)
ART-prescribing providers	60.9%

Respondents and non-respondents shared similar demographic and practice characteristics



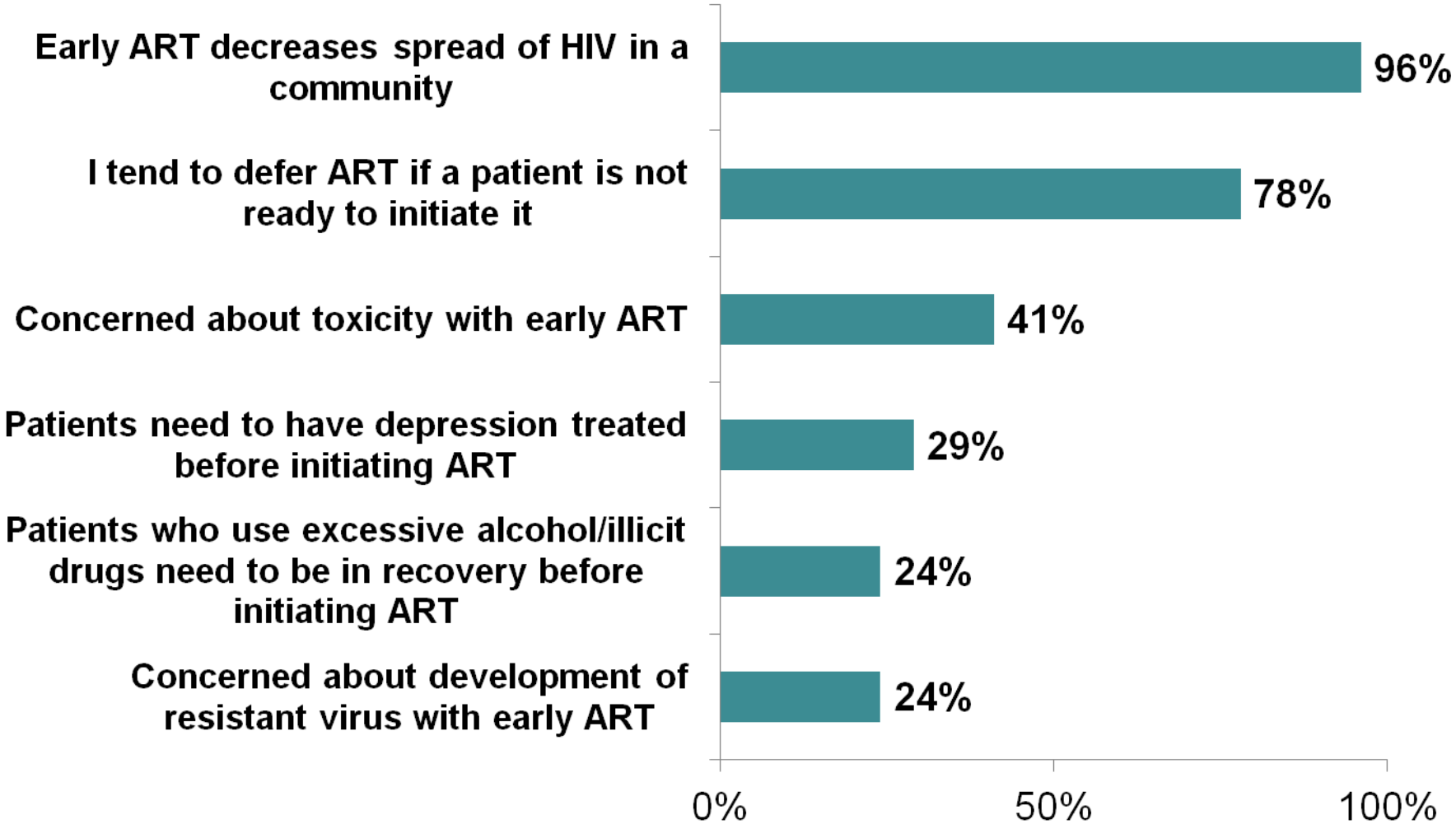
Results: One-third of ART-prescribing clinicians were not aware that guidelines recommend early ART

**“Department of Health and Human Services HIV treatment guidelines recommend ART for all HIV-infected patients irrespective of CD4+ count.”
(n=105)**



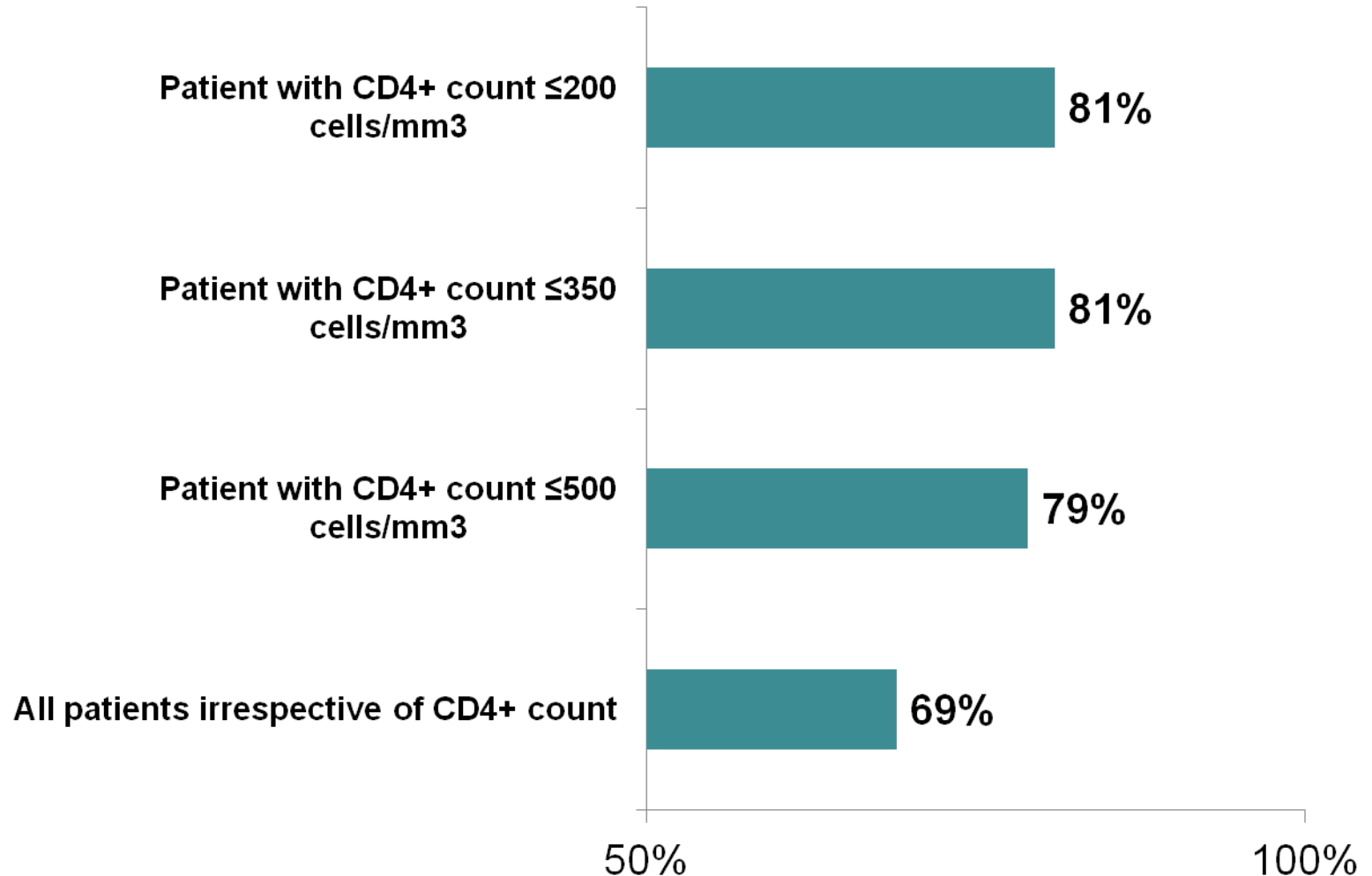
Providers believe that early ART reduces infectiousness, but most tend to defer ART if patients are not ready to initiate

ART-prescribing Clinician Beliefs and Practices regarding Early ART
(n=105)



Two-thirds of ART-prescribing providers intend to prescribe ART to all HIV-infected patients

Percent of participants who would prescribe ART to typical HIV-infected patient in various clinical scenarios (n=105)



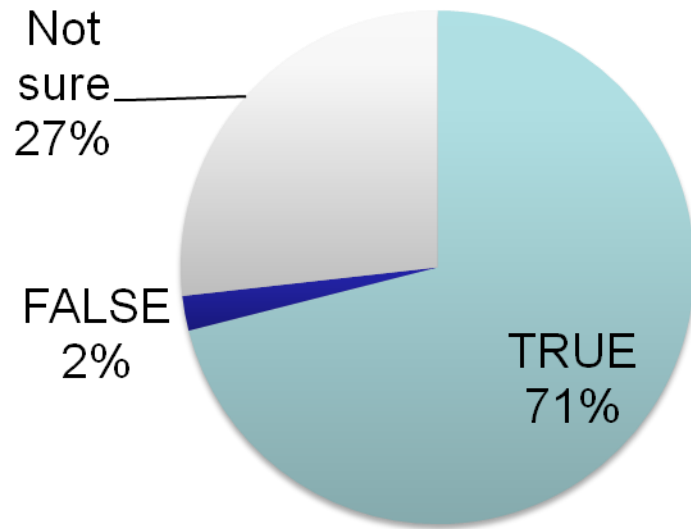
Infectious diseases specialty was associated with intentions to prescribe early ART

Intending to prescribe ART to all patients irrespective of CD4 count (n=103)		
	Adjusted OR (95% CI)	P-value
Age, years	1.01 (0.93 to 1.09)	0.85
Female (vs. male)	0.86 (0.34 to 2.15)	0.75
Provider type		
Primary care physician	Ref	--
ID specialist	3.71 (1.13 to 12.1)	0.03
Other provider types	1.64 (0.53 to 5.02)	0.39
White (vs. other race/ethnicities)	1.04 (0.34 to 3.18)	0.94
HIV experience, years	0.97 (0.88 to 1.07)	0.57

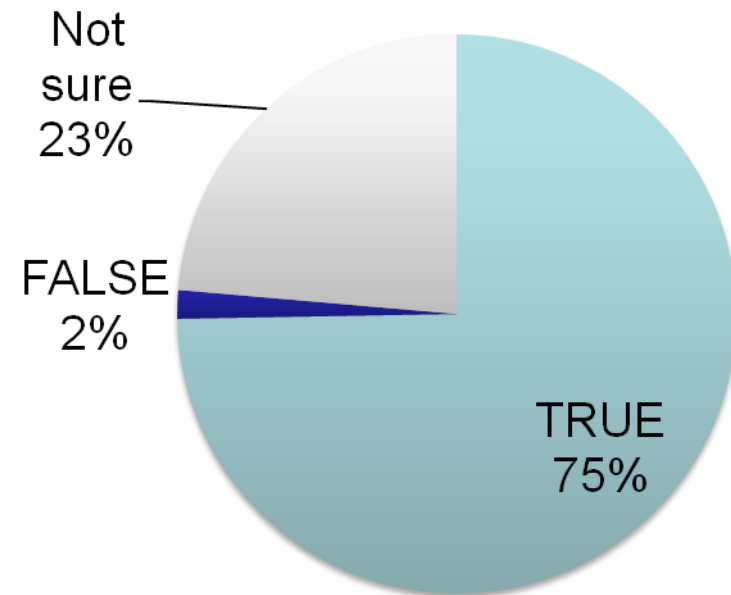


Nearly all providers (89%) had heard of PrEP; one-fourth were not aware of FDA or CDC guidance

FDA has approved Truvada®
for use as a once-daily PrEP
regimen
(n=183)

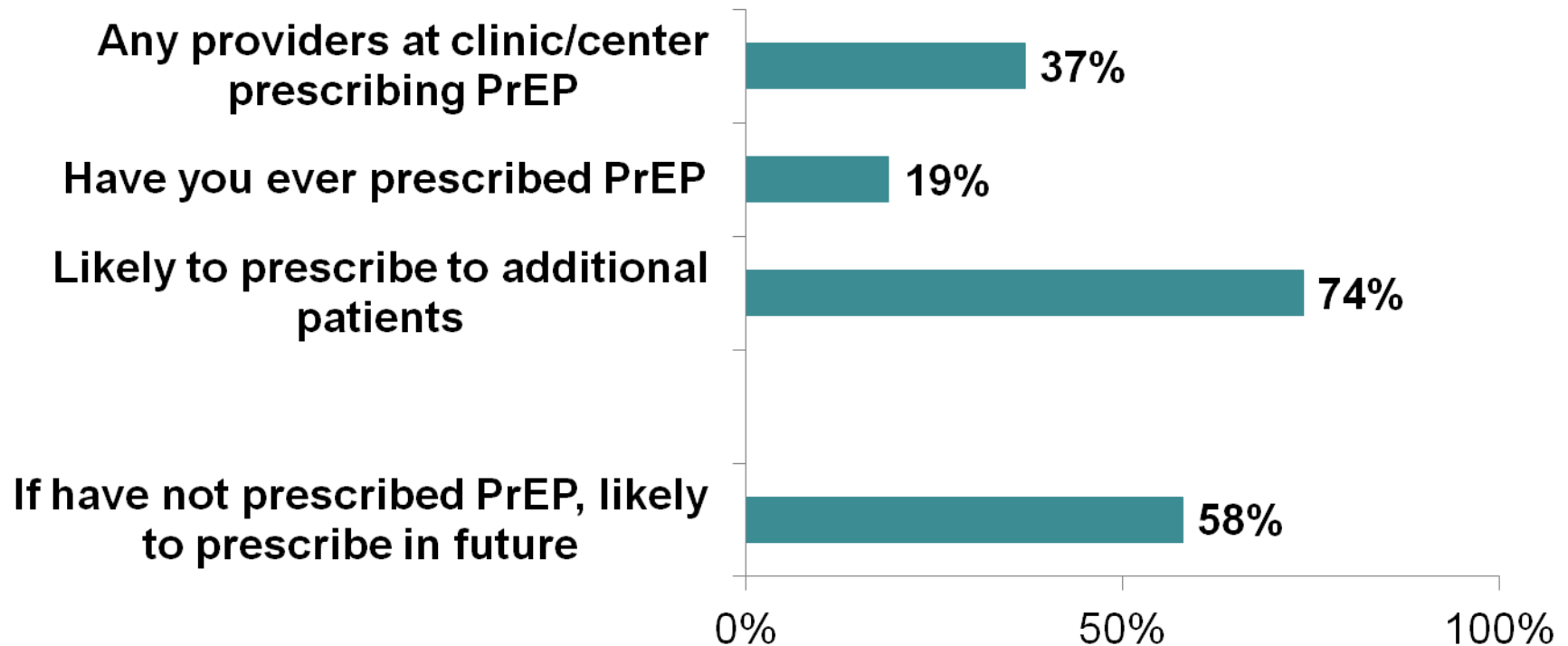


CDC has issued guidance for
clinicians regarding PrEP
provision
(n=182)

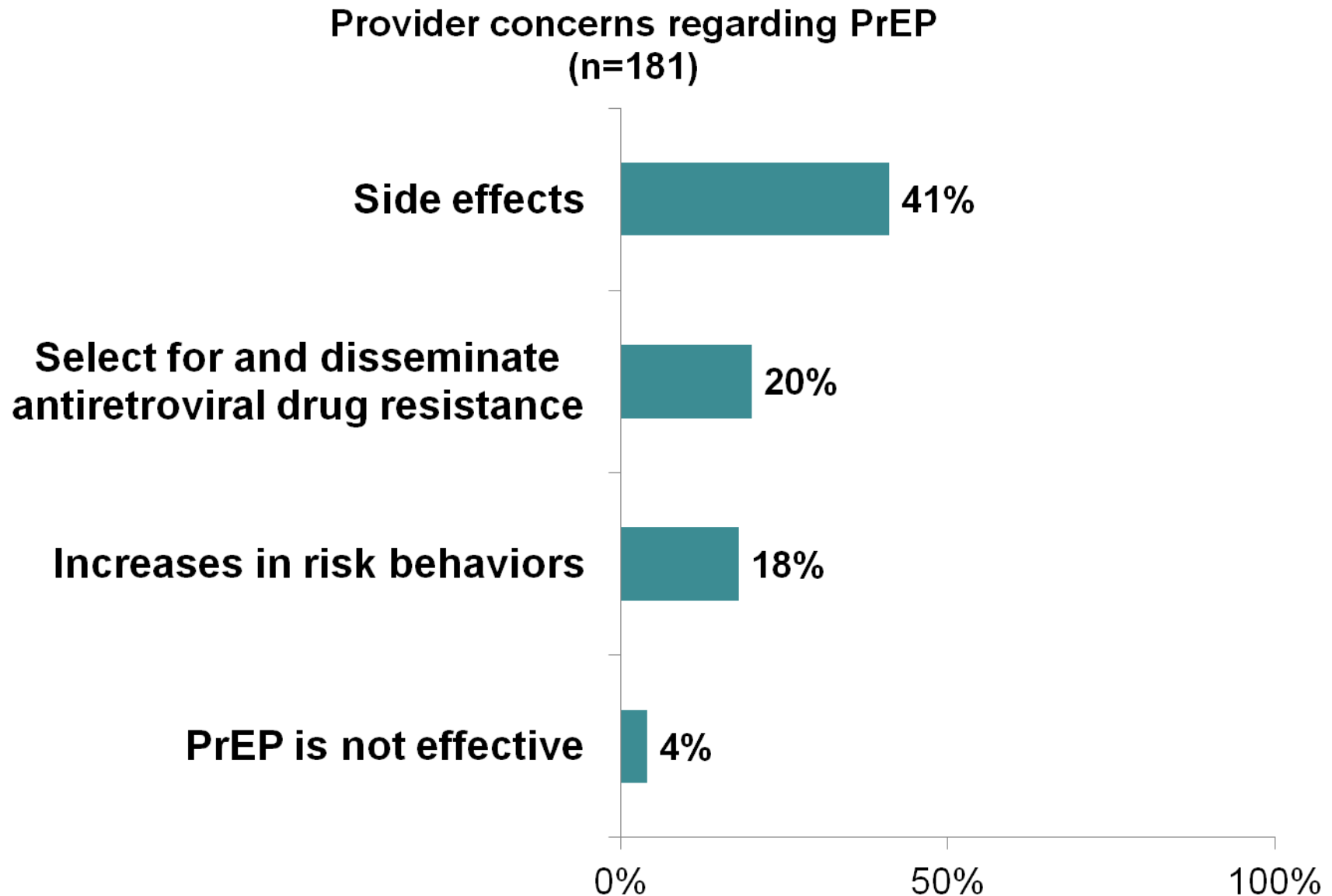


A minority of providers had prescribed PrEP; most of those who had prescribed PrEP anticipate future provision

PrEP prescribing practices and intentions (n=182)



Concerns about side effects from PrEP exist; few providers reported concerns about efficacy



Providers perceive numerous barriers to prescribing PrEP in their practice settings

Lack of patient requests

Concerns about insurance coverage

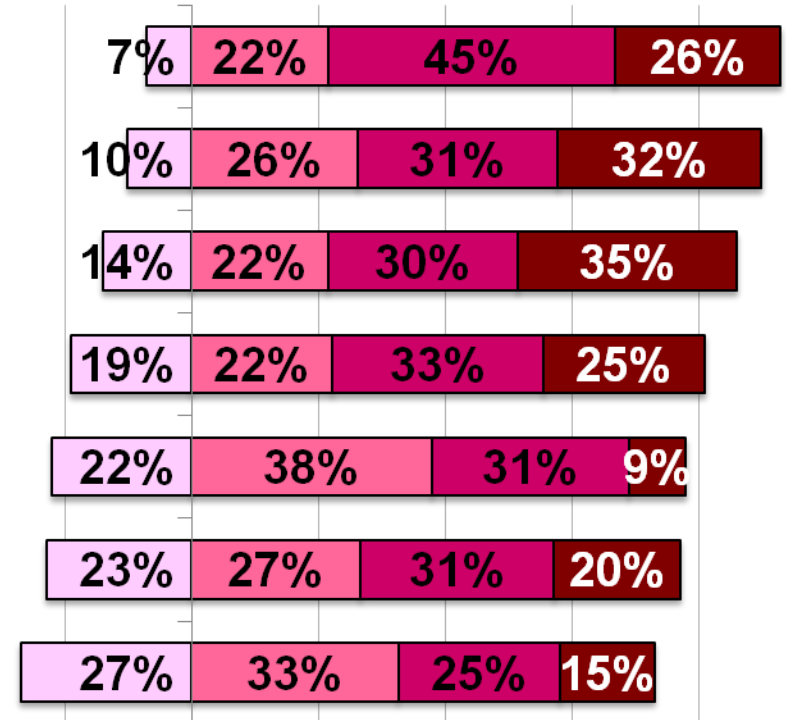
Clinicians not trained to prescribe PrEP

Clinicians not aware of CDC guidance

Time constraints

Clinicians not aware of PrEP

Limited # at-risk patients



Not a barrier Minor barrier Moderate barrier Major barrier



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Numbers represent percentage for each response category. Bars total to 100%

Female and white providers were at lower odds of having prescribed PrEP

	Having prescribed PrEP to at least 1 patient (n=145)	
	Adjusted OR (95% CI)	P-value
Age, years	1.03 (0.97 to 1.10)	0.36
Female (vs. male)	0.26 (0.10 to 0.70)	0.007
Provider type		
Primary care physician	Ref	--
ID specialist	0.78 (0.19 to 3.12)	0.72
Other provider types	2.97 (0.90 to 9.82)	0.07
White (vs. other race/ethnicities)	0.30 (0.10 to 0.97)	0.04
HIV experience, years	1.03 (0.94 to 1.12)	0.55



Study limitations include low response rate and heterogeneous provider types

- Low response rate; may not generalize
- Heterogeneous respondent population
 - Limited sample to ascertain ART prescribing practices
 - Heterogeneity a strength when exploring PrEP prescribing practices



In conclusion, providers believe that ARVs can decrease HIV transmission, but prescribing practices are suboptimal

- Providers believe early ART and PrEP are efficacious
- However, only 2/3rds report prescribing intentions consistent with implementing early ART
 - Patient readiness, threats to adherence, ARV toxicities
 - Non-ID specialists may warrant additional training
- Few have prescribed PrEP despite positive intentions
 - Practical barriers, concerns about toxicities
 - Need studies to explore gender/racial differences in prescribing
- Intentions may have evolved since study completion
- Interventions to optimize provider practices are needed



Thank you!

Study participants

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