

Continuing Education Improves HIV Screening and Use of PrEP in High-Risk Patients

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#1320

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1 Need for PrEP Education

At the time of the needs assessment (Nov '15)



Primary care clinicians do not follow CDC guidelines for HIV screening¹⁻²

- 75% are not following screening guidelines¹
- 65% of patients in a high-risk US cohort had not been screened for HIV²



Despite approval in 2012, the uptake of PrEP in high-risk patients remains low^{1,3}

- PCPs lack knowledge and confidence using PrEP
- Only 17% of PCPs and 64% of HIV specialists had prescribed PrEP
- These patients remain at elevated risk for infection and transmission

Continuing education (CE) can address knowledge and competence gaps, but little is known about the impact of CE on direct patient care and healthcare costs¹

Program Goals

Estimate patient and direct cost of care impact due to practice changes implemented because of the CE via:

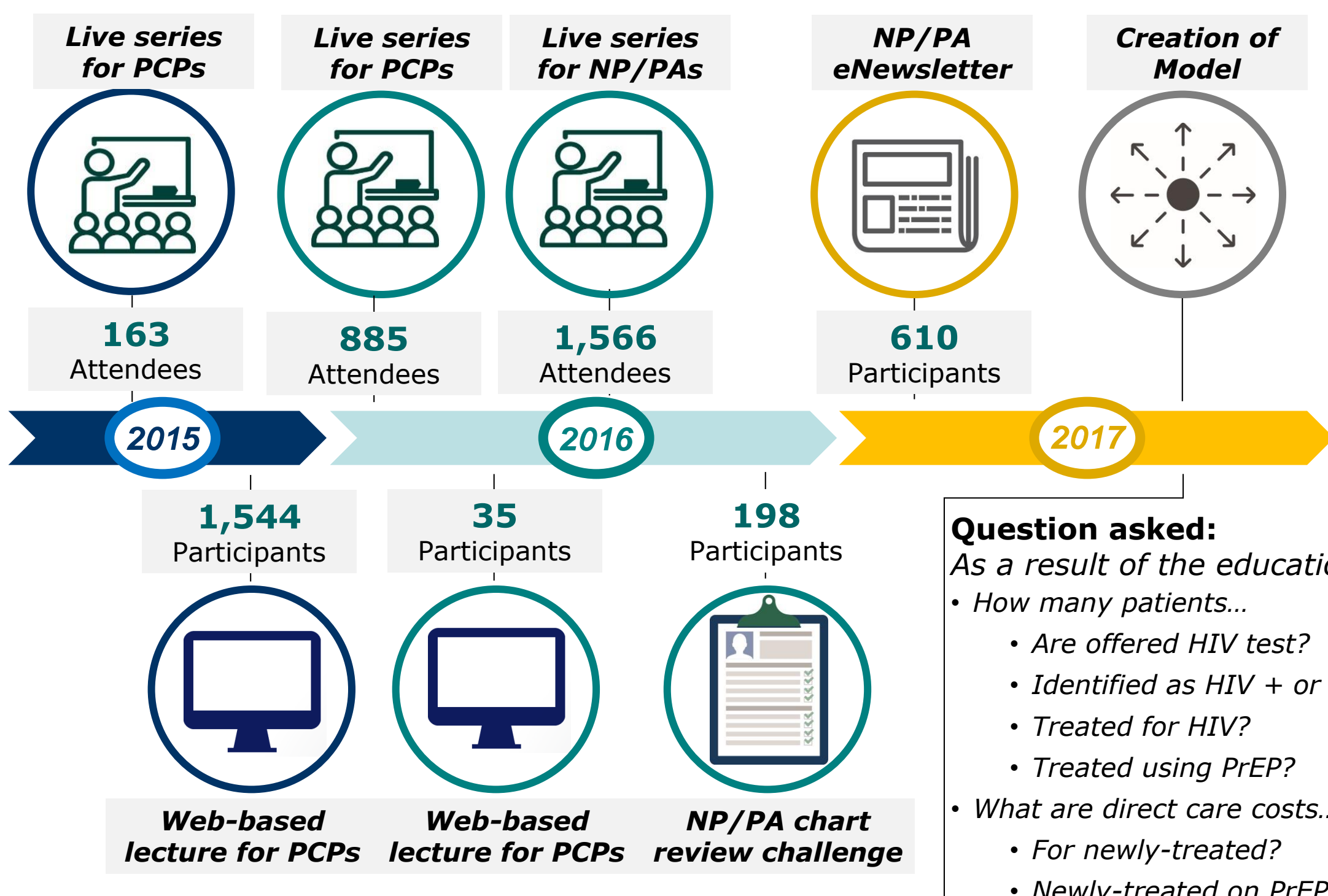


Increased HIV testing



Increased use of PrEP guidelines

2 Educational Overview & Model Creation



Question asked:
As a result of the education
• How many patients...
• Are offered HIV test?
• Identified as HIV + or -?
• Treated for HIV?
• Treated using PrEP?
• What are direct care costs...
• For newly-treated?
• Newly-treated on PrEP?

Model Creation Methods

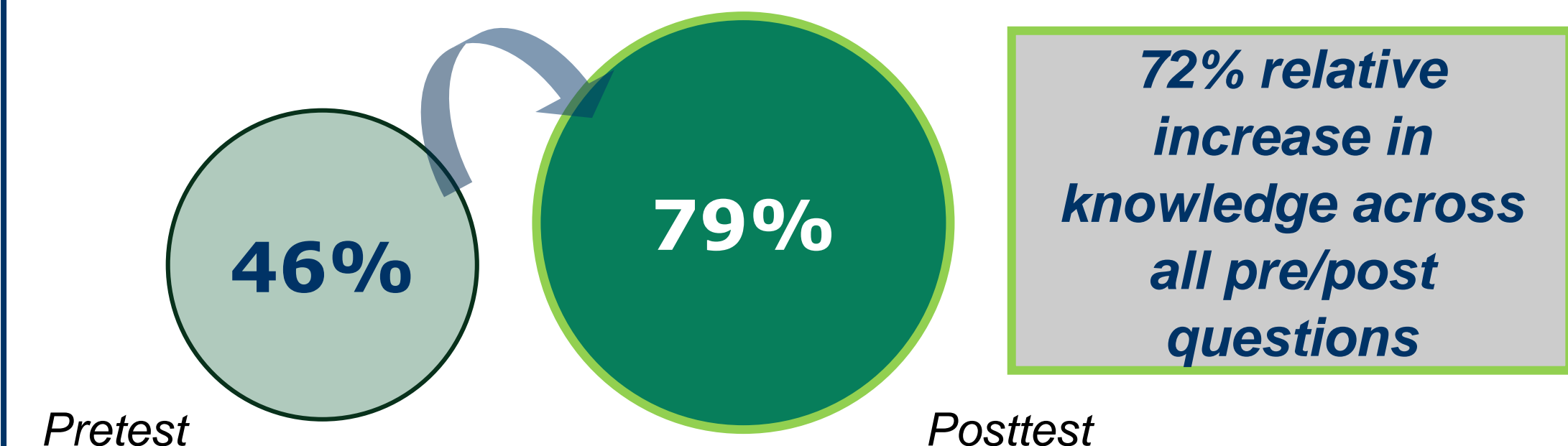
- Approach to modeling borrowed from principles and practices used in Health Economics and Outcomes Research (HEOR)
- Building the model requires the following: definitions, evidence-based parameters (i.e., % of pts accepting an HIV test), costs of care, endpoints
- High-risk patient is a patient defined as: history of no or inconsistent condom use, has a partner with confirmed HIV infection, non-monogamous man who has sex with men, injection drug user, commercial sex worker, or recently diagnosed with an STI.

Parameters Used in Model

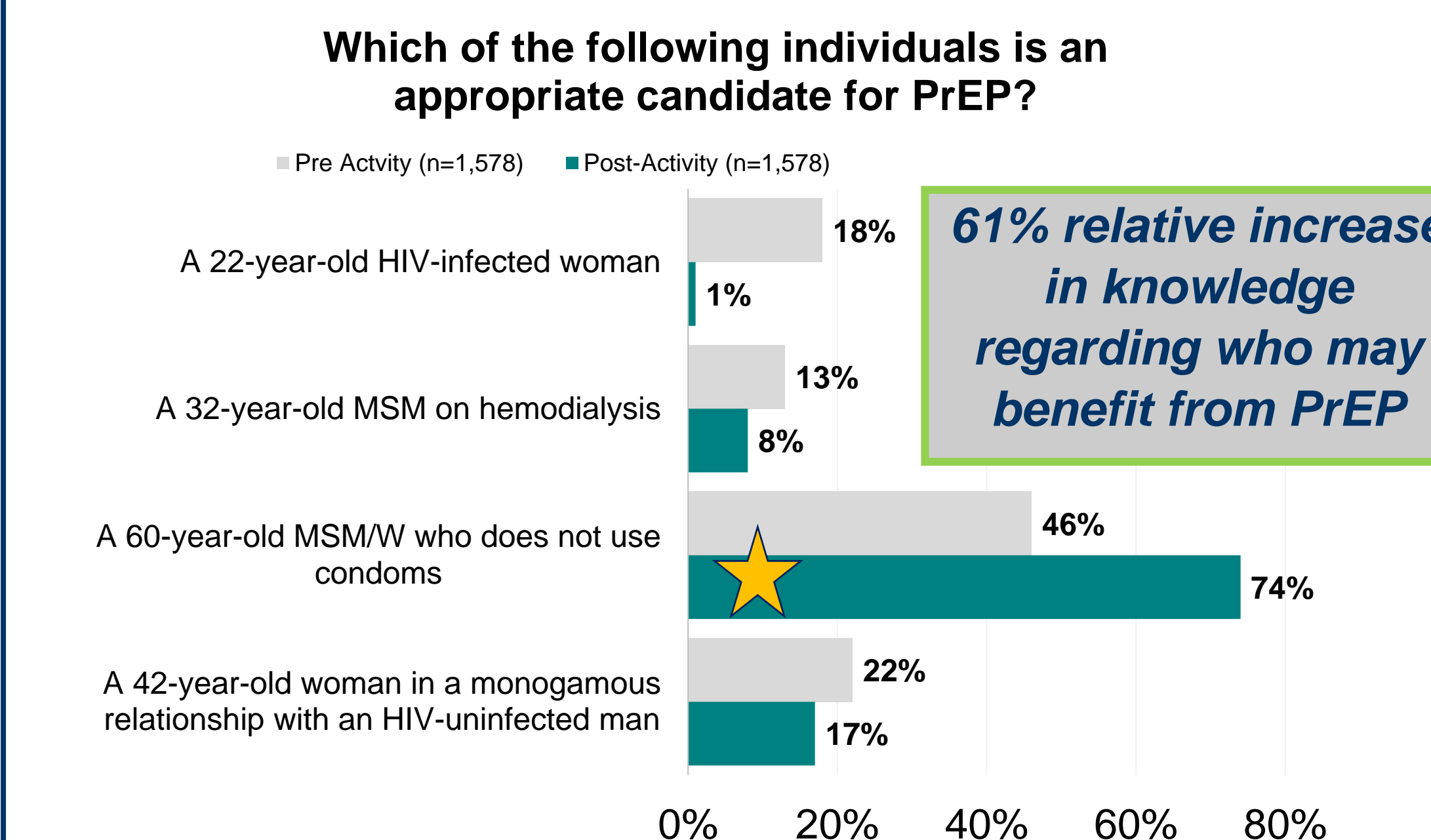
Parameter	Value	Evidence
CE participant parameters		
# who prescribe (MD/DO, NP, PA)	4,550	91% of the 5,001 total participants based on self-report
% who have seen high-risk patients since the CE	38%	Participant follow-up survey
# of high-risk patients seen/week	4.2	Participant self-report
% who newly offer HIV test	39%	Participant self-report
% who now implement PrEP guidelines	55%	Participant self-report
High-risk patient parameters		
% who accept HIV test	40%	Montay, et al. BMJ. 2016;352:h6895.
% who are HIV-	99.7%	McCormack S, et al. Lancet. 2016;387:53-60
% who qualify for PrEP	37.5%	Smith DK, et al. MMWR. Nov 27, 2015.
% who accept/continue PrEP	45%	Chan PA, et al. J Int AIDS Soc. 2016;19(1):20903.
% who accept/continue HIV Tx	40%	CDC. HIV Among Gay and Bisexual men. Updated Feb, 2018.
Cost of Care Parameters		
Cost of PrEP/pt, including office visits and testing for 1 year	\$23,614	DHHS Guidelines. 10//2017. Adamson BJS, et al. Vac. 2017;5(2):13. [\$1,881.14/mo +\$208 x 5 visits/yr)
Cost of HIV Tx/pt, including office visits and testing for 1 year	\$25,848	CDC. HIV Cost-effectiveness. Mar, 2017. [\$23,000 in 2010 converted to 2017 USD]

3 Impact of Education on Knowledge

Overall Knowledge Gains

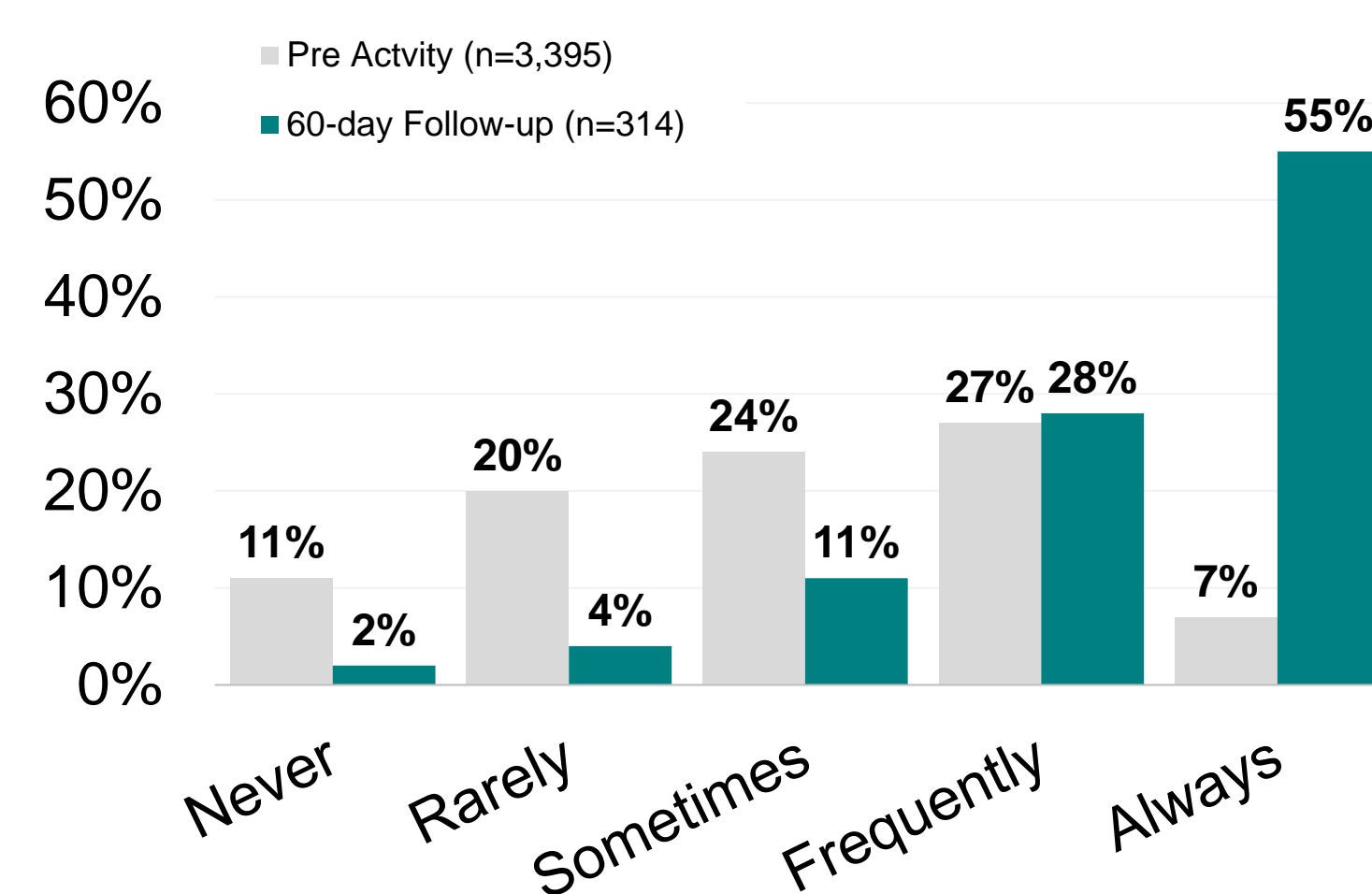


Identification of Patients for PrEP



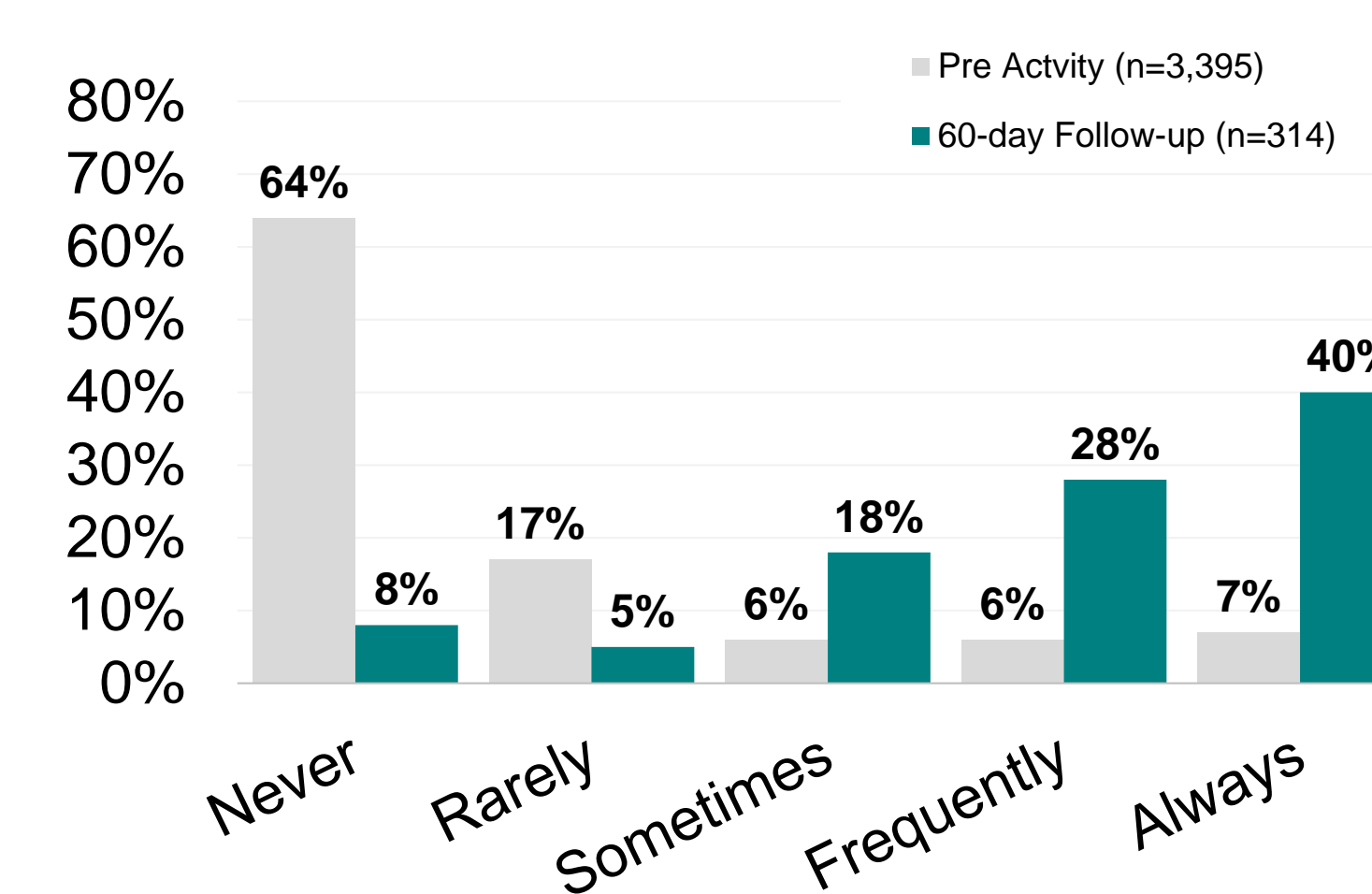
4 Impact of Education on Practice

How often do you offer or recommend HIV testing to high-risk patients?



There was 144% relative increase in HIV testing 2 months post-learning

How often do you implement PrEP guidelines for high-risk patients?

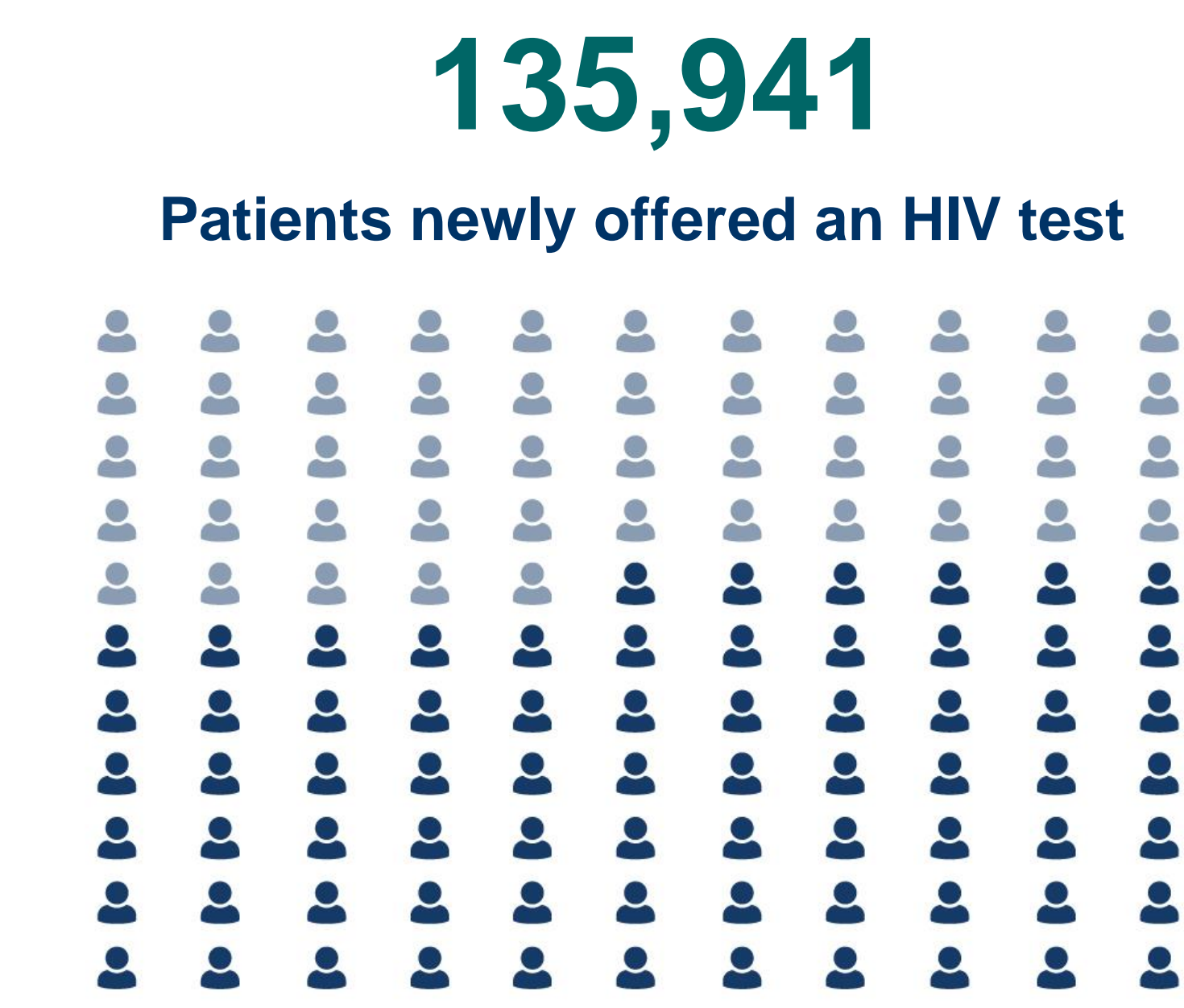


There was over a 400% relative increase in providers using PrEP guidelines 2 months post-learning

5 Estimated Patient Impact & Cost of Care Due to the CE

Patient Impact After 1 Year

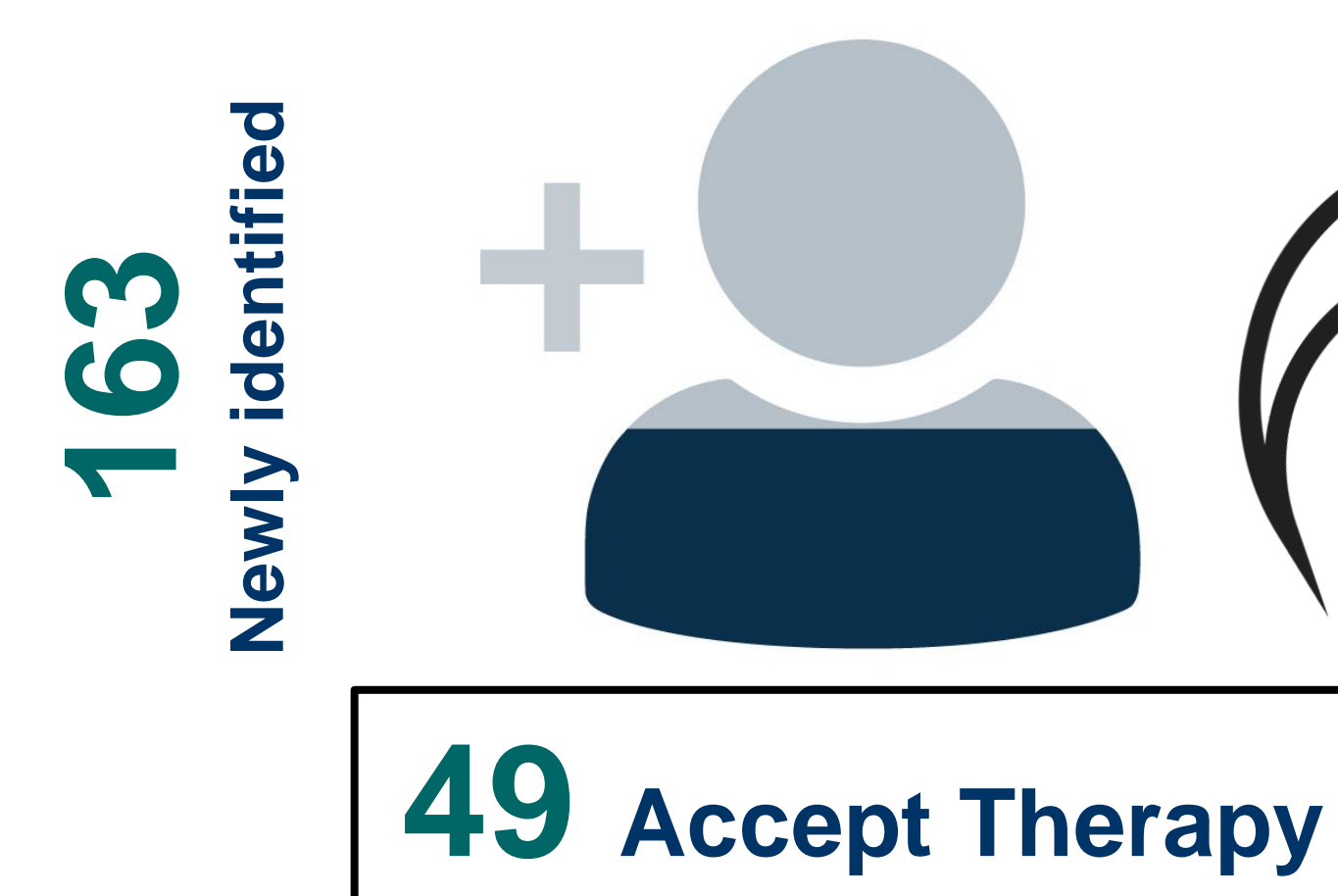
HIV Testing



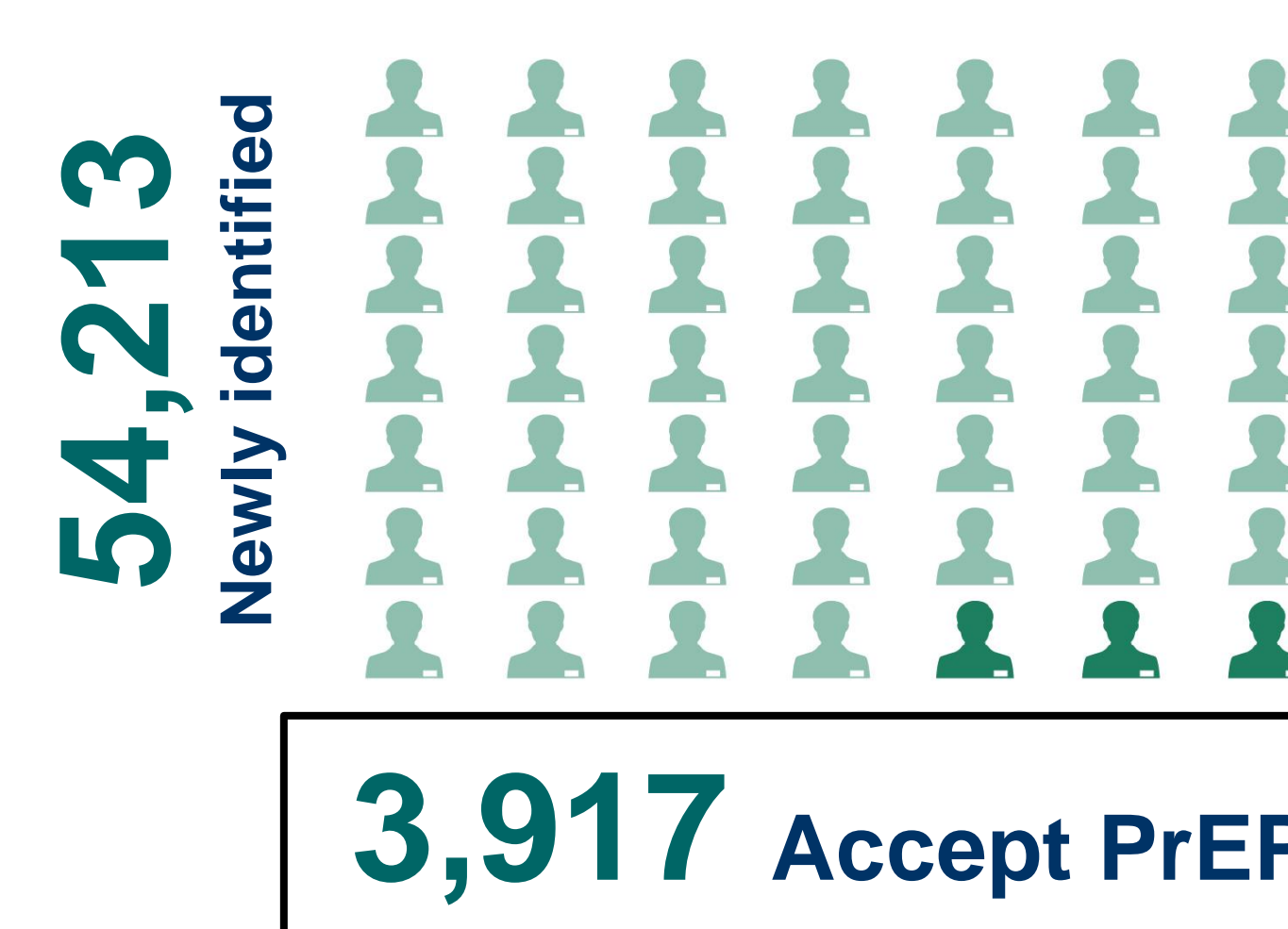
~54,376 Accept the test

Over 54K high-risk patients are newly offered an HIV test due to the education provided

HIV+ Patients



HIV- Patients



Direct Costs of Care at 1 Year

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\$1.2 million
Cost associated with treating 49 newly identified patients for HIV

\$92 million
Costs associated with PrEP use in nearly 4K newly identified HIV-high-risk patients

6 CONCLUSIONS & OPPORTUNITIES

CE Targeted to PCPs



- ✓ Increased knowledge and competence regarding HIV screening and prevention
- ✓ Caused practice changes among providers that increase screening rates and appropriate linkage to care

Modeling

- ✓ Can be used to estimate the impact of CE on
- ✓ Patient care
- ✓ Costs of care

References
1. Vindico Data on File. 2014-2015.
2. CDC. HIV Testing in the United States. September 2015.
3. Petroll AE, et al. AIDS Behav. 2017;21(5):1256-1267.