



# Reinfection with Gonorrhea or Chlamydia after Partner Treatment with Patient-Delivered Partner Therapy

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## BACKGROUND

- Patient-delivered partner therapy (PDPT) has been associated with decreased risk of reinfection with gonorrhea (GC) and chlamydial infection (CT) in individual-level randomized controlled trials.
- In the trials, PDPT was more effective in preventing recurrent GC than in preventing recurrent CT.
- PDPT use in WA State is many fold higher than in other parts of the U.S.
- We evaluated the impact of EPT on the risk of recurrent GC and CT at the population level.

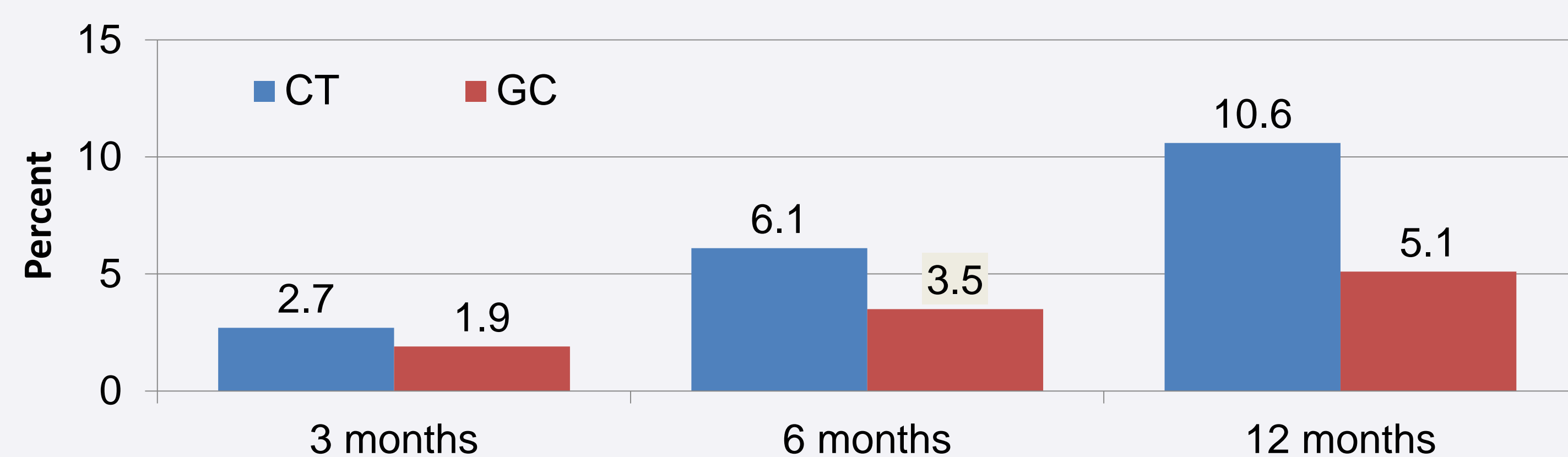
## METHODS

- Washington State was the site of a community randomized trial of expedited partner therapy (EPT) from 2007-2010.
- The intervention included provision of free PDPT partner packs via medical providers, pharmacies, and health departments for heterosexual men and women diagnosed with CT or GC.
- After 2010, health departments around Washington State continued to make free PDPT available for use by medical providers.
- Cases reported with CT or GC were interviewed for partner services (PS) if referred for PS by a provider or randomly sampled for interview.
- Ascertainment of PDPT use was determined via patient interviews.
- Reinfection was defined as a subsequent reported infection with the same pathogen >30 days after the initial diagnosis.
- We examined the relationship of PDPT treatment of ≥ 1 partner and reinfection within 3, 6, and 12 months among heterosexual men and women from 2007-2012.
- We used Poisson regression with robust standard errors to produce relative risks and 95% confidence intervals.

## RESULTS

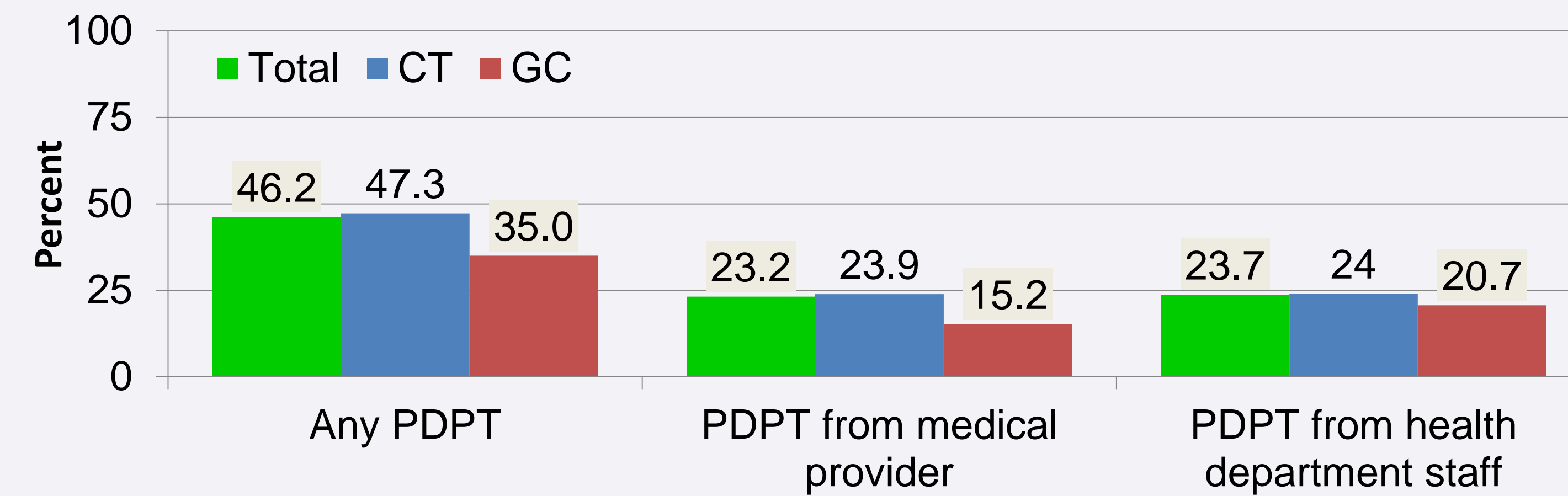
- 127,890 cases of CT and GC were reported among heterosexual men and women from 2007-2012.
- Of these, 39,207 (30.7%) were interviewed, including 35,056 CT cases and 4,667 GC cases.

**Figure 1: Cumulative percent of CT and GC cases reported with a recurrent infection within 3, 6, and 12 months**

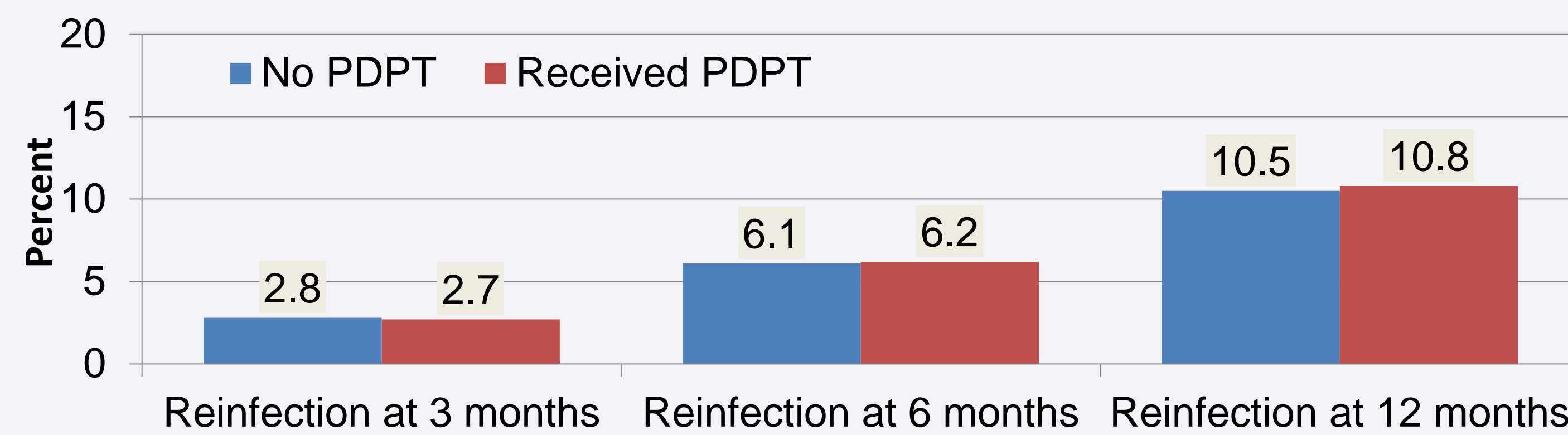


## RESULTS

**Figure 2: Percent of CT and GC cases receiving partner services who reported at least 1 partner treated with PDPT**

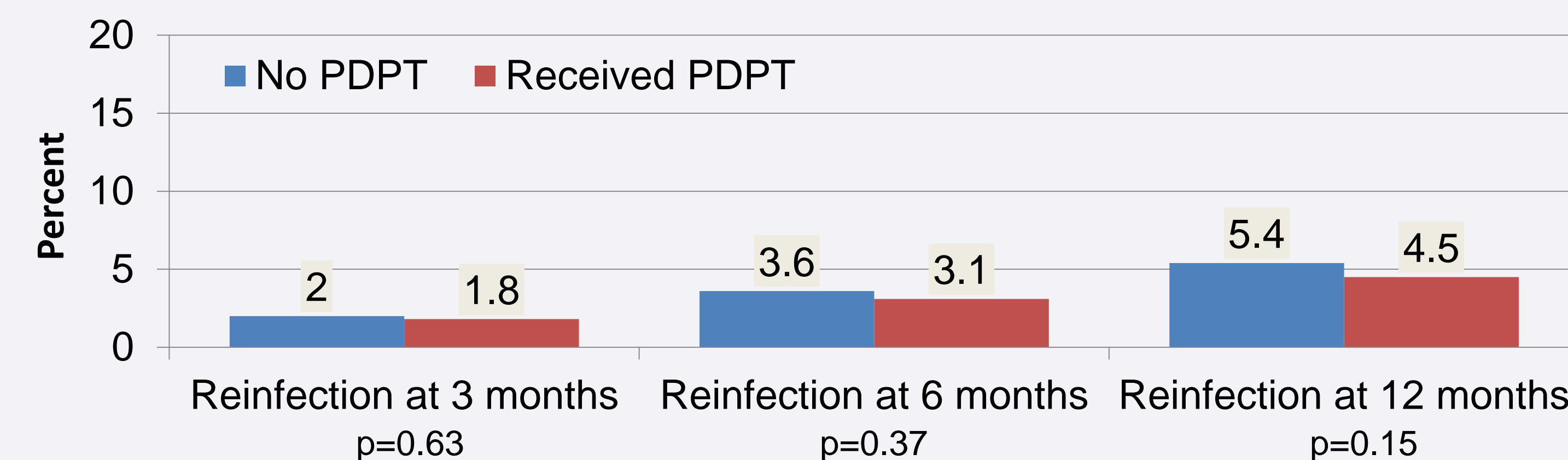


**Figure 3: Cumulative percent of all CT cases reinfected within 3, 6, and 12 months by partner treatment with PDPT\*^**

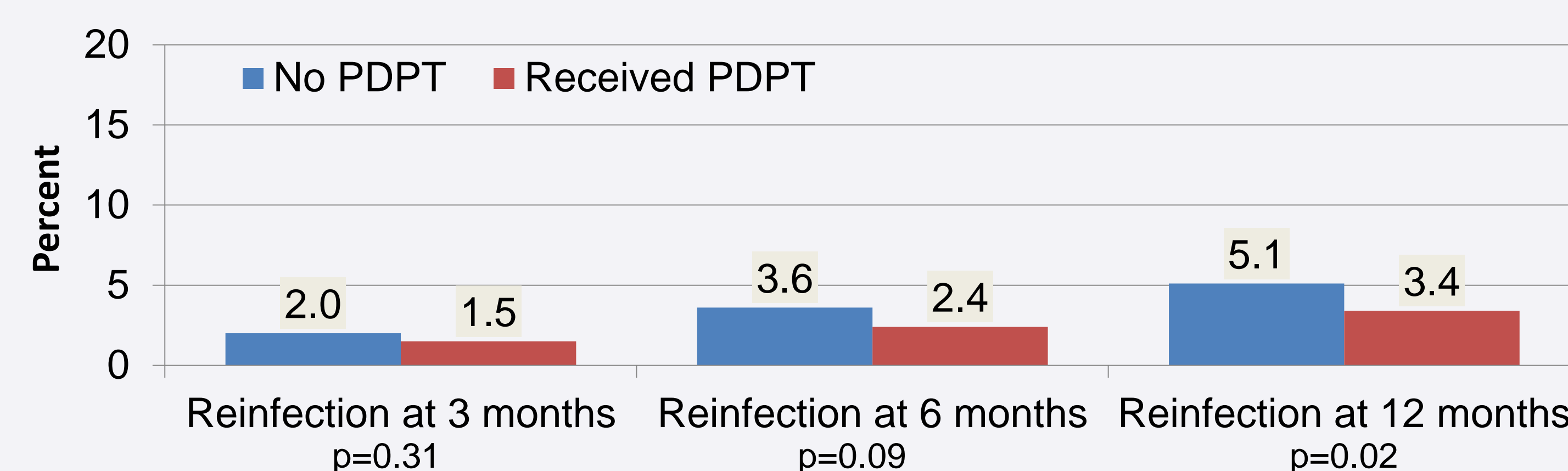


\*p for all comparisons > 0.30, ^Results for cases with CT only were similar and are not shown

**Figure 4: Cumulative percent of all GC cases reinfected within 3, 6, and 12 months by partner treatment with PDPT**



**Figure 5: Cumulative percent of cases with ONLY GC reinfected within 3, 6, and 12 months by partner treatment with PDPT**



## RESULTS

**Table 1: Multivariate relative risks\* for reinfection within 12 months for cases with any CT, CT only, any GC, and GC only**

	Any CT (N=36,056) RR (95% CI)	CT only (N=34,540) RR (95% CI)	Any GC (N=4,667) RR (95% CI)	GC only (N=3,151) RR (95% CI)
PDPT				
No PDPT	1.00	1.00	1.00	1.00
Any PDPT	0.98 (0.92-1.03)	0.97 (0.92-1.04)	0.84 (0.64-1.10)	<b>0.65 (0.44-0.94)</b>
Gender				
Men	1.00	1.00	1.00	1.00
Women	<b>1.43 (1.31-1.56)</b>	<b>1.42 (1.30-1.55)</b>	0.89 (0.68-1.16)	0.91 (0.64-1.30)
Race				
White	1.00	1.00	1.00	1.00
Black	<b>1.61 (1.51-1.73)</b>	<b>1.58 (1.47-1.69)</b>	<b>2.02 (1.48-2.77)</b>	<b>1.69 (1.17-2.46)</b>
Other race	<b>1.21 (1.12-1.31)</b>	<b>1.21 (1.12-1.31)</b>	0.77 (0.45-1.32)	0.59 (0.29-1.21)
Age				
< 20 years	1.00	1.00	1.00	1.00
20- 24 years	<b>0.67 (0.63-0.71)</b>	<b>0.67 (0.62-0.72)</b>	0.84 (0.62-1.13)	1.20 (0.78-1.85)
≥25 years	<b>0.45 (0.41-0.49)</b>	<b>0.45 (0.41-0.49)</b>	<b>0.56 (0.41-0.77)</b>	0.74 (0.48-1.16)
Referral for partner services				
Not referred	1.00	1.00	1.00	1.00
Referred	<b>1.20 (1.13-1.29)</b>	<b>1.19 (1.11-1.28)</b>	1.31 (0.97-1.77)	1.31 (0.88-1.94)
Provider type				
Private provider	1.00	1.00	1.00	1.00
Family planning	1.07 (0.98-1.17)	1.08 (0.99-1.18)	0.96 (0.61-1.51)	1.26 (0.72-1.90)
Other reproductive health	0.92 (0.82-1.03)	0.92 (0.82-1.04)	1.25 (0.73-2.16)	1.57 (0.80-3.08)
ER/Urgent care	1.05 (0.95-1.17)	1.05 (0.95-1.18)	1.18 (0.79-1.75)	1.17 (0.69-1.99)
Military	<b>0.84 (0.73-0.98)</b>	<b>0.82 (0.71-0.96)</b>	0.91 (0.47-1.79)	0.68 (0.23-1.94)
Other provider	<b>1.09 (1.01-1.19)</b>	<b>1.11 (1.02-1.21)</b>	1.23 (0.86-1.75)	1.18 (0.73-1.90)

## RESULTS SUMMARY

- Reinfection within 12 months occurred among 10.6% of CT cases and 5.1% of GC cases who were interviewed.
- In multivariate analyses, the risk of reinfection was not associated with PDPT use when all CT and GC cases were included in infection-specific models.
- However, in a model including cases with only GC, persons who received PDPT were 35% less likely to have recurrent GC within 12 months.

## LIMITATIONS

- PDPT use is based on patient report, and may be overestimated if partners did not use the PDPT medication(s).
- Patients referred by providers for PS are likely to be a higher risk population, somewhat limiting the generalizability of our results.

## CONCLUSIONS

- These results provide some support for the effectiveness of PDPT in preventing recurrent gonorrhea among heterosexuals in Washington State.
- We did not find evidence for the effectiveness of PDPT in preventing recurrent chlamydial infection.