



HPV Vaccine Initiation in Indiana: Results of County-Level Analyses

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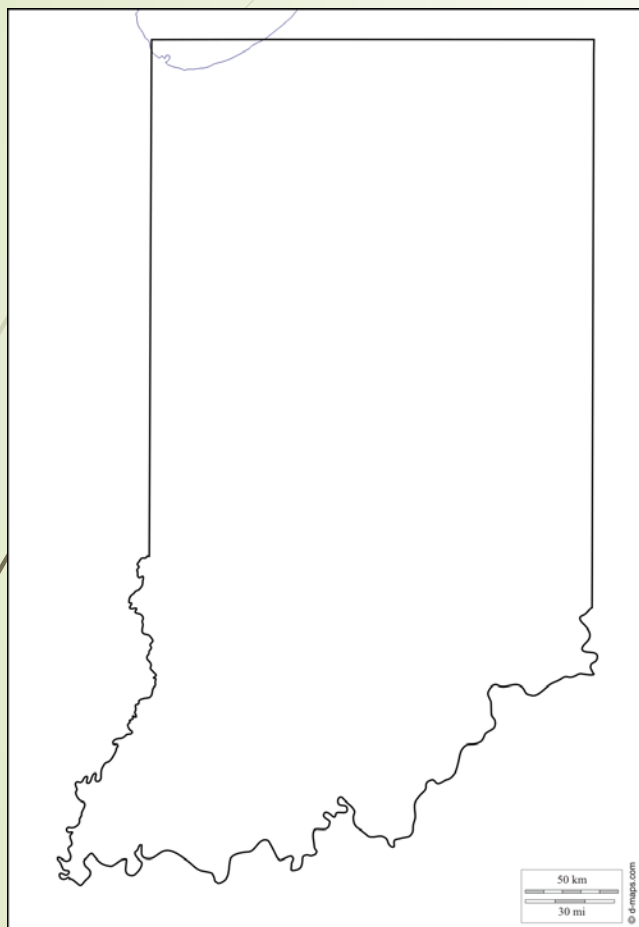
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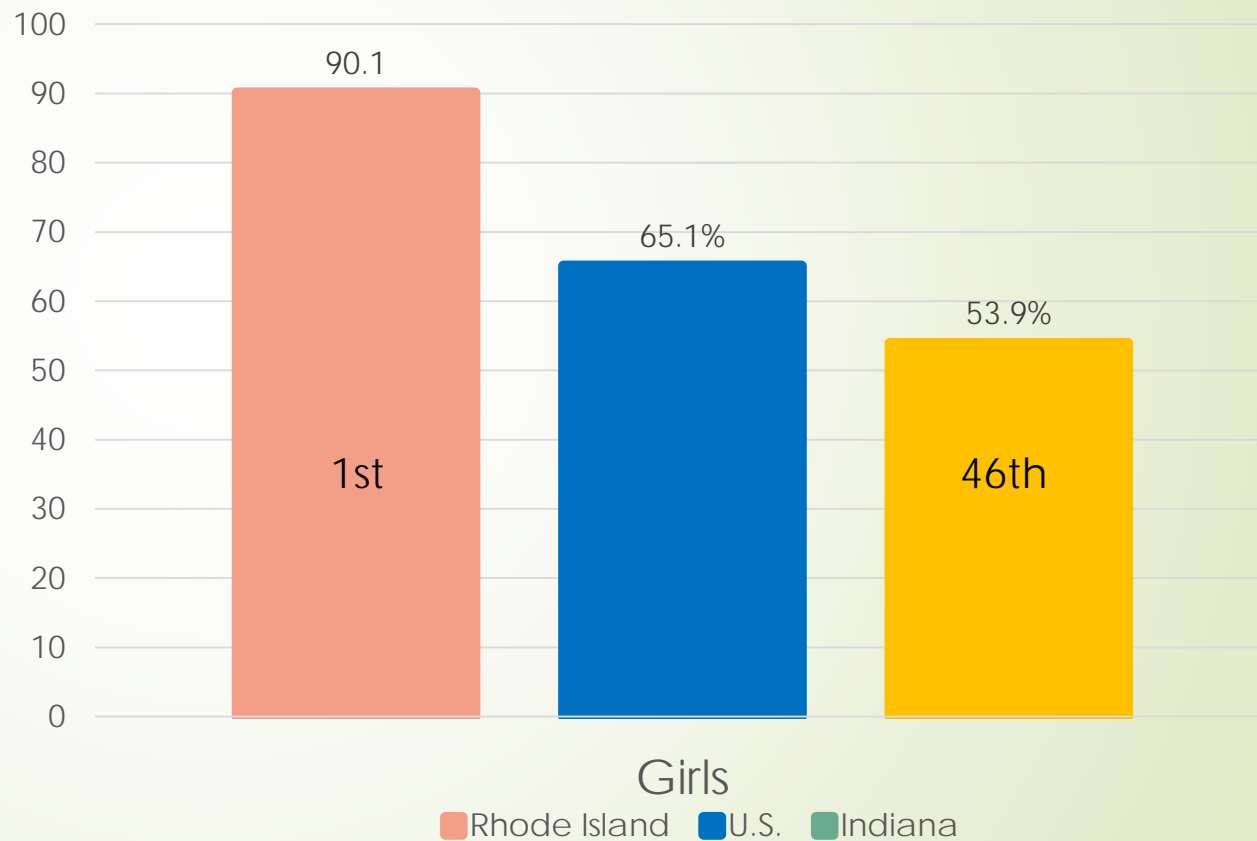
Indiana

- Compared to national rates, Indiana lags substantially in HPV vaccination coverage
- 

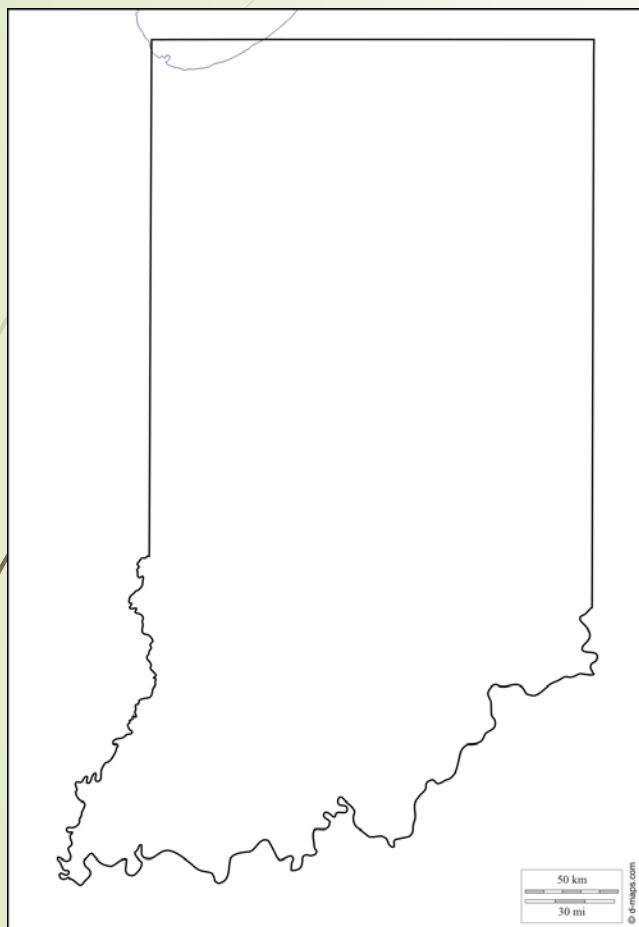
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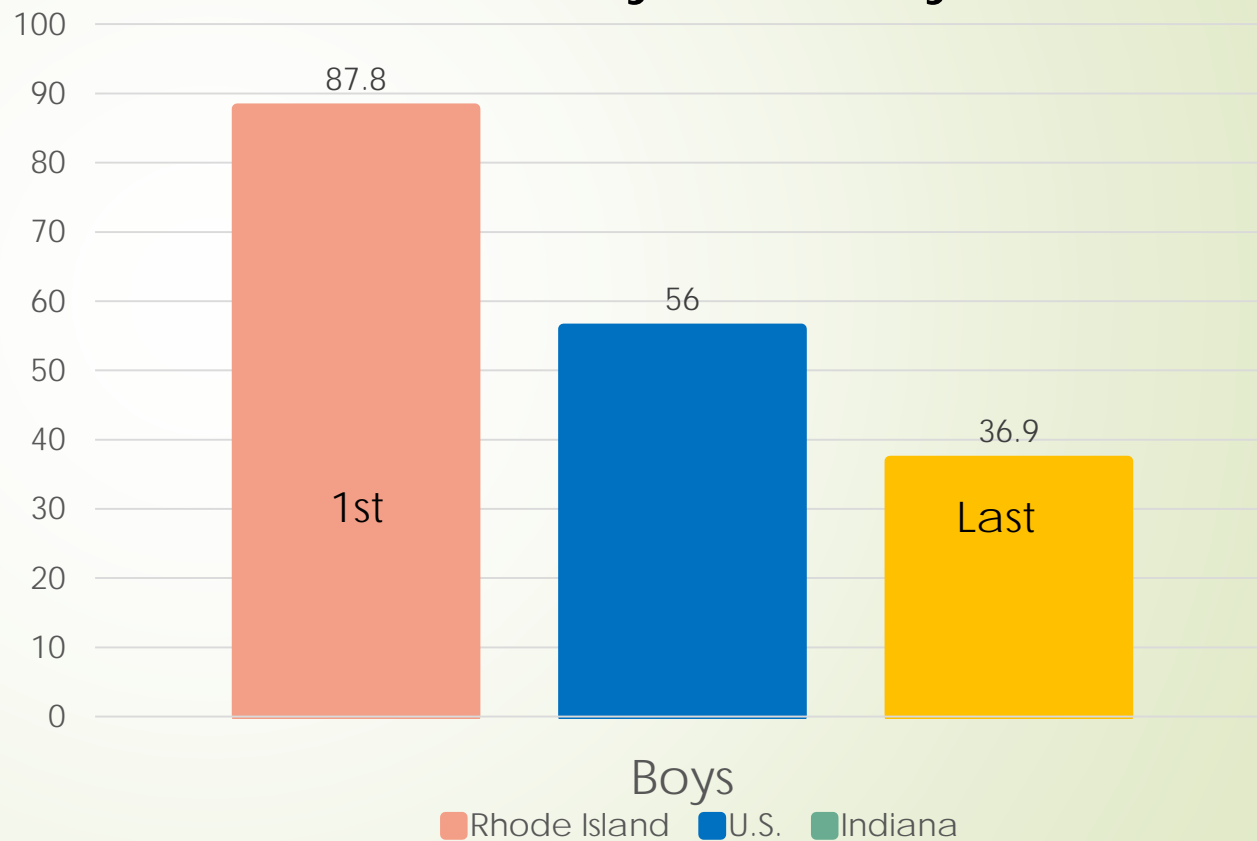
2016 NIS-Teen HPV vaccine initiation rates: 13-17 year old girls



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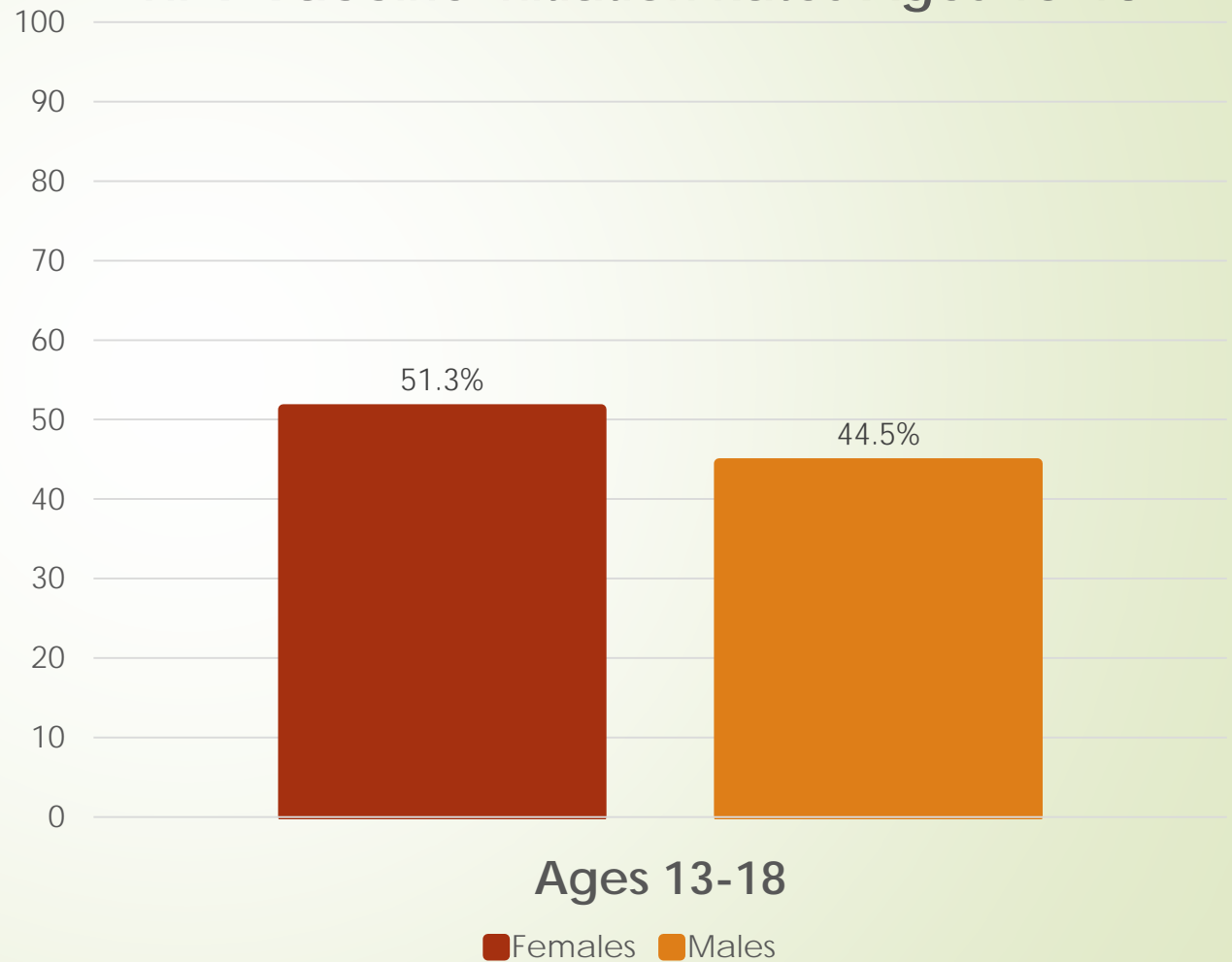
2016 NIS-Teen HPV vaccine initiation rates: 13-17 year old boys



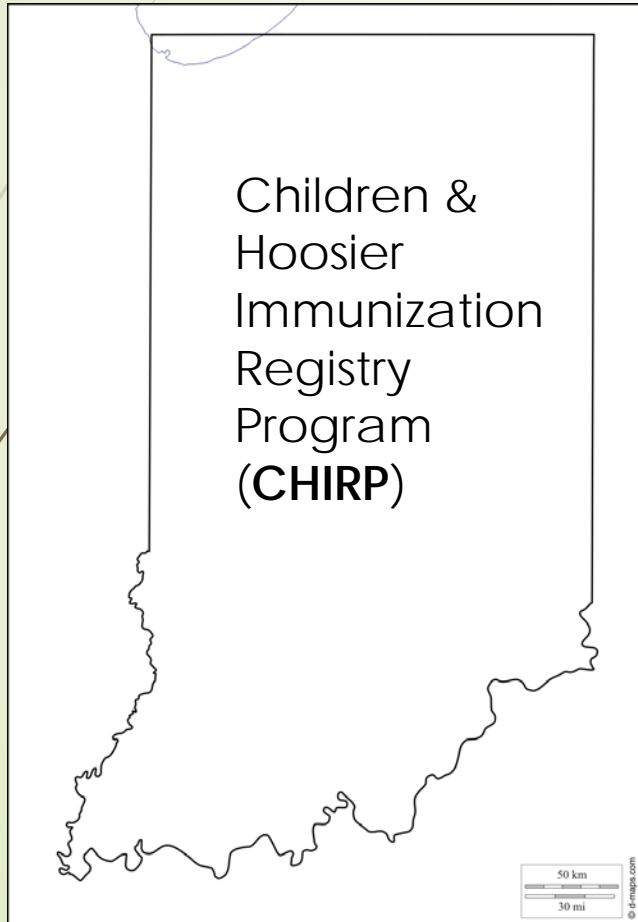
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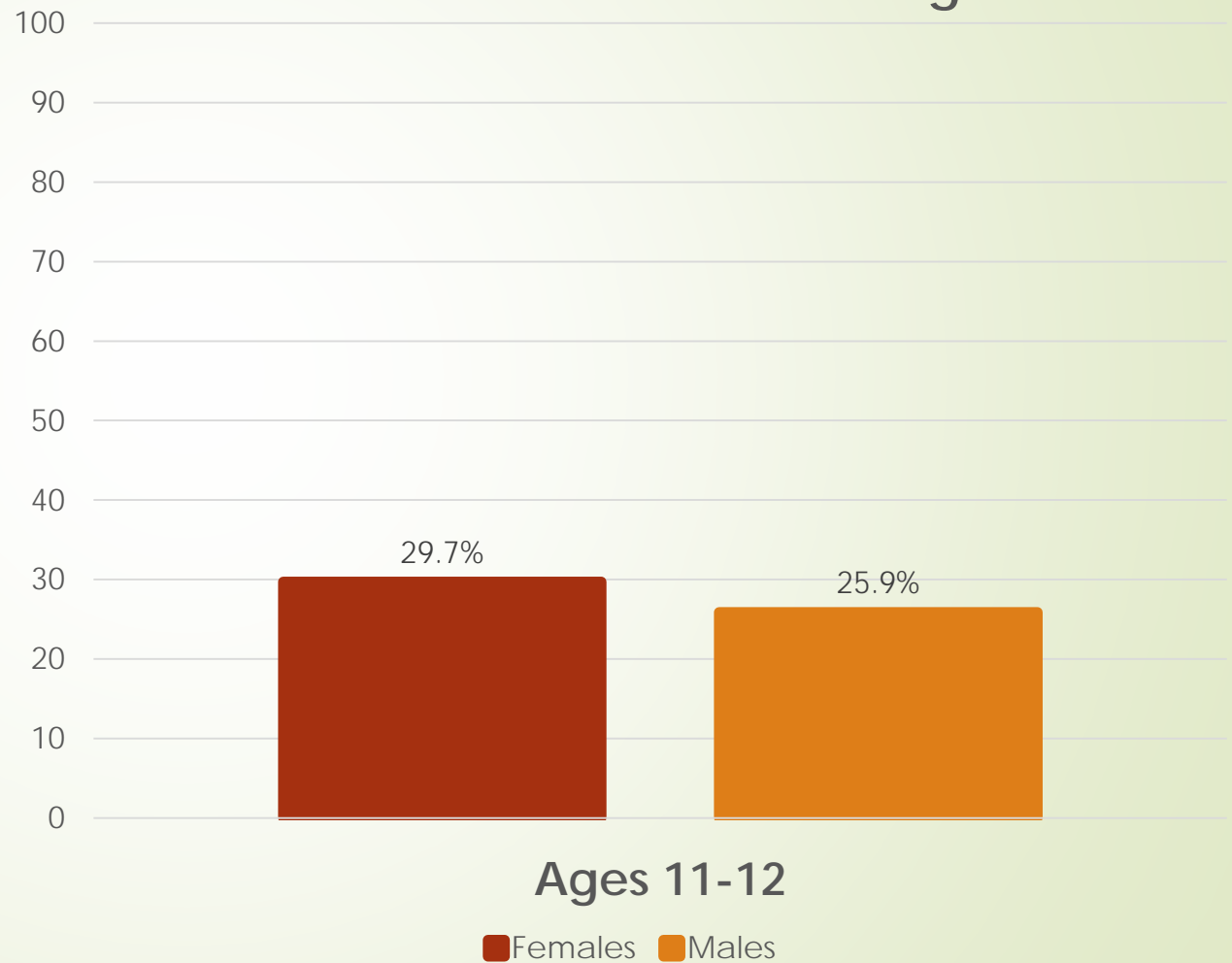
2017 Indiana IIS (CHIRP) Data: HPV Vaccine Initiation Rates Ages 13-18



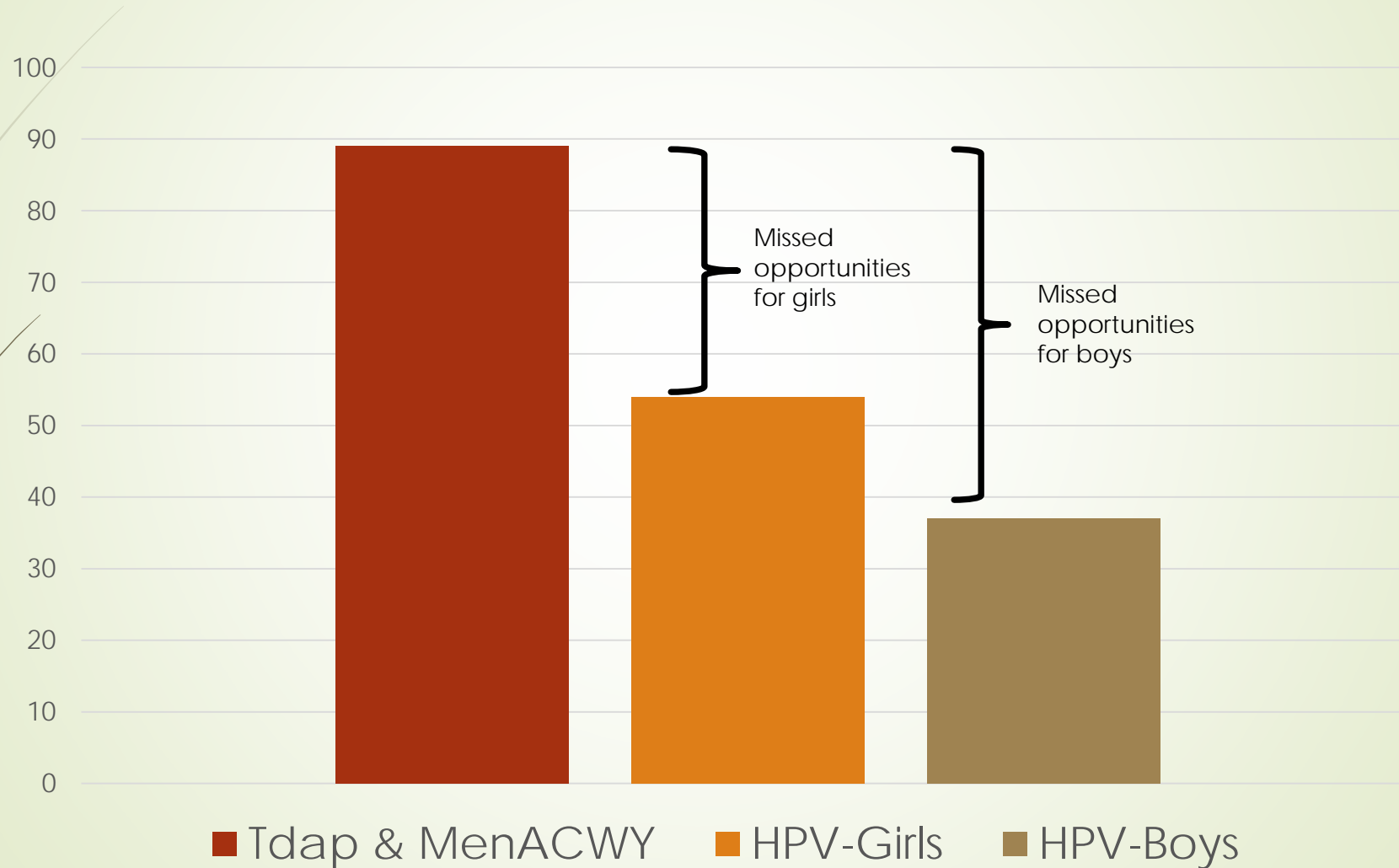
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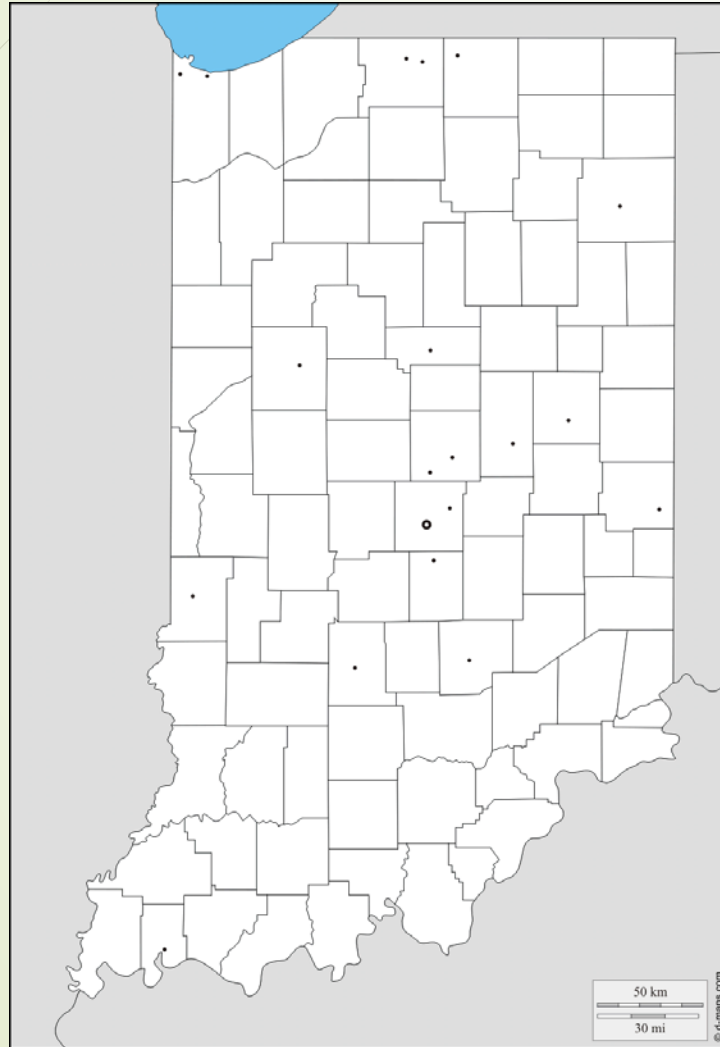
2017 Indiana IIS (CHIRP) Data: HPV Vaccine Initiation Rates Ages 11-12



Indiana – A state of missed opportunities

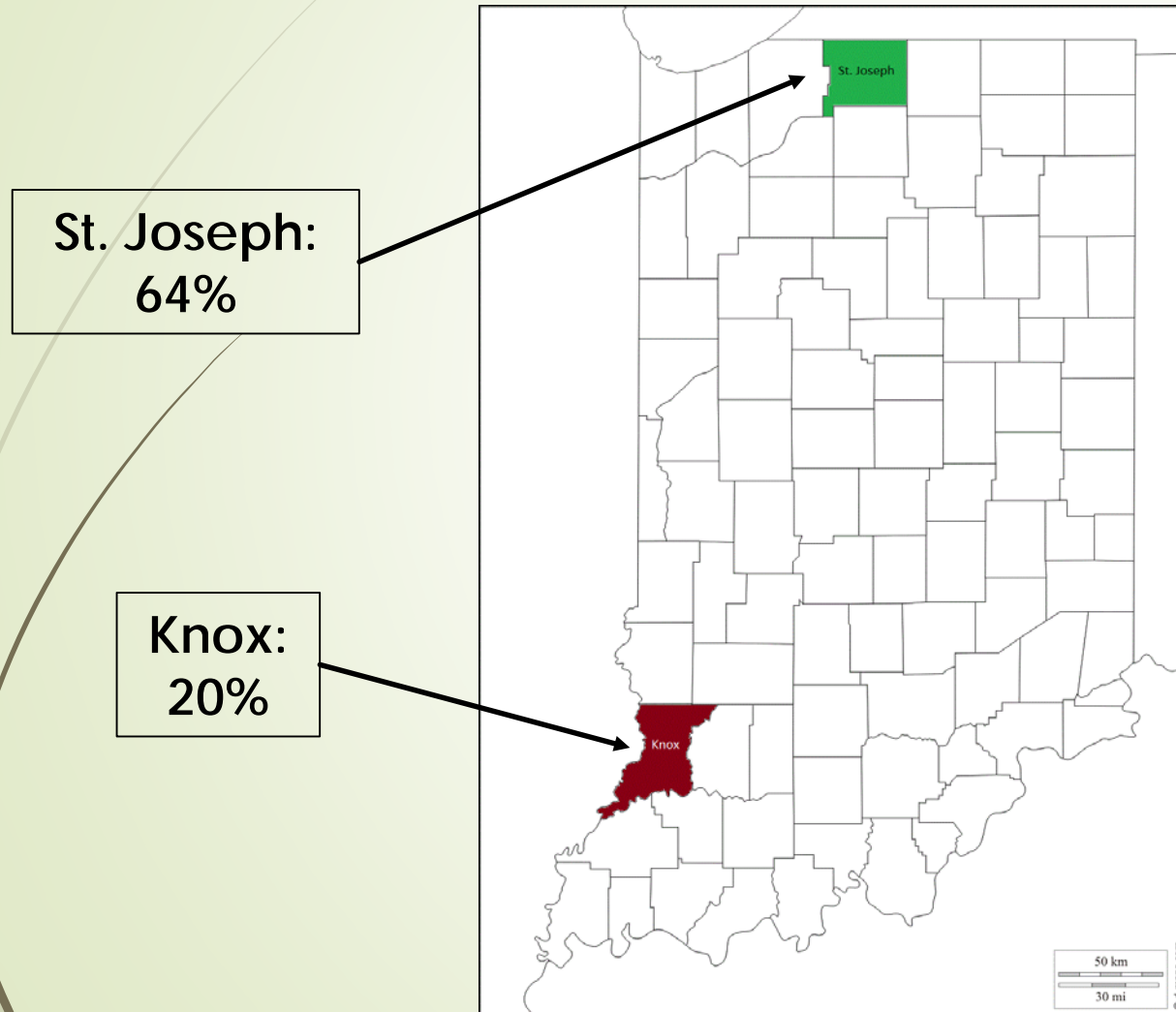


Indiana has 92 counties



- Many rural counties
- Only 4 cities with populations over 100,000:
 - Indianapolis
 - Fort Wayne
 - Evansville
 - South Bend

Large variability across counties in HPV vaccine initiation rates

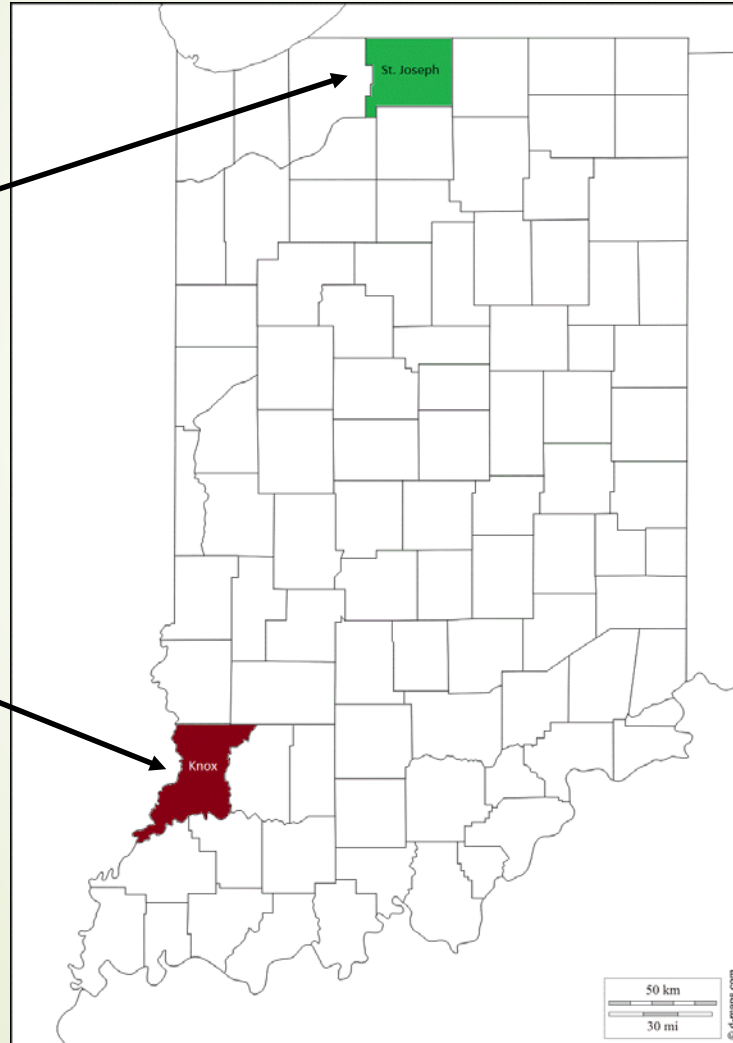


➔ 13-18 year olds


Large variability across counties in HPV vaccine initiation rates

St. Joseph:
42%


Knox:
6%



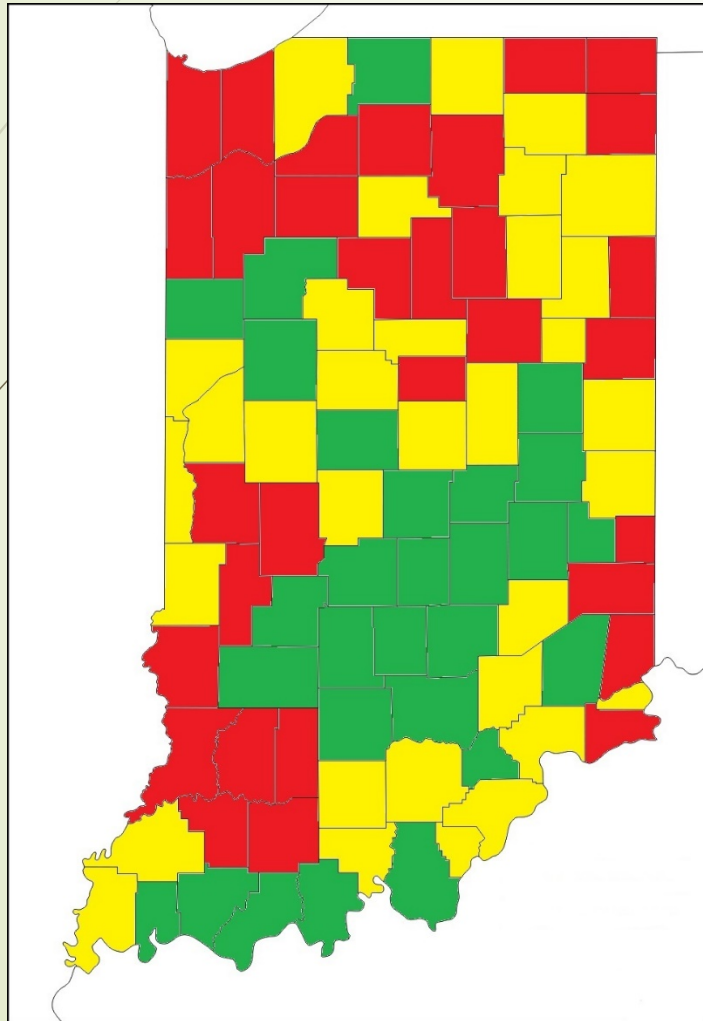
➔ 11-12 year olds




High correlation between HPV vaccine initiation for ages 11-12 and ages 13-18:

$$R_0 = .86$$


Indiana: HPV vaccine initiation by county for ages 13-18



Counties	Initiation Rates
RED	20% - 37%
YELLOW	38% - 48%
GREEN	49% - 64%



How can we begin to understand this variability?

- ▶ Examined the association of other county characteristics to HPV vaccine initiation rates
- ▶ Limited current analyses to the 13-18 age group



Sources of information

- 2010 Census
- 2012-2015 American Community Survey
- Countyhealthrankings.org
- NIHS & BRFSS
- 2017 CHIRP




Analytic approach

- ▶ Pearson correlation coefficients for preliminary, exploratory analyses
- ▶ Each of the 92 counties treated as an individual

Higher HPV vaccine initiation rates associated with:

County Factor	Correlation*
Higher population density	.26
Lower percent uninsured	-.22
Higher ratio of primary healthcare providers	.23
Higher participation in mammography screening	.48
Higher % of adults with some college	.30
Greater income inequality	.23

*All p values < .05



HPV vaccine initiation rates not associated with:

County Factor	Correlation*
% smokers	-.12
% unemployed	.01
% children in poverty	-.05
% single parent households	.15
Median household income	.06
% non-Hispanic White	-.16
Estimated Pap participation rate	.14



Summary

- ▶ Indiana lags behind the country with respect to HPV vaccination
- ▶ There is great geographic variability within Indiana
- ▶ Vaccine initiation rates related to other county characteristics, most importantly:
 - ▶ Population density
 - ▶ Availability of primary healthcare providers
 - ▶ Participation in other health protective behaviors



Unknowns:



What other factors may play roles in the variability of HPV vaccine initiation across Indiana counties?



Future plans

- ▶ We have identified key contacts and stakeholders in
 - ▶ The 10 counties with the lowest initiation rates
 - ▶ The 10 counties with the highest initiation rates
- ▶ We plan to conduct semi-structured phone interviews
 - ▶ To better understand determinants of low and higher HPV vaccination rates