

North Coast Conference on Precision Medicine
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Canvassing the Community to measure Cigar and Cigarillo Use in Cleveland

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Tobacco Use in the US

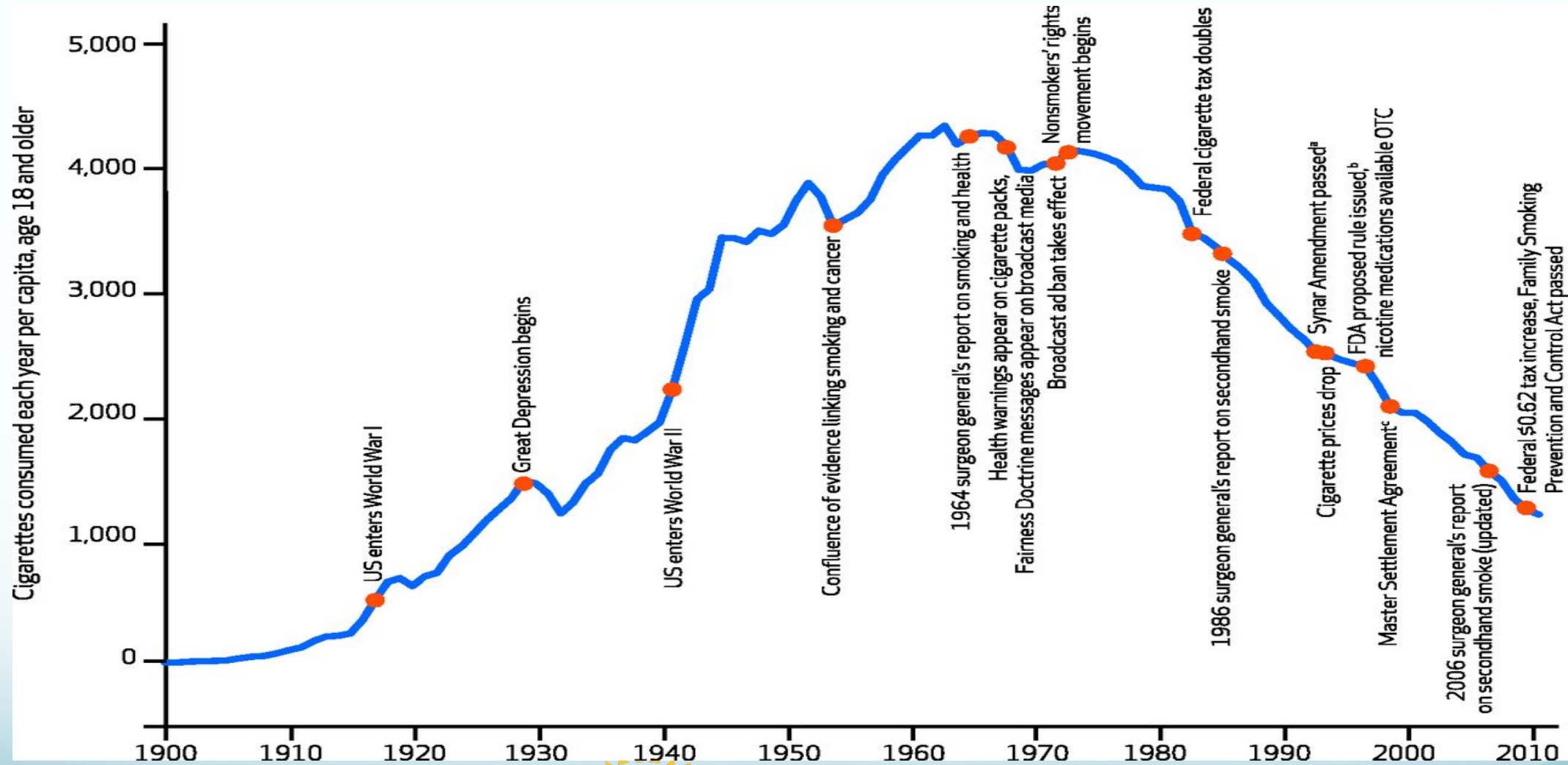
- Cigarette smoking is responsible for 480,000 deaths per year in US
 - Includes 41,000 deaths attributable to secondhand smoke
- Total economic cost of smoking is \$300 BILLION per year
 - \$170 billion in direct medical care
 - \$156 billion in lost productivity
- Nearly 9 out of 10 smokers start before age 18
 - Almost no one starts after 25
 - Each day, 3200 youth smoke their first cigarette



Smoking?



Timeline Of The Tobacco Epidemic In The United States, With Annual Cigarette Usage Per Capita By People Ages 18 And Older, 1900–2010.



Heather L. Wipfli, and Jonathan Samet Health Aff 2015;34:1480-1488



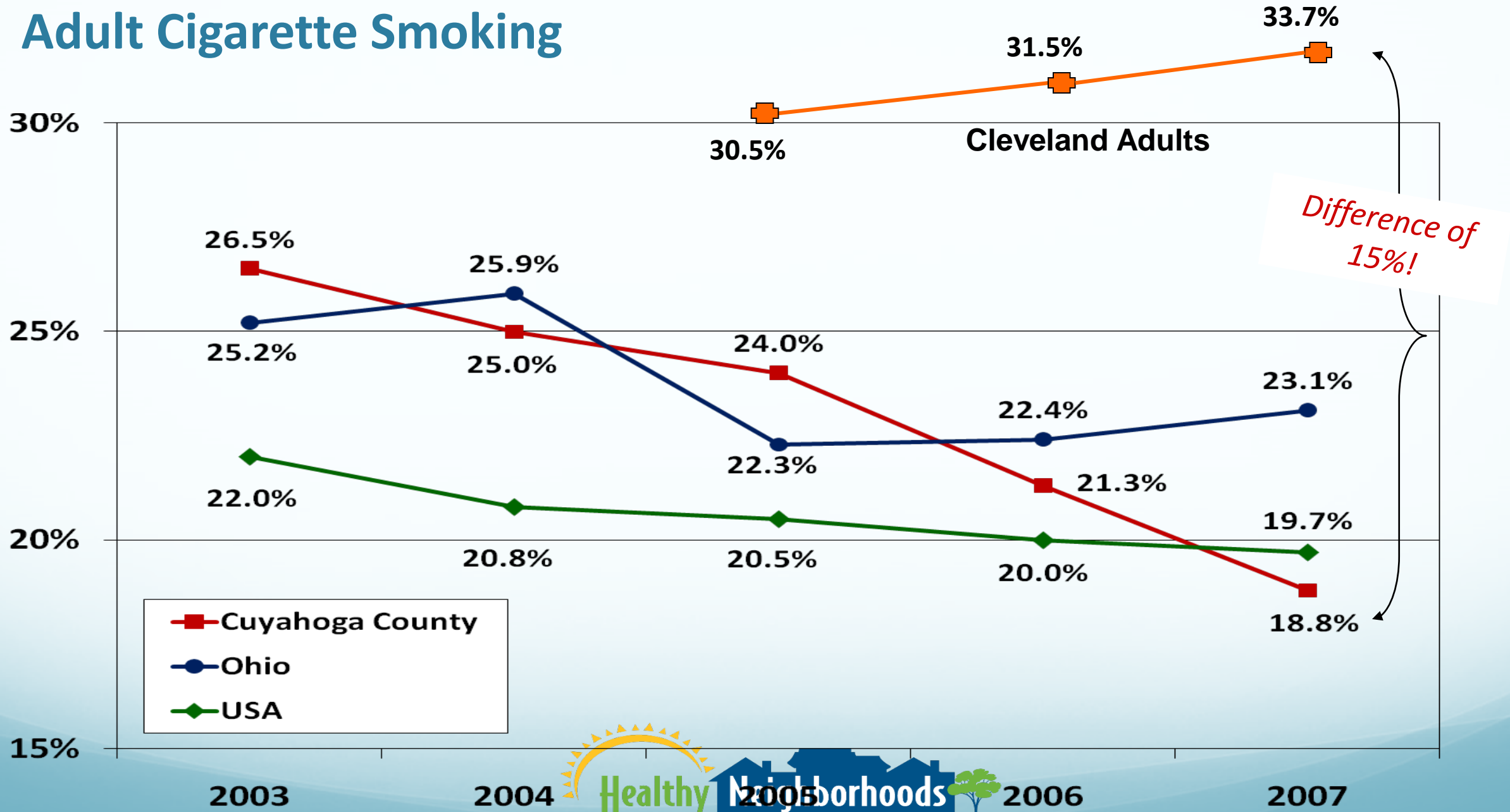
HealthAffairs

Cleveland/Cuyahoga County

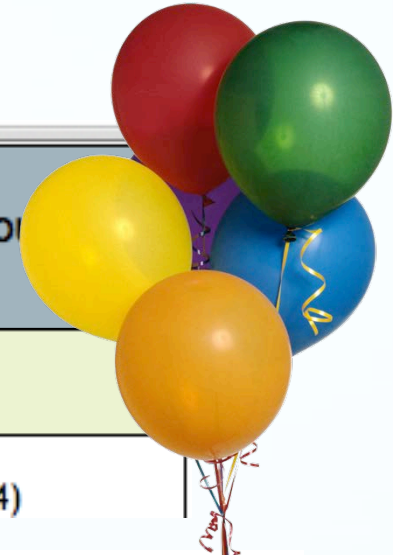
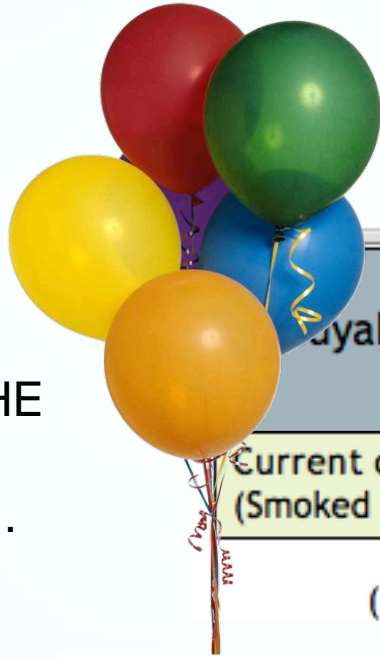
- Cuyahoga County—Northeast Ohio
 - Population: ~1.26 million
 - 29.7% African-American, 63.6% white
 - 59 municipalities
 - 13.1% live in poverty
- City of Cleveland
 - ~400,000 residents
 - 53.3% African-American, 37.3% white
 - 39.2% live in poverty



Adult Cigarette Smoking



Kids Smoking?



HOT OFF THE PRESSES:
2017 RATE...

6.2%

Cuyahoga County, 2009	Cuyahoga County, 2011	Cuyahoga County, 2013
Current cigarette use (Smoked a cigarette on at least 1 day during the 30 days before the survey.)		
12.5 (10.7-14.3)	11.4 (10.5-12.3)	10.4 (9.4-11.4)

Risk Behavior	CMSD-East % (95% CI)	CMSD-West % (95% CI)	Inner Ring-East % (95% CI)	Inner Ring-West % (95% CI)	Outer Ring-East % (95% CI)	Outer Ring-West % (95% CI)
Current cigarette use (Smoked a cigarette on at least 1 day during the 30 days before the survey.)	5.5 (4.6-6.4)	10.7 (9.0-12.5)	7.7 (6.3-9.2)	14.9 (12.6-17.3)	5.6 (4.4-6.9)	n/a

HP2020: 16%



Prevention Research Center for Healthy Neighborhoods
at Case Western Reserve University

Data from 2013 Cuyahoga County High School Youth Risk Behavior Survey: www.prchn.org/yrbs.aspx

What's a cigar anyway?

- Cigar = Any roll of tobacco wrapped in leaf tobacco
 - Legal definition of cigar products:
 - Small cigar: Weighs no more than 3 pounds per 1000
 - Big cigar: Weighs more than 3 pounds per 1000
 - Cigarillos, such as Black & Milds, are considered a big cigar
 - Why does this matter?
 - Government uses terms for taxation purposes
 - More often referred to by brand name by users
 - In this talk, LITTLE CIGAR will refer to products such as Black & Milds and Swisher Sweets





Brief Cigar History

- Little cigars launched onto the market in 1950s
 - Swisher Sweets: 1958; Black & Mild: 1974
- Sales picked up in 1970s as a result of the Public Health Cigarette Smoking Act
- Little cigar sales increased by 150% from 1997- 2007
 - Cigarette sales have declined in the same period
- Tobacco conglomerates include cigars
 - Altria owns Phillip Morris, US Smokeless, and John Middleton (Black & Milds)



Brief Report

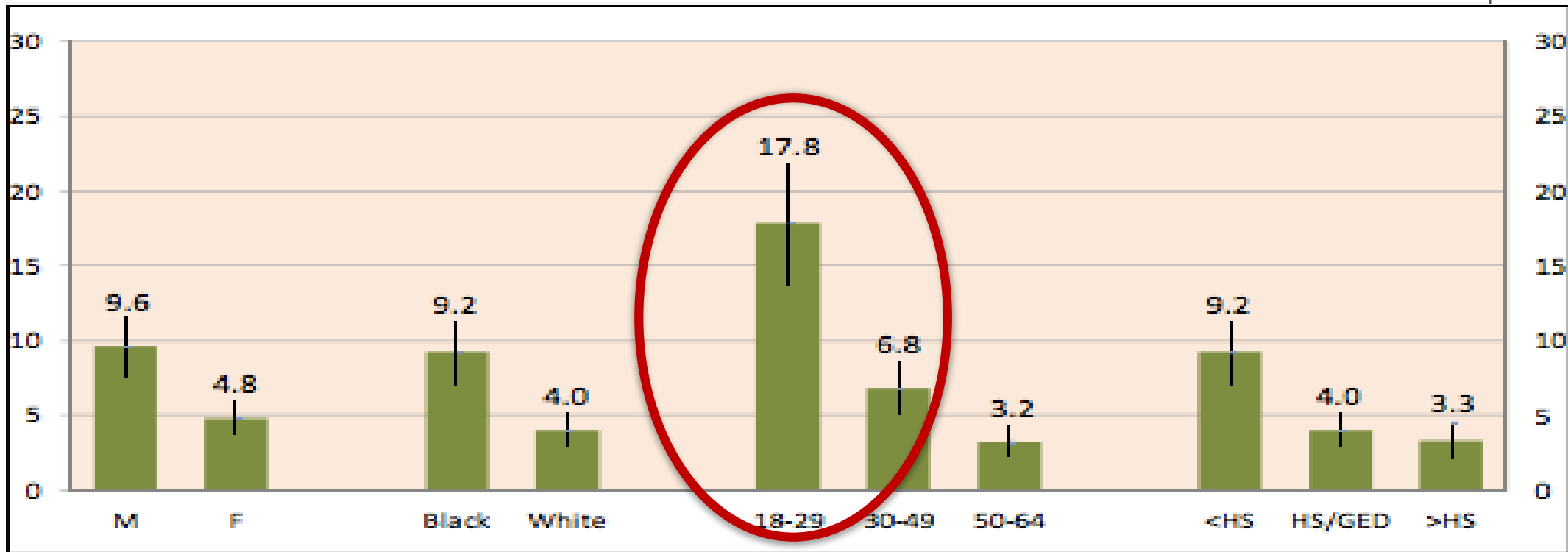
Adult use of cigars, little cigars, and cigarillos in Cuyahoga County, Ohio: A cross-sectional study

Elaine A. Borawski, Ph.D.,¹ Ashley Brooks, M.P.H.,² Natalie Colabianchi, Ph.D.,³ Erika S. Trapl, Ph.D.,¹ Kathryn A. Przepyszny, M.A.,⁴ Nichelle Shaw, M.P.H.,⁵ & Laura Danosky, M.P.H.¹

		Table 1. Prevalence of cigarette, cigar, and little cigar use ^a and multiple product use			Little cigar use ^b	Multiple product use ^c
Age (Cigarette use	Cigar use	Little cigar use		
18					(4.19–18.33)	1.80 (1.00–3.23)
35					(1.52–6.82)	1.15 (0.67–1.96)
Gender	Prevalence	23.1	4.3	3.3	(2.42–6.60)	4.77 (2.97–7.65)
Race ^d	95% CI	(21.9–24.4)	(3.6–5.0)	(2.7–4.0)		
Blk	Multiple product use				(1.14–3.29)	1.98 (1.24–3.18)
His	Also smokes cigarettes	—	27.9	33.6	(0.41–4.10)	0.90 (0.33–2.45)
Other	Also smokes cigars	5.2	—	27.7	(0.02–0.92)	0.47 (0.05–4.51)
Educ	Also smokes little cigars	4.8	21.3	—	(1.63–8.72)	0.79 (0.43–1.46)
HS	Smoke both other products	2.8	14.8	19.2	(1.19–6.77)	1.01 (0.52–1.95)
Some	Uses no other product	87.2	36.1	19.5	(1.95–10.08)	2.80 (1.35–5.82)
Household income					(1.08–6.23)	1.89 (0.91–3.94)
<25,000					(1.70–4.60)	1.72 (0.75–3.94)
50,000–74,999		1.29 (0.97–1.72)	0.94 (0.53–1.67)			

Prevalence (%) of current Little Cigar Use among Cleveland Adults, 2005-2009 BRFSS

Figure 1: Prevalence (bars) and 95% confidence interval (lines) for Demographic Characteristics



Data Brief

Little Cigars in Cleveland

In the past 10 days (in current week), although some individuals report never using tobacco products in Cleveland, approximately 17.8% of Cleveland adults (18 to 29 years old) use Little Cigars. These percentages are similar to those reported in the 2005-2009 Behavioral Risk Factor Surveillance System (BRFSS) survey. Little Cigar use is also much more common among young adults age 18 to 29 compared to any other age group. When taken to every day, 17.8% of Cleveland adults reported using Little Cigars, which is similar to the 17.8% of Cleveland adults who reported using Little Cigars in the past 10 days. The prevalence of Little Cigar use is highest among adults aged 18 to 29 (17.8%) and lowest among adults aged 50 to 64 (3.2%).

More than one in six young adults in Cleveland smoked Little Cigars or cigarettes in the past 30 days.

Small Business

In addition, Little Cigar use is significantly more common among those with a high school diploma or GED. This is consistent with other behavioral risk factors in the Cleveland area, such as smoking, alcohol use, and physical activity. In Cleveland, Medicaid/Medicare/Assistance for Health Care (MA/MC/ACHC) is the largest payer for health care services. The prevalence of Little Cigar use is higher among those with Medicaid/Medicare/Assistance for Health Care (MA/MC/ACHC) than those with private health insurance. The highest prevalence of Little Cigars is observed in those with Medicaid/Medicare/Assistance for Health Care (MA/MC/ACHC) who are aged 18 to 29 (17.8%).

Little Cigars are available

Little Cigars are available in Cleveland, Ohio. It is important that users of these products are aware of the health risks associated with Little Cigars. These young adults are also more likely to use "other" products of using a pipe or cigar.

Prevalence (%) of current Little Cigar Use among Cleveland Adults, 2005-2009 BRFSS

Figure 1: Prevalence (%) of current Little Cigar Use among Cleveland Adults, 2005-2009 BRFSS

Source: Behavioral Risk Factor Surveillance System (BRFSS) Data, 2005-2009

CDPH | Case Western Reserve University | Health

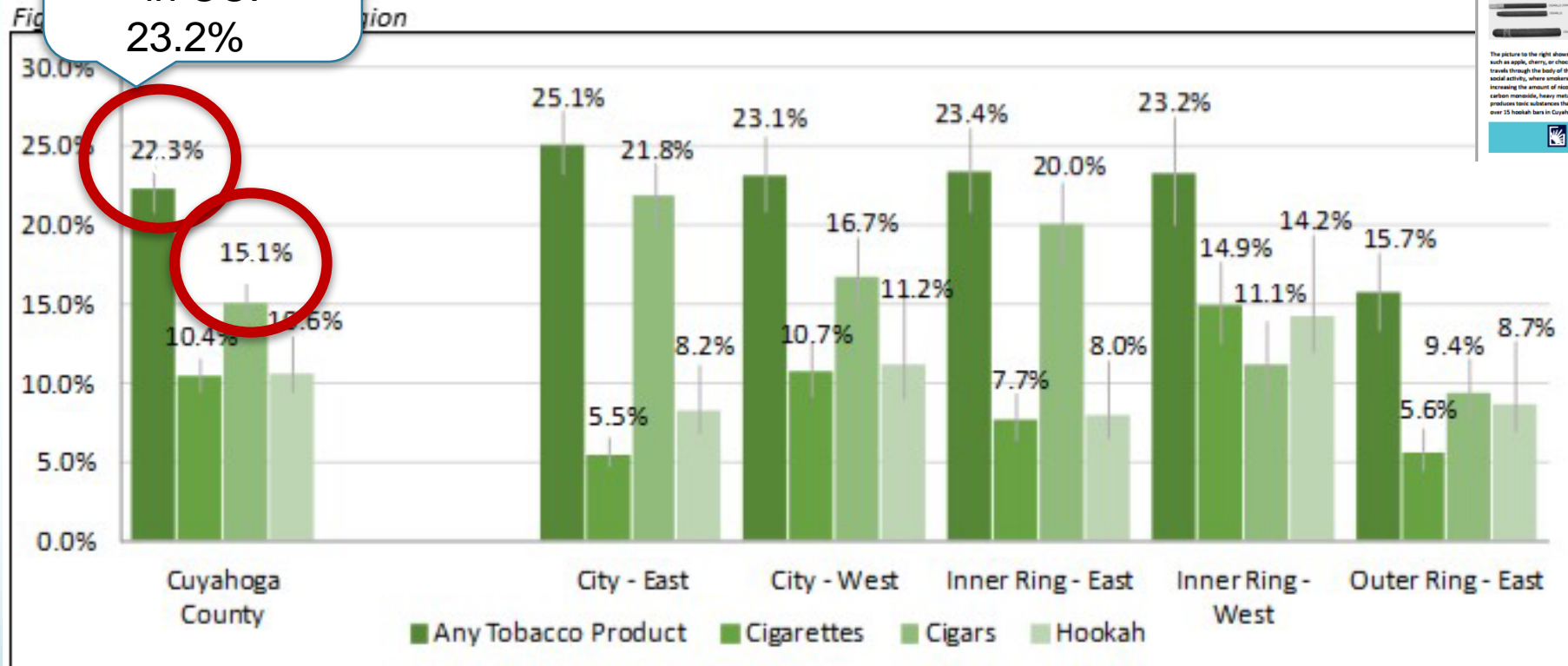


Youth Smoking in Cuyahoga County

2012 Adult Smoking Rate in CC: 23.2%

HOT OFF THE PRESSES: 2017 Rate...

13.1%



HP2020: 8%



Prevention Research Center for Healthy Neighborhoods at Case Western Reserve University

Data from 2013 Cuyahoga County High School Youth Risk Behavior Survey: www.prchn.org/yrbs.aspx

Youth Smoking in Cuyahoga County Youth Data Brief
March 2014

For adolescents in Cuyahoga County, reports on past 30 day (i.e. current) use of cigarettes, cigars, and hookah use (10.6%) and cigarette use (10.6%). Over 80 reported using at least 2 tobacco products. A similar trend of significant cigar and hookah use is seen in four of five regions of Cuyahoga County examined; inner ring west suburbs continue to smoke cigarettes more than other products (Fig. 1). Also of note is the high rate of hookah use (10.6%), which exceeded cigarette use (10.6%) for the first time in 2013.

More than one in five high school youth smoked tobacco in the past 30 days.

In 2013, over 22%, or more than one in five high school students, reported recent use of any tobacco product, similar to what was reported in 2011 (see Fig. 2). Overall, more students reported current cigar use (15.1%)

Figure 1. Tobacco Use by Region

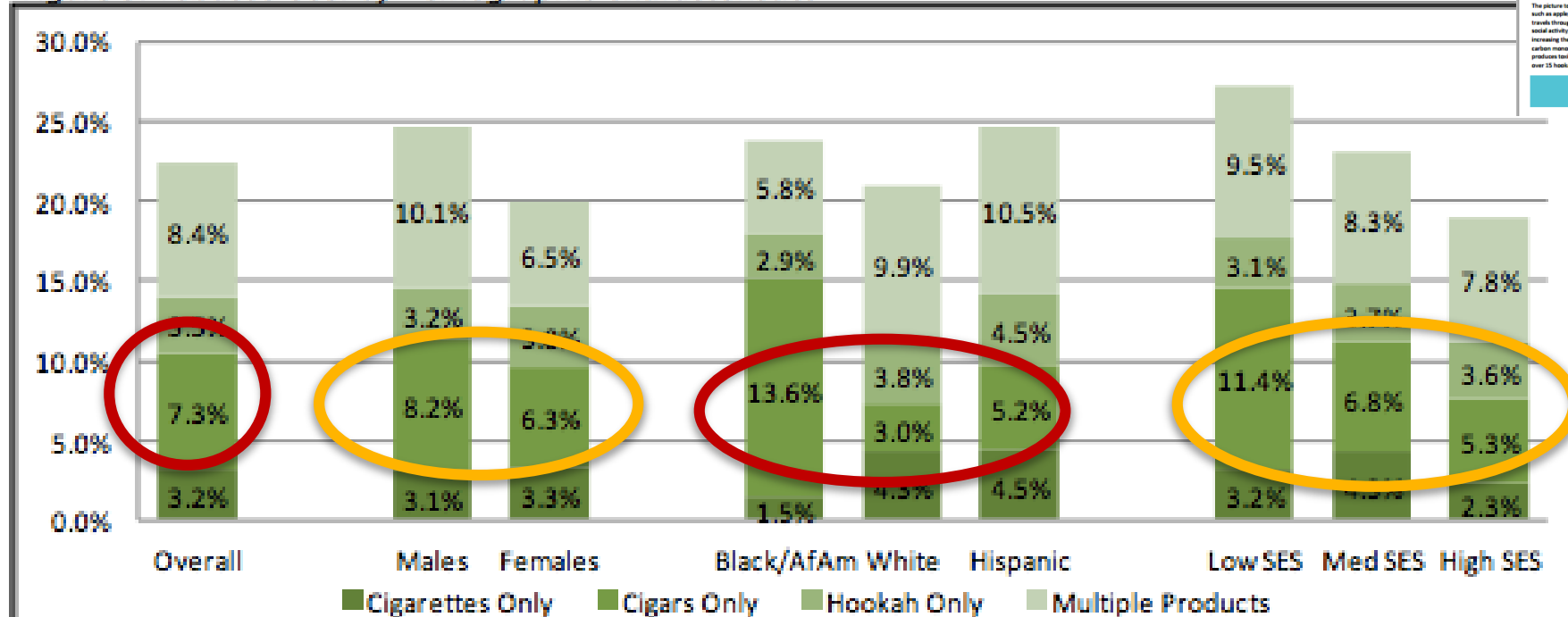
What are cigars, cigarillos, and little cigars?
The picture to the left helps to show the differences between cigarettes and cigar products. The main difference between a cigarette and cigar product is the wrapper; any product that includes tobacco in the wrapper is considered a cigar. Cigarettes are regulated by the US Food and Drug Administration (FDA), which sets standards on cigarette components, requires sales in packs of ten, and has banned flavoured. Cigar products are currently not regulated by the FDA.

What is a hookah?
The picture to the right shows a hookah, or water pipe. Shisha, a damp tobacco that comes in flavors such as apple, cherry, or chocolate, is placed in the head of the pipe where it is heated. Tobacco smoke travels through the body of the pipe and is inhaled through the hose. Hookah smoking is typically a social activity, where smokers pass the hookah from person to person over a substantial period of time, increasing the amount of nicotine and highly toxic smoke inhaled by the user. The smoke contains carbon monoxide, heavy metals, and toxins known to cause cancer. Charcoal used to heat the tobacco produces toxic substances that may be inhaled by both hookah smokers and non smokers. There are over 25 hookah bars in Cuyahoga County; these bars are exempt from Ohio's Clean Indoor Air Act.

CUYAHOGA COUNTY BOARD OF HEALTH

Cuyahoga County YRBS Demographics of Smokers

Figure 3. Tobacco Use: by Demographic Characteristics



Youth Smoking In Cuyahoga County Youth Data Brief March 2014

For adolescents in Cuyahoga County, reports on past 30 day (i.e., current) use of cigarettes, cigars, and hookah among high school youth in Cuyahoga County. These estimates are based on new data from the Cuyahoga County Youth Risk Behavior Survey (YRBS) conducted in 2011 and 2013 by the Prevention Research Center for Healthy Neighborhoods at CWRU. The YRBS is a cross-sectional survey developed by the Centers for Disease Control and Prevention to track adolescent risk behavior over time. This data brief reports on past 30 day (i.e., current) use of cigarettes, cigars, and hookah among high school youth in Cuyahoga County. A similar trend of significant e-cigarette and hookah use is seen in four of five regions of Cuyahoga County examined; Inner Ring, West Suburbs continue to smoke cigarettes more than other products (Fig. 1). Also of note is the high rate of hookah use (10.0%), which exceeded cigarette use (10.0%) for the first time in 2013.

More than one in five high school youth smoked tobacco in the past 30 days.

In 2013, over 22%, or more than one in five high school students, reported recent use of any tobacco product, similar to what was reported in 2011 (see Fig. 2). Overall, more students reported current cigar use (15.1%) followed by hookah use (10.0%). Clear e-cigarette use is seen in at least 2 tobacco products. A similar trend of significant e-cigarette and hookah use is seen in four of five regions of Cuyahoga County examined; Inner Ring, West Suburbs continue to smoke cigarettes more than other products (Fig. 1). Also of note is the high rate of hookah use (10.0%), which exceeded cigarette use (10.0%) for the first time in 2013.

Figure 2. Tobacco Use by Region

What are cigars, cigarillos, and little cigars?
The picture to the left helps to show the differences between cigarettes and cigar products. The main difference between a cigarette and cigar product is the wrapper; any product that includes tobacco in the wrapper is considered a cigar. Cigarettes are regulated by the US Food and Drug Administration (FDA), which sets standards on cigarette components, requires sales in packs of ten or more, and has banned flavorings. Cigar products are currently not regulated by the FDA.

What is a hookah?
The picture to the right shows a hookah, or water pipe. Shisha, a damp tobacco that comes in flavors such as apple, cherry, or chocolate, is placed in the head of the pipe where it is heated. Tobacco smoke travels through the body of the pipe and is inhaled through the hose. Hookah smoking is typically a social activity, where smokers pass the hookah from person to person over a substantial period of time, increasing the amount of nicotine and highly toxic smoke inhaled by the user. The smoke contains carbon monoxide, heavy metals, and toxins known to cause cancer. Charcoal used to heat the tobacco produces toxic substances that may be inhaled by both hookah smokers and non smokers. There are over 15 hookah bars in Cuyahoga County; these bars are exempt from Ohio's Clean Indoor Air Act.

Prevention Research Center for Healthy Neighborhoods CUYAHOGA COUNTY BOARD OF HEALTH



Youth Smoking in Cuyahoga County

Youth Smoking in Cuyahoga County
 March 2014
 Youth Data Brief

For adolescents in Cuyahoga County, reports on past 30 day (i.e. current) use of cigarettes, cigars, and hookah among high school youth in Cuyahoga County. More than one in five high school youth smoked tobacco in the past 30 days. In 2013, over 22% or more than one in five high school students reported use of any tobacco product, similar to what was reported in 2011 (see Fig. 2). Overall, more students reported current cigar use (15.1%)

followed by hookah use (10.4%) and cigarette use (10.6%). Over 8% reported using at least 2 tobacco products. A similar trend of significant cigar and hookah use is seen in four of five regions of Cuyahoga County examined: inner ring west (10.0%), inner ring east (10.0%), outer ring east (10.0%), and outer ring west (10.0%).

Figure 2. Tobacco Use by Region

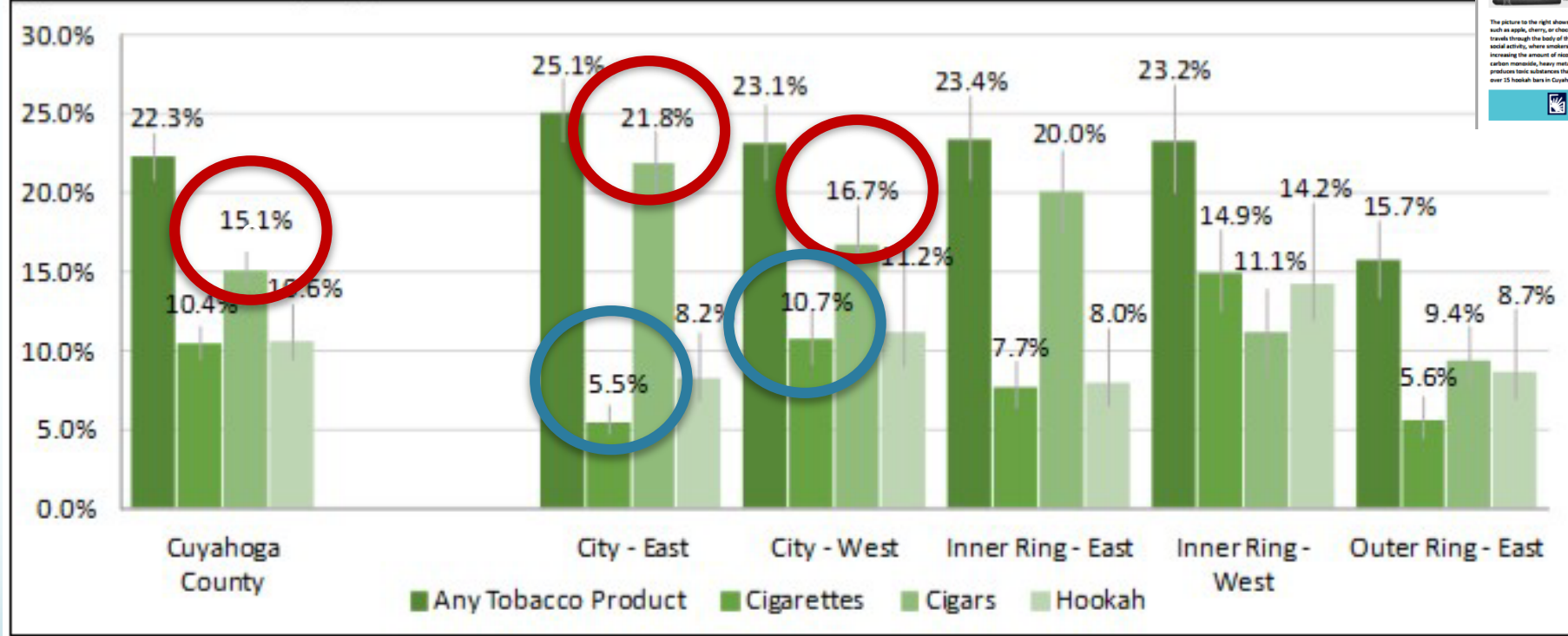
Region	Any Tobacco Product	Cigarettes	Cigars	Hookah
Cuyahoga County	22.3%	10.4%	15.1%	10.6%
City - East	25.1%	5.5%	21.8%	8.2%
City - West	23.1%	10.7%	16.7%	11.2%
Inner Ring - East	23.4%	7.7%	20.0%	8.0%
Inner Ring - West	23.2%	14.9%	11.1%	14.2%
Outer Ring - East	15.7%	5.6%	9.4%	8.7%

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Figure 1. Tobacco Use by Region



How does Cleveland compare?

- National BRFSS Data—Lacking
 - Other Tobacco Product module implemented by 13 states 4.4% of adults used cigars, pipes, bidis, kreteks, or other tobacco products (asked as one question) in 2008
- National YRBS Data, 2015
 - **10.4%** of high school youth smoked cigars, cigarillos, or little cigars* on at least 1 day of the past 30; 10.8% smoke cigarettes
- Youth LCC use* exceeds use of cigarettes in at least 10 states (of 33) and 12 of the 15 urban school districts included in the 2015 Youth Risk Behavior Survey.



Can we compare?

Nicotine & Tobacco Research, Volume 13, Number 4 (April 2011) 291–295

Brief Report

Cigar Smoking Among U.S. Students

Results: NYTS ever cigar smoking was higher in 2012 (27.8%) than 2011 (19.5%) among black students overall. Current cigar smoking was 60%–70% higher among black females and students aged ≥ 17 years, in 2012 than 2011. For black females, current cigar smoking (11.5%) was two times greater than that of white females (4.3%) in 2012, whereas the prevalence among these subgroups was comparable in 2011. Similar changes were not observed among these subgroups in the 2011–2012 NSDUH.

Conclusions: This study highlights the high burden of cigar use among U.S. youth and suggests that NYTS ascertainment of cigar smoking may have improved by including brands. Disparities in cigar smoking need to be addressed to prevent and reduce all youth tobacco use.

(Am J Prev Med 2014;47(2S1):S28–S35) Published by Elsevier Inc. on behalf of American Journal of Preventive Medicine



Why are Cigars popular? (Lack of) Regulation

- State and Federal excise taxes on cigar products have been significantly lower than taxes on cigarettes
- Cigars are sold as singles or in packs of two or five
- Cigars can be sold “in front of” the counter
- Cigars are sold in a range of flavors
- Cigars are not included in FDA anti-smoking campaigns

Result—Cigars are less expensive overall than a pack of cigarettes, are more easily accessible, may be perceived as less risky, and possibly more youth-friendly



When are kids using Cigars?

- Mostly use LCC in social situations: 81.1%
 - With friends (71.3%), at a party (43.2%)
 - With alcohol (31.9%)
- Less use in “solitary” situations: 19.8%
 - When studying (5.2%), upon waking (10%), before bed (12%), when hungry (6%), or after eating (9%).
- 17.8% used on their way to or from school
- Nearly 5% used LCC around their parents.
- 46.5% also reported using in “other” situations

Reference: Trapl ES, O'Rourke-Suchoff D, Yoder LD, Frank J, Cofie LE, Fryer CS. (2017). Youth acquisition and situational use of cigars, cigarillos, and little cigars: A cross-sectional study. *American Journal of Preventive Medicine*, 52(1): e9-e16.



Where are they getting Cigars?

- 25.4% of <18 year old HS students buy LCC at a store
- 25.4% give money to someone else to buy for them
- <10% bought from another person
- 36.6% report borrowing or sharing with a friend
- Theft (from store or family member) was <5%

* Kids are more likely to share and steal cigarettes.

Reference: Trapl ES, O'Rourke-Suchoff D, Yoder LD, Frank J, Cofie LE, Fryer CS. (2017). Youth acquisition and situational use of cigars, cigarillos, and little cigars: A cross-sectional study. *American Journal of Preventive Medicine*, 52(1): e9-e16.



Is it really tobacco use?

- With over 80% of HS youth reporting use in a social situation, maybe this is just...

MARIJUANA USE???

- Current marijuana use in Cuyahoga County HS (2013): 22.9%



Freaking & Blunting

- “Freaking”: Remove the “cancer paper”
 - In 2013, 11.0% of Cuyahoga County HS youth freaked a cigar
 - More likely to be male, black, low SES
 - Almost one third did not endorse the LCC item
- “Blunting”: Rolling marijuana in cigar wrapper
 - In 2013, 18.5% of Cuyahoga County HS youth used cigars for blunts
 - More likely to be male, low SES
 - Over one third did not endorse LCC item

Reference: Trapl ES, Koopman-Gonzalez S, Cofie L, Yoder LD, Frank JL, Sterling K. Cigar product modification among high school youth. *Nicotine and Tobacco Research*. 2016 December, doi: 10.1093/ntr/ntw328.



Cigars & Marijuana

- All but one participant identified the non-tipped cigarillo as a vehicle for using marijuana.
- "... 'cause now that they [tobacco companies] know people use these for weed, the cigarillos, they changed the tobacco."
- "The paper [shell], that don't give you cancer, 'cause if it did, then we would get cancer off weed then."

Reference: Koopman Gonzalez S, Cofie LE, Trapl ES. Cigar, cigarillo, and little cigar use and marijuana: A qualitative study. *Journal of Ethnicity and Substance Abuse*. doi: 10.1080/15332640.2015.1081117.






Dependence and Exposure?

- Currently no measure of nicotine dependence for adolescents that particularly includes cigar products
 - “Measurement of Nicotine Dependence Among Adolescent Cigarillo Users” funded by NIH NCI/FDA
 - Flocke (PI), Trapl Co-I
 - Developing measure for youth and young adults
 - Currently implementing measure in 2017 Cuyahoga County YRBS
- No LCC equivalent for cigarette pack-years

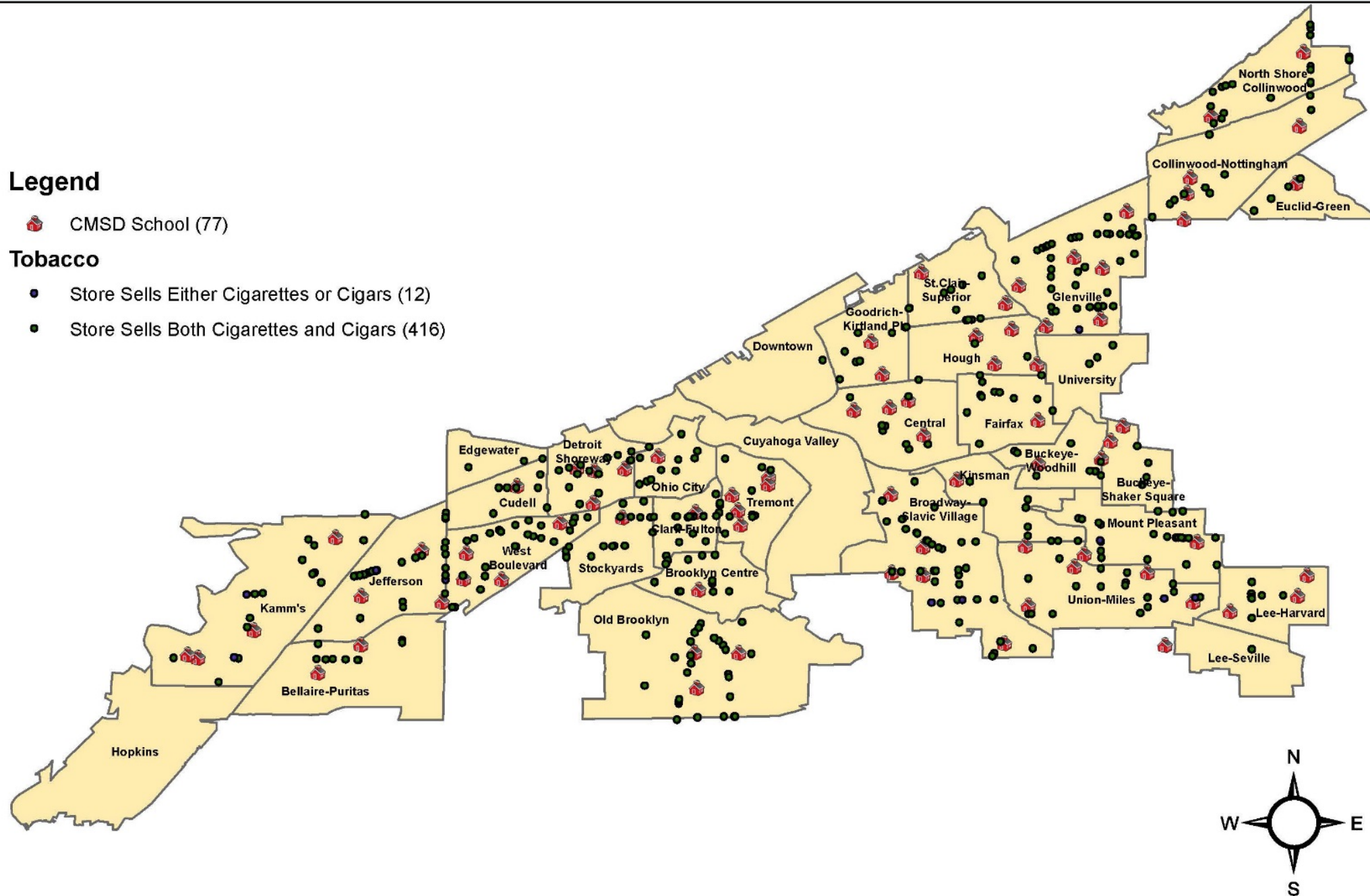


Legend

 CMSD School (77)

Tobacco

- Store Sells Either Cigarettes or Cigars (12)
- Store Sells Both Cigarettes and Cigars (416)

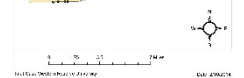


Tobacco Use and Sales Cleveland, Ohio

Youth
Data Brief
March 2015

Greater than one-half mile from a store that sells either cigarettes or cigars. Only 10% of CMSD schools have at least one store in a half-mile radius. 95% of CMSD schools have a store within a half-mile radius.

Map: 0.25 Mile Radius of 77 Cleveland Schools



Legend:
● Cigarettes
● Cigars
● Both
● School

95% of schools have a store with cigarettes
95% of schools have a store with cigars
75% of schools have a store with cigarettes

Within a half-mile radius

Corner Store Visits and LCC Use Among CLE MS Youth

Table 3. Odds Ratios (OR; 95% CI) of CCLC Use by Individual, Parental and Environmental Influences

	Unadjusted model		Full model	
	OR	95% CI	OR	95% CI
Grade: 8th grade	1.64	1.37, 1.96	1.56	1.26, 1.93
Sex: male	1.20	1.01, 1.44	1.00	0.80, 1.24
Acceptability of smoking				
Not very wrong	3.59	2.97, 4.34	1.66	1.30, 2.13
Perceived risk of smoking				
Not very wrong	1.52	1.26, 1.83	0.97	0.77, 1.22
Perceived parental smoking norm				
Not very wrong	3.47	2.80, 4.29	1.26	0.93, 1.70
Parental monitoring				
Low monitoring	3.92	3.24, 4.75	2.35	1.86, 2.98
Afterschool self-care				
1-4 hours	0.92	0.68, 1.25	0.73	0.51, 1.05
5-10 hours	1.58	1.21, 2.06	1.28	0.94, 1.75
11 or more hours	2.31	1.86, 2.88	1.69	1.30, 2.20
Corner store visits				
Once or twice per week	1.36	1.02, 1.82	1.43	1.02, 2.00
Three or four times per week	2.36	1.74, 3.18	2.13	1.50, 3.04
Everyday	3.58	2.62, 4.87	2.61	1.81, 3.76
Current cigarette smoker: yes	35.34	25.15, 49.66	21.70	15.00, 31.43

Text in bold indicates significance at $p < .05$.

CCLC = cigars, cigarillos and little cigars; CI = confidence interval.

Trapl ES, Yoder L, Frank J, Borawski EA. (2016). Individual, parental, and environmental correlates of cigar, cigarillo, and little cigar use among middle school adolescents. *Nicotine and Tobacco Research*. 18(5):834-41.



Policy Approaches in CLE

- Tobacco 21
 - Passed Cleveland City Council on 12/7/2015
 - Went “live” on April 13, 2016
- Restriction on Sale of Flavored Tobacco
 - Flavored tobacco only sold in retail tobacco shops
 - Passed Cleveland City Council’s Health and Human Services Committee on 1/25/2016
 - Sitting with Finance Committee since May 2016



Summary

- “Smoking” is not a singular behavior
 - Combustible tobacco use in all forms is key behavior
 - More robust measurement is needed
- Adolescents continue to be at risk for nicotine dependence
- Intervention work is needed to prevent and reduce LCC use
 - Potential to expand the racial/ethnic and SES disparity



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www.prchn.org

