



**Public Health**  
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Cattaraugus County  
Health Department  
Established 1923

# CATTARAUGUS COUNTY BOARD OF HEALTH



1 Leo Moss Drive, Olean, NY 14760, Tel. (716)373-8050, Fax (716) 701-3737

*Joseph Bohan, MD, President*

*James Lapey, Vice-President*

*Giles Hamlin, MD  
Zahid Chohan, MD  
Sondra Fox, RN  
Richard Haberer  
Georgina Paul, FNP  
Theresa Raftis  
James Snyder*

## MINUTES

May 6, 2015

The 836<sup>th</sup> meeting of the Cattaraugus County Board of Health was held at St. Bonaventure Clubhouse Restaurant, Route 417, Allegany, New York on May 6, 2015.

The following members were present:

Dr. Joseph Bohan	Richard Haberer
Dr. Zahid Chohan	James Lapey
Dr. Giles Hamlin	Theresa Raftis
Sondra Fox, RN	James Snyder

Also present were:

Kevin D. Watkins, MD, MPH, Public Health Director  
Thomas Brady, County Attorney  
Mark Howden, Assistant County Attorney  
Linda Edstrom, County Legislator  
Paula Stockman, County Legislator  
Donna Vickman, County Legislator  
Gilbert Witte, MD, Medical Director  
Dave Porter, Hearing Officer  
Susan Andrews, Director of Patient Services  
Kathleen Ellis, Administrative Officer  
Raymond Jordan, Sr. Public Health Sanitarian  
Debra Lacher, Secretary to Public Health Director  
Rick Miller, Olean Times Herald

The meeting was called to order by Dr. Bohan. The roll was called and a quorum declared.

Mr. Haberer made a motion to approve the minutes of the Board of Health (BOH) meeting held on April 1, 2015, it was seconded by Sondra Fox, and unanimously approved.

Dr. Bohan introduced Mark Howden (assistant county attorney) to the Board as he will be the new county attorney when Tom Brady retires on June 1<sup>st</sup>.

**DIRECTORS REPORT:** Dr. Watkins reported that each year the Health Department contracts with an outside auditing firm to conduct a cost report analysis for our home care agency. This is statistical data that is collected in order to determine if Medicare over or underpaid the department. The 2014 cost reports revealed that our homecare agency is financially strong and doing very well, in addition, the long term care program was profitable as well. Dr. Watkins reminded the board that the long term care program has begun to phase out and patients are being enrolled into managed long term care programs. He added, that we will continue to care for these patients but we will play a different role in delivering their health care services.

Dr. Watkins extended accolades to the homecare staff, and he lauded Mrs. Andrews, director of patient's services, for their dedication and commitment in making the homecare agency superior to any other agency and so viable within this community. It was also noted in the exit interview that just because we see a healthy program today it should not give us a sense of stability for tomorrow. In other words, we must be vigilant about competing programs within the community and the possibility of a loss in our patient population and reimbursement for services.

There was (1) recommendation to the BOH by the auditing firm and that was to consider raising our fee rate for our Personal Care Aide (PCA) by \$6.00 per visit. Currently we charge \$32.00 per visit and they are recommending that we charge \$38.00 per visit. This is based on new Medicaid rates that were recently released that show that Medicaid will now pay \$34.79 per PCA visit. This new rate increase will help to offset the cost expense for this particular service in our homecare agency. After discussion by the Board, Dr. Chohan made a motion to raise the PCA rate to \$38.00 per visit; the motion was seconded by Mr. Lapey and unanimously approved.

Dr. Watkins reported that smoking remains the leading cause of preventable death in the United States (U.S.). The burden of disease caused by cigarette smoking is very extensive, it is estimated that in 2009 Americans were living with 14 million serious medical conditions that are directly attributed to smoking. He added that even with these alarming statistics, in 2013 New York State had the 11<sup>th</sup> lowest adult smoking prevalence, at 16.6% amongst U.S. states. West Virginia had the highest rate of adult smokers at 27.3%, while Utah had the lowest rate at 10.3%. He went on to say that NYS has strong legislative protections that restrict smoking in public places such as restaurants and bars, and charges the highest cigarette excise taxes in the nation. Dr. Watkins informed the Board that in spite of the current prevalence rate and the high excise tax levy, smoking costs NYS more than 15.6 billion dollars each year in direct medical cost and economic productivity losses. Close to 24,000 New Yorkers die each year from diseases caused by smoking cigarettes and an additional 3,000 lives are claimed by exposure to second hand smoke. NYS Department of Health projects that 280,000 of the youth younger than 18 will die early from smoking related illnesses. Dr. Watkins asked the Board to refer to a report, presented to those in attendance, which was a survey conducted by the Behavior Risk Factor Surveillance System (BRFSS), that showed Cattaraugus County losing ground on the war to decrease the use of tobacco products amongst residents within the county. The survey revealed that 28.4 percent of county residents identified themselves as smokers in 2013-14, that compares with 23.5 percent in 2008-09. Dr. Watkins went on to say that this new rate is the highest in Western New York and the third-highest percentage in the state, (Fulton County at 29 percent and Cayuga County at 30 percent).

Dr. Watkins stated that the BRFSS report identified certain demographics amongst smokers in NYS and certain programs that have led to a reduction in smokers in NYS, but he stated the biggest factor that has led to the decrease use of tobacco products in NYS is basically the excise tax. He went on to say that Cattaraugus County has a cigarette factory owned by the Seneca Nation of Indians in the city of Salamanca that can sell Cigarettes with no excise tax. He explained that this is a major reason why we cannot benefit from this method of prevention, charging a high excise tax on tobacco products, and seeing a reduction of tobacco users, as seen throughout NYS. This is unfortunate for our residents as we continue to lose ground to our neighboring communities in improving our health outcomes and reducing our morbidity and mortality rates due to the use of tobacco products.

Dr. Watkins reminded the board that as policy makers they can still help to reduce this negative trend that is being reported in Cattaraugus County, he stated that the board could tighten the restrictions where smoking can occur. For instance, prohibiting the use of smoking in automobiles, parks, beaches, or they could raise the age at which smoking is permitted within the county from 18 to 21. He stated that being proactive is better than being reactive, and doing nothing is not the side of history we would like to be on.

A suggestion made by Dr. Chohan, included billboards near the Casino that discouraged smoking, much like the current campaigns that are being advertised on television and he suggested health education programs in the schools to discuss the adverse effects that tobacco use can cause. Sondra Fox as part of the tobacco coalition stated that the coalition use to conduct educational programs in schools and advertise on billboards, but NYS cut back the funding, and the tobacco coalition can no longer put on these programs. Dr. Watkins stated, we have health educators in the schools and may be able to add this to their educational curriculum.

Dr. Witte stated that e-cigarettes have become a gateway apparatus for teenagers to start smoking regular cigarettes; therefore we need to identify e-cigarettes as a danger and discourage their use. Dr. Chohan asked how many years of life is lost prematurely due to smoking. Dr. Witte stated that typically (11) years of life expectancy is lost due to smoking.

Dr. Watkins remarked that at our last meeting a question was raised about the number of Cattaraugus County residents that are actually e-cigarettes users. He stated that a new survey is being conducted for our area and the data will be shared with the Board as soon as it is available. He went on to say that a new report which was released by the Center of Disease Control and Prevention (CDC) and published in the April 17<sup>th</sup> Morbidity and Mortality Weekly Report , a handout that was distributed to those in attendance, discussed e-cigarettes use amongst high school students from 2011-2014. Dr. Watkins noted that the report indicated that current use of e-cigarettes by middle, and high school students has tripled from 2013 to 2014. This report showed that e-cigarettes increased from 4.5% in 2013 to 13.4% in 2014 amongst high school students. Middle school students smoking e-cigarettes increased from 1.1% to 3.9% in the same period.

Mr. Haberer suggested going into the schools with a movie that would teach adolescents the dangers of e-cigarette smoking. Dr. Watkins stated that he will work with Senator Young and see if she would support bringing funding back to programs such as the tobacco coalition to help educate the youth about the dangers of smoking.

Dr. Watkins went on to state that the current e-cigarette local law has a loophole in section 4 that we would like to see closed. He stated that he has consulted with the County Attorney, and would like to retract some of the language that we currently have in our local law, more specially, retract the wording "open to the public" in section 4, and requiring vaping lounges to register their business with the Health Department. Basically this would make sure that these lounges are certified under a Health Department permit. This would help us to protect the health and safety of the residents of Cattaraugus County.

Tom Brady, County Attorney, explained that the Local Law would still prevent the use of e-cigarettes in public places within the county where the use of tobacco products is restricted by the State Public Health Law, except vaping lounges.

Dr. Watkins asked that the Board for approval to have these amendments sent to the county legislators for adoption to the current e-cigarette local law. Mrs. Fox made a motion to support the amendments to the current e-cigarette local law, seconded by Ms. Raftis, and it was unanimously approved.

Ms. Raftis inquired about the recent overdoses that occurred with the high school students using a synthetic marijuana drug called "Spice". Dr. Watkins stated that we have seen a rash of overdoses within our community, not only with synthetic marijuana but also with opiates, particularly heroin. He stated the recent uptick in heroin use is because opiates have become increasingly hard and costly to obtain on the black market in recent years, one example is that in 2010 OxyContin changed its formula to make the pill harder to crush and dissolve and new laws have restricted medical providers from prescribing opiates and banning automatic refills. He went on to say that the cost to buy a bag of Heroin now is as low as \$10.00 and the purity of this Heroin is now at 7-10%. This is compared to paying \$50.00-\$150.00, for a 2-3% purity just about 10 years ago. Purity matters because it allows the drug to be taken without a needle. The drug can now be smoked or snorted which is more appealing to teenagers, college educated people, and those who normally wouldn't come near heroin due to the fear of a needle.

Dr. Watkins went on to say that two weeks ago Cattaraugus County first responders had to respond to (5) opiate overdose calls within 48 hours in the city of Salamanca. Unfortunately, (1) overdose was a fatality. On (2) calls, Deputy Sheriffs were on the scene and were able to administer Narcan, the opiate antagonist, and they were able to reverse the opiate overdoses in those cases. Dr. Watkins added, last week responders were called to respond to (5) high school students in Olean who smoked synthetic marijuana called "Spice" or "K2". These students were unresponsive and (1) was transferred to Children's Hospital in Buffalo. Dr. Watkins informed the board that the war on drugs in our community is increasingly becoming a public health crisis and getting a handle on it is becoming more difficult. He stated that there are no resources for reducing the trafficking of these drugs into our community. There are no resources for increasing the number of in-patient beds for recovery or rehabilitation. There are no resources for cleaning up the environment or the community where these drugs are most likely to be sold. Mr. Lapey inquired about the cost of a Narcan kit, Dr. Watkins responded that the cost of a kit can be as high as \$75.00 but NYS is sponsoring a program where the kit is currently free to anyone who would like to be trained to administer this product to a person who has overdosed. In Cattaraugus County, Southern Tier Health Care System is the lead agency for this training to law enforcement and the community.

Mr. Snyder inquired about the recent rise in suicides within our community and asked what could be done to combat this problem. He asked if it was possible to bring both the Board of Health and the Community Service Board together to tackle this problem.

Dr. Watkins stated that we have to look at the parameters that might lead to a person committing suicide. Often times it is some tragic event that occurred in a person's life that may have led them to become so depressed that they feel there is no other alternative that could help alleviate the problem they currently face. It could be due to medication, a financial stressor in their lives, or any other obstacle that they see as insurmountable. Dr. Watkins stated that he will work with Mrs. Sondra Fox, who is a Board of Health member and the chairman of the Community Service Board, and Dr. Bohan to meet as an ad hoc committee and we could discuss the current suicide rate and what measures are currently in place for intervention and prevention and bring that back to the board for discussion. Mr. Brady stated that due to the Safe Act, many gun owners will not seek help from a Mental Health provider, because providers must report any gun owner who is at risk of doing harm to themselves or others to the department of justice.

**NURSING DIVISION REPORT:** Mrs. Andrews reported that the nursing division screens everyone for depression when they admit them to homecare and at intervals during their care. If depression is noted appropriate intervention of talking to the physician, involving a social worker to provide services, and increasing visit activity will be conducted.

Mrs. Andrews informed the board that there were (3) new cases of Hepatitis C, age ranges were 30 years of age and younger, all with history of intravenous drug use.

Mrs. Andrews also reported that there was a positive case of Malaria. This case was an adolescent who had gone to Guyana on a Missions trip. The patient is being treated and doing well.

She also stated that in April, there were (2) patients requiring rabies post exposure prophylaxis, both related to dog bites where the dog couldn't be tested. To date, that brings the total to (3) for the year.

Mrs. Andrews informed the Board that the family planning clinic results came out for 2014, and the percent of effective method of contraception for our clinic was 86.5% compared to the state which was 70.4%. In the highly effective methods which are the intrauterine device (IUD's) and nexplanon our rate was 8.5% and the state rate was 16.2%. Our rate has doubled from last year for the highly effective so we are moving in the right direction.

In the month of April (3) children at the lead point of care testing sites, held at (3) Women Infant and Children (WIC) clinics, had elevated blood lead levels, and (9) children are in follow-up. There will be (3) staff from the clinic attending the 2015 upstate NY lead conference at the University of Rochester later this month.

Comparing statistics of the homecare referrals after the other certified homecare agency came into the county in 2013, reveals that (3) years after they came, our referral rate decreased by 6%. If you look at the preceding (5) year average and compare this to our first year quarter, there is a 12% decrease.

Mrs. Andrews reported the new social worker started last month and (2) full-time home health aides will start later in May.

She summarized by stating, the telehealth equipment purchased with grant funds in 2008, has become technologically obsolete so it has been phased out. Currently the department is looking for other funding to replace this need.

**ENVIRONMENTAL DIVISION REPORT:** Mr. Jordan reported that Mr. Wohlers was at an Environmental Health Directors meeting so he could not be at this meeting today. He stated that the spring rabies clinic was held last Saturday which was very successful.

He also informed the board that there are (2) staff members who are receiving training today to better recognize problems with life guarding at beaches and at children's camp.

Dr. Watkins added that there are (2) new interns who will start on May 18<sup>th</sup> working in the mosquito surveillance program.

Dr. Watkins recognized staff member Richard Dayton, Public Health Sanitarian, who received his certification as a registered sanitarian, he stated that this is a certification which is required to work in some states but not currently in NYS and it is nationally recognized.

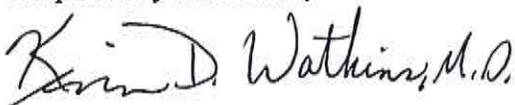
**Hearing Officer,** David Porter reported there were no new enforcement cases for this month.

The Board congratulated Mr. Brady on his upcoming retirement and assured him he would be missed. Mr. Brady thanked the Board and specifically Dr. Watkins for making his work with the Department a pleasant and rewarding experience.

Dr. Watkins reminded the Board that next month the BOH meeting would be held on Tuesday June 2<sup>nd</sup> as he must attend a New York State Association of County Health Officials (NYSACHO) Meeting which is being held on Wednesday June 3<sup>rd</sup>.

There being no further business to discuss, a motion to adjourn was made by Mr. Snyder, and seconded by Ms. Raftis and unanimously approved.

Respectfully submitted,



Kevin D. Watkins, M.D., M.P.H.  
Secretary to the Board of Health  
KDW/dl

Current cigarette smoking<sup>a</sup> among New York State adults: 2006 BRFSS

	% <sup>b</sup>	95% CI <sup>b</sup>
<b>New York State (NYS) (n=5,901)</b>	18.2	16.9-19.6
<b>Sex</b>		
Male	18.9	16.7-21.1
Female	17.6	16.0-19.2
<b>Age (years)</b>		
18-24	22.5	16.6-28.3
25-34	24.1	20.2-28.0
35-44	19.8	16.7-22.8
45-54	19.7	17.1-22.3
55-64	14.4	11.9-16.8
≥ 65	9.1	7.4-10.8
<b>Race/ethnicity</b>		
White non-Hispanic	19.6	18.0-21.1
Black non-Hispanic	17.3	12.8-21.8
Hispanic	17.6	13.4-21.8
Other non-Hispanic	12.8	8.9-16.7
<b>Annual household income</b>		
< \$15,000	29.3	23.9-34.7
\$15,000-\$24,999	21.9	17.9-26.0
\$25,000-\$34,999	21.6	17.1-26.2
\$35,000-\$49,999	18.6	15.2-22.1
\$50,000-\$74,999	18.0	14.6-21.4
≥ \$75,000	10.7	8.8-12.6
Missing <sup>c</sup>	18.5	14.4-22.6
<b>Educational attainment</b>		
Less than high school	27.4	22.1-32.8
High school or GED	23.5	20.7-26.3
Some post-high school	19.4	16.7-22.1
College graduate	10.5	8.9-12.1
<b>Disability<sup>d</sup></b>		
Yes	23.0	20.0-26.0
No	17.1	15.6-18.6
<b>Region</b>		
New York City (NYC)	16.2	13.8-18.7
NYS exclusive of NYC	19.2	17.6-20.8

<sup>a</sup> Smoked at least 100 cigarettes in lifetime, and currently smoke cigarettes everyday or some days.

<sup>b</sup> % = weighted percentage; CI = confidence interval.

<sup>c</sup> "Missing" category included because more than 10% of the sample did not report income.

<sup>d</sup> All respondents who report activity limitations due to physical, mental, or emotional problems OR have health problems that require the use of special equipment.

**Expanded BRFSS Report: July 2008 - June 2009**  
**New York State by Region**

**Table 54c. Current smoking among adults<sup>1</sup> among New York State Counties**

County	n <sup>2</sup>	Est. # of Adults <sup>3</sup>	Percent	(C.I.) <sup>4</sup>
Albany	662	40,200	17.0	(12.8 - 21.1)
Allegany	660	9,700	24.6	(19.3 - 29.9)
Broome	640	31,600	20.3	(15.4 - 25.1)
Cattaraugus	642	14,500	23.5	(19.2 - 27.8)
Cayuga	660	13,900	22.1	(17.4 - 26.8)
Chautauqua	640	26,500	25.3	(20.4 - 30.2)
Chemung	673	20,500	30.0	(24.4 - 35.7)
Chenango	666	9,500	23.8	(19.3 - 28.4)
Clinton	648	14,300	21.5	(16.1 - 26.9)
Columbia	641	11,400	23.1	(18.0 - 28.2)
Cortland	636	8,400	22.1	(16.8 - 27.4)
Delaware	667	7,800	21.0	(17.0 - 25.0)
Dutchess	674	41,000	18.3	(13.9 - 22.6)
Erie	662	182,000	25.5	(20.3 - 30.8)
Essex	653	7,100	23.0	(18.3 - 27.8)
Franklin	654	12,500	30.7	(23.4 - 38.0)
Fulton	666	10,300	24.0	(19.7 - 28.2)
Genesee	660	8,100	18.0	(14.0 - 22.0)
Greene	654	9,200	23.8	(18.0 - 29.5)
Hamilton	667	900	20.5	(16.1 - 24.9)
Herkimer	652	10,300	21.1	(16.7 - 25.5)
Jefferson	657	22,100	25.0	(20.2 - 29.9)
Lewis	663	3,900	18.9	(14.3 - 23.6)
Livingston	652	8,300	16.6	(12.5 - 20.7)
Madison	648	13,800	25.2	(20.4 - 30.0)
Monroe	665	107,400	19.1	(14.6 - 23.7)
Montgomery	640	8,200	21.9	(17.6 - 26.2)
Nassau	643	99,700	10.0	(7.2 - 12.8)
Niagara	652	43,900	26.2	(21.3 - 31.1)
Oneida	648	43,400	24.0	(19.5 - 28.4)
Onondaga	670	70,100	20.1	(15.3 - 24.9)

<sup>1</sup> Defined as having smoked at least 100 cigarettes in lifetime and currently smoking every day or some days

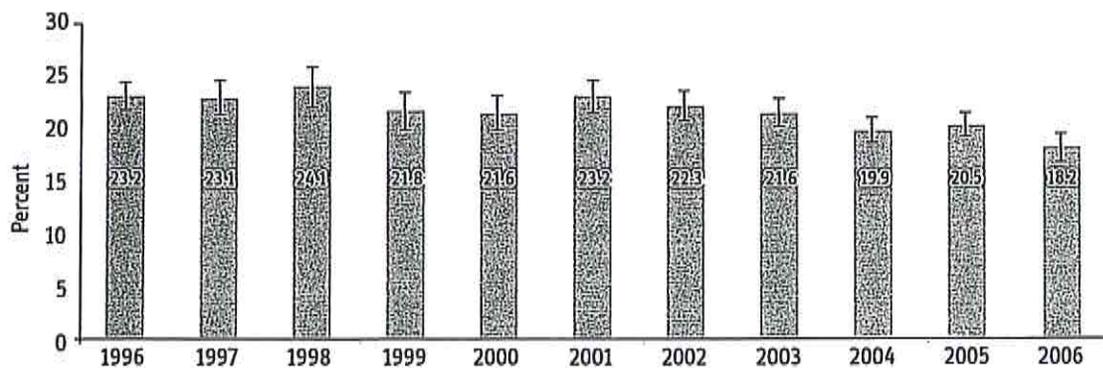
<sup>2</sup> Sample size from survey

<sup>3</sup> Estimated number of adult current smokers (rounded to the nearest hundred)

<sup>4</sup> 95% confidence interval

\* Data do not meet reporting criteria (confidence interval with a half-width greater than 10, denominator less than 50 and/or a numerator less than 10)

Current cigarette smoking\* among New York State adults, by BRFSS survey year



\* Smoked at least 100 cigarettes in lifetime, and currently smoke cigarettes everyday or some days.

Note: Error bars represent 95% confidence intervals.

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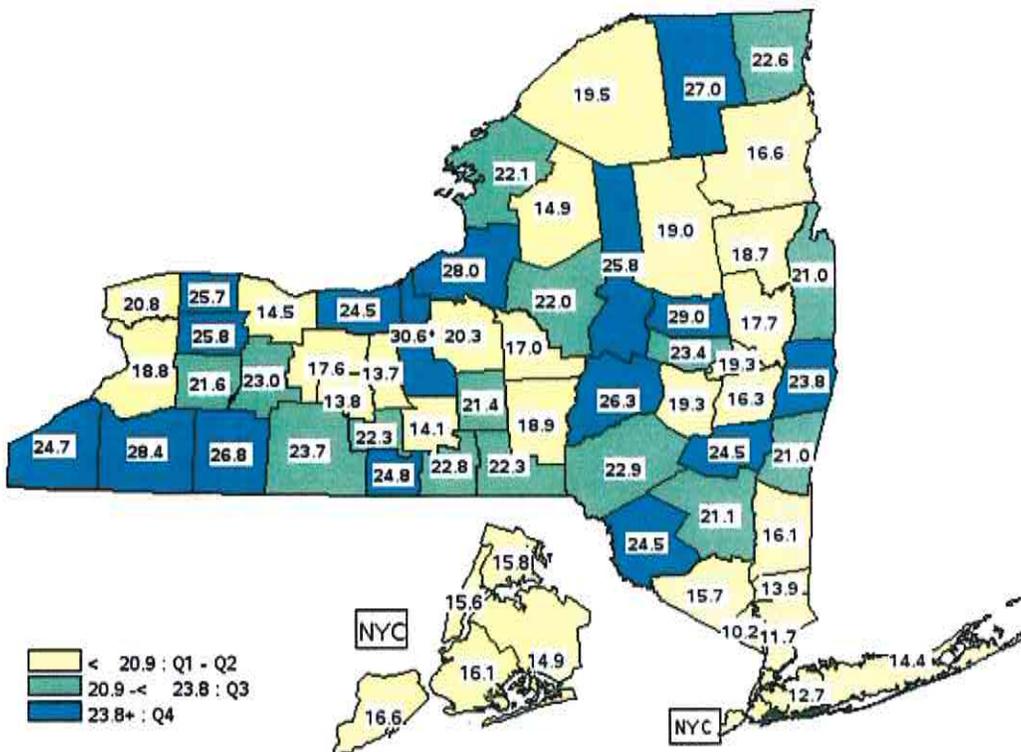
## Select Indicator

Percentage of cigarette smoking among adults

## Percentage of cigarette smoking among adults, 2013-2014

### Prevention Agenda 2017 Objective: 15

Data Source: 2013-2014 NYS Expanded Behavioral Risk Factor Surveillance System (NYS Counties outside NYC); 2012 NYC Community Health Survey (NYC counties), data as of September 2014



## Notes

a. Expanded BRFSS 2013-2014 and BRFSS has included adults with landline phones since 2008 and, starting in 2011, also has included adults who can be reached by cell-phone.

b. Due to the change in the weighting methodology and the inclusion of cellular telephone respondents caution should be used in comparing results from Expanded BRFSS and BRFSS before 2011, NYC survey before 2009.

\* Margin of error is greater than 10%, therefore the percentage is unstable.

Questions or comments: [prevention@health.ny.gov](mailto:prevention@health.ny.gov)

Revised: April 2015

**Adults who are Current Smokers by NYS County, 2013-2014**  
Expanded Behavioral Risk Factor Surveillance System

	<b>Estimated Number of Current Smokers</b>	<b>Estimated Percent of Current Smokers</b>	<b>95% Confidence Interval for Percent</b>
New York State	2,464,221	16.6%	(15.5% – 17.7%)
Albany	39,049	16.3%	(13.3% – 19.7%)
Allegany	9,981	26.8%	(20.7% – 33.8%)
Broome	34,578	22.3%	(18.1% – 27.2%)
Cattaraugus	16,998	28.4%	(21.2% – 36.8%)
Cayuga (percent unreliable due to large standard error)	18,620	30.6%	(21.2% – 41.9%)
Chautauqua	25,284	24.7%	(19.0% – 31.5%)
Chemung	16,865	24.8%	(17.4% – 34.2%)
Chenango	7,285	18.9%	(13.9% – 25.1%)
Clinton	14,782	22.6%	(17.4% – 28.7%)
Columbia	10,331	21.0%	(15.6% – 27.5%)
Cortland	8,377	21.4%	(14.2% – 30.8%)
Delaware	8,566	22.9%	(16.7% – 30.4%)
Dutchess	36,239	16.1%	(11.5% – 22.0%)
Erie	133,426	18.8%	(15.9% – 22.0%)
Essex	5,205	16.6%	(12.0% – 22.7%)
Franklin	11,039	27.0%	(20.0% – 35.3%)
Fulton	12,394	29.0%	(23.2% – 35.5%)
Genesee	11,981	25.8%	(19.1% – 34.0%)
Greene	9,434	24.5%	(17.3% – 33.4%)
Hamilton	750	19.0%	(13.1% – 26.7%)
Herkimer	12,843	25.8%	(19.7% – 33.1%)
Jefferson	19,667	22.1%	(16.6% – 28.7%)
Lewis	3,060	14.9%	(10.5% – 20.8%)
Livingston	11,804	23.0%	(16.8% – 30.8%)
Madison	9,621	17.0%	(11.3% – 24.9%)
Monroe	82,910	14.5%	(11.9% – 17.6%)
Montgomery	8,754	23.4%	(18.1% – 29.6%)
Nassau	128,120	12.7%	(8.4% – 18.7%)
New York City	836,449	13.3%	(9.9% – 17.6%)
Niagara	34,404	20.8%	(16.2% – 26.2%)

**Adults who are Current Smokers by NYS County, 2013-2014**  
Expanded Behavioral Risk Factor Surveillance System

	Estimated Number of Current Smokers	Estimated Percent of Current Smokers	95% Confidence Interval for Percent
Oneida	39,622	22.0%	(17.4% – 27.4%)
Onondaga	71,467	20.3%	(16.8% – 24.3%)
Ontario	14,655	17.6%	(12.4% – 24.5%)
Orange	41,418	15.7%	(12.1% – 20.2%)
Orleans	8,566	25.7%	(18.6% – 34.3%)
Oswego	25,456	28.0%	(22.1% – 34.8%)
Otsego	13,146	26.3%	(18.7% – 35.7%)
Putnam	10,608	13.9%	(9.6% – 19.7%)
Rensselaer	29,431	23.8%	(18.3% – 30.3%)
Rockland	22,626	10.2%	(7.3% – 14.1%)
Saratoga	30,141	17.7%	(13.8% – 22.4%)
Schenectady	22,677	19.3%	(15.5% – 23.9%)
Schoharie	4,929	19.3%	(14.4% – 25.4%)
Schuyler	3,233	22.3%	(15.6% – 30.9%)
Seneca	3,769	13.7%	(9.3% – 19.7%)
St. Lawrence	17,009	19.5%	(14.5% – 25.6%)
Steuben	17,794	23.7%	(18.9% – 29.2%)
Suffolk	160,678	14.4%	(10.8% – 18.8%)
Sullivan	14,102	24.5%	(18.6% – 31.4%)
Tioga	8,732	22.8%	(16.8% – 30.0%)
Tompkins	11,882	14.1%	(8.9% – 21.6%)
Ulster	30,593	21.1%	(15.2% – 28.6%)
Warren	9,357	18.7%	(14.4% – 24.0%)
Washington	10,281	21.0%	(16.3% – 26.6%)
Wayne	17,170	24.5%	(17.7% – 33.0%)
Westchester	83,515	11.7%	(9.0% – 15.2%)
Wyoming	7,196	21.6%	(16.0% – 28.4%)
Yates	2,660	13.8%	(10.2% – 18.6%)

*New York State-level data were produced using the 2013 Behavioral Risk Factor Surveillance System. County-level data are from the 2013-2014 New York Expanded Behavioral Risk Factor Surveillance System (eBRFSS) Survey. Please note that adding the numbers of current smokers over all counties does not agree with the New York State number due to different sources and different timeframes. eBRFSS data were used to generate percentages of non-institutionalized adult (18+) NYS residents for 50 health indicators. For more information on the eBRFSS please visit <https://health.data.ny.gov>*

*A confidence interval is a range around a measurement that conveys how precise the measurement is.*

*Please forward questions or comments to the Bureau of Chronic Disease Evaluation and Research, New York State Department of Health at (518) 473-0673 or type "eBRFSS" in the subject line of an e-mail and send it to [tcp@health.ny.gov](mailto:tcp@health.ny.gov)*

# BRFSS Brief

Number 1406

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual statewide telephone survey of adults developed by the Centers for Disease Control and Prevention (CDC) and administered by the New York State Department of Health. The BRFSS is designed to provide information on behaviors, risk factors, and utilization of preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death among the noninstitutionalized, civilian population aged 18 years and older.

## Cigarette Smoking

New York State Adults, 2013

### Introduction and Key Findings

Tobacco use is currently the leading cause of preventable death in New York State. Tobacco use claims between 26,000 and 28,200 lives annually, and results in more deaths than alcohol consumption, microbial agents, toxic agents, motor vehicle crashes, firearms, and unsafe sexual behaviors combined.<sup>1, 2</sup>

There is sufficient evidence of a causal relationship between smoking and liver cancer, colorectal cancer, chronic obstructive pulmonary disease (COPD), exacerbation of asthma, increased risk of *Mycobacterium tuberculosis* disease, diabetes, age-related macular degeneration, rheumatoid arthritis, erectile dysfunction, and impaired immune function. Mothers who smoke during pregnancy are at risk for ectopic pregnancy and smoking places the child at risk for low birth weight and defects such as orofacial clefts. In addition, the evidence is sufficient to conclude that exposure to secondhand smoke can lead to lung cancer, stroke and heart disease, and, in children, respiratory symptoms such as impaired lung functioning and lower respiratory illness, middle ear disease and sudden infant death syndrome (SIDS).<sup>3</sup>

### Key Findings

In New York State, adult cigarette smoking prevalence is currently 16.6%. Prevalence is highest among those with household incomes below \$25,000 and those with less than a high school degree. Adults who had poor mental health, defined as reported problems with stress, depression, or emotions on at least 14 of the previous 30 days, have a smoking prevalence (33.7%) over twice as high as those with good mental health (14.3%). Those covered by Medicaid and those not insured have a significantly higher prevalence of smoking (29.9% and 26.2% respectively) than those covered by private insurance, Medicare, or other sources (13.9%, 9.9%, and 12.7% respectively). There were no significant differences in prevalence of cigarette smoking between races or ethnicities.

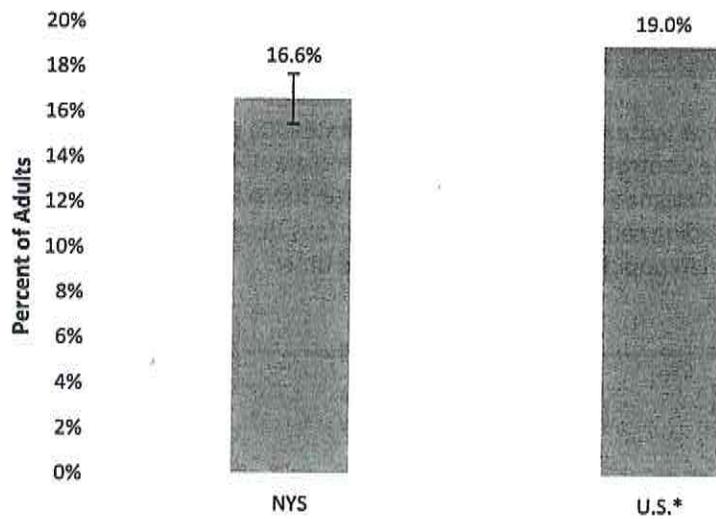
### BRFSS Questions

Have you smoked at least 100 cigarettes in your entire life?

Do you now smoke cigarettes every day, some days, or not at all?

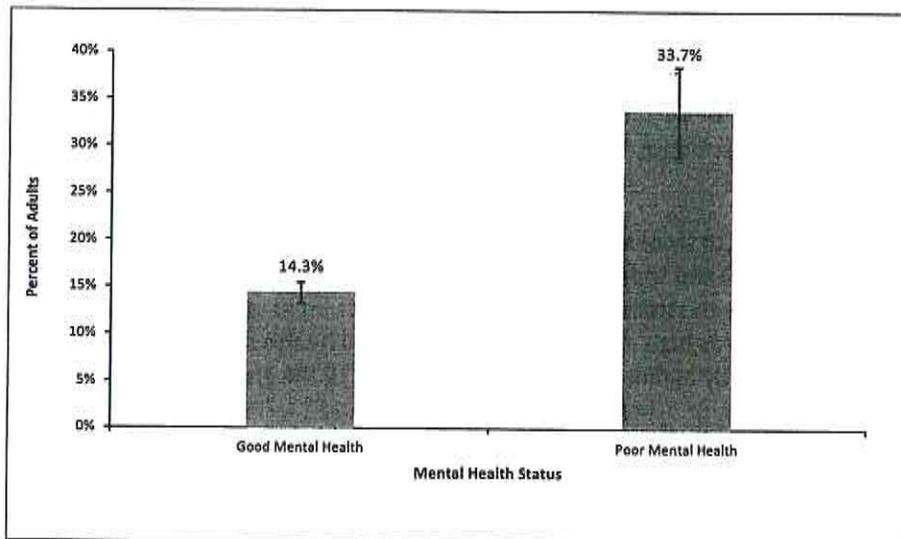
Note: BRFSS defines "current smoker" as an adult over the age of 18 who has smoked at least 100 cigarettes in their lifetime and currently smokes on at least some days.

Figure 1. Comparison of Current Smoking Status: NYS and US Adults, BRFSS 2013



\*confidence interval not shown because data point is the median value for all states combined

Figure 2. Current Smoking and Mental Health, New York State adults, BRFSS 2013



Note: Error bars represent 95% confidence intervals.

\*Poor mental health is defined as reporting problems with stress, depression, or emotion on at least 14 of the previous 30 days.

Current Smoking among New York State adults, BRFSS 2013

	Current Smoking Prevalence	
	% <sup>a</sup>	95% CI <sup>a</sup>
<b>New York State (NYS) [n=8,979]</b>	16.6	15.5 - 17.7
<b>Sex</b>		
Male	19.3	17.5 - 21.1
Female	14.2	12.8 - 15.5
<b>Age (years)</b>		
18-24	18.6	14.7 - 22.4
25-34	21.5	18.3 - 24.7
35-44	20.8	17.6 - 24.1
45-54	19.0	16.3 - 21.7
55-64	15.2	12.8 - 17.5
65+	6.5	5.4 - 7.6
<b>Race/ethnicity</b>		
White non-Hispanic	16.7	15.3 - 18.0
Black non-Hispanic	18.2	14.4 - 21.9
Hispanic	14.9	10.6 - 19.2
Other non-Hispanic	16.0	13.3 - 18.7
<b>Income</b>		
<\$25,000	24.1	21.8 - 26.7
\$25,000-\$34,999	16.6	12.9 - 20.2
\$35,000-\$49,999	18.3	14.5 - 22.1
\$50,000-\$74,999	13.4	10.6 - 16.2
\$75,000 and greater	10.9	9.0 - 12.7
Missing <sup>b</sup>	14.1	11.2 - 17.0
<b>Educational attainment</b>		
Less than high school (HS)	27.5	23.4 - 31.7
High school or GED	20.9	18.5 - 23.3
Some post-HS	16.2	14.2 - 18.2
College graduate	7.7	6.6 - 8.7
<b>Insurance Coverage</b>		
Private	13.9	12.3 - 15.4
Medicare	9.9	8.1 - 11.7
Medicaid	29.9	25.0 - 34.8
Other Government Assistance Plans	21.2	15.1 - 27.2
Other Sources	12.7	8.5 - 17.0
Not Insured	26.2	21.1 - 31.3
<b>Disability<sup>c</sup></b>		
Yes	22.6	19.8 - 25.4
No	14.9	13.6 - 16.0
<b>Region</b>		
New York City (NYC)	14.8	13.3 - 16.6
NYS exclusive of NYC	17.9	16.4 - 19.5

<sup>a</sup> % = weighted percentage; CI = confidence interval.

<sup>b</sup> "Missing" category included because more than 10% of the sample did not report income.

<sup>c</sup> All respondents who report activity limitations due to physical, mental, or emotional problems OR have health problems that require the use of special equipment.

## References

1. Estimates were extrapolated using the results published in "Actual Causes of Death in the United States, 2000", JAMA, March 2004, 291 (10) and NYS 2012 Vital Statistics data
2. Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs — 2014. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.
3. U.S. Department of Health and Human Services. (2014). *The health consequences of smoking – 50 years of progress: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.
4. Centers for Disease Control and Prevention. (2014). *Nationwide- 2013 Tobacco Use*. Behavioral Risk Factor Surveillance System (BRFSS)

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(518) 473-0673

or

[BRFSS@health.ny.gov](mailto:BRFSS@health.ny.gov)

or

[www.health.ny.gov](http://www.health.ny.gov)

Current cigarette smoking<sup>a</sup> among New York State adults: 2006 BRFSS

	% <sup>b</sup>	95% CI <sup>b</sup>
<b>New York State (NYS) (n=5,901)</b>	18.2	16.9-19.6
<b>Sex</b>		
Male	18.9	16.7-21.1
Female	17.6	16.0-19.2
<b>Age (years)</b>		
18-24	22.5	16.6-28.3
25-34	24.1	20.2-28.0
35-44	19.8	16.7-22.8
45-54	19.7	17.1-22.3
55-64	14.4	11.9-16.8
≥ 65	9.1	7.4-10.8
<b>Race/ethnicity</b>		
White non-Hispanic	19.6	18.0-21.1
Black non-Hispanic	17.3	12.8-21.8
Hispanic	17.6	13.4-21.8
Other non-Hispanic	12.8	8.9-16.7
<b>Annual household income</b>		
< \$15,000	29.3	23.9-34.7
\$15,000-\$24,999	21.9	17.9-26.0
\$25,000-\$34,999	21.6	17.1-26.2
\$35,000-\$49,999	18.6	15.2-22.1
\$50,000-\$74,999	18.0	14.6-21.4
≥ \$75,000	10.7	8.8-12.6
Missing <sup>c</sup>	18.5	14.4-22.6
<b>Educational attainment</b>		
Less than high school	27.4	22.1-32.8
High school or GED	23.5	20.7-26.3
Some post-high school	19.4	16.7-22.1
College graduate	10.5	8.9-12.1
<b>Disability<sup>d</sup></b>		
Yes	23.0	20.0-26.0
No	17.1	15.6-18.6
<b>Region</b>		
New York City (NYC)	16.2	13.8-18.7
NYS exclusive of NYC	19.2	17.6-20.8

<sup>a</sup> Smoked at least 100 cigarettes in lifetime, and currently smoke cigarettes everyday or some days.

<sup>b</sup> % = weighted percentage; CI = confidence interval.

<sup>c</sup> "Missing" category included because more than 10% of the sample did not report income.

<sup>d</sup> All respondents who report activity limitations due to physical, mental, or emotional problems OR have health problems that require the use of special equipment.

**Expanded BRFSS Report: July 2008 - June 2009**  
**New York State by Region**

**Table 54c. Current smoking among adults<sup>1</sup> among New York State Counties**

County	n <sup>2</sup>	Est. # of Adults <sup>3</sup>	Percent	(C.I.) <sup>4</sup>
Albany	662	40,200	17.0	(12.8 - 21.1)
Allegany	660	9,700	24.6	(19.3 - 29.9)
Broome	640	31,600	20.3	(15.4 - 25.1)
Cattaraugus	642	14,500	23.5	(19.2 - 27.8)
Cayuga	660	13,900	22.1	(17.4 - 26.8)
Chautauqua	640	26,500	25.3	(20.4 - 30.2)
Chemung	673	20,500	30.0	(24.4 - 35.7)
Chenango	666	9,500	23.8	(19.3 - 28.4)
Clinton	648	14,300	21.5	(16.1 - 26.9)
Columbia	641	11,400	23.1	(18.0 - 28.2)
Cortland	636	8,400	22.1	(16.8 - 27.4)
Delaware	667	7,800	21.0	(17.0 - 25.0)
Dutchess	674	41,000	18.3	(13.9 - 22.6)
Erie	662	182,000	25.5	(20.3 - 30.8)
Essex	653	7,100	23.0	(18.3 - 27.8)
Franklin	654	12,500	30.7	(23.4 - 38.0)
Fulton	666	10,300	24.0	(19.7 - 28.2)
Genesee	660	8,100	18.0	(14.0 - 22.0)
Greene	654	9,200	23.8	(18.0 - 29.5)
Hamilton	667	900	20.5	(16.1 - 24.9)
Herkimer	652	10,300	21.1	(16.7 - 25.5)
Jefferson	657	22,100	25.0	(20.2 - 29.9)
Lewis	663	3,900	18.9	(14.3 - 23.6)
Livingston	652	8,300	16.6	(12.5 - 20.7)
Madison	648	13,800	25.2	(20.4 - 30.0)
Monroe	665	107,400	19.1	(14.6 - 23.7)
Montgomery	640	8,200	21.9	(17.6 - 26.2)
Nassau	643	99,700	10.0	(7.2 - 12.8)
Niagara	652	43,900	26.2	(21.3 - 31.1)
Oneida	648	43,400	24.0	(19.5 - 28.4)
Onondaga	670	70,100	20.1	(15.3 - 24.9)

<sup>1</sup> Defined as having smoked at least 100 cigarettes in lifetime and currently smoking every day or some days

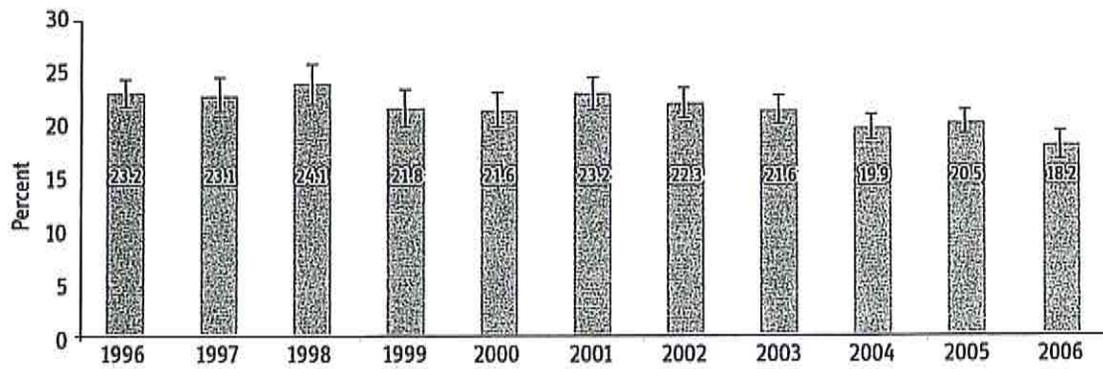
<sup>2</sup> Sample size from survey

<sup>3</sup> Estimated number of adult current smokers (rounded to the nearest hundred)

<sup>4</sup> 95% confidence interval

\* Data do not meet reporting criteria (confidence interval with a half-width greater than 10, denominator less than 50 and/or a numerator less than 10)

Current cigarette smoking\* among New York State adults, by BRFSS survey year



\* Smoked at least 100 cigarettes in lifetime, and currently smoke cigarettes everyday or some days.

Note: Error bars represent 95% confidence intervals.

## Tobacco Use Among Middle and High School Students — United States, 2011–2014

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Tobacco use and addiction most often begin during youth and young adulthood (1,2). Youth use of tobacco in any form is unsafe (1). To determine the prevalence and trends of current (past 30-day) use of nine tobacco products (cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and bidis) among U.S. middle (grades 6–8) and high school (grades 9–12) students, CDC and the Food and Drug Administration (FDA) analyzed data from the 2011–2014 National Youth Tobacco Surveys (NYTS). In 2014, e-cigarettes were the most commonly used tobacco product among middle (3.9%) and high (13.4%) school students. Between 2011 and 2014, statistically significant increases were observed among these students for current use of both e-cigarettes and hookahs ( $p < 0.05$ ), while decreases were observed for current use of more traditional products, such as cigarettes and cigars, resulting in no change in overall tobacco use. Consequently, 4.6 million middle and high school students continue to be exposed to harmful tobacco product constituents, including nicotine. Nicotine exposure during adolescence, a critical window for brain development, might have lasting adverse consequences for brain development (1), causes addiction (3), and might lead to sustained tobacco use. For this reason, comprehensive and sustained strategies are needed to prevent and reduce the use of all tobacco products among youths in the United States.

NYTS is a cross-sectional, school-based, self-administered, pencil-and-paper questionnaire administered to U.S. middle and high school students. Information is collected on tobacco control outcome indicators to monitor the impact of comprehensive tobacco control policies and strategies (4) and inform FDA's regulatory actions (5). A three-stage cluster sampling procedure was used to generate a nationally representative sample of U.S. students who attend public and private schools in grades 6–12. This report includes data from 4 years of NYTS (2011–2014), using an updated definition of current tobacco use that excludes kreteks (sometimes referred to as clove cigarettes).<sup>\*</sup> Of 258 schools selected for the 2014 NYTS,

207 (80.2%) participated, with a sample of 22,007 (91.4%) among 24,084 eligible students; the overall response rate was 73.3%. Sample sizes and overall response rates for 2011, 2012, and 2013 were 18,866 (72.7%), 24,658 (73.6%), and 18,406 (67.8%), respectively. Participants were asked about current (past 30-day) use of cigarettes, cigars (defined as cigars, cigarillos, or little cigars), smokeless tobacco (defined as chewing tobacco, snuff, or dip), e-cigarettes,<sup>†</sup> hookahs,<sup>§</sup> tobacco pipes (pipes),<sup>¶</sup> snus, dissolvable tobacco (dissolvables), and bidis. Current use for each product was defined as using a product on  $\geq 1$  day during the past 30 days. Tobacco use was categorized as "any tobacco product use," defined as use of one or more tobacco products and " $\geq 2$  tobacco product use," defined as use of two or more tobacco products. Data were weighted to account for the complex survey design and adjusted for non-response; national prevalence estimates with 95% confidence intervals and population estimates rounded down to the nearest 10,000 were computed. Estimates for current use in 2014 are presented for any tobacco use, use of  $\geq 2$  tobacco products, and use of each tobacco product, by selected demographics for each school level (high and middle). Orthogonal polynomials were used with logistic regression analysis to examine trends from 2011 to 2014 in any tobacco use, use of  $\geq 2$  tobacco products, and use of each tobacco product by school level, controlling for grade, race/ethnicity, and sex and simultaneously assessing for linear and nonlinear trends.<sup>\*\*</sup> A p-value  $< 0.05$  was considered statistically significant. SAS-Callable SUDAAN was used for analysis.

<sup>†</sup> In 2014, current use of e-cigarettes was assessed by the question, "During the past 30 days, on how many days did you use e-cigarettes such as Blu, 21st Century Smoke, or NJOY?" and in 2011 to 2013, such use was assessed by the question, "In the past 30 days, which tobacco products have you used on at least 1 day?"

<sup>§</sup> In 2014, current use of hookahs was assessed by the question, "In the past 30 days, which tobacco products have you used on at least one day?" and was the first response option available to be selected; whereas from 2011 to 2013, hookah was the fourth or fifth response option.

<sup>¶</sup> In 2014, current use of tobacco pipes was assessed by the question, "In the past 30 days, which tobacco products have you used on at least 1 day?" and in 2011 to 2013, it was assessed by the question, "During the past 30 days, on how many days did you smoke tobacco in a pipe?"

<sup>\*\*</sup> A test for linear trend is significant if an overall statistically significant decrease or increase occurs during the study period. Data also were assessed for the presence of nonlinear trends; a significant nonlinear trend indicates that the rate of change changed across the study period.

<sup>\*</sup> Kreteks no longer are sold legally in the United States and therefore data on these products were not collected in the 2014 cycle of NYTS. Kreteks also were not included in the definition of tobacco in years (2011, 2012, and 2013) in which the data were collected in order to be able researchers to assess trends across the study period.

In 2014, a total of 24.6% of high school students reported current use of a tobacco product, including 12.7% who reported current use of  $\geq 2$  tobacco products. Among all high school students, e-cigarettes (13.4%) were the most common tobacco products used, followed by hookahs (9.4%), cigarettes (9.2%), cigars (8.2%), smokeless tobacco (5.5%), snus (1.9%), pipes (1.5%), bidis (0.9%), and dissolvables (0.6%) (Table).

Among high school non-Hispanic whites, Hispanics,<sup>††</sup> and persons of non-Hispanic other races, e-cigarettes were the most used product, whereas among non-Hispanic blacks, cigars were used most commonly. Current use of any tobacco and  $\geq 2$  tobacco products among middle school students was 7.7%

<sup>††</sup>Persons of Hispanic ethnicity can be of any race or combination of races.

TABLE. Estimated percentage of tobacco use in the preceding 30 days by product,\* school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2014

Tobacco product	Sex				Race/Ethnicity					Total		Estimated no. of users <sup>§</sup>			
	Female	Male	Female	Male	Non-Hispanic White	Non-Hispanic Black	Hispanic <sup>†</sup>	Non-Hispanic other race	Female	Male					
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)			
<b>High school students</b>															
Electronic cigarettes	11.9	(9.7–14.5)	15.0	(12.4–18.2)	15.3	(12.4–18.8)	5.6	(3.7–8.5)	15.3	(11.8–19.5)	9.4	(6.8–12.9)	13.4	(11.2–16.1)	2,010,000
Hookah	9.8	(8.3–11.5)	8.9	(7.5–10.4)	9.4	(8.0–11.0)	5.6	(4.3–7.2)	13.0	(10.5–16.0)	6.0	(4.0–8.8)	9.4	(8.2–10.7)	1,380,000
Cigarettes	7.9	(6.8–9.1)	10.6	(9.0–12.4)	10.8	(9.3–12.5)	4.5	(3.6–5.8)	8.8	(7.2–10.7)	5.3	(3.5–7.8)	9.2	(8.1–10.4)	1,370,000
Cigars	5.5	(4.6–6.7)	10.8	(9.5–12.3)	8.3	(7.1–9.7)	8.8	(6.8–11.4)	8.0	(6.5–9.8)	2.6	(1.7–4.2)	8.2	(7.2–9.2)	1,200,000
Smokeless tobacco	1.2	(0.9–1.6)	9.9	(8.1–12.1)	7.8	(6.4–9.5)	1.1	(0.6–2.0)	3.1	(2.3–4.1)	— <sup>§</sup>	—	5.5	(4.6–6.7)	830,000
Snus	0.8	(0.6–1.2)	3.0	(2.2–4.0)	2.4	(1.8–3.2)	0.6	(0.4–1.1)	1.5	(1.0–2.3)	—	—	1.9	(1.5–2.4)	280,000
Pipes	0.9	(0.7–1.3)	2.1	(1.6–2.9)	1.9	(1.4–2.5)	—	—	1.5	(1.0–2.2)	—	—	1.5	(1.2–2.0)	220,000
Bidis	0.6	(0.4–0.8)	1.2	(0.9–1.6)	0.8	(0.6–1.2)	—	—	1.1	(0.7–1.7)	—	—	0.9	(0.7–1.2)	130,000
Dissolvable tobacco	0.4	(0.2–0.6)	0.8	(0.5–1.1)	0.6	(0.4–0.9)	—	—	0.7	(0.4–1.2)	—	—	0.6	(0.5–0.8)	80,000
Any tobacco product use**	20.9	(18.8–23.2)	28.3	(25.6–31.1)	26.5	(23.9–29.4)	17.2	(14.8–20.0)	26.7	(23.0–30.7)	15.3	(11.5–20.1)	24.6	(22.6–26.7)	3,720,000
$\geq 2$ tobacco product use <sup>††</sup>	10.0	(8.6–11.6)	15.3	(13.4–17.4)	15.1	(13.3–17.1)	5.4	(4.0–7.3)	12.6	(10.5–15.1)	7.0	(4.7–10.1)	12.7	(11.2–14.3)	1,910,000
<b>Middle school students</b>															
Electronic cigarettes	3.3	(2.5–4.3)	4.5	(3.4–5.9)	3.1	(2.2–4.2)	3.8	(2.5–5.6)	6.2	(4.8–7.9)	—	—	3.9	(3.0–5.0)	450,000
Hookah	2.6	(1.9–3.5)	2.4	(1.9–3.0)	1.4	(1.1–1.9)	—	—	5.6	(4.4–7.1)	—	—	2.5	(2.0–3.0)	280,000
Cigarettes	2.0	(1.5–2.6)	3.0	(2.3–3.9)	2.2	(1.6–3.1)	1.7	(1.1–2.9)	3.7	(2.7–5.1)	—	—	2.5	(2.1–3.0)	290,000
Cigars	1.4	(1.0–2.1)	2.4	(1.7–3.5)	1.4	(0.9–2.4)	2.0	(1.3–2.9)	2.9	(2.2–3.8)	—	—	1.9	(1.5–2.5)	220,000
Smokeless tobacco	—	—	2.1	(1.4–3.1)	1.7	(1.1–2.6)	—	—	1.3	(0.9–2.0)	2.4	(1.4–4.1)	1.6	(1.2–2.2)	180,000
Snus	—	—	0.7	(0.4–1.2)	—	—	—	—	—	—	—	—	0.5	(0.3–0.8)	50,000
Pipes	—	—	0.6	(0.4–0.9)	0.5	(0.3–0.8)	—	—	0.9	(0.6–1.4)	—	—	0.6	(0.4–0.8)	60,000
Bidis	0.3	(0.2–0.5)	—	—	—	—	—	—	0.6	(0.4–0.9)	—	—	0.5	(0.3–0.9)	60,000
Dissolvable tobacco	—	—	0.4	(0.2–0.6)	—	—	—	—	—	—	—	—	0.3	(0.1–0.5)	30,000
Any tobacco product use	6.6	(5.4–8.1)	8.8	(7.6–10.1)	6.2	(5.1–7.4)	7.3	(5.6–9.3)	11.8	(9.9–14.1)	6.4	(4.1–9.9)	7.7	(6.7–8.9)	910,000
$\geq 2$ tobacco product use	2.4	(1.8–3.1)	3.8	(3.0–4.7)	2.5	(1.9–3.3)	2.0	(1.3–3.2)	5.0	(4.2–5.9)	—	—	3.1	(2.6–3.7)	360,000

Abbreviation: CI = confidence interval

\* Preceding 30-day use of cigarettes was determined by asking, "During the past 30 days, on how many days did you smoke cigarettes?"; preceding 30-day use of cigars was determined by asking, "During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?"; preceding 30-day use of smokeless tobacco was determined by asking, "During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip?"; preceding 30-day use of electronic cigarettes was determined by asking, "During the past 30 days, on how many days did you use electronic cigarettes or e-cigarettes such as Blu, 21st Century Smoke, or NJOY?"; preceding 30-day use of hookahs, pipe (not hookah), snus, dissolvable tobacco, and bidis was determined by asking, "In the past 30 days, which of the following products have you used on at least 1 day?"

<sup>†</sup> Persons of Hispanic ethnicity can be of any race or combination of races.

<sup>§</sup> Estimated total number of users is rounded down to the nearest 10,000.

<sup>¶</sup> Data are statistically unreliable because sample size was  $< 50$  or relative standard error was  $> 0.3$ .

\*\* Defined as preceding 30-day use of cigarettes, cigars, smokeless tobacco, electronic cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis on  $\geq 1$  day in the past 30 days.

<sup>††</sup> Defined as preceding 30-day use of two or more of cigarettes, cigars, smokeless tobacco, electronic cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis on  $\geq 1$  day in the past 30 days.

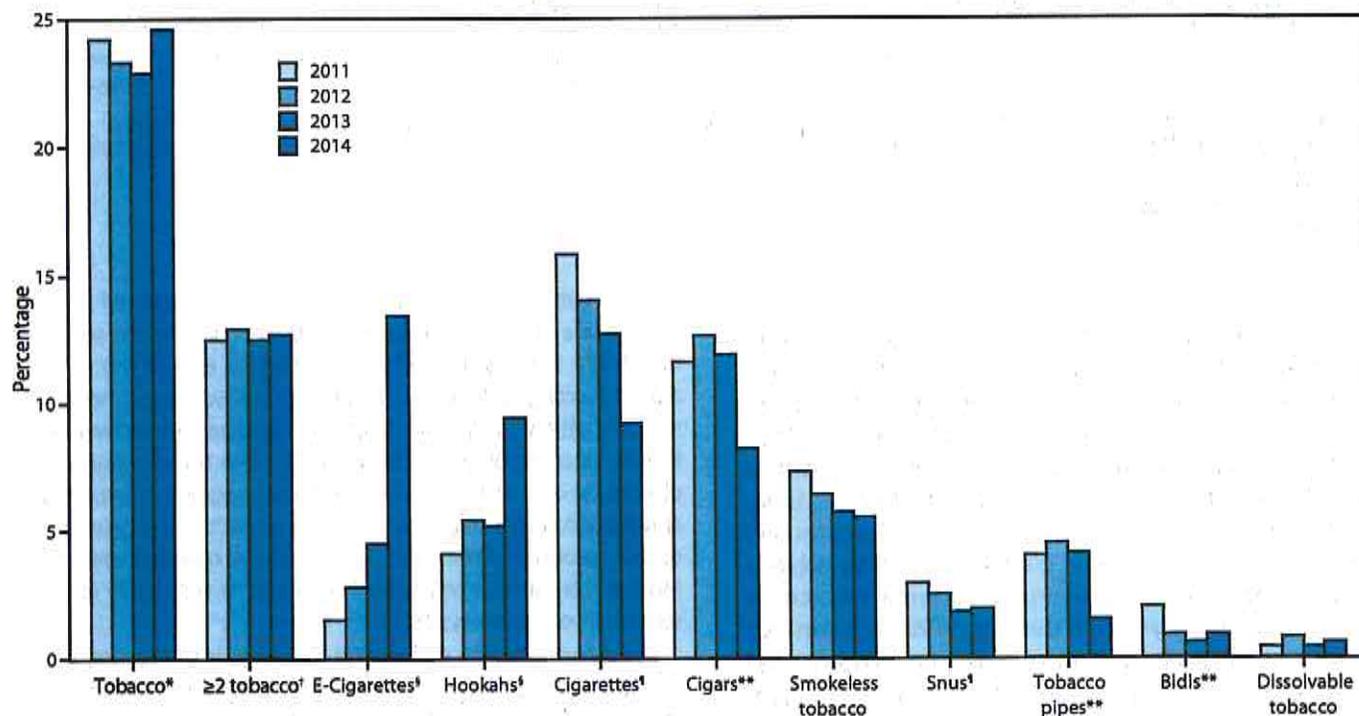
and 3.1%, respectively. E-cigarettes (3.9%) were the tobacco product used most commonly by middle school students, followed by hookahs (2.5%), cigarettes (2.5%), cigars (1.9%), smokeless tobacco (1.6%), pipes (0.6%), bidis (0.5%), snus (0.5%), and dissolvables (0.3%).

From 2011 to 2014, statistically significant nonlinear increases were observed among high school students for current e-cigarette (1.5% to 13.4%) and hookah (4.1% to 9.4%) use (Figure 1). Statistically significant linear decreases were observed for current cigarette (15.8% to 9.2%) and snus (2.9% to 1.9%) use. Statistically significant nonlinear decreases were observed for current cigar (11.6% to 8.2%), pipe (4.0% to 1.5%), and bidi (2.0% to 0.9%) use. Current use of any tobacco product (24.2% to 24.6%) and use of  $\geq 2$  tobacco products (12.5% to 12.7%) did not change significantly from 2011 to 2014. Among middle school students, similar trends were observed during 2011–2014 (Figure 2). A statistically

significant linear decrease was observed only in middle school students currently using  $\geq 2$  tobacco products (3.8% to 3.1%).

In 2014, an estimated 4.6 million middle and high school students currently used any tobacco product, of which an estimated 2.2 million students currently used  $\geq 2$  tobacco products. Of current tobacco users, 2.4 million used e-cigarettes and 1.6 million used hookahs. The largest increase in current e-cigarette use occurred from 2013 to 2014. Current e-cigarette use tripled from 2013 (660,000 [4.5%]) to 2014 (2 million [3.4%]) among high school students (Figure 1); and among middle school students, prevalence increased by a similar magnitude, from 1.1% (120,000) to 3.9% (450,000) (Figure 2). From 2013 to 2014, substantial increases also were observed for current hookah use, with prevalence almost doubling for high school students from 5.2% (770,000) to 9.4% (1.3 million) and for middle school students from 1.1% (120,000) to 2.5% (280,000) over this period.

FIGURE 1. Estimated percentage of high school students who used tobacco in the preceding 30 days, by tobacco product — National Youth Tobacco Survey, United States, 2011–2014



\* Defined as preceding 30-day use of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

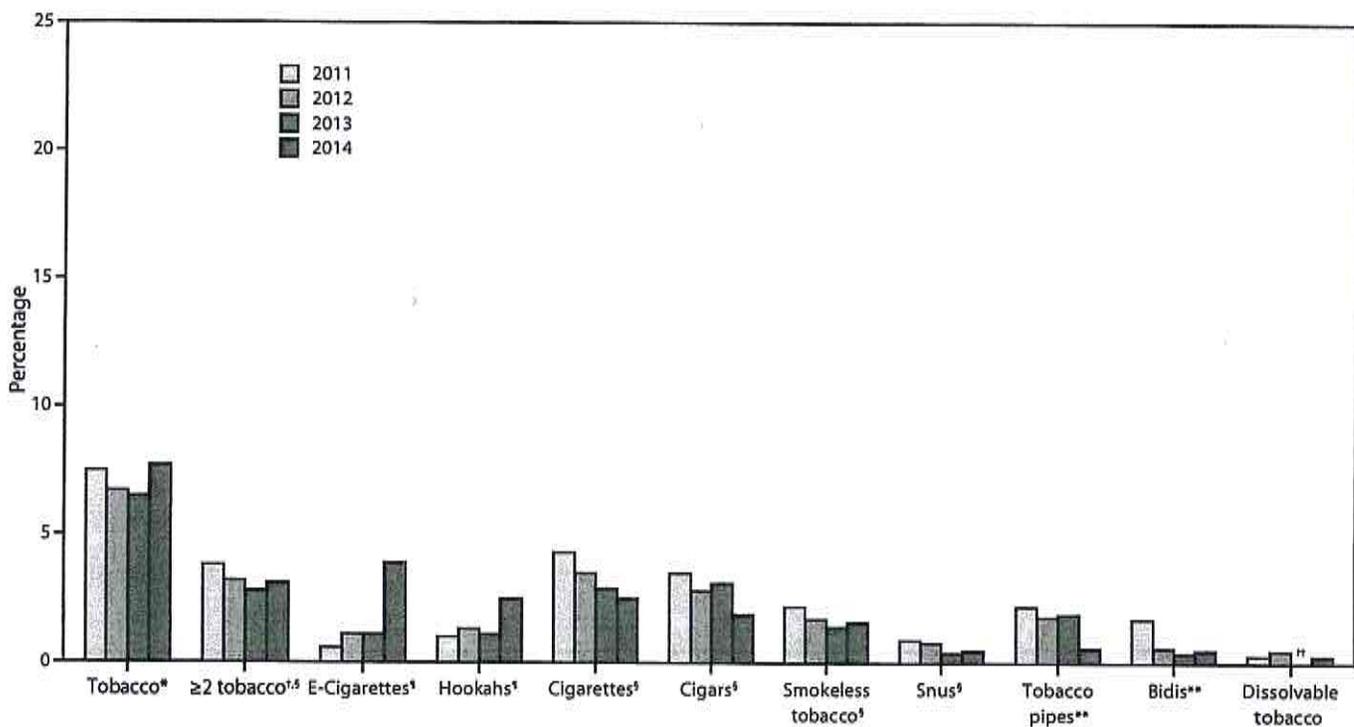
† Defined as preceding 30-day use of two or more of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

‡ Linear decrease ( $p < 0.05$ ).

§ Nonlinear increase ( $p < 0.05$ ).

\*\* Nonlinear decrease ( $p < 0.05$ ).

FIGURE 2. Estimated percentage of middle school students who used tobacco in the preceding 30 days, by tobacco product — National Youth Tobacco Survey, United States, 2011–2014



\* Defined as preceding 30-day use of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

† Defined as preceding 30-day use of two or more of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

‡ Linear decrease ( $p < 0.05$ ).

§ Nonlinear increase ( $p < 0.05$ ).

\*\* Nonlinear decrease ( $p < 0.05$ ).

†† Data statistically unstable.

### Discussion

From 2011 to 2014, substantial increases were observed in current e-cigarette and hookah use among middle and high school students, resulting in an overall estimated total of 2.4 million e-cigarette youth users and an estimated 1.6 million hookah youth users in 2014. Statistically significant decreases occurred in the use of cigarettes, cigars, tobacco pipes, bidis, and snus. The increases in current use of e-cigarettes and hookahs offset the decreases in current use of other tobacco products, resulting in no change in overall current tobacco use among middle and high school students. In 2014, one in four high school students and one in 13 middle school students used one or more tobacco products in the last 30 days. In 2014, for the first time in NYTS, current e-cigarette use surpassed current use of every other tobacco product, including cigarettes.

These findings are subject to at least three limitations. First, data were collected only from youths who attended either public or private schools and might not be generalizable to all middle and high school-aged youth. Second, current tobacco

use was estimated by including students who reported using at least one of the nine tobacco products asked in the survey but might have had missing responses to any of the other eight tobacco products; missing responses were considered as nonuse, which might have resulted in underestimated results. Finally, changes between 2013 and 2014 in the wording and placement of questions about the use of e-cigarettes, hookahs, and tobacco pipes might have had an impact on reported use of these products. Despite these limitations, overall prevalence estimates are similar to the findings of other nationally representative youth surveys (6,7).

Tobacco prevention and control strategies, including increasing tobacco product prices, adopting comprehensive smoke-free laws, and implementation of national public education media campaigns, might have influenced the reduction of cigarette smoking in youths (2). However, the lack of decline in overall tobacco use from 2011 to 2014 is concerning and indicates that an estimated 4.6 million youths continue to be exposed to harmful constituents, including nicotine, present

**What is already known on this topic?**

Tobacco use and addiction most often begins during youth and young adulthood. Youth use of tobacco in any form is unsafe and might have lasting adverse consequences on their developing brains.

**What is added by this report?**

In 2014, an estimated 4.6 million youths, including 3.7 million high school and 900,000 middle school students, reported current use (use on one or more days in the past 30 days) of any tobacco product. From 2011 to 2014, statistically significant increases were observed in e-cigarette and hookah use among high school and middle school students, while statistically significant decreases were observed in the use of cigarettes, cigars, tobacco pipes, bidis, and snus. The increases in current use of e-cigarettes and hookahs offset the decreases in other tobacco products, resulting in no change in overall current tobacco use among youths.

**What are the implications for public health practice?**

In 2014, nearly one in four high school students and one in 13 middle school students reported current use of any tobacco product. Because the use of emerging tobacco products (e-cigarettes and hookahs) is on the rise among middle and high school students, it is critical that comprehensive tobacco control and prevention strategies for youths should address all tobacco products and not just cigarettes.

in tobacco products (Table). Youth use of tobacco in any form, whether it be combustible, noncombustible, or electronic, is unsafe (1); regardless of mode of delivery, nicotine exposure during adolescence, a critical time for brain development, might have lasting adverse consequences for brain development (1), causes addiction (3), and might lead to sustained use of tobacco products. Rapid changes in use of traditional and emerging tobacco products among youths underscore the importance of enhanced surveillance of all tobacco use.

Sustained efforts to implement proven tobacco control policies and strategies are necessary to prevent youth use of all tobacco products. In April 2014, FDA issued a proposed rule to deem all products made or derived from tobacco subject to FDA jurisdiction, and the agency is reviewing public comments on the proposed rule (8). Regulation of the manufacturing, distribution, and marketing of tobacco products coupled with full implementation of comprehensive tobacco control and prevention strategies at CDC-recommended funding levels could reduce youth tobacco use and initiation (1,2,9). Because use of emerging tobacco products (e-cigarettes and hookahs) is increasing among middle and high school students, it is critical that comprehensive tobacco control and prevention strategies for youths should address all tobacco products and not just cigarettes.

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## ***Errata***

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In the report, "Tobacco Use Among Middle and High School Students — United States, 2011–2014," errors occurred in the third and fourth footnotes to Figure 1 on page 383. Those footnotes should read as follows:

§ Nonlinear increase ( $p < 0.05$ ).

¶ Linear decrease ( $p < 0.05$ ).