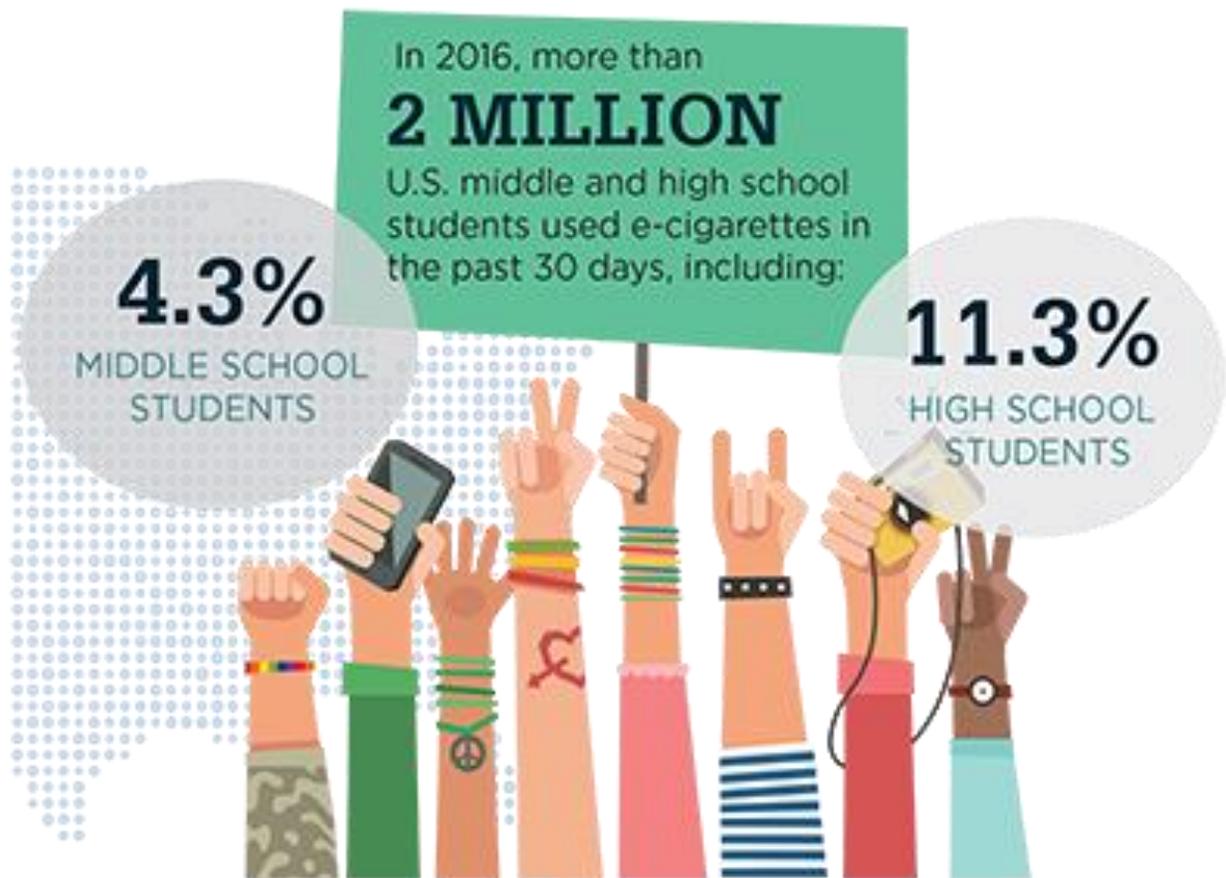


Vaping is Happening in Your Community! By DJ Wilson, MMA
Director of Tobacco Control



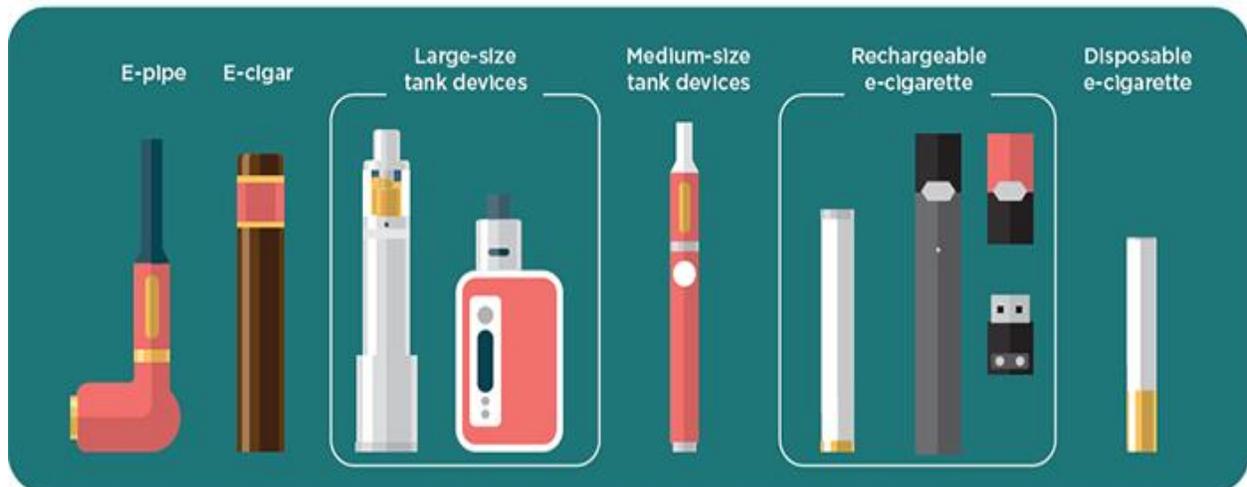
Nationwide, the use of vape products has substantially eclipsed smoking in high schools. Initially called e-cigarettes, vape products use a battery and an atomizer to make a vapor out of a liquid, usually called “e-juice”, for inhalation. In almost all instances, these products are flavored and contain addictive nicotine. Vaping as a way to stop traditional tobacco use appears to have the same success rate of FD A approved cessation products. However, vaping, especially the use of Juul, a brand of e-cigarette, has reached epidemic levels in high schools. The latest Massachusetts Youth Risk Behavior Survey (YRBS) data shows 20% of students routinely vape while fewer than 7.7% smoke traditional tobacco. Local and state policies have aimed to stem both the use of traditional tobacco products as well as vaping products. Locally, 189 cities and towns, representing 78% of the population, have raised the Minimum Legal Sales Age of tobacco and vaping products from 18 to 21 years of age. 134 cities and towns, representing 60% of the population, restrict the sale of flavored tobacco and vaping product (except menthol) to qualifying adult-only retailers. At the state level, a new state law will begin in 2019 that will prohibit the sale of vaping products to minors; prohibit the

use of vaping products in smoke-free locations (such as restaurants, bars and workplaces) and will raise the Minimum Legal Sales Age of both tobacco and vaping products to 21 except for those who reach the age of 18 by December 30, 2018.



According to the U.S. surgeon general, e-cigarettes among high school students increased 900% from 2011 to 2015. Lured by cool vaping devices, enticing e-liquid flavors, and intriguing vape tricks, teens are being drawn in by the record numbers.

What are e-cigarettes?



- Electronic cigarettes are commonly referred to as e-cigs, e-hookah pens, vapes, vape pens, Juuls and Mods.
- E-cigs come in many forms. They can resemble traditional tobacco cigarettes, cigars, pipes and even normal everyday items including pens and, gaining in popularity due to its discreteness, USB memory sticks, which are called Juuls.

How Does an E-Cigarette Work?

There are more than 450 e-cigarette brands on the market today and they all operate in a similar fashion.

- They have four different components: a cartridge (which holds the e-juice), heating element (also known as an atomizer), a battery power source, and a mouthpiece.
- When the person puffs on the e-cigarette it activates the battery-powered heating device which then vaporizes the liquid allowing the user to inhale the aerosol or “vaper.”
- E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine – the addictive drug in regular cigarettes, cigars, and other tobacco

products – flavorings, and other chemicals that help to make the aerosol. Users inhale this aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales into the air.

- The e-juice in e-cigarettes can contain varying amounts of nicotine ranging from zero to upwards of 36 milligrams per milliliter and contains 5 major ingredients: Water, Vegetable Glycerin (the base that makes up 80% – 90% of the e-juice), Propylene Glycol (mixed with the Vegetable Glycerin as the base for the e-juice – “generally recognized as safe” by the FDA), Flavor (which makes up 10% – 20% of the e-juice) and, oftentimes, nicotine of varying strength.
- The Juuls which is the most used among teenagers contain the highest nicotine content. Each Juul pod contains 5% nicotine, the equivalent of 1 pack of cigarettes or 200 puffs.
- E-cigarettes can also be used to deliver marijuana and other drugs.



Why the Fascination with Teens?

Ask a group of high school kids and they'll tell you, "Vaping is not only fun, it's *cool*."

- big draw for teens is the huge variety of e-juice flavors available on the market including such flavors as Gummi Bear, Berry Lush, Frozen Lime Drop and Watermelon Wave, to name a few.

- Many teens are also intrigued by the vape tricks they can do with the vapor – all with enticing names such as “Dragon,” “The Waterfall,” “Vapour Bubble,” and “The Tornado.” And, for teens interested in learning these tricks, YouTube offers plenty of “how-to” videos.
- Vape pens and other e-cigarette devices are incredibly easy to conceal. Unless a parent knows what they’re looking for, they may not realize that their child even owns one.
- Plus, vaping is relatively affordable. A vape starter kit can be bought online for under \$30. Despite regulations that state that you must be 18 years old to purchase a vape pen or e-juice, it doesn’t seem to be stopping teens.
- Most importantly, teens are likely to use, or at least try, e-cigarettes because they’re convinced it’s completely safe. Interestingly, however, the National Institute for Drug Abuse took a poll of teenagers and found that many teens didn’t know exactly what they were inhaling.



What Are The Health Risks Associated with E-Cigarettes with Nicotine?

Vaping with nicotine can pose great threats for teens.

- The teen years are critical to brain development which continues into adulthood. Teens who vape are putting themselves at risk for long-term effects. Because nicotine impacts the development of the brain’s reward system, vaping over a long period of time can not only lead to addiction of nicotine, but it can also

make drugs including Cocaine or Methamphetamine more pleasurable to a teen's brain.

- Most teens are under the impression that it's completely safe to inhale the "harmless nicotine-free water vapors," but recent emerging studies claim otherwise. Studies have shown that the chemical found in e-cigarette liquid, flavorings and aerosols are simply unsafe. According to the FDA, inhalation of diacetyl and acetyl propionyl, a flavoring agent found in some, not all, e-cigarettes, is known to be associated with respiratory disease. In fact, the American Lung Association claims that when inhaled, diacetyl causes bronchiolitis obliterans, commonly referred to as "popcorn lung" – a scarring of the tiny air sacs in the lungs resulting in the thickening and narrowing of airways. It doesn't sound very threatening, but in actuality, popcorn lung mirrors the symptoms of chronic obstructive pulmonary disease (COPD) with symptoms of wheezing, coughing and shortness of breath. Currently, there isn't a standard regarding the safety level for the inhalation of diacetyl via vaping.
- The vapors impact the immune system causing some teen vapers to end up with smokers cough and sometimes even bloody sores in their mouth.
- Plus, a relatively new vaping trend that's causing serious concern is called "dripping" which involves manually dropping e-cigarette liquid directly onto the hot coils of the vaping device to produce a more flavorful, thicker smoke and a stronger hit. One in four high school teens who use e-cigarettes have admitted to trying this potentially dangerous new vaping method.



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Can an E-Cigarette Be Used for Marijuana?

Yes. In fact, officials claim e-cigarettes can be used to vaporize marijuana, opiates, and synthetic substances. When a teen uses an e-cigarette for marijuana, hash oil can be substituted for the nicotine solution. Some vendors sell hash oil in cartridges, but with the proliferation of information on the Internet, kids are also learning how to make it on their own. And, plenty of YouTube “how-to” videos are available to teach those interested in learning. Plus, inhaling marijuana from a vape pen actually intensifies the user’s high. Higher levels of THC, the active compound in marijuana that gives the sensation of being high, are often found in the liquids used for vape pens which can pack a powerful punch leading to increased chance of addiction and enhanced side effects.

JUUL 101: What Every Parent Should Know



It's the latest vaping mania that has sparked widespread concern among public health officials, medical professionals, school administrators, and parents. Hailed as the iPhone of e-cigarettes, JUULs have gained somewhat of a cult-like following among teenagers who have become wildly intrigued with its sleek, discreet design, enticing e-liquid flavors and alluring "cool factor."

What teenagers and parents may not realize, however, is that this relatively new vaping device, with its powerful punch of high nicotine, may be putting a new generation of youth at risk of nicotine dependence.



What Is JUUL?

- Introduced by PAX Labs in 2015 as a smoking alternative for adults,
- JUUL is a brand-name e-cigarette that has outpaced its competition due to its sleek, highly discreet shape that closely resembles a USB flash drive.
- The portable battery-operated nicotine-delivery device used to inhale a nicotine-infused aerosol vapor is designed to mimic the experience of traditional cigarettes, without looking like one.
- Each JUUL has two components, the e-cigarette shell which holds the battery and temperature regulation system and the "JUUL pod" which holds the e-liquid (also known as e-juice). The shell is made of aluminum encasing a Lithium ion battery, a circuit board and a pressure sensor.

- The pods, which are available in 16 different e-liquid flavors including mango (the most popular flavor), cool mint and fruit medley, come in a pack of four which can be ordered online for approximately \$15.
- A full JUUL starter kit, which includes the device and pods, sells for \$49 on the JUUL website.
- The most alarming aspect that many parents and teens may not realize is that each JUUL pod contains the equivalent of approximately one pack of cigarettes, or 200 puffs. And, although the manufacture of JUUL claims the product is strictly for adults, the variety of tempting flavors offers tremendous appeal to teenagers, which is perpetuating use of the highly addictive tobacco product.



How Does JUUL Work?

- JUULs electronically deliver nicotine to users by slowly heating through a wick and heating coil system.
- The flavored pod containing e-liquid attaches to the charged device, which then heats up the pod's liquid.
- When a user takes a puff from the device, the JUUL vaporizer heats the pod containing propylene glycol, glycerol, flavoring, benzoic acid and nicotine salts delivering a hit of nicotine vapor.

- The manufacturer claims their product is unique in comparison to other e-cigarettes in that it uses “nicotine salt” as opposed to freebase nicotine. Nicotine salt, also known as nic-salt, is a type of processed nicotine used in vape liquid. Nicotine salt e-liquid is known to deliver much higher concentrations of nicotine than traditional e-liquid, is traditionally easier to inhale than regular e-liquid and is said to be less harsh on the throat allowing vapers to use stronger liquids.

Why Are Teens So Infatuated with JUULing?



- Ask any teenager and they’ll tell you... kids are JUULing at home, at parties, in their cars, in the school locker room and even in classrooms. It’s the hippest trend in town.
- **Peer Pressure-** It’s not a big shocker that peer pressure is often a deciding factor in the choices teenagers make. However, with regard to vaping, a new study conducted by the University of Southern California in Los Angeles offered a closer look at teen vaping habits and ultimately confirmed that young people are far more likely to vape if their parents, friends or peers are using e-cigarettes. And, with vaping now being considered an epidemic among teenagers, there’s reason for concern.
- **Tempting Flavors-** Aside from the fact that so many of their friends are doing it, a big draw for many teens is the variety of tempting e-liquid flavors the manufacturer of JUUL offers – 16 flavors in all, including cool cucumber, crème brulee, and mango, to name a few.
- **Stickers or “Skins” to Customize Their JUUL-** Another intriguing factor about JUULs is that teens can personalize them with stickers or “skins,” which are

essentially decorative wraps for the device. Sold by individual online retailers, stickers and skins are available in a variety of fun and colorful themes that are all too appealing to teens including Fortnite, Star Wars, camo and cartoon kittens. Some websites even allow you to create your own customized skin with text and your own uploaded images.

- **The Sought After “Buzz”**- Another huge draw for teens is actually a side effect of JUULing – the nicotine high or “buzz” that comes from the powerful punch of nicotine. When a teen smokes a JUUL, the nicotine typically only takes a few seconds to get to their brain. When it does, it attaches to something called acetylcholine receptors which control a person’s level of Dopamine. When Dopamine is released into the body it triggers a nicotine buzz and a sense of calm and relaxation. Serotonin, is also released which enhances the feeling of calm and gives the user a slightly euphoric feeling which typically lasts only a few minutes. When a person’s Dopamine and Serotonin levels begin to decline, it oftentimes makes a person feel tired and have a loss of energy. Craving for that euphoric “buzz,” teens will continue smoking JUULs which can perpetuate nicotine addiction. Also, because nicotine is a stimulant, it also raises your heart rate and blood pressure, it dulls the senses and decreases your appetite
- **It’s Discreet**-Another big reason teenagers are so obsessed with JUULing is due to its sleek design which can easily be tucked into a pocket and because it produces significantly less vapor (or less of a “cloud” of smoke) than other e-cigarettes making it extremely discreet. Online videos show kids JUULing at school in the library, lunchroom, in the bathrooms and even in classrooms and exhaling into their shirt sleeves or backpacks to hide the aroma of the vapor, which dissipates quickly. And, the sweet, fruity scent of JUULs can easily be mistaken for perfume, hand lotion or hair product making it that much more difficult for parents and school administrators to detect and monitor.

Because JUULs closely resemble an everyday USB flash drive, unless a parent or school administrator knows what to look for, they may not realize a child is JUULing. In fact, the problem of JUULing has become so widespread on middle school and high school campuses that some school administrators have begun to install vape detectors in school bathrooms, banned USB flash drives to avoid confusion with JUULs and they’ve added it to their list of banned substances, “no smoking, no drinking, and no vaping.

What Are The Health Risks Associated With JUULing?

Teens who JUUL are at a substantially higher risk of becoming addicted which exposes them to the many cancer-causing chemicals in tobacco. And, because teenage brains are still developing, they're uniquely susceptible to addiction.

Plus, nicotine use during the teen years can actually rewire your brain making it easier to become addicted to other drugs. It impacts the development of the brain's reward system making drugs such as Cocaine or Methamphetamine more pleasurable to a teen's brain. Nicotine can also have other long-lasting effects on cognitive brain development, making it harder to concentrate, learn and even control impulses. Some reports are suggesting that long-term nicotine use starting in one's young adult years can also lead to mood disorders as well as attention and memory deficits later in life.

And, it doesn't stop there. According to a study published in the American Journal of Respiratory and Critical Care, adolescents who use any type of e-cigarettes are far more likely to smoke cigarettes and twice as likely to suffer respiratory symptoms such as a persistent cough, bronchitis, congestion, and phlegm as those who don't. There have also been reports that people who use e-cigarettes may also be at risk of developing a condition called hypersensitivity pneumonitis, sometimes referred to as wet lung, which is an inflammation of the lungs due to an allergic reaction to chemicals or dust.

How Can I Tell if My Child is JUULing?



If you're concerned that your child may be JUULing, here are a few signs you should be on the lookout for:

- ***Unexplained Sweet Scent***- With the JUUL product available in 16 different flavors, many of which are sweet and/or fruity, be on the lookout for an unexplainable, sweet scent which may indicate your child is JUULing. (Keep in mind that JUULs create far less of a vapor or "cloud" than traditional cigarettes, so it may be more difficult to detect the scent.)
- **USB Flash Drive that Doesn't Look Normal**-If you come across an unusual looking USB flash drive, often with holes on one end (the mouthpiece), chances are it's a JUUL and not an ordinary flash drive.
- **Skipping the Caffeine**-Some e-cigarette users suddenly find themselves developing sensitivity to caffeine. So, if your teen used to be hitting Starbucks regularly or chugging Red Bulls and is now suddenly passing on their favorite caffeinated drinks, this could be a red flag.
- **Increased Thirst**-Dehydration, often described by vapers as dry or cotton mouth is actually a fairly common side effect of JUULing and vaping in general. Propylene Glycol, one of the ingredients in e-liquid, is the primary

cause of the dehydration. The substance has been shown to absorb and hold in water molecules, preventing them from being absorbed into the body. Therefore, if you notice your teen drinking more than they typically do or you happen to notice other signs of dehydration such as dark circles under their eyes, you may want to dive a little deeper to determine the cause.

- **Nosebleeds**-Typically, when a person is JUULing they exhale the vapor through their nose which can cause the inside of their nostrils to become dried triggering random nosebleeds. The chemical in the e-liquid, Propylene Glycol, is a dehydrating chemical that strips the moisture from the inside of the nose. So, if your child is suddenly experiencing nosebleeds, it probably deserves more attention to determine the cause.
- **Bloody Sores in the Mouth / Smoker's Cough**-According to a 2017 article in Science News for Students, entitled "Concerns Explode Over New Health Risks of Vaping," researchers are now linking e-cigarettes with mouth wounds that won't heal and smoker's cough. The vapors disrupt the immune system which can have harsh effects on human cells. Keep your eye on your child if they complain of sores in their mouth or begin to show signs of an unexplained cough. It could be a sign that your child is JUULing.
- **Discarded JUUL Pods**- To use a JUUL, users purchase JUUL "pods." As the name suggests, the pod systems are e-cigarettes that make use of a pod as opposed to a traditional atomizer, although they pretty much serve the same function. If you happen to see discarded JUUL pods in your child's backpack, bedroom, pockets or elsewhere, there's reason for concern.

Education Begins With Parents



While it's true that most teen trends seem to come and go, the JUULing trend is far more insidious than most and doesn't appear to be fading anytime soon.

When approaching the subject of JUULing with your child, it's important to remember that teenagers view JUULing as cool, fairly harmless and fun, and the pressure to try it among their peers is oftentimes intense.

Experts say it's important that we talk with our kids calmly and honestly about tobacco, e-cigarettes, and nicotine addiction. There's actually a fairly good chance your child has no idea that JUULs contain nicotine or the damaging impact they can have on their health. Help them understand just how harmful JUULing is, how addictive nicotine is and how nicotine addiction can affect their health, both short and long-term, as well as their performance in school and in sports.

Above all, keep the lines of communication open with your child. The more comfortable they are coming to you to discuss important issues, the more open they'll be to further discussion and the more accepting they'll be of your guidance.

Seek Outside Help If You Suspect Your Child Is Addicted To Nicotine

If you suspect your teen has developed a nicotine habit in any form, seek outside help. A good place to start is your family pediatrician or you can contact the Center for

Disease Control's national tobacco quitline, 800-784-8669, for additional guidance and support.

Resources Around Tobacco, E-Cigarettes and Vaping

Did you know there are MANY sources of help and support around tobacco and vaping cessation? Though addiction rates are high for both e-cigarette and tobacco dependence, many do quit!

Reach out now to one or more of the below for help. Programs, Information, Training

- MIIA WellAware Living Free online tobacco cessation program
- <https://portals.selfhelpworks.com/wellaware>
- For MIIA/BCBS subscribers and their family members on family plans
- Blue Cross Blue Shield Breath Easy online workshop
- www.ahealthyme.com/login
- For MIIA/BCBS subscribers and their dependents >18 yrs. old on family plans
- Make Smoking History, Many Resources and Information
- Home – <http://makesmokinghistory.org/>
- QuitNow – <http://makesmokinghistory.org/quit-now/>
- Vaping – <http://makesmokinghistory.org/dangers-of-vaping/>
- For all Massachusetts residents •

Craving to Quit! App based, 21-day mindfulness program developed and tested at Yale (cost involved)

- https://www.cravingtoquit.com/?utm_source=claritasmind&utm_content=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8%3D-aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8%3D

Massachusetts Inter local Insurance Association, An Inter local Service of the Massachusetts Municipal Association One Winthrop Square, Boston, MA 02110 • 617-426-7272 • 800-882-1498

- www.emiia.org
- MASS Health Promotion Clearinghouse, Information and Materials
- Tobacco – <http://massclearinghouse.ehs.state.ma.us/category/TOB.html>
- Vaping – <https://massclearinghouse.ehs.state.ma.us/category/Vaping.html>
- For all Massachusetts residents
- UMass Center for Tobacco Treatment, Research and Training
- <https://www.umassmed.edu/tobacco/>

- Variety of trainings about tobacco users and tobacco treatment certifications
- Craving to Quit: Learn to Surf Your Urges App (cost involved)
- <https://www.cravingtoquit.com/> Smoking Cessation Aids Always speak with your PCP about the use of these prescription meds and whether they are a good option for you. Consult your health plan for specific benefit information. In most cases, tobacco cessation aids are free when you get a prescription from your PCP, bring it to a pharmacy, and show the pharmacist your health insurance ID card.
- Nicotine replacement:
 - Patch
 - Gum
 - Lozenges
 - Spray
 - Inhalers
 - Other
 - Bupropion (Wellbutrin)
 - Chantix Coaching Support
- Tobacco Quitline – 1-800-Quit-Now

