

# Electronic Cigarettes A.K.A “Hookah Pens”



## A Briefing Report

THE NATIONAL ANTI-DRUG SECRETARIAT  
Ministry of National Security  
Commonwealth of The Bahamas



# Electronic Cigarettes A.K.A “Hookah Pen” A Briefing Report

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## **THE NATIONAL ANTI-DRUG SECRETARIAT**

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## EXECUTIVE SUMMARY

Researchers at the National Ant-Drug Secretariat (NADS) carried out a descriptive study to learn more about ‘electronic cigarettes’ which are becoming more popular among non-smokers locally and across the world. In the United States, for example, it is estimated that 1 in 10 adolescents have tried these products (Centers for Disease Control, 2013). Product manufacturers market this product as a healthier alternative to cigarettes and cigars. Its popularity is greater among youths as these products are packaged and flavored to attract young adults.

Although electronic cigarettes are relatively new and research on these products is limited, there is a growing body of scientific evidence that indicate there is potential harm from product use (Grana, Benowitz & Glantz, 2013). Many healthcare professionals and consumers have reported illnesses and injuries as a result of e-cigarette use which include: burns, pneumonia; congestive heart failure, hypertension and death due to ingestion of the e-cigarette solution by a child (US Food & Drug Administration).

In light of the potential health risks, there is an urgent call for better regulation and improvements as it relates to quality standards and product design in The Bahamas. The Bahamas should also join in the consensus among healthcare professionals in countries around the world including the United States of America, Canada and United Kingdom, calling for continued research to examine the impact of these products more closely.

This study concludes by recommending that the Ministry of Health examine the health risks associated with the use of e-cigarettes with a view to support better regulatory and quality standards. Finally, a public awareness campaign should be launched to educate members of the public, particularly youths, on the harmful effects of using e-cigarettes.



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## WHAT IS AN ELECTRONIC CIGARETTE?

Electronic Cigarettes, also called “e-cigarettes” are prototypes of electronic nicotine delivery systems (ENDS) (World Health Organization [WHO], 2014). These battery-operated devices are designed to deliver nicotine with flavorings and other chemicals to users in vapor instead of smoke (National Institute on Drug Abuse, [NIDA], 2014). They can be manufactured to resemble traditional tobacco cigarettes, cigars or pipes, or even everyday items like pens or USB memory sticks (NIDA, 2014). Commonly referred to as nicotine vapour products, they can even take the form of colorful candy straws (WHO, 2013). Because e-cigarettes simulate smoking, persons are said to be vaping not smoking (Substance Abuse and Mental Health Services (SAMHSA), 2014). Other common names for these devices include: e-hookas, hookah pens, e-cigs, vapes and vape pipes.



## HISTORY OF ELECTRONIC CIGARETTES

Electronic Cigarettes first entered the global market in 2007(Grana, et al; 2013). A Chinese pharmacist by the name of Hon Lik invented this device in 2003 (Grana et al., 2013). Since making its discovery, Ruyan, a China based company now holds patents in 50 countries around the world (Herzog, Metrano & Gerberi, 2012).

## MANUFACTURING E-CIGARETTES

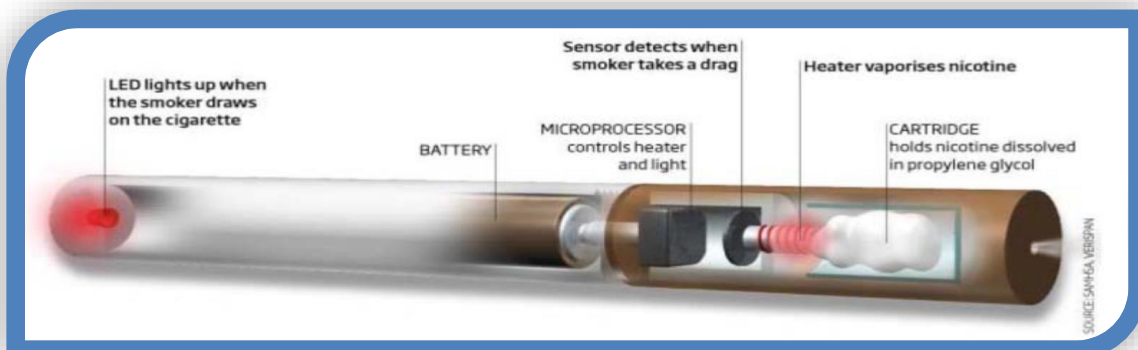
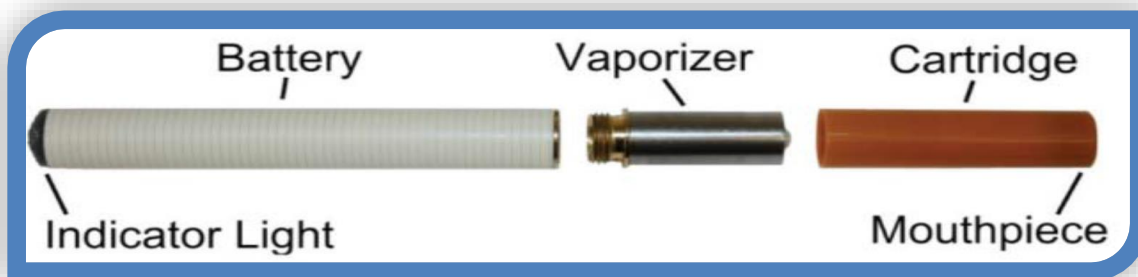
E-cigarette devices are manufactured mainly in China (Grana et al., 2013). More than 90% of those produced worldwide are made in China (Gravelly et al, 2014). China is also the largest producer of the liquid for cartridges (Carr, 2014). E-cigarettes are manufactured in many forms and products are continually evolving in design, content and performance. There are 466 brands of electronic cigarettes (WHO, 2014). Most e-cigarettes however consist of three main components: a cartridge which holds a liquid solution (e-liquid); heating device (vaporizer) and a power source which is usually a battery (NIDA, 2014). There are disposable, rechargeable as well as refillable tank systems (Grana et al., 2013). The main constituents of the liquid (e-liquid) by volume include nicotine when present, propylene glycol, with or without glycerol and flavoring agents (WHO, 2014). There are a variety of flavoring agents which include flavors such as coffee, mint, candy and fruit (NIDA, 2014).



## HOW DO E-CIGARETTES WORK?

Drawing air through the e-cigarette triggers the heater to create vapor which is inhaled by the user the same way as smoke from conventional cigarettes (Britton & Bodanovia, 2014).

## E-CIGARETTES CONFIGURATION







*(Reproduced from Grana, Benowitz, Glantz, 2013)*





## EXAMPLES OF DIFFERENT E-CIGARETTES

<i>Product</i>	<i>Description</i>	<i>Brand</i>
<p><b>Disposable e-cigarette</b></p> 	<p>Cigarette-shaped device consisting of a battery and a cartridge containing an atomizer to heat a solution (with or without nicotine). Not rechargeable or refillable and is intended to be discarded after product stops producing aerosol. Sometimes called an e-hookah</p>	<p>Njoy Flavor vapes Playboy</p>
<p><b>Rechargeable e-cigarette</b></p> 	<p>Cigarette-shaped device consisting of battery that connects to an atomizer used to heat a solution typically containing nicotine. Often contains an element that regulates puff duration and /or how many puffs may be taken consecutively</p>	<p>Blu, Green Smoke, Eon Smoke</p>
<p><b>Pen-style, medium-sized rechargeable</b></p> 	<p>Larger than a cigarette, often with a higher capacity battery, may contain a prefilled cartridge or a refillable cartridge (often called a clearomizer). These devices often come with a manual switch allowing regulating length and frequency of puffs.</p>	<p>Vapor King, Storm, Totally Wicked Tornado</p>
<p><b>Tank-style large-sized rechargeable e-cigarette</b></p> 	<p>Much larger than a cigarette with a higher capacity battery and typically contains a large, refillable cartridge. Often contains manual switches and a battery casing for customizing battery capacity. Can be easily modified</p>	<p>Volcano, Lava tube</p>

(Reproduced from Grana, Benowitz, Glantz, 2013)



## MEDICAL EFFECTS OF ELECTRONIC CIGARETTES

A major contributing factor that resulted in e- cigarettes gaining much popularity among smokers and non-smokers is the marketing claim that they are safer than tobacco products such as cigarettes and cigars. Grana and Ling in 2014, conducted an analysis of 233 websites that sold e-cigarettes products in the United States, United Kingdom, India and Australia. According to these researchers, “the Internet has been, and remains, a main channel for marketing e-cigarette products”. E-cigarettes online sales in the US were estimated at \$ 700 million during 2013 (Carr, 2014).

The results of the analysis showed that health benefit claims were present on 95% of sites. Statements about the absence of tar and carcinogens in e-cigarettes were regularly reported. Claims that e-cigarettes emit “only water vapor” that are harmless to others were found on 76% of websites and almost all 98% sites compared the risks and benefits of e-cigarettes to tobacco cigarettes.

Evidence obtained through a review of medical research conducted on a variety of brands and samples of e-cigarettes as stated in Grana et al., 2013 however revealed that e-cigarettes aerosol is not merely “water vapor” as is often claimed in the marketing of these products. Tests of these products revealed the presence of varying levels of nicotine content from label amounts, the presence of volatile organic compounds, tobacco- related carcinogens, metals and chemicals. Some of the chemicals, particularly some flavoring agents in e-cigarettes aerosol are cytotoxic to human cells particularly in human embryonic cells. Further, chemicals found in the aerosol and e- liquid were found on California’s



official list of known human carcinogens or reproductive toxicants and included nicotine, acetaldehyde, formaldehyde, nickel, lead and toluene( Grana et al., 2013).

Other studies referenced in this scientific review measured the particles comprising e- cigarettes aerosol and detected the presence of small and ultrafine particles. The size of particles was important because it determines how they can be deposited in the body's blood stream, cells and organs. The smaller the particles the more readily the chemicals enter the bloodstream and cell, potentially entering effecting damage or changes. The study concludes by saying like cigarettes, e-cigarettes particles are small enough to reach deep into the lungs and cross into blood and be absorbed into body tissues. Exhaled aerosol exposes non smokers and by standers to nicotine and a number of toxicants, "passive vaping" (Williams et al; 2013; Schripp et al; 2013 and Zhang et al; 2013).

Further, Brody, 2014 documents the addictive and toxic effects of nicotine a main ingredient of e- cigarettes; referencing implications of nicotine with different types of cancers; altering fetal gene expression and tissue development in a variety of organs. There is evidence that nicotine's adverse effects on adolescent brain development could result in lasting deficits in cognitive function (CDC, 2013). It can also adversely affect pregnancy and may contribute to cardiovascular disease (WHO 2014). Nicotine adversely affect maternal and fetal health during pregnancy contributing to preterm delivery and still birth (American Nurse 2015).



In addition to nicotine there is propylene glycol, an eye and respiratory irritant. When propylene is vaporized it forms propylene oxide a class 2B carcinogen (Grana et al., 2013).

In recent times reports in the United States and the United Kingdom indicate a substantial rise in incidents involving nicotine poisoning (WHO, 2014). According to the CDC, calls to poison centers involving e- cigarettes have risen from one call per month in September 2010 to 215 calls in February 2014. Exposure to e-cigarettes affected primarily individuals younger than 5 years (51.1%) and older than 20 years (42.0%). Commonly reported exposures included ingestion of solutions (68.9%), inhalation (16.8%), eye exposure (8.5%), and dermal exposure (5.9%) (Collaco, Drummond & Morrow, 2015).

Summary of adverse events collected between 2009 and 2014 by the Federal Drug Administration from consumers, health professionals and concerned members of the public concerning use of e-cigarettes indicated hospitalization for illnesses such as pneumonia, congestive heart failure, disorientation, seizure, hypotension, and other health problems.

Other adverse reports include the ingestion of e- fluid by children. Ingestion, inhalation or dermal exposure to e-liquids with nicotine in high concentrations may result in injury and death as nicotine is toxic in high concentrations (Durmowicz, 2014). The estimate mean lethal dose of nicotine is 30- 60 mg for adults and 10 mg for children (Durmowicz, 2014). E- cigarettes' e-liquids have nicotine concentrates up to 100mg (Durmowicz, 2014). Other incidents involved explosion of the e-cigarette during use or



charging. These episodes have result in burn injuries for children, adults and property damage (Durmowicz, 2014). The most fatal adverse event reported was a child choking on an e- cigarette cartridge (Durmowicz, 2014). Another incident in the US involved an 18 month old becoming serious ill after drinking the e- liquid while another child in Israel died after drinking her grandfather's e- cigarette solution (Grana et al., 2013).



Refilling of an E-Cigarette

## SAFETY CONCERNS

In 2010, The US Food and Drug Administration, which has oversight of Tobacco Control in the United States conducted laboratory studies of certain samples of e-cigarettes and found that cartridges labeled containing no nicotine actually contained nicotine. Additionally, these researchers found that three different electronic cigarette cartridges



with the same label emitted different amounts of nicotine with each puff. These incidents demonstrated substandard practices used in the quality control process in the manufacture of these products.

Another study carried out by Trtchounian and Tall, 2011 that assessed 6 brands of e-cigarettes product for product design, content and labeling discovered that there was no list of product ingredient or health warning messages (Grana et al., 2013). The products leaked when handled and cartridges came with fluid leaks on them creating the potential for dermal exposure to nicotine and potential nicotine poisoning (Grana et al., 2013).

In the case of product design, the refillable cartridges used by some e-cigarettes users may expose them to potentially toxic levels of nicotine when refilling them (Brown University, 2014). Additionally, e-cigarettes users have the ability to modify the devices and create their own as instructions of how to do so are featured on the internet, e-cigarette forums and YouTube (Grana et al., 2013). A disturbing trend occurring in the United States was the modification of refillable tank systems to be refilled with other drugs such as marijuana (Grana et al., 2013). Concentrates of hashish oil have also been used as substitute for e- liquids (Durmowicz, 2014). Incidents of this kind have also been observed in The Bahamas as there are matters before the courts involving similar circumstances.

## **E-CIGARETTE USE AROUND THE WORLD**

Use of e-cigarettes around the world has increased significantly and vary from country to country. In 2014, it was estimated that 3 billion US dollars was spent on e-cigarettes globally (WHO, 2014). Additionally, more than half of the world's populations



spanning 62 countries have access to these products. They are commonly sold online, at convenience stores, pharmacies, mall kiosks, and gas stations.

## *Europe*

Britton and Bogdanovia, researchers at the UK Center for Tobacco & Alcohol, Division of Epidemiology and Public Health at the University of Nottingham carried out an investigation of e-cigarettes in 2014 in the United Kingdom (UK) and their finding showed that e- cigarettes were first introduced to Europe in 2005. In 2014, 17% of the UK population used e-cigarettes which accounted for 1.3 million persons. Further they discovered that prevalence of use was similar between genders and socioeconomic groups (Britton & Bodanovia, 2014).

## *United States*

Use of electronic cigarettes in the US started in 2007 (Grana & Ling, 2014). Sale of these products continues to grow rapidly. The retail industry size in the US is estimated at 300 million and is expected to grow to 1 billion in a few years (Herzog, et.al, 2012). The Tobacco Vapor Electronic Association, a US based entity reports that there are 2.5 million e- cigarettes users. In 2014 there were more than 250 types of e-cigarettes sold in the US (A Cancer Journal for Clinicians, 2014). The top three US brands include 'Njoy', 'blu' and '21st century'. E-cigarettes range in price from \$2.99 to \$199 depending on the market demand (Carr, 2014).

An e-cigarette user buys a mouth piece, replacement liquids for cartridges or new filled or replaceable cartridges (Carr, 2014). Tobacco retailers and wholesalers across the



US have expressed that e-cigarettes are not just a passing fad and stated the fact that Lorillard, a major tobacco company acquisition of blu legitimize the credibility of the product (Herzog, et. al, 2012). A policy brief issued by the American Lung Association in 2011, found that advertising of “*other tobacco products* “ which include bidis, cigars, hookahs increased from approximately \$251 million in 2005 to \$547 million 2008. There is a body of research that directly link exposure to tobacco advertising to promote use; continued use and introduction of new products (Richardson Ganz, Stalgaitis Abrams & 2014). E-cigarettes are routinely advertised on mobile bill boards, bus stop displays, television commercials and at sponsored social events (Carr, 2014).

### ***Canada***

It is estimated that 4% of Canada’s population have used electronic cigarettes (Britton et al., 2014). In 2011 current use of e-cigarettes among adult smokers and current smokers accounted for 1% of the population (Collaco et al., 2015).

### ***The Bahamas***

In The Bahamas, imports and distribution of these products over the years have rapidly increased and the three major supply countries include: the United States of America, China and Hong Kong. “Hookah Bars” are appearing at different locations throughout New Providence such as ‘Babalu’. Additionally, online advertisement of these products along with bold display of poster boards strategically placed at different venues at high traffic areas in New Providence speak to the popularity of this product locally.





Enquiries regarding the manufacture and sale of electronic cigarettes led to the discovery of a privately owned local company, 'Caribbean Tabacoo Enterpries' which produces a local brand of these products in Freeport, Grand Bahama. This company produces 'Palms' cigarettes and 'Palms E-hookah pen'. The Palms E-hookah pen' come in five flavors: Andros strawberry; Eleuthera pina colada; mint; Exuma watermelon and Abaco mango. These devices last up to 800 puffs and are retailed on average at a cost of \$12.75 individually. Other imported brands on average retail between \$10.75 and \$ 15.00. In comparison to cigarettes, local brands retail at \$4 to \$5 per pack, while imported brands cost on average \$10 to \$11. Users of e-cigarettes claim an average use of three weeks while an average smoker can smoke one to two packs of cigarettes daily. These products are commonly sold at hotels, bars, gas stations and more popularly at convenient stores.

The Palms E-Hookahs, manufactured locally by the Caribbean Tobacco Enterprise in Freeport Grand Bahama. Some of the flavors include "Andros Strawberry', Eleuthera Pina-Colada" and Exuma Watermelon'. (Photo Palms E-Hookahs)



A recent interview in May 2015 with officials at Bahamas Customs revealed that e-cigarettes are not treated as a tobacco products and the excise tax is at a rate of 45%. The main local importers of electronic cigarettes was Bahamas Wholesale Agencies (BWA). BWA brands include varieties of Njoy, Swisher and Playboy. Retail price on these items range between \$5.64 and \$10.54 individually.



## RESEARCH ON E-CIGARETTES & YOUTHS

E- Cigarettes have particularly been appealing to an increasing number of young previous non-smokers because they are advertised as being safe, fashionable and good tasting (Brody, 2014). Initiation and ongoing use by high school students were also attributed to the fact that students say that e-cigarettes can be “smoked quickly” are “smokeless” and are easy to conceal (Durmowicz, 2014). Further, e- cigarettes can be legally purchased by adolescents in many US states and are available to youth on the



internet (Durmowicz, 2014). In 2012, one million adolescents reported purchasing cigarettes, cigars and smokeless tobacco products online (Williams & Ribisl, 2015). Many Internet e-cigarettes vendors lacked age verification measures (Williams & Ribisl, 2015).

Findings from the 2014 University of Michigan's study, called Monitoring the Future Study, a national drug use prevalence study administered to 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders in the US showed more teens now use e-cigarettes than traditional tobacco cigarettes, or any other tobacco product. Findings also indicated that as grade level increased use of e-cigarettes increased. Use of e-cigarettes among these grade level in the past 30 days prior to the survey indicated 9%, 16% and 17% respectively. Additionally, in 2013 data published by the CDC revealed that more than a quarter of a million middle and high school students who never smoked regular cigarettes had used an e-cigarette. In 2012 the CDC reported more than 1.78 million middle and high school students had tried e-cigarettes.

Recent analyses of data from the National Youth Tobacco survey (adolescents in grades 6-12) revealed that the use of e-cigarettes increased from 79,000 to more than 263,000 from 2011 through 2013 among US youths who have never smoked cigarettes (Collaco et al., 2015). This 3-fold increase in e-cigarette use among adolescents who have never smoked suggests increased acceptance of e-cigarettes in this population (Collaco et al., 2015).

A 2013 survey by Action on Smoking and Health (ASH) carried out in Great Britain of more than two thousand children showed that 11% of 16–18 year olds who *had heard of electronic cigarettes* had “tried electronic cigarettes once or twice”; only 1% used electronic cigarettes more than once a week. Among young people who had *never smoked*,



1% had “tried electronic cigarettes once or twice”, 0% report continued electronic cigarette use and 0% expect to try an e-cigarette soon. Findings revealed that use was closely associated with smoking behavior.

A recent study involving 1,188 Canadian youth and young adults age 16-30 years conducted by Cozoli et al in 2012 indicate a total of 16.1% reported trying an e-cigarette. Additionally, use of e-cigarettes among nonsmokers, former smokers and current smokers indicated 5.2%, 18.9% and 34.5% respectively.

In The Bahamas, preliminary reports received from personnel at Adolescent Health, Ministry of Health, indicate that e-cigarettes use is trending among 11– 15 year old males from inner city communities attending junior and senior high schools but more commonly among junior high schools students. Incidents of students being caught in possession of e-cigarettes by teachers while at school started in 2014 and since this time has gradually increased in both government and private schools. It was also discovered these males tended to smoke other substances such as bidis and marijuana and quite often the e-liquid was substituted with marijuana. E-cigarettes with fruit or candy flavors were very popular and commonly referred to as “hookahs”. It was also expressed that e-cigarettes were used because it can be mistaken for pens or other items and because they were perceived to be healthier. E-cigarettes were normally purchased between \$2 to \$5 from adult suppliers.

There is a growing concern among scholars at the Center For Disease Control that these products will serve as a gateway to nicotine addiction and ultimately smoking, particularly for young people (CDC, 2013).E-cigarettes use may result in



many teens struggling with lifelong nicotine addiction (CDC, 2013). Statistics generated by the FDA indicate that, each day more than 3,200 children under the age of 18 years in the US smoke their first cigarette and an estimated 2100 youth and young adults kids become daily cigarette smokers. Further, 90 % of all smokers begin smoking as teenagers (CDC, 2013). Adolescent users of e-cigarettes were found to be just as likely as tobacco users to report the use of alcohol, cigars, smokeless tobacco, and marijuana (Collaco et al., 2015).

## **REGULATION OF ELECTRONIC CIGARETTES**

### **UNITED NATIONS**

General policy recommendations provided by the WHO in 2014 require the regulation of e-cigarettes. There is an urgent need to safe guard users and the general public from associated risks and harm. Regulatory framework regarding e-cigarettes should be designed to:

1. Impede promotion to and use by non-smokers, pregnant women and youth;
2. Minimize potential health risks to user and non users
3. Prohibit unproven health claims about products
4. Protect existing tobacco-control efforts from commercial and other vested interest of the tobacco industry.

### **UNITED STATES**

The FDA only regulates e-cigarettes that are for therapeutic purposes ([ww.fda.gov](http://www.fda.gov)). However, in April 2014 the FDA proposed a new rule that would qualify e-cigarettes not marketed for therapeutic purposes to fit the statutory definition of tobacco product



(SAMHSA, 2014). Despite the fact that currently there is no federal regulations regarding e-cigarettes many states across the U S have regulated e-cigarettes as tobacco products and subject the use, sale, manufacture, advertising and distribution in line with tobacco products regulations. Currently, 41 states ban e-cigarette sales to minors (Williams & Ribisl, 2015). As of April 2, 2015, 354 municipalities and three states include electronic smoking devices as products that are prohibited from use in smoke free environments (Americans for Nonsmokers' Right, 2015).

## **EUROPE**

According to the Action On Smoking and Health, electronic cigarettes are regulated as general consumer products. However, by May 2016 these products will come under the revised European Union Tobacco Products Directive and where therapeutic claims are made or they contain over 20 mg/ml of nicotine they will require authorization by the Medicines and Healthcare Agency(MHRA).

## **Canada**

Electronic smoking products (i.e., electronic products for the vaporization and administration of inhaled doses of nicotine including electronic cigarettes, cigars, cigarillos and pipes, as well as cartridges of nicotine solutions and related products) fall within the scope of the Food and Drugs Act. All of these products require market authorization prior to being imported, advertised or sold in Canada. Market authorization is granted by Health Canada following successful review of scientific evidence demonstrating safety, quality and efficacy with respect to the intended purpose of the health product. This evidence is provided by the sponsor seeking market authorization. To date, no electronic smoking



product has been authorized for sale by Health Canada ([www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)). Therefore the import, sale and advertising of these products are prohibited in Canada.

## **THE BAHAMAS**

The sale of e-cigarettes are legal in The Bahamas as they are currently not regarded as illegal drugs or medicines. At this current time there are no existing laws or regulations governing the sale, manufacture or use of e-cigarettes.

## **CONCLUSION**

There is sufficient scientific evidence to support health implications associated with the use of e-cigarettes; those exposed to the vapor and product content. This body of evidence has resulted in the World Health Organization cautioning children, adolescent, pregnant women and women of reproductive age about electronic nicotine delivery device use; of which e-cigarettes are a prototype; because of the potential for fetal and adolescent nicotine exposure to have long- term consequences for brain development. Other evidence suggests the presence of toxins and their associations with different types of cancers and respiratory toxicity. Therefore these products should not be allowed to be marketed as healthy alternatives to tobacco products.

An alarming trend observed in this regard was the increasing use of e-cigarettes by first time users, particularly among adolescents and young adults as they are lured by advertising claims of products being healthier and available in a variety of flavors like fruit and candy which are very appealing to younger persons. Evidence showed that there was



also a preponderance of dual users. Persons that smoked cigarettes also used e-cigarettes. This was a common trend observed with young and older smokers.

Further, it was discovered that both in the US and United Kingdom reports of nicotine poisoning a main ingredient in e-cigarettes has increased substantially since the use of these products has increased. This has resulted in numerous hospital visits, hospitalizations and loss of life. Evidence suggests that nicotine levels are in higher concentrations than what was listed on label.

The World Health Organization, the U.S. Food and Drug Administration and Canada Health has called for greater regulation of these products as sufficient evidence suggests wide variations in product contents and emissions. This inconsistency across brands pose safety concerns and the proposed need for higher industry quality standards. This need was stated so profoundly by Grana et al., 2013, “ As the types and design of products and their contents continue to evolve rapidly, it is increasingly difficult to determine what an e-cigarette is ,what it may contain, and what it is delivering to the user and the surrounding environment”.

Marketing strategies employed by tobacco companies have been very effective at promoting the idea of “smoking”, “vaping” as socially acceptable behavior among youth, first time smokers and smokers. There is rapid increase in sales of these products globally. As a result strong measures undertaken by the government to counteract these initiatives must be progressive and very effective at protecting users and promoting public health in general to preserve life. Additionally clear measures must be taken to preserve a better quality of life free from preventable diseases.





## RECOMMENDATIONS

1. In consideration of the health risks provided by the World Health Organization (WHO), the Ministry of Health should investigate the health risks associated with the use of e-cigarettes and determine whether such risks warrant prohibiting the products locally.
2. The relationship between the Ministry of Health and international health agencies such as the Pan-American Health Organization (PAHO) and the World Health Organization should be reviewed to ensure that The Bahamas adopts recommendations regarding health risks associated with consumer products.
3. A public awareness campaign should immediately be launched to educate members of the public, particularly adolescent youths, on the lethal effects of smoking e-cigarettes specifically and smoking generally.
4. Classify e-cigarette products as tobacco products due to its similar risks and subject these products to Tobacco Control Legislation.
5. Increase excise tax duty on e-cigarette products, same as those imposed on cigarettes.
6. Prohibit the use of e-cigarettes wherever the uses of cigarettes are prohibited.
7. Require proper labeling of product content and warning of health effects to be displayed on products and during advertising of products.
8. Include e-cigarettes as a category in The Bahamas Secondary School Drug Prevalence Survey so that use patterns and other trends in the adolescent population can be better monitored.



9. Develop surveillance mechanism to monitor impact of e-cigarettes on the pediatric population.
10. Develop other mechanism such as population surveys to monitor use patterns of various sectors of the population especially for vulnerable groups such as women and current smokers.



## REFERENCES

- Big Tobacco'S Next Frontier- Sustaining Addiction & Hooking Kids with Other Tabacco Products Retrieved from [www.lung.org/.../reports-resources/tobacco-policy-trend-reports/big-tobaccos-next-frontier.pdf](http://www.lung.org/.../reports-resources/tobacco-policy-trend-reports/big-tobaccos-next-frontier.pdf) on May 14, 2015
- Britton, J. , Bogdanovica., Ilze ( 2014). Electronic cigarettes. United Kingdom Center for Tobacco & Alcohol Studies.
- Brody, J. S. (2014). The promise and problems of e-cigarettes. *American Journal Of Respiratory And Critical Care Medicine*, 189(4), 379-380.
- Carr, E. R. (2014). E-Cigarettes: Facts, Perceptions, and Marketing Messages. *Clinical Journal Of Oncology Nursing*, 18(1), 112-116.
- Collaco, J. M., Drummond, M. B., & McGrath-Morrow, S. A. (2015). Electronic cigarette use and exposure in the pediatric population. *JAMA Pediatrics*, 169(2), 177-182.
- Czoli, C. D., Hammond, D., & White, C. M. (2014). Electronic cigarettes in Canada: prevalence of use and perceptions among youth and young adults. *Canadian Journal Of Public Health = Revue Canadienne De Santé Publique*, 105(2), e97-e102.
- Durmowicz, E. L. (2014). The impact of electronic cigarettes on the paediatric population. *Tobacco Control*, 23 Suppl 241-246.
- E-cigarette use more than doubles among teens according to CDC. (2013). *Brown University Child & Adolescent Psychopharmacology Update*, 15(12), 7- 8.



E-cigarette use more than doubles among U.S. middle and high school students from 2011-2012. Retrieved from <http://www.cdc.gov/media/release/2013/p0905-ecigarette-use.html> on May 25, 2015

E-Cigarettes Surpass Tobacco Cigarettes Among Teens. Retrieved from <http://monitoringthefuture.org/pressreleases/14cigpr.pdf> on May 25, 2015

E-Cigarettes: A Guide for Parents. (2014). *Brown University Child & Adolescent Behavior Letter*, 30(7), 1-2.

Electronic cigarettes (e-cigarettes). (2014). *CA: A Cancer Journal For Clinicians*, 64(3), 169-170.

Federal Drug Administration Adverse Event Reports for e-Cigarettes. Retrieved from [HTTP://WWW.FDA.GOV/NEWS\\_EVENTS/PUBLICHEALTHFOCUS/UCM172906.HTM](HTTP://WWW.FDA.GOV/NEWS_EVENTS/PUBLICHEALTHFOCUS/UCM172906.HTM) ON MAY 15, 2015.

Grana, R; Benowitz, N; Glantz, S. "Background Paper on E-cigarettes," Center for Tobacco Control Research and Education, University of California, San Francisco and WHO Collaborating Center on Tobacco Control. December 2013. Retrieved from [http://arizonansconcernedaboutsmoking.com/201312e-cig\\_report.pdf](http://arizonansconcernedaboutsmoking.com/201312e-cig_report.pdf) on May 14, 2015

Gravelly, S., Fong, G. T., Cummings, K. M., Yan, M., Quah, A. K., Borland, R., & Hummel, K. (2014). Awareness, trial, and current use of electronic cigarettes in 10 countries: Findings from the ITC project. *International Journal Of Environmental Research And Public Health*, 11(11), 11691-11704.

Herog, B; Metrano, B; Gerberi, J. Tobacco Talk Survey- E-Cigarettes A Promising Opportunity. May 2012. Retrieved from <http://www.steevape.com/wp-content/uploads/2012/05/E-Cigs-A-Promising-Opportunity.pdf> on May 24, 2015.



<http://www.cdc.gov/media/releases/2014/p0825-e-cigarettes.html> -

[http://www.hc-sc.gc.ca/dhp-mps/prodpharma/applic-demande/pol/notice\\_avis\\_e-cig-eng.php](http://www.hc-sc.gc.ca/dhp-mps/prodpharma/applic-demande/pol/notice_avis_e-cig-eng.php)

More than a quarter – million youth who had never smoked a cigarette used e-cigarettes in 2013. Retrieved from <http://www.cdc.gov/media/release/2014/p0825-e-cigarettes.html> on May 25, 2015

National Institute on Drug Abuse. Electronic Cigarettes (e-Cigarettes) Retrieved from <http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes> on May 14, 2015

Richardson, A., Ganz, O., Stalgaitis, C., Abrams, D., & Vallone, D. (2014). Noncombustible Tobacco Product Advertising: How Companies Are Selling the New Face of Tobacco. *Nicotine & Tobacco Research*, 16(5), 606-614.

Substance Abuse and Mental Health Services. E- Cigarettes Pose Risks. Retrieved from [http://www.samhsa.gov/samhsaNewsletter/Volume\\_22\\_Number\\_3/e-cigarettes/](http://www.samhsa.gov/samhsaNewsletter/Volume_22_Number_3/e-cigarettes/) on May 24, 2015.

World Health Organization. Electronic nicotine delivery systems. Provisional Agenda item 4.4.2 , Conference of the Parties to the WHO Framework Convention on Tobacco Control , Sixth Session. Published July 2014.

[www.cdc.gov/media/releases/2014/images/p0403-e-cigarette-poison.pdf](http://www.cdc.gov/media/releases/2014/images/p0403-e-cigarette-poison.pdf)

