SUBSTANCE ABUSE SERVICES COUNCIL

ANNUAL REPORT
2014

to the Governor and

the

General Assembly

COMMONWEALTH OF VIRGINIA

December 2014

COMMONWEALTH of VIRGINIA

William H. Williams, Jr.
Chair

Substance Abuse Services Council
P.O. Box 1797
Richmond, Virginia 23218-1797

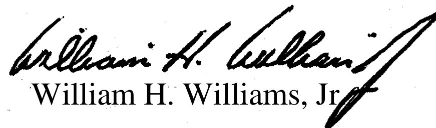
December 23, 2014

To: The Honorable Terence R. McAuliffe
and
Members, Virginia General Assembly

In accordance with §2.2-2696 of the *Code of Virginia*, I am pleased to present the 2014 Annual Report of the Substance Abuse Services Council. The *Code* charges the council with recommending policies and goals relating to substance abuse and dependence and with coordinating efforts to control substance abuse. It also requires the council to make an annual report on its activities. The membership of the council includes representatives of state agencies, delegates, senators and representatives of provider and advocacy organizations appointed by the Governor.

On behalf of the council, I appreciate the opportunity to provide you with our annual report detailing the council's study of several critical issues. We hope it will contribute to improving the lives of the many Virginians affected by substance use disorders.

Sincerely,



William H. Williams, Jr.

cc: The Honorable William A. Hazel, Jr., M.D., Secretary of Health and Human Resources
The Honorable Anne Holton, Secretary of Education
The Honorable Brian Moran, Secretary of Public Safety and Homeland Security
Debra Ferguson, Ph.D., Commissioner, Department of Behavioral Health and Developmental Services
Ananda K. Pandurangi, M.D., Chair, State Board of Behavioral Health and Developmental Services

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OF THE SUBSTANCE ABUSE SERVICES COUNCIL
TO THE GOVERNOR AND THE 2014 GENERAL ASSEMBLY
2014

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INTRODUCTION

The Substance Abuse Services Council is established in the *Code of Virginia* [§2.2-2696] to advise the Governor, the General Assembly and the State Board of Behavioral Health and Developmental Services on matters pertaining to substance abuse in the Commonwealth. The council met five times during 2014 (April 9, May 28, July 30, September 24 and December 2). All meetings were conducted in the metropolitan Richmond area. Meeting notices and approved minutes are posted on the council's web page at www.dbhds.virginia.gov.

The contents of this report cover the activities of the council in 2014. This document includes a very brief discussion of the epidemiology of substance abuse in the Commonwealth. During this period, council members heard presentations on critical topics related to providing services for people with substance use disorders.

EXTENT OF THE SUBSTANCE ABUSE PROBLEM IN VIRGINIA

Numerous documents, both national and Virginia-specific, have enumerated and described substance abuse issues and their impact in Virginia. Data from the National Survey on Drug Use and Health, covering 2008-2010, indicate that 1,889,941 Virginians (23.21 percent) age 12 and older have participated in an episode of binge drinking (consuming at least five drinks on one occasion). Data also show that 376,648 Virginians (4.6 percent) used pain relievers for a nonmedical use, and 774,383 (9.46 percent) met clinical criteria for either dependence or abuse of illicit drugs or alcohol. Regarding unmet need for treatment, 542,533 Virginians (6.42 percent) age 12 years old or older needed, but did not receive, treatment for alcohol use in the past year. Also, 175,452 Virginians (2.18 percent) needed, but did not receive, treatment for illicit drug use in the past year.

The Virginia Department of Health's (VDH) Office of the Chief Medical Examiner's Annual Report provides information about mortality related to substance use, including the misuse of prescription pain medication. The number of deaths caused by drugs increased 42.7 percent between 2003 and 2012 (from 564 in 2003 to 805 in 2012). In 2011, 53.8 percent of these deaths were due to prescription drugs. Overall, data indicate a decrease in prescription drug-related deaths coupled with an increase in illicit drug-related deaths.

LEGISLATION RELATED TO SUBSTANCE ABUSE

Each year, council members are briefed on legislation related to substance abuse that is considered by the General Assembly. Members reviewed a summary of enacted bills from the

2014 session most relevant to the work of the council. Council members were also briefed on House Bill 684 (Marijuana; prescribing, dispensing, etc., as medicine), which did not pass. The bill was written to repeal the ability of doctors to prescribe, pharmacists to dispense pursuant to a valid prescription, and persons to possess pursuant to a valid prescription, marijuana for the treatment of cancer or glaucoma. The *Code of Virginia* already provides prescribers with the option of prescribing marijuana; however, since marijuana is not approved by the U.S. Food and Drug Administration (FDA), no Virginia prescribers are prescribing marijuana.

REPORT ON COUNCIL ACTIVITIES

During 2014, the Substance Abuse Services Council heard presentations on several national and state issues related to substance abuse.

The 11th Reduce Tobacco Use Conference 2014: Highlights and History

MR. HENRY HARPER, DIRECTOR OF COMMUNITY OUTREACH AND DEVELOPMENT FOR THE VIRGINIA FOUNDATION FOR HEALTHY YOUTH (VFHY), reported on the 11th Reduce Tobacco Use Conference, which was co-hosted by VFHY. The conference featured presentations from leading experts about the latest in tobacco use prevention, reduction, and cessation with youth and young adults. A highlight of the conference was the U.S. Surgeon General's report on the 50th Anniversary of the first Surgeon General's report on smoking and health. Even with the progress that has been made in 50 years, tobacco continues to be the leading cause of preventable death in the U.S. The goal of the U.S. Centers for Disease Control and Prevention is to make the next generation tobacco free.

Mr. Harper also provided highlights from presentations by other speakers at the conference on electronic cigarettes and other products containing nicotine. These products are not being regulated currently because they do not have tobacco in them; however, they do contain nicotine. The products are being marketed to youth by adding flavor and could be a gateway to real cigarettes. Currently more than 10 percent of high school students nationwide are using e-cigarettes and sales are projected to be as high as $2 billion this year. Research about using e-cigarettes as a means of cessation is not conclusive. Mr. Harper noted that the smoking rate has dropped from 46 percent to 18 percent since 1964, and that the ultimate goal is to make the next generation tobacco free.

Department of Education Report: 2011-2013 Virginia Adolescent Substance Use: Perception, Use, Discipline and Now What?

MS. JO ANN BURKHOLDER, COORDINATOR OF STUDENT ASSISTANCE SYSTEMS FOR THE VIRGINIA DEPARTMENT OF EDUCATION (VDOE), provided information on VDOE's substance use prevention and intervention efforts, the results of the 2013 Virginia Youth Survey substance use questions, and the school-based tobacco and substance use student code of conduct violations for the 2011-2012 school year.

Current Efforts

- Currently, the *Board of Education 2012-2017 Comprehensive Plan,* Goal Seven, focuses on supporting a safe and secure school environment through ongoing collaborations with other state agencies to provide resources and strategies for schools to prevent drug and alcohol abuse.
- The *Virginia Administrative Code 8VAC20-320-10, Health Education Program,* directs the VDOE to provide instruction related to alcohol and drug abuse, smoking, and health in kindergarten through tenth grades.
- The Virginia Board of Education *Student Code of Conduct Policy Guidelines* (2013) is updated regularly to include current legislation. The VDOE collects student code of conduct violations from every Virginia Public School Division. Schools report violations according to ten different substance use offenses. Data may be viewed through the Safe School Information interactive web based program located on the VDOE Web site. These data are cited in the publication of the VDOE *Annual Discipline, Crime and Violence Report*.
- The VDOE manual for *Student Assistance Programming: Creating Positive Conditions for Learning (2013)* (SAP) aligns with the multi-tiered systems framework (Positive Behavioral Intervention Supports/Virginia Tiered Systems of Support currently being implemented in school divisions). The SAP integrates substance use prevention, early identification and intervention for students in need and their families through collaborative efforts with community service providers.
- The VDOE supported the Virginia Department of Health in conducting the 2011 and 2013 *Virginia Youth Survey*. The 2013 survey results are representative of all students in grades nine through 12. Students answered questions related to tobacco, substance use behaviors and perception of harm.

Data

Virginia ranks 12th in the nation in population and number of children and youth ages three through 21. In the fall of 2013, Virginia served a student population of 1,273,211 with 376,699 students in grades nine through 12. Virginia is a diverse state with 41 percent of all children from traditionally under-represented populations (African-American/Black, 24 percent; Hispanic/Latino, 11 percent; Asian/Pacific Islander, six percent). Nearly 40 percent of Virginia students qualify for free and reduced lunches. There are 132 public school divisions, with approximately 312 schools serving students in grades 9-12.

The *Virginia Youth Survey* was completed by 6,935 high school students in 116 public schools in the spring of 2011 and in the fall of 2013. The school-based survey is anonymous and voluntary. The survey contains 96 questions, and measures various behaviors including: (1) behaviors related to injuries and violence; (2) tobacco use; (3) alcohol and other drug use; (4) dietary behaviors; and (5) physical activity. The survey results are representative of the 376,699 students in grades 9-12 enrolled in public schools in the fall 2013.

Survey question results	Percent		2013
	2011	2013	Actual number of students represented (376,699 total student count/Fall 2013)
Tobacco Use Among students who reported current cigarette use, the percentage who smoked more than 10 cigarettes per day on the days they smoked during the past 30 days	10.7	12.0	45,203
Alcohol Use Among students who drove a car or other vehicle during the past 30 days, the percentage who drove when they had been drinking alcohol one or more times during the past 30 days	5.7	6.5	24,485
Among students who reported current alcohol use, the percentage who usually got the alcohol they drank from someone who gave it to them during the past 30 days	40.7	43.8	164,995
Marijuana Percentage of students who used marijuana one or more times during their life	31.9	32.1	120,920
Other Drugs and Steroids Percentage of students who used any form of cocaine, including power, crack, or freebase one more times during their life	5.6	5.7	21,471
Percentage of students who reported using ecstasy one or more times during their life	6.4	6.6	24,862
Percentage of students who reported using heroin one or more times during their life	3.4	3.9	14,691
Percentage students who reported using a needle to inject any illegal drug into their body one or more times during their life	2.5	3.5	13,184
Percentage of students who reported using methamphetamines one or more times during their life	4.0	4.1	15,444
Percentage of students who took steroid pills or shots without a doctor's prescription one or more times during their life	2.9	3.7	13,937
Percentage of students who have taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription one or more times during their life	15.6	15.9	59,895

VDOE collects reports of student tobacco, alcohol and other drug violations annually from each school. The information is used to produce the *Annual Discipline, Crime and Violence Report*. In the 2011-2012 school year, 9,054 violations were reported for tobacco, alcohol, inhalant and other drugs, including non-prescribed medications, for high school students.

Short-term suspension from school (1-10 days) was the most frequently used discipline for alcohol (76 percent) and tobacco (66 percent) violations. The discipline for all other drug offenses most frequently used was modified expulsion (55 percent). A modified expulsion is used when there is enough evidence to expel a student from regular school attendance but the school board and/or the school division superintendent provides an alternative discipline in lieu of expulsion.

School divisions struggle to provide students and their parents with supports to intervene with substance abuse problems. Discipline alone will not thwart the potential harm caused by substance abuse to a student's academic career, or the potential lifelong consequences it may bring.

Considering Marijuana Policy-Part I

The following presentations were followed by discussion among panel members and the council.

NASSIMA AIT-DAOUD TIOURIRINE, MD, ASSOCIATE PROFESSOR, PSYCHIATRY AND NEUROBEHAVIORAL SCIENCES, UNIVERSITY OF VIRGINIA

Dr. Ait-Daoud presented evidence-based information on the health effects of marijuana use. She explained the terminology (cannabis v. marijuana) and noted that the agreed international term is "cannabis." Cannabis Sativa (plant) has 480 natural components; 66 of them are classified as cannabinoids. The component *delta -9-tetrahydrocannabinol* (Δ9-THC) has the psychoactive effect that makes people "high." Cannabidiol (CBD), another component of the plant, may block some of the THC effect. Through the years, the concentration of THC in marijuana has varied and the potency has markedly increased (from 1 percent to a current level of 13 percent).

Adolescents who use marijuana are at particular risk of dependence and cognitive impairment as their brains are still developing. These impairments, which can be permanent, include poor decision-making, impaired attention, impaired memory, decreased inhibition, and loss of intellectual functioning. Such impairments may lead to poor academic performance and increased risk of dropping out of school.

Data indicate the potential therapeutic value for cannabinoids to address pain, nausea and vomiting and to stimulate appetite. The effects on symptoms are generally modest, and, in most cases, there are more effective medications. The data on the adverse effects of marijuana are more extensive. Marijuana is known to cause respiratory disease. Also, it has more ammonia than tobacco smoke, and contains more hydrogen, cyanide, tar, and benzene. Data do not yet show a direct link between marijuana smoke and cancer but that is likely to change in the future. Pure THC-based drugs are already FDA approved.

Dr. Ait-Daoud summarized the following critical points from her discussion:

- The role of marijuana in addiction: There is strong evidence suggesting that marijuana causes dependence and addiction in chronic users (9 percent overall or 2.7 million; 17 percent of those who began their marijuana use in adolescence).
- Cannabis use and risk of psychotic or affective mental health outcomes: There is strong evidence consistent with the view that cannabis increases risk of psychotic outcomes (risk for developing or precipitating a psychosis, such as schizophrenia).
- There is less evidence that marijuana increases risks of affective outcomes (depression and mood disorders).
- Cannabis and cognitive impairment and effect on brain development: Cognitive impairment with lower intellectual functioning was identified among those who were

frequent users during adolescence. The natural cannabinoid system plays an important role in synapse formation (connection between cells in the brain) during brain development. Marijuana use during adolescence and young adulthood affects the cannabinoid system and was shown to have a negative effect on the functional connectivity of the brain. This connection may help to explain the finding of an association between the frequent use of marijuana from adolescence into adulthood and significant declines in intellectual functioning later in life.

- THC has immunosuppressive effects which may be beneficial or detrimental. THC was found to induce cell death in different types of cancer cells that have cannabinoid receptors. However, it can lead to enhanced growth of tumors that express low to undetectable levels of cannabinoid receptors by specifically suppressing the antitumor immune response. All of these studies have been done in vitro and therefore little is known about the immune effects of chronic low- dose exposure to cannabis.
- Evidence data indicate a potential therapeutic value for cannabis and cannabinoid drugs for symptoms such as pain relief, control of nausea and vomiting, and appetite stimulation. Nabilone (Cesamet) and levonantradol, FDA-approved drugs that contain cannabis-like components, were tested in various settings, and the results were similar to those with THC while providing greater safety regarding dosing and regulations.
- Evidence data indicate a potential therapeutic value for CBD to treat a severe form of epilepsy or seizure. While there are cannabis plants with different concentrations of CBD versus THC, there is no plant that has only CBD without the THC. There is now a product candidate that contains plant-derived Cannabidiol (CBD) as its active ingredient for use in treating children with drug-resistant epilepsy syndrome. It contains a highly purified extract of CBD, a non-psychoactive molecule from the cannabis plant. Seven "expanded access" Investigational New Drugs (INDs) have been granted by the FDA to U.S. clinicians to allow treatment with Epidiolex of approximately 125 children with epilepsy to collect data on efficacy and safety.

Dr. Ait-Daoud noted that there are many FDA-approved medications made from the different ingredients of the poppy plant. The use of these medications is well regulated. She stated that scientific evidence to-date is not sufficient for the marijuana plant to gain FDA approval, for two main reasons:

1. A substance must have well-defined and measureable ingredients that are consistent from one unit (such as a pill or injection) to the next; cannabis has 100 variable compounds with different actions and many plants with different strengths. Of note, pure THC-based drugs are already FDA-approved and prescribed (Dronabinol (Marinol®) and Nabilone (Cesamet®) for nausea and pain associated with cancer chemotherapy and for stimulating appetite in patients with wasting syndrome; and
2. Not enough clinical trials have been conducted to do a rigorous testing of marijuana's effects using quantifiable doses of each cannabinoid component.

PARHAM JABERI, MD, MPH, DIRECTOR, CHESTERFIELD HEALTH DISTRICT, VDH

Dr. Jaberi discussed the public health impact of medical marijuana and presented evidence related to marijuana and its legalization. He noted that: (1) marijuana is the most common first illicit drug used and is considered a "gateway drug"; (2) marijuana is a drug which is now being presented as a medicine; and (3) medicine is regulated by the U.S. Food and Drug Administration (FDA) and dispensed by professionally trained individuals in regulated settings. In addition he stated the following: (1) In states that permit medical marijuana, an individual can defend himself against criminal charges of marijuana possession if he can prove a medical need for marijuana under state law; (2) Decriminalization of marijuana repeals or amends statutes so that acts that were previously criminal are no longer subject to prosecution; and (3) Legalizing marijuana creates laws that make possession and use of marijuana legal under state law.

Concerning public health, it is possible that a very small percentage of individuals can and actually do benefit from marijuana use when there are absolutely no other medications available. The FDA has an established legal process for the legitimate use of a substance for the treatment of a medical condition. No safe dose has been established. Also, it is not known how it may interact with other medications, what its impacts are on other disease conditions, and what its side effects are long-term. Currently, professional medical and health organizations are opposed to medical marijuana, including the American Medical Association, the American Society for Addiction Medicine, the American Cancer Society, the American Glaucoma Society, the American Academy of Pediatrics, the National Multiple Sclerosis Society, and the Association for Addiction Professionals.

If marijuana is to be used as a medicine, it should go through the same systematic FDA standards for approval and use as all other medications used in the U.S. Currently the federal Drug Enforcement Administration classifies marijuana as a Schedule I drug, which means it has no accepted medical use in the U.S., is not safe for use, and has a high potential for abuse. There are already other FDA medications that mimic the active component (Delta-9-THC).

Dr. Jaberi likened the current situation created by increased use of opiate medications for pain as a possible scenario for what can happen if marijuana were medicalized. As a result of opiate-based pain medications becoming more accessible, drug overdose deaths now lead all causes of mortality for 25-64-year-olds, and, in 2011, surpassed deaths due to motor vehicle crash deaths. Also, smoking marijuana is harmful to the respiratory system. It has 20 times the level of ammonia compared to tobacco and has three to five times the level of hydrogen cyanide, nitric oxide and certain aromatic animes. It is logical to conclude that marijuana can increase cancer risk. Increased access to marijuana would likely have a negative impact on other public health considerations, such as anti-tobacco smoking efforts and increased obesity, as well as educational achievement, public safety and workforce safety. Economic impact and tax revenues for medical marijuana are not fully known.

Decriminalization or legalization of marijuana could affect those already addicted and lead to new users. A recently released United Nations report indicates that for every 10% decline in the price of a drug, there are 3% more users. Medicalizing marijuana would increase social acceptability and availability, and would decrease perceived risk. Currently reported increases in marijuana use by youth may be due to a lower perception of harm than in the past. States that have legalized medical marijuana report increased use at high rates among 12-17-year-olds.

In summary, Dr. Jaberi noted:

- There is a lack of scientific evidence that marijuana in its raw form can be used safely and effectively as a treatment modality. For most conditions where marijuana use has been suggested, there are FDA-approved medications and standardized treatments that are equally if not more effective than marijuana.
- The medical and public health community encourages additional research into the potential benefits derived from the active components of the cannabis sativa plant.
- Marijuana in its raw form is not approved by the FDA. Without determining the most basic requirements for any medication such as dose, frequency, and duration of use, we may be subjecting users to greater harms than realized.
- While marijuana may be less addictive than illicit drugs or alcohol, nearly 9 percent of adults and 17 percent of teens that use marijuana regularly will become addicted. In addition, there is a negative impact on learning, attention, memory, motivation, as well as increased risks of injury after use.
- An increase in the availability and acceptability of marijuana, even if limited to medicinal purposes, will lead to increased rates of use, misuse, and addiction in our communities. Thus, additional resources will need to be allocated to address public health and safety concerns as well as prevention and treatment services.
- Public health lessons learned from the tobacco and alcohol industry as well as strategies used to address the prescription drug abuse epidemic may be applicable.

MELLIE RANDALL, DIRECTOR, OFFICE OF SUBSTANCE ABUSE SERVICES, DBHDS

MS. Randall discussed medical marijuana and the impact of its potential legalization on Virginia's publicly-funded treatment system. She reviewed Virginia-specific information from the National Survey on Drug Use and Health, a survey conducted annually by the U.S. Substance Abuse and Mental Health Services Administration. The state level analysis is based on data that were collected in 2008 and 2009. The data are self-reported. Looking at marijuana use in the year prior to the survey, the proportion of Virginians using marijuana lags a little behind the nation for most age groups except 12-17-year-olds, where the rate is a little higher. This is of great concern when looking at the impact of marijuana on adolescents.

Calculating the percentages using Virginia's population for 2013 for each age group: age 12+, almost 760,000 used marijuana; age 12-17, almost 84,000 used marijuana; age18-25, over 270,000 used marijuana; and 26+, just over 400,000 used marijuana in the last year. The rates of use of marijuana in the month prior to the survey are lower than the past year and lower than the rate for the nation. Rates of use of marijuana in the month prior to the survey compared to use of other illicit drugs for U.S. and in Virginia indicate that marijuana is the most popularly used illicit drug in the nation and in Virginia. It is a fairly safe assumption that if a person is using any illicit drug, they are also using marijuana. Among those needing but not receiving treatment for illicit drug use in the past year, 18-25-year-olds have the biggest spike when compared to the rest of the nation.

Ms. Randall provided an overview of how marijuana use impacts those currently receiving services through Virginia's publicly-funded treatment. Over a period of five years, about half of the individuals who received substance abuse treatment services were treated for marijuana abuse or

addiction, a trend that is increasing. She discussed several hypotheses about the impact of medicalizing marijuana:

- Since increased exposure to a drug results in increased rates of addiction, increased exposure to marijuana will likely result in more people being addicted to marijuana.
- If marijuana becomes more available and more acceptable, individuals will delay seeking treatment.
- Since there is a known relationship between the use of marijuana and psychosis in certain susceptible individuals, more individuals will develop co-occurring mental illness in addition to marijuana addiction.
- Early in recovery from addiction, individuals often have difficulty accepting that marijuana is a drug, because it is already so available and it is "natural," and this leads to relapse. If marijuana is even more available and accepted, relapse will occur more often.

Ms. Randall recommended that treatment programs be encouraged to take marijuana use very seriously, and that statewide public awareness campaigns be expanded.

REGINA WHITSETT, EXECUTIVE DIRECTOR, SUBSTANCE ABUSE FREE ENVIRONMENT (SAFE) OF CHESTERFIELD COUNTY

Ms. Whitsett discussed marijuana's impact on the community. SAFE's mission is to engage the community in working together to prevent and reduce substance abuse. SAFE has several taskforces: The Central Virginia Marijuana Taskforce; PULP (Proper Use of Legal Products) Taskforce; The Tobacco Taskforce; and the Underage Drinking Taskforce. Marijuana affects many areas of the community, including youth health, safety and educational achievement; business; public safety and public health.

SAFE conducts a survey of Chesterfield County youth every two years. In 2012, survey results indicated that more youth were using marijuana than cigarettes, and that marijuana was easier to get than cigarettes. Ms. Whitsett also presented information about the impact of the change in marijuana laws in Colorado. The national average youth use was 7.55 percent for marijuana use, but for Colorado, the average youth use was 10.47 percent. Colorado was fourth in the nation for current marijuana use, which is 39 percent higher than the national average. Data indicate that school suspensions and expulsions have increased during the period of time that marijuana has been more available in Colorado. In Denver, 74 percent of youth under age 18 who are receiving substance abuse treatment report receiving marijuana from someone who possessed a medical marijuana card. Buying marijuana through dispensaries is less expensive than purchasing it from a street dealer.

A survey of youth conducted by the Partnership for Drug Free America indicates that youth report that "if marijuana were legal," they would be more likely to use it. A recently published long-term study that followed individuals from adolescence into adulthood (38 years of age) indicated a reduction in IQ of eight points for individuals who started using marijuana in adolescence and continued using it into adulthood. The supply of edible marijuana products increases when marijuana is "medicalized" or legalized, making marijuana more accessible and appealing to children.

In addition, marijuana use impacts business and workplace productivity. Employees who use drugs are ten times more likely to miss work, 3.6 times more likely to be involved in on-the-job incidents, and 5 times more likely to file a worker's compensation claim. Since regular users cannot pass drug tests, they are less employable. Medicalization of marijuana may make it possible for employees to sue if they are dismissed for a positive drug test involving marijuana if it has been prescribed.

Considering Marijuana Policy-Part II

The following presentations were followed by discussion among panel members and the council.

MALIK BURNETT, MD, M.B.A., POLICY MANAGER, OFFICE OF NATIONAL AFFAIRS, DRUG POLICY ALLIANCE

Dr. Burnett discussed the medical components of cannabis (marijuana), the history of cannabis use in medicine, methods of consumption, physiology, therapeutic uses of cannabis, and related public health implications. He noted that there are three different types of cannabis: 1) Cannabis Indica, which is predominantly used in a medical setting to provide relief for people with chronic pain; 2) Cannabis Sativa, which is the psycho-active derivative that is used for appetite stimulation and nausea relief; and 3) Cannabis Ruderalis, which is not used in medicine. Cannabinoids are the active ingredients in Cannabis. The two most familiar are tetrahydrocannabiniol (THC) and cannabidiol (CBD).

Dr. Burnett noted that there are four major methods of marijuana consumption: inhalation, oral digestion, oral-mucosal/sublingual, and topical application. With inhalation, there are two different methods: smoking and vaporization. The onset of action is 5-15 minutes and lasts a maximum of one hour. This is the preferred method for people who want relief from pain because it is the shortest time to onset of action. For oral digestion, marijuana can be infused into foods and beverages. Oral options are important for individuals (e.g., those with lung cancer) who have difficulty inhaling marijuana. The onset of action for oral digestion is 30-45 minutes and the maximum effect takes 2-3 hours. For people who want to medicate early in the day for relief throughout the day, oral consumption is the best option. In oral-mucosal/ sublingual administration, blood vessels under the tongue put cannabinoids into the blood stream quickly. The onset of action is 30 minutes to an hour, with maximum effect in 1-2 hours. The medication can be sprayed under the tongue or used as a lozenge that is held under the tongue to get the medication into the system. With the topical method of consumption, cannabinoids are diffused through the skin by other products that are found in the cannabis plant. Topical cannabinoids are used for local pain relief (e.g., for arthritis). The onset of action is 20-30 minutes and the duration can be 1-2 hours for balms and creams or 1-2 days for transdermal patches.

Dr. Burnett reviewed the physiology of cannabis consumption. Cannabinoids are highly lipid and soluble and are stored in the fat cells of the body. This causes a person to have a positive urine drug screen for approximately 30 days after consumption. Cannabis is processed through the liver and has very few drug interactions. Some of the major side effects of cannabis include mild increase in heart rate, dry mouth, red eyes, anxiety and increased appetite. Dr. Burnett stated that cannabis provides relief for persons with HIV/AIDS, ALS, MS, Hepatitis C, Parkinson's, and cancer.

Dr. Burnett discussed some of the associated public health implications, including teen use, perception of risk, and ease of obtaining marijuana. He stated that with regulatory frameworks, legal access can be limited to adults over the age of 21. In addition, he stated that states that have reformed their marijuana laws have experienced a 25 percent decrease in deaths from prescription pain killers.

RACHELLE YEUNG, J.D., LEGISLATIVE ANALYST, MARIJUANA POLICY PROJECT

Ms. Yeung discussed the legal aspects surrounding medical use of marijuana in Virginia. According to the *Code of Virginia* (§ 18.2-250.1. Possession of marijuana unlawful), the possession of a single joint is currently punishable by up to 30 days in jail and a $500 fine. In Virginia, medical use of marijuana with a doctor's prescription has been legal since 1979. The *Code of Virginia* (§ 18.2-251.1. Possession or distribution of marijuana for medical purposes permitted) states that "no person shall be prosecuted for the possession of marijuana or tetrahydrocannabinol when that possession occurs pursuant to a valid prescription issued by a medical doctor in the course of his professional practice for treatment of cancer or glaucoma." The key word in this law is "prescription." Physicians are required to have federal licenses to prescribe controlled substances. Physicians cannot prescribe a Schedule I controlled substance because the federal government deems it to have no medical use. Prescribing such a substance would put physicians' licenses at risk, which is why this law was never implemented. In other states, current medical marijuana laws use the word "recommendation" rather than "prescription."

At the federal level, nothing in the law prevents states from removing state criminal penalties for the medical use of marijuana. Nothing in the U.S. Constitution or federal law prohibits states from enacting penalties that differ from federal law. In 1996, California became the first state to legalize medical marijuana. In 2002, a federal circuit court found that the First Amendment right to free speech protects a physician's ability to "recommend" medical marijuana. In 2013, the Department of Justice issued the "Cole Memo" which listed eight enforcement priorities related to state laws regarding marijuana (both medical and recreational). The Cole Memo states that the Department of Justice will not interfere in states with "strong and effective regulatory and enforcement systems." As recently as May of this year, the U.S. House of Representatives voted to block the DEA from spending funds to interfere with state medical marijuana programs.

Ms. Yeung provided an overview of state medical marijuana laws. Since 1996, 23 states and the District of Columbia have enacted medical marijuana laws. In each state, a doctor's recommendation or certification is required for a patient to qualify. In all but three states, a patient must have a specific serious medical condition or symptom to qualify. The law requires physicians to issue constitutionally protected "recommendations" rather than "prescriptions." Most states do not allow medical marijuana to be smoked in public or possessed in correctional facilities. Employers do not have to allow job-site marijuana use or allow employees to work while impaired. Most states specify that insurance is not required to cover the costs of medical marijuana. The District of Columbia and 17 states allow for state regulated dispensaries.

Ms. Yeung discussed decriminalization as another form of marijuana policy reform. Nineteen states have decriminalized marijuana, replacing criminal penalties with civil fines. According to a recent ACLU report, every 28 minutes someone in Virginia is arrested for simple possession of

marijuana. African-Americans are nearly three times more likely to be arrested than white individuals. In 2010, Virginia spent $67 million enforcing marijuana laws. A conviction or even the record of an arrest, without being found guilty of any crime, can lead to a lifetime of collateral consequences in such areas as education, financial aid, employment, professional licenses and housing. More than 107 million Americans have tried marijuana; but, due to discriminatory enforcement, these collateral consequences disproportionately affect minority communities. Nineteen states have replaced criminal penalties with fines. A 1999 report by the Institute of Medicine shows that the severity of the penalties does not affect marijuana use.

JAHAN MARCU, PH.D., SENIOR SCIENTIST, AMERICANS FOR SAFE ACCESS, D.C. AND RESEARCH AND DEVELOPMENT DIRECTOR, GREEN STANDARD DIAGNOSTICS

Dr. Marcu stated that there has been a great deal of research on cannabis and cannabinoids. In 2014, for example, there were at least 1,566 studies on the topic. Dr. Marcu discussed the Endocannabinoid System (ECS), which is an indigenous system in the body consisting of endocannabinoids, cannabinoid receptors, and enzymes for synthesis and catabolism. These systems help us to eat, sleep, relax, forget and protect. Clinical endocannabinoid deficiency syndrome is a condition which can be treated by cannabis. This system regulates the number of proteins, how well those proteins function, and the drugs available in your body to activate them. Dr. Marcu cited a New Zealand study that examined the long term use and side effects of cannabis use. To be included in the study, participants had to be current users, under the age of 30, and have used cannabis a minimum of 5,000 times. The study found that participants were impaired in some memory tests and cognitive functions; but, in a battery of performance tests, all measureable differences went back to baseline 30 days after abstinence.

CONCLUSION AND RECOMMENDATION

At the council's final meeting of 2014, members reviewed and discussed the information provided in the presentations on issues related to marijuana, particularly medical marijuana, and analyzed the potential impacts of its legalization on Virginia. Members reviewed the research, as well as the multiple viewpoints presented, and agreed that further in-depth study of the potential impacts of marijuana on the Commonwealth and its citizens should be conducted. Accordingly, the council agreed to send a letter to the Governor and General Assembly recommending that such a study be undertaken and that results of the study should be reported by December 1, 2015.

APPENDICES

§ 2.2-2696. Substance Abuse Services Council

A. The Substance Abuse Services Council (the Council) is established as an advisory council, within the meaning of § 2.2-2100, in the executive branch of state government. The purpose of the Council is to advise and make recommendations to the Governor, the General Assembly, and the State Board of Behavioral Health and Developmental Services on broad policies and goals and on the coordination of the Commonwealth's public and private efforts

to control substance abuse, as defined in § 37.2-100.

B. The Council shall consist of 30 members. Four members of the House of Delegates shall be appointed by the Speaker of the House of Delegates, in accordance with the principles of proportional representation contained in the Rules of the House of Delegates, and two members of the Senate shall be appointed by the Senate Committee on Rules. The Governor shall appoint one member representing the Virginia Sheriffs' Association, one member representing the Virginia Drug Courts Association, one member representing the Substance Abuse Certification Alliance of Virginia, two members representing the Virginia Association of Community Services Boards, and two members representing statewide consumer and advocacy organizations. The Council shall also include the Commissioner of Behavioral Health and Developmental Services; the Commissioner of Health; the Commissioner of the Department of Motor Vehicles; the Superintendent of Public Instruction; the Directors of the Departments of Juvenile Justice, Corrections, Criminal Justice Services, Medical Assistance Services, and Social Services; the Chief Operating Officer of the Department of Alcoholic Beverage Control; the Executive Director of the Governor's Office for Substance Abuse Prevention or his designee; the Executive Director of the Virginia Foundation for Healthy Youth or his designee; the Executive Director of the Commission on the Virginia Alcohol Safety Action Program or his designee; and the chairs or their designees of the Virginia Association of Drug and Alcohol Programs, the Virginia Association of Alcoholism and Drug Abuse Counselors, and the Substance Abuse Council and the Prevention Task Force of the Virginia Association of Community Services Boards.

C. Appointments of legislative members and heads of agencies or representatives of organizations shall be for terms consistent with their terms of office. Beginning July 1, 2011, the Governor's appointments of the seven non-legislative citizen members shall be staggered as follows: two members for a term of one year, three members for a term of two years, and two members for a term of three years. Thereafter, appointments of non-legislative members shall be for terms of three years, except an appointment to fill a vacancy, which shall be for the unexpired term. The Governor shall appoint a chairman from among the members for a two-year term. No member shall be eligible to serve more than two consecutive terms as chairman. No person shall be eligible to serve more than two successive terms, provided that a person appointed to fill a vacancy may serve two full successive terms.

D. The Council shall meet at least four times annually and more often if deemed necessary or advisable by the chairman.

E. Members of the Council shall receive no compensation for their services but shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825. Funding for the cost of expenses shall be provided by the Department of Behavioral Health and Developmental Services.

F. The duties of the Council shall be:

1. To recommend policies and goals to the Governor, the General Assembly, and the State Board of Behavioral Health and Developmental Services;

2. To coordinate agency programs and activities, to prevent duplication of functions, and to combine all agency plans into a comprehensive interagency state plan for substance abuse services;

3. To review and comment on annual state agency budget requests regarding substance abuse and on all applications for state or federal funds or services to be used in substance abuse programs;

4. To define responsibilities among state agencies for various programs for persons with substance abuse and to encourage cooperation among agencies; and

5. To make investigations, issue annual reports to the Governor and the General Assembly, and make recommendations relevant to substance abuse upon the request of the Governor.

B. Staff assistance shall be provided to the Council by the Office of Substance Abuse Services of the Department of Behavioral Health and Developmental Services.

(1976, c. 767, § 37.1-207; 1977, c. 18; 1978, c. 171; 1979, c. 678; 1980, c. 582; 1984, c. 589; 1990, cc. 1, 288, 317; 1998, c. 724; 1999, c. 614; 2005, cc. 713, 716; 2009, cc. 424, 554, 813, 840; 2011,cc. 691,714.)

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