



YARMOUTH TOWN CLERK RE
NOV 24 7:25 PM 12:15

Town of Yarmouth Board of Health
1146 Route 28, South Yarmouth, MA 02664
(508) 398-2231

BOARD OF HEALTH MEETING AGENDA
December 1, 2025 at 5:00 PM

Board of Health

Hillard Boskey, M.D.

Mary Craig

Charles T. Holway

Laurance Venezia DVM

Eric Weston

**Assistant Health
Director**

Barry Lewis

This meeting will be conducted in person at the date, time and location identified above. This means that at least a quorum of the members of the public body will attend the meeting in person and members of the public are welcome to attend in person as well. As a courtesy only, access to the meeting is also being provided via remote means in accordance with applicable law. Please note that while an option for remote attendance and/or participation is being provided as a courtesy to the public, the meeting/hearing will not be suspended or terminated if technological problems interrupt the virtual broadcast or affect remote attendance or participation, unless otherwise required by law. Members of the public with particular interest in any specific item on this agenda, which includes an applicant and its representatives, should make plans for in-person vs. virtual attendance accordingly.

Members of the public who wish to attend the meeting may do so in the following manner:

Phone: 1-253-215-8782 or 1-312-626-6799 and enter the meeting ID (871 1526 3955)

To request to speak: Press *9 and wait to be recognized.

Zoom Webinar:

Join the meeting hosted in Zoom by using the following link: <https://us02web.zoom.us/j/87115263955>

The meeting will be broadcast live, in real time, via a live stream on Yarmouth's YouTube Channel located at the following link: <https://www.youtube.com/channel/UCgQ1QFZevmoqW5Mz2PnWKpA/>

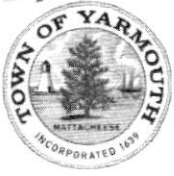
It is recommended that phone participants access materials in advance of the meeting.

Please note that for any item listed below the Board of Health may take official action including votes.

1. Call to order
2. Declaration of a Quorum
3. Public Comment

The open meeting law discourages public bodies from discussing topics not listed on the agenda. The public should therefore not expect the Board to respond to questions or statements made during the Public Comment portion of the meeting.

4. Smoke Detector Awareness & Education – Yarmouth Fire Department
5. Variance– 97 Helmsman Drive, Yarmouth Port, MA
6. Nicotine Free Generation – Discussion
7. Kratom – Discussion
8. Review & Approve Minutes
 - a. November 3, 2025
 - b. December 18, 2023
9. New/Old Business
10. Adjournment



TOWN OF YARMOUTH HEALTH DEPARTMENT VARIANCE/PUBLIC HEARING APPLICATION

RECEIVED
NOV 12 2025
HEALTH DEPT.

☐ NEW CONSTRUCTION/ALTERATIONS/ADDITIONS		☐ SEPTIC SYSTEM FAILURES	☐ VOLUNTARY UPGRADE
☐ VARIANCE (SEPTIC)		☒ VARIANCE (OTHER)	☐ TOXIC/HAZARDOUS MATERIALS
LOCATED IN A ZONE II: ☐ YES ☐ NO			
OWNER'S NAME <u>Nancy O'Connor</u>			
FACILITY STREET ADDRESS <u>97 Belmsen Th. Yarmouthport MA 02673</u>			
MAP #		LOT #	
OWNER'S PHONE # <u>508 280 2033</u>			
EMAIL <u>nancy.oconnor.97@gmail.com</u>			
OWNER'S MAILING ADDRESS <u>same</u>			
APPLICANT/PREPARER'S NAME <u>Nancy O'Connor</u>			
COMPANY			
PHONE #			
EMAIL			
MAILING ADDRESS			
TYPE OF FACILITY			
☒ RESIDENTIAL ☐ COMMERCIAL ☐ EDUCATIONAL ☐ MIXED USE			
DESCRIBE FACILITY (IF MORE SPACE IS REQUIRED, PLEASE ATTACH A SEPARATE SHEET)			
<u>replace garbage disposal - have had for 25+ years with no issue. compost all foods.</u>			
TYPE OF SYSTEM PROPOSED (CHECK ALL THAT APPLY)			
☐ PUMPED SYSTEM ☐ GRAVITY SYSTEM ☐ PRESSURE DOSED ☐ TIGHT TANK ☐ CONVENTIONAL TITLE 5			
☐ I/A SYSTEM ☐ OTHER			
DESCRIBE EXISTING & PROPOSED SYSTEM COMPONENTS (IF MORE SPACE IS REQUIRED, PLEASE ATTACH A SEPARATE SHEET)			

DESIGN FLOW PER 310 CMR 15.203 (IN GALLONS/DAY)		
	EXISTING	PROPOSED
DESIGN FLOW OF SYSTEM		
TOTAL DESIGN FLOW OF FACILITY (IF MORE THAN ONE SYSTEM ON SUBJECTED PROPERTY)		

DESIGN ENGINEER/SANITARIAN _____ PHONE # _____
(DESIGN ENGINEER IS REQUIRED TO ATTEND HEARING AS REPRESENTATIVE)
SIGNATURE Nancy O'Connor DATE 11/12/25
(APPLICANT/OWNER REPRESENTATIVE)

15.222: continued

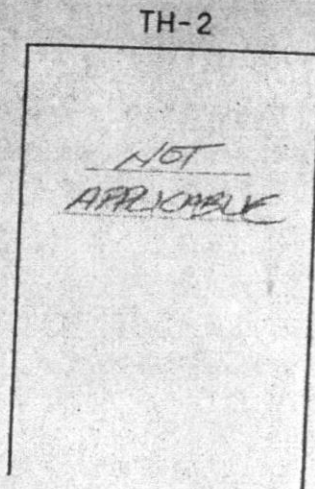
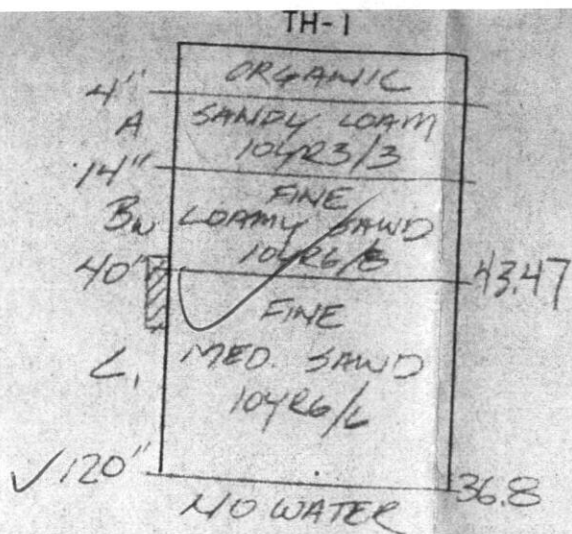
- (7) The building sewer shall be laid on a continuous grade and as nearly as possible in a straight line in accordance with accepted engineering practice.
- (8) Manholes, with metal frames and covers at grade, sweeping bends, or a cleanout accessible at the surface of the ground, shall be provided at the junction of two or more sewers, at all changes in direction or a change in grade of the sewers, and at intervals no greater than 100 feet. All gravity sewer manholes shall have an open channel depth equal to or greater than the diameter of the inlet sewer and the change of direction in each manhole shall not exceed 90°. (Change of direction is the interior angle between the new direction of flow and the projected extension of the original direction of flow.)
- (9) The building sewer shall be vented through the vent stack or main vent of the building served by it. No trap shall be installed in the building sewer or building drain.
- (10) All building sewers shall be constructed in accordance with the State Plumbing Code, 248 CMR 2.00.

15.223: Septic Tanks

- (1) Septic tanks shall have the following capacities:
 - (a) For a single family dwelling unit with a design flow of less than 1,000 gallons per day, a minimum effective liquid capacity of 200% of the design flow or a minimum hydraulic detention flow of 48 hours, whichever is greater, shall be required. In no case shall the effective liquid capacity of the tank as measured below the outlet invert elevation be less than 1,500 gallons.
 - (b) When designed to serve facilities other than a single family dwelling unit or whenever the calculated design flow is 1,000 gallons per day or greater, a two compartment tank or two tanks in series are required. The design of the tanks shall be in accordance with 310 CMR 15.224 for multiple compartment tanks and 310 CMR 15.225 for tanks in series. At a minimum, the total, combined effective liquid capacity of both tanks in series or of the multiple compartment tank shall not be less than 1,500 gallons.
 - (c) When a domestic garbage grinder is proposed or installed, the minimum liquid capacity of the septic tank shall be 200% of the design flow with a minimum tank size of 1,500 gallons and a two compartment tank or two tanks in series shall be required which meet the design criteria specified in 310 CMR 15.223(1)(b). Domestic garbage grinders are prohibited in facilities which include an elevated septic tank constructed in accordance with 310 CMR 15.213 (construction in V-zones).
- (2) The liquid depth of the tank, measured from the outlet tee invert to the tank bottom, shall be a minimum of four feet. A tank with a minimum depth of three feet below the outlet tee invert may be permitted only for upgrade of existing nonconforming or failed systems, pursuant to 310 CMR 15.405 (local upgrade approvals), where installation of a tank with a four foot liquid depth is not feasible and shall be pumped on an annual basis with the results submitted to the Approving Authority.
- (3) Tanks which are rectangular in cross-section shall have a minimum inside length to width ratio of no less than 1.5 to 1. Round tanks may be allowed. The inside length of all tanks, measured from the inlet tee to the outlet tee, shall be a minimum of six feet. The inside width of the tank shall be a minimum of three feet. Larger length to width ratios are preferred.
- (4) Vertical cylindrical tanks shall have a minimum diameter of five feet.
- (5) Horizontal cylindrical tanks shall have a minimum length of six feet and a minimum width at the liquid surface of three feet.

15.224: Multiple Compartment Tanks

Tanks with multiple compartments shall be required as specified in 310 CMR 15.223(1). When multiple compartment tanks are used the following shall be required:



- RE
- 2) TH
 - TH
 - HE
 - PR
 - 3) EX
 - FOR
 - TH
 - 4) M
 - SC
 - 5) D
 - TE
 - 6) EX
 - BE
 - 7) TH
 - UTL
 - DET
 - 8) TH
 - WIS
 - THE
 - PRO

SEPTIC SYSTEM DESIGN

FLOW ESTIMATE

3 BEDROOMS AT 110 GAL/DAY/BEDROOM - 330 GAL/DAY

SEPTIC TANK

330 GAL/DAY x 2 DAYS - 660 GAL

USE 1000 GALLON SEPTIC TANK (EXISTING)

~~GARAGE GRINDER NOT ALLOWED,~~
SOIL ABSORPTION SYSTEM

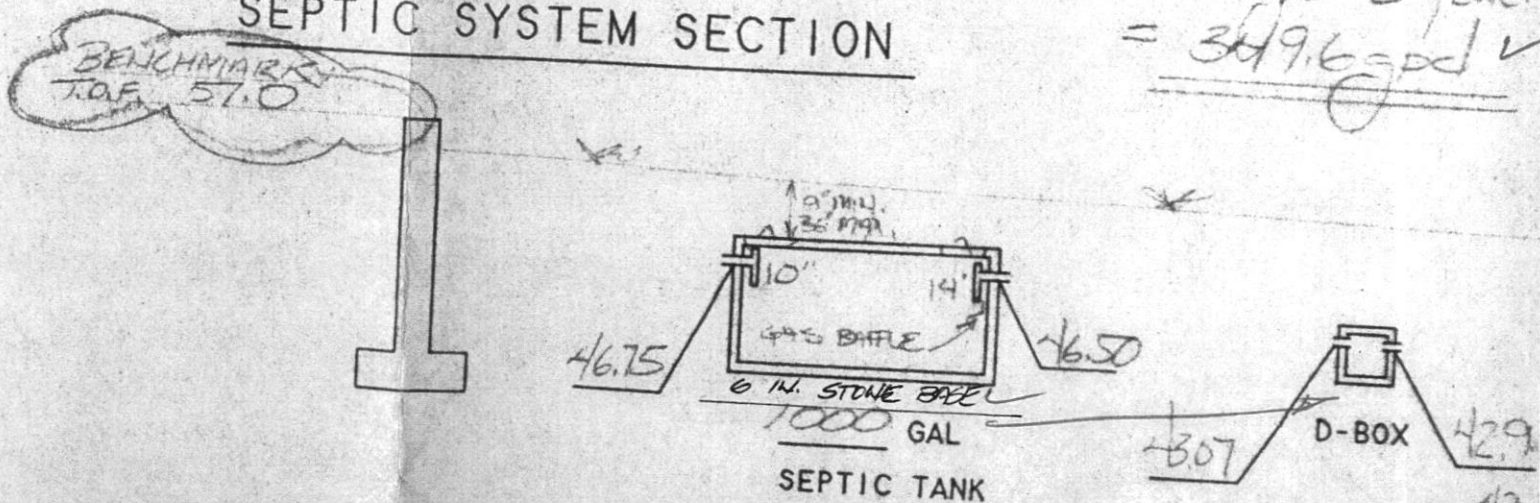
(2) - 38' x 2' x 2' TRENCHES W/
4" SCH 40 PVC PERFORATED PIPE

SIDE AREA: $2 \times (38 + 2) \times 2 \times 0.74 = 118.4$

BOTTOM AREA: $38' \times 2' \times 0.74 = 56.4$

$174.8 \text{ gal} \times 2 \text{ trench}$
 $= 349.6 \text{ gal}$

SEPTIC SYSTEM SECTION



NOT VERIFIED



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Kratom policy: The challenge of balancing therapeutic potential with public safety

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Abstract

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Authors' roles in writing manuscript

Drs. Walter Prozialeck and Darshan Singh conceived the manuscript and wrote the first draft. All of the authors provided significant input into the writing and editing of the manuscript. All authors have approved the final version of the manuscript.

Authors' conflict of interest statement

Drs. Prozialeck, Avery, McCurdy, McMahon, Grundmann and Singh have no potential conflicts of interest to disclose.

Dr. Edward Boyer is a Fulbright Scholar studying the effects of kratom.

Dr. Andrew Kruegel has served as a non-compensated consultant to the American Kratom Association and is a co-inventor on several kratom-related patent applications filed by Columbia University.

Dr. Jack E. Henningfield provides consulting support through Pinney Associates, on the development of abuse potential assessments and regulation of new medicines and formulations for the treatment of pain, addiction, epilepsy, and other central nervous system disorders. He has also served as a consultant for the American Kratom Association (see more at www.pinneyassociates.com).

Kratom (*Mitragyna speciosa*) is a tree-like plant indigenous to Southeast Asia. Its leaves, and the teas brewed from them have long been used by people in that region to stave off fatigue and to manage pain and opioid withdrawal. Evidence suggests kratom is being increasingly used by people in the United States and Europe for the self-management of opioid withdrawal and treatment of pain. Recent studies have confirmed that kratom and its chemical constituents have potentially useful pharmacological actions. However, there have also been increasing numbers of reports of adverse effects resulting from use of kratom products. In August 2016, the US Drug Enforcement Administration announced plans to classify kratom and its mitragynine constituents as Schedule I Controlled Substances, a move that triggered a massive response from pro-kratom advocates. The debate regarding the risks, and benefits and safety of kratom continues to intensify. Kratom proponents tout kratom as a safer and less addictive alternative to opioids for the management of pain and opioid addiction. The anti-kratom faction argues that kratom, itself, is a dangerous and addictive drug that ought to be banned. Given the widespread use of kratom and the extensive media attention it is receiving, it is important for physicians, scientists and policy makers to be knowledgeable about the subject. The purpose of this commentary is to update readers about recent developments and controversies in this rapidly evolving area. All of the authors are engaged in various aspects of kratom research and it is our intention to provide a fair and balanced overview that can form the basis for informed decisions on kratom policy. Our conclusions from these analyses are: (a) User reports and results of preclinical studies in animals strongly suggest that kratom and its main constituent alkaloid, mitragynine may have useful activity in alleviating pain and managing symptoms of opioid withdrawal, even though well-controlled clinical trials have yet to be done. (b) Even though kratom lacks many of the toxicities of classic opioids, there are legitimate concerns about the safety and lack of quality control of purported “kratom” products that are being sold in the US. (c) The issues regarding the safety and efficacy of kratom and its mitragynine constituent can only be resolved by additional research. Classification of the Mitragyna alkaloids as Schedule I controlled substances would substantially impede this important research on kratom.

Keywords

Kratom; Ketum; Mitragynine; Opioid use disorder (OUD); Pain management; Drug policy

Introduction and background

Kratom (also known as ketum in Malaysia) is a tree-like plant (*Mitragyna speciosa*, Korth, *Havil*) native to Thailand, Malaysia, Indonesia and other regions of Southeast Asia. When the plant's leaves are ingested in the form of teas or other extracts/decoctions, kratom leaves produce complex, dose-dependent stimulant and analgesic effects. For generations, indigenous people in Southeast Asia have used kratom to treat common health maladies (e.g. diarrhea, hypertension, cough, fever, etc.), enhance work performance, combat fatigue, alleviate pain, and manage opioid dependence (hereafter referred to as opioid use disorder (OUD)) (Adkins, Boyer, & McCurdy, 2011; Cinosi et al., 2015; Jansen & Prast, 1988; Vicknasingam, Narayanan, Beng, & Mansor, 2010). This suggests that traditional use of kratom has therapeutic potential, or at least that it is used by people seeking improved health and well-being. In considering the uses of kratom, in this commentary we distinguish

traditional use from “therapeutic use”, which in the United States (US) and many countries is defined by whether a substance or product has been officially approved by a regulatory authority such as the US Food and Drug Administration (FDA), typically with reliance upon randomized controlled clinical trials for new drugs. We recognize that kratom has not yet met standards for therapeutic use claims and has not been approved in the US for “therapeutic use”, despite the widespread and growing use of kratom as a self-treatment for a number of disorders, including pain, OUD, and depression or anxiety (Grundmann, 2017). Rather, it is currently marketed and regulated in the US as a food and/or dietary ingredient that is not subject to the same strict regulations that are used for approval of new drugs. Since kratom has not been approved for therapeutic use in the U.S, it cannot legally be advertised as a remedy for any medical condition.

Despite its long history of traditional use in Southeast Asia, kratom has only recently received significant attention as a plant-based remedy in the West. The emergence of kratom as a product of interest in the West, and particularly in the US, is evident from the results of several recent surveys, analyses of online user reports, and reviews of the scientific literature (Prozialeck, 2016; Adkins et al., 2011; Grundmann, 2017; Kruegel & Grundmann, 2018; Pain News Network, 2018; Prozialeck, Jivan, & Andurkar, 2012; Smith & Lawson, 2017; Swogger & Walsh, 2018; Swogger et al., 2015). Results of those analyses yield clear evidence that a large number of individuals in North America and Europe are using kratom products for the self-management of a number of medical conditions, including pain, OUD, anxiety, and depression (Grundmann, 2017). In the US, for example, current estimates from the American Kratom Association suggest that more than 1 million individuals in the USA may be using kratom (American Kratom Association, 2018a), although incidence of use has not been rigorously studied. At the same time, some unscrupulous marketers are promoting kratom as an opioid-like “legal high” (Babu, McCurdy, & Boyer, 2008; Griffin, Daniels, & Gardner, 2016; Rech, Donahey, Cappiello Dziedzic, Oh, & Greenhalgh, 2015; Schmidt, Sharma, Schifano, & Feinmann, 2011). The unregulated sale of kratom via the internet and deceitful marketing practices may have prompted some individuals to use kratom as a recreational drug. This poorly regulated market, wide distribution, and reported risks of toxicity associated with kratom use, are all likely to have encouraged regulatory agencies to suggest the removal of this product from the market.

In the West, a wide variety of kratom products—including raw leaves, capsules, tablets, and concentrated extracts—are available either from Internet-based suppliers or specialty stores commonly known as “head shops”, “vaping shops” or “smoke shops”. (Adkins et al., 2011; Boodman, 2016; Kroll, 2016; Prozialeck et al., 2012), unlike in traditional settings where kratom is usually sold as freshly-brewed teas and decoctions (Singh, Narayanan, & Vicknasingam, 2016). The growth of kratom use in the West parallels increasing concerns about the safety and abuse potential of kratom. The emerging controversies regarding kratom were highlighted in August of 2016, when the US Drug Enforcement Administration (DEA) announced plans to place the main active constituent of kratom, mitragynine, and a structurally related compound, 7-hydroxymitragynine, in Schedule I of the Controlled Substances Act (CSA), using its emergency scheduling authority (DEA, 2016b). This action would have restricted the use of kratom in the US and made it extremely difficult for researchers to investigate the medicinal potential of kratom (Prozialeck, 2016). The DEA’s

proposed action sparked an unprecedented public debate and protest, with thousands of kratom users filing comments in the Federal Register supporting the usefulness of kratom for the self-treatment of chronic pain or OUD without major abuse potential (DEA, 2016a). In response to the intense public outcry, the DEA withdrew its notice of intent to schedule kratom and has placed the final decision on indefinite hold pending an 8-factor analysis by the US FDA (DEA, 2016b, 2016c; Kroll, 2016; Prozialeck, 2016). As of this writing, kratom remains legal throughout most of the US, although a few states, including Alabama, Arkansas, Indiana, Vermont, and Wisconsin, have banned it. On October 17, 2017, the US Department of Health and Human Services asserted in a new letter to the DEA that mitragynine and 7-hydroxymitragynine should be classified as Schedule I controlled substance, a move that would severely restrict kratom use in the United States (Swetlitz, 2018). The details and timeframe for such a policy have yet to be worked out.

With regard to international regulatory agencies, neither kratom, nor any of its alkaloids, are currently listed in the 1961 and 1971 Schedules of the United Nations Drug Conventions, although kratom has been criminalized in Thailand, Malaysia, Myanmar, and Australia, as well as several European nations. Notably, officials in Thailand have thrice considered ending their kratom ban since 2000, citing no known cases of overdose, death, or violence following at least 100 years of traditional use. Kratom-based drugs are currently classified as New Psychoactive Substances (NPS) by the United Nations Office on Drugs and Crime (UNODC), but do not appear on the agency's list of emerging drug threats (UNDOC, 2019). The European Union has taken a position that there is no approved use of kratom or its alkaloids in modern medicine (EMCDDA, 2015).

The legal uncertainty surrounding kratom appears to arise from two opposing narratives. The first is that kratom has potential therapeutic value as a substitute for classical opioids (e.g. morphine, oxycodone, heroin, etc.), providing safer pain management and a novel way for people who have OUD to wean themselves from the more dangerous opioids (Grundmann, Brown, Henningfield, Swogger, & Walsh, 2018; Henningfield, Fant, & Wang, 2018; Ward, Rosenbaum, Hernon, McCurdy, & Boyer, 2011). The second narrative is that kratom is a dangerous and addictive opioid, and therefore, should be classified in Schedule I of the US CSA (Gauvin & Zimmermann, 2018; HHS, 2018).

Given the widespread use of kratom and the extensive media attention it is receiving, physicians, scientists, and policy makers must be knowledgeable about the science of kratom. The purpose of this commentary is to provide an update about recent developments and controversies in this rapidly evolving area from the perspective of scientists who are actively engaged in various aspects of kratom research. In this commentary, we will address several key issues related to the opioid-like effects of kratom, uncertainties about its toxicities and addictive potential, as well as questions about its efficacy in the treatment of pain and OUD.

Should mitragynine and/or other kratom constituents be classified as opioids?

In describing their rationale for scheduling kratom (DEA, 2016b), the DEA emphasized that the mitragynine-type indole alkaloids can interact with opioid receptors and produce some opioid-like effects (Adkins et al., 2011; Kruegel & Grundmann, 2018; Matsumoto et al., 2006; Thongpradichote et al., 1998). In 2018, the FDA went further by publishing the results of its own molecular modeling study suggesting that there were more than 20 substances in kratom that could theoretically interact with opioid receptors (FDA, 2018c). A major short-coming of these molecular modeling studies is that the molecules were never tested to determine if they did, in fact, have opioid agonist activity in living cells or organisms (Grundmann et al., 2018). In considering the active compounds in kratom, it is important to note that the most well-documented pharmacological effects of kratom, namely analgesic activity and attenuation of opioid withdrawal symptoms, can be explained largely by the actions of mitragynine, the primary alkaloid and also the most studied (Kruegel & Grundmann, 2018; Takayama et al., 2002). Other alkaloids are either devoid of known pharmacological activity and/or, like 7-hydroxymitragynine, are present at such low levels as to not be considered factors in kratom effects or toxicity (Adkins et al., 2011; Kruegel & Grundmann, 2018; Takayama et al., 2002; Takayama, 2004). It is also important to note that mitragynine has other pharmacological actions that remain understudied. For example, in preclinical studies, mitragynine has been found to modulate central serotonergic and adrenergic transmission (Matsumoto et al., 1996) and inhibit prostaglandin production (Utar, Majid, Adenan, Jamil, & Lan, 2011). Furthermore, mitragynine has been shown to interact directly with other CNS drug targets, rendering it distinct from classical opioids (Boyer, Babu, Adkins, McCurdy, & Halpern, 2008; Kruegel & Grundmann, 2018). It is also important to note that the functional activity of mitragynine at these targets may vary from agonist to antagonist, but this is yet to be determined.

Most of the scientific evidence on kratom's opioid-like activity is derived from findings in cell and animal studies, where mitragynine has been found to bind to and activate opioid receptors, and induce opioid receptor-dependent analgesic effects (Adkins et al., 2011; Boyer et al., 2008; Kruegel & Grundmann, 2018; Prozialeck et al., 2012; Stolt et al., 2014; Yusoff et al., 2016). While no well-controlled trials of kratom in humans have been conducted, anecdotal reports and larger, carefully conducted surveys have shown that people have used kratom to successfully treat pain and OUD effects (Grundmann, 2017; Swogger & Walsh, 2018), consistent with actions at opioid receptors. In addition, anecdotal reports and commentaries indicate that some effects of kratom in humans, such as mild euphoria, may resemble those of opioid agonist drugs (Singh, Muller, Vicknasingam, & Mansor, 2015, 2016; Vicknasingam et al., 2010), but there is also strong evidence indicating that kratom's effects are distinct from those of classical opioids (Henningfield et al., 2018; Singh, Muller, & Vicknasingam, 2014, 2015, 2016; Vicknasingam et al., 2010). For example, at low to moderate doses, kratom has mild stimulant properties, unlike the sedating effects often exhibited by opioids. In addition, kratom does not seem to produce an intense high or euphoria at typical doses (Cinosi et al., 2015; Erowid, 2016; Prozialeck et al., 2012; speciosa.org, 2016; Wisdom, 2016). The most significant difference from opioids is that,

even at very high doses, kratom is much less likely to depress respiration (to a fatal degree) than classical opioids (Singh, Narayanan et al., 2018, 2016; Varadi et al., 2016). Further, at the molecular level, mitragynine has a chemical structure that is quite different from classical opioids such as morphine, which are mostly derived from the alkaloids of the opium poppy (Adkins et al., 2011; Kruegel & Grundmann, 2018; Prozialeck et al., 2012; Takayama, 2004). Recent studies indicate that even though mitragynine acts on opioid receptors, its over-all molecular actions are quite different from those of classical opioids (Henningfield et al., 2018; Prozialeck et al., 2012). In two recent studies, Varadi et al. (2016) and Kruegel et al. (2016) demonstrated that mitragynine and several related compounds act as G protein-biased agonists at the mu-opioid receptor (MOR). In other words, although they activated G protein-mediated signaling pathways, much like classical opioids, they did not activate the β -arrestin-2 signaling pathway, which has been implicated as a mediator of some opioid-induced side effects, including respiratory depression (Raehal & Bohn, 2014; Schmid et al., 2017). Accordingly, the avoidance of β -arrestin-2 activation may in part explain the apparent respiratory safety of kratom, despite other opioid-like effects. These studies also showed mitragynine to be a partial agonist at MOR, as compared to most classical opioids, which are full agonists. Partial activity is also expected to attenuate the severity of side effects. For example, buprenorphine, a partial agonist at MOR, exhibits a dose ceiling for respiratory depression (Dahan et al., 2005).

Importantly, the improved side effect profile of mitragynine and related compounds has also been supported by preliminary animal studies. An early study with mitragynine demonstrated attenuated respiratory depression and constipation for this compound compared to the classical opioid morphine in several animal species (Macko, Weisbach, & Douglas, 1972). Further, the Varadi study (Varadi et al., 2016) demonstrated in mice that a mitragynine-derived compound, mitragynine pseudoindoxyl, induced marked analgesic effects, but with attenuated respiratory depression, slower development of tolerance, and lower rewarding effects than morphine. Accordingly, both the natural compounds in kratom (e.g. mitragynine) and synthetic derivatives thereof may represent a new class of opioid-acting drugs with an improved window between therapeutic effects and negative side effects.

As a result of its ability to interact with opioid receptors, mitragynine is often referred to as an “opioid”. On the other hand, a large volume of evidence indicates that mitragynine produces physiological, biochemical and behavioral effects that differ from those of classical opioids. Even though some effects of mitragynine may involve partial activation of MOR, mitragynine is able to interact with many other receptors that classical opioids do not bind (Boyer et al., 2008). In light of this evidence, mitragynine and its analogs can best be described as “atypical opioids” (Raffa, Pergolizzi, Taylor, Ossipov, & Group, 2018), and may actually represent a unique class of drugs.

Is kratom effective for the management of pain and/or OUD?

OUD continues to be a growing problem in the US, and the federal government has begun to address the challenge (Frieden & Houry, 2016; Harris, 2016; Nelson, Juurlink, & Perrone, 2015; NIDA, 2018b). Among actions taken by the federal government, the most significant has been the development of new guidelines by the Centers for Disease

Control and Prevention (CDC) for the prescribing of opioids, for non-cancer pain (Dowell, Haegerich, & Chou, 2016). In this environment, physicians are discouraged from prescribing opioids, especially for long-term usage, a strategy that has compelled patients with chronic pain conditions to seek alternatives to prescription opioid analgesics (Anson, 2016; Pain News Network, 2018; Smith & Lawson, 2017; Swogger et al., 2015). In addition, many patients receiving opioids for chronic pain seek alternatives that have fewer side effects and lower addiction potential than opioids (Anson, 2016; Pain News Network, 2018; Smith & Lawson, 2017; Swogger et al., 2015).

Many individuals in the West have turned to kratom in the belief that it may provide an effective and safe alternative to prescription or illicit opioids, a view voiced by peers on psychoactive substance websites such as Erowid.org (Erowid, 2016), SageWisdom.org (Wisdom, 2016), speciosa.org (2016) and Reddit.com/r/kratom (Reddit, 2018). However, kratom has not been evaluated in the types of multi-center, controlled clinical trials that are required by regulatory authorities, such as the US FDA, to conclude that a drug is safe and effective for the treatment of OUD or other indications. Nonetheless, kratom has a long history of such use that is widely accepted in the general population in Southeast Asia, where it is commonly used as an affordable substitute for street heroin or other opioids (Vicknasingam et al., 2010). For example, a study conducted in northern Malaysia used convenience sampling to identify and survey 136 kratom users (99% male) in areas where heavy kratom use was reported (Vicknasingam et al., 2010). Results indicated that 90% of the subjects were using kratom as a substitute for illicit opioids and 84% reported that kratom helped to reduce their dependence on opioids and severity of withdrawal symptoms. Another Malaysian survey (Singh et al., 2015) used snowball sampling to enroll 293 adult males, most of whom were manual laborers who had used kratom for at least six months. Fifty percent indicated that they had used kratom to eliminate addictions to illicit substances, including opioids and cannabis, and/or to relieve withdrawal symptoms. Such use has increasingly been reported in the US through internet surveys of kratom users (Grundmann, 2017; Grundmann et al., 2018; Smith & Lawson, 2017), and in more than 23,000 comments to the DEA and FDA (DEA, 2016a; Henningfield et al., 2018). Thus, even though we do not make the claim that kratom should be viewed as a medically proven effective and safe therapy for OUD, we believe it is warranted to take seriously the extensive user reports and analytical surveillance indicating that many people are self-managing their OUD using kratom. Such information may be considered a form of Real-World Evidence that is taken seriously by users and many scientists and should not be ignored by the FDA which has stated that “Real world data (RWD) and real world evidence (RWE) are playing an increasing role in health care decisions” and is used to make “regulatory” decisions.

The situation is analogous with respect to the management of pain, where kratom has not been approved as an analgesic medicine, but relief of pain is among the more commonly reported uses (Grundmann, 2017; Henningfield et al., 2018; Pain News Network, 2018; Swogger et al., 2015). Caution is warranted in comparing results from these studies, as doing so requires accounting for potential cultural, demographic, and product-related moderators of effects and bias introduced due to research methodology. Nonetheless, the results of observational studies of kratom users in the US converge with case reports and descriptions of traditional kratom use in Southeast Asia to suggest that kratom does have utility as a

substitute for potentially more dangerous classical opioids in treating pain and OUD and should be studied in well-controlled clinical trials for such indications (Henningfield et al., 2018). It is also worth noting that the extensive anecdotal reports of analgesic activity in humans are consistent with the partial agonist activity of mitragynine at MOR and findings in animal models of pain, where mitragynine and kratom extracts exhibit analgesic activity.

With respect to the use of kratom for self-management of OUD, the statements by the US National Institute on Drug Abuse (NIDA) and the FDA are quite distinct. The FDA's position is that kratom use can cause deleterious health risks and that kratom users should turn to approved treatments (FDA, 2018c), despite the reality that many such users have commented to the DEA and FDA that such treatments were not available or acceptable, whereas kratom was accessible and helpful. In contrast, without discouraging or encouraging kratom use, NIDA simply states the facts on its website that kratom (1) is used by people to self-manage withdrawal and OUD and (2) that kratom has not been demonstrated to be safe and effective for pain treatment, in contrast to available opioid medications (NIDA, 2018b).

The many positive user comments on Erowid.org (Erowid, 2016), SageWisdom.org (Wisdom, 2016), Reddit.com/r/kratom (Reddit, 2018) and Speciosa.org (speciosa.org, 2016) comprise an extensive collection of anecdotal data documenting kratom use. Scientific analyses of such user reports clearly indicate that the therapeutic potential of kratom is too large to be ignored (Swogger et al., 2015). The 23,000+ comments submitted to the federal register in response to the DEA's proposed scheduling action also provide a vast collection of anecdotal data suggesting profound therapeutic benefits for kratom (DEA, 2016a). Another piece of evidence suggesting that kratom may have significant therapeutic potential is that US patents have been issued for companies and individuals who are interested in developing kratom-based drugs (Heyworth, 1964; Takayama, Kitajima, Matsumoto, & Horie, 2008). Together, these observations provide evidence that kratom may have potentially useful therapeutic effects, and that well-controlled clinical trials are urgently needed to evaluate the safety and efficacy of kratom and its principal alkaloid mitragynine.

Many kratom advocates have claimed that kratom is a safe and effective alternative to opioids for the treatment of OUD (Erowid, 2016; Singh et al., 2016; Toce, Chai, Burns, & Boyer, 2018). In this context, kratom is analogous to agents such as methadone and buprenorphine, which are widely used as replacement therapies in the treatment of OUD despite the fact that the treatment agents themselves may have significant potential for abuse (Eibl, Morin-Taus, & Marsh, 2016; HHS, 2016; Toce et al., 2018). Kratom (or compounds derived therefrom) may, in fact, have even greater therapeutic potential, especially in light of evidence suggesting that it lacks the severe overdose risk of classical opioid drugs, including methadone (Singh et al., 2014, 2015; Singh et al., 2016; Toce et al., 2018). In fact, more than 3,000 methadone-related fatalities were reported in the US in 2017 (NIDA, 2018a), suggesting that existing FDA-approved therapies for OUD have significant safety shortcomings that might be addressed in part by alternative kratom-based therapies.

How serious are the abuse and addiction potentials of kratom?

Regular use of kratom, particularly at higher doses, can lead to tolerance and dependence (Galbis-Reig, 2016; Singh et al., 2014; Swogger & Walsh, 2018; Yusoff et al., 2016). However, available human reports suggest that abstinence from kratom is typically associated with milder symptomatology than abstinence from classical opioids (Erowid, 2016; Singh, Narayanan et al., 2018, 2014; Singh et al., 2016). At the same time, although these reports indicate that the effects of kratom can, in some ways, resemble those of opioids, many individuals report that the subjective effects of kratom are quite different from those of opioids. As noted previously, low to moderate doses of kratom tend to be somewhat stimulating, rather than sedating, and do not produce the “high” or strong euphoric effects associated with opioids, although some users have reported intoxication and euphoria after using higher doses (Erowid, 2016; Singh et al., 2016; speciosa.org, 2016; Swogger et al., 2015; Wisdom, 2016). This distinct spectrum of effects, including attenuated euphoria and abuse potential, is supported by two recent preclinical studies, which found that mitragynine is not self-administered by rats (Hemby, McIntosh, Leon, Cutler, & McCurdy, 2018; Yue, Kopajtic, & Katz, 2018). Further, even at high doses, kratom does not appear to severely depress respiration as do classical opioids (Singh et al., 2014, 2016). Thus, even though kratom has some potential for abuse and dependence, several investigators have concluded that kratom has both less abuse liability and much lower risk of fatal overdose than traditional opioids and that the potential benefits of kratom in the treatment of OUD may outweigh these risks (Henningfield et al., 2018; Singh et al., 2014, 2015; Singh et al., 2016; Swogger et al., 2015). This does not mean that kratom is not sometimes used by people to get high and/or intoxicated because such use has been documented (Swogger et al., 2015). Such findings were also considered by Henningfield et al. (2018), who concluded that the overall assessment of kratom did not warrant it being listed as a controlled substance. They noted that many substances, including over-the-counter drugs (for cough and cold symptoms) and dietary ingredients, are also sometimes misused and abused for the purposes of causing intoxication and to get high, yet overall, seem appropriately left unscheduled.

Are kratom products safe?

In recent years, kratom use has been associated with increasing reports of adverse health effects, including death in rare cases (Anwar, Law, & Schier, 2016; Forrester, 2013; Ulbricht et al., 2013; Warner, Kaufman, & Grundmann, 2016). These increases in adverse events were cited as a major rationale for the DEA’s proposal to ban kratom (DEA, 2016b). However, there is no concrete evidence to prove that kratom was the main culprit in all 44 total fatalities reported worldwide by the FDA as of 2018 (FDA, 2018c). At low to moderate doses of 5 g of raw leaves or less, the adverse effects vary markedly from one individual to another, but generally appear to be mild (Anwar et al., 2016; Prozialeck et al., 2012; Singh et al., 2014, 2016). The most common adverse effects are anxiety, irritability, nausea and vomiting (Anwar et al., 2016; Prozialeck et al., 2012; Singh et al., 2014; Swogger et al., 2015). More troubling have been occasional reports of more serious toxicities, often associated with high dose usage or usage of concentrated extracts in the West. Some of the reported adverse effects include tachycardia, liver damage, and seizures (Dorman, Wong, & Khan, 2015; Kapp, Maurer, Auwarter, Winkelmann, & Hermanns-Clausen, 2011; Lu et

al., 2014; Nelsen, Lapoint, Hodgman, & Aldous, 2010; Pantano et al., 2016). In addition, several deaths have been attributed to the use of “kratom” products (Anwar et al., 2016; DEA, 2016b; FDA, 2018c; Gershman et al., 2019; Karinen, Fosen, Rogde, & Vindenes, 2014; McIntyre, Trochta, Stolberg, & Campman, 2015; Neerman, Frost, & Deking, 2013; Warner et al., 2016; Wing, 2018), although in many such cases causality was not clearly linked given that little is known about lethal dose levels of kratom in humans (Gershman et al., 2019; Wing, 2018). Further, in some cases, severe adverse events may stem from the use of adulterated “kratom” products contaminated with other substances (including potent synthetic opioids) or where the content of the principal alkaloids mitragynine and 7-hydroxymitragynine is enriched compared to natural leaf material (Kronstrand, Roman, Thelander, & Eriksson, 2011; Lydecker et al., 2016). In contrast, when used in its traditional context, pure kratom leaf is unlikely to produce serious adverse effects in the vast majority of users (Trakulsrichai et al., 2013). In fact, there have been no reported deaths attributed to kratom in Southeast Asia when used in the traditional setting as unadulterated, pure kratom leaf.

While the foregoing summary indicates why the FDA’s and DEA’s concerns about the safety of kratom are reasonable, several factors require consideration in evaluating whether the FDA’s and DEA’s proposed bans are justified. First are the relative statistics. In announcing their decision to ban kratom, the DEA emphasized that between January 2010 and December 2015 there had been 600 calls to poison control centers regarding adverse reactions to kratom products (DEA, 2016b). More recently, the FDA has reported 44 total deaths associated with use of kratom products worldwide (FDA, 2018c). While these might seem on their face to be alarming numbers, they are actually rather small compared to the 49,000+ opioid overdose *deaths* in 2017 alone (NIDA, 2018a). In addition, the extent to which kratom played a role in the available lethal case reports is uncertain. In the majority of these case reports associating kratom with lethal outcomes, patients have had confounding health conditions, have been using other drugs along with kratom, or both (Galbis-Reig, 2016; Gershman et al., 2019; Prozialeck et al., 2012; Singh et al., 2015, 2016; Wing, 2018). Moreover, in the absence of evidence for a defined mechanism by which kratom would lead to death (e.g. respiratory depression), these anecdotal reports involve considerable speculation and do little to establish a scientific backing for the proposition that kratom is potentially deadly.

One of the major problems in evaluating the potential uses and safety of an herbal agent such as kratom is the lack of understanding of how mitragynine and other substances in kratom may interact with each other, prescription medications, drugs of abuse, or even herbal supplements (Prozialeck et al., 2012; Ulbricht et al., 2013). Recent findings show that kratom and its alkaloids are direct inhibitors and/or transcriptional inducers of a number of cytochrome P450 enzymes and P-glycoprotein, suggesting a significant potential for kratom to cause complex herb-drug interactions that require further study (Hanapi, Ismail, & Mansor, 2013; Kong et al., 2011; Lim et al., 2013; Manda et al., 2014, 2017). These issues are compounded by a lack of regulations and standardization related to the production and sale of “kratom” products. Further, an increasing body of evidence supports the hypothesis that many unscrupulous purveyors of “kratom” are adulterating their products with potentially toxic drugs (Chittrakarn, Penjamras, & Keawpradub, 2012; Griffin et al.,

2016; Lydecker et al., 2016; Scott, Yeakel, & Logan, 2014). Probably the most notorious example of such adulteration involved a product known as “Krypton”, which was touted as a very potent form of kratom. It was sold mainly in Europe and was found to be a factor in at least 9 deaths (Kronstrand et al., 2011; Nelsen et al., 2010). Detailed forensic analyses, however, revealed that Krypton was adulterated with large amounts of the synthetic opioid *O*-desmethyltramadol, which has potent opioid and neuromodulator activity (Kronstrand et al., 2011). Even though mitragynine was also detected in the products, it was not determined how the two substances may have interacted to cause death. In another study, several purported kratom products were found to contain 7-hydroxymitragynine (a more potent opioid alkaloid) at concentrations significantly higher than those found in plain leaf products (Lydecker et al., 2016). The source of the high levels of 7-hydroxymitragynine reported in that study remains unclear. More recently, the FDA has raised concerns about the contamination of kratom products with *Salmonella* (FDA, 2018a) and toxic metals (FDA, 2018b). These reports of contamination of some kratom products highlight the need for quality control policies in the production and sale of kratom.

Without standardization, use of good manufacturing practices, and strict quality control measures by manufacturers and distributors, individuals who ingest “kratom” products cannot be sure what they are taking. This problem suggests that systematic and cautious regulation of kratom products is likely to improve their safety. Such regulation and standardization is certainly needed, but it is unclear how such quality control programs can be developed and administered. One possible approach might be to use typical concentrations of mitragynine and 7-hydroxymitragynine found in kratom leaf as ceilings for alkaloid content of all products. It would also be essential that the products be tested to show that they have not been fortified or contaminated with other substances, particularly opioid derivatives. The American Kratom Association has recently announced plans to address many of these issues by adopting a set of “Good Manufacturing” standards for the kratom industry (American Kratom Association, 2018b).

Despite the quality control issues with kratom products in the West, a large number of scientists have stated that in its traditionally used form (kratom leaf decoction or powdered leaf form), kratom appears to be relatively benign, especially in comparison to classical opioids such as hydrocodone, oxycodone, or heroin (Singh et al., 2015, 2016; Trakulsrichai et al., 2013). In writing these comments, we wish to emphasize that we, too, have concerns about the safety of so-called “kratom” products. Moreover, since kratom contains pharmacologically active compounds (which it clearly does), it certainly has potential toxicities. Nevertheless, the scientific literature supports the conclusion that, in pure herbal form and in moderate doses of less than 5 g, pure leaf kratom appears far less dangerous than classical opioids. Recent kratom studies from Southeast Asia show that long-term kratom use does not appear to alter hematological and biochemical parameters (Singh, Muller et al., 2018) or interfere with users’ abilities to function in society (Singh et al., 2015). So far, no serious health incidents associated with kratom use have been reported among regular users in traditional settings.

Summary and perspective

Kratom is widely used in the West and Southeast Asia as a relatively safe herbal supplement (traditional medicine) for the self-treatment of medical disorders, including pain and OUD. Extensive reports from kratom users, considered alongside limited basic science and clinical research studies, suggest that kratom and its constituent compounds (especially mitragynine) may in fact have beneficial pharmacological and therapeutic properties. Unfortunately, no well-controlled clinical trials have been performed to date to determine the true risks and benefits of kratom use in humans. The high monetary costs of such clinical trials greatly complicate this issue, given that sufficient intellectual property protection to justify the large capital investments necessary for formal drug approval is often challenging to obtain for natural products like kratom. In response to the growing concerns about safety and abuse/addiction potential, it appears that the DEA is planning to classify kratom, mitragynine, and 7-hydroxymitragynine as Schedule I controlled substances, despite the preponderance of preclinical and anecdotal human evidence indicating that kratom is less harmful than prescription opioid analgesics or illicit opioids.

We believe that actions by the FDA and DEA to classify mitragynine as a Schedule I controlled substance could have several unintended consequences. First, such a classification would likely foster a significant “black market” for kratom products. Many thousands of individuals in the US have been using kratom as a means of avoiding use of more dangerous classical opioids and are terrified of losing what they view as a life-line to sobriety (Anson, 2016; DEA, 2016c; FDA, 2018c; Henningfield et al., 2018). It is reasonable to conclude that under Schedule I restrictions, a subset of kratom users would turn to or return to prescription or illicit opioids, resulting in an increase in unintended negative public health consequences, including higher incidence of OUD, incarceration, and overdose death. A second potential problem is that a move of kratom or its constituents to Schedule I will make it much more difficult for researchers to conduct necessary research exploring kratom’s medicinal potential (Chen, 2016). In this regard, the legal milieu surrounding kratom is comparable to what has happened with “medical marijuana” and psychedelic-assisted therapies, where federal policies, including classification as a Schedule I substance, have impeded hypothesis-driven research investigations (Belouin & Henningfield, 2018; Stith & Vigil, 2016). Many institutions and government agencies are reluctant to fund research on Schedule I substances because such work involves infrastructure and resources that many institutions lack (Belouin & Henningfield, 2018).

Even in the absence of cumbersome controlled substance regulation, many practical issues complicate research on herbal products such as kratom. For example, what type of kratom products (extracts or leaf materials) should be evaluated? How would products be “standardized” for activity? Since kratom contains a mixture of active compounds, this would be an extremely complex problem to resolve. One solution might involve focusing on specific chemical constituents, such as mitragynine. However, in studying single molecular entities, researchers might miss important contributions of other active constituents in kratom. This would require additional studies on the interactions of mixtures of compounds from kratom. Another major challenge is presented by the correlation of human consumption practices with laboratory animal models. Clearly, more scientific

research is needed to address these issues, which would be much more challenging under Schedule I regulatory policies.

Kratom/ketum has been traditionally used in Southeast Asia for at least the last century for its medicinal properties. This traditional use of unadulterated, natural kratom leaf has not resulted in large-scale abuse and toxicity. Further, significant evidence of the benefits of kratom gleaned from this traditional use certainly warrants further study. We conclude that well-designed, controlled human clinical trials are needed to more thoroughly investigate the therapeutic and addictive potential of kratom; to establish safety and toxicology limits; and also, to evaluate pharmacological responses among various populations who might consume kratom. The effects of kratom in the general population are poorly described, while data on special populations, such as children, elderly, pregnant females and the developing fetus, and patients with confounding health conditions, are essentially non-existent. Finally, almost nothing is known about how kratom might interact with other drugs or herbal agents that subjects may be using. Unfortunately, future control as a Schedule I substance would erect substantial barriers to this necessary research. Furthermore, the source of funding for such work is unclear, given the limited commercial opportunity provided by unpatentable natural products. One possible approach to begin funding research might be for kratom trade organizations and/or vendors to provide research grants to members of the scientific community. Also, kratom provides avenues for entrepreneurial-driven research, much like what is now happening in the burgeoning marijuana industry. Despite these significant challenges, clinical trials into the safety and efficacy of kratom and mitragynine can and should be done. It is our sincere hope, as kratom researchers, that this commentary will facilitate an informed discussion about kratom and foster the necessary research to resolve the scientific and regulatory issues presented here.

Acknowledgement

While this manuscript was under review, one of our co-authors, Dr. Bonnie Avery, passed away after a courageous battle with cancer. Dr. Avery was a leader in kratom research, an outstanding colleague and a wonderful person. We hereby dedicate the paper to Dr. Avery. She will be missed, but not forgotten.

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REGULATION OF THE DRACUT BOARD OF HEALTH

PROHIBITING THE MANUFACTURING, SALE AND DISTRIBUTION OF KRATOM

A. Statement of Purpose and Authority:

Whereas, Kratom, a tree-like plant indigenous to Southeast Asia, produces stimulant and sedative effects when orally ingested in tablet, capsule, or extract form. Kratom leaves can be chewed or dried and ingested as a tea. Use of Kratom can lead to psychotic symptoms, and psychological and physiological dependence because it contains mitragynine and 7-hydroxymitragynine, two major psychoactive ingredients¹.

Whereas, Kratom is not regulated by the State of Massachusetts or the federal government.

Whereas, the Massachusetts Supreme Judicial Court has held that “[t]he right to engage in business must yield to the paramount right of government to protect public health by any rational means.”²

Therefore, in furtherance of its mission to protect, promote and preserve the health and well-being of its residents, and pursuant to the authority granted to the Dracut Board of Health pursuant to G. L. c. 111, §31, the Board of Health enacts this Regulation Restricting the Sale and Distribution of Kratom.

B. Definitions:

For the purposes of this regulation, the following words shall have the following meanings:

Board: The Dracut Board of Health

Business Agent: An individual who has been designated by the owner or operator of any business to be the manager or otherwise in charge of said establishment.

Compliance Check: An enforcement activity where a person is sent into an establishment to attempt to purchase a restricted or prohibited product.

Kratom: Refers to the leaves or an herbal extract from the leaves or the other parts of an evergreen tree in the *Rubiaceae* family native to Southeast Asia called *Mitragyna Speciosa*, that contains as its primary compounds, mitragynine and 7-hydroxymitragynine, which produces stimulant-like effects in low dosages and opioid-like effects in high dosages, and it may be marketed in different forms, including but not limited to smokeable products, tea, capsules, and as an additive to soft drinks or other products.

¹ DRUG ENFORCEMENT ADMIN., GET SMART ABOUT DRUGS, available at <http://www.getsmartaboutdrugs.gov> (last visited February 13, 2023).

² Druzik v. Bd. Of Health of Haverhill, 324 Mass. 129, 139 (1949) (citing Lawrence v. Bd. Of Registration in Med., 239 Mass. 424, 428 (1921)).

Person: Any individual, firm, partnership, association, corporation, company, or organization of any kind, including, but not limited to an owner, operator, manager, proprietor, or person in charge of any establishment, business or retail store.

C. Sale of Kratom Products:

1. No person shall manufacture, distribute, sell, or offer for sale Kratom in any of its forms, as defined herein, or any Kratom derived products, or any products containing Kratom as an additive in the Town of Dracut.

D. Violations:

1. Any person or entity charged with violating this regulation shall receive a notice of violation from the Dracut Board of Health or its designated agent(s).
2. It shall be the responsibility of the establishment owner and/or his or her manager or business agent to ensure compliance with this regulation. The violator shall receive:
 - i. In the case of a first violation within a 36-month period, a fine of one thousand dollars (\$1000.00),
 - ii. In the case of a second violation within 36 months from the first violation, a fine of two thousand dollars (\$2000.00), and a suspension of any permit issued by the Board, including but not limited to a permit to sell tobacco products, for seven (7) consecutive business days.
 - iii. In the case of three or more violations within a 36-month period, a fine of five thousand dollars (\$5000.00) and a revocation of any permit issued by the Board, including but not limited to a permit to sell tobacco products.
3. Every day that a violation exists shall be deemed a separate offense. If multiple violations occur stemming from the same inspection or compliance check, they shall be treated as separate violations.
4. Failure to pay a fine issued pursuant to this regulation within 21 days of its date of receipt by the violator shall constitute a separate and subsequent violation of this regulation subject to the penalties set forth at paragraph 2 of this section. Payment of a fine is not required while an appeal is pending.
5. Any person who receives notice of a violation of this regulation may request and appeal hearing before the Board. The request must be made in writing, signed by the violator or the violator's attorney, filed with, and received by the Dracut Health Department within ten (10) business days of the date the notice of violation was received by the violator.
6. Any resident who desires to register a complaint pursuant to this regulation may do so by contacting the Dracut Health Department.
7. Before suspending or revoking any permit issued by the Dracut Board of Health, including a permit to sell tobacco products, the Board shall provide notice of the intent to suspend or revoke such permit, which notice shall contain the reasons therefor and shall establish a

time and date for a hearing, to be held no earlier than ten (10) business days from the date of receipt of the notice. The permit holder or their designee shall have the opportunity to be heard and shall be notified of the Board's decision and the reasons therefor in writing. If after hearing, the Board finds that a violation of this regulation occurred, the Board shall suspend or revoke the subject permit. Such suspension or revocation shall not be carried out sooner than ten (10) business days of the date of receipt of the Board's decision. For purposes of such suspensions or revocations, the Board shall carry them out unless it receives an order of stay or injunction from the appropriate court before the date the suspension or revocation is set to go into effect. Upon suspension or revocation of a permit, all products subject to that permit must be removed from the retail establishment. Failure to remove such products shall constitute a separate violation of this regulation. Multiple permit suspension may not be served concurrently.

8. Failure to comply with the terms of a permit suspension imposed pursuant to this regulation may subject the permit holder to additional fines, as provided in paragraph 2 of this section, and suspension of all Board-issued permits for thirty (30) consecutive business days.

E. Enforcement:

Enforcement of this regulation shall be carried out by the Dracut Board of Health or its designated agent(s).

F. Severability:

If any provision of this regulation is found to violate State or Federal preemption laws or is declared invalid or unenforceable, all other provisions shall not be affected thereby but shall be in full force and effect. This provision shall not apply if section C (1) of this regulation is found to violate State or Federal preemption laws or is declared invalid or un-enforceable.

G. Effective Date:

This regulation shall take effect on April 1, 2025.

(Signature on file)

Dr. Louis Rousseau, Chairman

(Signature on file)

Cynthia Campbell R.N., Vice-Chairman

(Signature on File)

Tom Bomil, Clerk

REGULATION OF THE DRACUT BOARD OF HEALTH

PROHIBITING THE MANUFACTURING, SALE AND DISTRIBUTION OF KRATOM

A. Statement of Purpose and Authority:

Whereas, Kratom, a tree-like plant indigenous to Southeast Asia, produces stimulant and sedative effects when orally ingested in tablet, capsule, or extract form. Kratom leaves can be chewed or dried and ingested as a tea. Use of Kratom can lead to psychotic symptoms, and psychological and physiological dependence because it contains mitragynine and 7-hydroxymitragynine, two major psychoactive ingredients¹.

Whereas, Kratom is not regulated by the State of Massachusetts or the federal government.

Whereas, the Massachusetts Supreme Judicial Court has held that "[t]he right to engage in business must yield to the paramount right of government to protect public health by any rational means."²

Therefore, in furtherance of its mission to protect, promote and preserve the health and well-being of its residents, and pursuant to the authority granted to the Dracut Board of Health pursuant to G. L. c. 111, §31, the Board of Health enacts this Regulation Restricting the Sale and Distribution of Kratom.

B. Definitions:

For the purposes of this regulation, the following words shall have the following meanings:

Board: The Dracut Board of Health

Business Agent: An individual who has been designated by the owner or operator of any business to be the manager or otherwise in charge of said establishment.

Compliance Check: An enforcement activity where a person is sent into an establishment to attempt to purchase a restricted or prohibited product.

Kratom: Refers to the leaves or an herbal extract from the leaves or the other parts of an evergreen tree in the *Rubiaceae* family native to Southeast Asia called *Mitragyna Speciosa*, that contains as its primary compounds, mitragynine and 7-hydroxymitragynine, which produces stimulant-like effects in low dosages and opioid-like effects in high dosages, and it may be marketed in different forms, including but not limited to smokeable products, tea, capsules, and as an additive to soft drinks or other products.

¹ DRUG ENFORCEMENT ADMIN., GET SMART ABOUT DRUGS, available at <http://www.getsmartaboutdrugs.gov> (last visited February 13, 2023).

² *Druzik v. Bd. Of Health of Haverhill*, 324 Mass. 129, 139 (1949) (citing *Lawrence v. Bd. Of Registration in Med.*, 239 Mass. 424, 428 (1921)).

Person: Any individual, firm, partnership, association, corporation, company, or organization of any kind, including, but not limited to an owner, operator, manager, proprietor, or person in charge of any establishment, business or retail store.

C. Sale of Kratom Products:

1. No person shall manufacture, distribute, sell, or offer for sale Kratom in any of its forms, as defined herein, or any Kratom derived products, or any products containing Kratom as an additive in the Town of Dracut.

D. Violations:

1. Any person or entity charged with violating this regulation shall receive a notice of violation from the Dracut Board of Health or its designated agent(s).
2. It shall be the responsibility of the establishment owner and/or his or her manager or business agent to ensure compliance with this regulation. The violator shall receive:
 - i. In the case of a first violation within a 36-month period, a fine of one thousand dollars (\$1000.00),
 - ii. In the case of a second violation within 36 months from the first violation, a fine of two thousand dollars (\$2000.00), and a suspension of any permit issued by the Board, including but not limited to a permit to sell tobacco products, for seven (7) consecutive business days.
 - iii. In the case of three or more violations within a 36-month period, a fine of five thousand dollars (\$5000.00) and a revocation of any permit issued by the Board, including but not limited to a permit to sell tobacco products.
3. Every day that a violation exists shall be deemed a separate offense. If multiple violations occur stemming from the same inspection or compliance check, they shall be treated as separate violations.
4. Failure to pay a fine issued pursuant to this regulation within 21 days of its date of receipt by the violator shall constitute a separate and subsequent violation of this regulation subject to the penalties set forth at paragraph 2 of this section. Payment of a fine is not required while an appeal is pending.
5. Any person who receives notice of a violation of this regulation may request and appeal hearing before the Board. The request must be made in writing, signed by the violator or the violator's attorney, filed with, and received by the Dracut Health Department within ten (10) business days of the date the notice of violation was received by the violator.
6. Any resident who desires to register a complaint pursuant to this regulation may do so by contacting the Dracut Health Department.
7. Before suspending or revoking any permit issued by the Dracut Board of Health, including a permit to sell tobacco products, the Board shall provide notice of the intent to suspend or revoke such permit, which notice shall contain the reasons therefor and shall establish a

time and date for a hearing, to be held no earlier than ten (10) business days from the date of receipt of the notice. The permit holder or their designee shall have the opportunity to be heard and shall be notified of the Board's decision and the reasons therefor in writing. If after hearing, the Board finds that a violation of this regulation occurred, the Board shall suspend or revoke the subject permit. Such suspension or revocation shall not be carried out sooner than ten (10) business days of the date of receipt of the Board's decision. For purposes of such suspensions or revocations, the Board shall carry them out unless it receives an order of stay or injunction from the appropriate court before the date the suspension or revocation is set to go into effect. Upon suspension or revocation of a permit, all products subject to that permit must be removed from the retail establishment. Failure to remove such products shall constitute a separate violation of this regulation. Multiple permit suspension may not be served concurrently.

8. Failure to comply with the terms of a permit suspension imposed pursuant to this regulation may subject the permit holder to additional fines, as provided in paragraph 2 of this section, and suspension of all Board-issued permits for thirty (30) consecutive business days.

E. Enforcement:

Enforcement of this regulation shall be carried out by the Dracut Board of Health or its designated agent(s).

F. Severability:

If any provision of this regulation is found to violate State or Federal preemption laws or is declared invalid or unenforceable, all other provisions shall not be affected thereby but shall be in full force and effect. This provision shall not apply if section C (1) of this regulation is found to violate State or Federal preemption laws or is declared invalid or un-enforceable.

G. Effective Date:

This regulation shall take effect on April 1, 2025.

(Signature on file)

Dr. Louis Rousseau, Chairman

(Signature on file)

Cynthia Campbell R.N., Vice-Chairman

(Signature on File)

Tom Bomil, Clerk

CITY OF MARLBOROUGH BOARD OF HEALTH
REGULATION RESTRICTING THE MANUFACTURING,
SALE, AND DISTRIBUTION OF KRATOM

SECTION

- 1. Purpose & Scope**
- 2. Authority**
- 3. Definitions**
- 4. Distribution of Kratom Products**
- 5. Enforcement and Penalties**
- 6. Severability**
- 7. Effective Date**

1. Purpose & Scope

The purpose of this regulation is to protect the health of the residents and general public in the City of Marlborough.

Whereas Kratom, a tree-like plant indigenous to Southeast Asia, produces stimulant and sedative effects when orally ingested in tablet, capsule, or extract form. Kratom leaves can be chewed or dried and ingested as tea. Use of Kratom can lead to psychotic symptoms, and psychological and physiological dependence because it contains mitragynine and 7-hydroxymitragynine, two major psychoactive ingredients.¹

Whereas Kratom is not regulated by the federal government or in Massachusetts.

2. Authority

Whereas, the Massachusetts Supreme Judicial Court has held that “the right to engage in business must yield to the paramount right of government to protect public health by any rational means.”²

Therefore, in furtherance of its mission to protect, promote, and preserve the health and well-being of its residents, this regulation is promulgated under the authority granted to the Marlborough Board of Health pursuant to Massachusetts General Laws Chapter 111, Section 31 that “boards of health may make reasonable health regulations,” the Board of Health enacts this Regulation Restricting the Manufacturing, Sale, and Distribution of Kratom.

¹ DRUG ENFORCEMENT ADMIN., GET SMART ABOUT DRUGS, available at <http://www.getsmartaboutdrugs.gov> (last visited February 13, 2023).

² Druzik v. Bd. of Health of Haverhill, 324 Mass. 129, 139 (1949) (citing Lawrence v. Bd. of Registration in Med., 239 Mass. 424, 428 (1921)).

3. Definitions

Board of Health: The Marlborough Board of Health and its designated board of health agents.

Board of Health Agent: The Director of Public Health and any city employee designated by the board of health, which may include board of health and health department staff, and code enforcement officers.

Business Agent: An individual who has been designated by the owner or operator of any business to manage or oversee the establishment.

Kratom: Refers to the leaves or an herbal extract from the leaves or other parts of an evergreen tree in the Rubiaceae family, *Mitragyna speciosa*, that contains mitragynine and 7-hydroxymitragynine. These compounds produce stimulant-like effects in low dosages and opioid-like effects in high dosages.

Person: Any individual, firm, partnership, association, corporation, company, or organization of any kind, including, but not limited to an owner, operator, manager, proprietor, or person in charge of any establishment, business, cultivation property, or retail store.

4. Distribution of Kratom Products

- (A) No person shall manufacture, distribute, sell, or offer for sale Kratom in any of its forms, as defined herein, or any Kratom-derived products, or any products containing Kratom as an additive in the City of Marlborough.

5. Enforcement and Penalties

- (A) Any person or entity charged with violating this regulation shall receive a notice of violation from the Board of Health or Board of Health Agent.
- (B) It shall be the responsibility of any establishment owner and/or the establishment owner's manager or business agent to ensure compliance with this regulation. The owner or manager of any establishment in which Kratom is manufactured, distributed, sold, or offered for sale by any person in lawful control of the establishment, shall be responsible for the violation whether, or not, they authorized or were aware that the violation was taking place.
- (C) In the case of a violation, the violator shall receive:
 - (1) In the case of a first violation, a fine of one thousand dollars (\$1000.00).
 - (2) In the case of a second violation within 36 months of a previous violation, a fine of two thousand dollars (\$2000.00), and a suspension of any permit issued by the Board, including but not limited to a Tobacco Products Sales Permit, for seven (7) consecutive business days.
 - (3) In the case of three or more violations within a 36-month period, a fine of five thousand dollars (\$5000.00), and a suspension of any permit issued by the

Board, including but not limited to a Tobacco Products Sales Permit, for thirty (30) consecutive business days.

- (D) In accordance with applicable law, the Board of Health may modify, suspend, or rescind any license or permit to conduct a business issued by the Board of any person or entity who is found in violation of this regulation by manufacturing, distributing, selling, or offering for sale Kratom or Kratom products on the premises that is the subject of the license or permit.
- (E) The authority to inspect establishments for compliance and to enforce this regulation shall be held by the Marlborough Board of Health and its agent(s).
- (F) Any person may register a complaint pursuant to this regulation to initiate an investigation and enforcement with the Marlborough Board of Health and its agent(s).
- (G) Violations of this regulation may be enforced by the non-criminal method of disposition as provided in M.G.L. c. 40, § 21D and as enabled pursuant to the Marlborough enabling ordinance.
- (H) Each day a violation exists shall be deemed to be a separate offense.
- (I) A person who receives notice of a violation of this regulation can request a hearing before the Board of Health. This request must be made in writing and filed within seven (7) days after the date the violation was served or actually received.

6. **Severability**

If any paragraph or provision of this Regulation is found to be invalid or unenforceable, against public policy or unconstitutional, it shall not affect the legality of any remaining paragraphs or provisions and shall continue in full force and effect.

7. **Effective Date**

This Regulation shall take effect for the City of Marlborough on the **1st** day of **December 2025**.

Signed this day **October 7, 2025**.
Board of Health:

By the Marlborough


James Griffin, Chairman


Joseph Tennyson, MD, Vice-Chair

CITY OF MARLBOROUGH BOARD OF HEALTH
REGULATION RESTRICTING THE MANUFACTURING,
SALE, AND DISTRIBUTION OF KRATOM

SECTION

- 1. Purpose & Scope**
- 2. Authority**
- 3. Definitions**
- 4. Distribution of Kratom Products**
- 5. Enforcement and Penalties**
- 6. Severability**
- 7. Effective Date**

1. Purpose & Scope

The purpose of this regulation is to protect the health of the residents and general public in the City of Marlborough.

Whereas Kratom, a tree-like plant indigenous to Southeast Asia, produces stimulant and sedative effects when orally ingested in tablet, capsule, or extract form. Kratom leaves can be chewed or dried and ingested as tea. Use of Kratom can lead to psychotic symptoms, and psychological and physiological dependence because it contains mitragynine and 7-hydroxymitragynine, two major psychoactive ingredients.¹

Whereas Kratom is not regulated by the federal government or in Massachusetts.

2. Authority

Whereas, the Massachusetts Supreme Judicial Court has held that “the right to engage in business must yield to the paramount right of government to protect public health by any rational means.”²

Therefore, in furtherance of its mission to protect, promote, and preserve the health and well-being of its residents, this regulation is promulgated under the authority granted to the Marlborough Board of Health pursuant to Massachusetts General Laws Chapter 111, Section 31 that “boards of health may make reasonable health regulations,” the Board of Health enacts this Regulation Restricting the Manufacturing, Sale, and Distribution of Kratom.

¹ DRUG ENFORCEMENT ADMIN., GET SMART ABOUT DRUGS, available at <http://www.getsmartaboutdrugs.gov> (last visited February 13, 2023).

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Person: Any individual, firm, partnership, association, corporation, company, or organization of any kind, including, but not limited to an owner, operator, manager, proprietor, or person in charge of any establishment, business, cultivation property, or retail store.

4. Distribution of Kratom Products

- (A) No person shall manufacture, distribute, sell, or offer for sale Kratom in any of its forms, as defined herein, or any Kratom-derived products, or any products containing Kratom as an additive in the City of Marlborough.

5. Enforcement and Penalties

- (A) Any person or entity charged with violating this regulation shall receive a notice of violation from the Board of Health or Board of Health Agent.
- (B) It shall be the responsibility of any establishment owner and/or the establishment owner's manager or business agent to ensure compliance with this regulation. The owner or manager of any establishment in which Kratom is manufactured, distributed, sold, or offered for sale by any person in lawful control of the establishment, shall be responsible for the violation whether, or not, they authorized or were aware that the violation was taking place.
- (C) In the case of a violation, the violator shall receive:
 - (1) In the case of a first violation, a fine of one thousand dollars (\$1000.00).
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 - (3) In the case of three or more violations within a 36-month period, a fine of five thousand dollars (\$5000.00), and a suspension of any permit issued by the

Board, including but not limited to a Tobacco Products Sales Permit, for thirty (30) consecutive business days.

- (D) In accordance with applicable law, the Board of Health may modify, suspend, or rescind any license or permit to conduct a business issued by the Board of any person or entity who is found in violation of this regulation by manufacturing, distributing, selling, or offering for sale Kratom or Kratom products on the premises that is the subject of the license or permit.
- (E) The authority to inspect establishments for compliance and to enforce this regulation shall be held by the Marlborough Board of Health and its agent(s).
- (F) Any person may register a complaint pursuant to this regulation to initiate an investigation and enforcement with the Marlborough Board of Health and its agent(s).
- (G) Violations of this regulation may be enforced by the non-criminal method of disposition as provided in M.G.L. c. 40, § 21D and as enabled pursuant to the Marlborough enabling ordinance.
- (H) Each day a violation exists shall be deemed to be a separate offense.
- (I) A person who receives notice of a violation of this regulation can request a hearing before the Board of Health. This request must be made in writing and filed within seven (7) days after the date the violation was served or actually received.

6. Severability

If any paragraph or provision of this Regulation is found to be invalid or unenforceable, against public policy or unconstitutional, it shall not affect the legality of any remaining paragraphs or provisions and shall continue in full force and effect.

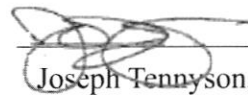
7. Effective Date

This Regulation shall take effect for the City of Marlborough on the **1st** day of **December 2025**.

Signed this day **October 7, 2025**.
Board of Health:

By the Marlborough


James Griffin, Chairman


Joseph Tennyson, MD, Vice-Chair

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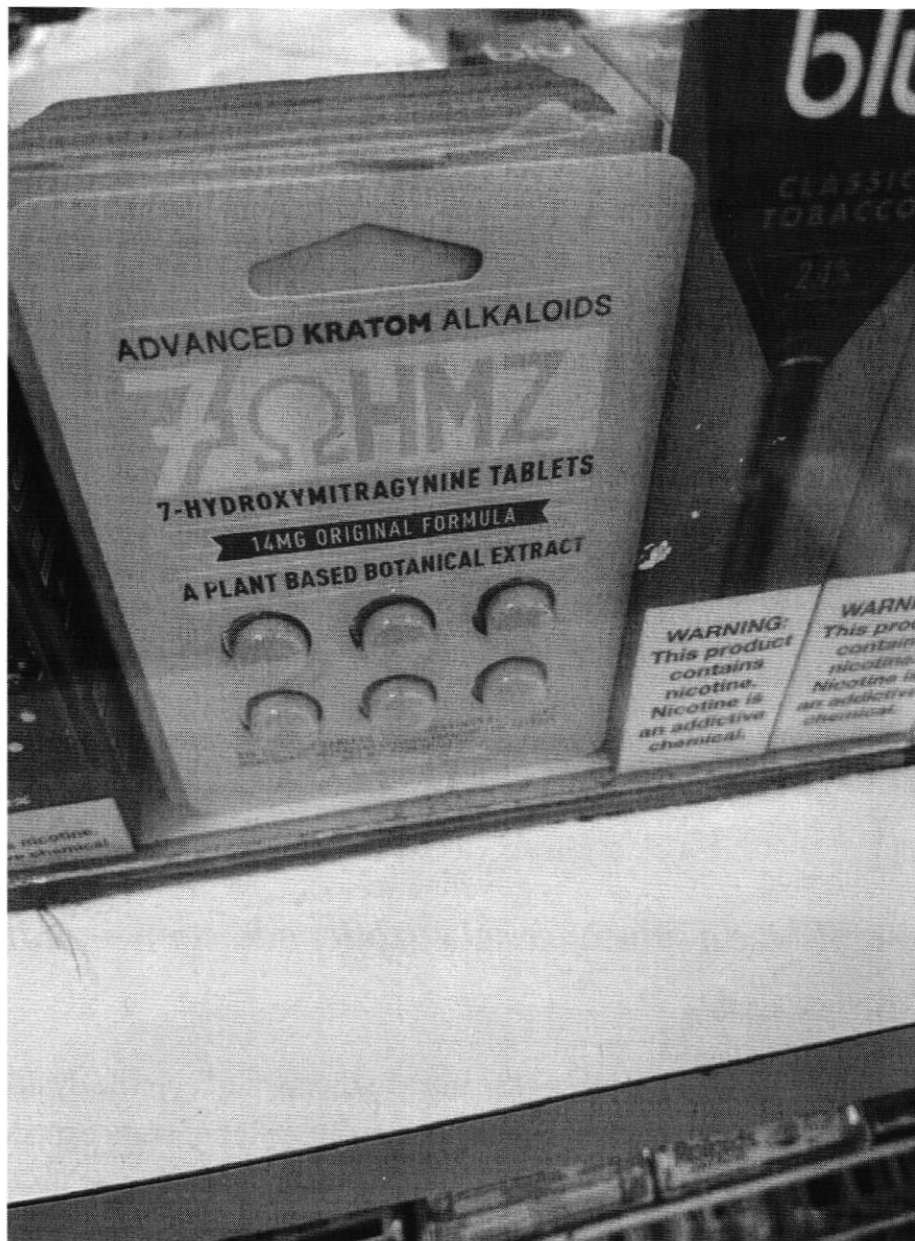
DRUGS

The Kratom Conundrum Comes to Outer Cape Cod

Health officials scrutinize a substance said to offer addiction — or its cure

BY JACK STYLER · OCT 29, 2025

PROVINCETOWN — Often locked in a glass case next to the rack of erectile dysfunction pills and in front of a wall of shining lottery tickets, kratom, an opiate-like substance made from tree leaves native to Southeast Asia, has quietly found a niche on convenience-store counters across the country. Kratom is here on the Outer Cape, too.



The Gulf Station in Provincetown sells products advertised as both kratom and 7-OH. (Photo by Jack Styler)

But for a growing number of people, kratom, which can be sold as shot-like drinks, pills, or powder, has become a major pull — for some as an addictive, dangerous drug and for others as an alternative product for pain management or energy enhancement.

In recent months, regulators at the federal, state, and local levels have been taking a harder look at kratom and its synthetic derivative, 7-Hydroxymitragynine (7-OH), which “produces respiratory depression, physical dependence, and withdrawal symptoms characteristic of classical opiates,” according to a report released in June by the U.S. Food and Drug Administration.

Eliza Morrison, the director of harm reduction services at the AIDS Support Group of Cape Cod (ASGCC), told the *Independent* that she has heard “quite a bit” about both kratom and 7-OH from

looking for help to stop using it. The other is people who say they are experimenting with it as a potential alternative to the use of opiates or even alcohol.

Either way, Morrison said that most users coming to ASGCC reported some adverse effects of taking kratom, including nausea, vomiting, heart palpitations, and seizures. They've told her that kratom can be extremely hard to stop using once they've started taking it regularly.

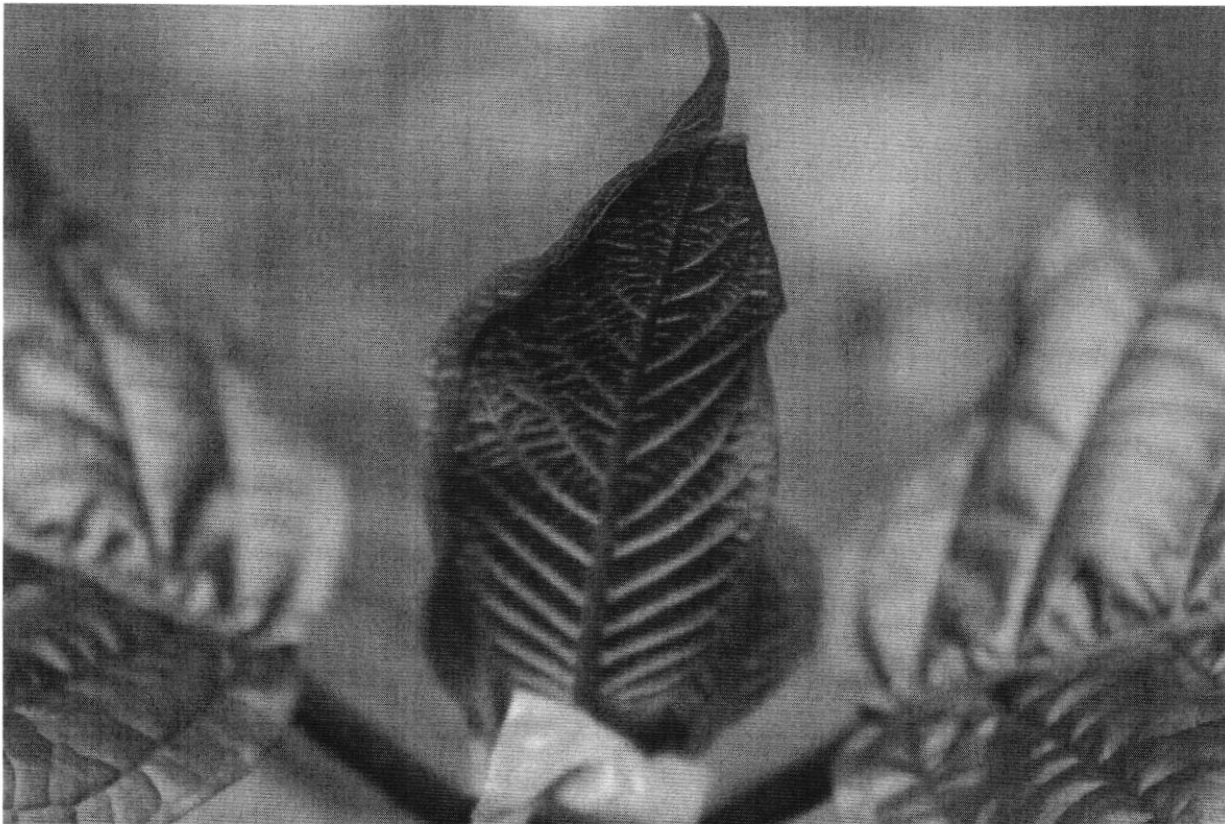
"We're also hearing about a lot of young people who are using it," said Morrison, who added that kratom is not detected by drug tests.

The director of substance use disorder and outreach programs at the Duffy Health Center in Hyannis, Daniel Rodrigues, said that he has started to hear about kratom use as well.

Rodrigues runs a recovery-based program for adolescents in Falmouth and Dennis and said one recently admitted adolescent in a group of 11 reported that kratom was her primary substance of choice. Rodrigues also said that his family support counselors have reported that families of other adolescents have become more anxious about the ubiquity of kratom in recent weeks.

Kratom Versus 7-OH

Kratom comes from a subtropical tree called *Mitragyna speciosa* indigenous to Southeast Asia, where people used its leaves to treat pain, enhance work, and act as a social lubricant for centuries, according to a leading kratom researcher at the University of Florida, Chris McCurdy, who appeared on the health and science podcast "Huberman Lab" in July to discuss the substance.



The leaves of the kratom tree are used to produce the substances being offered for wellness and for highs. (Photo by Thor Porre/CC 3.0)

Though the kratom tree is in the coffee family, the chemical compounds present in kratom have both stimulant and opiate-like properties. Users say that, in low doses, kratom can have an energizing effect similar to caffeine. But at higher doses, kratom consumers are more likely to experience sedative effects and a euphoric “high” feeling, according to McCurdy.

Estimates of the number of kratom users in the U.S. vary widely, but McCurdy said on the podcast that according to manufacturers’ sales figures, well over 20 million Americans are daily kratom users.

The type of kratom experience those 20 million people are having will depend on whether they are taking kratom in something like its natural form or from companies selling its synthetic derivative, 7-OH.

Orrin Hatch’s Pain Relief

C.M. “Mac” Haddow, the senior fellow on public policy at the American Kratom Association, told the *Independent* that the U.S. kratom industry was hijacked in 2023 by savvy entrepreneurs who increased the level of 7-OH to make it a “chemically manipulated full-blown opiate.”

Haddow said that the association, which advocates for kratom education and the right to use it, wants the government to ban the sale of 7-OH products.

“They’re appealing to the drug seekers, and they’re creating addictions,” said Haddow. “They’re creating serious adverse events from a product that should not be on the market.”

Haddow said that he’s been a daily kratom user since being introduced to the substance in 2015 by former U.S. Sen. Orrin Hatch, who told him he’d been taking kratom for years for chronic pain.

Haddow, who ran Sen. Hatch’s first Senate campaign in 1976 and worked as the chief of staff in the U.S. Dept. of Health and Human Services during the Reagan administration, told the *Independent* that he, too, uses kratom to manage chronic pain, as do thousands of Americans.

But Can It Kill You?

The U.S. Drug Enforcement Administration had announced that it would make kratom’s active compounds a Schedule 1 drug — that is, one with no accepted medical use and a high potential for abuse — in September 2016. Following a public outcry and pushback from the American Kratom Association, scientists, and lawmakers, who argued that a ban would curtail research, the agency decided not to proceed, according to an investigation by the *Tampa Bay Times*.

The *Times* found that there had been over 2,000 kratom-related overdose deaths in 40 states and Washington, D.C. between 2021 and the time it published its investigation in December 2023.

Haddow, however, told the *Times* that its death toll figures were “grossly overstated” and said that underlying medical conditions or mixing other substances may have been the main factor in those fatalities.

In June, the FDA recommended to the DEA that 7-OH products be scheduled as controlled substances.

Haddow told the *Independent* that he had expected 7-OH products to be scheduled and removed from the market in the next month or two, but because of the government shutdown, the timeline for federal regulation moving forward is unclear.

The Cumberland Farms convenience stores in Provincetown, Wellfleet, and Eastham all carry kratom in shot-like containers, but until a couple of months ago, Cumberland Farms had also sold “Mr. Mx” products, according to Arina Brown, the store manager in Provincetown. According to the company’s website, “Mr. Mx” sells “precision-formulated” 7-OH tablets to “maximize your

Brown said that before the corporate office told her to stop ordering the “Mr. Mx” products, a small group of customers would regularly come in and spend hundreds of dollars on the products. Now, Brown said, the kratom bottles that they currently sell, which are not advertised as 7-OH, are a “waste of space.”

“We need these back,” said Brown, speaking of the “Mr. Mx” products. “Or we are just going to discontinue everything.”

Cumberland Farms’ parent company, EG Group, did not respond to a request for comment about its decision to stop selling 7-OH products in time for this issue’s deadline.

All Outer Cape convenience store clerks at retailers that sell kratom interviewed by the *Independent* for this story said that they require customers to be at least 21 years old to purchase the product. There is no federal age restriction on kratom purchases, and in Massachusetts there is no minimum legal age to purchase kratom.

State and Local Regulation

As the federal bureaucracy remains in gridlock, the Massachusetts legislature and some local boards of health have taken action to limit the sale of kratom or at least of 7-OH.

During its Oct. 22 meeting, the Bourne Board of Health heard from more than 20 speakers, some of whom called in from other states, to advocate for or against a proposal to ban kratom sales in the town. Many of the speakers told the board that kratom had given them new life after struggling with chronic pain or opioid use disorder. But five mothers, each of whom said she had lost a child to a kratom-related overdose, also called in, sometimes speaking through tears, to urge the board to ban the substance outright.

That board voted unanimously to ban kratom sales, making it the first Cape Cod town to do so. Several other Massachusetts municipalities have also outlawed the sale of kratom, including Lowell, Canton, Belchertown, Chelmsford, Marlborough, and Dracut.

Six states and the District of Columbia have passed statewide kratom bans, including Rhode Island and Vermont. Before his death earlier this year, state Sen. Edward J. Kennedy introduced a bill in Massachusetts that would ban the sale of kratom statewide. It has been referred to the joint committee on public health, on which Sen. Julian Cyr of Provincetown serves as vice chair.

Cyr told the *Independent* that he would be taking a look at the bill, and the committee has until the first Wednesday in December to take action — unless the deadline is extended.

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DRUGS

The Kratom Conundrum Comes to Outer Cape Cod

Health officials scrutinize a substance said to offer addiction — or its cure

BY JACK STYLER · OCT 29, 2025

PROVINCETOWN — Often locked in a glass case next to the rack of erectile dysfunction pills and in front of a wall of shining lottery tickets, kratom, an opiate-like substance made from tree leaves native to Southeast Asia, has quietly found a niche on convenience-store counters across the country. Kratom is here on the Outer Cape, too.



The Gulf Station in Provincetown sells products advertised as both kratom and 7-OH. (Photo by Jack Styler)

But for a growing number of people, kratom, which can be sold as shot-like drinks, pills, or powder, has become a major pull — for some as an addictive, dangerous drug and for others as an alternative product for pain management or energy enhancement.

In recent months, regulators at the federal, state, and local levels have been taking a harder look at kratom and its synthetic derivative, 7-Hydroxymitragynine (7-OH), which “produces respiratory depression, physical dependence, and withdrawal symptoms characteristic of classical opiates,” according to a report released in June by the U.S. Food and Drug Administration.

Eliza Morrison, the director of harm reduction services at the AIDS Support Group of Cape Cod (ASGCC), told the *Independent* that she has heard “quite a bit” about both kratom and 7-OH from

looking for help to stop using it. The other is people who say they are experimenting with it as a potential alternative to the use of opiates or even alcohol.

Either way, Morrison said that most users coming to ASGCC reported some adverse effects of taking kratom, including nausea, vomiting, heart palpitations, and seizures. They've told her that kratom can be extremely hard to stop using once they've started taking it regularly.

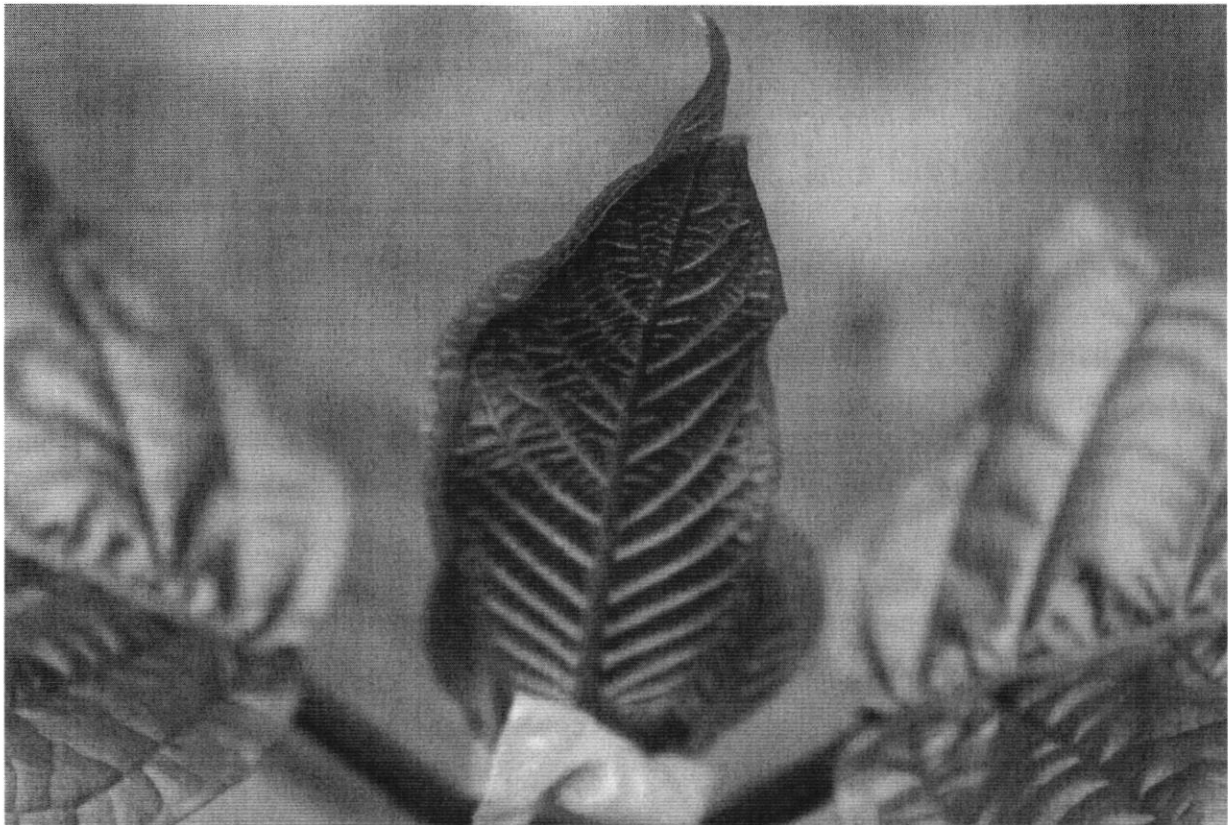
"We're also hearing about a lot of young people who are using it," said Morrison, who added that kratom is not detected by drug tests.

The director of substance use disorder and outreach programs at the Duffy Health Center in Hyannis, Daniel Rodrigues, said that he has started to hear about kratom use as well.

Rodrigues runs a recovery-based program for adolescents in Falmouth and Dennis and said one recently admitted adolescent in a group of 11 reported that kratom was her primary substance of choice. Rodrigues also said that his family support counselors have reported that families of other adolescents have become more anxious about the ubiquity of kratom in recent weeks.

Kratom Versus 7-OH

Kratom comes from a subtropical tree called *Mitragyna speciosa* indigenous to Southeast Asia, where people used its leaves to treat pain, enhance work, and act as a social lubricant for centuries, according to a leading kratom researcher at the University of Florida, Chris McCurdy, who appeared on the health and science podcast "Huberman Lab" in July to discuss the substance.



The leaves of the kratom tree are used to produce the substances being offered for wellness and for highs. (Photo by Thor Porre/CC 3.0)

Though the kratom tree is in the coffee family, the chemical compounds present in kratom have both stimulant and opiate-like properties. Users say that, in low doses, kratom can have an energizing effect similar to caffeine. But at higher doses, kratom consumers are more likely to experience sedative effects and a euphoric “high” feeling, according to McCurdy.

Estimates of the number of kratom users in the U.S. vary widely, but McCurdy said on the podcast that according to manufacturers’ sales figures, well over 20 million Americans are daily kratom users.

The type of kratom experience those 20 million people are having will depend on whether they are taking kratom in something like its natural form or from companies selling its synthetic derivative, 7-OH.

Orrin Hatch’s Pain Relief

C.M. “Mac” Haddow, the senior fellow on public policy at the American Kratom Association, told the *Independent* that the U.S. kratom industry was hijacked in 2023 by savvy entrepreneurs who increased the level of 7-OH to make it a “chemically manipulated full-blown opiate.”

Haddow said that the association, which advocates for kratom education and the right to use it, wants the government to ban the sale of 7-OH products.

“They’re appealing to the drug seekers, and they’re creating addictions,” said Haddow. “They’re creating serious adverse events from a product that should not be on the market.”

Haddow said that he’s been a daily kratom user since being introduced to the substance in 2015 by former U.S. Sen. Orrin Hatch, who told him he’d been taking kratom for years for chronic pain.

Haddow, who ran Sen. Hatch’s first Senate campaign in 1976 and worked as the chief of staff in the U.S. Dept. of Health and Human Services during the Reagan administration, told the *Independent* that he, too, uses kratom to manage chronic pain, as do thousands of Americans.

But Can It Kill You?

The U.S. Drug Enforcement Administration had announced that it would make kratom’s active compounds a Schedule 1 drug — that is, one with no accepted medical use and a high potential for abuse — in September 2016. Following a public outcry and pushback from the American Kratom Association, scientists, and lawmakers, who argued that a ban would curtail research, the agency decided not to proceed, according to an investigation by the *Tampa Bay Times*.

The *Times* found that there had been over 2,000 kratom-related overdose deaths in 40 states and Washington, D.C. between 2021 and the time it published its investigation in December 2023.

Haddow, however, told the *Times* that its death toll figures were “grossly overstated” and said that underlying medical conditions or mixing other substances may have been the main factor in those fatalities.

In June, the FDA recommended to the DEA that 7-OH products be scheduled as controlled substances.

Haddow told the *Independent* that he had expected 7-OH products to be scheduled and removed from the market in the next month or two, but because of the government shutdown, the timeline for federal regulation moving forward is unclear.

The Cumberland Farms convenience stores in Provincetown, Wellfleet, and Eastham all carry kratom in shot-like containers, but until a couple of months ago, Cumberland Farms had also sold “Mr. Mx” products, according to Arina Brown, the store manager in Provincetown. According to the company’s website, “Mr. Mx” sells “precision-formulated” 7-OH tablets to “maximize your

Brown said that before the corporate office told her to stop ordering the “Mr. Mx” products, a small group of customers would regularly come in and spend hundreds of dollars on the products. Now, Brown said, the kratom bottles that they currently sell, which are not advertised as 7-OH, are a “waste of space.”

“We need these back,” said Brown, speaking of the “Mr. Mx” products. “Or we are just going to discontinue everything.”

Cumberland Farms’ parent company, EG Group, did not respond to a request for comment about its decision to stop selling 7-OH products in time for this issue’s deadline.

All Outer Cape convenience store clerks at retailers that sell kratom interviewed by the *Independent* for this story said that they require customers to be at least 21 years old to purchase the product. There is no federal age restriction on kratom purchases, and in Massachusetts there is no minimum legal age to purchase kratom.

State and Local Regulation

As the federal bureaucracy remains in gridlock, the Massachusetts legislature and some local boards of health have taken action to limit the sale of kratom or at least of 7-OH.

During its Oct. 22 meeting, the Bourne Board of Health heard from more than 20 speakers, some of whom called in from other states, to advocate for or against a proposal to ban kratom sales in the town. Many of the speakers told the board that kratom had given them new life after struggling with chronic pain or opioid use disorder. But five mothers, each of whom said she had lost a child to a kratom-related overdose, also called in, sometimes speaking through tears, to urge the board to ban the substance outright.

That board voted unanimously to ban kratom sales, making it the first Cape Cod town to do so. Several other Massachusetts municipalities have also outlawed the sale of kratom, including Lowell, Canton, Belchertown, Chelmsford, Marlborough, and Dracut.

Six states and the District of Columbia have passed statewide kratom bans, including Rhode Island and Vermont. Before his death earlier this year, state Sen. Edward J. Kennedy introduced a bill in Massachusetts that would ban the sale of kratom statewide. It has been referred to the joint committee on public health, on which Sen. Julian Cyr of Provincetown serves as vice chair.

Cyr told the *Independent* that he would be taking a look at the bill, and the committee has until the first Wednesday in December to take action — unless the deadline is extended.

Town of Dover, MA Board of Health Regulations

Chapter 220 Smoking; Sale of Tobacco and Nicotine Delivery Products

Proposed amendments to Section 220-2 Findings; purpose:

There exists conclusive evidence that tobacco smoke causes cancer, respiratory diseases, various cardiac problems, allergies, and irritations to the eyes, nose and throat of both the smoker and nonsmoker exposed to secondhand smoke. Evidence further demonstrates that nicotine, present in tobacco, is extremely addictive. Almost 90% of all smokers begin smoking before the age 18, and every day an estimated additional 3,000 minors begin smoking in the United States. There is an urgent health need to reduce easy access by youths to tobacco and nicotine products through strict enforcement of the state law prohibiting sales to minors, MGL c. 270, § 6, and additional measures. Therefore, these regulations are adopted pursuant to MGL c. 111, § 31, as reasonable health regulations designed to protect and improve the health of the residents of the Town of Dover.

Proposed amendments to Section 220-6 Retail sale of tobacco products:

B. No person, firm, corporation, establishment, or agency shall sell tobacco, nicotine, or e-cigarette products to anyone born on or after January 1, 2005.

Current

D. All clerks selling tobacco products or nicotine delivery products shall verify by means of government-issued photographic identification containing the bearer's date of birth that no person purchasing the tobacco or nicotine containing products is younger than 21 years of age. No such verification is required for any person over the age of 26. No clerk shall sell tobacco products or nicotine delivery products to a person under 21 years of age who has a note from an adult requesting such sale.

Proposed

D. All clerks selling tobacco products or nicotine delivery products shall verify by means of government-issued photographic identification containing the bearer's date of birth that no person purchasing the tobacco or nicotine containing products was born on or after January 1, 2005.

Proposed amendments to section 220-10 Posting of state law required:

All retail establishments shall conspicuously post signage, made available from the Board of Health. Such signage shall include: (i) a copy of G.L. c. 270, §§ 6 and 6A; (ii) referral information for smoking cessation resources; (iii) a statement that sale of tobacco products, including e-cigarettes, to a person born on or after January 1, 2005 is prohibited; (iv) health warnings associated with using electronic nicotine delivery systems; and (v) except in the case of smoking bars, notice to consumers that the sale of flavored tobacco products are prohibited at all times. Such signage shall be posted conspicuously in the retail establishment or other place in such a manner so that it may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than four feet or greater than nine feet from the floor. The signage may be in a form developed and made available by the Massachusetts Department of Public Health.

Proposed amendments to section 220-16 Effective date; amendments:

This regulation shall take effect 30 days after publication of a summary of the regulation in a newspaper distributed in the Town of Dover. As required by MGL c. 111, § 31, an attested copy has been filed with DEP on June 8, 1994. This regulation was voted by a majority of this Board on April 25, 1994, amended on May 11, 1998, September 24, 2001, November 18, 2013, July 10, 2023, and **[INSERT DATE OF VOTE]**.

Nicotine-Free Generation (NFG) Overview

What is Nicotine:

The term nicotine includes all tobacco and synthetically derived nicotine products such as vapes or e-cigarettes, cigarettes, cigars, chew, and pouches.

The Problem:

Nicotine containing tobacco products remain the single greatest cause of addiction and death in Massachusetts with over 9,000 deaths each year,^I more than three times the number of deaths from the state's opioid crisis. Tobacco kills one-half of its users,^{II} accounting for 1 out of every 5 deaths in the US.^{III} Despite decades of control efforts, the tobacco industry continually innovates new products and nicotine delivery methods, undermining regulation and targeting susceptible young adult populations.

Nicotine-Free Generation:

Nicotine-Free Generation (NFG) proposes a definitive, streamlined approach to tobacco control. NFG policy prohibits the sale of nicotine products to anyone born after a chosen date (e.g. January 1, 2004). Those born before this date, who currently use nicotine, may be sold products indefinitely. The policy prevents sales to the next generation, phasing out sales slowly over time.

NFG:

- **Respects the rights of users:** Those who already use nicotine products can continue to be sold nicotine indefinitely. NFG doesn't shame or stigmatize users.
- **Considers retailer needs:** NFG is gradual, providing retailers time to adjust their business model so it does not depend on selling a deadly, addictive product—the market declines only marginally each year.
- **Is socially reinforcing:** Over time, teens and young adults will be further removed in age from those who can be sold nicotine, decreasing early nicotine initiation that sparks lifelong addiction.
- **Accounts for personal rights and freedoms:** The Massachusetts Supreme Court unanimously upheld the policy in Brookline.^{IV} Like asbestos or lead paint, selling tobacco is not a constitutional right. The purchase, use, or possession of tobacco is never criminalized. Tobacco dependence means the loss of free choice and freedom--almost all tobacco users wish they'd never started.
- **Provides a smooth transition:** NFG avoids black market sales, as current dependent users are never cut off from legal nicotine access. Additionally, NFG curtails future demand by preventing the next generation from becoming addicted.
- **Comes at the right time and place:** NFG policy is spreading quickly and has already been adopted by nine Massachusetts towns. MA has led the country in spearheading nicotine policies such as flavor restrictions and minimum sales age of 21. Many places are meaningfully considering NFG, including other jurisdictions in the US and the countries of UK, EU, Malaysia, Singapore, Ireland, Denmark, France, Spain, and Canada.
- **Opposed strongly by Big Tobacco:** Will reduce sales over time, and improve public health.

^I Campaign for Tobacco-Free Kids, "The Toll of Tobacco in Massachusetts," April 17, 2024, <https://www.tobaccofreekids.org/problem/toll-us/massachusetts>.

^{II} World Health Organization, "Tobacco," July 31, 2023, <https://www.who.int/news-room/fact-sheets/detail/tobacco>.

^{III} Centers for Disease Control and Prevention, "Health Effects of Cigarette Smoking," October 29, 2011, https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking.

^{IV} Action on Smoking and Health, "Massachusetts Supreme Judicial Court Upholds Tobacco-Free Generation Law," March 8, 2024, <https://ash.org/massachusetts-supreme-court-upholds-tobacco-free-generation-law>.

Citation: Savage T, Chadwick G, Winickoff JP. Nicotine Free Generation One-Page Overview. Version 10272024

Municipalities That Have Adopted Nicotine Free Generation

Belchertown

Brookline

Chelsea

Concord

Conway

Dover (added Nov.1, 2025)

Hopkinton

Malden

Manchester-By-The-Sea

Melrose

Needham

Newton

Pelham

Reading

Somerville

South Hadley

Stoneham

Wakefield

Winchester

Massachusetts update ASH Monday, November 3, 2025 12:00 PM

Good morning.

We've had a very busy year and I'm happy to report that we have several updates for you.

Eighteen Massachusetts municipalities have adopted NFG, and 580,000 MA residents now live in a community that has an NFG policy. South Hadley was the latest - - just two weeks ago. Amherst held a public hearing this past Thursday. Dover is holding a public hearing this evening. As we say, stay tuned.

In January 2025 NFG bills were filed in the State Senate and in the House.

In July the State's Joint Committee on Public Health held a Public Hearing. So many people showed up to testify they had to cut us off and not everyone got to speak. But there will probably be at least one more hearing before the Joint Committee on Public Health and a hearing before Ways and Means. Written testimony is always welcome!

The Committee on Public Health has reported out favorably on an internet sales ban bill. This legislation was proposed by a 16 year-old Natick high school student.

The MA Tobacco Cessation and Prevention Program at DPH funds technical assistance providers to support municipalities in promulgating local policies. Nicotine Free Generation is included in the TA "model reg", which is a guidance document so any Board of Health considering tobacco control updates will have ready access to the regulation language.

The 84 Movement, a youth advocacy program funded by MTCP, is offering a stipend project to engage and understand youth perspective and awareness related to NFG policies. Youth from across the state are being asked to share their voice and help inform and lead progress being made around NFG and other tobacco regulation policies.

My direct supervisor, who is the Health Director for three Massachusetts municipalities, and I will be presenting at the Massachusetts Health Officers Association's Annual Conference later this week, along with Dr. Howard Koh, whom many of you probably know. Dr. Koh is a former Massachusetts Commissioner of Public Health. He also served as Assistant Secretary of Health and Human Services in the Obama Administration. Dr. Koh is currently at The Harvard Chan School of Public Health and will receive the Blake Cady award from Tobacco Free Mass on December 4th

When Anthony and I first started thinking about NFG (called TFG at the time) back in 2023 we knew we needed to make sure we had support, especially from municipal leaders, but from other community stakeholders as well.

We talked to Mayors, Town Managers, City and Town Council members, School Committee members, educators, students, parents, coaches, health care professionals, hospital administrators, and others. In addition to youth, some of the most important support came from local substance use prevention coalitions.

We solicited support from both individuals and groups, some of whom testified in person, and others who submitted written testimony. Support from subject matter experts is very helpful. However, it's most important to hear from local residents, especially youth!

The tobacco industry, as you can imagine, is not in favor of this policy. Retailers, distributors, trade association execs, and smokers' rights groups show up to testify against the policy.

Municipal leaders received robo emails. Window and counter flyers as well as petitions were delivered to local stores encouraging owners and customers to speak out against the policy and to show up at public hearings.

Lastly, I'm sure you've all seen or heard about some of the newer products that are being peddled to our children by a predatory industry intent on continuing to make billions.

- . Toy guitar**
- . Teddy bear**
- . A CD style device so you can play music or video games while you vape.**

There are vapes with LED screens that tell you how much battery life and how many puffs you have left. You know, so you'll be sure to gas up before you run out.

At the National Conference on Tobacco Or Health I learned about the next iteration of vape devices which will collect data on the user's puffing habits to send back to the manufacturers

so they can recalibrate – to make sure you get higher and higher nicotine levels which will of course increase the chance you, or your young child, will become addicted and the industry gets another customer-for-life. Because, as we all know, that is the goal.

Thank you!

Nicotine-Free Generation Frequently Asked Questions and Answers

Won't youth just go to the next town over?

When Needham Massachusetts became the first town to enact Tobacco 21, opponents of the policy made the argument that youth between 18-21 would just buy from the next town over. Yet following the passage of Tobacco 21, Needham witnessed over a 50% decrease in high school smoking. The percentage of high schoolers who smoked declined at nearly triple the rate in Needham compared to surrounding towns that had not adopted the policy ([Winickoff 2014](#); [Schneider 2016](#)). Decreasing access to tobacco in even one town has been proven to work.

Doesn't NFG take away free choice for adults? Doesn't it infringe on personal rights?

The tobacco industry likes to frame NFG as a free choice issue. However, 95% of tobacco use begins before the age of 21, and 99% before 26. Early tobacco use is more likely to lead to addiction, which by definition means the loss of free choice. There is no free choice when addiction drives desire. Tobacco is not a freedom, it is an addiction to nicotine and a burden—just ask people who use tobacco. Do they smoke because they want to, or because they need to? Almost all current smokers wish they had never started. People who are addicted to nicotine continue to use tobacco not because they enjoy it but because they are treating the intolerable negative effects of nicotine withdrawal whenever the level gets too low in their brain.

Because tobacco has been sold legally for so long, it's understandable why it might feel like a right or freedom. However, halting the sales of lead paints, asbestos, or FDA-banned supplements for public health reasons obviously don't take away any "personal rights." Tobacco has caused the greatest health detriment of any consumer product in history, causing more annual deaths than AIDS, alcohol, care accidents, illegal drugs, murders, and suicides combined. NFG does not take away personal rights or freedoms, it phases out the sale of a dangerous and addictive product over years.

Is NFG constitutional?

Nicotine is not a constitutional right. The Massachusetts Supreme Judicial Court upheld the legality of NFG policy in Brookline, affirming that it was "not inconsistent with the Constitution" and was "rationally related to the town's legitimate interest in mitigating tobacco use overall and in particular by minors" (see [Six Brothers Inc. v. Town of Brookline](#) pg. 11 and 32).

Doesn't NFG split adults into two groups? Why are we judging who is "adult enough" to buy nicotine?

It is important to remember that tobacco products are dangerous at all ages; there is no safe age of nicotine sale. NFG recognizes that tobacco industry nicotine is a harmful and highly addictive product that should not be sold to anyone: it's not about who is an adult or not. The goal of the cutoff date is to ensure a smooth, practical transition to a nicotine-free future. The distinction NFG makes is rational, because it allows sale to individuals already using nicotine, and curtails sales to those too young to be using at the time the law is passed. This approach avoids a black market, safeguards future generations from addiction, gives retailers time to adjust, and continues nicotine access for current users.

What about our military readiness?

Men and women who serve in the United States armed forces have greater military readiness, including increased stamina, fitness, and work capacity, when they do not use tobacco products. ([Institute of Medicine 2009](#)). Someone who is addicted to tobacco will have more trouble hauling gear over distance due to their diminished lung capacity. Additionally, non-users enjoy superior wound healing so they can get back faster after injuries ([Silverstein 1992](#)) and are nearly twice as likely to successfully complete basic training ([Klesges 2000](#)). The US military now views E-cigarette and cigarette use as a military threat. ([Keltner 2021](#)). The US military has banned the sale of all E-cigarette products from their bases. NFG will improve our military readiness over time because fewer and fewer recruits will use tobacco products. NFG aids the creation of a stronger and more resilient American fighting force.

What about the history of tobacco and our military?

The tobacco industry has targeted military personnel since the beginning of the 20th century, marketing products to servicemen at deeply discounted rates in order to get young recruits addicted for life. ([Fahey 2020](#)). The US Military has seen the toll tobacco has taken on its servicemen and veterans. The Department of Defense spends 1.6 billion dollars a year on medical and non-medical costs related to tobacco use. ([CDC.gov](#)). **Tobacco causes more deaths each year in the United States than the number of US soldiers who died in all of WWII.**

What about our veterans?

Following service, veterans who are dependent on nicotine are more likely to experience psychiatric and medical conditions including alcohol use disorder, depression, and PTSD. ([Baldassarri 2022](#)). Over time NFG will lessen the number of veterans addicted to nicotine, thereby supporting the mental health and well-being of our veterans. NFG does not change current veterans' access to tobacco in any way.

What about young people who have already been trapped by their tobacco addiction?**What happens to them with NFG?**

Over time, there will be fewer and fewer users who fall into this category. However, safe and effective FDA-approved nicotine (NRT) is available throughout Massachusetts over the counter and is covered by all Massachusetts insurance programs. In addition, the MA quitline gives away free NRT as part of their program. As an outcome of NFG, those who are already addicted to tobacco products will now use safe and freely available FDA-approved nicotine, retaining more money to spend on basic necessities, experiencing a lower incidence of disease, and living longer, more productive lives.

What about those who smoke and want to switch to less harmful forms of nicotine like e-cigarettes?

NFG prevents addictive products from falling into the hands of those who have never tried nicotine, and doesn't limit access for those who already smoke. While established cigarette smokers may switch to e-cigarette products in an effort to reduce their risk of health complications, young adults and adolescents covered by NFG policies are commonly becoming

addicted to nicotine by those same vape products. NFG retains alternatives for current combustible tobacco users who might seek harm reduction through vapes, while limiting the most common source of youth nicotine initiation and use (Centers for Disease Control and Prevention 2023, American Lung Association 2024).

Will a “Black Market” develop?

NFG doesn't create additional black market sales. In fact, the policy attempts to avoid further black market nicotine, because current users can continue to legally be sold nicotine, and therefore have no need to turn to a black market. NFG also prevents future generations from becoming addicted, gradually shrinking the dependent user base the black market relies on. Reducing demand for nicotine products means reducing black market sales. A 2015 study found that banning menthol cigarettes resulted in no surge in illicit cigarettes. NFG is even safer than menthol bans because it never removes access to nicotine where a demand exists. NFG allows safe, FDA approved nicotine to be sold over the counter in the form of nicotine patches, nicotine gum, and nicotine lozenges. These forms of nicotine have low addictive potential because of the slow onset of their effect. Keeping these slow release forms of nicotine on the market is important so that people who are addicted to tobacco products can continue transitioning to safer, FDA approved products.

Isn't NFG like Prohibition?

NFG is nothing like Prohibition. Prohibition fueled a massive Black Market because it immediately removed access to a substance that at least half of the adult population wanted to use. It removed the supply of alcohol while demand remained high, creating a huge economic incentive for illegal sales. On the other hand, NFG naturally reduces nicotine demand over time by preventing those under a certain age from becoming addicted. Additionally, NFG never removes the nicotine access of current users like Prohibition did, preventing any increase in illegal sales. In addition, safer FDA approved nicotine will continue to be available.

How can I support this while Marijuana access is increasing, etc.? What about existing tobacco control programs

Nicotine-Free Generation addresses the specific issue of nicotine use, and does not hinder other public health initiatives in any way. Supporters of NFG recognize that nicotine is uniquely dangerous and addictive, and that the policy offers a practical way to prevent tobacco-related deaths among the next generation. Additionally, as NFG starts to reduce the scope of the tobacco issue, it will allow more public health resources to be allocated towards addressing other problems over time.

Why don't we just wait for the State or the Federal Government to enact NFG?

Historically, local tobacco control regulation has led to state level action. The more cities and towns that pass Nicotine Free Generation, the greater the chance that a state level bill will pass and protect the entire state. In the case of Tobacco 21 and the state flavor restriction law, over 100 cities and towns in MA passed their regulations before state laws was passed. Tobacco 21 won federal passage after 19 states passed their own laws. Flavor restriction bills are also following the lead of Massachusetts and spreading across the country. Local action first is the

primary way that state and federal bills gain traction. In summary, putting a local regulation in place now will help make a state law possible and will protect your community sooner than waiting for any potential state or federal action in the future.

Is NFG too experimental? Is it actually being considered anywhere else?

NFG is innovative, and builds on the success of tobacco age restrictions such as Tobacco-21. Though it is a relatively new approach, NFG has already received serious consideration globally. British Prime Minister Sunak proposed an NFG law in 2023, which received endorsement from King Charles and the Opposition Party. In New Zealand, NFG was nearly enacted on a nationwide scale until a new government came in and succumbed to tobacco industry pressure in early 2024. Bills have been forwarded in California, Hawaii, Minnesota, the Philippines, Singapore, Malaysia, Denmark, Spain, France, and the European Union. Nine towns in Massachusetts have already adopted the policy, likely with more to come following the MA Supreme Judicial Court ruling that upheld the policy in Brookline. Policymakers everywhere are recognizing the effective approach and public benefit that NFG provides.

Will NFG hurt small-business retailers?

Nicotine-Free Generation laws are gradual, and the market for tobacco will only decline gradually each year. Most retailers won't see a difference for years. The policy provides time for retailers to develop their business model so as to not depend on selling a harmful and exploitative product. Since Brookline enacted their policy in 2019, not a single tobacco retailer has gone out of business.

Why are we preventing nicotine from being sold to adults? Shouldn't we focus on youth use?

NFG aims to tackle youth nicotine addiction first, by preventing youth from ever trying nicotine and becoming addicted. 99% of smokers start before they are 26 ([2014 Surgeon General Report](#)). The tobacco industry relies on older peers sharing and distributing tobacco to youth. Over time, youth will be further removed in age from anyone who can be sold nicotine legally and any peers who use. The 2024 Surgeon General Report states that **endgame efforts to eliminate tobacco-related disease, disability, and death should create opportunities and conditions for all people to live healthy lives that are free from commercial tobacco.**¹

Are there equity issues to consider with NFG?

Tobacco product use is highest among lower income and other disadvantaged populations. Tobacco product addiction itself can worsen the cycle of poverty for families because each pack of cigarettes for example costs over \$10. Nicotine addiction takes no days off, therefore the pack a day smoker spends over \$3,500 on their nicotine addiction after taxes instead of better food, clothing, and rent for their family. In addition, tobacco retailer density tends to be highest in poorer neighborhoods, placing those community members at higher risk of exposure to

¹ U.S. Department of Health and Human Services. Eliminating Tobacco-Related Disease and Death: Addressing Disparities—A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2024.

advertising and greater access to unsafe products. These facts make tobacco use an equity issue and protecting the next generation from worsening economic and health harms due to nicotine will disproportionately benefit disadvantaged groups.¹

How does NFG help level the playing field with municipal employment opportunities?

Tobacco use is prohibited in all basic military, police, and fire fighter training programs.² For a person to get to be one of these respected members of our communities they cannot be addicted to tobacco products. Fire fighters and police officers cannot be smokers and keep their jobs, it is prohibited by law.³ Therefore, NFG is an important step toward these high paying and upstanding opportunities to be fully available for all our community members.

Suggested Citation for this NFG FAQ: Savage T., Ishak A., Silbaugh K., Chadwick G., Hartmann L., Gottlieb M., Buzby M., Winickoff JP. Nicotine-Free Generation Frequently Asked Questions and Answers. Version 12072024

² DOD: <https://www.militaryonesource.mil/military-basics/new-to-the-military/what-to-pack-for-basic-training/> [militaryonesource.mil]; <https://msptrooper.org/wp-content/uploads/2016/04/Ma-State-Police-Rules-and-Regulations-Combined.pdf> [msptrooper.org]; <https://www.franklinma.gov/sites/g/files/vyhlf10036/f/uploads/academy-trained-patrol-officer-posting-11-19-24.pdf> [franklinma.gov]; <https://www.mass.gov/doc/career-recruit-rules-regulations-11-3-2021-3/download> [mass.gov] section II. D

³ <https://casetext.com/statute/general-laws-of-massachusetts/part-i-administration-of-the-government/title-vii-cities-towns-and-districts/chapter-41-officers-and-employees-of-cities-towns-and-districts/section-41101a-police-officers-or-firefighters-tobacco-smoking> [casetext.com]

Other ideas for inclusion:

Economic argument... consider keeping that money in the community rather than funding factories in China where much of the newer tobacco product is created.

10 THINGS TO KNOW ABOUT NFG

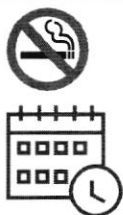


Policy innovation to end nicotine addiction

SCAN ME

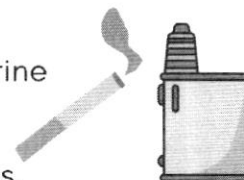
What is NFG?

A policy that prohibits sales of nicotine products to individuals born after a certain date (e.g. Jan 1, 2004). It phases out sales over time, preventing youth initiation without affecting current users.



What is Nicotine?

Includes tobacco and synthetically derived nicotine products: vapes, e-cigarettes, cigarettes, cigars, chew, and pouches.



Why Now?

The nicotine industry is evolving—creating more addictive products with higher nicotine concentrations. These newer devices are often packaged in child-friendly designs (eg. teddy bears, toy guitars), clearly appealing to very young users and undermining prevention efforts.



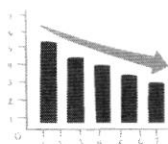
Respects Adult Users

Current nicotine users are not restricted—they can continue buying products. NFG avoids stigma or shaming and supports gradual change.



Retailer-Friendly

NFG's phased approach gives retailers time to adapt their business models, with sales declining slightly each year.



Protects Personal Rights

The Massachusetts Supreme Judicial Court upheld the policy in Brookline. NFG does not criminalize possession or use—just retail sales to future generations.



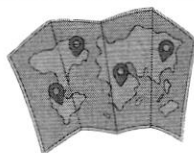
Prevents Black Markets

By preserving access for current users and cutting demand from future ones, NFG reduces risk of illicit sales.



Growing Momentum

Adopted in 17 MA towns, with growing interest from jurisdictions in the US, UK, EU, Singapore, Malaysia and more.



Opposed by Big Tobacco

NFG threatens tobacco industry profits—which is exactly why it's a strong public health policy.





TOWN OF YARMOUTH

1146 ROUTE 28, SOUTH YARMOUTH, MASSACHUSETTS 02664-24451

Telephone (508) 398-2231, ext. 1241

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Board of
Health
-
Health
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BOARD OF HEALTH MEETING MINUTES

1146 Route 28, South Yarmouth

November 3, 2025

Board Members Present: Hillard Boskey, M.D., Charles T. Holway, Mary Craig, Laurance Venezia DVM, Eric Weston

Others Present: Barry Lewis, Assistant Health Director, Riley Niederberger, Division Assistant

1. Call to Order

The meeting was called to order at 5:00 p.m.

2. Declaration of a Quorum

Quorum Present

3. Public Comment

None

4. Smoke Detector Awareness & Education – Yarmouth Fire Department

Rescheduled to next meeting.

5. 24 Grove St, West Yarmouth, MA 02673 – Variance Request

David Coughanowr, R.S. attended the meeting as a representative for 24 Grove Street, West Yarmouth, MA 02673 to request septic variances due to the small size of the property. Barry noted design options are limited for this property and supported the engineer plan.

Variances requested:

- 310 CMR 15.211(1) Septic tank to cellar wall ten (10) foot minimum required. Variance to seven (7) foot separation requested.
- 310 CMR 15.211(1) Septic tank to property line ten (10) foot minimum required. Variance to five (5) foot separation requested.
- 310 CMR 15.211(1) Soil absorption system to cellar wall twenty (20) foot minimum required. Variance to five (5) foot separation requested.
- 310 CMR 15.211(1) Soil absorption system to property line ten (10) foot minimum required. Variance to five (5) foot separation requested.

The existing cesspool is starting to fail and there is an Accessory Dwelling Unit (ADU) currently on the property. The system upgrade will be in compliance with MA Title five (5) regulations.

The Board raised concerns with abutters. David showed certified mailing receipts that he notified beyond direct abutters.

Motion: Eric Weston moved to approve all four (4) septic variances for the property located at 24 Grove Street, West Yarmouth, MA 02673.

Second: Mary Craig

All in favor

6. Plastic Product Waiver - Review

In preparation for review of the Disposable Plastic Reduction Regulation at Town Meeting, the Health Department has been working on a Plastic Product Waiver. Format edits will be made to the waiver. The waiver will be for plastics number one (1), two (2), and five (5) only. All other plastics excluding number six (6) will require a variance, which is a separate application available on the Town of Yarmouth website.

The Board reviewed a video on the Yarmouth plastic reduction and would like to see other content that focuses on how the new regulation is more cohesive and achievable than the original bylaw. The Board noted the importance of providing guidance on how to follow the new plastic reduction regulation.

On November 17th, the item of rescinding the current plastic reduction bylaw will be on the special Town Meeting Warrant.

7. Review & Approve of Minutes

Motion: Laurance Venezia moved to approve the minutes from October 6, 2025, with one edit.

Second: Eric Weston

All in favor

8. New/Old Business

Barry noted that there were fifty-one (51) participants at the October Flu Clinic at the Yarmouth Senior Center, the event went smoothly, and the department saw a larger turnout than the previous year.

As November is Diabetes Awareness Month the Health Department is hosting a free A1C screening event on November 14th from 1:30 p.m. to 3:00 p.m. in partnership with the Barnstable County Public Health Nursing Division. The event is at the Yarmouth Town Hall, 1146 Route 28, South Yarmouth, MA 02664. Hillard noted that A1C testing is a great way to assess average blood glucose over about three (3) months.

The Barnstable County Health & Environment Division will host Buried in Treasures workshops starting November 18th. This is a sixteen (16) week commitment open to all who may need resources for decluttering, hoarding, or supporting others with compulsive acquiring. For more information, the public can call 774-330-3001.

Barnstable County has a food assistance information page on their website, capecod.gov with several helpful resources on locating food pantries, information on SNAP/HIP, transportation, and educational materials available in English, Spanish, and Portuguese.

Cape Cod Community Food Pantry:

Tuesdays & Thursdays 5:30-6:30 p.m.

2nd Friday of the month 3:00-4:00 p.m.

3rd Saturday of the month 10:00-11:00 a.m.

4th Friday of the month 10:00-11:00 a.m.

Senior Hours: 2nd & 4th Wednesdays 10:00-12:00 p.m.

Eric shared that the Family Table Collaborative provides healthy prepared meals to the community, offers cooking classes and other resources to assist families struggling with food insecurity. The Family Table Collaborative can be contacted at 508-348-9777.

Barry shared a message from Roby Whitehouse, Assistant Public Works Director stating that the Town of Yarmouth has two (2) licensed pesticide applicators and ensured only licensed applicators can apply on town property.

The Board discussed the new Town of Bourne health regulation banning the sale of Kratom. Hillard described Kratom in low doses as a stimulant and when used in high doses can act similar to an opioid with the addictive nature. Barry wanted to bring this to the Board's attention as the Health Department received a call from a concerned parent that her son was struggling with addiction to Kratom products. The Board expressed concern for public health and would like to discuss further options at the next meeting.

Hillard shared a recent announcement that was made by the Health and Human Services Secretary claiming a connection between circumcision and autism. Hillard stated the medical community is not aware of any scientific research to support this connection and encouraged parents and future parents who may have concerns for their children to speak with their medical providers. Hillard also advised any parents who have concerns regarding a previous announcement from the government regarding a link between Tylenol usage during pregnancy and autism to also speak with their medical providers.

Next Meeting: December 1, 2025

9. **Adjournment** 6:15 P.M.

Motion: Laurance Venezia

Second: Eric Weston

All in favor



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BOARD OF HEALTH MEETING MINUTES

1146 Route 28, South Yarmouth

December 18, 2023

Board Members Present: Hillard Boskey, M.D., Charles T. Holway, Mary Craig, Laurance Venezia DVM, Eric Weston

Others Present: Jay Gardiner, Health Director

1. Call to Order

The meeting was called to order at 5:00 p.m.

2. Declaration of a Quorum

Quorum Present

3. Public Comment

None

4. 3-Month Update – Migrant Family Relocation

Hillard noted that there is a fact sheet on the web-site available to the public with information relative to this topic.

Dr. Mark Smith, Superintendent of DY Regional School District 28 students into the system. Living Harborside suites, fully integrated into the system. Created an additional bus stop on route 28. Since all are living in one location – it was not as big of an issue as logistically. Set up to support language need.

Next Meeting:

5. Adjournment 6:15 P.M.

Motion: Laurance Venezia

Second: Eric Weston

All in favor

Town of Yarmouth Health Department

Blood Drive – January

In recognition of **National Blood Donor Month**, the Yarmouth Health Department invites community members to help save lives by donating blood!

January is a critical month for blood donations. Holiday schedules, winter weather, and the cold and flu season often lead to a drop in donations—creating a higher risk for blood shortages. Your contribution this month can make a meaningful difference for patients in need.

Community Blood Drive Details

- 📅 **Date:** Friday, January 23, 2026
- 🕒 **Time:** 10:30 a.m. – 3:00 p.m.
- 📍 **Location:** Lorusso Lodge at Flax Pond
31 Dupont Avenue, South Yarmouth

Hosted in partnership with the **American Red Cross**

Donation Options

Whole Blood Donation

The most common and flexible type of donation. About one pint of blood is collected, and the process generally takes about one hour.

Power Red Donation

This procedure collects a concentrated dose of red blood cells while returning most plasma and platelets to the donor. *Specific eligibility requirements apply; donors must have Type A Negative, B Negative, or O blood.*

How to Schedule an Appointment

Visit the American Red Cross website:

<https://www.redcrossblovd.org/give.html/drive-results?zipSponsor=YARMOUTHREC>

Or go to “**Find a Drive**” and enter the sponsor code **YARMOUTHREC**

Walk-ins are welcome, but we encourage appointments to help minimize wait times. Juice, water, and small snacks will be provided for all donors.