

Vaping & Tobacco Secondhand Smoke

NH Health Officers Association
Spring Workshop
5/24/18

Susan Morrison, M.Ed.
NH Department of Health & Human Services
Tobacco Prevention & Cessation Program





Nicotine Addition

Physical

- ▶ Receptors in the brain absorb the nicotine
- ▶ Dopamine is released creating that reward (pleasure, calming feeling)
- ▶ Built up tolerance = needing more for same reward

Psychological

(Mental & Emotional)

- ▶ Involves rituals or people associated with smoking
 - Smoking with Coffee/Meal
 - Smoking when Stressed
 - Breaks with Co-workers

What Helps to Quit

- * Nicotine Replacement Therapy (NRT)
- * Resources to avoid using

- * The WANT to Quit
- * Willingness to Change Behaviors
- * Helpline Coaching
- * Other Support System

HOW DOES **NICOTINE** WORK IN THE BODY?



You smoke a cigarette or take a nicotine product. Nicotine is absorbed through the mucosal linings in the nose and mouth.



When you inhale, nicotine passes through the lung's membranes and into the bloodstream.



After it reaches the bloodstream, nicotine makes its way to your heart. There, it's transferred to your arteries, and up to your brain.



Nicotine reaches the brain in 10-20 seconds. It stimulates the release of neurotransmitters adrenaline and dopamine.



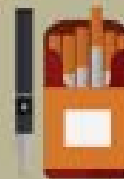
Nicotine is extensively metabolized to a number of metabolites by the liver.



Nicotine is filtered by the kidneys and excreted in urine, with variable reabsorption depending on urinary pH.



NICOTINE PRODUCTS



Cigarettes and e-cigarettes



Chewing Tobacco and Snuff



Pipes



Dissolvable tobacco (lozenges)

Tobacco Facts...



- ✓ Tobacco use is the single most preventable cause of disease, disability, and death in the United States
- ✓ More deaths are caused each year by tobacco use than by all combined deaths from
 - HIV - Illegal Drug Use - Alcohol Use - Motor Vehicle Injuries – Suicides – Murders
- ✓ Cigarette smoking is responsible for more than 480,000 deaths per year in the United States
 - Including more than 41,000 deaths resulting from secondhand smoke exposure

This is equivalent to 3 jumbo jets crashing each day for a year!

599 of the 4,000+ Chemicals Found in Cigarettes¹

- [illegible]

¹ Tobacco Industry release to US DHHS (1994)

Health Effects of Smoking



Ears
Hearing loss



Throat
Cancer, voice deepening



Lungs
Wheezing, trouble breathing or shortness of breath, pain and tightness in the chest, frequent coughing or heavy chest colds, emphysema, chronic bronchitis, chronic obstructive pulmonary disease or asthma, lung cancer



Stomach
Stomach ulcers



Blood
High blood pressure, increased white blood cell count, weakened immune system, taking longer to heal



Brain
Stroke



Eyes
Cataracts, blindness, loss of night vision



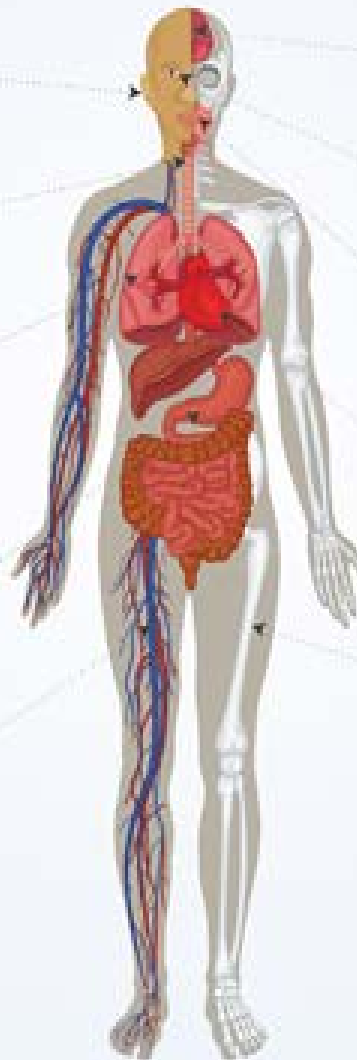
Mouth
Oral cancer, cavities, bad breath, sores in the mouth



Heart
Heart disease, heart attack, bad circulation, tingling in hands and feet



Bones
Bone disease, bone density loss, more broken bones



Smoking affects many parts of the body

Smoking increases the risk of many types of cancer including:

- lung
- throat
- mouth
- esophageal
- stomach
- kidney
- bladder
- cervical

If you smoke, you are **10 times** more likely to get cancer than a person who has never smoked.

Types of Smoke

► Primary

- The smoke inhaled into the lungs while smoking



► Secondhand

- The smoke exhaled from smoking or from the burning tip of a cigarette



Third-Hand Smoke or Particulate Matter

- ▶ The “Legacy” of SHS
 - The contaminants that remain after the smoke is gone
- ▶ Exposure occurs via
 - **Inhalation** of gases and particles
 - **Dermal absorption** from contact
 - **Ingestion** of particles



“Breathing air in a room today where someone smoked yesterday can harm your health”

Tobacco Smoke - No Limits

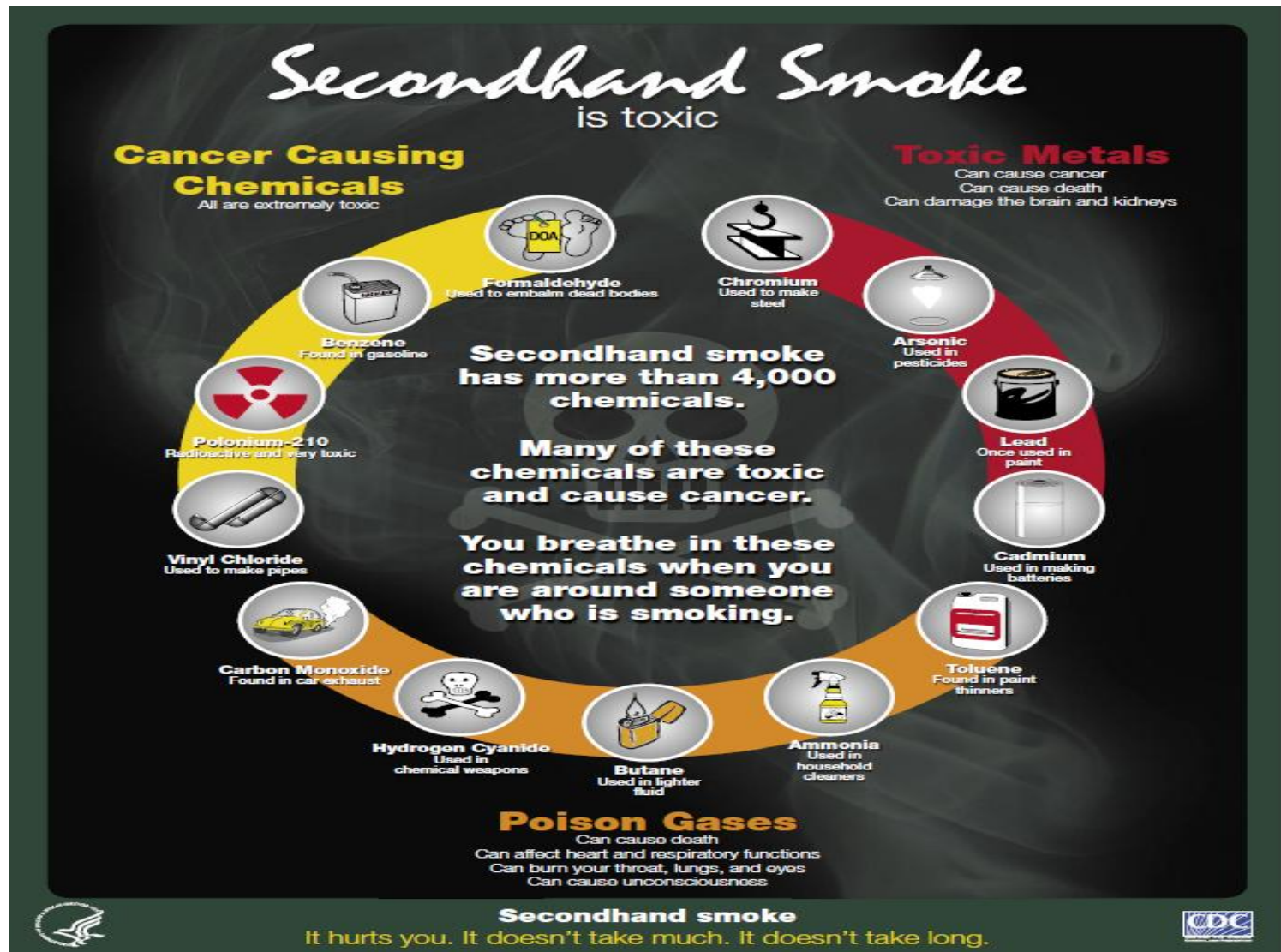
Tobacco smoke can move along/through...

- ▶ air ducts
- ▶ cracks in the walls and floors
- ▶ elevator shafts
- ▶ plumbing
- ▶ electrical lines

to affect units on
other floors.



No Safe Level of Exposure



Research Shows...

Surgeon General's Reports
(1964, 2006, 2010, 2014, 2016)



American Society of Heating,
Refrigeration and Air-Conditioning
Engineers

US Department of Housing and
Urban Development (HUD)



It's about the smoke **NOT THE SMOKER!**

ENDS

ELECTRONIC NICOTINE DELIVERY SYSTEMS



ENDS- Electronic Nicotine Delivery Systems, Tanks, Mods, Pens, E-cigarettes

2007 –2018



E-Cigarettes & Vape Pens Components



Battery

The battery is the energy source of the device and powers the atomizer

Atomizer

The atomizer is the heating element that heats the e-liquid and is often coil shaped

E-Liquid

Sometimes called e-juice, this is put into the device and often contains flavors and nicotine

Cartridge

The cartridge (tank) holds the e-liquid and may also hold the atomizer

Aerosol

Heating e-liquid inside the device creates an aerosol that is inhaled into the body and out into the air

E-Liquid/Juices

is a liquid consisting of

- **PG** (propylene glycol)
- **VG** (Vegetable Glycerin)
- Flavoring and nicotine

Over 7000 flavors

- ▶ Menthol
- ▶ Fruit
- ▶ Alcohol
- ▶ Candy
- ▶ Chocolate
- ▶ Sweets

Nicotine Levels (mg/ml)

amount of nicotine in milligrams for each milliliter of E-Liquid

- ▶ 0 (no nicotine)
- ▶ 12 (light cigarettes)
- ▶ 24 (pack a day)
- ▶ 36 (2+ packs per day)

NH Price Range:

- Lowest \$5 for 10ml bottle
- Highest \$120 for 480ml bottle

E-liquid Flavors & Packaging



E-liquid



Food product



E-liquid



Food product



E-liquid



Food product



E-liquid



Food product

Vaprwear



Our patented Drawstring™ vapor delivery system is now **vape ready**, meaning it's compatible with virtually every vape cartridge. **Vape pen sold separately.**

Forty-Two Chemicals Identified in Electronic Cigarettes

✓ = exposure can be especially harmful to the health. Chemicals in red are emitted in secondhand smoke.

2-butanone (MEK)	Butyl hydroxyl toluene	Limonene	Potassium
2-furaldehyde	Cadmium ✓	m,p-Xylen	Propanal ✓
Acetaldehyde ✓	Chromium ✓	Magnesium	Propylene Glycol ✓
Acetic acid	Copper	Manganese	Sulfur
Acetone ✓	Crotonaldehyde	Nickel ✓	Tin ✓
Acrolein ✓	Diethylene Glycol ✓	Nicotine ✓	Toluene ✓
Aluminum	Formaldehyde ✓	N-Nitrosornicotine ✓	Valeraldehyde
Barium	Glyoxal	o-Methylbenzaldehyde ✓	Zinc
Benzene ✓	Iron	p,m-Xylene	Zirconium
Boron	Isoprene ✓	Phenol ✓	
Butanal	Lead ✓	Polycyclic Aromatic Hydrocarbons ✓	

More than 25 chemicals are found in both Cigarettes & E-Cigarettes

Data from the National Poison Data System (1/2012 – 4/2017)

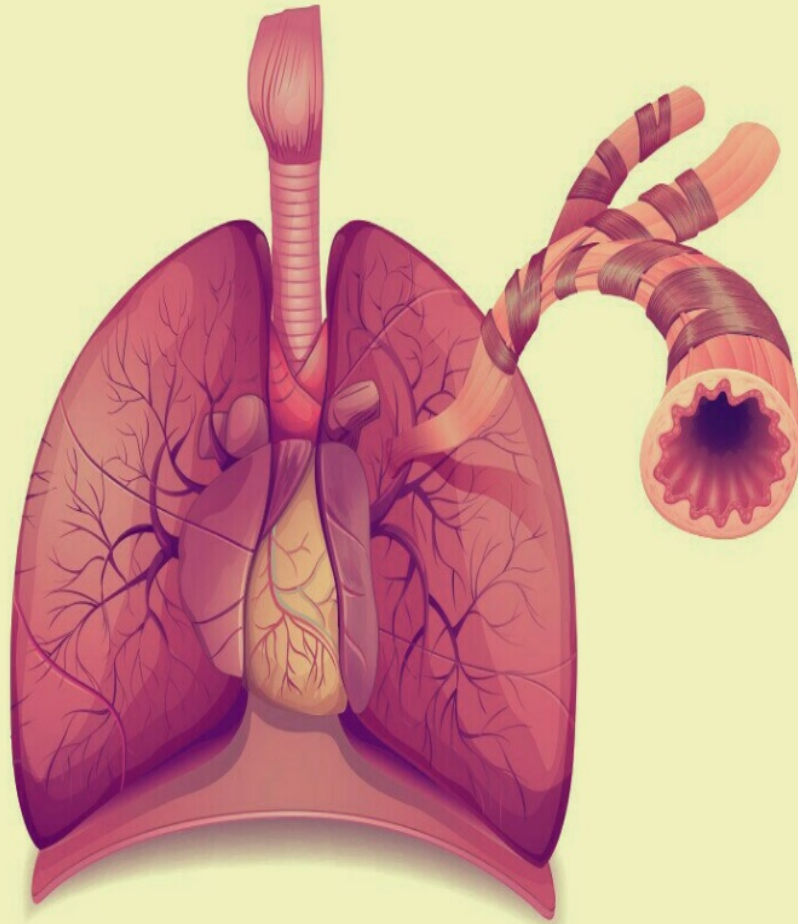


- 8,269 calls to US poison control centers reporting liquid nicotine exposures among children ages 6 or under.
- 92.5% of the children exposed to liquid nicotine ingested it.
- Around seven children a day accidentally swallow liquid nicotine from e-cigarette refills.
 - Even a few drops can be fatal.

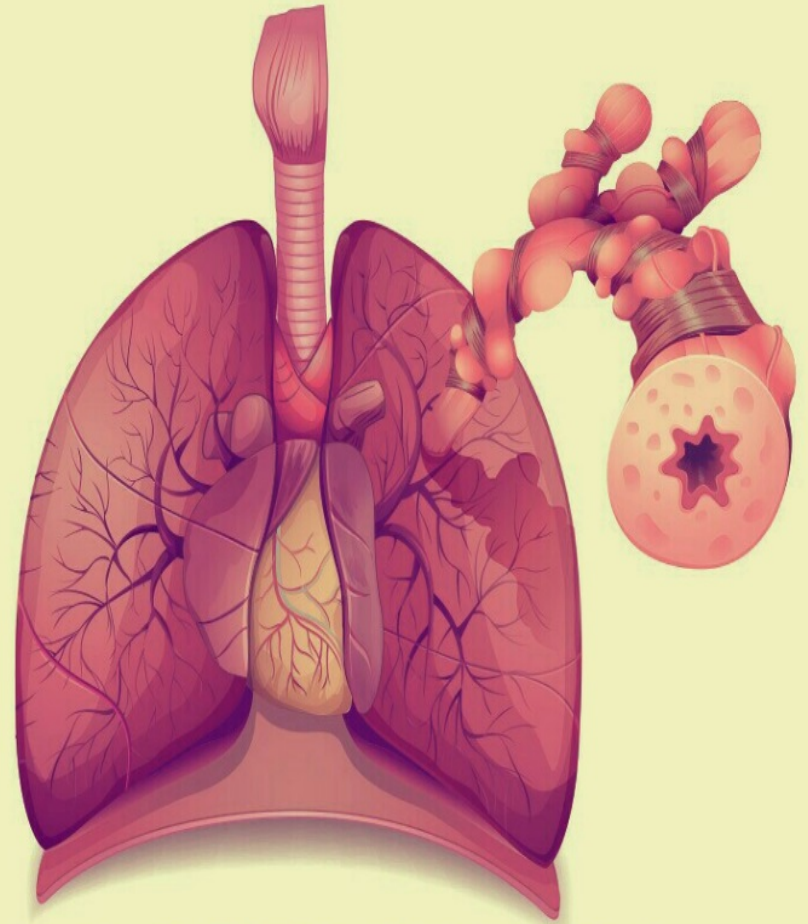




Long Term Health Effects Not Known, But...



NORMAL



POPCORN LUNG

FDA: Where We Are At...

- **2009** – Family Smoking Prevention & Tobacco Control Act gives FDA authority to regulate the manufacture, distribution, and marketing of tobacco products
- **2016** – FDA proposes Deeming Regulation, to regulate e-cigs/ENDS as tobacco products
- **2017** – Senator requests review, repeal of proposed regulation resulting in delayed enforcement
- **April 24, 2018** – FDA Announces Enforcement Actions and a *New Youth Tobacco Prevention Plan* related to JUUL and other e-cigarettes

NH Policies

RSA 155:64–77

- Indoor Smoking Act (ISA) (1991)
- Restaurants and Bars (2007)
- www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-XII-155.htm

Pre-emption State

- ▶ Local tobacco laws can not be stronger than state laws.
- www.courts.state.nh.us/supreme/opinions/2003/coleb111.htm

No “Outdoor” Smoking Law

- Voluntary Policy Adoption
 - Smoke free Parks (Berlin, Laconia, Peterborough, Somersworth)

NH Policies

RSA 126-K:2 & K:7

- Youth access to and use of tobacco products
 - www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-X-126-K.htm

HB 1541 (2010)

- Prohibits the sale of electronic cigarettes and liquid nicotine to minors

NH Vape Shops

- No specific license required to sell e-cigarette products, e-juice or devices at this point

State of NH Secondhand Smoke Exposure Complaint Form

www.dhhs.nh.gov/dphs/tobacco

New Hampshire Department of Health and Human Services
Tobacco Prevention and Cessation Program
Secondhand Smoke Exposure Complaint Form

NH RSA 153:64-77 Indoor Smoking Act <http://www.gencourt.state.nh.us/rsa/html/153/153-64-77.htm>

Your Name: _____ Telephone No.: _____

Your Address: _____
Street/City/Town/Zip

Name of business this complaint refers to: _____

Address: _____
Street/City/Town/Zip

Telephone Number: (____) _____ Type of Business: _____

Name/Title of the person in charge: _____

Please explain the nature of your complaint, including how long the exposure to secondhand smoke has been happening:

Date the complaint was originally registered with the person in charge: mm ____/dd ____/yy ____


Complainant Confidentiality: <http://doj.nh.gov/civil/documents/right-to-know.pdf>
Confidentiality of the complainant shall be protected pursuant to RSA 153:74, II, as follows:

(a) In accordance with RSA 91-A, all information contained in a complaint shall be furnished to the public on request, except that the complainant's name shall not be supplied without express written approval of the complainant.

Signature of complainant: _____ mm ____/dd ____/yy ____
(Your complaint must be signed and dated in order to be formally investigated)

For more information, please call the NH Department of Health & Human Services, Division of Public Health Services, Tobacco Prevention and Cessation Program at 800-852-3345, Ext. 8949 or 603-271-8949

Please return this completed form to the: Tobacco Prevention and Cessation Program
29 Hazen Drive, Concord, NH 03301-6504
Or by fax to: 603-271-5318

 Tobacco Prevention
& Cessation Program
1-800-852-3345 • QuittingNH.org

Air Quality Machines

Particulate Matter is the air pollution that most commonly affects people's health.

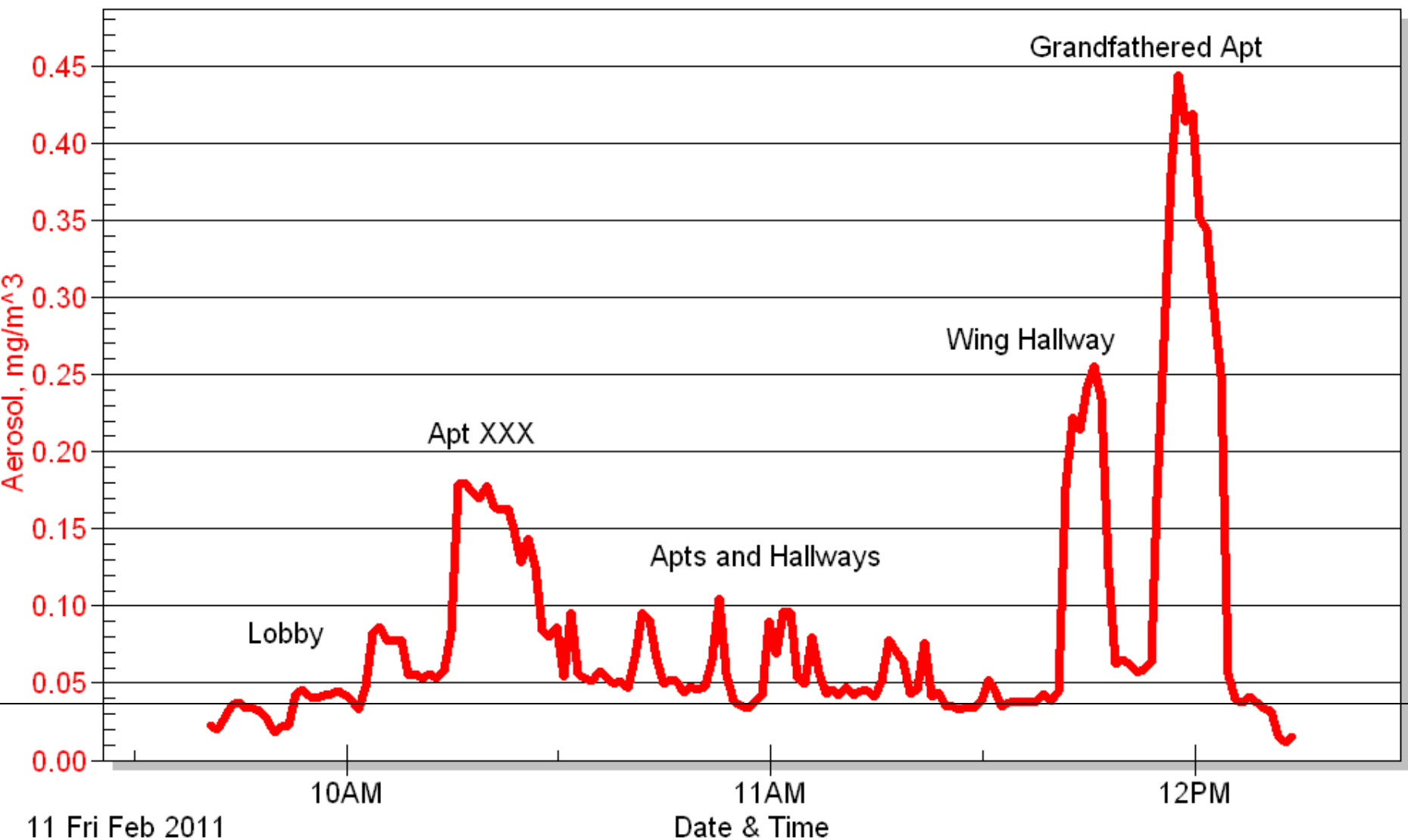
- ▶ The size of particles is directly linked to their potential for causing health problems.
- ▶ PM2.5 is particles smaller than 2.5 microns
 - Smoke
 - Smog
 - Fine Dust
 - Mold

FYI: A human hair is about 60 microns in diameter



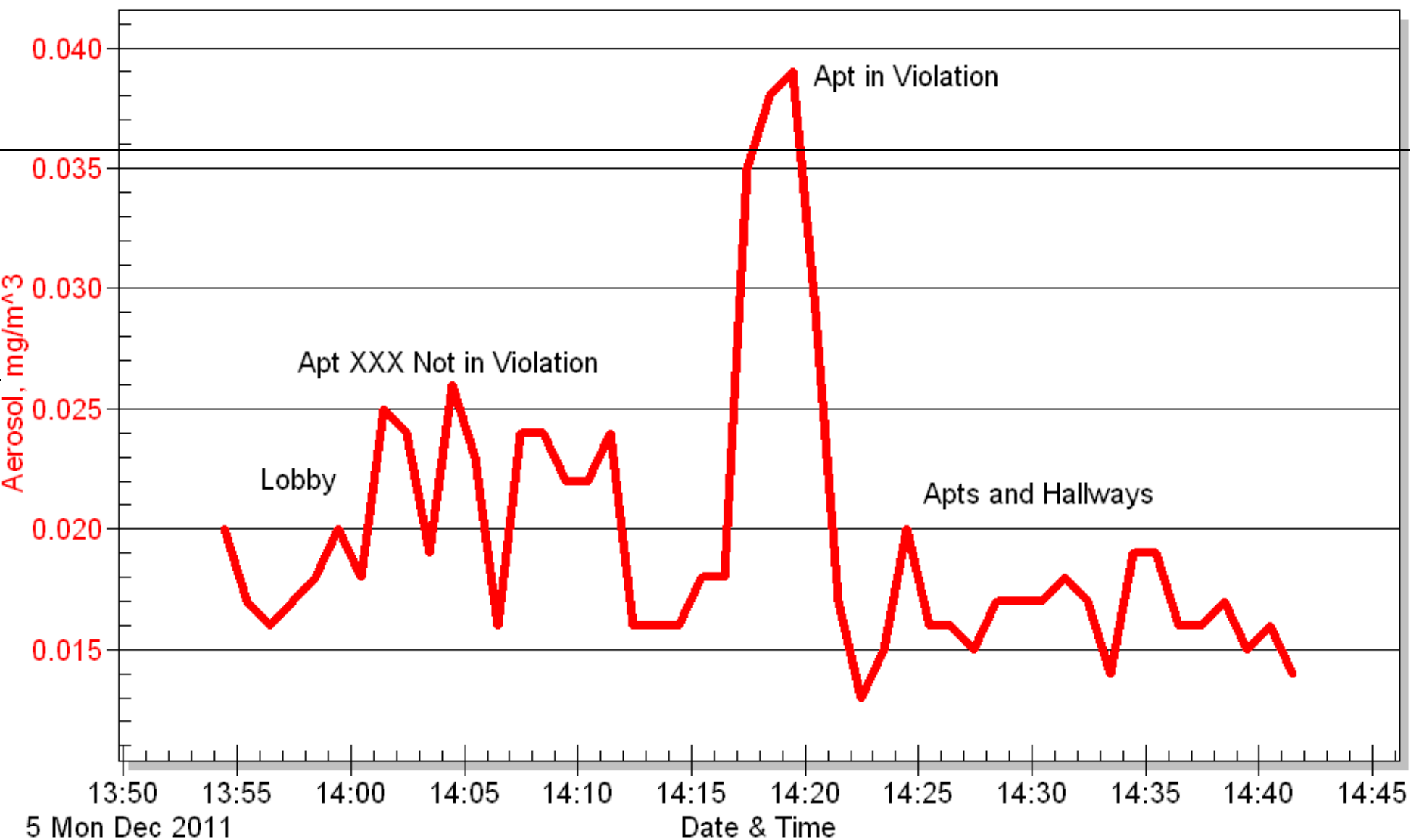
NH HUD Building with Grandfathered Smokers

Testing Date 2-11-11



NH HUD Building Smoke Free on 11-1-11

Testing date 12-5-11



QuitNow-NH

www.QuitNowNH.org

1-800-QUIT-NOW

- Coaching Sessions
- FREE Nicotine Patches, Gum or Lozenges.

YOU CAN QUIT TOBACCO

1-800-QUIT-NOW
(1-800-784-8669)

www.QuitNowNH.org

FREE gum, patches, and lozenges delivered to your home at no cost if you enroll in coaching sessions.

 **QUIT NOW**
New Hampshire

Spanish: 1-888-833-5258
TTY/ITD: 1-888-833-1477

New Hampshire Department of Health and Human Services • Division of Public Health Services

Thinking about quitting tobacco?

QUIT NOW New Hampshire
can help you to quit, stay quit or just get information.

 **Coaching sessions are free and confidential to all NH residents.**

 **Free Nicotine patches, gum and lozenges are available at no cost if you enroll in coaching sessions.**



CALL: 1-800-QUIT-NOW/1-800-784-8669
VISIT: www.QuitNowNH.org



E-Cigarette Resources

Local

NH Department of Health and Human Services, Tobacco Prevention and Cessation Program

www.dhhs.nh.gov/dphs/tobacco

www.quitnownh.org/e-cigarettesvaping

603-271-6891

Breathe New Hampshire

<https://www.breathenh.org/programs/vaping-unveiled>

603-669-2411

Northern New England Poison Center

www.nnepc.org/poison-prevention-education/webinars-for-professionals/e-cigarettes-school-nurse-webinar

Partnership for a drug free NH

www.drugfreenh.org



E-Cigarette Resources

National

Centers of Disease Control and Prevention, Office on Smoking and Health

www.cdc.gov/tobacco

Surgeon General - Know the Risk of E-Cigarettes and Young People

<https://e-cigarettes.surgeongeneral.gov/>

Truth Initiative

www.truthinitiative.org

Campaign for Tobacco Free Kids

www.tobaccofreekids.org/what-we-do/industry-watch

Program/Curriculum

CATCH My Breath Youth E-cigarette Prevention Program

www.catchinfo.org/modules/e-cigarettes

Stanford Medicine, Tobacco Prevention Toolkit

www.med.stanford.edu/tobaccopreventiontoolkit.html



Susan Morrison, M.Ed.

NH Department of Health & Human Services
Tobacco Prevention & Cessation Program

Susan.Morrison@dhhs.nh.gov

603-271-6684