




# UNM

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New Mexico Poison & Drug Information Center



## Presentation to Tobacco Settlement Revenue Oversight Committee

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# Mission of NMPDIC



The mission of the New Mexico Poison & Drug Information Center (NMPDIC) is to improve the health of New Mexicans by reducing morbidity and mortality associated with poisoning, adverse drug interactions and medication errors.

## **Service Components**

- Poison Information
- Drug Information
- DOH All Hazards

## Poison Center Enhanced Data Collection E-cigarettes

- Collect extensive brand name information
- Surveillance for new product designs
  - Vaporizer pens
  - Open vs closed systems
  - Flavorings
  - Bud cartomizers
- Concentration of nicotine

# Electronic cigarette Facts



- National explosion of e-cigarette calls to Poison centers
- 1 death in a toddler in NY
- NMPDIC calls increased 7-fold from 2010 to 2014 (9 to 61)
- NMPDIC calls decreased in 2015 (48) after passing of child-resistant packaging rules in NM
- 2016 = 41
- 2017 = 24
- 2018 = 40
- 2019 = 46
- 2020 = 21
- 2021 YTD = 21

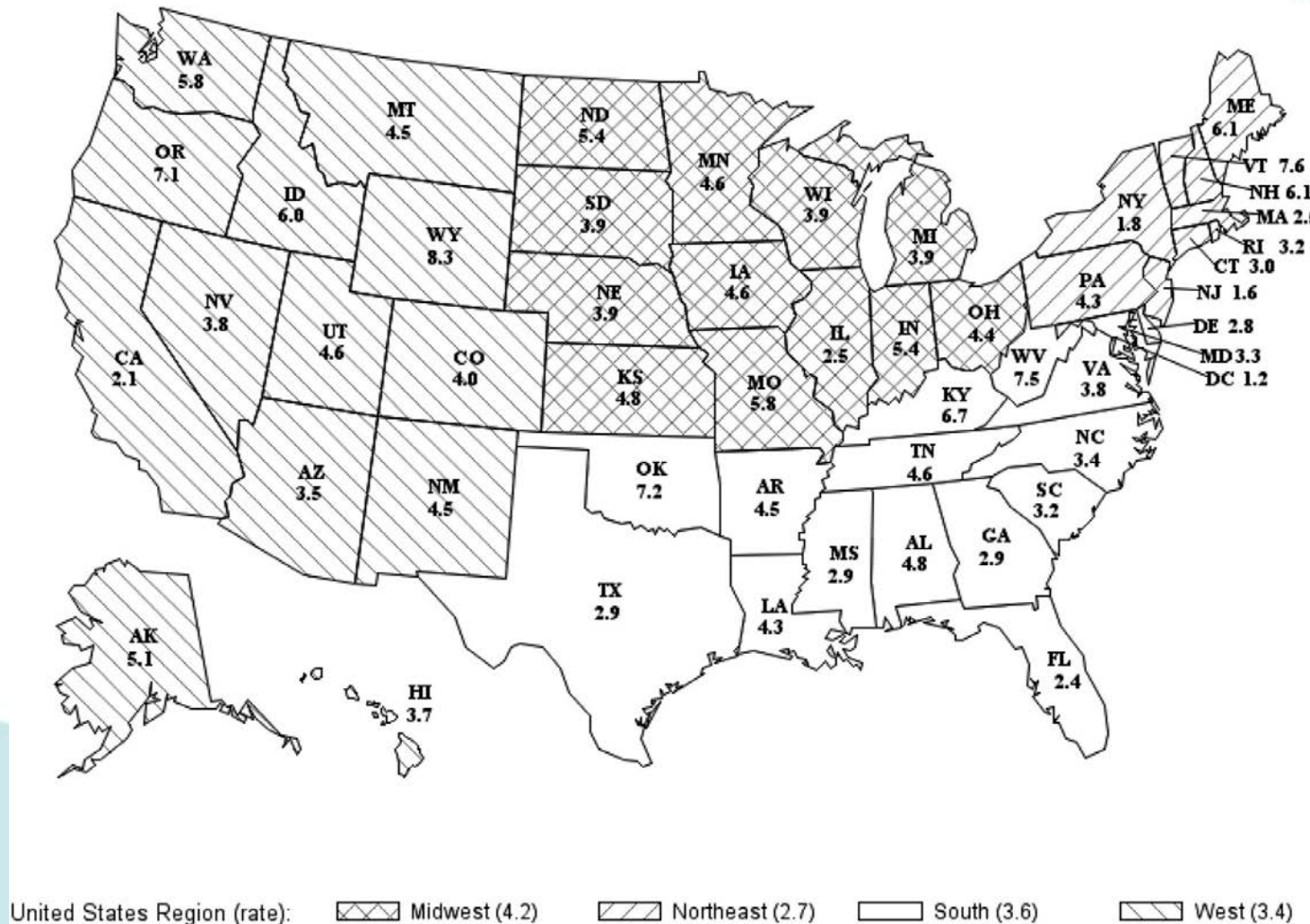
# Other tobacco products

- 2014 = 77
- 2015 = 98
- 2016 = 100
- 2017 = 95
- 2018 = 94
- 2019 = 95
- 2020 = 83
- 2021 YTD = 48

# Background

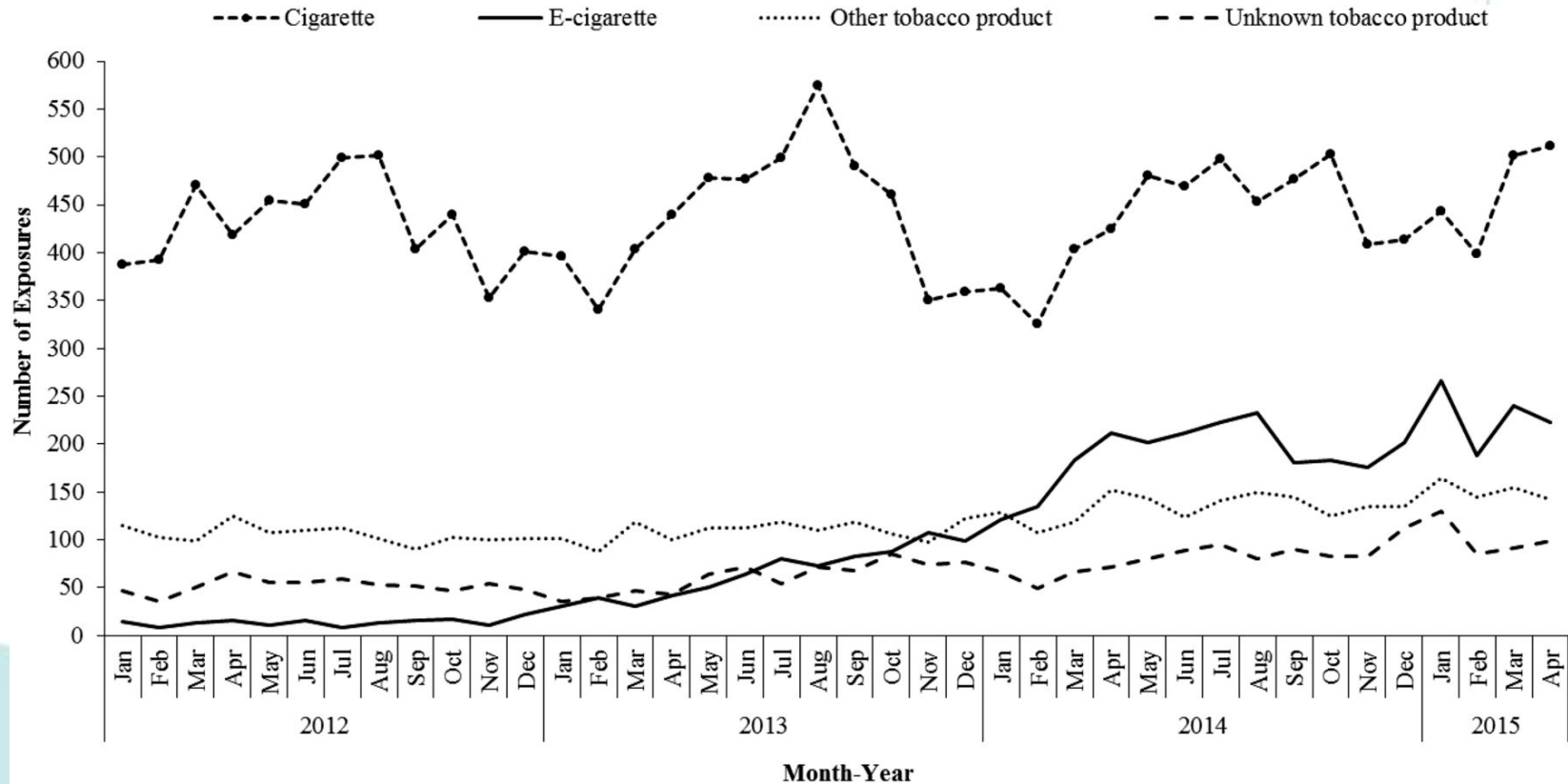
- Poison centers are reporting an increase in calls about exposures to E-cigarettes and the liquid nicotine used in the E-cigarette devices.
- In 2015, poison centers received reports of 3,590 exposures to electronic cigarettes and liquid nicotine (out of 2,231,381 total exposure cases).
  - Increased to 6401 cases in 2019
  - 44% were  $\leq$  5 years of age

# Nicotine and tobacco product exposure rate per 10 000 children younger than 6 years by state and region, NPDS, January 2012 to December 2014.



Alisha Kamboj et al. Pediatrics 2016;137:e20160041

# Monthly number of nicotine and tobacco product exposures among children younger than 6 years by product type and year, NPDS, January 2012 to April 2015.



Alisha Kamboj et al. Pediatrics 2016;137:e20160041



# EVALI (e-cigarette or vaping use-associated lung injury)

- NMPDIC had 5 cases with major outcomes in 2019 and 2020
  - 4 to nicotine products
  - 1 to marijuana product
- CDC extensively relied on poison center cases to investigate this outbreak

# Impact of Enhanced Coding on NMPDIC

- Acknowledged:
  - This is more work for poison center specialists
  - This requires more quality control time

However

- 1 case handled = 1 person helped
- 1 case coded correctly can = hundreds of people not poisoned in the future
- FDA is very interested in our data

# E Cigarette Device Type 2018-2020

- Liquid refills – 37
- Closed cartridges – 8
- Open System – 10
- Battery explosion – 2
- Local preparations – 4
- Commercial preparations - 53

# One of our patients with explosion in mouth and cart impacting spine



# NMPIC E-juice from occupational exposure

- 24-year old occupational injury got drops into her eyes

# NMPDIC: vulnerable populations

- 59-year old mentally disabled, epileptic ingested 100 mL of 6 mg/mL juice
  - Multiple seizures, fast heart rate, low blood pressure, tremors, pneumonia, fever, severe acidosis, intubated on ventilator x 4 days
- 23-year old mentally disabled, swallowed an entire closed system device
  - GI removed part from his stomach, Battery and nicotine cartridge remained in intestine and retrieved via colonoscopy

# NMPIC Sample exposures

## E-juice from open systems

- 18-month old drank 6 mg/mL from Ziplock bag (liquid had spilled from container)
  - Treated at hospital
- Adult had solution overflow while filling the device and ingested 1-2 tablespoons
  - Vomiting, coughing, likely aspirated
- 2-year old unscrewed device and ingested liquid
  - Treated at hospital
- 18-month old sucked liquid from open device
  - Multiple seizures, vomiting, lethargy, admitted, toxicology team saw at bedside

# NMPIC Sample exposures

## E-juice from liquids

- 2-year-old found with container of 25 mg/mL (blend from local shop)
  - Vomiting, pallor, treated at hospital
- 7-month old ate cotton soaked in e-cig juice
  - Vomiting
- 14-month old ingested 2 mL of 100 mg/mL
  - Vomiting X 6, tachycardia, treated at hospital
- 3-year old ingested 100 mg/mL liquid from dropper of empty container
  - Vomiting, drowsiness, treated at hospital



# NMPIC Sample exposures

## E-juice from liquids

- 4-year-old licked finger; dad prepares his own vape juice
- 14-month old ingested 12 mg/mL
  - Dizziness, vomiting, treated at hospital
- Adult filled syringe with 12 mg/mL solution and placed under tongue because she did not know it contained nicotine
  - Nausea, vomiting, abdominal pain, treated in hospital

## NMPDIC sample cases: Inhalation from closed system

- 2-year old turned on device and inhaled
- 28-year old put high strength patch then vaped
  - Agitation, palpitations
- 3-year old grabbed device 3 mg/mL and inhaled one puff - coughing

# NMPDIC Skin exposures

- Adult spilled 1 mg/mL on skin
  - Numbness, difficulty breathing, chest pain, dizziness, treated at hospital

# NMPDIC Eye exposures

- 18-month old got into 10 mg/mL bottle made at local store into hands and eyes
  - Tearing, red eye, irrigated at home
- Adult used unflavored e-juice instead of his eye drops
  - Red eye, irrigated at home
- Adult had corneal ulcer from gardening and used 8 mg/mL drops instead of antibiotic
  - Visual defect, pain, red eye

# NMPDIC Battery Explosions

- Adult had battery explode in her hand with second degree burns on fingers and on chest, small fires in house, a lot of pain
- 32-year old had battery explode in his hand
  - 3<sup>rd</sup> degree burns from palm to fingertips, burned hole in carpet

## NMPDIC sample cases: Brand names/Flavors

Elements Pink Lemonade 25 mg/mL (22-month old)

Purple Drank 3 mg/mL (2-year old)

Papa Smurf 12 mg/mL (14-month old)

Strawberry Kiwi 4 mg/mL (18-month old)

Mixed Berry 6 mg/mL (9-month old)

Smooth horchata 1 mg/mL (adult)

Gobstopper 4 mg/mL (15-month-old)

Phresh Nutty caramel 0.5 mg/mL (adult)

Cinnamon crunch 6 mg/mL (8-month old)

Giants blood English fog (4-year old)

Phresh Big Blueberry 12 mg/mL (adult)

Bavarian cream vanilla custard (adult)

# Conclusions

- Majority of exposures are to liquid refills
- Local and home preparations results in high variety of concentrations and likely not child-resistant
- Vulnerable population providers need education
- Very young children (7-9 month old) are exposed
- Batteries do explode

# What did we do with the money?

- Certified Specialists in Poison Information, all pharmacists
  - Provide consultation to the public and to healthcare providers
  - Presentation to Southwest Tribal Tobacco Coalition
  - Provide data to CDC and FDA
- Public Education
  - Created brochure to highlight dangers of e-cigs and EVALI



# Where did the money go?

- TSF FY 22 was cut \$185,400 from \$590,200
  - Represented 17% of NMPDIC revenue
  - \$125,000 replaced by Junior Appropriation Bill (recurring)
  - \$60,000 provided for FY22 by HSC (non-recurring)
  - Health Educator was paid by COP and not NMPDIC
    - Educator mandatory for continued accreditation
  - Ensured that the poison center existed to capture and mitigate toxicology outbreaks (EVALI, methanol in hand sanitizers, ivermectin)

# What would additional money do?

- Public education could be enhanced to reach populations at highest risk from nicotine poisoning
- Create a data dashboard to track nicotine exposures