



# MASSACHUSETTS & RHODE ISLAND POISON CENTER

2022 Annual Report: Massachusetts and Rhode Island

Boston Children's Hospital, Massachusetts Department  
of Health and Rhode Island Department of Health

Reported March 2023

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# Background and Tools

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## Purpose & Background

The purpose of this report is to describe the people cared for by the Massachusetts and Rhode Island Poison Center during calendar year of 2022. The data presented in this report will showcase the data inputted into ToxiCALL by the Massachusetts and Rhode Island Poison Center (PCC).

## ToxiCall Application & Methodology

The MA & RI Poison Center extrapolates data from ToxiCALL. ToxiCALL is a repository database utilized by numerous poison control centers around the United States to collect toxicology calls made to poison control centers. ToxiCALL is used to make “case entry, tracking and reporting easy, yet flexible” <sup>(1)</sup>. While ToxiCALL holds all of the call information, ToxiCALL Data Analysis also allows MA & RI Poison Center employees to analyze and visualize the data; basic math calculators and Microsoft Excel were also used for this data analysis <sup>(2)</sup>. The syntax used for the queries in this report is included in the appendix at the end of the report.

## Key Terms & Definitions<sup>4</sup>

- **Unintentional General:** All unintentional exposures not otherwise defined below.
  - **Environmental:** Any passive, non-occupational exposure that results from contamination of air, water, or soil. Environmental exposures are usually caused by human made contaminants.
  - **Occupational:** An exposure that occurs as a direct result of the person being on the job or in the workplace.
  - **Therapeutic error:** An unintentional deviation from a proper therapeutic regimen that results in the wrong dose, incorrect route of administration, administration to the wrong person, or administration of the wrong substance. Only exposures to medications or products used as medications are included. Drug interactions resulting from unintentional administration of drugs or foods which are known to interact are also included.
  - **Unintentional misuse:** Unintentional, improper or incorrect use of a non-pharmaceutical substance. Unintentional misuse differs from intentional misuse in that the exposure was unplanned or not foreseen by the patient.
  - **Bite/sting:** All animal bites and stings, with or without envenomation, are included.
  - **Food poisoning:** Suspected or confirmed food poisoning; ingestion of food contaminated with microorganisms is included.

- **Unintentional unknown:** An exposure determined to be unintentional, but the exact reason is unknown.
- **Intentional General**
  - **Suspected suicidal:** An exposure resulting from the inappropriate use of a substance for reasons that are suspected to be self-destructive or self-harm.
  - **Intentional misuse:** An exposure resulting from the intentional improper or incorrect use for reasons other than the pursuit of a psychotropic effect.
  - **Intentional abuse:** An exposure resulting from the intentional improper or incorrect use where the patient was likely attempting to gain a high, euphoric effect or some other psychotropic effect, including recreational use of a substance for any effect.
  - **Contaminant/tampering:** The patient is an unintentional victim of a substance that has been adulterated (either maliciously or unintentionally) by the introduction of an undesirable substance.
  - **Malicious:** Patients who are victims of another person's intent to harm them.
  - **Withdrawal:** Inquiry about or experiencing of symptoms from a decline in blood concentration of a pharmaceutical or other substance after discontinuing therapeutic use or abuse of that substance.
- **Adverse Reactions**
  - **Adverse Reaction Drug:** Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to the active ingredient(s), inactive ingredient(s) or excipient of a drug, chemical, or other drug substance when the exposure involves the normal, prescribed, labeled or recommended use of the substance.
  - **Adverse Reaction Food:** Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to a food substance.
  - **Adverse Reaction Other:** Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to a substance other than drug or food.
  - **Unknown Reason:** Reason for the exposure cannot be determined or no other category is appropriate.
- **Medical Outcomes**
  - **No effect:** The patient did not develop any signs or symptoms as a result of the exposure.
  - **Minor effect:** The patient developed some signs or symptoms as a result of the exposure, but they were minimally bothersome and generally resolved rapidly with no residual disability or disfigurement. A minor effect is often limited to the skin or mucus membranes (e.g., self-limited gastrointestinal symptoms, drowsiness,

skin irritation, first degree dermal burn, sinus tachycardia without hypotension, and transient cough).

- **Moderate effect:** The patient exhibited signs or symptoms as a result of the exposure that were more pronounced, more prolonged, or more systemic in nature than minor symptoms. Usually, some form of treatment is indicated. Symptoms were not life-threatening, and the patient had no residual disability or disfigurement (e.g., corneal abrasion, acid-base disturbance, high fever, disorientation, hypotension that is rapidly responsive to treatment, and isolated brief seizures that respond readily to treatment).
- **Major effect:** The patient exhibited signs or symptoms as a result of the exposure that were life-threatening or resulted in significant residual disability or disfigurement (e.g., repeated seizures or status epilepticus, respiratory compromise requiring intubation, ventricular tachycardia with hypotension, cardiac or respiratory arrest, esophageal stricture, and disseminated intravascular coagulation).
- **Death:** The patient died as a result of the exposure or as a direct complication of the exposure.
- **Not followed, judged as nontoxic exposure:** No follow-up calls were made to determine the outcome of the exposure because the substance implicated was nontoxic, the amount implicated was insignificant, or the route of exposure was unlikely to result in a clinical effect.
- **Not followed, minimal clinical effects possible:** No follow-up calls were made to determine the patient's outcome because the exposure was likely to result in only minimal toxicity of a trivial nature. (The patient was expected to experience no more than a minor effect.).
- **Unable to follow, judged as a potentially toxic exposure:** The patient was lost to follow-up, refused follow-up, or was not followed, but the exposure was significant and may have resulted in a moderate, major, or fatal outcome.
- **Unrelated effect:** The exposure was probably not responsible for the effect.

# Data for 2022

## Purpose

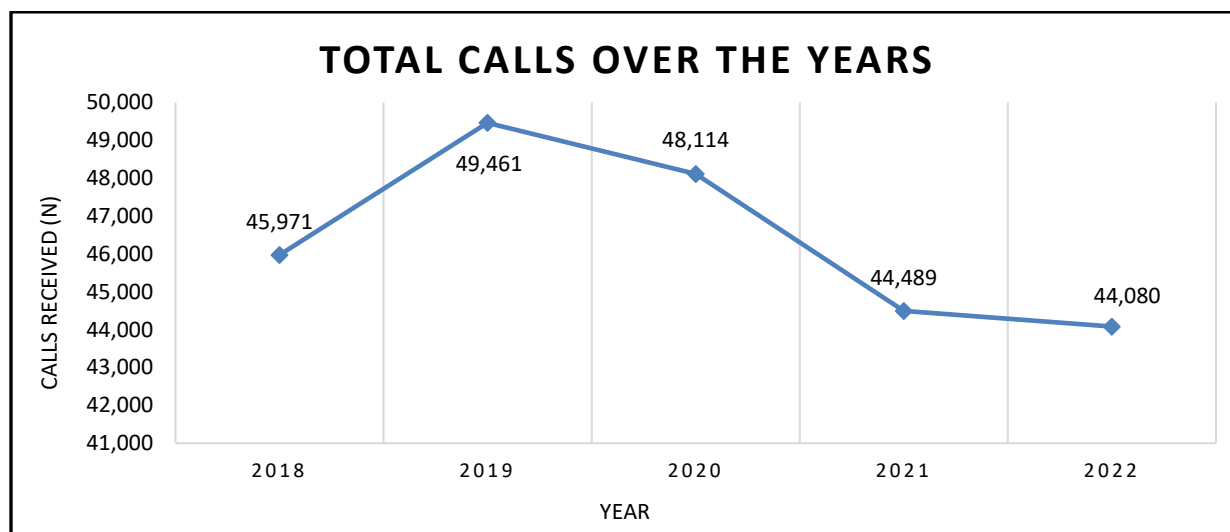
This report describes the various quarters within 2022 and the overall annual statistics. The purpose of the report is to track trends and conduct surveillance regarding toxic exposures and informational needs. The data provided is also useful for funders (such as the state health departments) and to help determine how the PCC should direct its outreach efforts in the future.

| Quarter | Dates                    |
|---------|--------------------------|
| Q1      | January 1 to March 31    |
| Q2      | April 1 to June 30       |
| Q3      | July 1 to September 30   |
| Q4      | October 1 to December 31 |

## Call Volume

### Historical Call Volume

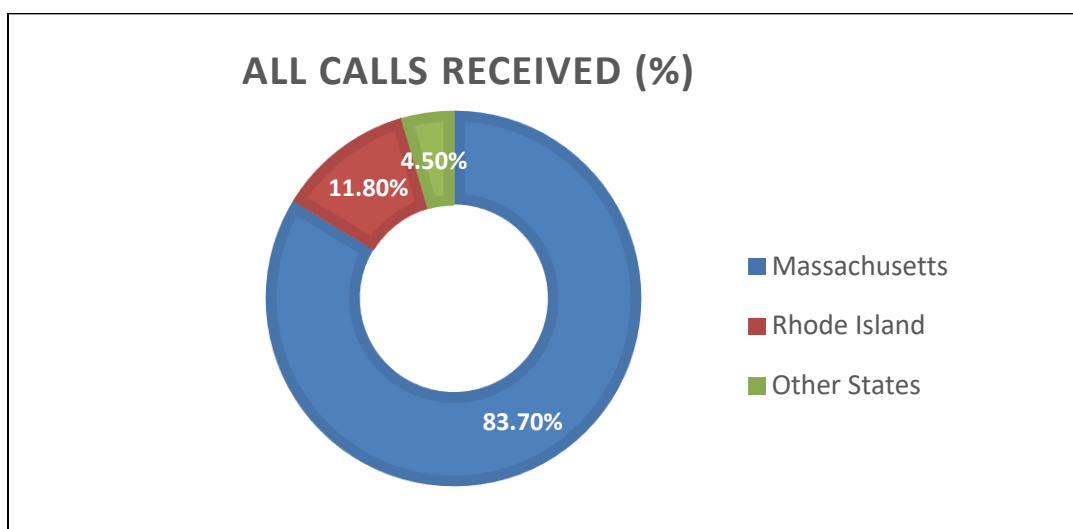
Over the past five years, call volume to the PCC has stayed stable with a slight increase in calls during 2019 and 2020. There is a constant drop in calls in 2020, 2021 and 2022 since 2019.



### Annual Data in 2022: All Calls Received by State

The MA & RI Poison Center (PCC) managed a total of 44,080 calls in 2022. There were 1,967 calls received for people outside of MA and RI, but the majority of calls (95.5%) were for Massachusetts and Rhode Island. Hereafter, any mention of the PCC will correlate to Massachusetts and Rhode Island data only.

| State                | Calls Received (n) | Percentage (%) |
|----------------------|--------------------|----------------|
| <b>Massachusetts</b> | 36,895             | 83.7           |
| <b>Rhode Island</b>  | 5,218              | 11.80          |
| <b>Other States</b>  | 1,967              | 4.50           |
|                      | <b>44,080</b>      | <b>100</b>     |

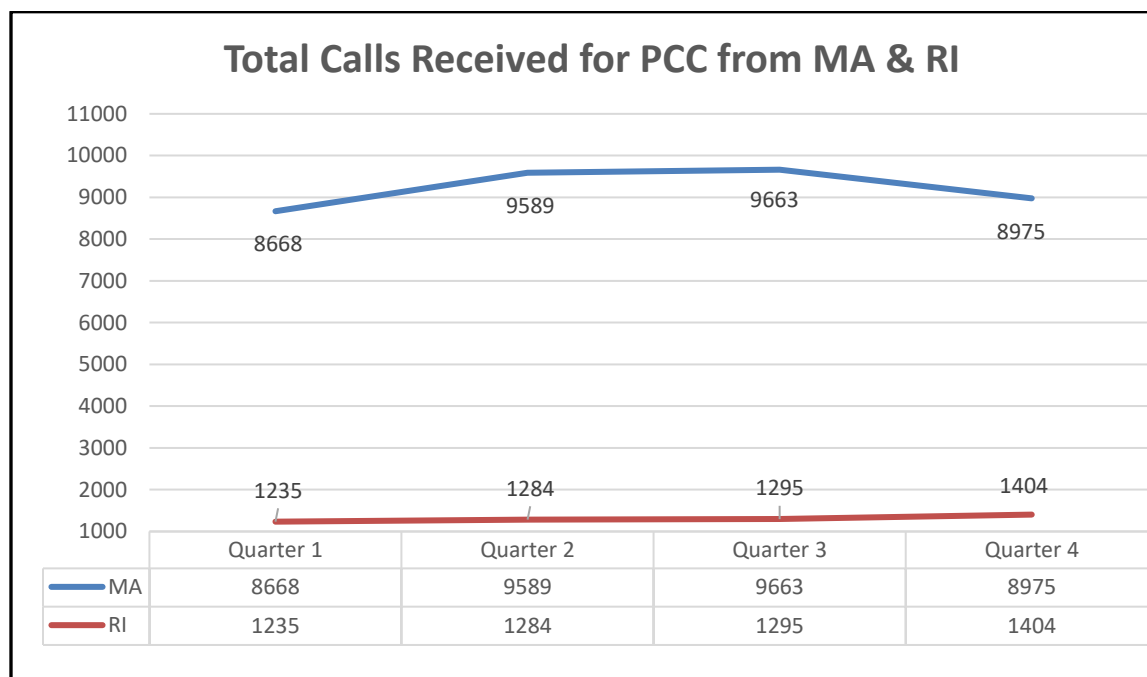


### Quarterly Call Volume

The PCC received a total of 42,113 calls from people within Massachusetts and Rhode Island in 2022. This total includes both exposure and information calls. In 2022, most calls were received in Quarter 2 and 3 (July 1 to September 30 & October 1 to December 31).

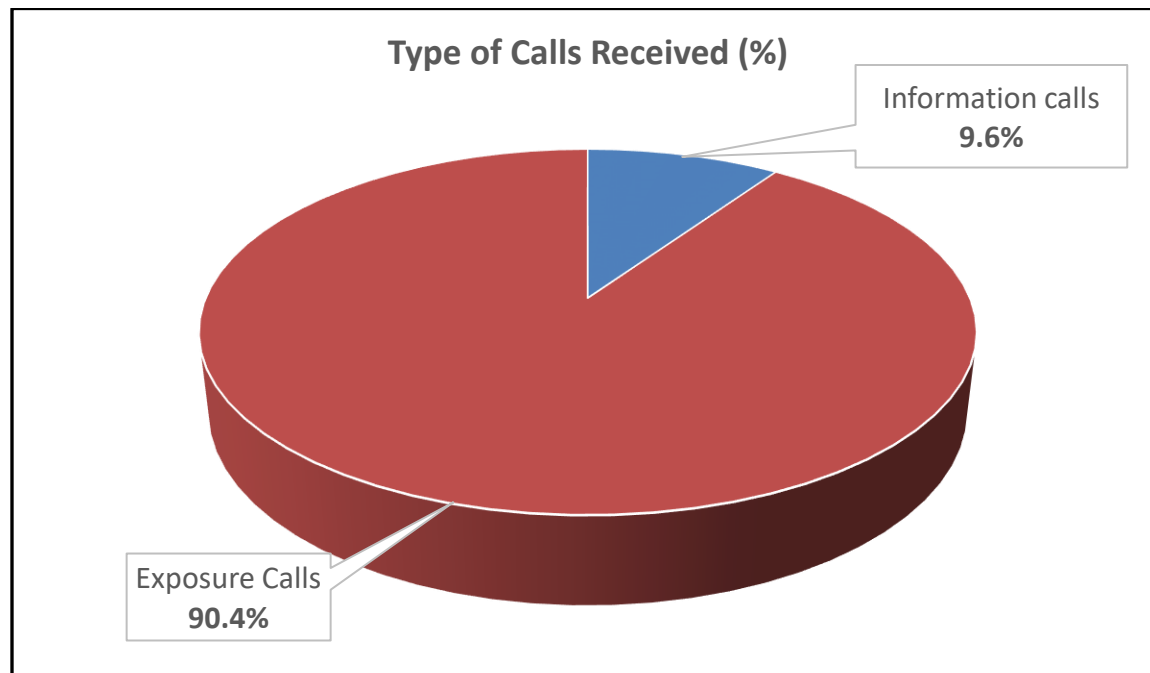
| Quarter          | MA    | RI    | Calls (n) |
|------------------|-------|-------|-----------|
| <b>Quarter 1</b> | 8,668 | 1,235 | 9,903     |
| <b>Quarter 2</b> | 9,589 | 1,284 | 10,873    |
| <b>Quarter 3</b> | 9,663 | 1,295 | 10,958    |

|                  |               |              |               |
|------------------|---------------|--------------|---------------|
| <b>Quarter 4</b> | 8,975         | 1,404        | 10,379        |
|                  | <b>36,895</b> | <b>5,218</b> | <b>42,113</b> |



## Types of Calls

The PCC receives two different types of calls: **exposure calls** and **informational calls**. Exposure calls occur when someone is exposed to a substance, while informational calls are when people call the PCC asking for information about a potential poison, but no exposure has occurred. Most of the calls the PCC received in 2022 were exposure calls (90%).

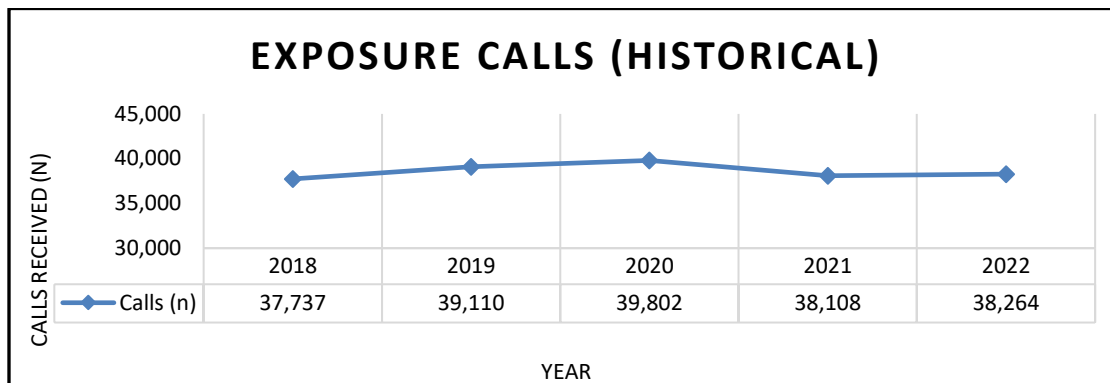


## Exposure Calls

### Historical trend

Over the past five years (2018-2022), the PCC has received 193,021 exposure calls from MA and RI. Call volume has been stable over the past five years, but there was a small increase in calls from 2019 to 2020.

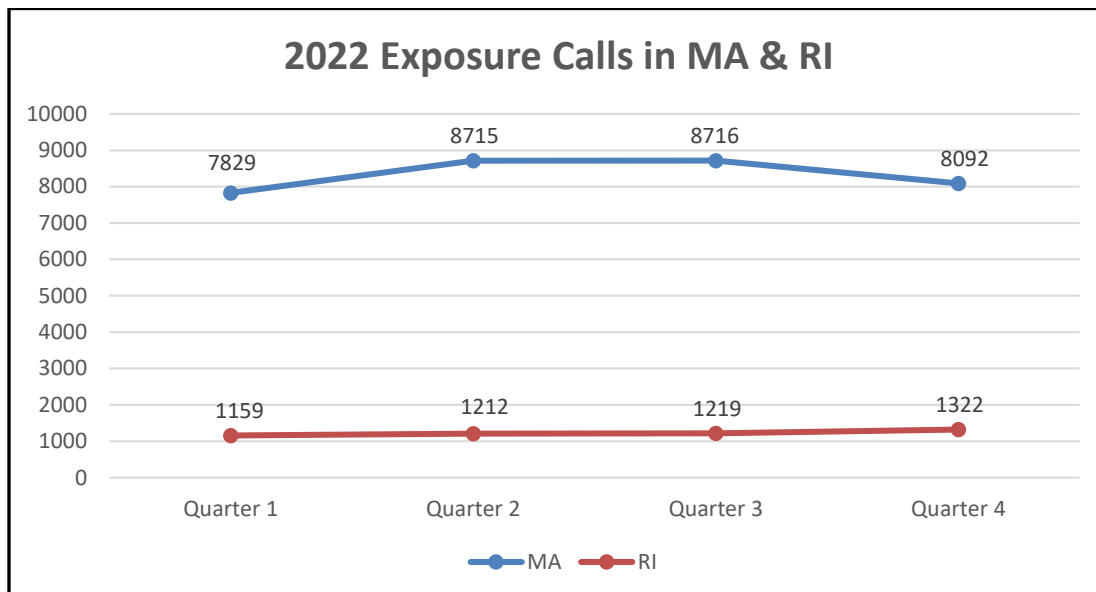
| Year | Calls (n) |
|------|-----------|
| 2018 | 37,737    |
| 2019 | 39,110    |
| 2020 | 39,802    |
| 2021 | 38,108    |
| 2022 | 38,264    |



### Annual Exposure Calls in 2022

For the year 2022, there was a total of 38,264 exposure calls (from MA & RI) received by the PCC. Essentially, there was an even split in the number of calls received for each quarter.

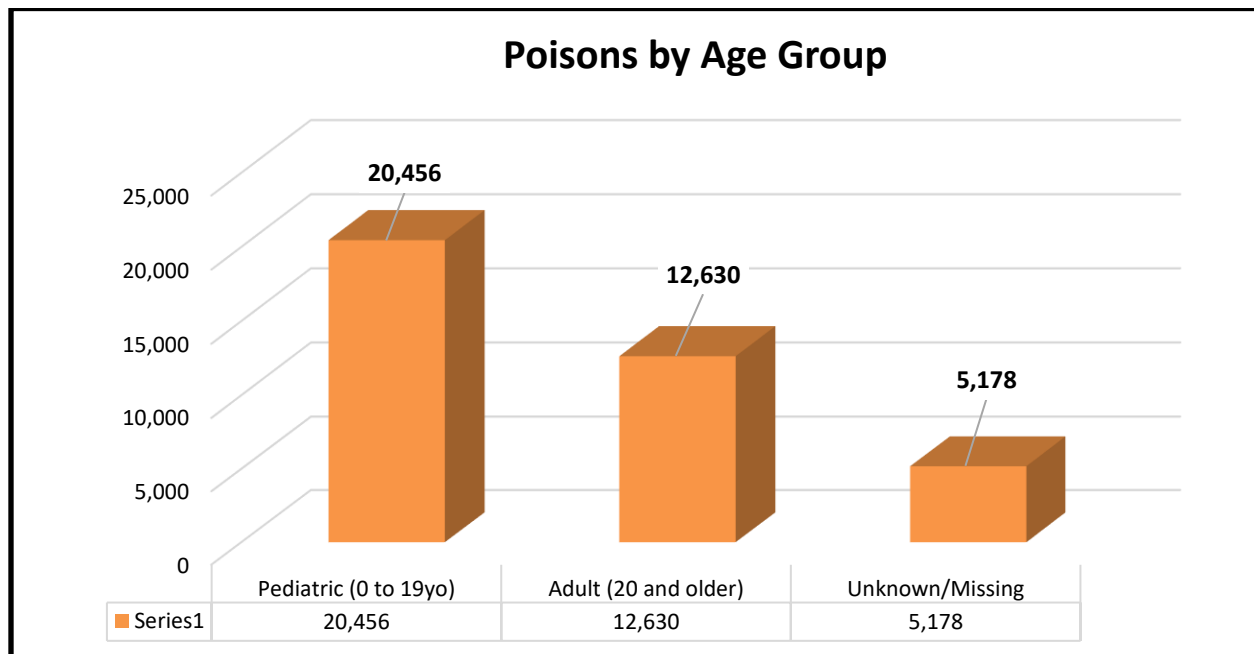
| Quarter   | MA            | RI           | Calls (n)     |
|-----------|---------------|--------------|---------------|
| Quarter 1 | 7,829         | 1,159        | 8,988         |
| Quarter 2 | 8,715         | 1,212        | 9,927         |
| Quarter 3 | 8,716         | 1,219        | 9,935         |
| Quarter 4 | 8,092         | 1,322        | 9,414         |
|           | <b>33,352</b> | <b>4,912</b> | <b>38,264</b> |



## Age & Poisonings

People of all ages can experience poisonings. The PCC receives calls for children, adults and seniors, so it is important that we differentiate between these groups and look at any apparent trends. Most poisonings were pediatric cases and dealt with children and teens (53.5%). Less than half of the poisonings (33%) were adult cases.

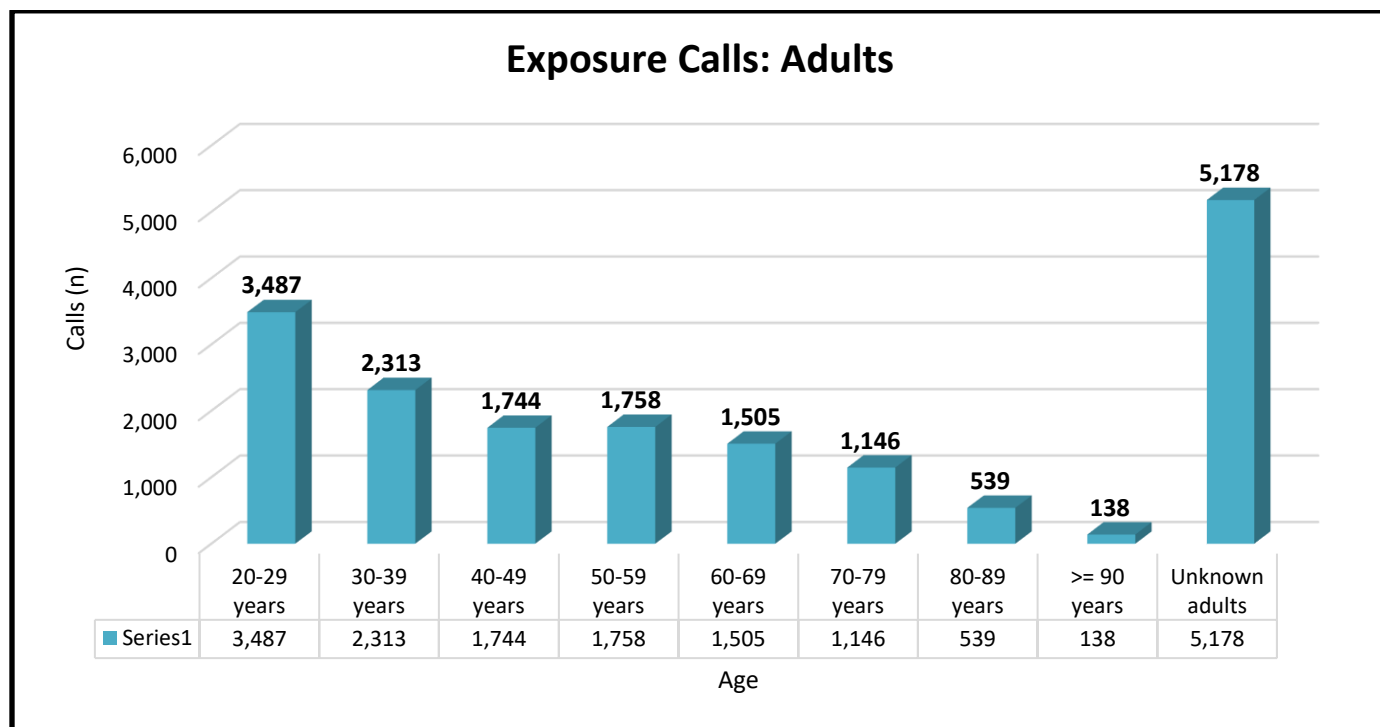
| Age Group                            | Calls (n)     | Percentage (%) |
|--------------------------------------|---------------|----------------|
| <b>Pediatric (0 to 19 years old)</b> | 20,456        | 53.5           |
| <b>Adult (20 and older)</b>          | 12,630        | 33             |
| <b>Unknown/Missing</b>               | 5,178         | 13.5           |
|                                      | <b>38,264</b> | <b>100</b>     |



### Age: Adult

Adults are defined as anyone 20 years old and older. Excluding adults of unknown/missing age, most adult exposures calls were about young adults between the ages of 20 and 29 years old (19.58%) and 30 to 39 years old (12.99%).

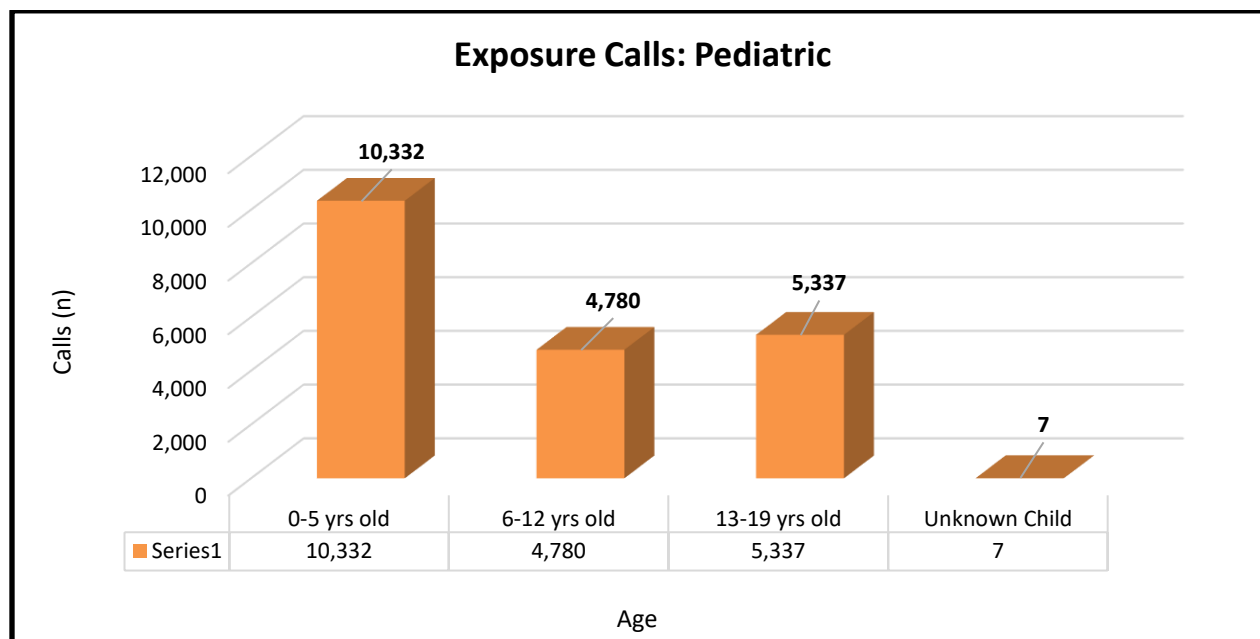
| Age                      | Calls (n)     | Percentage (%) |
|--------------------------|---------------|----------------|
| <b>20-29 years</b>       | 3,487         | 19.58          |
| <b>30-39 years</b>       | 2,313         | 12.99          |
| <b>40-49 years</b>       | 1,744         | 9.79           |
| <b>50-59 years</b>       | 1,758         | 9.87           |
| <b>60-69 years</b>       | 1,505         | 8.45           |
| <b>70-79 years</b>       | 1,146         | 6.44           |
| <b>80-89 years</b>       | 539           | 3.03           |
| <b>&gt; = 90 years</b>   | 138           | 0.77           |
| <b>Unknown Adult Age</b> | 5,178         | 29.08          |
|                          | <b>17,808</b> | <b>100</b>     |



### Age: Pediatric

Pediatric patients are defined as anyone 19 years old and younger. The majority of pediatric exposure patients were between 0 to 5 years old (50.50%).

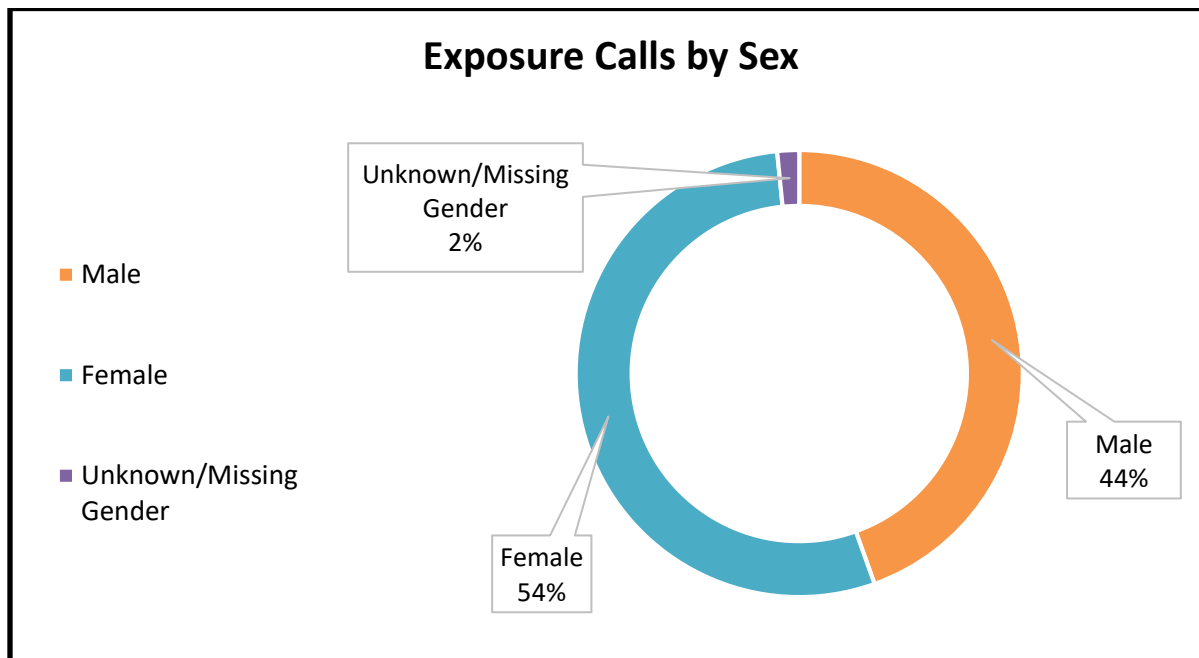
| Age                       | Calls (n)     | Percentage (%) |
|---------------------------|---------------|----------------|
| 0 to 5 years              | 10,332        | 50.50          |
| 6 to 12 years (Child)     | 4,780         | 23.37          |
| 13 to 19 years (Teenager) | 5,337         | 26.1           |
| Unknown Age               | 7             | 0.03           |
|                           | <b>20,456</b> | <b>100</b>     |



## Sex & Poisonings

Most exposures were for female patients (54%). Males had less exposures (44%). A small percentage of cases recorded (2%) did not include sex.

| Gender          | Calls (n)     | Percentage (%) |
|-----------------|---------------|----------------|
| Female          | 20,621        | 54             |
| Male            | 17,038        | 44             |
| Unknown/Missing | 605           | 2              |
|                 | <b>38,264</b> | <b>100</b>     |



## Exposure Site

The overwhelming majority of patients were exposed to poisons at their own residence (93.12%). There was also a small percentage of exposures at “school” (2.54%).

| Exposure Site           | MA + RI Exposure Calls (n) | Percentage (%) |
|-------------------------|----------------------------|----------------|
| Own Residence           | 35,631                     | 93.12          |
| School                  | 972                        | 2.54           |
| Other                   | 423                        | 1.11           |
| Workplace               | 408                        | 1.07           |
| Other Residence         | 338                        | 0.88           |
| Public Area             | 184                        | 0.48           |
| Healthcare Facility     | 162                        | 0.42           |
| Unknown                 | 112                        | 0.29           |
| Restaurant/Food Service | 34                         | 0.09           |
|                         | <b>38,264</b>              | <b>100</b>     |

## Where are Poisonings Managed/Treated?

### Common Management/Treatment Sites

Most poison exposures were managed/treated without professional medical intervention, at the location where the call took place, or at a non-healthcare facility (likely at home).

| Management Site               | Calls (n)     | Percentage |
|-------------------------------|---------------|------------|
| <b>Managed Onsite/Non-HCF</b> | 25,474        | 66.57      |
| <b>Managed in HCF</b>         | 12,054        | 31.50      |
| <b>Other</b>                  | 169           | 0.44       |
| <b>Refused Referral</b>       | 455           | 1.19       |
| <b>Unknown</b>                | 112           | 0.3        |
|                               | <b>38,264</b> | <b>100</b> |

\*HCF refers to a healthcare facility.

### Management/Treatment Sites: Healthcare Facilities

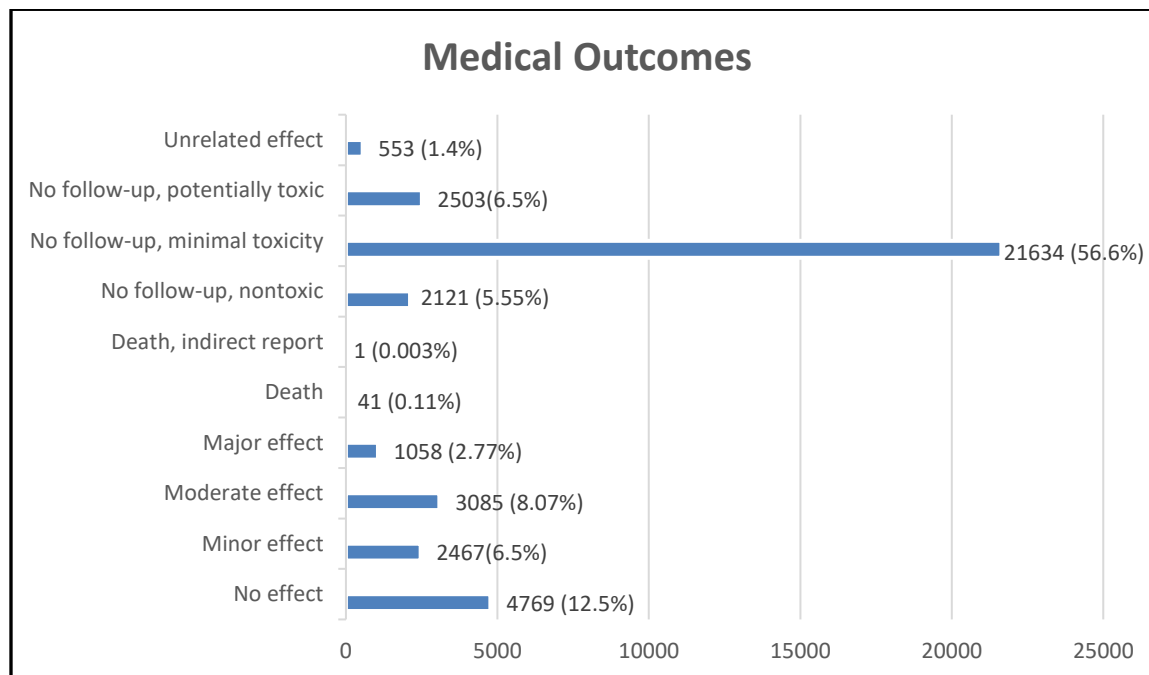
There were 12,054 poisoning calls poisoning calls referred to healthcare facilities (HCF) for management HCF above; this accounts for about 31.5% of exposure calls in 2022. Healthcare facilities are places where medical treatments are provided (such as a hospital or a doctor's office).

Patients who were treated at a HCF were most likely to lost to follow-up/left the hospital on their own accord (32.8%) or be evaluated and released (29.2%).

| Site                                      | Calls (n)     | Percentage (%) |
|-------------------------------------------|---------------|----------------|
| <b>Patient lost to follow-up/left AMA</b> | 3,952         | 32.8           |
| <b>Treated/evaluated and released</b>     | 3,517         | 29.2           |
| <b>Admitted to noncritical care unit</b>  | 1,762         | 14.6           |
| <b>Admitted to psychiatric facility</b>   | 1,643         | 13.6           |
| <b>Admitted to critical care unit</b>     | 1,180         | 9.8            |
| <b>Unspecified level of care</b>          | 0             | 0.0            |
|                                           | <b>12,054</b> | <b>100</b>     |

### Medical Outcomes

Only 2.77% of our cases resulted in a major effect. Around 8% of exposures led to moderate effect, and 6.5% of cases resulted in minor effect. Less than 1% of exposures caused death. The majority of exposure calls did not make follow-up calls because the exposure was likely to result in only minimal toxicity of a trivial nature (See the Key Terms & Definitions above).

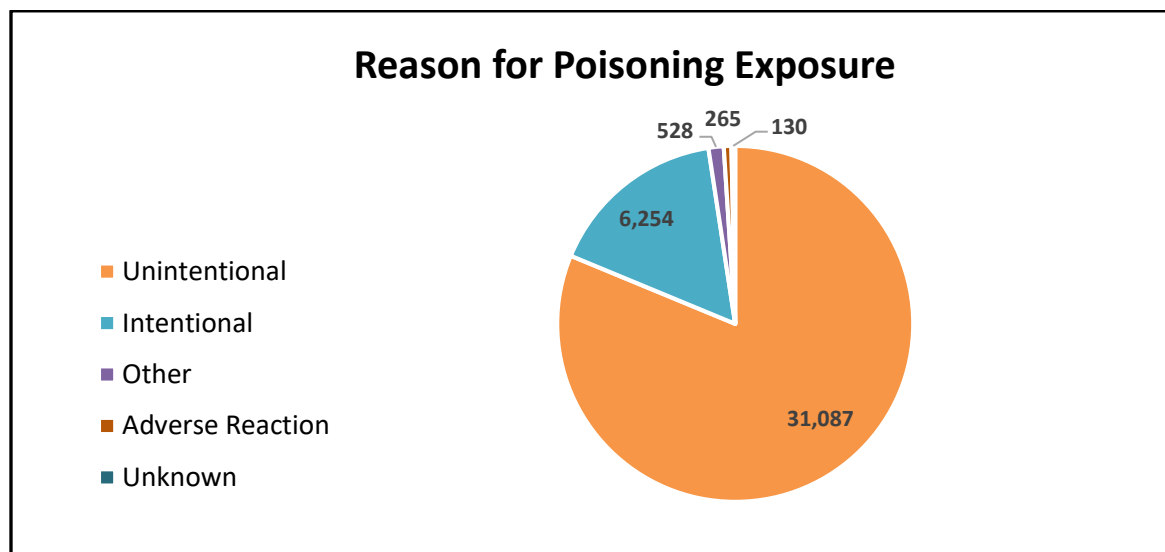


## What are the Reasons for Poisoning?

### Overall Reasons

Poisonings happen for a multitude of reasons. Most exposure calls to the PCC were unintentional (81.24%), with a small percentage of poisonings being intentional (16.34%) or due to adverse reactions (1.38%).

| Overall Reason          | Calls (n)     | Percentage (%) |
|-------------------------|---------------|----------------|
| <b>Unintentional</b>    | 31,087        | 81.24          |
| <b>Intentional</b>      | 6,254         | 16.34          |
| <b>Adverse Reaction</b> | 528           | 1.38           |
| <b>Unknown</b>          | 265           | 0.7            |
| <b>Other</b>            | 130           | 0.34           |
|                         | <b>38,264</b> | <b>100</b>     |



### Reason: Unintentional

Unintentional poisonings made up most (81.24%) of all poisonings for the PCC in 2022. Unintentional poisonings include general poisonings, therapeutic error, misuse, environmental poisonings, food poisonings and more (see appendix for definitions). The majority of unintentional poisonings were general poisonings (72.22%).

| Reason: Unintentional | Calls (n)     | Percentage (%) |
|-----------------------|---------------|----------------|
| General               | 22,450        | 72.22          |
| Therapeutic error     | 6,086         | 19.6           |
| Misuse                | 1,046         | 3.4            |
| Environmental         | 831           | 2.7            |
| Food poisoning        | 275           | 0.88           |
| Occupational          | 262           | 0.8            |
| Bite / Sting          | 75            | 0.2            |
| Unknown               | 62            | 0.2            |
|                       | <b>31,087</b> | <b>100</b>     |

### Reason: Intentional

There were 6,254 intentional poisonings recorded in total in 2022; intentional poisonings include suicides, misuses, abuse and other unknown causes. The majority of intentional poisonings were suicide attempts (74%).

| Overall Reason: Intentional | Calls (n) | Percentage (%) |
|-----------------------------|-----------|----------------|
|-----------------------------|-----------|----------------|

|                          |              |            |
|--------------------------|--------------|------------|
| <b>Suspected Suicide</b> | 4,631        | 74         |
| <b>Abuse</b>             | 558          | 9          |
| <b>Unknown</b>           | 540          | 8.6        |
| <b>Misuse</b>            | 525          | 8.4        |
|                          | <b>6,254</b> | <b>100</b> |

## Pharmaceutical vs. Non-Pharmaceutical Substances

The tables below depicts the top ten most common substance exposures of 2022. The tables show the overall ranking of the most common substances and also breaks the substances down into the categories of pharmaceutical and non-pharmaceutical substances.

### Substances: Overall Incidence

Poisonings can happen due to a variety of substances but the most frequently occurring substances for which the PCC receives calls are analgesics (painkillers), household cleaning products, and cosmetics/personal care products. Of exposure cases, 11% were due to analgesics items such as acetaminophen, aspirin and ibuprofen. Household cleaning substances includes items such as bleach and laundry detergents. Cosmetics/personal care products include items such as toothpaste/mouthwash, hand sanitizers, and soap.

| Ranking   | Substances                                       | Incidence (n) | Percentage (%) |
|-----------|--------------------------------------------------|---------------|----------------|
| <b>1</b>  | <b>Analgesics</b>                                | 5,036         | 11.03          |
| <b>2</b>  | <b>Cleaning Substances (Household)</b>           | 3,478         | 7.62           |
| <b>3</b>  | <b>Cosmetics/Personal Care Products</b>          | 2,868         | 6.28           |
| <b>4</b>  | <b>Antidepressants</b>                           | 2,730         | 5.98           |
| <b>5</b>  | <b>Cardiovascular Drugs</b>                      | 2,105         | 4.61           |
| <b>6</b>  | <b>Antihistamines</b>                            | 2,043         | 4.47           |
| <b>7</b>  | <b>Sedatives, Hypnotics &amp; Antipsychotics</b> | 1,967         | 4.31           |
| <b>8</b>  | <b>Foreign Bodies/Toys/Miscellaneous</b>         | 1,961         | 4.29           |
| <b>9</b>  | <b>Plants</b>                                    | 1,277         | 2.80           |
| <b>10</b> | <b>Stimulants and street drugs</b>               | 1,256         | 2.75           |

### Substances: Pharmaceutical vs Non-Pharmaceuticals

| Ranking  | Pharmaceutical Substances   | Incidence (n) |
|----------|-----------------------------|---------------|
| <b>1</b> | <b>Analgesics</b>           | 5,036         |
| <b>2</b> | <b>Antidepressants</b>      | 2,730         |
| <b>3</b> | <b>Cardiovascular Drugs</b> | 2,105         |
| <b>4</b> | <b>Antihistamines</b>       | 2,043         |

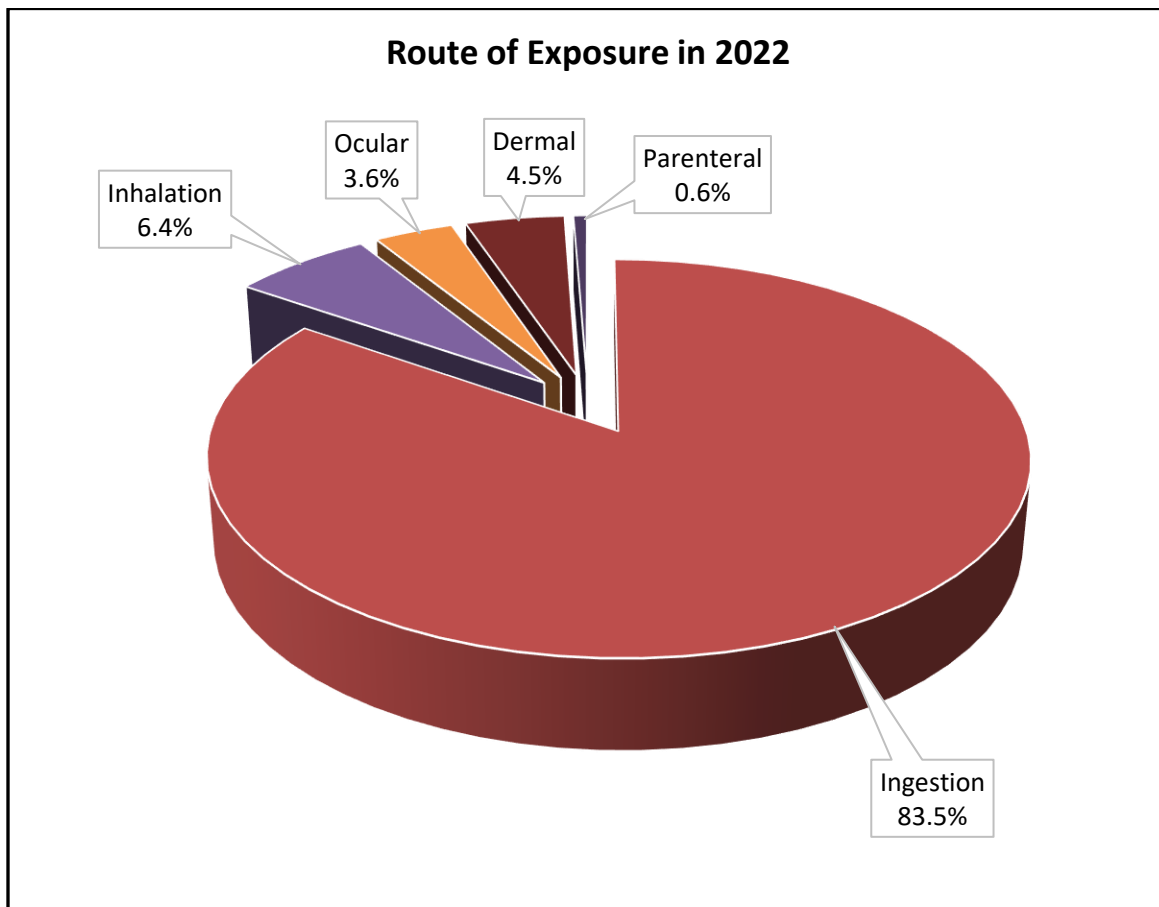
|          |                                                  |              |
|----------|--------------------------------------------------|--------------|
| <b>5</b> | <b>Sedatives, Hypnotics &amp; Antipsychotics</b> | <b>1,967</b> |
| <b>6</b> | <b>Stimulants and street drugs</b>               | <b>1,256</b> |

| <b>Ranking</b> | <b>Non-Pharmaceutical Substances</b>     | <b>Incidence (n)</b> |
|----------------|------------------------------------------|----------------------|
| <b>1</b>       | <b>Cleaning Substances (Household)</b>   | <b>3,478</b>         |
| <b>2</b>       | <b>Cosmetics/Personal Care Products</b>  | <b>2,868</b>         |
| <b>3</b>       | <b>Foreign Bodies/Toys/Miscellaneous</b> | <b>1,961</b>         |
| <b>4</b>       | <b>Plants</b>                            | <b>1,277</b>         |

## Route of Exposure

People can be exposed to poisons by a variety of routes, such as through inhalation, eating/drinking and a multitude of other ways. The most common route of exposure was ingestion (83.5%) (See appendix for definitions).

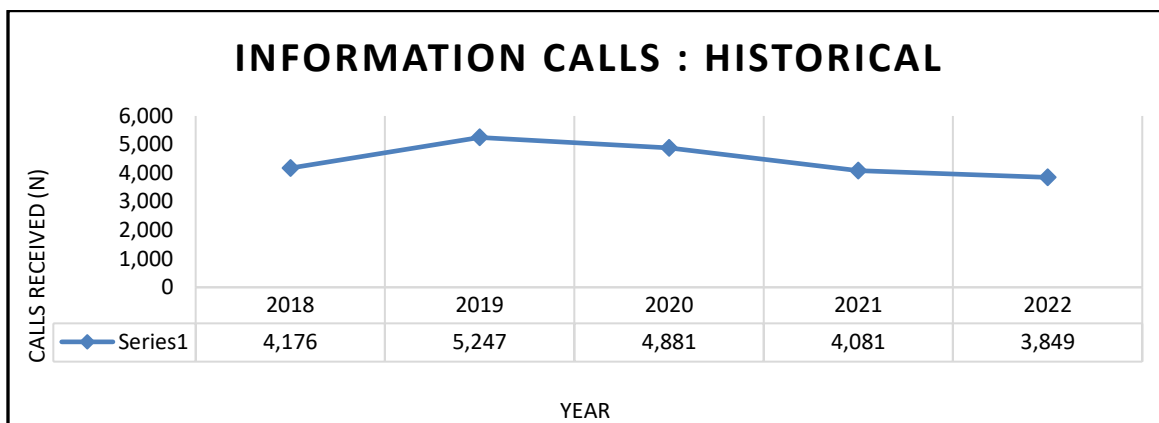
| <b>Route</b>      | <b>Incidence (n)</b> | <b>Percentage (%)</b> |
|-------------------|----------------------|-----------------------|
| <b>Ingestion</b>  | <b>32,853</b>        | <b>83.50</b>          |
| <b>Inhalation</b> | <b>2,554</b>         | <b>6.49</b>           |
| <b>Aspiration</b> | <b>23</b>            | <b>0.06</b>           |
| <b>Ocular</b>     | <b>1,459</b>         | <b>3.71</b>           |
| <b>Dermal</b>     | <b>1,840</b>         | <b>4.68</b>           |
| <b>Bite/Sting</b> | <b>75</b>            | <b>0.19</b>           |
| <b>Parenteral</b> | <b>226</b>           | <b>0.57</b>           |
| <b>Rectal</b>     | <b>19</b>            | <b>0.05</b>           |
| <b>Optic</b>      | <b>12</b>            | <b>0.03</b>           |
| <b>Vaginal</b>    | <b>23</b>            | <b>0.06</b>           |
| <b>Other</b>      | <b>29</b>            | <b>0.07</b>           |
| <b>Unknown</b>    | <b>232</b>           | <b>0.59</b>           |
|                   | <b>39,345</b>        | <b>100%</b>           |



## Information Calls

### Historical Trend

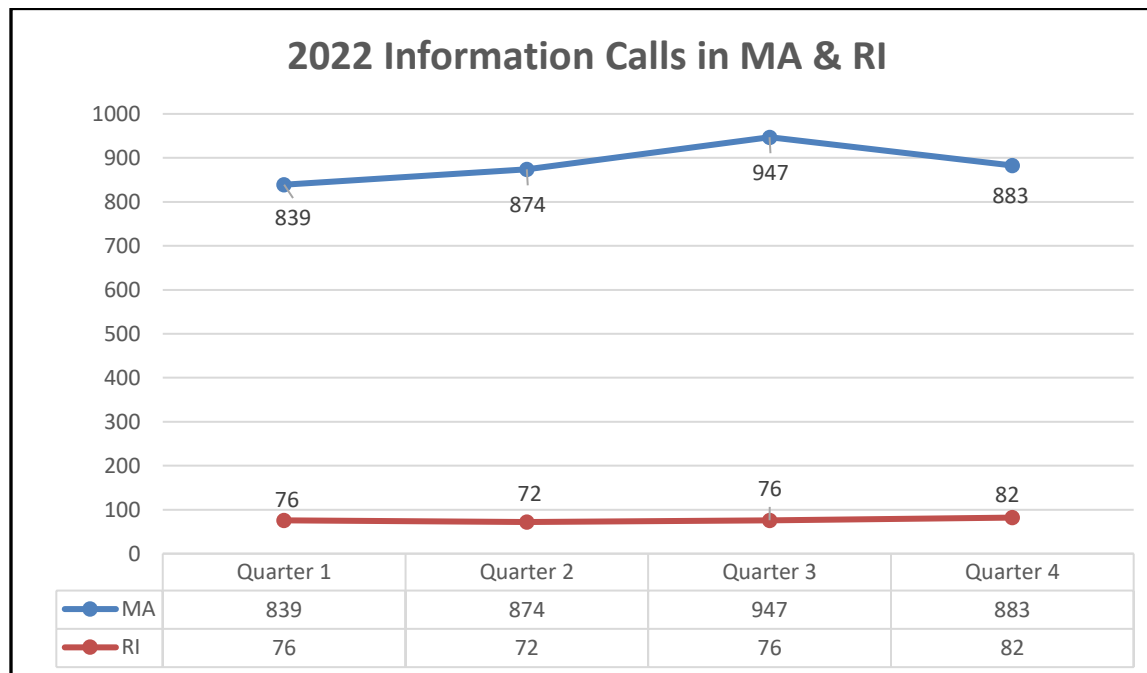
Over the past five years (2018 through 2022), the PCC has received 22,234 information calls. The highest number of information calls were received in 2019 and the lowest number of information calls were received in 2022.



### Annual Information Calls in 2022

For the year, there were a total of 3,849 information calls received from Massachusetts and Rhode Island. The highest percentage of calls were received during the third quarter (July 1 to September 30).

| Quarter   | MA           | RI         | Calls (n)    |
|-----------|--------------|------------|--------------|
| Quarter 1 | 839          | 76         | 915          |
| Quarter 2 | 874          | 72         | 946          |
| Quarter 3 | 947          | 76         | 1,023        |
| Quarter 4 | 883          | 82         | 965          |
|           | <b>3,543</b> | <b>306</b> | <b>3,849</b> |



## Outreach & Publications

### Educational Outreach

#### Material Distribution

The PCC sends educational materials such as stickers, magnets, brochures and magnifiers. All materials are sent free-of-charge to Massachusetts and Rhode Island residents and businesses. To order materials, state residents can reach out to the PCC via phone, email or social media and submit a request order form. The most common requested material were English magnets (n =2,120) and English stickers (n =2,805).

|            | English Brochures | Spanish Brochures | Other Language Brochures | English Magnets | Spanish Magnets | English Stickers | Spanish Stickers | Magnifiers | Bags |
|------------|-------------------|-------------------|--------------------------|-----------------|-----------------|------------------|------------------|------------|------|
| <b>Q 1</b> | 180               | 130               | 0                        | 635             | 55              | 210              | 140              | 70         | 0    |
| <b>Q 2</b> | 575               | 325               | 125                      | 850             | 0               | 950              | 750              | 25         | 150  |
| <b>Q 3</b> | 110               | 150               | 0                        | 210             | 0               | 170              | 250              | 215        | 100  |
| <b>Q 4</b> | 0                 | 0                 | 0                        | 425             | 0               | 1,475            | 0                | 0          | 0    |

|  |     |     |     |       |    |       |      |     |     |
|--|-----|-----|-----|-------|----|-------|------|-----|-----|
|  | 865 | 605 | 125 | 2,120 | 55 | 2,805 | 1140 | 310 | 250 |
|--|-----|-----|-----|-------|----|-------|------|-----|-----|

## Educational Trainings

Due to the COVID-19 pandemic and staff availability, the PCC only conducted virtual educational trainings in 2022. During 2021, the PCC Education Coordinator mainly focused on archiving COVID-19 related PCC calls.

| Organization                                | Date of Training | Number of Attendees | Title; Audience                                                                              | Trainer   |
|---------------------------------------------|------------------|---------------------|----------------------------------------------------------------------------------------------|-----------|
| Ascentria Care Alliance                     | 4/26/2022        | 10                  | <i>General Poison Safety for Small Children; Parents of teenagers living in a group home</i> | Fota Sall |
| Department of Public Health (Massachusetts) | 7/13/2022        | 95                  | <i>General Poison Training for C-SPIS and SPIs of the PCC</i>                                | Fota Sall |

## Staff Publications in 2022

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2. Allen EB, Michelson CD, **O'Donnell KA**, Bagley SM, Earlywine J, Hadland SE. Training in Adolescent Substance and Opioid Misuse in Pediatric Residency Programs. Pediatrics. 2022 May 1;149(5):e2021053423. doi: 10.1542/peds.2021-053423. PMID: 35437591; PMCID: PMC9107626.
3. Banzon TM, Sheehan WJ, Petty CR, **Hauptman M**, Flanagan S, Bell D Jr, Shamosh B, Bartnikas LM, Phipatanakul W. The Coronavirus Disease 2019 Pandemic and Mental Health-Related School-Nurse Visits in United States Schools. Acad Pediatr. 2022 Sep 11:S1876-2859(22)00427-2. doi: 10.1016/j.acap.2022.09.002. Epub ahead of print. PMID: 36100180; PMCID: PMC9464315.

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## ToxiCall Syntax

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### Syntax

- Total Calls
  - Display: 003
- Information Calls
  - Display: 003
- Exposure Calls
  - Display: 003
- Management Site
  - Display: 014
- Exposure Site
  - Display: 009
- Gender
  - Display: 026

- Age
  - Display: 026
- Reason for Poisoning
  - Display: 007
- Pharmaceutical & Non-Pharmaceutical
  - Display: 054B
- Medical Outcome
  - Display: 022
- Spotlight: Young Children
  - Display: 026, 054A, 054B
  - Notes: There are 294 more exposure cases listed in display 054 due to duplicates.
- Route of Exposure
  - Display: 011
  - Notes: There are 1,215 extra exposure cases due to duplicates in ingestion routes on single calls.
- Training and Materials
  - Uses separate excel sheet from PCC office
- Note: There are 46 cases (0.12%) included in the exposure total (n = 38,108) that were classified as “Confirmed Nonexposures”. These cases are included in the total (n = 38,108)