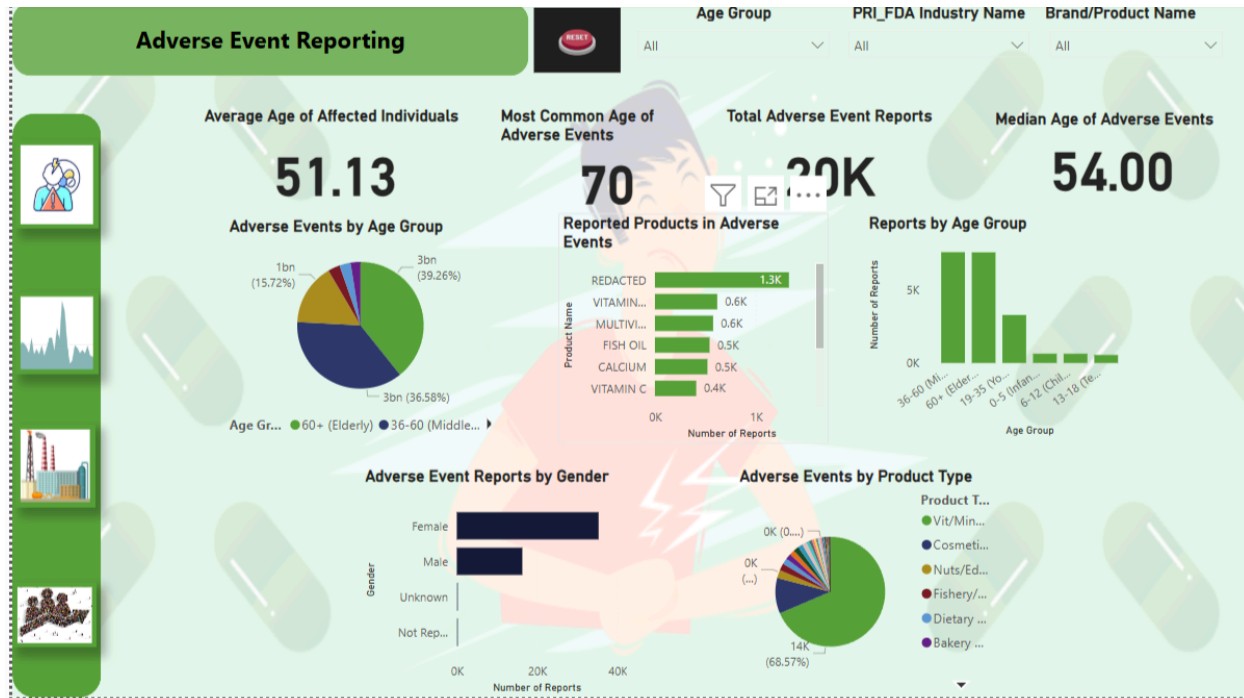


CAERS Adverse Events Dataset (2004–2017 Q2): PowerBI Dashboard

Adverse Event Reporting



◆ 1. Average Age of Affected Individuals (KPI Card)

- **Value:** 51.13 years
- **Insight:** On average, individuals experiencing adverse events are in their early 50s, indicating middle-aged and older populations are more affected.

◆ 2. Most Common Age of Adverse Events (KPI Card)

- **Value:** 70 years

- **Insight:** The most frequently reported age for adverse events is 70, highlighting that elderly individuals (especially around this age) are the most affected group.
-

◆ 3. Total Adverse Event Reports (KPI Card)

- **Value:** 20K
 - **Insight:** A total of 20,000 adverse event reports have been documented, suggesting significant data coverage for analysis.
-

◆ 4. Median Age of Adverse Events (KPI Card)

- **Value:** 54.00 years
 - **Insight:** Half of the cases occur below age 54 and half above, again showing middle-aged and elderly groups are commonly affected.
-

◆ 5. Pie Chart: Adverse Events by Age Group

- **Top Segments:**
 - 36–60 (Middle-aged): 39.62%
 - 60+ (Elderly): 36.58%
 - **Insight:** These two groups account for over 76% of adverse events, indicating older populations are most at risk.
-

◆ 6. Bar Chart: Reported Products in Adverse Events

- **Top Products:**

- REDACTED (1.3K reports)
 - VITAMIN D, MULTIVITAMINS, FISH OIL
 - **Insight:** Certain dietary supplements and vitamins are frequently associated with adverse events, particularly the top 3.
-

◆ 7. Bar Chart: Reports by Age Group

- **Top Groups:**
 - 36–60 (Middle-aged): ~7K
 - 60+: ~6.5K
 - **Insight:** These two groups dominate the report counts, reinforcing earlier observations from the pie chart.
-

◆ 8. Bar Chart: Adverse Event Reports by Gender

- **Insight:**
 - **Female:** ~12.5K
 - **Male:** ~7K
 - **Unknown/Not Reported:** Remaining share
 - **Observation:** Females report significantly more adverse events than males.
-

◆ 9. Pie Chart: Adverse Events by Product Type

- **Top Type:**
 - **Vit/Minerals:** 68.57%

- **Insight:** Most adverse events are associated with **vitamins and minerals**, making it a high-risk product category.

Time-Based Reporting Trends :



10. Male Report Count (KPI Card)

- **Value:** 16K
- **Insight:** 16,000 adverse event reports involve male individuals, showing a notable but smaller volume compared to females.

11. Number of Reports Per Year (Bar Chart)

- **Trend:** Steady increase in reports from 2004 to 2016, peaking at **3.8K in 2016**, then a dip in 2017 (~1K).

- **Insight:** Reporting frequency has grown significantly over the years, likely due to awareness, regulations, or surveillance improvements.
-

12. Female Report Count (KPI Card)

- **Value:** 35K
 - **Insight:** Female individuals account for over twice the number of reports compared to males, emphasizing gender differences in adverse event reporting.
-

13. The trend of Reported Cases Over Time (Line Chart)

- **Trend:** Gradual increase from 2004–2010, followed by a sharp rise post-2012, peaking at **~4K around 2016**, then dropping to 1K.
 - **Insight:** Possible regulatory or social events around 2012–2016 led to increased awareness and reporting.
-

14. Adverse Event Reports Over Time (Vertical Line Chart)

- **Observation:** Monthly reports gradually increase post-2005, with visible peaks around 2016.
 - **Insight:** Reporting density increased, likely reflecting better data collection systems and product-related alerts.
-

15. Time Series Analysis of Report Submissions (Area + Line Chart)

- **Observation:** Significant fluctuation with growth post-2009; report spikes around 2016.

- **Insight:** Indicates consistent growth in monthly submissions and potential alert-triggered peaks.
-

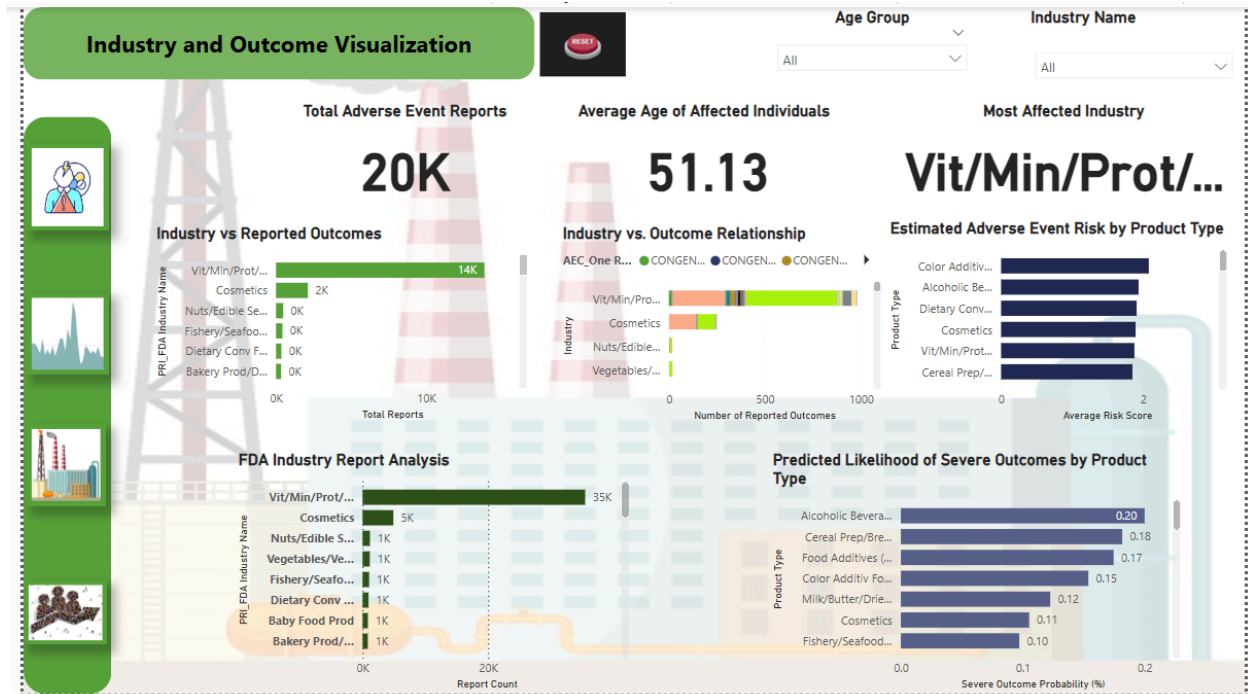
16. Distribution of Outcome Categories (Bar Chart)

- **Top Outcome:**
 - **Not-Serious** (most common)
 - Followed by: **Hospitalized** and **Mild Outcome**
 - **Insight:** Majority of cases are not severe, but there are still thousands of hospitalizations indicating public health concerns.
-

17. Correlation Between Age and Symptom Types (Scatter Plot)

- **Pattern:** Symptom codes cluster heavily between ages **20–70**, with a slight downward pattern in older ages.
- **Insight:** Certain symptoms are more common in specific age brackets. Elderly may report fewer types or different symptoms.

Industry and Outcomes Visualizations :



18. Total Adverse Event Reports (KPI Card)

- **Value:** 20K
- **Insight:** This section focuses on 20,000 industry-specific adverse event cases, out of which the majority belong to one industry type.

19. Industry vs Reported Outcomes (Bar Chart)

- **Observation:**
 - **Vitamins/Minerals/Proteins (Vit/Min/Prot) = 14K reports**
 - **Cosmetics = 2K**
 - **Other industries = negligible counts**

- **Insight:** Supplements dominate reported adverse events, pointing to potential formulation or overuse risks.
-

20. FDA Industry Report Analysis (Bar Chart)

- **Top Reporting Industries:**
 - **Vit/Min/Prot:** 35K
 - **Cosmetics:** 5K
 - Others (Nuts, Vegetables, Baby Food, etc.): ~1K each
 - **Insight:** The FDA receives most adverse event reports from the supplement industry, far exceeding food or cosmetic sectors.
-

21. Industry vs Outcome Relationship (Stacked Bar Chart)

- **Insight:**
 - Supplements show a variety of outcome types including congenital issues.
 - Cosmetics have less diversity in outcomes.
 - **Insight:** Supplements lead not just in volume but also in **diverse severity of health impacts**, requiring stricter control or labeling.
-

22. Most Affected Industry (KPI Card)

- **Value:** Vit/Min/Prot

- **Insight:** This confirms previous visuals – the supplement category is the most problematic for adverse events.
-

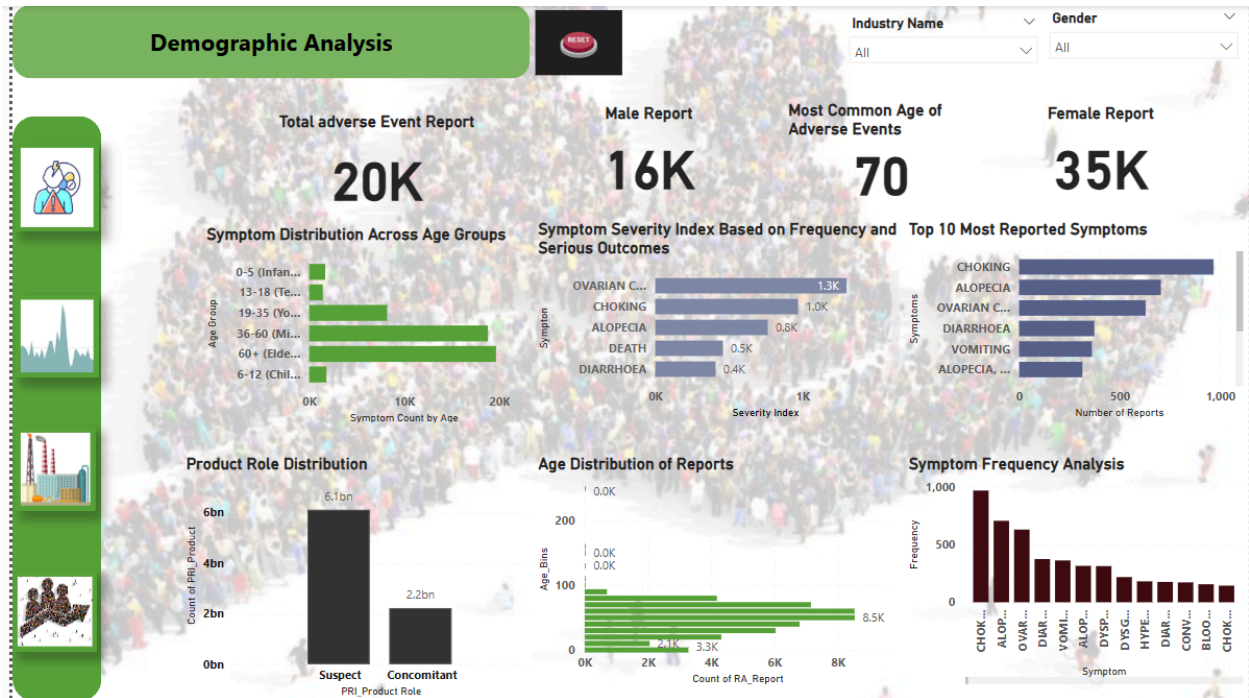
23. Estimated Adverse Event Risk by Product Type (Bar Chart)

- **Top Risk Scores:**
 - **Colour Additives, Alcoholic Beverages, Dietary Conv. Foods**
 - **Insight:** Risk isn't only based on report volume—some low-report categories (like Color Additives) show **high per-report risk**.
-

24. Predicted Likelihood of Severe Outcomes by Product Type (Bar Chart)

- **Highest Risk:**
 - **Alcoholic Beverages** – 20% chance of severe outcomes
 - **Cereal Prep** and **Food Additives** also rank high
- **Insight:** Products like alcohol and processed foods carry **higher severity risk**, even with fewer total reports.

Demographic Analysis :



25. Total Adverse Event Report (KPI Card)

- **Value:** 20K reports analyzed
- **Insight:** The demographic breakdown confirms earlier trends and adds more age/gender context to the adverse event data.

26. Male vs Female Report (KPI Cards)

- **Male:** 16K
- **Female:** 35K
- **Insight:** Female reports are **more than double** male reports, indicating higher reported susceptibility or vigilance among women.

27. Most Common Age of Adverse Events (KPI Card)

- **Age:** 70
 - **Insight:** Seniors are the **most affected age group**, which could be due to higher supplement use or greater vulnerability to ingredients.
-

28. Symptom Distribution Across Age Groups (Bar Chart)

- **Top Affected:**
 - Age 36–60 and 60+
 - Low reports from infants, teens, and children
 - **Insight:** **Adults and the elderly** dominate the symptom counts, again aligning with the most common adverse age (70).
-

29. Symptom Severity Index (Bar Chart)

- **Top Severe Symptoms:**
 - Ovarian Condition, Choking, Alopecia, Death, Diarrhea
 - **Insight:** Symptoms like **Ovarian issues and Choking** rank highest by combining both **frequency and severity**, needing urgent focus.
-

30. Top 10 Most Reported Symptoms (Bar Chart)

- **Common Symptoms:**
 - Choking, Alopecia, Ovarian Condition, Diarrhea, Vomiting

- **Insight:** Symptom count aligns with severity trends, except **Death** is not among the top-reported — suggesting it's **less frequent but more serious**.
-

31. Product Role Distribution (Bar Chart)

- **Suspect:** 6.1B
 - **Concomitant:** 2.2B
 - **Insight:** The majority of reports name products as the **primary suspect**, not just incidental — this strengthens the case for accountability and quality control.
-

32. Age Distribution of Reports (Bar Chart)

- **Peak Bins:**
 - Age 60–65: 8.5K
 - Age 50–55: 6K
 - **Insight:** Again, **older adults** dominate the reporting spectrum, echoing other visuals.
-

33. Symptom Frequency Analysis (Bar Chart)

- **Top Symptoms:**
 - Choking, Alopecia, Diarrhea
- **Insight:** High frequency does not always mean high severity — this chart focuses only on **how often** symptoms appear, not their danger.

