**5. Calculate Projected Deaths:**

Using the homeless population estimate and potency increases, we can extrapolate the overdose deaths:

1. **2021**:
   * **Death rate**: 0.05%
   * **Homeless population**: 35,000
   * **Deaths**: 35,000 \* 0.05% = 17.5 (approx. 18 deaths)
2. **2022** (Potency Increase = 43.8%):
   * **Death rate adjusted for potency increase**: 0.05% \* (1 + 0.438) = 0.0719%
   * **Homeless population**: 35,700
   * **Deaths**: 35,700 \* 0.0719% = 25.7 (approx. 26 deaths)
3. **2023** (Potency Increase = 11.97%):
   * **Death rate adjusted for potency increase**: 0.0719% \* (1 + 0.1197) = 0.0803%
   * **Homeless population**: 36,414
   * **Deaths**: 36,414 \* 0.0803% = 29.3 (approx. 29 deaths)
4. **2024** (Potency Increase = -26.77%):
   * **Death rate adjusted for potency increase**: 0.0803% \* (1 - 0.2677) = 0.059
   * **Homeless population**: 37,136
   * **Deaths**: 37,136 \* 0.059% = 21.9 (approx. 22 deaths)
5. **2025** (Potency Increase = 102.8%):
   * **Death rate adjusted for potency increase**: 0.059% \* (1 + 1.028) = 0.1197%
   * **Homeless population**: 37,868
   * **Deaths**: 37,868 \* 0.1197% = 45.3 (approx. 45 deaths)

**6. Projected Overdose Deaths for 2021-2025 (Factor Potency Increase):**

| **Year** | **Estimated Homeless Population** | **Estimated Deaths** | **Potency Increase Impact (%)** |
| --- | --- | --- | --- |
| 2021 | 35,000 | 18 | 0 |
| 2022 | 35,700 | 26 | +43.8% |
| 2023 | 36,414 | 29 | +11.97% |
| 2024 | 37,136 | 22 | -26.77% |
| 2025 | 37,868 | 45 | +102.8% |

**Summary:**

* As **potency increases**, particularly with fentanyl analogs like **carfentanil** and **xylazine**, the overdose death rate among homeless individuals is expected to rise.
* While the overall **homeless population** increases slightly each year, the **higher drug potency** contributes significantly to more deaths in 2025.
* **Preventive measures** such as harm reduction, naloxone, and outreach programs would be critical to reduce these numbers.