Trends in Out-of-Pocket Costs for and Characteristics of Pharmacy-Dispensed Naloxone by Payer Type

In 2021, 80,411 drug overdose deaths in the US involved opioids.1 Naloxone and other opioid overdose reversal agents are life-saving medications that can reverse the effects of an opioid overdose. Naloxone dispensing remains low,2 and potential barriers include patient cost.3 Little is known about out-of-pocket (OOP) costs and how these costs vary by payer in recent years. This study examined mean yearly OOP cost for naloxone dispensed from retail pharmacies by payer between 2018 and 2022 and by prescription characteristics and payer in 2022.

Methods | This study used the IQVIA Longitudinal Prescription database, which contains prescriptions from a sample of 48,700 retail pharmacies that dispense 93% of retail pharmacy prescriptions in the US. Naloxone prescriptions dispensed to adults (aged ≥18 years) from 2018 to 2022 were examined. We excluded prescriptions with missing or outlying costs (0.1% of prescriptions). Payer status was categorized as private or commercial, self-pay, Medicaid, Medicare, assistance (discount card, coupon, or voucher), and unknown.4 We examined trends in yearly mean OOP cost per prescription overall and by payer using weighted least-squares regressions, with statistical significance set at 2-sided P < .05. Mean OOP cost per prescription in 2022 was examined by patient age, generic or name-brand, and route of administration. The OOP costs were the sum individuals paid to pharmacies (including copayments, deductibles, and coinsurance), and adjusted to 2022 dollars using the Consumer Price Index.4 All analyses were conducted using SAS version 9.4 (SAS Institute).

Results | Overall, the number of dispensed naloxone prescriptions increased 187.42% from 2018 (n = 507,198) to 2022 (n = 1,457,769). The percentage of prescriptions by payer changed from 2018 to 2022: Medicaid (29.62% to 34.08%), Medicare (36.73% to 32.76%), private or commercial (23.13% to 23.91%), unknown (7.50% to 6.87%), assistance (1.16% to 1.70%), and self-pay (1.86% to 0.68%). Overall, mean OOP cost per prescription decreased 55.5% from $22.51 (95% CI, $22.21-$22.81) in 2018 to $10.02 (95% CI, $9.99-$10.06) in 2022 (P < .03 for trend). By payer, OOP cost varied and trends over time were not significant: Medicaid had the lowest mean OOP cost across study years: $1.14 (95% CI, $0.98-$1.30) in 2018 and $0.89 (95% CI, $0.87-$0.92) in 2022. Private or commercial mean OOP costs decreased from $33.77 (95% CI, $32.86-$34.69) in 2018 to $11.56 (95% CI, $11.49-$11.62) in 2022. Medicare mean OOP costs decreased from $21.04 (95% CI, $20.62-$21.46) in 2018 to $13.50 (95% CI, $13.43-$13.56) in 2022. Self-pay and assistance had the highest mean OOP costs across study years, consistently above $110 between 2018 and 2021, and decreasing to $68.75 (95% CI, $67.57-$69.93) for self-pay in 2022 and $61.46 (95% CI, $61.05-$61.86) for assistance in 2022 (Figure).

Overall mean OOP cost varied by prescription characteristic in 2022: from $9.92 (95% CI, $9.89-$9.96) for generic to $10.57 (95% CI, $10.45-$10.68) for brand-name, from $7.12 (95% CI, $6.84-$7.40) for injectable to $10.05 (95% CI, $10.01-$10.08) for nasal, and from $7.36 (95% CI, $7.33-$7.40) for individuals aged 18 to 64 years to $17.56 (95% CI, $17.48-$17.64) for individuals aged 65 years or older. Among naloxone prescriptions for individuals aged 65 years or older, 71.32% were covered by Medicare, with a mean OOP cost of $18.72 (95% CI, $18.62-$18.82). Mean OOP costs for each prescription characteristic were highest among self-pay and assistance prescriptions (Table).

Discussion | The OOP costs for naloxone decreased between 2018 and 2022. Price negotiations, market competition, and shifts
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Primary insurance payer</th>
<th>Overall</th>
<th>Private or commercial</th>
<th>Self-pay</th>
<th>Medicaid</th>
<th>Medicare</th>
<th>Assistance</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>10.02 (9.99-10.06)</td>
<td>1457 769</td>
<td>11.56 (11.49-11.62)</td>
<td>348551</td>
<td>68.75 (67.57-69.93)</td>
<td>9919</td>
<td>0.89 (0.87-0.92)</td>
</tr>
<tr>
<td></td>
<td>No. prescriptions</td>
<td>3 457 769</td>
<td>11.56 (11.49-11.62)</td>
<td>348551</td>
<td>68.75 (67.57-69.93)</td>
<td>9919</td>
<td>0.89 (0.87-0.92)</td>
<td>496 865</td>
</tr>
<tr>
<td>Generic status</td>
<td>Generic naloxone</td>
<td>9.92 (9.89-9.96)</td>
<td>1 235 731</td>
<td>10.62 (10.55-10.68)</td>
<td>317 378</td>
<td>71.49 (70.18-72.81)</td>
<td>7302</td>
<td>0.73 (0.71-0.75)</td>
</tr>
<tr>
<td></td>
<td>Brand-name naloxonec</td>
<td>10.57 (10.45-10.68)</td>
<td>222 038</td>
<td>21.15 (20.80-21.49)</td>
<td>31 173</td>
<td>61.10 (58.55-63.65)</td>
<td>2617</td>
<td>1.42 (1.35-1.48)</td>
</tr>
<tr>
<td>Route of administration</td>
<td>Nasal</td>
<td>10.05 (10.01-10.08)</td>
<td>1 445 538</td>
<td>11.57 (11.50-11.64)</td>
<td>345 651</td>
<td>69.65 (68.44-70.86)</td>
<td>9580</td>
<td>0.90 (0.87-0.92)</td>
</tr>
<tr>
<td></td>
<td>Injectable</td>
<td>7.12 (6.84-7.40)</td>
<td>12 231</td>
<td>10.28 (9.73-10.83)</td>
<td>2900</td>
<td>43.40 (38.60-48.20)</td>
<td>339</td>
<td>0.61 (0.45-0.77)</td>
</tr>
<tr>
<td>Patient age, y</td>
<td>≥65</td>
<td>17.56 (17.48-17.64)</td>
<td>380 256</td>
<td>10.65 (10.53-10.77)</td>
<td>77 362</td>
<td>67.63 (65.12-70.15)</td>
<td>2131</td>
<td>1.31 (1.12-1.50)</td>
</tr>
</tbody>
</table>

Abbreviation: OOP, out of pocket.

a Authors' analysis of IQVIA Longitudinal Prescription database from 2022.

b Dual-eligible status was classified in the Medicare category. Among 477 533 naloxone prescriptions dispensed to adults with Medicare in 2022, 9,765 (2.04%) were dispensed to individuals with dual-eligible status.
in pharmacy benefit designs for insurance-paid prescriptions may have lowered OOP costs. Costs continued to vary by payer, and in 2022 were highest for self-pay and assistance prescriptions. High OOP costs among assistance prescriptions were associated with brand-name naloxone (Narcan). Costs for injectable naloxone were lower than nasal naloxone. Over-the-counter naloxone was approved in 2023, with a higher than the OOP cost for insurance-paid prescriptions but lower than for those without insurance.\textsuperscript{5,6}

Higher OOP cost was observed among individuals aged 65 years or older, likely due to higher OOP requirements in Medicare. Higher proportions of Medicare beneficiaries aged less than 65 years receiving Part D low-income subsidies may contribute to lower OOP costs compared with those aged 65 years or older. Individuals aged 65 years or older had the largest relative increase in 2020 to 2021 drug overdose death rates,\textsuperscript{1} highlighting the importance of expanding naloxone access among this population.

Study limitations include a lack of data on nonpharmacy-dispensed naloxone and pharmacy benefit designs, and that data were unweighted and not geographically representative as coverage is lower in certain regions. Supporting equitable access to naloxone by reducing OOP costs is an important component of overdose prevention, alongside public health efforts such as community naloxone distribution and harm reduction programs.

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Concept and design: All authors.

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