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Toxicity and Hospitalizations due to Opioid Pain Relievers — Alaska, 2001–2010

Background

Opioid pain reliever (OPR) overdoses constitute a growing public health threat nationally.[1] In 2008, the rate of prescription drug overdose deaths in Alaska was more than twice that of the United States overall (14.2 versus 6.5 per 100,000 persons, respectively), and most of these overdoses were due to opioids (79% in Alaska and 74% in the United States).[1,2] This *Bulletin* presents Alaska's OPR-related poison control center reports and hospitalizations during 2001–2010.

Methods

The National Poison Data System (NPDS) -- a national database of human exposures reported to participating U.S. poison control centers since 1985 -- was queried to characterize OPR-related toxicity reports in Alaska during 2001–2010.[3] The Alaska Trauma Registry (ATR) was queried to characterize the epidemiology of hospitalizations due to OPRs using ICD-9-CM Codes 965.00–09. Crude and age-adjusted rates (per 100,000 persons) were calculated using Alaska Population Estimates and 2010 U.S. Census data.

Results

During 2001–2010, there were 1,422 cases of OPR-related toxicity reports in NPDS, and half of these were identified as intentional exposures (Table 1). Overall, 41% of the reported cases were managed in a health care facility.

Table 1. OPR-related Toxicity Reports in NPDS — Alaska, 2001–2010

	Total*	Intentional Exposure†	Unintentional Exposure	Managed in HCF±
Hydrocodone	465	259 (56%)	171 (37%)	175 (38%)
Oxycodone	388	186 (48%)	171 (44%)	150 (39%)
Codeine	203	97 (48%)	95 (47%)	77 (38%)
Tramadol	179	111 (62%)	58 (32%)	97 (54%)
Methadone	86	47 (55%)	29 (34%)	50 (58%)
Morphine	77	7 (9%)	46 (60%)	24 (31%)
Meperidine	24	6 (25%)	12 (50%)	8 (33%)
Total	1,422	713 (50%)	582 (41%)	581 (41%)

** Totals include intentional and unintentional exposures, as well as "other" exposures and adverse reactions (data not shown); totals do not include cases where intent was undetermined.*

† Defined as intentional improper or incorrect use of a substance to achieve a euphoric or psychotropic effect or to cause self-harm.

± HCF = health care facility

During 2001–2010, 283 hospitalizations due to OPRs were captured in the ATR. Of the 283 hospitalized persons, 183 (65%) were female; the median age was 34 years (range: <1–82 years). Of the 283 hospitalizations, 231 (82%) were due to a suicide attempt, and 39 (14%) were due to unintentional poisonings; most of the unintentional poisonings were among children aged 0–4 years (54%; 21/39), followed by persons aged 15–19 years (28%; 11/39). Forty percent (112/283) of the hospitalizations involved a stay in an intensive care unit (duration range: <1–15 days); the overall hospital charges totaled $8.6 million (median: $5,965 per hospitalization).

The average annual age-adjusted rate of hospitalizations due to OPRs was 4.0 per 100,000 persons (range: 1.7–5.6 per 100,000 persons; Figure). Age-adjusted rates by sex were 5.4 per 100,000 females and 2.7 per 100,000 males. Crude rates by race were highest among Alaska Native/American Indian (AI/AN) people, followed by Whites, and all other races (7.2, 3.8, and 3.0 per 100,000 persons, respectively). Crude rates by region show that OPR overdoses are a problem statewide (Table 2).

Figure. OPR Overdose Hospitalization Rates by Year — Alaska, 2001–2010

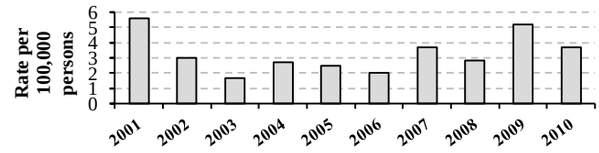

Table 2. OPR Overdose Hospitalization Rates by Region — Alaska, 2001–2010 (N=283)

Region	Number (%)*	Crude Rate†	Region	Number (%)*	Crude Rate†
Anchorage/ Mat-Su	152 (54)	4.3	Northern	16 (6)	6.7†
Gulf Coast	28 (10)	3.7	Southeast	27 (10)	3.8
Interior	40 (14)	3.8	Southwest	16 (6)	4.1†
Unknown	4 (1)	–			

** Percentages do not add up to 100% due to rounding.*

† Rates calculated from ≤20 observations should be interpreted with caution.

Discussion

In Alaska from 2001–2010, hospitalization rates due to OPRs were highest among females and AI/AN people. Regional data indicate that OPR overdoses are a problem statewide. The majority of OPR overdose hospitalizations were due to intentional self-harm. The fact that most of the unintentional poisonings involved children aged <5 years underscores the importance of routinely educating adults about safely storing and disposing of OPRs to assure that they are inaccessible to children. Hydrocodone and oxycodone were the most frequently reported OPRs associated with toxicity.

Emergency response for OPR overdose involves prompt administration of first aid and the appropriate use of naloxone, an opioid antagonist.[4,5] Nationally, many states have opioid overdose prevention programs that distribute naloxone at the community level.[4] Despite our high rate of OPR overdose hospitalizations and deaths, Alaska does not yet have any local drug overdose prevention programs that provide naloxone.[4]

Health care providers should follow guidelines for prescribing prescription pain relievers correctly, including the following:

- prescribe only the quantity needed based on the expected length of pain;
- use pain agreements for chronic pain management;
- screen and monitor patients for substance abuse and mental health issues;
- use prescription drug monitoring programs to identify patients who are misusing prescription pain relievers;
- educate patients on how to safely use, store, and dispose of prescription pain relievers;[6] and
- provide treatment options for OPR-addicted patients.[7]

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