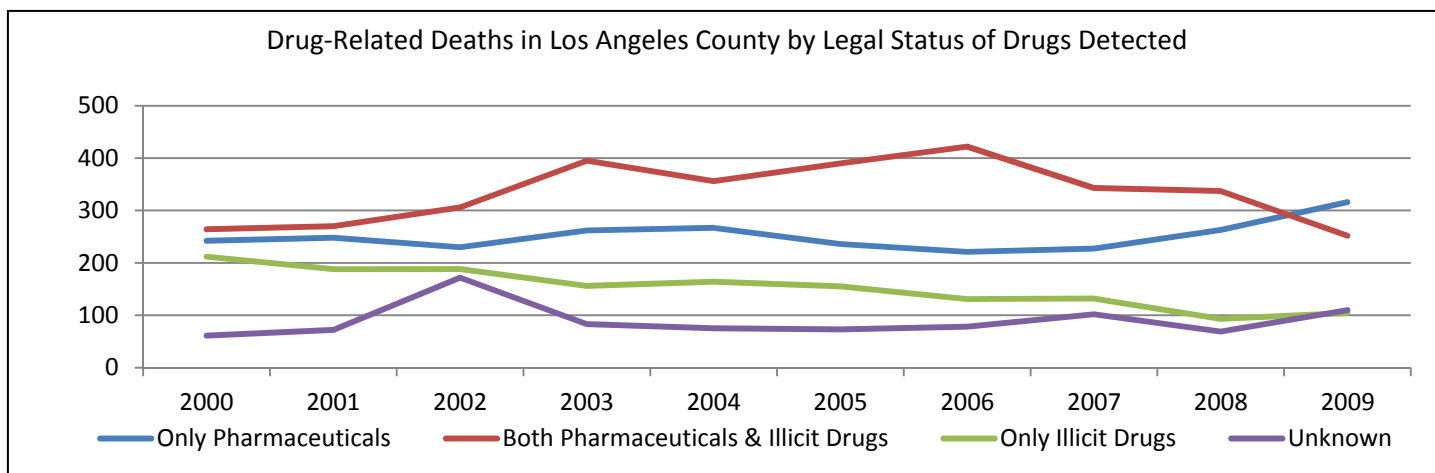


# Drug-Related Deaths in Los Angeles County, 2000-2009



- There were 8,265 drug-related deaths in Los Angeles County between 2000 and 2009.
  - 5,847 (71%) deaths tested positive for pharmaceuticals.
  - 4,858 (59%) deaths tested positive for illicit drugs.
  - There were 3,335 (40%) deaths that tested positive for *both* pharmaceuticals and illicit drugs.
  - No positive toxicology tests were reported for 895 (11%) deaths.
- The annual number of deaths testing positive only for illicit drugs decreased by about 50% from 2000 to 2009.
- In 2009, the number of deaths testing positive only for pharmaceuticals was greater than the number testing positive for both illicit drugs and pharmaceuticals for the first time.

## Most Commonly Detected Pharmaceuticals Among Drug-Related Deaths

1. Codeine (N=2,061, opioid pain reliever)
2. Hydrocodone (N=978, opioid pain reliever)
3. Morphine (N=873, opioid pain reliever)
4. Diphenhydramine (N=751, antihistamine)
5. Amphetamine (N=722, stimulant)
6. Diazepam (N=662, sedative)
7. Methadone (N=560, opioid pain reliever)
8. Nortriptyline (N=417, antidepressant)
9. Alprazolam (N=410, sedative)
10. Citalopram (N=404, antidepressant)

- The top three most commonly detected pharmaceuticals were all opioid pain relievers.
- Heroin rapidly metabolizes to morphine after ingestion, so some morphine-positive deaths may actually have used heroin, and the number of morphine-positive deaths may be an overestimate.
- Diphenhydramine is the only over-the-counter medication on the list of commonly detected pharmaceuticals.
- Heroin (n=2,754), cocaine (n=2,600), and methamphetamine (n=967) were the most commonly detected illicit drugs.

## Terminology

**Drug-Related Deaths:** Deaths in which drug use was the underlying cause of death, as determined by the Los Angeles County Department of the Coroner. Of note, toxicology results are not present for about 11% of drug-related deaths.

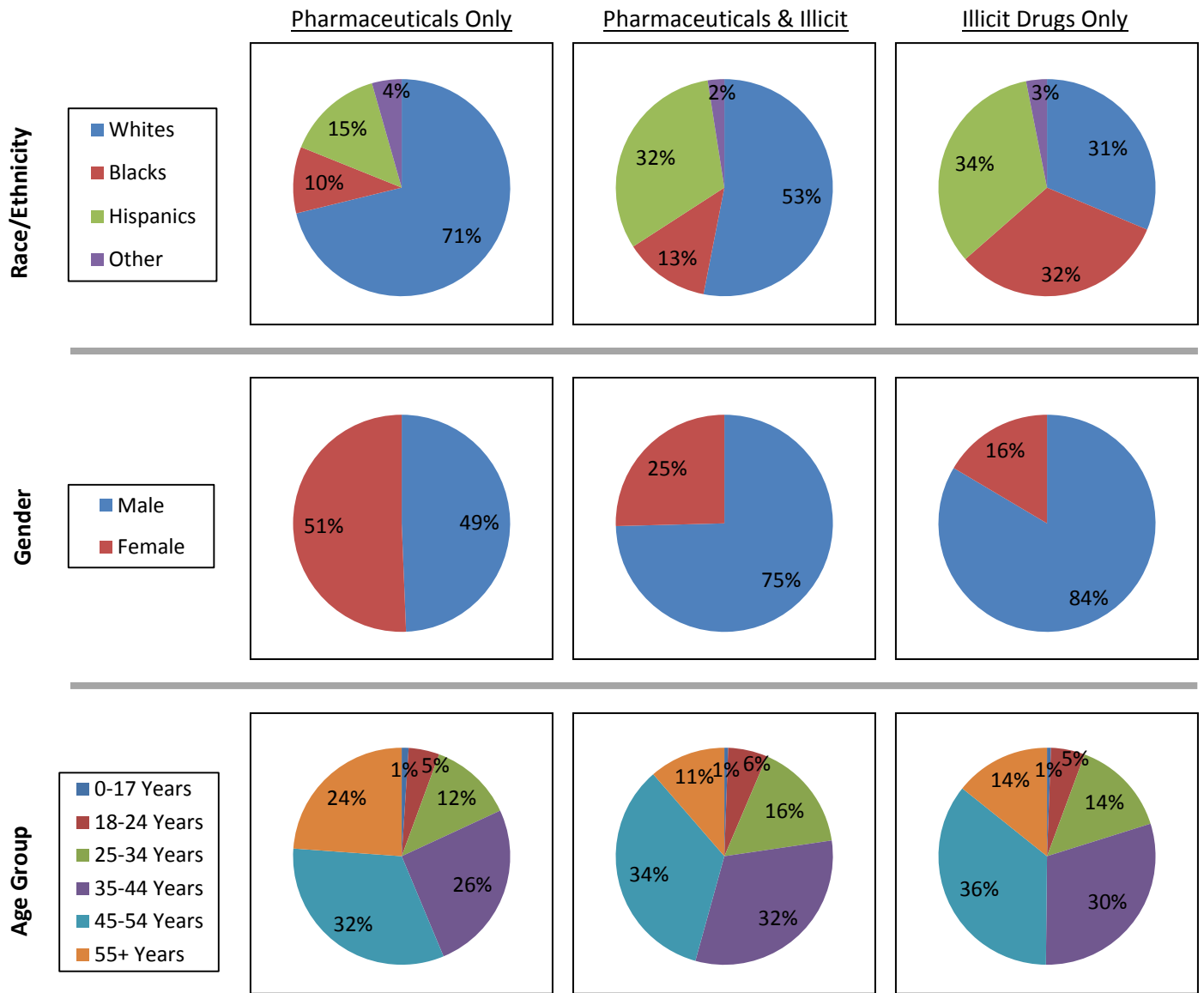
**Illicit Drugs:** Heroin, cocaine, methamphetamine, marijuana, GHB, MDA, MDMA, PCP, LSD, mescaline, flunitrazepam, & psilocin.

**Pharmaceuticals (abbreviated Pharm):** All legally available medications, both prescription and over-the-counter.

**Commonly Abused Pharmaceuticals:** Groups of prescription pharmaceuticals that are most often misused. This includes opioid pain relievers, stimulants, and sedatives (sedatives also include tranquilizers, hypnotics and muscle relaxants).

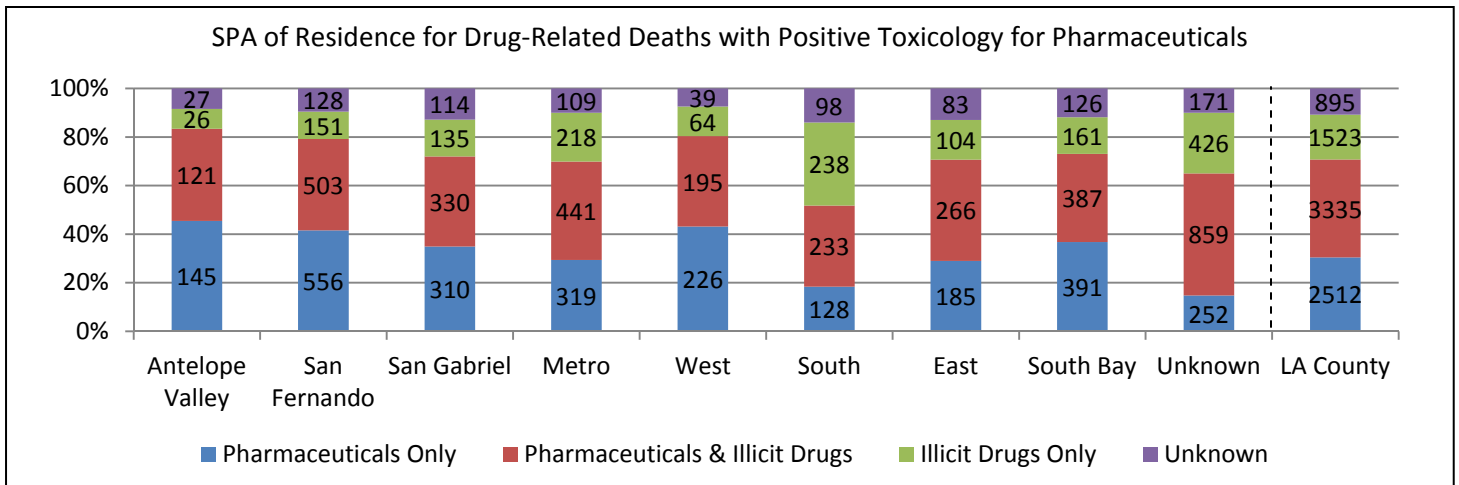
# Drug-Related Deaths in Los Angeles County, 2000-2009

Race/Ethnicity of Drug-Related Deaths by Legal Status of Drugs Detected

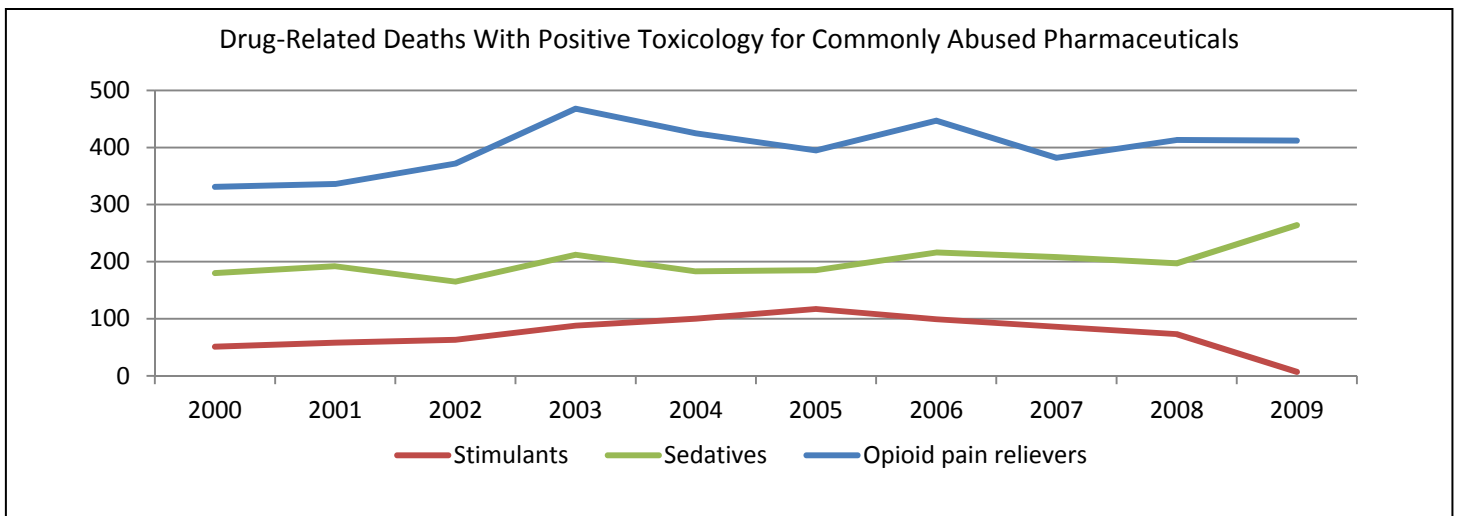


- Whites made up a greater percentage of deaths testing positive for pharmaceuticals than deaths testing positive for illicit drugs, while the reverse was true for Blacks and Hispanics.
- Deaths testing positive only for pharmaceuticals were nearly evenly split between males and females, while males accounted for the majority of deaths testing positive for illicit drugs.
- 55+ year olds accounted for a greater percentage of deaths testing positive only for pharmaceuticals (24%) than for deaths where an illicit drug was detected, either alone or in combination with pharmaceuticals (12%).

# Drug-Related Deaths in Los Angeles County, 2000-2009



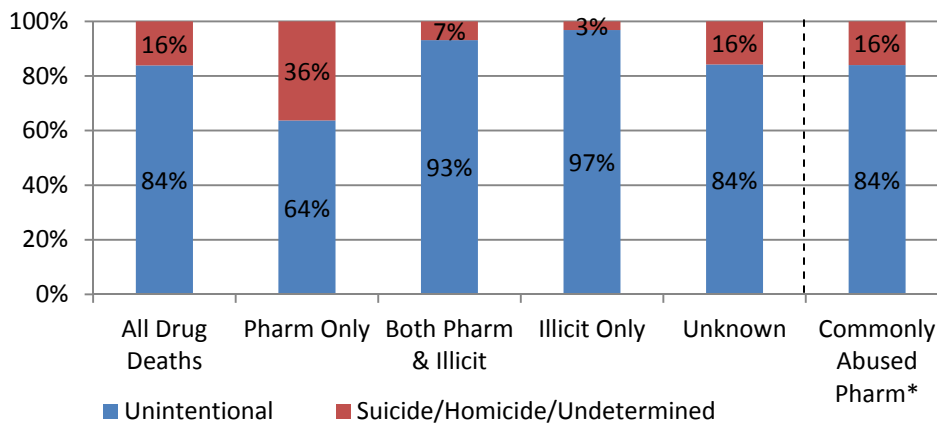
- Countywide, 30% of deaths tested positive only for pharmaceuticals; however in Antelope Valley (45%), West (43%), and San Fernando (42%) SPAs, more than 40% of deaths tested positive only for pharmaceuticals.
- Over one third (34%) of drug-related deaths in South SPA tested positive only for illicit drugs, compared to 18% of all deaths in the county, and just 8% of deaths in Antelope Valley SPA.
- SPA was unknown for over one quarter of deaths testing positive for illicit drugs, either alone or in combination with pharmaceuticals; however SPA was unknown for only 10% of deaths testing positive only for pharmaceuticals.



- 5,029 of drug-related deaths had positive toxicology for a commonly abused pharmaceutical, an average of over 500 deaths each year.
- More deaths tested positive for a commonly abused pharmaceutical than for illicit drugs (n=4,858).
- The number of deaths testing positive for opioid pain relievers generally increased during the ten year period.

# Drug-Related Deaths in Los Angeles County, 2000-2009

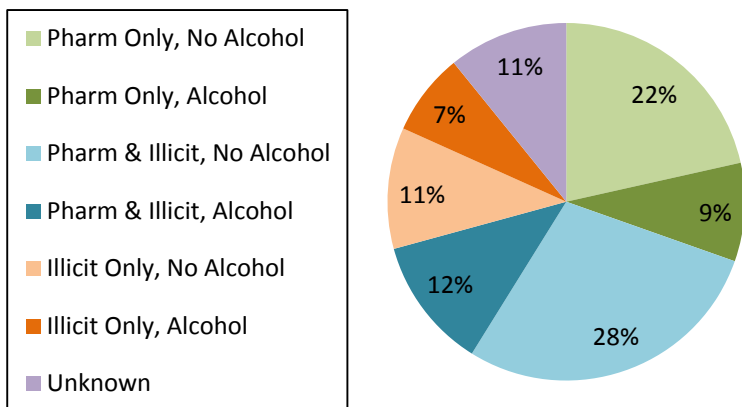
Distribution of Intent by Legal Status of Drug-Related Deaths



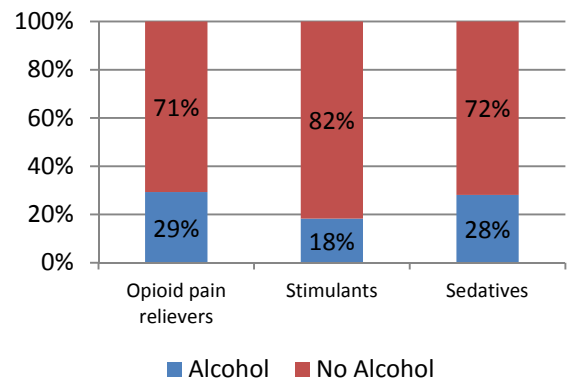
\*These deaths are also included in the "Pharm Only" and "Both Pharm & Illicit" categories.

- Overall, most drug-related deaths were unintentional.
- Over 90% of deaths testing positive for an illicit drug were unintentional.
- Just 64% of deaths testing positive only for pharmaceuticals were unintentional.

Alcohol Use and Legal Status of Drug-Related Deaths

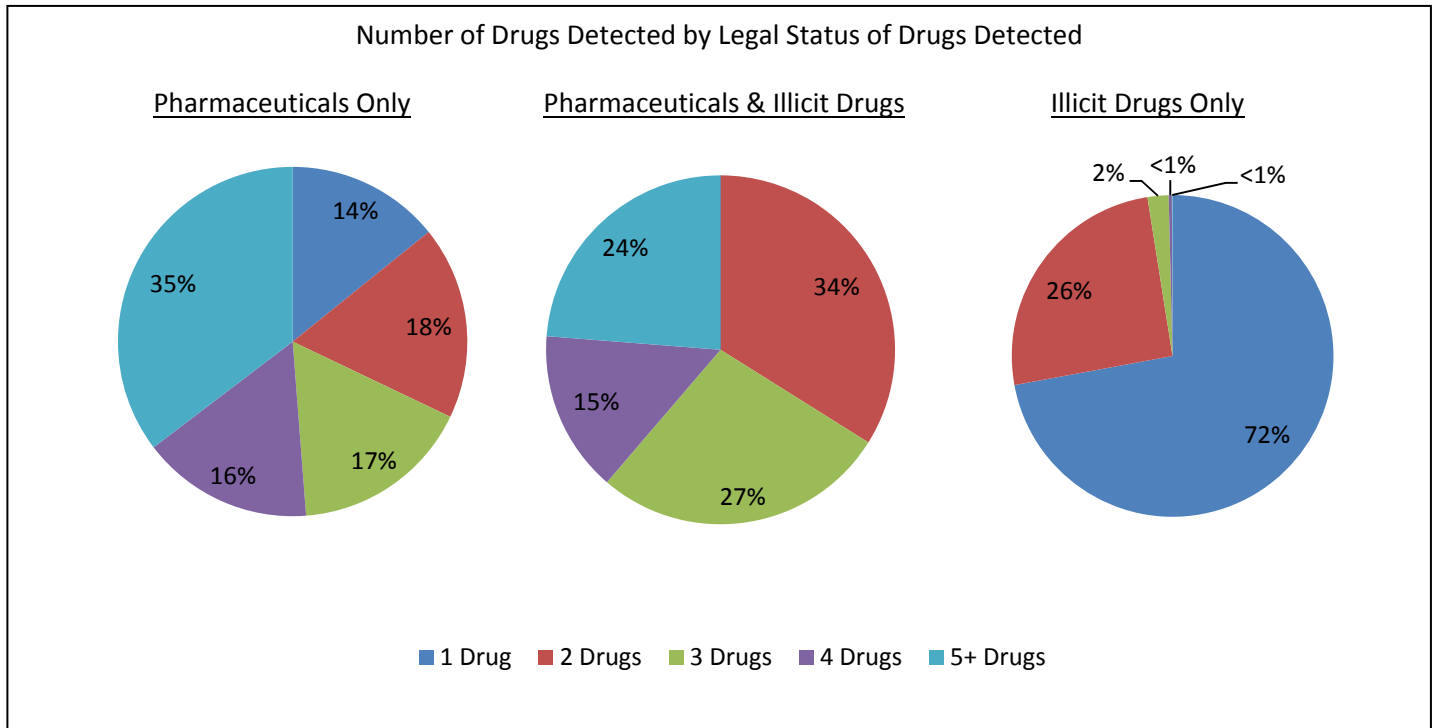


Alcohol Use Among Drug-Related Deaths with Positive Toxicology for Commonly Abused Pharms

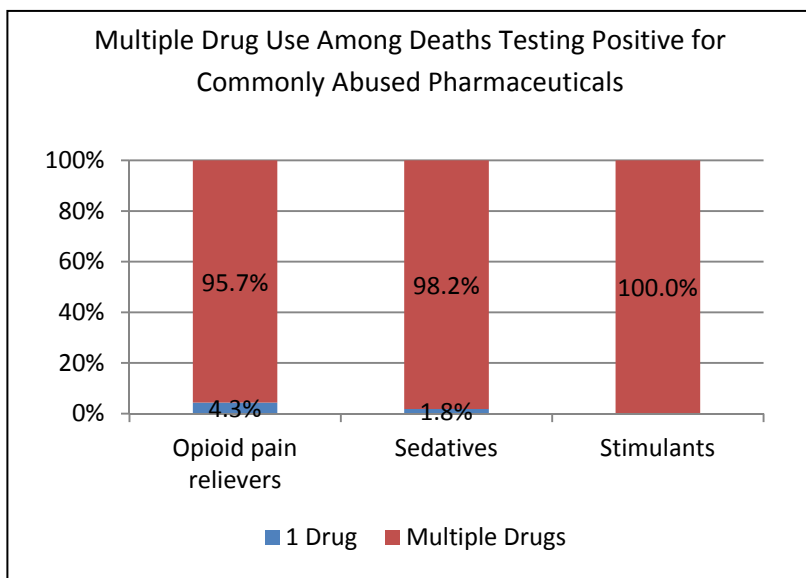


- Overall, alcohol was detected in 2,353 (28%) of all drug-related deaths.
- Alcohol was detected in 29% of deaths testing positive for pharmaceuticals (either alone or with illicit drugs).
- Alcohol was detected in 40% of deaths testing positive for only illicit drugs.
- Alcohol use was less frequently detected among deaths testing positive for pharmaceutical stimulants (18%) than deaths testing positive for pharmaceutical opioid pain relievers (29%) or pharmaceutical sedatives (28%).

# Drug-Related Deaths in Los Angeles County, 2000-2009



- Overall, 72% of drug-related deaths tested positive for more than one drug.
- Five or more drugs were detected among 20% of all drug related deaths.
- Multiple drugs were detected more often among deaths testing positive only for pharmaceuticals (86%) than among deaths testing positive only for illicit drugs (28%).



- Multiple drug use is extremely common in deaths testing positive for a commonly abused pharmaceutical; 96% tested positive for more than one drug.
- All deaths testing positive for pharmaceutical stimulants tested positive for more than one drug.

Suggested Citation: Los Angeles County Department of Public Health, Injury & Violence Prevention Program, "Drug-Related Deaths in Los Angeles County, 2000-2009."