Prescription Drug Use Continues to Increase: U.S. Prescription Drug Data for 2007–2008

Qiuping Gu, M.D., Ph.D.; Charles F. Dillon, M.D., Ph.D.; and Vicki L. Burt, Sc.M., R.N.

Key findings

- Over the last 10 years, the percentage of Americans who took at least one prescription drug in the past month increased from 44% to 48%. The use of two or more drugs increased from 25% to 31%. The use of five or more drugs increased from 6% to 11%.

- In 2007–2008, 1 out of every 5 children and 9 out of 10 older Americans reported using at least one prescription drug in the past month.

- Those who were without a regular place for health care, health insurance, or prescription drug benefit had less prescription drug use compared with those who had these benefits.

- The most commonly used types of drugs included: asthma medicines for children, central nervous system stimulants for adolescents, antidepressants for middle-aged adults, and cholesterol lowering drugs for older Americans.
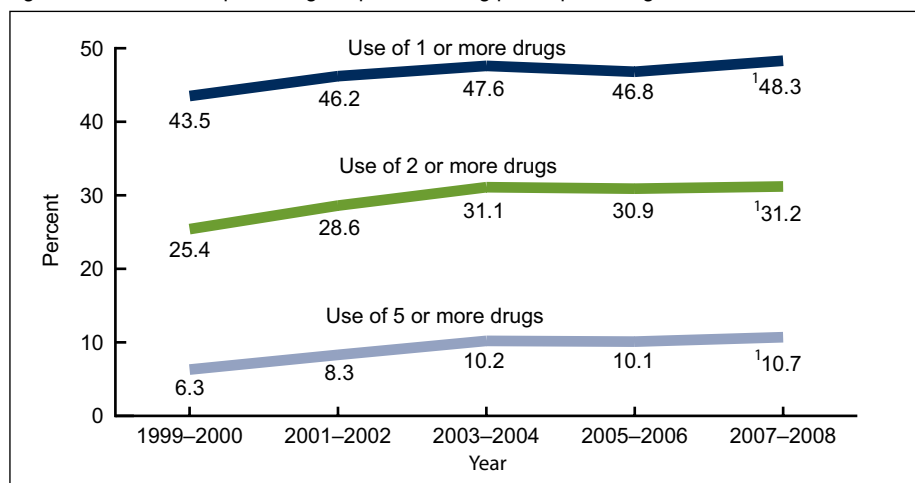
In the United States, spending for prescription drugs was $234.1 billion in 2008, which was more than double what was spent in 1999 (1). As new drugs are introduced and new uses for old drugs are found, more patients can have improved health and quality of life with the appropriate use of prescription drugs. Current prescription drug use patterns need to be better understood. This report provides an overview of current prescription drug use in the United States, how many and what kinds of drugs are currently being prescribed, and who receives them.

Keywords: National Health and Nutrition Examination Survey (NHANES) • medication • prevalence • trends

What are the trends in prescription drug use in the United States over the past 10 years?

Prescription drug use in the United States increased from 1999–2000 through 2007–2008 (Figure 1).

Figure 1. Trends in the percentage of persons using prescription drugs: United States, 1999–2008

[1]Significant linear trend from 1999–2000 through 2007–2008.
NOTE: Age adjusted by direct method to the year 2000 projected U.S. population.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

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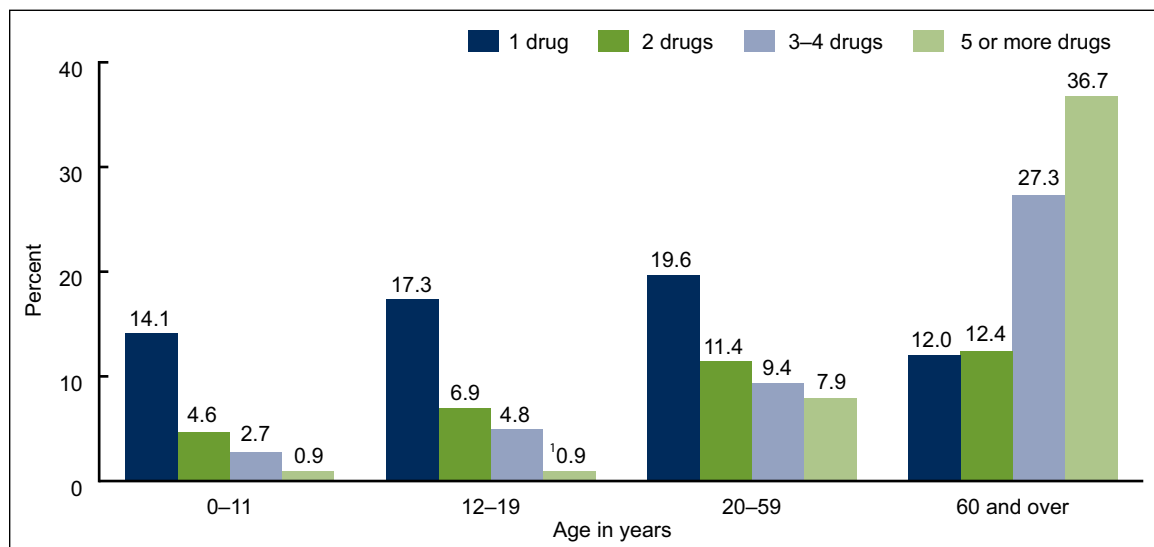SAFER • HEALTHIER • PEOPLE™

- The percentage of Americans who used at least one prescription drug in the past month increased from 44% in 1999–2000 to 48% in 2007–2008.

- The percentage of persons who used two or more prescription drugs increased from 25% in 1999–2000 to 31% in 2007–2008.

- The percentage of persons who used five or more prescription drugs increased from 6% in 1999–2000 to 11% in 2007–2008.

What percentage of Americans used multiple prescription drugs in the past month and how did this vary by age?

 The use of multiple prescription drugs in the past month varied by age (Figure 2).

Figure 2. Percentage of prescription drugs used in the past month, by age: United States, 2007–2008
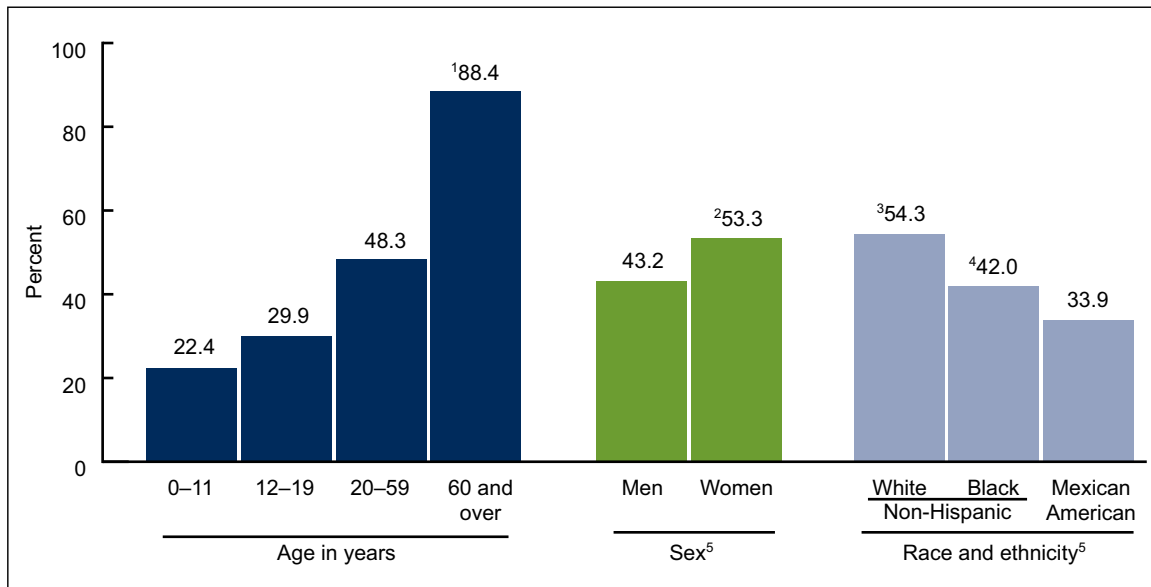

[1]Estimate is unstable; the relative standard error is greater than 30%.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

- Among children (under age 12), less than 10% used two or more prescription drugs in the past month and only 1% used five or more.

- Among older Americans (aged 60 and over), more than 76% used two or more prescription drugs and 37% used five or more.

Did prescription drug use vary among demographic subgroups?

There were differences in prescription drug use by age, sex, and race and ethnicity (Figure 3).

Figure 3. Percentage of use of at least one prescription drug, by age, sex, and race and ethnicity: United States, 2007–2008

[1]Significant linear trend over age.
[2]Significantly different from men.
[3]Significantly different from Non-Hispanic black and Mexican-American persons.
[4]Significantly different from Mexican-American persons.
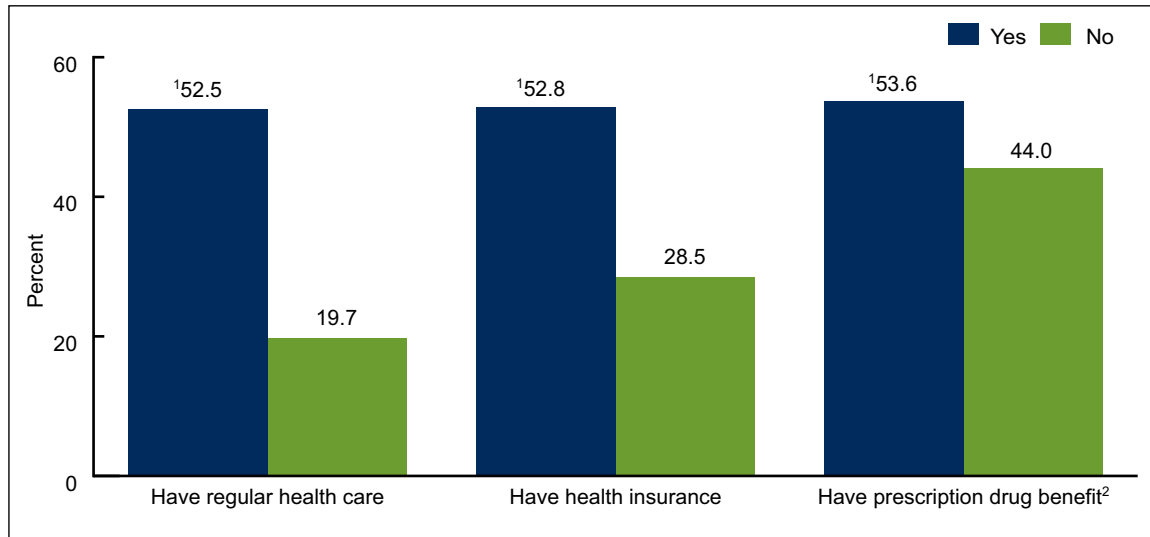[5]Age adjusted by direct method to the year 2000 projected U.S. population.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

- Prescription drug use increased with age.

- Women were more likely to use prescription drugs than men.

- The non-Hispanic white population had the highest prescription drug use and the Mexican-American population had the lowest.

What is the relationship between access to health care services and prescription drug use?

Having a regular source of health care, health insurance, and health insurance with prescription drug benefits were all associated with increased use of prescribed medicines (Figure 4).

Figure 4. Relation of access to health care services to prescription drug use: United States, 2007–2008

[1]Significantly different from "no" category.
[2]Among persons with health insurance.
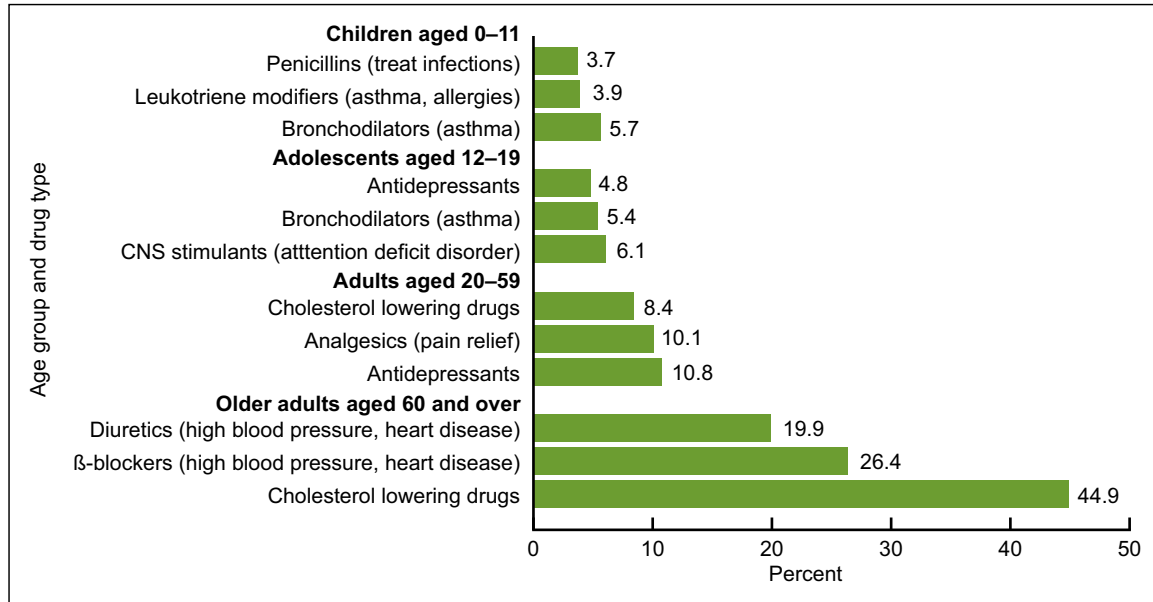NOTE: Age adjusted by direct method to the year 2000 projected U.S. population.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

- Persons with a regular place for health care were 2.7 times as likely to have used prescription drugs in the past month as those without a regular place for health care.

- Those with health insurance were almost twice as likely to have used at least one prescription drug in the past month as those without health insurance coverage.

- Among people with health insurance, those having a prescription drug benefit were 22% more likely to use prescription drugs than those who did not have this benefit.

What were the most frequently used types of prescription drugs?

The types of prescription drugs used by Americans varied by age (Figure 5).

Figure 5. Percentage of prescription drugs used most often, by drug type and age group: United States, 2007–2008

NOTES: Primary indication for the use of the drug class is in parentheses. CNS is central nervous system.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

The most commonly used types of prescription drugs in the United States by age were:

- Bronchodilators for children aged 0–11.

- Central nervous system stimulants for adolescents aged 12–19.

- Antidepressants for adults aged 20–59.

- Cholesterol lowering drugs for adults aged 60 and over.

Among children under age 6, penicillin antibiotics were the most frequently used prescription drugs.

Diuretics and β-blockers were also very commonly used drugs in adults and older Americans. These are usually used to treat high blood pressure and heart problems.

Summary

Over the last decade the percentage of Americans who took at least one prescription drug in the past month increased by 10%. The use of multiple prescription drugs increased by 20% and the use of five or more drugs increased by 70%. By 2007–2008, one-half of Americans used at least one or more prescription drugs; and 1 out of 10 used five or more. One out of every five children used at least one or more prescription drugs compared with 9 of every 10 adults aged 60 and over. Women were more likely to use prescription drugs than were men. Those who were without a regular place for health care, health insurance, or prescription drug benefit were less likely to have used prescription medication compared with their counterparts.

The types of prescription drugs that were most commonly used were asthma medicines for children, central nervous system stimulants for adolescents, antidepressants for middle-aged adults, and cholesterol lowering and high blood pressure drugs for older Americans. These patterns reflect the main chronic diseases common at these ages, but may also likely reflect more aggressive treatments for chronic medical conditions such as high cholesterol and high blood pressure as recommended in the updated clinical guidelines (2,3).

Those without a regular place for health care, health insurance, or prescription drug benefits had lower prescription drug use rates. Lack of access to medicines may impact health and quality of life, as prescription drugs are essential to treat acute and chronic diseases.

Finally, almost 40% of older Americans used five or more prescription drugs in the past month. This likely reflects the need to treat the many diseases that commonly occur in this age group; however, excessive prescribing or polypharmacy is also an acknowledged safety risk for older Americans, and a continuing challenge that may contribute to adverse drug events, medication compliance issues, and increased health care costs (4–6).

Definitions

Prescription drug use: National Health and Nutrition Examination Survey (NHANES) participants were asked if they had taken a prescription drug in the past month. Those who answered "yes" were asked to show the interviewer the medication containers of all prescription drugs. For each drug reported, the interviewer recorded the product's complete name from the container (7).

Therapeutic drug class (type of drugs): Prescription drugs were classified based on the three-level nested therapeutic classification scheme of Cerner Multum's Lexicon. Up to four classes were assigned to each drug. The most commonly cited second level of drug categorical codes were used in this analysis (7).

Health care access: Based on the question, "Is there a place you usually go when you are sick or you need advice about your health?"

Health insurance coverage: Based on the question, "Are you covered by health insurance or some other kind of health care plan?"

Prescription drug benefit: Based on the question, "Do any of these plans cover any part of cost of prescriptions?"

Data source and methods

NHANES data were used for these analyses (7). NHANES is designed to monitor the health and nutritional status of the civilian noninstitutionalized U.S. population. NHANES is nationally representative. Sample weights, accounting for the differential probabilities of selection, nonresponse, and noncoverage were used for analyses. Variance estimates accounted for the complex survey design using Taylor series linearization. Apart from age-specific estimates, all estimates were age adjusted to the 2000 U.S. standard population using four age groups: under age 12, 12–19, 20–59, and 60 and over (8). Trends were tested to evaluate changes in estimates across survey periods and age groups. Differences among groups were evaluated using a univariate t statistic. All significance tests were two-sided using $p < 0.05$ as the level of statistical significance. For comparison of estimates by race and ethnic groups, adjustments for multiple comparisons were made using the Bonferroni method (9). Reported differences are statistically significant unless otherwise indicated. Statistical analyses were conducted using SAS version 9.2 (SAS Institute, Cary, N.C.) and SUDAAN version 10.0 (Research Triangle Institute, Research Triangle Park, N.C.).

About the authors

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