Health, United States
Special Feature on Prescription Drugs

2015 National Conference on Health Statistics

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Presentation Outline

- Prescription drug use in the past 30 days
  - Antibiotics for cold symptoms
  - Polypharmacy
  - Access to prescription drugs
- Prescription drug use by drug class
  - Statins
- Outcomes
  - HIV mortality
  - Drug poisoning deaths involving opioid analgesics
  - Drug poisoning deaths involving heroin
PRESCRIPTION DRUGS IN THE PAST 30 DAYS
Prescription drug use in the past 30 days, by number of drugs taken and age: United States, 1988-1994 through 2009-2012

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey
Public Health Implications

Does increased use of prescription drugs indicate:

- Appropriate use?
- Misuse?
- Overuse?
- Underuse?
Antibiotic resistance may be the single most important infectious disease threat of our time,” according to CDC Director Tom Frieden, MD, MPH.
Antibiotics ordered or provided during emergency department, outpatient, and physician visits for cold symptom diagnoses, by age: United States, average annual, 1995-1996 through 2009-2010

SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey, National Hospital Ambulatory Medical Care Survey: Emergency Department and Outpatient Components
Example 2: Polypharmacy
Number of prescription drugs taken in the past 30 days among adults aged 18 and over, by selected characteristics: United States, 2009-2012

<table>
<thead>
<tr>
<th>Race and Hispanic origin</th>
<th>Taking 1-4 drugs</th>
<th>Taking 5 or more drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>White only, not Hispanic</td>
<td>9.9</td>
<td>76.6</td>
</tr>
<tr>
<td>Black only, not Hispanic</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7.6</td>
<td>7.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Taking 1-4 drugs</th>
<th>Taking 5 or more drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-44 years</td>
<td>38.8</td>
<td>42.7</td>
</tr>
<tr>
<td>45-64 years</td>
<td>41.1</td>
<td>42.4</td>
</tr>
<tr>
<td>65 years and over</td>
<td>20.1</td>
<td>47.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health status</th>
<th>Taking 1-4 drugs</th>
<th>Taking 5 or more drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent or very good</td>
<td>46.7</td>
<td>42.0</td>
</tr>
<tr>
<td>Good</td>
<td>38.6</td>
<td>37.5</td>
</tr>
<tr>
<td>Fair or poor</td>
<td>14.7</td>
<td>9.1</td>
</tr>
</tbody>
</table>

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey
Patients At-Risk for Cost-Related Medication Nonadherence: A Review of the Literature

Becky A. Briesacher, PhD, Jerry H. Gurwitz, MD, and Stephen B. Soumerai, ScD

Strategies Used by Adults to Reduce Their Prescription Drug Costs: United States, 2013

Robin A. Cohen, Ph.D.; and Maria A. Villarroel, Ph.D.
Nonreceipt of needed prescription drugs in the past 12 months due to cost among adults aged 18-64, by insurance status and percent of poverty level: United States, 2004-2014

SOURCE: CDC/NCHS, National Health Interview Survey
PRESCRIPTION DRUG USE BY DRUG CLASS
Prescription drug use in the past 30 days among adults aged 18 and over, by age and selected drug class: United States, 1999-2002 and 2009-2012

NOTE: Cardiovascular agents include ACE inhibitors, beta blockers, calcium channel blockers, and diuretics.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey
Effect of Statins on Risk of Coronary Disease

A Meta-analysis of Randomized Controlled Trials

John C. LaRosa, MD; Jiang He, MD, PhD; Suma Vupputuri, MPH

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey
Statin drug use in the past 30 days among adults aged 40-74 years meeting the ATP III guidelines: United States, 2009-2012

NOTE: Diagnosed cardiovascular disease is defined as ever told by doctor that had coronary artery disease, angina, heart attack, or stroke.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey
Example 4: Statins

Stone NJ, et al.
2013 ACC/AHA Blood Cholesterol Guideline

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, American Pharmacists Association, American Society for Preventive Cardiology, Association of Black Cardiologists, Preventive Cardiovascular Nurses Association, and WomenHeart: The National Coalition for Women with Heart Disease

Editorials: Controversies in Family Medicine

Should Family Physicians Follow the New ACC/AHA Cholesterol Treatment Guideline?
Yes: Implementing the New ACC/AHA Cholesterol Guideline Will Improve Cardiovascular Outcomes
Example 5: Outcomes – Positive

HAART has significantly improved life expectancy—to decades rather than months.

Age-adjusted death rates for human immunodeficiency virus (HIV) disease for all ages, by sex and race and Hispanic origin: United States, 1990-2013

Deaths per 100,000 population

1990 1995 1997 2013

HAART introduced into U.S. population

Hispanic male
Black, not Hispanic male
White, not Hispanic male
Black, not Hispanic female
White, not Hispanic female
Hispanic female

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality
Example 6: Outcomes – Problematic

Opioid Abuse in the U.S. and HHS Actions to Address Opioid-Drug Related Overdoses and Deaths

The Problem With Opioids for Chronic Pain

Prescription Opioid Overdose Deaths Triple Over Last Decade

100 Americans die of drug overdoses each day. How do we stop that?

Poisoning Kills More Than Car Crashes
Drug poisoning deaths involving opioid analgesics among persons aged 15 and over, by race and Hispanic origin, sex, and age: United States, 2000-2001 through 2012-2013

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality
Example 7: Outcomes – Unintended

Prescription Overdose Deaths in Florida Plunge After Tougher Measures, Report Says

The heroin and opioid epidemics

Heroin’s Death Toll Rising in New York, Amid a Shift in Who Uses It

Unintended consequences: Why painkiller addicts turn to heroin
Drug poisoning deaths involving opioid analgesics and heroin among persons aged 15 and over, by sex: United States, 2000-2001 through 2012-2013

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality
Future Research on Prescription Drugs

- Effects of ACA on prescription drug use
- Effect of health information technology on prescribing patterns
- Adoption of prescribing guidelines
- Impact of policy interventions regarding access to opioid analgesics and heroin on drug deaths
Questions?

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www.cdc.gov/nchs/hus.htm