The Clinical Impact of Health Behaviors on ED Visits

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4 November 2009

Source: https://www.mededportal.org/icollaborative/resource/751
I have served as an expert witness for the plaintiff in litigation against the tobacco companies.
Disclaimer 2

Nothing in this talk will appear on any board exam, ever.
2009 AEM Consensus Conference

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Two cultures?

- EM: assessment and stabilization of individuals with acute illness and injury
- Public Health: study and practice of managing threats to the health of a community
Definition of public health

• “what we as a society do collectively to assure the conditions in which people can be healthy”

Definition of emergency medicine

- “...the identification and stabilization of patients threatened with loss of life or limb...”

Rosen’s Emergency Medicine, 1st ed.
How to reconcile the population- and prevention-based foci of public health with the individual-based focus of emergency medicine?
Public health paradigm of EM practice: I

- Clinical practice
- Public education, advocacy
- Medical education
- Research, surveillance

Bernstein et al., Acad Emerg Med 1994;1:277-286
Public health paradigm of EM practice: II

Emergency Medicine and Public Health: New Steps in Old Directions

Emergency medicine and public health have opportunities to interact in at least 4 areas: surveillance of diseases, injuries, and health risks; monitoring health care access; delivering clinical preventive services; and developing policies to protect and improve the public’s health. Recent, cross-cutting initiatives and innovations in these 4 areas follow pathways first explored more than a generation ago and provide an important impetus for future work. An analysis of recent contributions also points...

What contribution do risky health behaviors make to the epidemiology of ED visits?
Determinants of Health and Their Contribution to Premature Death

Proportional Contribution to Premature Death

- Genetic predisposition: 30%
- Behavioral patterns: 40%
- Social circumstances: 15%
- Environmental exposure: 5%
- Health care: 10%

Prevalence of risky health behaviors in ED patients

- Substance use
- Violence
- STD/HIV
- Mental Health Disorders
# Scope of the problem: substance use

<table>
<thead>
<tr>
<th>Substance</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>46.6%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>21.4</td>
<td>13.0</td>
</tr>
<tr>
<td>Cocaine</td>
<td>6.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Opioids</td>
<td>13.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>14.6</td>
<td>18.0</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>7.9</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>Any</strong></td>
<td><strong>69.1%</strong></td>
<td><strong>55.7%</strong></td>
</tr>
</tbody>
</table>

Rockett IRH, Addiction 2006;101:706-712
Alcohol

- >75,000 deaths, 2.3 million years of potential life lost attributable to unhealthy alcohol use
- ED visits: 68.8 million or 7.9% (1992-2000)
- ED patients 1.5-3.0 times more likely to report heavy drinking or negative consequences than those in primary care settings

Cherpitel CJ. Substance Abuse 1999;20:85-95
Tobacco

• Leading cause of preventable illness, mortality in US: 435,000 deaths annually
• 19.8% of adult Americans smoke

Tobacco use in ED patients:

- prevalence rates =< 48% in urban, underserved areas
- 4.9% of adult visits, 6.8% of admissions, 10% of charges

smoking-attributable

2 CDC. Cigarette Smoking Among Adults--US 2007. MMWR 2008; 57:1221-1226
Illicit and prescription drugs

- 20.4 million Americans ≥ 12 years (8.3%) used illicit drugs in past month
- Estimated 1.45 million ED visits in 2005; 31% illicit, 27% prescription drug abuse, 36% combination

References:
- SAMHSA: Results from the 2006 NSDUH
Injury

- Injury comprises 23.5% of all US ED visits, 2006 (29 million visits)
  - Intentional injuries: 2.48 million
  - Involving alcohol/drug use: 2.16 million

NHAMCS, 2006
Intimate partner violence

- Prevalence:
  - Yearly 4-23%
  - Lifetime 33-39%

Campbell J C Lancet 2002; 359:1331-6
STD

- High background prevalence:
  - 13.6% of 434 18-31 year olds (+) for GC/Chlamydia in urban ED
    Mehta et al., STD 2001;28:33-39
  - 14% of 92 women in single urban ED (+) for GC, Chlamydia, or trichomonas
HIV

• HIV seroprevalence:
  - 1987: 3% (6/203) at Johns Hopkins
    Baker et al., JAMA 1987;257:2609-2611
  - 1989: 14.6% men, 7.8% women, Bronx, NY
    Schoenbaum AJ PH 1993;83:363-368
  - 2006: 1.2% (35/2824) at Cook County
    Lyss et al., J AIDS 2007:44:435-442

• 2006:
  - routine testing endorsed by CDC for patients age 13-64, unless background prevalence <0.1%
    MMWR 2006;55 (RR14):1-17
  - HIV serology done in 249,000 (0.2%) ED visits
    NHAMCS, 2006
Mental health disorders

- 4.27 million ED visits (3.6%), 2006
  
  NHAMCS, 2006

- Depression: 30% prevalence
  - 3x more likely to have addictive disorder
  
  Kumar et al., Acad Emerg Med 2004;11:1284-1289
Health services databases

- CDC
- NHAMCS
- WISQARS
- HCUP
- National Center for Health Statistics
- AHRQ
- Drug Abuse Warning Network
- SAMHSA
Other public health activities

- Emerging infections/ bioterror/
  - disaster preparedness/

- Vaccination

- Chronic disease screening
SBIRT

• Screening, Brief Intervention, Referral to Treatment
• Employs principles of motivational interviewing
• Endorsed by SAMHSA, Committee on Trauma of American College of Surgeons, ACEP
• billable
Prevention paradigm

Primary Prevention

Onset

Early Diagnosis Possible

Secondary Prevention

Normal Diagnosis

Tertiary Prevention

Outcome

Tetanus vaccination

SBIRT HIV testing

Antibiotics for STD

Stiffler & Gerson, Emerg Med Clin North Am 2006;24:849-869
Challenges for a research agenda

• Choice of
  - study design
  - conceptual/theoretical model

• Dissemination/implementation
• SBIRT effectiveness
• Funding/sustainability
"Daddy works in a magical, faraway land called Academia."
Multimodal interventions

- Mental health disorders
- Substance use
- Illness
- Injury
Funding/sustainability

- How to support interventions given current:
  - reimbursement systems
  - coding structures
  - perceived return on investment

The New York Times

Hospitals Pay for Cutting Costly Readmissions
May 8, 2009
Summary

• Risky health behaviors common in ED patients
• Data exist to support efficacy of brief interventions, esp. alcohol
• Multiple barriers exist to broadening use of brief interventions
• Additional work needed to explore efficacy of SBIRT across various health behaviors