Addiction Medicine: The Urgent Need for Trained Physicians

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Cost and Scope of Alcohol-Related Problems

- ~88,000 people die annually from alcohol-related causes in the U.S.
- 3rd leading preventable cause of death in U.S.
- ~50% of U.S. liver disease deaths attributable to alcohol misuse
- 15.1 million adults have AUD
- Increase in emergency department visits and hospitalizations related to alcohol in last 10 years

Addiction is a Chronic Brain Disease

• Decades of research shows that addiction is a chronic brain disease

• Frequently co-occurs with other mental health conditions

• Has many features in common with medical conditions such as diabetes, hypertension, and obesity
  – Chronic
  – Potential for recurrence and recovery
  – Influenced by genetic, epigenetic, developmental, and environmental factors
  – Requires a comprehensive approach to treatment
Alcohol Treatment Gap

• <10% of people with AUD get any treatment

• <4% of patients with AUD use an FDA-approved medication to treat their disorder

• Individuals with AUD more often seek primary care for an alcohol related medical problem than AUD itself

• NIAAA is developing a new product to help individuals find evidence-based treatment
Fetal alcohol syndrome

- Growth Deficiency
- Microcephaly
- Characteristic facial features
- Cognitive and/or Behavioral Impairment

- Fetal Alcohol Syndrome-U.S. prevalence 2: 8/1000
- Fetal Alcohol Spectrum Disorders- U. S. Prevalence: 1-5%

NIAAA funded researchers developed 3-D photography and image analysis techniques to enhance detection of alcohol-induced facial features in children prenatally exposed to alcohol.

Facial signatures captured through this method can be visualized as heat maps as shown: Red indicates where facial features are contracted; blue where they are expanded, and green where they are similar in the individual with FAS compared to age-matched controls.

The new technique will help identify individuals within the FASD spectrum with facial features too subtle for detection by the human eye.
Emerging Issues – Increase in Alcohol-Related Emergency Department Visits

The rate of ED visits involving alcohol in the U.S. population aged ≥12 increased 47% between 2006 and 2014, yet per capita consumption increased <2% during the same time period. The number of alcohol-related ED visits increased from 3,080,214 to 4,976,136. Increases were larger for women.

Source: White et al in press
Preventing and Treating AUD

There are evidence-based interventions for preventing and treating AUD:

- Screening, Brief Intervention, and Referral to Treatment (SBIRT)
- Minimum Legal Drinking Age of 21
- Professionally-led behavioral interventions
- FDA-approved medications
- Mutual support groups, such as Alcoholics Anonymous
Alcohol Screening and Brief Intervention (SBI) is an Effective Prevention Strategy

• Alcohol screening and brief intervention (SBI) in primary care reduces alcohol misuse among adults; recommended by U.S. Preventive Services Task Force

• Mounting evidence that screening is effective for preventing and reducing youth alcohol misuse

• One of the highest ranking preventive services among 25 effective services (Solberg et al, 2008)

• NIAAA developed “Helping Patients Who Drink Too much: A Clinician's Guide” and a 2-question youth alcohol screener, “Alcohol Screening and Brief Intervention for Youth,” to help clinicians identify alcohol misuse in adults and youth, respectively
Alcohol Misuse and Harm: Effective Prevention Interventions

- Individually-oriented (Screening and Brief Intervention- SBI)
- Family
- School
- Web-Based
- Environmental
- Policies (e.g., taxes, outlet density, driving while intoxicated laws, and minimum legal drinking age laws)
- Multi-Component Community Interventions
Effective Professionally-Led Behavioral Interventions

- **Cognitive–Behavioral Therapy**: to change the thought processes that lead to alcohol misuse and develop skills to cope with situations that trigger problem drinking.

- **Motivational Enhancement Therapy**: to enhance motivation to change drinking behavior by aligning changes in behavior with life goals.

- **Community Reinforcement**: to facilitate changes in a person’s life to make abstinence more rewarding than drinking.

- **Marital and Family Counseling**: incorporates family into treatment to help repair and improve family relationships.
Medication Therapies

• Medications are often used in combination with behavioral interventions

• **Three** FDA-approved medications for the treatment of AUD:
  - **Disulfiram (Antabuse®)** blocks the breakdown (metabolism) of alcohol by the body, increasing acetaldehyde, and causing unpleasant symptoms such as nausea and flushing of the skin
  - **Naltrexone (oral: Revia® and injectable: Vivitrol®)** diminishes the rewarding effects of alcohol to help people reduce heavy drinking
  - **Acamprosate (Campral®)** reduces the negative emotional state associated with protracted abstinence from alcohol and may also reduce craving, making it easier to maintain abstinence
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- NIAAA is developing a new product to help individuals find evidence-based treatment
To assist people in finding AUD treatment, NIAAA has developed the **NIAAA Alcohol Treatment Navigator℠**

- **One-of-a-kind resource that:**
  - Outlines the features of evidence-based AUD treatment
  - Describes the varied routes to recovery
  - Provides a strategy for locating qualified treatment specialists

- **Launched October 3, 2017**

[https://alcoholtreatment.niaaa.nih.gov](https://alcoholtreatment.niaaa.nih.gov)
Wearable Alcohol Biosensor Challenge

- Winning prototype submitted by BACtrack, a company known for designing and selling portable breath alcohol testers for consumer use.
  BACtrack Skyn:
  - Worn on the wrist
  - Detects alcohol in sweat
  - Continuous BAC monitoring
  - Stores data to a smartphone via Bluetooth

- Second place winner, Milo, launched Kickstarter campaign marketing their alcohol biosensor PROOF™; research package in development.

- A second challenge recently closed (12/10/16 - 5/15/17)
  - To design a wearable sensor using technologies that detect alcohol non-invasively in blood or interstitial fluid:
  5 promising submissions received
Growing the Addiction Medicine Workforce

• Many providers do not perform screening, are not aware of evidence-based treatments or where to refer people

• A study of 54 primary care clinics found 88% had no policies or requirements to ask patients about alcohol use, and those with policies had no consistent evidence-based methods for screening or referral (Mertens et al., 2015)

• Goal:
  • Improve physician training in substance use prevention and treatment at all levels, from undergraduate and graduate medical education through residency, fellowship, and beyond
  • Integrate prevention, early intervention, and treatment into routine medical care
Integrating Addiction Medicine into Medical Education

- NIAAA grant to SUNY Buffalo to “translate addiction into clinical practice” in collaboration with American Board of Addiction Medicine

- Paved the way for integrating addiction medicine into postgraduate medical education at 37 academic medical centers

- Provided model for residency training in addiction medicine

- Laid groundwork for recognizing addiction medicine as a subspecialty by American Board of Medical Specialties

- NIAAA, NIDA, and other federal agencies engaged with White House on a national effort to grow the addiction medicine workforce

- Next steps: Identify medical school curriculum needs and enhance addiction medicine questions on medical board exams
Thank You!

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