Research on Integrating Addiction and Medical Care at BMC: The First 25 Years

Richard Saitz MD MPH FACP DFASAM
Chair, Department of Community Health Sciences (CHS)
Professor of Community Health Sciences & Medicine

Special thanks to Abigail Kim for slide development and preparation
The effect of alcohol on the nervous system
VICTOR, M.. AND ADAMS, R.D.
In: Metabolic and Toxic Diseases of the Nervous System. Baltimore: Williams and Wilkins Company, 1953

- Systematic observational studies on alcohol withdrawal in general medical hospital setting
Care Integration: Screening
Alcohol Abuse and Dependence in Latinos Living in the United States
Validation of the CAGE (4M) Questions

Richard Saitz, MD, MPH; Mark F. Lepore, BA; Lisa M. Sullivan, PhD; et al


Table 5. Sensitivity, Specificity, Likelihood Ratio, and Posttest Probability of CAGE (4M) Scores and Current Alcohol Abuse or Dependence*

<table>
<thead>
<tr>
<th>CAGE (4M) Score</th>
<th>Sensitivity, %</th>
<th>Specificity, %</th>
<th>Likelihood Ratio</th>
<th>Posttest Probability, %†</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>...</td>
<td>...</td>
<td>0</td>
<td>0†</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>54 (47-61)</td>
<td>0.8 (0.2-2.9)</td>
<td>6 (0-14)</td>
</tr>
<tr>
<td>2</td>
<td>88 (71-100)</td>
<td>71 (64-77)</td>
<td>2.2 (0.9-5.6)</td>
<td>15 (2-29)</td>
</tr>
<tr>
<td>3</td>
<td>63 (39-86)</td>
<td>82 (77-87)</td>
<td>2.6 (1.0-6.6)</td>
<td>17 (2-33)</td>
</tr>
<tr>
<td>4</td>
<td>38 (14-61)</td>
<td>92 (88-96)</td>
<td>4.5 (2.1-10.0)</td>
<td>27 (9-46)</td>
</tr>
</tbody>
</table>

Support: CSAP FDP
Primary Care Validation of a Single-Question Alcohol Screening Test

Peter C. Smith, MD, MSc\textsuperscript{1,5}, Susan M. Schmidt\textsuperscript{1}, Donald Allensworth-Davies, MSc\textsuperscript{2}, and Richard Saltz, MD, MPH\textsuperscript{3,4}

Table 2. Sensitivity, Specificity and Likelihood Ratios for the Detection of Unhealthy Alcohol Use: Single Screening Question and AUDIT-C (n=286)

<table>
<thead>
<tr>
<th>For detection of:</th>
<th>Sensitivity (95% CI)</th>
<th>Specificity (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Question</td>
<td>AUDIT-C</td>
</tr>
<tr>
<td>Risky consumption amounts</td>
<td>84% (75%, 91%)</td>
<td>74% (64%, 83%)</td>
</tr>
<tr>
<td>Alcohol related problems or disorder</td>
<td>84% (74%, 91%)</td>
<td>80% (69%, 88%)</td>
</tr>
<tr>
<td>Current alcohol use disorder</td>
<td>88% (73%, 95%)</td>
<td>88% (73%, 95%)</td>
</tr>
<tr>
<td>Unhealthy alcohol use (risky amounts or disorder)</td>
<td>82% (73%, 89%)</td>
<td>73.9% (64%, 82%)</td>
</tr>
<tr>
<td>For detection of:</td>
<td>Positive LR (95% CI)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Question</td>
<td>AUDIT-C</td>
</tr>
<tr>
<td>Risky consumption amounts</td>
<td>3.9 (3.0, 5.2)</td>
<td>4.0 (2.9, 5.5)</td>
</tr>
<tr>
<td>Alcohol related problems or disorder</td>
<td>3.4 (2.6, 4.3)</td>
<td>4.0 (3.0, 5.4)</td>
</tr>
<tr>
<td>Current alcohol use disorder</td>
<td>2.6 (2.1, 3.3)</td>
<td>3.2 (2.5, 4.0)</td>
</tr>
<tr>
<td>Unhealthy alcohol use (risky amounts or disorder)</td>
<td>4.0 (3.0, 5.3)</td>
<td>4.3 (3.1, 6.0)</td>
</tr>
</tbody>
</table>

NIAAA R01-AA010870
A Single-Question Screening Test for Drug Use in Primary Care

Peter C. Smith, MD, MSc; Susan M. Schmidt, BA; Donald Allensworth-Davies, MSc; et al


<table>
<thead>
<tr>
<th>Detection</th>
<th>Sensitivity, % (95% CI)</th>
<th>Specificity, % (95% CI)</th>
<th>Positive LR, a (95% CI)</th>
<th>Negative LR, b (95% CI)</th>
<th>AUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current use, self-reported (n=286)</td>
<td>92.9 (86.1-96.5)</td>
<td>94.1 (89.8-96.7)</td>
<td>15.8 (8.9-28.1)</td>
<td>0.08 (0.04-0.2)</td>
<td>0.93</td>
</tr>
<tr>
<td>With drug problem or drug use disorder d</td>
<td>93.5 (86.5-97.0)</td>
<td>91.2 (86.4-94.5)</td>
<td>10.7 (6.8-16.8)</td>
<td>0.07 (0.03-0.2)</td>
<td>0.90</td>
</tr>
<tr>
<td>Current use, either self-reported or a positive oral fluid test result</td>
<td>84.7 (75.6-90.8)</td>
<td>96.2 (91.4-98.4)</td>
<td>22.4 (9.4-53.1)</td>
<td>0.2 (0.1-0.3)</td>
<td>0.92</td>
</tr>
<tr>
<td>n=217</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With drug problem or drug use disorder e</td>
<td>84.8 (75.3-91.1)</td>
<td>92.8 (87.2-96.0)</td>
<td>11.7 (6.4-21.4)</td>
<td>0.2 (0.1-0.3)</td>
<td>0.89</td>
</tr>
<tr>
<td>Current drug use disorder (n=286)</td>
<td>100 (90.6-100)</td>
<td>73.5 (67.7-78.6)</td>
<td>3.8 (3.1-4.6)</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

NIAAA R01-AA010870
Care Integration: SBI
Training Community-Based Clinicians in Screening and Brief Intervention for Substance Abuse Problems: Translating Evidence into Practice

Richard Saitz, M.D., M.P.H., Lisa M. Sullivan, Ph.D., and Jeffrey H. Samet, M.D., M.A., M.P.H.

107TH CONGRESS
2d Session

S. 1966

To educate health professionals concerning substance abuse and addiction.

IN THE SENATE OF THE UNITED STATES
February 26, 2002

Mr. BIDEN introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

1 a parent or other primary caretaker. Boston University Medical School researchers designed and conducted a seminar on detection and brief intervention of substance abuse for doctors, nurses, physician’s assistants, social workers and psychologists. Follow-up studies reveal that 91 percent of those who participated in the seminar report that they are still using the techniques up to 5 years later.
Prompting physicians with alcohol screening results and recommendations for action increased discussions with patients and reduced alcohol use.

Support: RWJF GPFSP
### Table 2

Biochemical confirmation of cocaine and heroin in hair: rates of abstinence at 6 months

<table>
<thead>
<tr>
<th>Abstinent from</th>
<th>Intervention group</th>
<th>Control group</th>
<th>OR(^a)</th>
<th>Adjusted OR(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both cocaine and opiates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number negative at 6 months</td>
<td>70 (17.4%)</td>
<td>48 (12.8%)</td>
<td>1.43</td>
<td>1.51</td>
</tr>
<tr>
<td>Number positive at study entry</td>
<td>403</td>
<td>375</td>
<td>(0.96, 2.13) (p = 0.076)</td>
<td>(0.98, 2.26) (p = 0.052)</td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number negative at 6 months</td>
<td>84 (22.3%)</td>
<td>58 (16.9%)</td>
<td>1.42</td>
<td>1.51</td>
</tr>
<tr>
<td>Number positive at study entry</td>
<td>376</td>
<td>344</td>
<td>(0.98, 2.06) (p = 0.065)</td>
<td>(1.01, 2.24) (p = 0.045)</td>
</tr>
<tr>
<td>Opiates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number negative at 6 months</td>
<td>76 (40.2%)</td>
<td>49 (30.6%)</td>
<td>1.52</td>
<td>1.57</td>
</tr>
<tr>
<td>Number positive at study entry</td>
<td>189</td>
<td>160</td>
<td>(0.98, 2.38) (p = 0.063)</td>
<td>(1.00, 2.47) (p = 0.050)</td>
</tr>
</tbody>
</table>

\(^a\) Significance via the Chi-square test.

\(^b\) Significance via logistic regression, model adjusted for variables that groups differed on at baseline (health insurance, homelessness).
Screening and Brief Intervention for Drug Use in Primary Care
The ASPIRE Randomized Clinical Trial

Richard Saitz, MD, MPH\textsuperscript{1,2}; Tibor P. A. Palfai, PhD\textsuperscript{3}; Debbie M. Cheng, ScD\textsuperscript{2,4}; \textit{et al}

\textit{Author Affiliations} | \textit{Article Information}

NIDA R01 DA025068

Screening and Brief Intervention and Referral to Treatment for Drug Use in Primary Care: Back to the Drawing Board

Ralph Hingson, ScD, MPH; Wilson M. Compton, MD, MPE

\textit{Abstract} | \textit{Full Text}
- No difference in alcohol consumption at 12 months

- More receipt of treatment among women, younger adults w/dependence
- Less drinking and better physical HRQOL among patients without dependence
▪ Comparative effectiveness RCT
▪ Beginning injectable XR-NTX or oral NTX for AUD in medical inpatients. Effects on:
  ▪ Alcohol consumption and consequences, and
  ▪ Acute healthcare utilization (including hospital readmission and emergency visits) and cost-effectiveness

TO FOLLOW: U54 OPTIONAL FUNCTION, AND U01 PROPOSAL JULY 2018 TO SERVE AS NATIONAL CENTER AND IMPLEMENT HOSPITAL-BASED OPIOID TREATMENT (PAR 18-244, COLLABORATIVE INNOVATION, CTSA)
Care Integration: Disorder, Implementation and Services in Medical Settings
Most patients who have detectable unhealthy alcohol use on CAGE questionnaire are already addressing their substance use or are in recovery.
Management of Adults Recovering From Alcohol or Other Drug Problems
Relapse Prevention in Primary Care

Peter D. Friedmann, MD, MPH; Richard Saitz, MD, MPH; Jeffrey H. Samet, MD, MA, MPH

JAMA. 1998;279(15):1227-1231. doi:10.1001/jama.279.15.1227

- PCPs can aid in long-term management
  - Identify
  - Support
  - Regular follow-up
  - Develop plans

Benefits of Linking Primary Medical Care and Substance Abuse Services
Patient, Provider, and Societal Perspectives

Jeffrey H. Samet, MD, MA, MPH; Peter Friedmann, MD, MPH; Richard Saitz, MD, MPH

Professional Satisfaction Experienced When Caring for Substance-abusing Patients

Faculty and Resident Physician Perspectives

Richard Saiz, MD, MPH, Peter D. Friedmann, MD, MPH, Lisa M. Sullivan, PhD,
Michael R. Winter, MPH, Christine Lloyd-Travaglini, MPH, Mark A. Moskowitz, MD,‡
Jeffrey H. Samet, MD, MA, MPH

Table 2. Professional Satisfaction of Primary Care Physicians Caring for Patients with Addictions and Other Diagnoses

<table>
<thead>
<tr>
<th>% Who Experience “A Great Deal” or a “Moderate” Amount of Satisfaction When Caring for Patients With…</th>
<th>Residents</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol problems*</td>
<td>32†</td>
<td>49§</td>
</tr>
<tr>
<td>Drug problems</td>
<td>30‡</td>
<td>31⁴</td>
</tr>
<tr>
<td>Depression†</td>
<td>43†</td>
<td>69</td>
</tr>
<tr>
<td>Hypertension</td>
<td>79</td>
<td>76</td>
</tr>
</tbody>
</table>
Linked alcohol- and drug-dependent adults to primary medical care: a randomized controlled trial of a multi-disciplinary health intervention in a detoxification unit.

Table 1 Kaplan–Meier estimates of the proportion of subjects linking to primary care at 12-months after randomization to the HELP clinic or control group—overall results and stratified by drug of choice.

<table>
<thead>
<tr>
<th>Subjects*</th>
<th>Intervention linked</th>
<th>Control linked</th>
<th>P-value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>All (n = 317)</td>
<td>69%</td>
<td>53%</td>
<td>0.0003</td>
</tr>
<tr>
<td>Alcohol† (n = 199)</td>
<td>72%</td>
<td>52%</td>
<td>0.0006</td>
</tr>
<tr>
<td>Cocaine or Heroin† (n = 247)</td>
<td>67%</td>
<td>54%</td>
<td>0.006</td>
</tr>
</tbody>
</table>

*Study subjects with follow-up at 6 or 12 months. **Log rank test. †Subjects reporting this substance as their first or second drug of choice (alcohol and drug groups are not mutually exclusive).

- Linked people with alcohol and drug dependence to primary medical care
- Using “reachable” moment
Receipt of primary care was associated with lower odds of drug use or alcohol intoxication
Pain in detox patients common (16% had persistent pain, 54% intermittent pain)

Persistent pain associated with increased odds for use of any substance

NIAAA: R01 AA10870
NIDA: R01 DA10019
Chronic Care Management for Dependence on Alcohol and Other Drugs
The AHEAD Randomized Trial

Richard Saitz, MD, MPH1,2,3; Debbie M. Cheng, ScD1,2,4; Michael Winter, MPH5; et al

No difference in abstinence from opioids, stimulants, or heavy drinking between CCM and control

No differences for secondary outcomes of addiction severity, health-related quality of life, or drug problems.
High quality CDM for AOD dependence may improve addiction outcomes
Collaborative Care of Opioid-Addicted Patients in Primary Care Using Buprenorphine
Five-Year Experience

Daniel P. Alford, MD, MPH; Colleen T. LaBelle, RN; Natalie Kretsch, BA; Alexis Bergeron, MPH, LCSW; Michael Winter, MPH; Michael Botticelli, ME; Jeffrey H. Samet, MD, MA, MPH

- At year 1, 196 of 382 patients (51%) had successful treatment
- 154 of 169 (91%) of patients remaining in treatment at 12 months, were no longer using illicit opioids or cocaine

- Central role for nurses to evaluate and monitor patients
- Increased waiver-trained doctors
- Efficient alternative model for physicians who prescribe buprenorphine

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▪ Dispensing of buprenorphine and naltrexone increased over time
▪ Only 1 in 4 commercially insured youth with OUD received pharmacotherapy
  ▪ Disparities based on sex, age and race/ethnicity
Identified at-risk hospitalized, out-of-treatment opioid-dependent drug users

Offered range of treatment options

Engaged a majority into addiction treatment
Addiction consultation services – Linking hospitalized patients to outpatient addiction treatment

Paul Trowbridge, Zoe M. Weinstein, Todd Kerensky, Payel Roy, Danny Regan, Jeffrey H. Samet, Alexander Y. Walley

Department of Medicine, Section of General Internal Medicine, Clinical Addictions Research and Education Unit, Boston University School of Medicine & Boston Medical Center, 801 Massachusetts Avenue, Boston, USA

Spectrum Health Center for Integrative Medicine, 75 Sheldon Blvd SE, Grand Rapids, MI, USA

Department of Community Health Sciences, Boston University School of Public Health, 801 Massachusetts Avenue, Boston, MA, USA

Fig. 3. Follow-up rates by medication.

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HIV
Heavy alcohol use affects HIV disease progression in those not on ART

Recent heroin or cocaine use and homelessness was associated with increased short-term mortality in HIV-infected patients with alcohol problems

NIAAA: R01-AA13216
Boston University School of Public Health

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Risk factors for recent nonfatal overdose among HIV-infected Russians who inject drugs

Nonfatal overdose common (76% ever, 16% past 3 mo)
- Risk factor: more frequent injection
Opioids
Opioid overdose death rates reduced in communities where OEND was implemented.
Over follow-up, opioid dispensed to 91% of patients after an overdose

- 7% of patients had a repeated opioid overdose
Improving Adherence to Long-term Opioid Therapy Guidelines to Reduce Opioid Misuse in Primary Care
A Cluster-Randomized Clinical Trial

Jane M. Liebschutz, MD, MPH¹,²; Ziming Xuan, ScD, SM³; Christopher W. Shanahan, MD¹,²; et al

Author Affiliations | Article Information


Table 2. Patient-Level Primary Outcomes at 12 Months by Intervention Status*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline Intervention (n = 586)</th>
<th>Control (n = 399)</th>
<th>P Value</th>
<th>Follow-up Intervention (n = 586)</th>
<th>Control (n = 399)</th>
<th>P Valueb</th>
<th>OR (95% CI)</th>
<th>AOR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guideline-concordant care (agreement plus UDT)</td>
<td>241 (41.1)</td>
<td>168 (42.1)</td>
<td>.76</td>
<td>386 (65.9)</td>
<td>151 (37.8)</td>
<td>&lt;.001</td>
<td>3.3 (1.9-5.6)</td>
<td>6.0 (3.6-10.2)</td>
</tr>
<tr>
<td>Signed agreement (ever)</td>
<td>376 (64.2)</td>
<td>233 (58.4)</td>
<td>.07</td>
<td>489 (83.5)</td>
<td>243 (60.9)</td>
<td>&lt;.001</td>
<td>2.5 (1.4-4.5)</td>
<td>Not converge</td>
</tr>
<tr>
<td>No baseline agreement</td>
<td>210 (100)</td>
<td>166 (100)</td>
<td>NA</td>
<td>133 (53.8)</td>
<td>10 (6.0)</td>
<td>&lt;.001</td>
<td>11.2 (4.1-30.7)</td>
<td>11.9 (4.4-32.2)</td>
</tr>
<tr>
<td>UDT (once in past 12 mo)</td>
<td>348 (59.4)</td>
<td>259 (64.9)</td>
<td>&lt;.08</td>
<td>437 (74.6)</td>
<td>231 (57.9)</td>
<td>&lt;.001</td>
<td>2.4 (1.3-4.4)</td>
<td>3.0 (1.8-5.0)</td>
</tr>
<tr>
<td>≥2 early refillsc</td>
<td>145 (24.7)</td>
<td>94 (23.6)</td>
<td>.67</td>
<td>121 (20.7)</td>
<td>80 (20.1)</td>
<td>.82</td>
<td>1.1 (0.6-1.9)</td>
<td>1.1 (0.7-1.8)</td>
</tr>
</tbody>
</table>

NIDA: R01 DA034252
Boston University School of Public Health

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Terminology: Stigma and Accuracy
# International Statement Recommending Against the Use of Terminology That Can Stigmatize People

*Richard Saitz, MD, MPH, FACP, DFASAM*  
*(J Addict Med 2016;10: 1–2)*

## Non-Stigmatizing Language

- Person with a substance use disorder
- Substance use disorder or addiction
- Use, misuse
- Risky, unhealthy, or heavy use
- Person in recovery
- Abstinent
- Not drinking or taking drugs
- Treatment or medication for addiction
- Medication for Addiction Treatment
- Positive, negative (toxicology screen results)

## Stigmatizing Language

- Substance abuser or drug abuser
- Alcoholic
- Addict
- User
- Abuser
- Drunk
- Junkie
- Drug habit
- Abuse
- Problem
- Clean
- Substitution or replacement therapy
- Medication-Assisted Treatment
- Clean, dirty

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Boston University School of Medicine
rsaitz@bu.edu
@unhealthyalcdrg
@JAM_lww

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http://www.bu.edu/sph/academics/departments/community-health-sciences/