

## Screening, Brief Intervention and Referral to Treatment SBI(RT)

Interweaving research and practice to bridge the gap between clinical medicine & public health

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The BNI-ART Institute  
[www.ed.bmc.org/sbirt](http://www.ed.bmc.org/sbirt)



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## SBIRT Workshop Outline

- What is SBIRT?
- The rationale
- The toolbox: screening, intervention & referral
- The evidence for SBIRT
- Translation efforts
- Need for further research
  - Which settings are effective, and why?
  - Which components of SBI are critical, and why?
  - Type of intervener is most effective, and why?

## What is SBIRT, and why do we need to introduce a new procedure into medical settings?

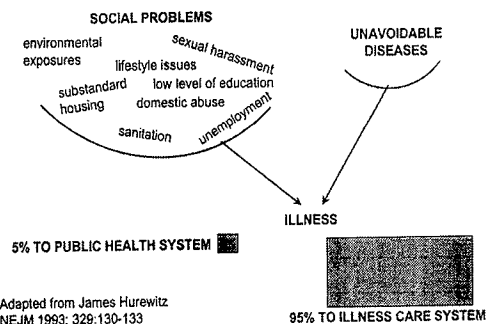
The Rationale

## SBIRT: The Three Components

- **Screening** for patients with “high –risk” or dependent drinking and drug use
- **Brief Intervention:** Motivate patients who screen positive to cutback or quit and/or seek further assessment
- **Referral to Treatment:** Link to resources to arrange for treatment when appropriate

## Why introduce SBI into the Health Care Setting?

## U.S. HEALTH CARE \$: PUBLIC HEALTH VS ILLNESS CARE





The medical setting is a good home for screening & intervention because...

- drug use contributes to injury & illness
- illicit drugs interact with prescribed medications
- drug use affects families & communities
- early intervention may reduce health consequences & save health care dollars
- for many patients, SBI alone may be sufficient

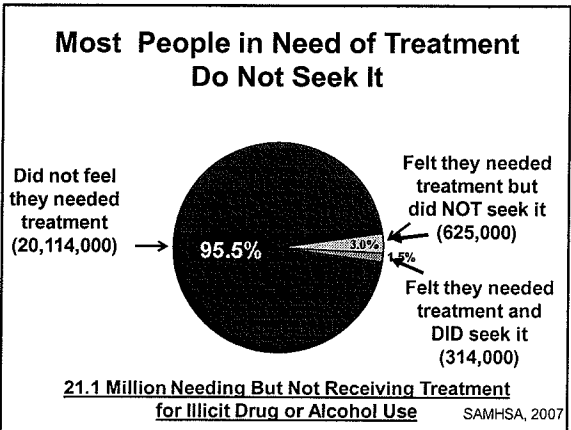
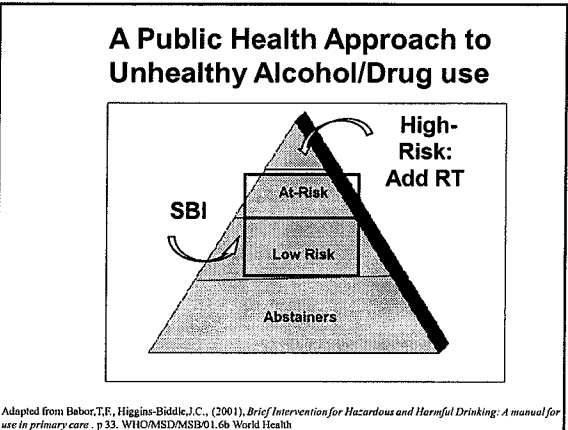
### Mainstreaming: Is it time to integrate care for unhealthy drug use into the medical setting?

- In chronic disease models (diabetes, HTN, asthma)
  - <30% of patients adhere to prescribed diet and/or behavioral changes
  - 50% experience recurrence
- adherence and recurrence with a substance abuse diagnosis is no different
- Substance abuse should be screened for, insured, monitored, treated & evaluated like other medical conditions

McClellan AT, Lewis DC, et al. JAMA 2000;284:1689-1695.

### What is new and innovative about SBI?

- It integrates public health approaches into the practice of medicine
- It improves the quality of medical care



## Why we need SBIRT or The Standard of Care Pre-SBIRT

Video: Meet Dr. A

## The takeaway message....

There are many opportunities  
to improve provider attitudes  
and communication skills!

### Adolescent Alcohol & SA Prevention (ASAP)

- RTC of experiential learning vs a standard curriculum
- 7<sup>th</sup> and 9<sup>th</sup> grade students interviewed patients in a busy ER, Level I trauma center and at the Bernalillo County Detention Center
- Collaboration: UNM Medical School, BCMC, Albuquerque and Lacuna/Acoma School Districts
- youth were non-judgmental, curious, supportive
- increased perception of riskiness in drinking, drugs and driving

Bernstein E, Woodall G. Changing perspectives of riskiness in drinking, drugs and driving: A emergency department based alcohol and substance abuse prevention program. *Annals of Emergency Medicine* 1987;16:1350-1354.

### ASAP in New Mexico: Learning from Patients

- Impact on faculty: Linda
  - Students asked open-ended questions and demonstrated empathy, and patients responded
  - The voices of patients sparked a new way of thinking how to conduct conversations with patients about alcohol and drugs

## The Standard of Care in the Age of SBIRT

Video: Meet Dr. B

from "The Emergency Physician and the Problem Drinker"  
D'Onofrio, Bernstein & Bernstein, 1997

### ACGME Core Competencies: New Standards for Physician-Patient Interaction

Residents are expected to:

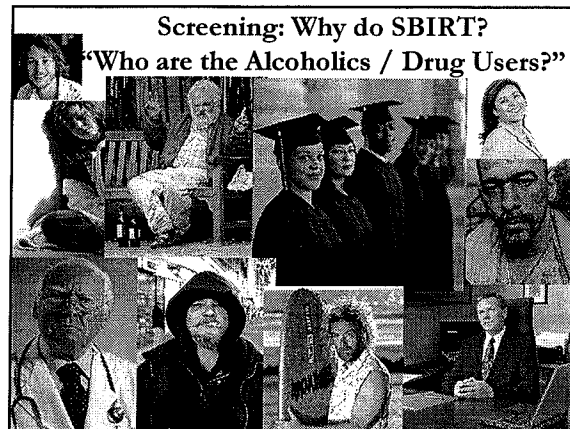
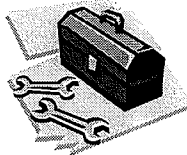
- communicate effectively
- demonstrate caring and respectful behaviors when interacting with patients and their families
- counsel and educate patients and their families
- use effective listening skills
- elicit and provide information using effective non-verbal, explanatory, questioning and writing skills



# SBIRT

## The Toolbox

1. Screening
2. Intervention



## Preface for Screening Questions

- Would you mind if I ask you some personal questions that I ask all my patients?
- These questions help me to provide the best possible care.
- You do not have to answer them if you feel uncomfortable.

## In the past month have you used any of the following drugs:

- |  |   |
|--|---|
| <input type="checkbox"/> Heroin                                  | <input type="checkbox"/> Ecstasy  |
| <input type="checkbox"/> GHB                                     | <input type="checkbox"/> Barbs  |
| <input type="checkbox"/> Special K                               | <input type="checkbox"/> Benzo/valium, klonopin, xanax                                |
| <input type="checkbox"/> Energy Booster                          | <input type="checkbox"/> LSD/hallucinogens  |
| <input type="checkbox"/> Marijuana                               | <input type="checkbox"/> Prescription drugs not prescribed to you or used to get high |
| <input type="checkbox"/> Cocaine/Crack                           | <input type="checkbox"/> Oxycontin, Vicodin, Oxycodone, Percocet                      |
| <input type="checkbox"/> Speed-amphetamines<br>Meth/crystal meth |   |
| <input type="checkbox"/> Paint/glue inhalant                     |   |
| <input type="checkbox"/> PCP                                     |   |

Single checkbox question embedded in a health needs history, then charted in the EMR

## Instruments meeting criteria for primary care screening: US Preventive Services Task Force, 2008

- DAST
- CRAFFT
- CAGE-AID
- ASSIST
  - NM-ASSIST in the process of validation

## Intervention

...what do you do with a positive screen?

## Blaise Pascal: *Pensées*

“People are generally better persuaded by the reasons which they have themselves discovered than by those which have come in to the mind of others.”

From Rollnick S, Miller WR, Butler CC. Motivational interviewing in health care: Helping patients change behavior. Guilford Press: NY, 2008.

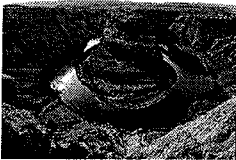
## Brief Negotiated Interview: Best Practices (Voice and Choice)

- collaborative conversation (shared agenda)
- client centered but goal directed
- listening not telling, using
  - open-ended questions
  - reflective listening
  - respectful feedback
- exploring ambivalence
- utilizing patient's life expertise & resilience factors
- facilitating a client generated agenda for change



## Brief Negotiated Interview: 4 Pillars of MI

- 1) express empathy
- 2) develop discrepancy



- 3) roll with resistance (not confronting)
- 4) support self-efficacy

## BNI in practice

### Video: Conversation with a Heroin user

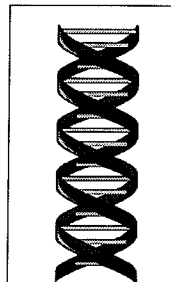
#### Core steps:

- Ask permission to raise the subject
- Establish rapport
- Explore pros and cons of use
- Provide information and feedback
- Promote change talk
- Negotiate an action plan

## The Relationship between Research and Practice

...an interweaving, fast-paced,  
and complex dance

## Intricate Connections = Blending



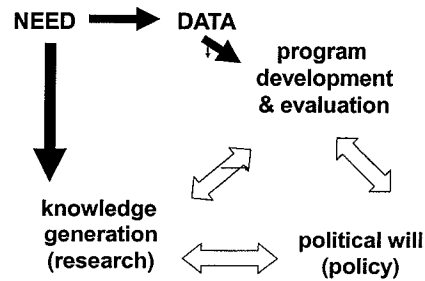
Research in blue,  
practice in red.  
The green lines  
are the knowledge  
translation connections  
that we make deliberately  
or that emerge  
spontaneously.

### SBIRT emerged from the interaction of research and practice

as crumpled strands of DNA, with patterns that are not always easy to identify or replicate



### Richmond & Kotelchuck Model



### The Emergence of SBIRT: How blending research & practice created favorable conditions

- 1950's: Chafetz at MGH—discovered, forgotten
- 1980-2000: Multidisciplinary, multinational research
  - Public health (e.g. Drs. Babor, Cherpitel)
  - Psychology (e.g. Drs. Miller & Rollnick)
  - Medicine (e.g. Drs. Fleming, Gentilello, Bernstein)
  - Substance Abuse tx System (e.g. Dr. McClellan)
- Late 1990's-present
  - Translation efforts
  - Advances in Neuroscience (NIDA)

### Meta-analyses of BI and MI

- moderate effects seen at 3 months
- >20 minutes, stronger outcomes
- smaller effects at one year
- alcohol only
  - Kaner et al (Cockrane), 2007 (I vs C ↓4 drinks/wk)
  - Vasilaki et al, 2006 (aggregate .18, .60 at 3 mo)
  - USPSTF, 2004 (69% vs. 57% drinking risky amounts; decrease of 38 grams/wk)
- alcohol and drugs (MI)
  - Dunn et al, 2001
  - Hettema et al, 2005 (.30 at 1 yr)

### In ED and in-patient settings, mixed results

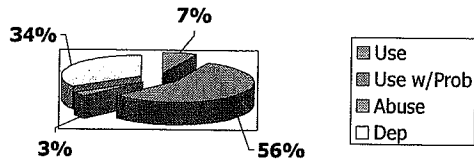
- ED (alcohol only)
  - 11 controlled trials, consumption outcomes
  - 6 studies—no difference in drinking
  - 5 studies—decrease in consumption
  - other outcomes positive (e.g. use of alcohol tx, injury)
- In-patient (Saitz et al., alcohol only)
  - 30-min. MI session by trained counselors during hospitalization (*n* 172) versus usual care (*n* 169).
  - intervention not significantly associated with alcohol assistance by 3 months among alcohol-dependent patients or with drinks /day at 12 months among all patients.

D'Onofrio G et al. *Ann Emerg Med.* 2008; 51(6):742-750; Nilsen P et al. *J Subst Abuse Treat.* 2008; 35:184-201; Saitz R et al. *Brief Intervention for medical inpatients with unhealthy drinking. Ann Intern Med.* 2007;146:167-176.

### Motivational Interviewing: Applications in clinical practice

- adherence to medication
- smoking cessation
- diet/diabetes/hypertension
- exercise/fitness/cardiovascular disease
- high risk and dependent drinking
- unprotected sex and needle sharing/HIV prevention
- What about illicit drugs?

### Positive Drug Screens in the Health Care Setting



Detection rate: 5% in primary care; 7-16% in the ED  
93% of positives have consequences

Smith PC et al. 2009 unpublished. Abstract presented at AMERSA, CPDD & AHSR 2008  
Binks S et al. Emerg Med J. 2005 December; 22(12): 872-873.

### Dr. Nora Volkow: NIDA Director

## "STIGMA"

In years past, science discovered the causes of epilepsy and leprosy and helped free the afflicted of stigma.

"We are witnessing another instance of one of the great moral achievements of science: establishing the right of people who have been regarded as hopeless or untouchable to full consideration as human beings."

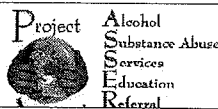


Addiction Science & Clinical Practice 2007; 4:1

### The spark behind Drug SBIRT: The 1950's Chafetz study

- 200 homeless men, alcohol dependent (MGH ED)
  - 65% showed up for treatment post-intervention vs 5% of controls
  - 40% of intervention group vs 0% in the control group kept 5 appointments
  - If brief humane conversation worked for alcohol in Boston's equivalent of the Bowery, why not try it for drugs as well?

Chafetz et al. Establishing treatment relations with alcoholics.  
*J Nerv Ment Dis* 1962; 134: 390-410.



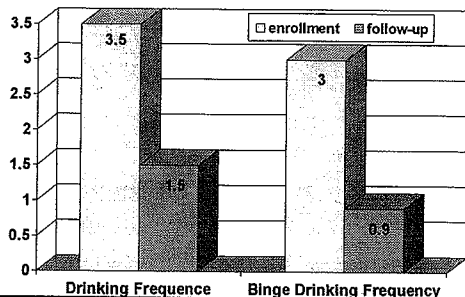
Funded in 1993 SAMHSA/CSAT;  
1998 line item in BMC ED Budget

1994: Research by Chafetz, Miller, Rollnick and Babor disseminated in the form of a peer model for SBIRT

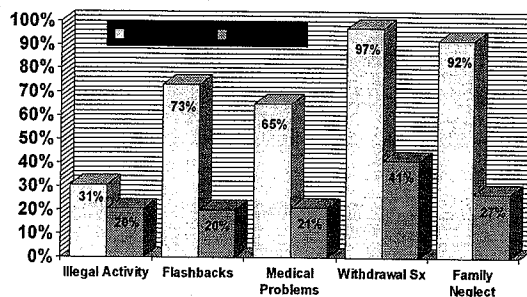


Project ASSERT: An ED based intervention to increase access to primary care, preventive services and the substance abuse treatment system  
*Annals of Emergency Medicine* 1997; 30:181-189.

### Project ASSERT F/U, 60-90 Days (n=182) Mean AUDIT Scores: 68% Reduction in Alcohol Use



### Project ASSERT Follow-up (8/97): x DAST scores show huge reductions in harms associated with drug use



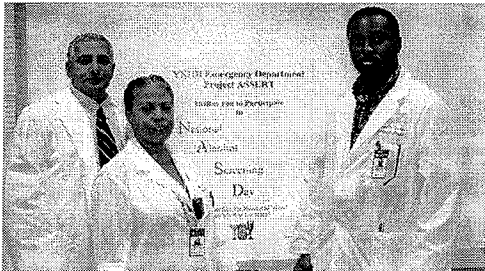
### BMC ED Project ASSERT

- >50,000 BMC ED patients served since 1994
- services provided to hospital staff & family members
- reimbursable documentation in IBEX
- education/consultation for clinical staff
- improves flow
- enhances patient health, safety and satisfaction
- maintains/updates an extensive resource referral network
- provides low impact case management for frequent ED users
- aligns patients with PCP and health insurance
- a nationally recognized model and training site

### Project Assert, March 2010 Monthly Total Referrals=362

High risk and dependent drinkers	215
Drug use	182
Substance abuse referrals accepted	217
Detox requests	166
Detox placements	97
Primary Care appointments made	85

### Translated to Yale New Haven Project ASSERT: 1999

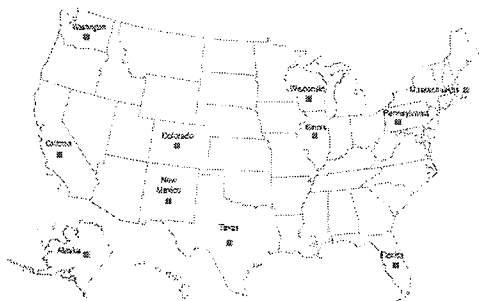


D'Onofrio G, Thomas M, Degutis LC. Project ASSERT: a 5-year evaluation of an emergency department-based screening, brief intervention, and referral to treatment program [abstract]. *Acad Emerg Med*.2005; 12:S60-1.

### LINK (RCT): from alcohol lessons to drugs

- 23,669 patients screened, primarily in Urgent Care
  - 1175 enrollees (follow-up rate 82%)
  - among 778 with positive hair at baseline
    - intervention group more likely to be abstinent at 30 days than the control group
      - ✓ cocaine alone (22.3% vs 16.9%)
      - ✓ heroin alone (40.2% vs 30.6%)
      - ✓ both drugs (17.4% v s 12.8%), with adjusted OR of 1.51-1.57
    - cocaine levels in hair reduced
      - 29% for intervention group vs 4% control group
- Bernstein et al. *Drug & Alcohol Dependence*, 2005;77:49-59

### Original SBIRT State Grants



Eleven Sites

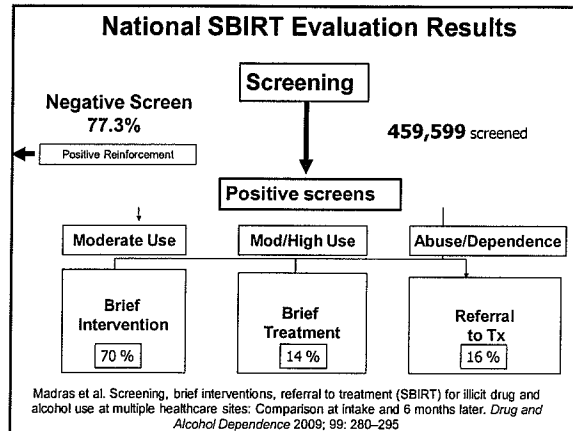
### CSAT SBIRT RFA, 2003: A Paradigm Shift

- “Little attention has been paid to the large group of individuals who use drugs but are not, or not yet, dependent and who could successfully reduce drug use through early intervention.”
 

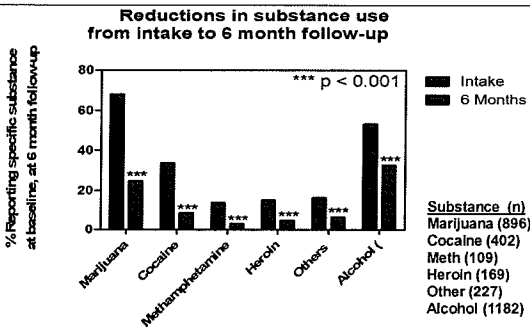
Klitznner et al., 1992; Fleming, 2002.
- “There is an emerging body of research and clinical experience that supports use of the SBIRT approach as providing effective early intervention for those persons who are nondependent users of illicit drugs.”
 

Barry 1999; Bernstein et. al, 1997; Zweben and Fleming, 1999; Roffman, 1999; Broskowski and Smith, 2001; Heather, 2001; Dennis, et al., 2002; Babor, et al., 2002; Blow, 1998; Fleming 2002.

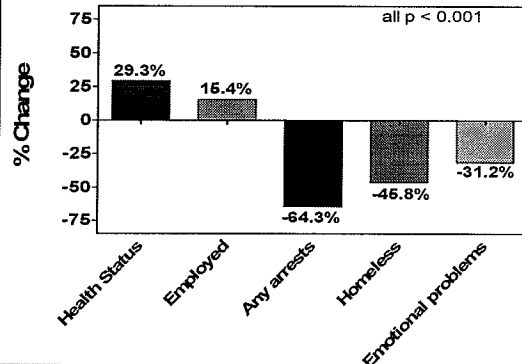
## National SBIRT Evaluation Results



### Outcomes by Specific Drugs n=104,000 in six states



### Change in Social Outcomes From Baseline to 6 Month Follow-up



### SAMHSA Expands Dissemination Efforts: The Residency Training Grants, 2008-12

- Natividad Medical Center (CA)
- University of California, San Francisco
- Yale University (CT)
- Access Community Health Network (IL)
- Children's Hospital Corp (MA)
- Albany Medical College (NY)
- Kettering Medical Center (Ohio)
- Oregon Health and Science University (OR)
- University of Pittsburgh (PA)
- University of Texas
- Howard University (DC)

**But the data for Drug-SBI Brief Intervention outcomes is mixed....**

**WHO ASSIST trial: Drug SBI in Primary Care  
731 outpatients, international**

- Australia, Brazil, India, US
- Low and high scores excluded
- BI (vs. no BI) associated across nations with a 3point greater decrease in aggregate use score
- Cannabis and stimulant scores decreased more for BI subjects (by about 2–3 points); opioid scores did not
- Substance use was not significantly impacted by BI at the US site

• Problems: low #, elaborate consent, mainly cannabis  
 Humeniuk R, et al. *Technical Report of Phase III Findings of the WHO ASSIST Randomized Controlled Trial*. Geneva, Switzerland: WHO, 2008.

**RCT of BI for addictive rx drug use (>60/90 days) or abuse in inpatients**

Control vs Intervention Prescription Drug use at 3-Month F/U

	C	I	p value
Discontinued use (%)***	6 (8.6)	10 (17.9)	0.17
Reduced use by >25% (%)	21 (30)	29 (51.8)	0.02

N=126 screen positive of 10,900 patients. \*Follow-up minus baseline; \*\*standard deviation; \*\*\*primary outcome

Zahradnik A, et al. *Addiction*. 2009;104(1):109–117

**RAP Pediatric ED Marijuana Study, 2006-7**

- A RCT among 14-21 year old racially diverse urban ED patients
- BI developed for those using marijuana exclusively (NIDA sponsored pilot)
- 3 randomization groups
  - intervention
  - fully assessed control
  - minimally assessed controls
- 7,804 screened for marijuana use; positive=use 3 or more days in last 30
- n=210 enrolled / 325 eligible
- 71% follow-up rate at 12 months

Bernstein E, Edwards E, Bliss C, Heeren T, Bernstein J. Screening and Brief Intervention to Reduce Marijuana Use Among Youth and Young Adults in a Pediatric Emergency Department. *Acad Emerg Med* 2009; 16:1174-1185.

**Marijuana abstinence at 3 and 12 month f/u by  
Timeline Followback: 30 day recall**

	I	AC	OR	95 % CI	P value
<b>At 3 months</b>	(n=41)	(n=54)	1.15	0.36, 3.73	0.814
abstinent	6	7			
not abstinent	35	47			
<b>At 12 months</b>	(n=47)	(n=55)	2.89	1.22, 6.84	0.014
abstinent	21	12			
not abstinent	26	43			

The I group had 4 fewer days of use than ACs at 3 mo. & 6 fewer days of use at 12 mo., controlling for BL

**US Preventive Services Task Force recommendation re: Drug SBI**

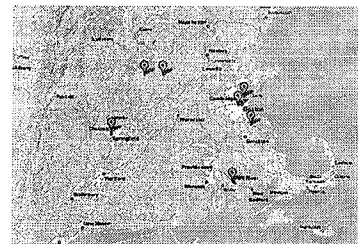
- “The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening adolescents, adults, and pregnant women for illicit drug use.” (Jan 2008)
- Trials currently in progress (e.g. ASPIRE, NIDA CTN) may add necessary information to support Drug-SBI effectiveness

Polen MR. Evidence Synthesis No. 58, Part 1. AHRQ Publication No. 08-05108-EF-s. Rockville, MD, Agency for Healthcare Research and Quality, January 2008.

**Dissemination of Project ASSERT  
Massachusetts ED SBIRT Program**

**ED SBIRT**

- Athol
- Children's
- Heywood
- Mercy
- South Shore
- St Anne's
- Whidden



Bernstein E, et al. Preliminary report of knowledge translation: Lessons from taking screening and brief intervention techniques (SBI) from the research setting into regional systems of care. *Acad Emerg Med* 2009; 16: 1225-1233.

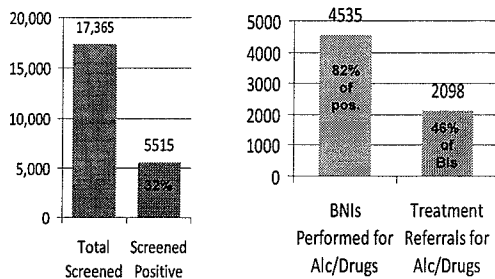
### Building ED SBIRT at 7 Sites

- 2.5 day seminar with Leadership (trendsetter) team from each site at BNI-ART Institute at BUSPH
  - administrator, MD, nursing/social work reps
  - didactic & experiential learning, strategizing implementation and sustainability
- on-site training of ED staff – 4 workshops at each site
  - meetings with IT, billing, MR coders & administration
- Support for development of job descriptions and hiring
- Ongoing training (conference calls, site visits, retreats)
- CQI, performance evaluation and , outcome evaluation component (data collection and analysis)

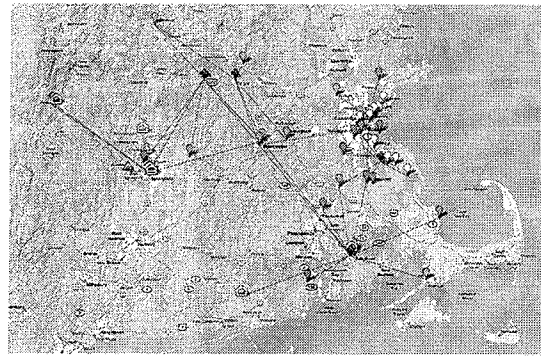
### SBIRT Implementation: Barriers & Challenges

- competing priorities & time pressures
- communication style: focused, close-ended, topdown
- lack of expertise: 2.5 hours med school training
- attitudes: stigma and burnout
- systems issues
  - lack of protocols, procedures, institutional support
  - scant treatment resources
  - bureaucratic hierarchy (↓leader to ground contact)
  - competition between clinical disciplines and depts

### What have 7 MA ED SBIRT sites achieved? 8/07-3/09



### Treatment Referral Networks



### Patient Care Improvements: Culture Shift moving beyond "Treat and Street."

- "Patients are being more fully evaluated and more readily medicated as needed because the HPAs have familiarized the medical team with what is required by the detox facilities and because the staff as a whole has begun treating all patients with more compassion and parity."
- "We are beginning to focus on treatment and support rather than just stabilizing and sending patients on their way." (ED Nurse)

### Program sustainability depends on...

- implementation of evidence-based practices
- external funding (necessary but not sufficient)
- local champions/leaders to partner with
- multidisciplinary teams resolving territory issues
- staff development, support, supervision
- a network of treatment partners
- planning for sustainability from the beginning
  - internal: administrators, billing, IT, MR coders
  - external: community, government agencies
- changing clinician culture to improve pt care
- a reimbursement system

**In summary...**

- Scientific evidence for drug SBI is in progress; there is much still to learn
- The relationship of research & practice has not been straightforward...but the intertwining has pushed the field forward
- We need better bridges between science & programs
  - funding for translation of evidence-based practices
  - frameworks such as RE-AIM for rigorous evaluation of dissemination efforts
- Implementation requires extenders to address barriers
- SBI communication skills have the potential to make a large contribution to the physician-patient relationship beyond the realm of substance abuse screening & tx

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